

# appendix 8 – Financial and Economic Analysis

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# Cairns Entertainment Precinct

## Business Case

### Financial and Economic Appraisal

#### Final

*Cairns Regional  
Council*

*9 November 2011*



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# ***1***

## ***Executive summary***

## Overview

PricewaterhouseCoopers has been engaged by Cairns Regional Council to undertake a financial and economic appraisal of project options for the Cairns Entertainment Precinct. The Precinct will consist of a number of complementary facilities, including a performing and visual arts centre, refurbishment of the heritage White's Shed and extensive public domain and plaza, to form a public space which will become the hub of Cairns.

A preliminary evaluation of the project options was undertaken in September 2011. From this evaluation, seven possible options for the Precinct were shortlisted to two preferred options – Option 6 Stage 1 (constructing the Precinct) and the Base Case (maintaining use of entertainment facilities that currently exist).

This report outlines the results of the financial and economic appraisal of these two project options. The scope of the financial and economic appraisal is to:

- determine the commercial viability of project options, specifically whether the options generate an acceptable financial return, and to identify a least cost option;
- identify additional minimum project funding requirements for both construction and operation of the precinct; and
- assess the broader impacts resulting from project options on the broader community and economy, including the economic, social, cultural and environmental costs and benefits.

The financial and economic appraisal has been undertaken in accordance with Queensland Government's *Project Assurance Framework*. The *PAF* states:

*"Important cultural projects seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by **their ability to deliver specific outcomes** and assess them against the performance criteria for promotional success rather than their economic impact."*

Drawing upon the Cairns Regional Council goals and key State Government initiatives and policy objectives, PwC has identified that, for the purpose of this appraisal, the four overriding outcomes sought for the project are:

1. To meet community need for art and cultural facilities;
2. To meet the need for a community meeting place;
3. To develop greater awareness of the historical and cultural value of the Far North;
4. To support regional growth.

These objectives form the benchmark for option appraisal throughout the analysis framework. When ranking the options, the overriding decision rule is that the preferred option must be capable of meeting the outcomes sought.

## Appraisal methodology

Discounted cashflow analysis has been used to determine the financial and economic feasibility of the project options. There are also a number of social and environmental costs and benefits which cannot be reliably monetised, and these impacts have been described in quantitative and qualitative terms. A summary of the appraisal framework is presented below.

Figure 1.1: Overarching appraisal framework

	Discounted cash flow analysis	Quantitative assessment	Qualitative assessment
<b>Financial appraisal</b>			
Direct project expenditures	✓		
<b>Economic appraisal</b>			
Direct and indirect expenditures	✓ Direct expenditures	✓ Indirect expenditures	✓
Labour		✓	✓
Education and skills training			✓
Social benefits / quality of life		✓	✓
Environment			✓

When assessing the costs and benefits considered in the economic appraisal, significant weight should be given to the social and environmental (non-market) costs and benefits that have been subject to qualitative analysis in the economic appraisal, particularly in light of Council and Queensland Government’s key outcomes and objectives for the Entertainment Precinct.

A preliminary evaluation of the project options (as required by the PAF) was completed in September 2011. Following the preliminary evaluation, seven project options were shortlisted to two project options for analysis under the business case – Option 6 – Stage 1 and the Base Case. While the shortlisting process utilised the same overriding appraisal framework illustrated in Figure 1.1, a greater level of detail has been provided for each impact category in the Business Case evaluation.

## Results and conclusions

In evaluating options, it is necessary to consider the results of the discounted cash flow analysis, and quantitative/qualitative assessment in parallel.

### Financial appraisal

The two project options under consideration have undergone a financial appraisal which involved determining the net present value (NPV) of financial revenues and operating costs attributable to the Precinct. The NPV is a measure of all future positive and negative cash flows associated with the project, discounted back to today’s dollars. The discount rate used represents the time value of money

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over the life of the project, as well as the systematic risk – or potential variability due to economy-wide factors – associated with those cash flows.

The planned Entertainment Precinct, much like the Civic Theatre currently in operation, is forecast to run at an operating loss which is to be funded by Council. As there is no expectation of a future stream of positive cash flows, traditional financial measures of evaluating projects, such as Internal Rate of Return (“IRR”) and Payback Period cannot be applied. In order for the Entertainment Precinct to be assessed on a “like-for-like” basis against the only other viable option – the continued operation of the Civic Theatre – the cost to Council associated with the initial capital expenditure of the project has not been included in the NPV analysis; that is, only the operating impact to Council has been considered.

In order to provide stakeholders with a context for the additional cost associated with the Precinct *over and above* forecasts for the current Civic Theatre operations, the report also presents NPV and cash flow figures incrementally.

The financial analysis showed that neither project option, including the base case under which the Civic Theatre continues operating, is self-funding on a purely commercial/financial basis. The financial evaluation results for the Base Case and Option 6 – Stage 1 are presented below.

The financial appraisal does not factor in monetised benefits or costs to other parties.

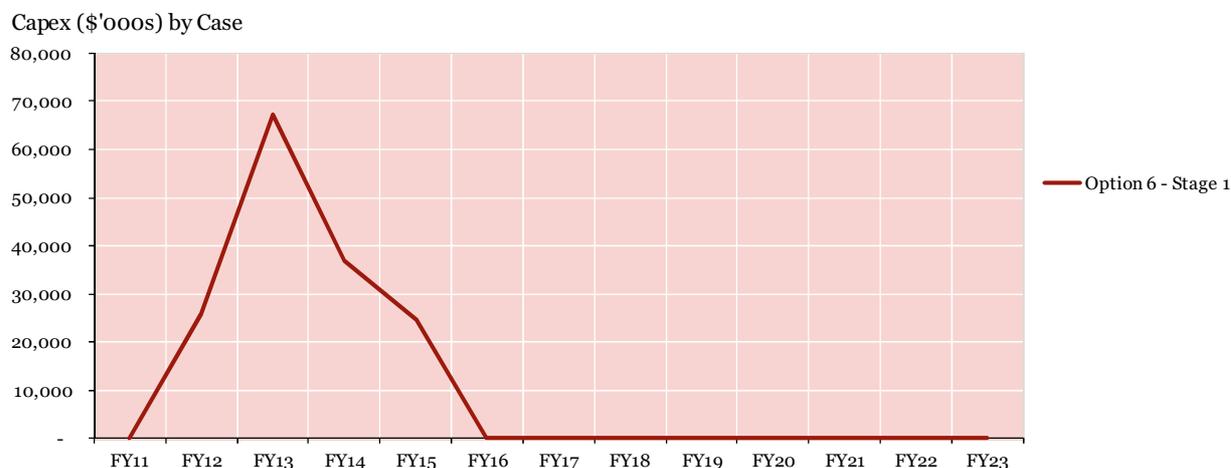
### Capital expenditure

Option 6 – Stage 1 would be built in a single stage, and at a greatly reduced cost to the other options put forward in the Preliminary Evaluation. Council intends for the total initial capex amount of \$154.6 million to be funded by:

- Federal government funding of \$40.0 million
- State government funding of \$57.3 million
- Council funding of \$57.3 million.

Construction of the PAC is estimated to constitute 58% of the initial capex. The second-most costly facility to construct would be the basement carpark, constituting 24% of initial capex spend. The public plaza would make up only 12% of the total cost, whilst refurbishment of Whites Shed is only scheduled to make up 6% of initial capex.

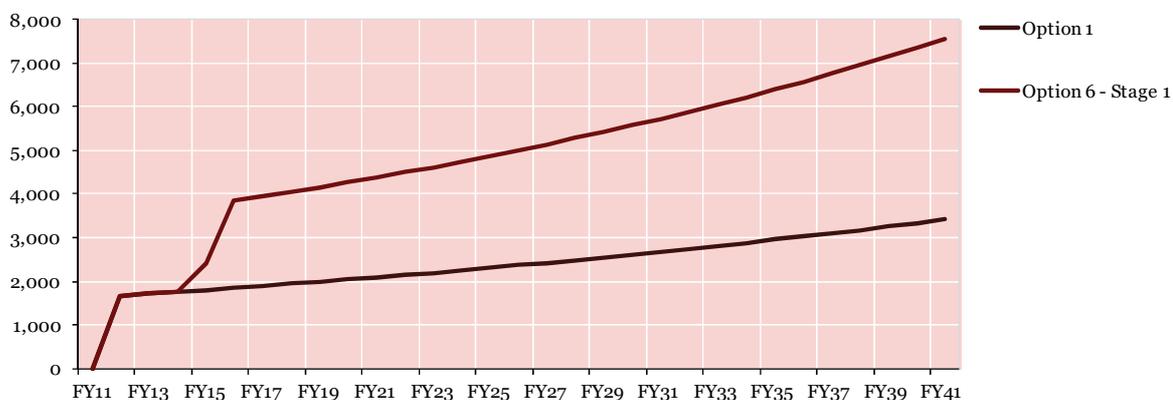
Figure 1.2: Forecast capex requirement for construction of the Entertainment Precinct under Option 6 – Stage 1 (in \$'000s)



## Revenue

Revenue profiles under both options are as follows:

Figure 1.3: Revenue forecast for each option under consideration (in \$'000s)



In FY 2016, the first full year of operation for the Precinct, revenues are forecast to be approximately 2.1 times that of the Civic Theatre’s projected revenues. By FY 2041, Precinct revenues as a proportion of Civic Theatre revenues are projected to grow marginally to 2.2 times. The Entertainment Precinct offers a wider diversity of revenue streams than currently provided by the Civic Theatre:

- fee revenue generated from a 200-space basement carpark
- event hire revenue for use of Whites Shed space
- revenue from functions held in the PAC
- studio hire and equipment hire
- commissions, fees and charges to be earned from tickets sold for the PAC’s 1,100 seat theatre
- food and beverage revenue.
- The PAC is by far the dominant source of revenues for the Precinct, representing approximately 80% of Precinct revenues between FY 2016 and FY 2041.

## Operating expenditure

In FY 2016, the first full year of Precinct operations, operating costs are forecast to be approximately 2.1 times that of the Civic Theatre’s projected costs. By FY 2041, Precinct opex is expected to grow to be 2.5 times that of the Civic Theatre. The difference in growth rates during this time – between 3.20% and 3.40% per annum for the Entertainment Precinct, and 2.50% per annum for the Civic Theatre – is due to a portion of the Precinct’s cost base being linked to PAC utilisation, which is expected to increase in stages of the first 30 years of operation.

Mirroring the revenue profile, the PAC is by far the dominant source of operating expenditure for the Entertainment Precinct, representing 95% of forecast FY 2016 Precinct opex. This is explained by the PAC:

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- having the largest employee headcount of all facilities in the Precinct
- having a high variable cost base, particularly in areas such as food and beverage costs, function costs and community hire subsidies for theatre hire by community groups
- incurring sizeable entrepreneurial programming, advertising and marketing costs.

PAC opex as a proportion of total expenditure is expected to stay relatively consistent throughout the forecast period to FY 2041.

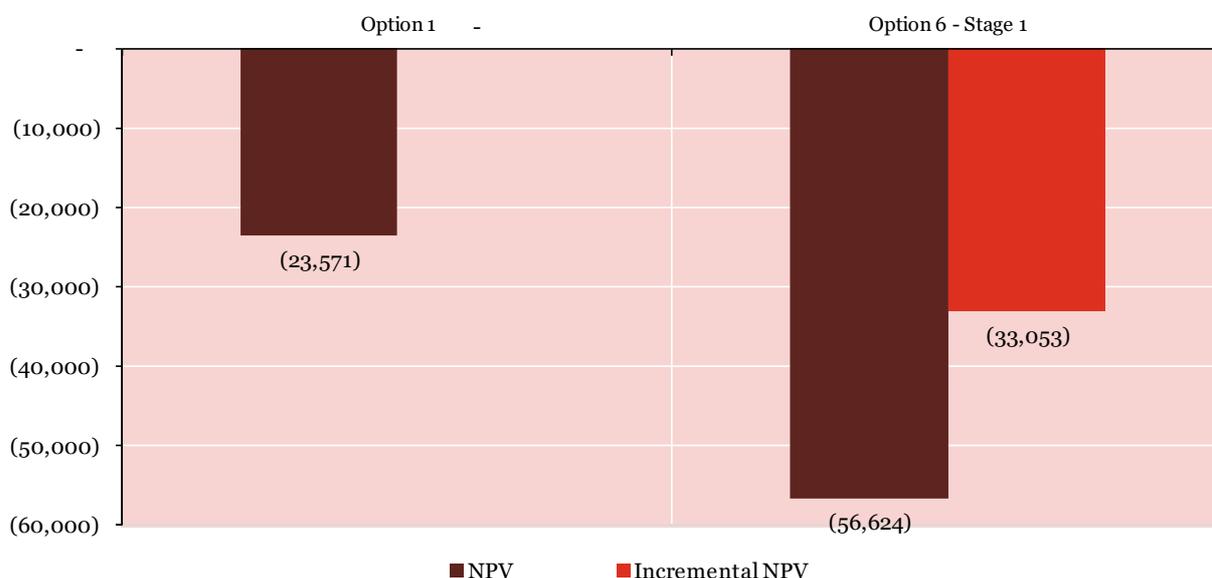
### Net present value

Under Option 1, the continued operation of the Civic Theatre results in an NPV to Council of -\$23.6 million. Option 6 – Stage 1 results in an NPV of operating cash flows of -\$56.6 million, or \$33.1 million less than Option 1. Looking only at financial results, Option 6 – Stage 1 is a higher cost alternative to Option 1, and does not generate sufficient incremental revenues to offset these higher operating costs.

The results demonstrate that neither option is self-funding on a purely commercial/financial basis. Option 1 is presented for comparative purposes only for this appraisal, and does not represent a viable solution for Council. Under Option 1, the Civic Theatre continues to operate at a loss of approximately \$1 million (in FY11), with an additional renewal cost of between \$0.1 million and \$5.7 million in each year of operation.

Figure 1.4: Net present value and incremental net present value of operating cash flows for options under consideration

NPV (\$'000s) by Option



### Sensitivity analysis

A sensitivity analysis was performed to assess the financial impact of high-level risks to the project:

- The potential variability of cash flows, or risk profile of the project, was sensitised through changes made to the discount rate.
- The potential risk that revenue and cost growth factors differ from forecasts was sensitised through changes to escalation rates.

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- The potential variability of visitation numbers to the Entertainment Precinct was also sensitised through low- and high-visitation cases.
- Construction cost overruns were considered by Council to be a risk borne by the builder, rather than Council. As such, capital costs were excluded from sensitivity analysis.

The results of the sensitivity analysis are presented below.

- **Discount rate** – Discount rates were tested under three scenarios: low - 6.00% nominal, at the request of Queensland Treasury (3.42% real), medium – 7.50% nominal (4.88% real) and high – 9.67% nominal (7% real). Under the low discount rate case, the continuous negative cash flows generated under Option 6 – Stage 1 had the effect of decreasing the NPV by 29%. The higher discount rate increased the NPV by 31% although in no scenario did the NPV become positive.
- **Escalation rates** – The impact of the low escalation rate case on the preferred development option has a positive impact of approximately 20% and the High Case has a negative impact of approximately 17% on NPV. The NPV of Option 1 improved by 12% under the Low Case, and declined by 11% under the High Case. The Civic Theatre is less sensitive to escalation rate increases, as it is expected to run at a smaller operating loss than the Entertainment Precinct over the thirty year forecast period.
- **Visitation** – Low visitation has a negative impact on incremental NPV for Option 6 – Stage 1 of approximately 8%. High visitation increased NPV by 11%.

## **Risk analysis**

As an extension of the sensitivity analysis, a risk analysis was undertaken to quantify the impact of project-specific risks as identified in the project risk register. Refer to Appendix G to review the risk register. The results of the risk analysis are presented below.

- The greatest quantifiable risks identified through the analysis revolve around project funding. The removal of all State and Federal funding decreased project NPV by 60%. Removing all State funding decreased NPV by 47%, whilst halving State & Federal assistance reduced the NPV by 43%.
- Operating outcomes posed the second-largest risks to the project. This included cases where operating costs and maintenance capex were assumed to be higher than anticipated, and where revenues were lower than expected. NPV variances ranged from -24% to -37%.
- Delays to the project start of 6 months and 12 months had an immaterial impact on the financial outcome for the Precinct, increasing NPV by 4% and 5% respectively.

## **Budget analysis**

A budget analysis was prepared to assist the project's key stakeholders better understand Council's ongoing financial commitment relating to development and operation of the Entertainment Precinct. Key observations from the budget analysis are presented below:

- At no point over the 10 year forecast period is the net operating impact of the Precinct on Council's budget positive. The operating result (earnings before interest and depreciation) steadily increases from -\$1.2 million to -\$3.2 million.
- From FY 2017, once all facilities have become operational, depreciation expense is expected to be \$3.9 million per annum.

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- Interest expense peaks in FY 2015 at \$2.4 million, after which the Civic Theatre's sale proceeds are used to pay down the principal balance of outstanding debt.
- The budget analysis was also conducted using the parameters from the risk analysis test 3 (lower visitation and revenues), This demonstrates a deterioration in the Net Operating Impact (with interest), from \$8.5 million to \$11.0 million in FY 21.

## Economic appraisal

The economic appraisal considers a broad range of costs and benefits relating to social, cultural, economic and environmental factors associated with project options. As many of the associated costs and benefits are 'intangible', and do not have a market price, the economic appraisal has been undertaken using a combination of discounted cash flow analysis, quantitative analysis and qualitative assessment. In evaluating options, it is necessary to consider the results of these analysis/assessments in parallel.

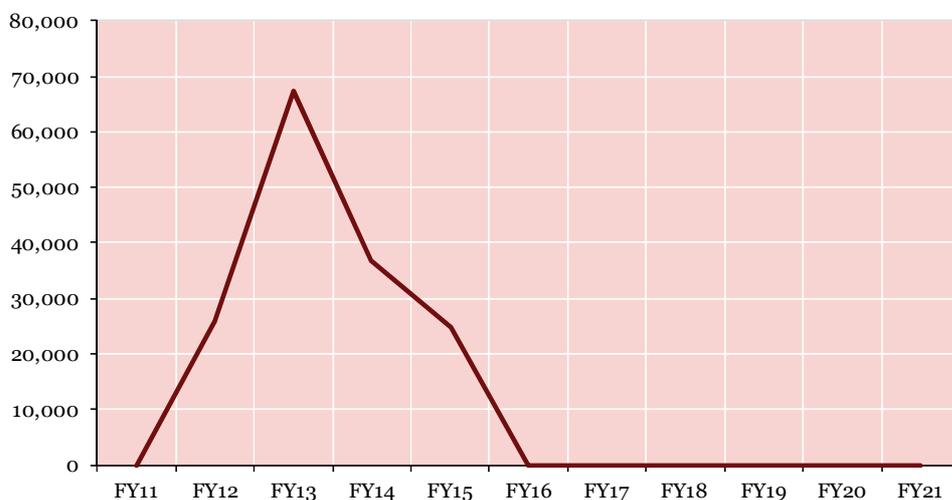
In light of the key outcomes and objectives sought by Council and Government in developing the Precinct, significant weight must be given to the key indirect and non-market benefits that may be realised as a result of the Precinct development – for example, increased social cohesion and quality of life, arts and cultural heritage appreciation, increased education and training facilities and health improvement. The preferred option must be capable of meeting the outcomes sought by local and State government.

### Direct and indirect expenditures

The impact of each project option on expenditures, both in the facility and external to the facility, can be classified into two key categories – direct and indirect expenditures. “Direct expenditures” refers to economic activity that is directly related to the facility, while “indirect expenditures” refers to any flow-on or economy-wide effects.<sup>1</sup>

Figure 1.5 below presents direct expenditure under the construction phase for Option 6 - Stage 1. Construction expenditure is projected be over \$150 million over the five years from FY12 to FY15, with expenditure peaking in FY13 (\$67.4 million).

Figure 1.5: Expenditure on construction in Option 6 - Stage 1

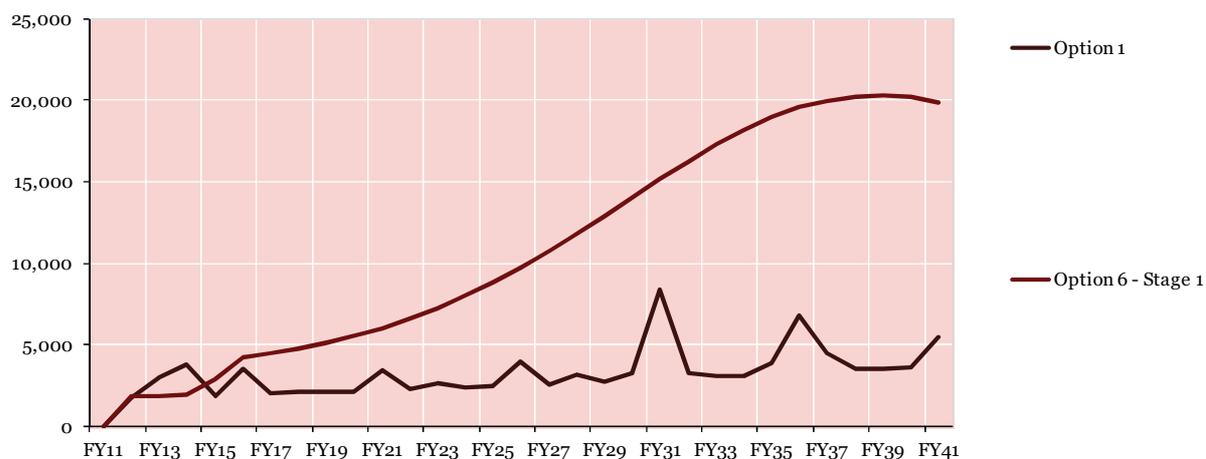


<sup>1</sup> The latter are subject to qualitative assessment in the economic appraisal. PwC has received guidance from Queensland Treasury around the most appropriate methodology for the economic appraisal component of the preliminary evaluation. The methodology presented in this report is, in PwC's understanding, acceptable for Queensland Treasury's purposes.

There is evidence to suggest that, while unemployment rates are quite high in Cairns and the Far North (evidencing possible underutilisation of resources), the demand for labour resources in the construction industry is currently exceeding supply, implying that additional construction activity (like that instigated by the Entertainment Precinct) may simply redirect labour resources and economic activity away from other projects. However, it may be argued that, following the temporary shock to the labour market arising from the Queensland reconstruction effort, some of these resources may then be directed to construction projects like the Entertainment Precinct. This would assist in maintaining economic activity in the Cairns and Far North Queensland region following reconstruction.

Figure 1.6 summarises the difference in direct expenditures in the operational phase between Option 6 - Stage 1 and the Base Case.

Figure 1.6: Direct expenditures in the operational phase, by option.

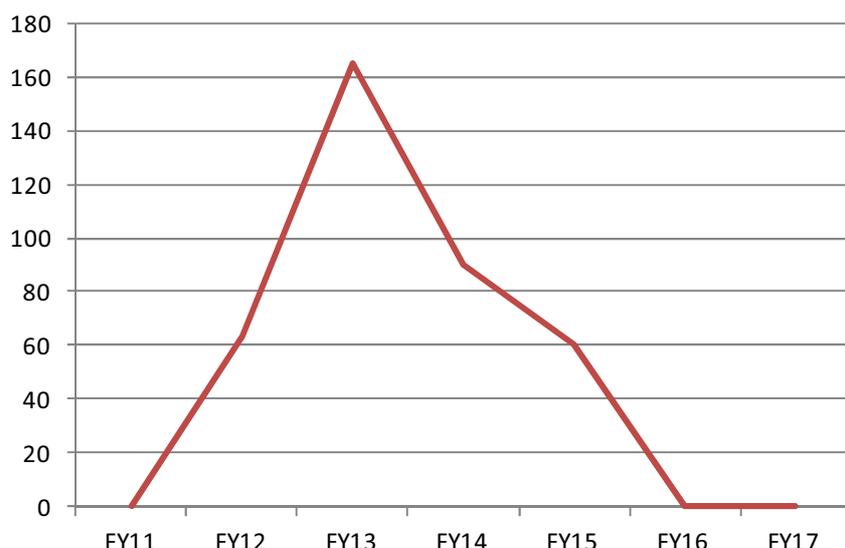


Throughout the operational phase, Option 6 - Stage 1 will provide greater support for the Construction, Arts and Restaurants/Catering industries, as compared to the Base Case. The larger, complementary performing arts facilities at the Precinct allow for larger revenues from Arts activities in particular, with more than four times the revenues accruing to the Arts industry under Option 6 - Stage 1 as compared to the Base Case. Heightened tourism activity under Option 6 - Stage 1 will also provide support for the region’s retail, restaurant/catering and accommodation industries.

**Labour**

The number of persons directly employed on the construction site during the construction phase of the project is illustrated in Figure 1.7. The maximum number of persons employed during the construction phase of the Precinct is in 2013, peaking at around 165 persons. The employment sustained by the Precinct’s construction diminishes after 2013 until it reaches completion in FY2016.

Figure 1.7: Number of workers on site during the construction phase of the Entertainment Precinct



While unemployment rates are relatively high in Cairns and the Far North (evidencing possible underutilisation of resources), there is reason to believe that demand for labour resources in the construction industry may be exceeding supply.<sup>2</sup> The construction of the Precinct will undoubtedly support employment during the construction phase and a modest level of additional employment in the economy may be created.

It is estimated that, during the operational phase, the Entertainment Precinct will directly employ 30 people, while the Civic Theatre is expected to employ approximately 20 people. As well as these direct labour effects, it is likely that the flow-on effect of the project will support economy-wide employment, particularly in tourism related industries like retail trade and restaurants/catering. The Civic Theatre does not currently operate as a key tourist attraction, nor does it support a significant level of retail/restaurant/catering activity and employment. As such, the economy-wide employment supported under the Entertainment Precinct option is expected to be greater than that under the Base Case.

### Social cohesion and quality of life

The social benefits that may accrue to Cairns and Far North Queensland (and, to a lesser extent, the State) may be classified into five broad categories:

- Social cohesion:** Research indicates that arts and cultural services can contribute significantly to the social cohesion of a community<sup>3</sup> and, as such, arts and cultural policies and programs have been developed throughout Australia with a primary objective of enhancing social cohesion.<sup>4</sup> The Precinct has been designed to provide state-of-the-art cultural and arts facilities, together with

<sup>2</sup> For example, Queensland Government has identified construction-related occupations to be in short supply and initiated skills training programs accordingly. It is important to note, however, that there is currently mixed opinion as to the state of the Far North Queensland Construction industry - Beacon Consulting, *Cairns Contractor Sentiment Survey*, October 2011. While this survey indicates a high level of competition in the industry and increasing labour costs (implying a strong demand for labour resources), it also indicates that some firms may lose staff over the next twelve months.

<sup>3</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>4</sup> Australian Government, Department of Immigration and Citizenship, 2011. *The Diversity and Social Cohesion Program*, [online] Available at: <http://www.harmony.gov.au/dscp/> [Accessed 8 July 2011].

public gathering space for everyday recreational use, allowing local business to take advantage of long business hours available providing greater public amenity and safety. It will foster creative participation; intergenerational interaction and intercultural interaction.

- **Local image and identity:** Research has shown that the arts help people to express and define what it means to be Australian.<sup>5</sup> Additional arts and cultural facilities may therefore strengthen the Australian image and identify and provide a connection to our past and to our nation. The Precinct will also foster the further development of community identity.
- **Appreciation of the arts and cultural heritage:** A heightened appreciation of arts and cultural heritage may be achieved as a result of events or festivals that occur in the public plaza and open space at the Cultural Precinct. Due to the Far North Queensland's rich indigenous and multi-cultural heritage, there is a great opportunity in Cairns to develop performing and visual arts unique to the region. Increased exposure to this cultural heritage will no doubt lead to an increased appreciation and tolerance of the arts.
- **Health and well-being:** Health and well-being benefits of arts and cultural activities accrue to both creative participants and receptive participants. There is widespread recognition across literature that, at the basic level, arts and cultural activities provide a unique and deep source of enjoyment, resulting in increased levels of happiness and the ability to cope with everyday pressures of life.<sup>6</sup>
- **Non-user benefits:** For the Cairns Cultural Centre, 'non-user value' is also relevant. Non-use value includes value accruing to persons who do not visit the facilities or participate in related cultural activities but place value on the *option* to visit such facilities.

While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities to some extent, the Entertainment Precinct, with its larger complementary facilities, will foster and encourage much greater participation (both creative and receptive participation), thereby harnessing much greater community-wide benefits, as discussed above.<sup>7</sup> The current Civic Theatre is an inferior facility that, for example, cannot attract, nor can it support, large-scale, professional stage shows and cultural displays. Further, it does not encourage the level of creative participation by the community that will likely exist under Option 6 - Stage 1.

Facilities such as the Public Plaza will also foster greater social cohesion and health and well-being benefits that may not accrue to the community under the Base Case.

### ***Education and skills training***

While the construction of the Entertainment Precinct may contribute to skills shortages currently being experienced by the Queensland construction industry, the education and skills training benefits that will be fostered by the Precinct once operational, will assist in the long term education and skilling of

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<sup>5</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>6</sup> Australian Expert Group in Industry Studies (AEGIS), 2004. *Social Impacts of Participation in the Arts and Cultural Activities- Stage 2 Report*, Sydney.

<sup>7</sup> For example, the current facilities are unable to cater for large events and attract national and international participation. Stakeholders have specifically stated that the low capacity of the Civic Theatre in particular is a fundamental reason for performances and shows to not coming to Cairns.

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Queensland's labour force, both for industries directly linked to the Precinct and for the wider community.

The benefits of participation at arts and cultural facilities accrue to a number of groups within the community, from the professional performers themselves ("creative participants") to consumers whose participation is merely receptive ("receptive participants"). These benefits accrue through a variety of forms, including knowledge sharing; increased collaboration; cultural appreciation; and generic work place skill development (e.g. communication and team work skills).

Receptive and creative participation in the arts can foster improved languages skills, more developed critical thinking ability and increased confidence to engage with the education system. Having a local population that is increasingly able to think critically and is more confident and culturally aware, will lead to a more productive workforce that can meet the challenges of a growing region.

While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities (both creative and receptive participation), the Entertainment Precinct will likely foster and encourage *further* participation thereby harnessing additional community-wide benefits.

### ***Environmental effects***

The environmental benefits and costs associated with the Entertainment Precinct include:

- **Site enhancement:** The development of the Precinct will result in a number of enhancements to this site. These include the removal of contamination as a result of former uses associated with the port, ground works (e.g. site clearance), construction of stormwater management infrastructure, and landscaping and other final site improvements.
- **Urban development:** The Entertainment Precinct (along with the Convention Centre) will create a third node in the urban framework of the CBD, which will provide for better connections between land uses, public spaces and transport facilities. The Precinct will provide for higher levels of connectivity between inner city and outer city by anchoring the city centre with the shopping centre, Shields Street, the lagoon, and the Port lands boardwalk. This triangle also defines a circuit of high-amenity public spaces along the waterfront and CBD
- **Sustainable design:** The Precinct facilities will be designed to achieve high standards to energy efficiency and water conservation, life cycle analysis for a selection of materials, waste minimisation, low greenhouse gas emissions and an operational plan to maintain the standards for the life of the building.

Under the base case, the Entertainment Precinct site would not be subject to the enhancements detailed above, and there remains the potential for environmental issues associated with site contamination.

### ***Bringing the costs and benefits together – the CBA framework***

Where possible, the economic costs and benefits identified above have been built into the CBA framework (as outlined in the PAF<sup>8</sup>), to provide a summary of the monetised costs and benefits. The monetised costs and benefits are summarised using two key CBA metrics – the net present economic

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<sup>8</sup> *Project Assurance Framework: Cost Benefit Analysis*, page 28.

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value ('NPEV') and the benefit-cost ratio ('BCR').<sup>9</sup> As only the direct expenditures in the construction and operational phases of each Option have been monetised for the purpose of the PAF CBA framework, it is important to consider these monetised components in line with the crucial quantitative and qualitative costs and benefits as discussed above.

If a project's costs and benefits can be fully quantified and captured in the discounted cash flow analysis, a project option may be considered to be economically viable if the BCR is greater than one and the NPEV is positive. However, as discussed in the PAF, for cultural projects like the Cairns Entertainment Precinct, summary CBA metrics (like NPEVs and BCRs) are not sufficient to provide an indication of the holistic economic viability of a project.

The NPEV and BCR for Option 6 - Stage 1 are -\$208.2 mill and 0.16 respectively. The NPEV and BCR are calculated from incremental cash flows, as required by the PAF.<sup>10</sup> While these metrics *alone* are unable to provide economic justification for the project, it is important to note that these metrics have only been calculated based on the impacts that have been monetised in this assessment – that is, the direct expenditures under the construction and operational phases of each Option. The supplementary analysis presented above illustrates a broad range of costs and benefits that have not been monetised.

Figure 1.8 summarises and compares the monetised, quantified and qualified costs and benefits under each of the five impact categories for Option 6 - Stage 1 and the Base Case. The preferred option based on this comparison is Option 6 - Stage 1.

**Having regard to the monetised, quantified and qualified costs and benefits, together with key objectives and outcomes sought by the State Government and Council, Option 6 - Stage 1 presents as the preferred option.**

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<sup>9</sup> These metrics are explained in Section 3.2 above.

<sup>10</sup> "Incremental" means that the cash flows under Option 1 (the Basecase) are subtracted from the cash flows for each Option to determine the benefit over and above the status quo. Hence, incremental NPEV and BCRs are zero for the Base Case.

Figure 1.8: Summary and comparison of costs and benefits under each impact category for Option 6 - Stage 1 and Base Case

	Option 6 – Stage 1	Base Case	Preferred option based on impact and ability to meet outcome sought
<b>Direct and indirect expenditures</b>			
Construction phase	<p>Construction expenditure is projected be over \$150 million over the five years from FY12 to FY16, with expenditure peaking in FY13 (\$60.9 million).</p> <p>Construction activity may assist in sustaining economic activity in Cairns and the Far North Queensland following Queensland’s reconstruction effort.</p>	N/A	Option 6 – Stage 1
Operational phase	<p>Option 7 will provide support for the Construction, Arts and Restaurants/ Catering industries, with direct expenditures exceeding \$20 mill in 2041.</p> <p>Heightened tourism activity under Option 7 will also provide support for the region’s retail, restaurant/catering and accommodation industries.</p>	<p>While the Base Case will provide support for the Construction, Arts and Restaurants/Catering industries, direct expenditures under this option is far less than Option 6 Stage 1 (approx \$5 mill)</p> <p>The Civic Theatre does not currently operate as a key tourist attraction</p>	Option 6 – Stage 1
<b>Labour</b>			
Construction phase	<p>The construction of the Precinct may directly sustain employment for up to 160 persons.</p> <p>The flow-on employment from the construction of the Precinct may not be substantial. This construction may direct resources away from other construction (or mining) activity. There is mixed opinion as to the current state of the construction industry labour market.</p>	N/A	Option 6 – Stage 1
Operational phase	<p>Operation of the Precinct may directly sustain employment for 30 people.</p> <p>Tourist activity, together with expenditure in, for example, retail and restaurant/catering industries, may support economy wide employment.</p>	<p>Ongoing operation of the Precinct may directly sustain employment for 20 people</p> <p>Economy-wide employment supported by the Precinct is expected to be far greater than that under the Base Case, due to its additional facilities and capacity to attract visitors.</p>	Option 6 – Stage 1

	Option 6 – Stage 1	Base Case	Preferred option based on impact and ability to meet outcome sought
<b>Social cohesion/ quality of life</b>			
Construction phase	N/A	N/A	N/A
Operational phase	<p>The Precinct’s facilities will foster community networks that are inclusive and equitable. It will encourage intergenerational and intercultural interaction.</p> <p>The Precinct will foster a heightened appreciation of arts &amp; cultural heritage and a more defined local image and identity.</p> <p>Arts &amp; cultural activities provide a unique source of enjoyment, resulting in increased levels of happiness &amp; the ability to cope with everyday pressures of life.</p>	<p>While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities to some extent, the Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing additional community-wide social benefits.</p> <p>Facilities such as the Plaza will also foster greater social cohesion and health and well-being benefits that may not accrue to the community under the Base Case.</p>	<i>Option 6 – Stage 1</i>
<b>Education and skills training</b>			
Construction phase	<p>While the construction of the Precinct may contribute to skills shortages currently being experienced in Queensland’s construction industry, there are numerous government programs in place to address this issue.</p> <p>Once construction of the Precinct is at its peak, there may be an increase in labour supply in the local construction industry due to these programs.</p>	N/A	<i>Option 6 – Stage 1</i>
Operational phase	<p>For artists and performers that participate creatively in artistic and cultural centres, increased knowledge sharing and collaboration will have benefits for their skills and techniques.</p> <p>Receptive and creative participation by consumers at the Precinct may assist in enhancing learning ability and performance in the work place.</p>	<p>While the Civic Theatre and other venues throughout Cairns currently encourage both creative and receptive participation in arts and cultural activities to some extent, the Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing additional community-wide skills development benefits.</p>	<i>Option 6 – Stage 1</i>
<b>Environment</b>			
Throughout the project	<p>The development of the Cultural Precinct will enhance urban amenity of the Precinct site, areas adjacent to the site and more broadly within the Cairns CBD. It will contribute to the sustainable development of the Cairns City through integration of sustainable design values, protection and enhancement of the natural landscape and appropriate utilisation of the land.</p>	<p>Under the base case, the Entertainment Precinct site would not be subject to the urban enhancements, and there remains the potential for environmental issues associated with site contamination and stormwater/sediment control.</p>	<i>Option 6 – Stage 1</i>

## ***Meeting the key outcomes and objectives sought***

As Queensland Government's *Project Assurance Framework* states, "important cultural projects seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than their economic impact."

As such, the four key objectives identified are crucial to the economic and financial appraisals, forming the benchmark for final conclusions regarding the preferred option. When ranking the options, the overriding decision rule is that the preferred option must be capable of meeting the outcomes sought.

**The assessment above demonstrates that Option 6 - Stage 1 meets the four key objectives, while the Base Case does not.** The Entertainment Precinct will replace the existing Cairns Civic Theatre which is an inferior facility, unable to attract or support large-scale stage shows and cultural displays. It is widely acknowledged to no longer meet the needs of the city.

The Precinct will provide facilities for the performing arts industry, and the region's families and communities, which have not been previously available. These facilities will not only harness significant social and educational benefits, but provide a unique attraction for the Cairns and Far North Queensland region, fostering the region's cultural value and local identity.

The Public Plaza and White's Shed will form a central meeting place for community interaction. Such community meeting places are acknowledged by policy makers as crucial to enhance urban structures and liveability of cities. They can also provide a sense of enjoyment, resulting in improved individual and community well-being.

It is envisaged that the Entertainment Precinct will support the changing nature of the Cairns CBD by providing a catalyst for business growth, allowing local business to take advantage of long business hours available providing greater public amenity and safety, and by providing economic benefits to the city from business events and heightened tourism activity. The Precinct is therefore regarded by Council and the State as a priority catalyst project for the development of the Cairns CBD.

Together with sustaining employment during the construction phase and fostering regional growth during the operational phase, the Entertainment Precinct will encourage participation in the arts and cultural activities, thereby harnessing the associated non-market social benefits discussed above. These benefits include improved languages skills; more developed critical thinking ability and increased confidence to engage with the education system. Having a local population that is increasingly able to think critically and is more confident and culturally aware, will lead to a more productive workforce that can meet the challenges of a growing region like Cairns and Far North Queensland.

As stated by the Premier the Honourable Anna Bligh in 2010, "*if you live in regional Queensland, arts and culture has to be...just as important to liveability as schools and hospitals and roads. It doesn't matter where you live, you should be able to access arts and culture. It's important to who we are, and it shouldn't be that you only ever see great shows or aspire to seeing a great orchestra if you travel out to bigger centres or capital cities... importantly, [the Entertainment Precinct also] provides the opportunity to provide a whole new destination for visitors from other parts of Queensland, Australia and the world.*"

### ***Overall finding***

**Having regard to the State and Local Governments' goals and objectives sought for cultural progress in the Far North region, Option 6 - Stage 1 presents as the preferred project option.**

As stated in the PAF, ranking of the options for cultural projects should be based on the options' ability to meet the key requirements and objectives of the policy makers. The non-quantifiable benefits, particularly the social and educational benefits, provide sufficient justification for Option 6 - Stage 1 in light of the key objectives sought. The Civic Theatre is widely acknowledged to no longer meet the needs of a growing city and tourist hub like Cairns.

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## **2**

# ***Background***

## ***2.1 Project description***

The Cairns City Centre plays a pivotal role in the economic and social fabric of the Far North Queensland region. The development of the City Centre was previously focused on the northern waterfront, including the tourist precinct and the commercial areas towards the central business district ('CBD'), and the development of Ports land to the eastern edge of the city.

More recently, Cairns Regional Council ('Council') has investigated and commenced design of the Cairns Entertainment Precinct ('the Entertainment Precinct'), located on a 1.5 ha site fronting Wharf Street. The Entertainment Precinct is intended to create a third node (along with the Convention Centre) in the urban framework of the CBD, which will provide for better connections between land uses, public spaces and transport facilities. The Entertainment Precinct will replace the existing Cairns Civic Theatre which is widely acknowledged to no longer meet the needs of the city. The Entertainment Precinct will provide facilities for the performing and visual arts industries, and the region's families and communities, which have not been previously available. Further, will form a central meeting place for community interaction, and will reserve a space for a major regional museum if required in the future.

It is envisaged that the Entertainment Precinct will support the changing nature of the Cairns CBD by providing a catalyst for business growth, encouraging longer business hours, greater public amenity and safety, and by providing economic flow-on to the city from business events and tourism. The Precinct is therefore regarded as a priority catalyst project for the development of the CBD and the resulting economic growth.

### ***Preliminary design***

It is proposed that the Entertainment Precinct will consist of a number of complementary facilities to form a public space which will become the hub of the city and region. The opportunities that have been identified for the site include:

- a performing arts centre with facilities to support the performing arts (for use by schools, local and touring organisations) and the visual arts;
- a public plaza to provide outdoor space for community gathering including for events, markets and festivals;
- complementary retail and commercial space; and
- car parking.

Details of the masterplan/design options for the site, and the project options considered in this appraisal are provided in Section 4.

## ***2.2 Investigations to date***

Council has undertaken a number of activities to progress the design and evaluation of project options for the Entertainment Precinct site.

In December 2010, Council appointed Savills Project Management ('Savills') to prepare a business case for the project in accordance with State Government's *Project Assurance Framework* ('PAF'), and to assist in the selection of project consultants.

In early April 2011, Council appointed an architectural team, CA-Cox Rayner through a competitive tendering process. CA-Cox Rayner commenced the masterplan and concept/schematic design phase in mid-April 2011. As part of this phase, the architect developed two master plan solutions for the site, and

two concept design options for the performing arts facilities, which were evaluated and submitted to the community for comment and critique.

The masterplan and concept/schematic design phase has been supported by advisory consultants, engaged directly by Council and appointed in early-April 2011. Together with the Outline Theatre Brief, Outline Acoustic Brief and the Museum Brief,<sup>11</sup> has informed the development of a masterplan solution for the site and the concept design options for associated facilities. Advisory consultants have developed lifecycle cost estimates and revenues for each of the design options.

Council has commenced evaluation of project options for the Entertainment Precinct. As external government funding is being sought<sup>12</sup>, the evaluation must be undertaken in accordance with the PAF provided by the Queensland Government. This framework involves a preliminary evaluation of project options, and a detailed business case to identify a preferred option.

The preliminary evaluation of the project options was completed in September 2011 and built upon the Strategic Assessment of Service Requirements ('SASR') undertaken by Savills in May 2011. Completion of a detailed business case evaluation is scheduled for November 2011 and will identify the preferred option for the project.

### ***2.3 Project options shortlisted for business case***

Council has undertaken an extensive process to identify appropriate masterplan and design options for the Entertainment Precinct site. These are described in Section 4, together with a description of the project options.

Following the preliminary evaluation, seven project options were shortlisted to two project options for analysis under the business case:

- **Option 7 from the Preliminary Evaluation:** Development of a car park, refurbishment of Whites shed, Public Domain, Performance Space 1 and bridge to Convention Centre. Option 7 from the PE has been renamed as "Option 6 – Stage 1" for the Business Case, to ensure consistency with Savills.
- **Option 1 from the Preliminary Evaluation (the Base Case):** The ongoing operation of the existing Cairns Civic Theatre on the current site within the current management and operational structure for a period of 30 years. The base case does not involve any development, upgrade or refurbishment to the existing theatre.<sup>13</sup>

More detail is provided in Section 4 and at Appendix A.

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<sup>11</sup> Investigations for the inclusion of a Museum on the site were undertaken in stages prior to the Business Case. The design option that has been taken forward to the Business Case does not include plans for a museum on the site.

<sup>12</sup> Early partial commitments to project funding have been received from the State and Commonwealth Governments. Council has committed funding for design and consultancy services in its 2010-11 budget, and has identified the availability of Council funding for one-third of the cost of construction of the performing arts centre, plaza and carpark. Council is actively pursuing the balance of funding from State and Commonwealth Governments.

<sup>13</sup> Standard ongoing maintenance costs are considered in the business case evaluations.

## **2.4 Scope of work**

PricewaterhouseCoopers ('PwC') has been commissioned to undertake the economic and financial appraisals required to support both the preliminary evaluation of project options, and the preparation of the detailed business case.

This report outlines the results of the financial and economic appraisal of project options as an input into the business case. The business case is specifically required to inform a submission for funding to the Queensland Government Cabinet Budget Review Committee. The results of the financial and economic appraisal will be incorporated into the business case document by Savills.

The scope of the financial and economic appraisal is to:

- determine the commercial viability of project options, specifically whether the options generate an acceptable financial return and to identify a least cost option;
- identify additional minimum project funding requirements for both construction and operation of the precinct; and
- assess the broader impacts resulting from project options on the broader community and economy, including the economic, social, cultural and environmental costs and benefits.

Under the PAF, the financial and economic appraisal must demonstrate a clear need for the project, showing that the preferred project option will provide a "value for money" solution and generate benefits for the community which exceed existing arrangements without the project taking place. Decisions about whether or not to proceed with project options therefore need to be informed by systematic and rigorous analysis of the financial viability, economic value and broader community benefits generated from the public funds invested.

## **2.5 Data reliability**

For this appraisal, we have relied upon data provided to us by Cairns Regional Council, Savills Project Management and other project consultants (both previous and concurrent investigations), and data taken from other publicly accessible sources (e.g. Australian Bureau of Statistics, Tourism Research Australia).

We have not sought to audit, nor do we confirm the accuracy of, the information provided to us or obtained by us, as part of this project. Accordingly, the results of our analysis should be interpreted with regard to the potential limitations of the data sources used.

### ***Data reliability – P90 interval***

#### ***Capex***

WT Partnership carried out an indicative Order of Cost Study for the Master Plan and design Option 6 – Stage 1. The rates used in the capital cost estimates were derived from a combination of current market rates for labour and materials, rates analysed for similar projects or project cost components and calculated rates based on estimates of time and materials.

These costs have been prepared to provide an accuracy in order of the P90 interval when measured against more detailed costs presented for the investment decisions of the business case. WT Partnership compiled the construction data for Option 6 – Stage 1 and provided a certificate to Savills indicating that the data has been prepared with an accuracy level in the order of the P90 interval. This can be found at Appendix I.

### ***Opex / revenue***

Creative Economy provided estimates of the ongoing operating costs for the Performing Arts Centre and heritage White's Shed. Cairns Regional Council, Savills Project Management and the consultant team provided additional information on the operating costs of the existing Civic Theatre and estimated costs of operating the Cairns Entertainment Precinct.

Operating costs for the Performing Arts Centre and White's Shed were estimated on the basis they would be operated as separate facilities. The facilities management consultants sought to provide best estimates based on knowledge of other facilities and industry benchmarks.

Similarly, operating costs for the precinct were estimated on the basis of existing information, industry benchmarks and industry-supplied information.

## ***2.6 Distribution of and reliance on the report***

This report has been prepared for our client, Cairns Regional Council, for the purpose described in the contract. It should not be used or relied on for any other purpose. You may not make copies of this report available to other persons except as described in the Contract, and subject to the conditions described therein.

We will not accept any responsibility or liability (whether in contract, tort, including negligence, or otherwise) to any person other than Cairns Regional Council for the consequences of any reliance on this report, except under the arrangements described in the Contract. No-one else should rely on this report for any purpose unless we so agree and they sign an undertaking to us in the form we require in that regard.

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# **3**

## ***Approach and methodology***

### 3.1 Business case approach

#### 3.1.1 Project Assurance Framework

As external government funding is being sought for the Entertainment Precinct, evaluation of the project options is undertaken in accordance with the *Queensland Project Assurance Framework*.

The PAF is a whole-of-government process developed by the Queensland Government to ensure a common approach to assessing major projects at critical stages in their lifecycles. This framework is intended to ensure that “project management is undertaken effectively across the Queensland Public Sector and delivers value for money to the government from its significant investment in project activity”.<sup>14</sup>

The PAF outlines various project stages (see Figure 3.1) and provides guidance for assessing a project at each of these stages.<sup>15</sup>

Figure 3.1: Evaluation stages as specified in the PAF



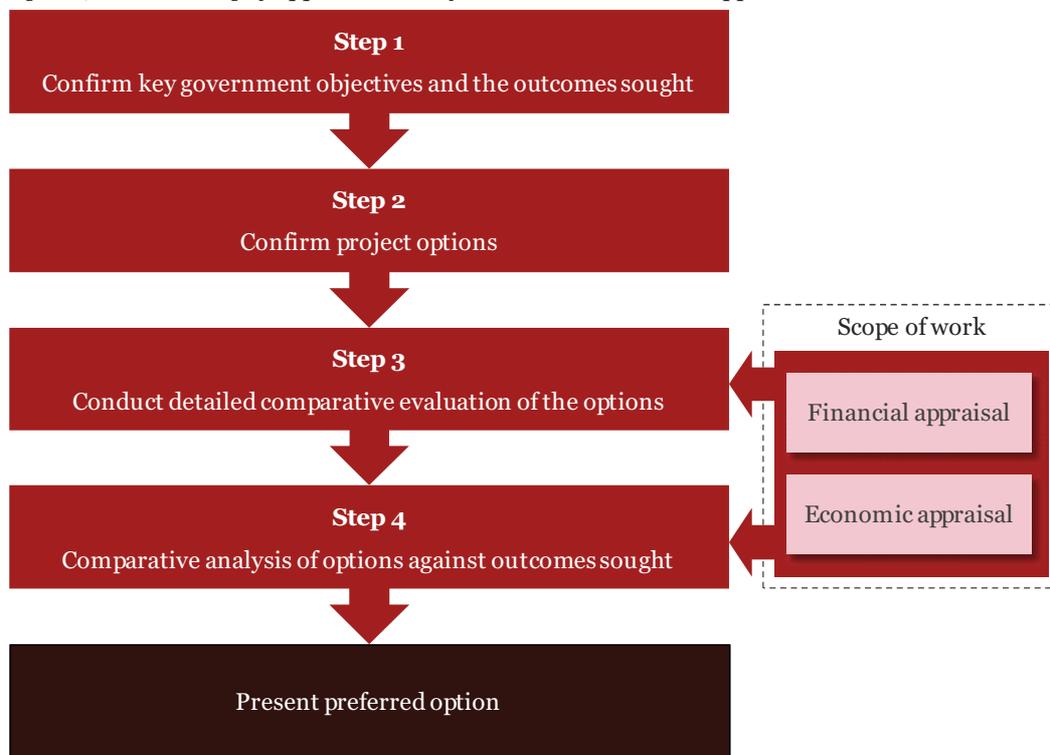
<sup>14</sup> Queensland Government, *Project Assurance Framework: Policy Overview*, page 2.

<sup>15</sup> It is important to note that if, in the preliminary evaluation stage, a Public Private Partnership is deemed to be the most feasible option for project delivery, the Queensland Government Value for Money Framework will apply for step 3 onwards and the PAF will no longer apply. While PPP delivery may apply to any potential option for a Cairns Entertainment Precinct, consideration of this is outside the scope of PwC’s engagement at this stage.

### 3.1.2 Financial and economic appraisal

Following the Preliminary Evaluation, the scope of PwC’s engagement is limited to the “Business Case” stage of the PAF and focuses only on the financial and economic appraisal components.<sup>16</sup> PwC’s evaluation of project options builds on the Preliminary Evaluation and Strategic Assessment of Service Requirements (SASR) already completed and contributes to the Business Case.

Figure 3.2: Summary of approach to the financial and economic appraisal



#### Step 1: Confirm the outcome sought

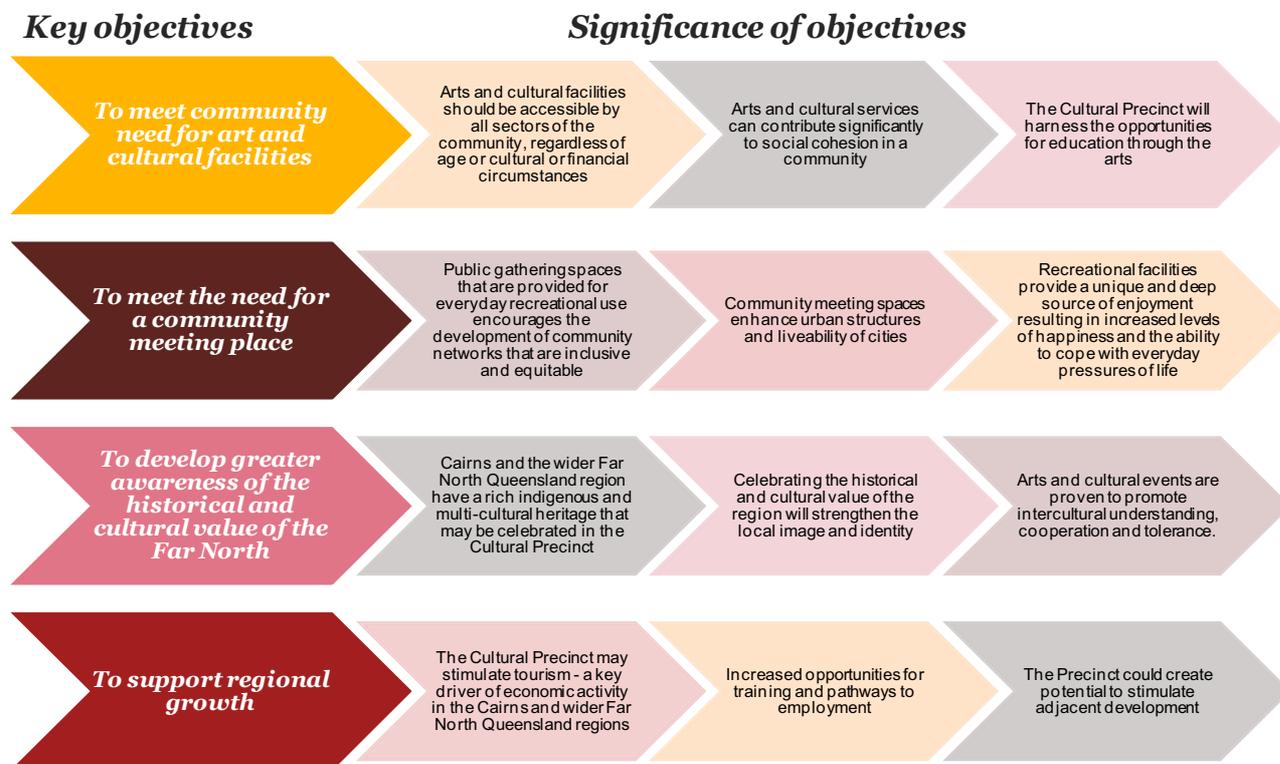
As identified in the Preliminary Evaluation, the Entertainment Precinct is intended to provide opportunities and facilities for the performing and visual arts industries, and the region’s families and communities, which have not been previously available. It is envisaged that the Precinct will be a place for meeting and interaction, enjoying a wide sense of community, and making a substantial contribution to the vitality of Cairns. Further, it is anticipated that the Entertainment Precinct will support the changing nature of the Cairns CBD by providing greater public amenity and safety and, to some extent, a catalyst for business growth.

The preliminary planning and design of the Precinct was guided by eleven key goals developed by the Cairns Regional Council that are outlined in Appendix A. These goals are closely aligned with numerous policies, guidelines, strategies and plans at all levels of government which are outlined in Appendix A.

<sup>16</sup> As addressed above, additional components of the Preliminary Evaluation stage as outlined in the PAF, such as risk evaluation and market sounding, is outside the scope of PwC’s engagement. PwC has undertaken the Employment and Skills Development Statement (ESDIS) but this has been provided to Savills and Cairns Regional Council as a separate deliverable.

Drawing upon the Cairns Regional Council goals and key State Government initiatives and policy objectives,<sup>17</sup> PwC has identified that, for the purpose of this appraisal, the four overriding outcomes sought for the project are those listed in Figure 3.3. These objectives form the benchmark for option appraisal throughout the analysis framework.

Figure 3.3: Key objectives and outcomes sought from the project



## Step 2: Confirm project options

The establishment and operation of cultural infrastructure involves the use of productive resources such as land, capital and labour - all of which have alternative uses and hence, impose an opportunity cost to the community. It follows then that there are numerous options available to government when deciding whether to invest in cultural infrastructure and, if so, which cultural infrastructure.

When assessing such questions a wide range of options should be identified and reviewed to set the parameters of an appropriate solution. The purpose of option analysis is to help develop a “value for money” solution that meets the objectives of government action (as identified in step one). The list of options should contain one where the government takes the minimum amount of action necessary (the “Base Case”). This allows for a “check” against more interventionist measures.

Options for the development of cultural facilities in Cairns have been subject to stakeholder and community consultation and shortlisted accordingly. Following the preliminary evaluation, seven project options were shortlisted to two project options for analysis under the business case. In light of this, the financial and economic appraisals contained in this report focus on two key options and a number of scenarios. These are described in Section 4.0.

<sup>17</sup> See appendix A.

### ***Step 3: Conduct a detailed comparative evaluation of the project options***

Detailed comparative evaluation of the options is to be undertaken to provide sufficient information to key stakeholders to enable them to make an informed decision as to whether to proceed with a particular project option and develop a business case accordingly.<sup>18</sup>

The priority of the potential project should be determined according to its contribution towards the achievement of government imperatives, as identified in step one. If it is determined that the project is a priority, the next issue to address is affordability. In light of budgetary constraints, not all projects can be funded and it is necessary to ensure that the key costs and benefits of all options are appropriately assessed.

The results of economic and financial analyses are fundamental to the determination of a project's priority and affordability. The financial and economic appraisals have two distinct (but related) purposes:

- **Financial appraisal** – A financial appraisal is used to determine the commercial viability of project options, specifically whether the options generate an acceptable financial return. It is performed from the project developer's perspective and hence considers only cash flows that impact upon the project developer (in this case Council). Where project revenues are insufficient to cover costs, the financial appraisal can be used to identify a least cost option. Financial appraisal allows for the identification of additional minimum project funding requirements.
- **Economic appraisal** – An economic appraisal is used to assess effects of the project options on the community and regional and State economies. It is performed from a broader perspective than a financial evaluation as it is designed to capture the benefits and costs to the wider region or economy, rather than only those of the project developer. While the economic appraisal does not explicitly consider the commercial viability of the project, it can provide additional justification for the funding of project options which are shown to generate significant economic, social, cultural or environmental benefits for the community.

Under the PAF, the financial and economic appraisal should demonstrate a clear need for the project, showing that the preferred project option represents value for money (and public funding is therefore justified), and will generate benefits for the community which exceed existing arrangements without the project taking place. In particular, decisions about whether or not to proceed with project options therefore need to be informed by systematic and rigorous analysis of the broader community benefits generated from the public funds invested. These broader community benefits may be economic, social, environmental or even cultural.

It is important to note that the PAF identifies that cultural projects “seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than economic impact”. This reiterates the importance of linking the findings of the financial and economic appraisals back to Step 1.

More detail regarding the economic and financial appraisal frameworks developed by PwC for this analysis is provided below.

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<sup>18</sup> The purpose of the business case development is to undertake a more detailed assessment of the small number of potentially viable options identified during the preliminary evaluation stage to inform the decision of whether to invest in the proposed project. This is outside the scope of work for this assessment.

While the PAF requires, for example, risk identification and market sounding, PwC's analysis is largely restricted to the financial and economic appraisals. All other requirements of the PAF at Business Case stage are undertaken or coordinated by Savills.

### ***Step 4: Summarise the results of the detailed comparative evaluation and present one preferred option***

Following financial and economic appraisal of the project options, the results are summarised and the options are ranked in terms of cost, risk and, most importantly, their ability to meet the outcome sought.

It is intended that Savills will use the findings from PwC's economic and financial appraisals, together with additional analysis that they will undertake in the Business Case stage, to decide on *one preferred option*.

## ***3.2 Appraisal methodologies***

### ***3.2.1 Overarching appraisal framework***

Given the tight engagement timeframes, the methodologies utilised for this appraisal focuses on those areas of the assessment where greater insight and analysis is necessary to ensure the appraisals respond specifically to the information requirements of key stakeholders. That is, where the information is likely to sufficiently address the key government objectives and outcomes sought.

A cost benefit analysis is a decision-making tool which seeks to measure the economic cost and benefits (including social and environmental) of different project options, and determine which option would result in the greatest net benefit to society. Similarly, the financial appraisal determines whether project revenues will be sufficient to cover costs, and identify a least cost/net cost solution.

Ideally, both the financial and economic (cost-benefit) appraisal would identify all associated costs and revenue/benefits in monetary terms. These future cashflows would then be discounted to present values, the sum of which forms the net present value (NPV) or net present economic value (NPEV). In practice, it is difficult to monetise all of the costs and benefits associated with a project option as part of the economic appraisal (i.e. where they do not exist in markets).

In the case of the Entertainment Precinct, there are a number of social (e.g. education and training, quality of life) and environmental costs and benefits which could not be monetised. Instead, these impacts have been described in quantitative (i.e. the magnitude of the impact has been determined) and qualitative terms. In evaluating options, it is crucial and the results of the discounted cash flow analysis and quantitative/qualitative assessment are considered in parallel.

When assessing the costs and benefits considered in the economic appraisal, significant weight should be given to the social and environmental (non-market) costs and benefits that have been qualified in the economic appraisal, particularly in light of Council and Queensland Government's key outcomes and objectives for the Entertainment Precinct (see Figure 3.3 and Appendix A). As Queensland Government's *Project Assurance Framework* states, "*Important cultural projects seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than their economic impact.*"

Figure 3.4 details where discounted cash flow analysis, quantitative analysis and qualitative assessment has been applied in the financial and economic appraisal. The appraisal methodologies are discussed in more detail in subsequent sections.

Figure 3.4: Overarching appraisal framework

	Discounted cash flow analysis	Quantitative assessment	Qualitative assessment
<b>Financial appraisal</b>			
Direct project expenditures	✓		
<b>Economic appraisal</b>			
Direct and indirect expenditures	Direct expenditures ✓	Indirect expenditures ✓	✓
Labour		✓	✓
Education and skills training			✓
Social benefits / quality of life		✓	✓
Environment			✓

### 3.2.2 Financial appraisal methodology

#### Methodology

The primary objective of the financial appraisal is to determine the net financial impact of the Entertainment Precinct on Council under the preferred development option, as identified in the Preliminary Evaluation, in addition to the Base Case option.

The assessment addresses key criteria for public funding of facilities and is consistent with both the PAF guidance for conducting cost benefit analysis, and industry best practice. The analysis has been performed from the perspective of Council’s role as project developer and operator, and hence only considers cash flows that:

- have a direct impact upon Council; and
- are directly attributable to either the development of the Entertainment Precinct, or the operation and disposal of the Civic Theatre.

The key output from the financial appraisal is a discounted cash flow (DCF) analysis, providing a measure of the net cash flow to Council, discounted to present terms at a rate commensurate with the risk of the project. The NPV of each option is used to compare their relative affordability. While corresponding internal rate of return (IRR) and payback period calculations are common for projects of this nature, the overall negative financial impact over the life of the development deemed it unnecessary to incorporate these additional calculations into the reported results.

Secondary outputs produced by the financial appraisal to further inform the analysis include:

- incremental NPV and free cash flows between the Entertainment Precinct option and the Base Case;
- free cash flow profiles for both options (by facility);
- capital expenditure (‘capex’) profiles for both options (by facility); and

## Approach and methodology

- revenue and operating expenditure ('opex') profiles for both options (by facility).

For the purposes of this analysis all inputs and outputs are calculated in nominal terms. The majority of model inputs were provided as at 30 June 2011 and, where required, these figures have been escalated using forecast escalation rates. In calculating a project valuation, all present value outputs have been discounted to 1 July 2011. While the model has the ability to produce either real or nominal outputs, it requires that escalation and discount rate inputs be converted accordingly.

The model was designed to accommodate a degree of flexibility around the majority of project assumptions. This allowed for scenarios to be created around the development options, and determine whether the project presents an acceptable level of financial risk when key external factors are sensitised. Along with these general sensitivities, specific scenarios were created from analysing the project risk register for likely, high-impact risks, which could be quantified through the financial model. The project options and scenarios considered as part of the financial appraisal are described in Section 4 of this report. The risk register is provided at Appendix G, and outlines the tests performed against each risk item.

A number of the Master plan cost categories are directly attributable to individual facilities. The remaining capital expenditure cost has been allocated between facilities based on the proportion of total floor space. The model allocates capex spend through time by applying an "s-curve" (also known as a "logistic function") between each facility's construction start and end dates.

In a similar manner to the treatment of capex, all operating revenues and expenses (including renewals expenditure) have been allocated to a facility, providing an insight into the cash requirements of each facility under both options. Where revenues were earned or expenses were incurred by the Precinct as a whole, these amounts were allocated to facilities according to their proportion of the total projected floor space.

The model evaluates the Entertainment Precinct project over a forecast period of 30 years from 1 July 2012 to 30 June 2041 (on an annual period basis). Given the uncertainty inherent in forecasting over long periods of time, the model adopts a terminal valuation approach to valuing the Precinct's future cash flows post-2041.

An overview of the financial assumptions employed in the analyses are provided at Appendix B of this report. Separate to this report, a Databook has been created for issue to Council as a deliverable.

### ***3.2.3 Economic appraisal methodology***

Typically, the identification of costs and revenues required as part of a financial appraisal are 'tangible' and can be obtained from planning and engineering estimates, and operations managers. In contrast, the economic appraisal considers a far broader range of costs and benefits relating to social, cultural, economic and environmental factors, many of which are 'intangible' and do not have a market price.

Where there is no market price for a good, economists have developed a range of techniques to understand economic value. "Stated preference" methods and "revealed preference" methods are two ways in which value can be captured for use in a cost-benefit analysis. Unfortunately, project timelines have not allowed for the extensive application of these non-market evaluation methods. As such, we have prepared a qualitative and, to some extent, quantitative appraisal framework which provides a comprehensive description of significant costs and benefits. In particular, the methodology incorporates 'benefits transfer' methods by drawing on the findings of other investigations.

It is important to note that, the costs and benefits identified for this assessment are considered to be the key considerations to adequately assess the options in light of the key government objectives and outcomes sought. They should not be considered an exhaustive list of all costs and benefits that may accrue under the different options.

### ***Scope of the appraisal***

Assessing the economic effects of developing an entertainment precinct requires consideration of two distinct components of the project – the construction phase and the operational phase.

While the construction phase of the project will create economic activity, the true economic costs or benefits of an infrastructure project like the Entertainment Precinct relates to the effects generated *once the project is operational*. For example, the true long run economic benefit of building a bridge across the Brisbane River is not the economic activity generated during construction but rather the productivity gains it induces once it is operational (for example, decreased travel time). The same bridge could be built in Central Queensland and, while it might produce a similar level of economic activity in its construction phase, the benefits realised once it is operational would be far less.

It follows then that the rationale for building the Entertainment Precinct should not be based solely on the economic activity generated by construction but rather the benefits it produces once it is operational. Significant focus has been allocated to this in the economic appraisal.

### ***Spatial reference area***

Before economic effects can be appropriately identified, the spatial reference area of the analysis needs to be specified. In this economic appraisal, the costs and benefits assessed are those that fall within:

- The Entertainment Precinct itself and the wider Cairns region;
- The Far North Statistical Division; and
- Queensland as a whole.

While some qualitative discussion of the wider national benefits is provided, the impact to Australia as a whole has largely been excluded from the analysis.<sup>19</sup>

### ***Key costs and benefits and the assessment methodology<sup>20</sup>***

The key economic costs and benefits that have been identified in this economic appraisal are best categorised as costs and benefits relating to:

- Direct and indirect expenditures;
- Labour;<sup>21</sup>
- Education and skills training;
- Social cohesion and quality of life; and

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<sup>19</sup> While the Cultural Precinct will provide, for example, an increased sense of cultural identity for the whole of Australia, it is anticipated that a relatively small infrastructure project like the Entertainment Precinct will have limited economic flow-on benefits for Australia as a whole.

<sup>20</sup> PwC has received guidance from Queensland Treasury around the most appropriate methodology for the economic appraisal component of the Preliminary Evaluation. The methodology presented in this report is, therefore, acceptable for Queensland Treasury's purposes.

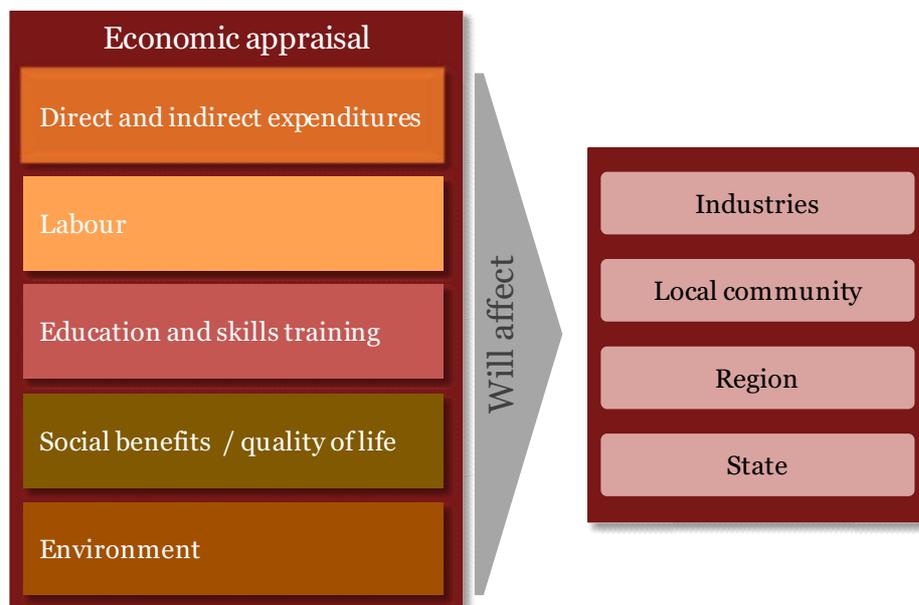
<sup>21</sup> While capital, as another factor of production, has been considered in the quantitative CBA framework (see discussion below), qualitative analysis of the indirect impact on capital markets under each of the project options has been excluded from this analysis. Land has not been considered in the economic appraisal (see discussion below).

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These costs and benefits are expected to impact various identifiable parties, from the directly affected industries (for example, the arts and culture industry) to interrelated industries, the local and regional communities and the State as a whole. This is illustrated in Figure 3.5. The key costs and benefits, as classified under these categories, are listed in Table 3.1 (on page 19), together with a brief outline of the approach taken when assessing the significance of each cost and benefit in the appraisal framework.

Figure 3.5: Sectors affected by the Entertainment Precinct



The latter three components of the appraisal are largely subject to qualitative assessment of the costs and benefits which may arise under the various project options. From background research, it is clear that it is not possible to robustly monetise these costs and benefits.<sup>22</sup> Instead, a "benefits transfer" approach has been utilised. That is, assessments for similar projects are drawn upon where non-market valuation techniques (e.g. "willingness to pay" metrics) have been utilised and supplementary qualitative analysis is provided.

In relation to the first two components of the appraisal, that is, the effect on labour and the effect on direct and indirect expenditures, we have developed a conservative approach to quantify these effects. The approach is best described as a quantification of the direct impacts to key industries with supplementary qualitative analysis of the flow-on costs and benefits.

For the direct impacts, estimates are provided for:

- the expenditure required to fund construction;

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<sup>22</sup> Leading into the Business Case stage of the Cairns Entertainment Precinct evaluation, PwC reviewed the treatment of non-market costs in the economic evaluation to explore the possibility of providing a quantitative assessment of these costs and benefits and their inclusion in the discounted cash flow analysis. It was concluded that the benefits transfer approach utilised for the preliminary evaluation could not be expanded due to the limited publicly available literature and research. The only way to quantify and monetise these costs and benefits in a robust manner would be to undertake an extensive and detailed survey process. PwC is of the belief that the qualitative assessment is sufficient to assess the economic arguments for the shortlisted options and to appropriately rank those options. This is a key objective in this evaluation stage under the PAF.

## Approach and methodology

- the expenditure at the facilities when they are operational;
- estimates of direct employment during the construction of the facility; and
- estimates of direct employment at the facility during operation.

These estimates are driven by the analysis undertaken in the financial appraisal.

ABS data and data developed by the Centre of Policy Studies at Monash University are also utilised to assess the level of value added and level of employment that is *directly* associated with certain levels of expenditure in the industries relevant for this appraisal. This analysis sheds light on key inter-industry linkages and the significance of the affected industries in the context of the regional and state economies.

A qualitative assessment of the potential flow-on costs and benefits is also provided. This involves analysis of, for example:

- the significance of the cultural and arts industries in the context of the regional and state economies;
- the significance of the Far North region, relative to the State economy; and
- key economic theory considerations relevant to the assessment.<sup>23</sup>

### ***Bringing the costs and benefits together – the CBA framework***

Where possible, the economic costs and benefits identified above have been built into the Cost Benefit Analysis Framework (as outlined in the PAF<sup>24</sup>), to provide a summary of the monetised costs and benefits. Figure 3.6 lists the quantifiable components of the CBA. These costs and benefits are summarised using two key CBA metrics:

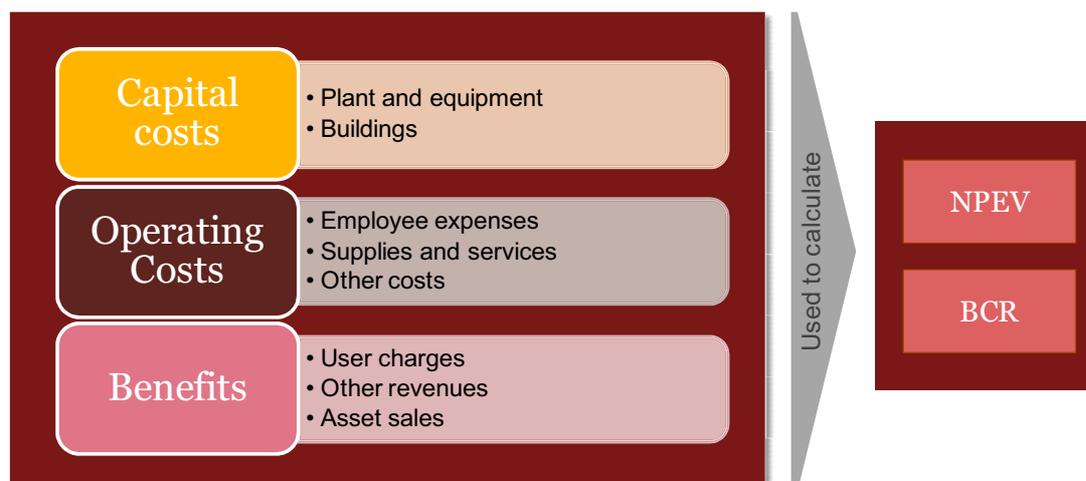
- **Benefit-Cost Ratio (BCR)** – The Benefit Cost ratio is calculated by dividing the present value of estimated benefits with the present value of estimated costs. A ratio of more than one would indicate that the Project Option is viable. Generally, a project with a higher benefit-cost ratio is preferred.
- **Net Present Economic Value (NPEV)** - The economic values of costs and benefits for each project option are forecast over the life of the project, costs are subtracted from benefits, and the sum of the resulting net benefits are discounted to give net present economic value (the NPEV) of the project. The NPEV allows project options to be compared on the same basis and hence, allows for the determination of the greatest net benefit to the community or the most economic use of resources. Project options may be ranked based on the NPEV, where the Option with the highest NPEV is preferred.

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<sup>23</sup> For example, direct employment or economic activity generated by the project (both in the construction and operational phase) may be offset as a result of resources being simply redirected from other projects in other parts of the region and/or the state (depending on the capacity of the economy at any one point in time).

<sup>24</sup> *Project Assurance Framework: Cost Benefit Analysis*, page 28.

Figure 3.5: Costs and benefits quantified in the CBA framework to calculate the Net Present Economic Value (NPEV) and Benefit Cost Ratio (BCR) for each Option



NOTE: “Grants and subsidies” are not included as a benefit in the CBA framework as these are more appropriately considered to be “transfers”.

The key **costs** to production, capital and labour, are quantified and incorporated into the CBA and have both been accounted for at their opportunity cost.<sup>25</sup> That is, cost of labour and capital are based on *market prices* as they reflect the best alternative uses that the factors could be put to.

The opportunity cost of land has *not* been incorporated in the CBA framework. *The opportunity cost of land refers to the value that would be derived from putting the site to its next best alternative use. To calculate the opportunity cost of land, it is necessary to identify the alternatives use of the land, and the possible revenue that could be derived from this. For example, the value of land if sold, the revenue obtained where Council develops the site and uses it for another purpose, or otherwise leases it to a third-party. All information obtained during the course of the financial/economic analysis indicates that there are limited commercial opportunities for the site. In particular, the site is burdened with significant heritage and planning constraints which impact directly on the land value of the site, and the ability to use it for other commercial purposes.*<sup>26</sup>

The **benefits** that are quantified in the CBA framework are limited and do not reflect all benefits that would accrue to the Precinct, particularly in the operational phase. That is, the CBA does not include a monetised value for key non-market benefits such as increased social cohesion and quality of life; arts and cultural heritage appreciation; education and training benefits; and health benefits, due the difficulty of reliably estimating the monetary value of these effects. As these benefits have not been quantified in the appraisal, it is not possible to quantify the efficiency gain/consumer surplus that would result from these

<sup>25</sup> The “medium” discount rate used for the financial analysis has also been used for the cost benefit analysis. The discount rate represents the opportunity cost of capital. The cost of labour in the operational phase is included in the line item “employee expenses”, while the cost of labour in the construction phase is implied in the cost of building the Precinct. The cost of labour is determined at the market price of labour and, as such, is also accounted for at its opportunity cost.

<sup>26</sup> Further detail is provided at Appendix C It is also important to note that the site earmarked for the Entertainment Precinct is owned by Far North Queensland Ports Corporation Limited (Ports North). Ports North is the land owner and the Assessment Manager for the Precinct site which is to be leased on a “peppercorn rent” to Cairns Regional Council for 99 years.

benefits for use in the CBA framework. Detailed qualitative assessment has, nevertheless, been provided in this regard and this analysis must be considered alongside the quantified impacts in the CBA.<sup>27</sup>

***The NPEV and BCR metrics derived for each option should not be assessed in isolation, but rather, should be read in parallel with the qualitative assessment of key indirect and non-market benefits that cannot be appropriately quantified in a CBA of a cultural project like the Cairns Entertainment Precinct.***

This approach is consistent with that outlined in the PAF which states cultural projects “seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than economic impact”. Hence, the broader community benefits and non-market impacts which may accrue to a cultural project are fundamental in an appraisal under the PAF.

***When ranking the options, the overriding decision rule is that the preferred option must be capable of meeting the key outcomes and objectives sought by Council and the State Government, as identified above.***

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<sup>27</sup> Leading into the Business Case stage of the Cairns Entertainment Precinct evaluation, PwC reviewed the treatment of non-market costs in the economic evaluation to explore the possibility of providing a quantitative assessment of these costs and benefits and their inclusion in the discounted cash flow analysis. It was concluded that the benefits transfer approach utilised for the preliminary evaluation could not be expanded due to the limited publicly available literature and research. The only way to quantify and monetise these costs and benefits in a robust manner would be to undertake an extensive and detailed survey process. PwC is of the belief that the qualitative assessment is sufficient to assess the economic arguments for the shortlisted options and to appropriately rank those options. This is a key objective in this evaluation stage under the PAF.

Table 3.1: Key costs and benefits of the Entertainment precinct and how they will be distributed across Queensland

		Industry		Community			Approach for assessment
Benefits	Costs	Cultural industry	Other	Local	Region	State	
Labour				Increase in labour that is directly related to construction and the operation of the Precinct			Utilising employment data provided by client and data from ABS and CoPS that is related to key industries to assess the labour effects that may arise under each of the Project Options.
				Labour drawn from other areas of the community to assist with the build and operation of the Precinct	Labour drawn from other areas of the region to assist with the build and operation of the Precinct	Labour drawn from other areas of the State to assist with the build and operation of the Precinct	Utilising employment data provided by client and data from ABS and CoPS that is related to key industries to assess the labour effects that may arise under each of the Project Options.
Direct and indirect expenditures		Revenues received in the Precinct facilities	Revenues received in the Precinct facilities	Flow on spend in the local area from an increase in revenue in the Precinct facilities	Flow on spend in the region from increase in revenue in the Precinct facilities		Utilising employment data provided by client and I-O data related to, for example, arts and construction industry

Approach and methodology

		Industry		Community			Approach for assessment
		Cultural industry	Other	Local	Region	State	
<b>Educational opportunities</b>		Increased opportunities for artists with regard to exposure and development of skills	Increased training opportunities for persons in, for example, retail and customer service industries	Increased opportunities for the community to learn about arts and culture	Increased opportunities for the community to learn about arts and culture	Increased opportunities for the community to learn about arts and culture	Drawing upon assessments for similar projects where non-market valuation techniques (eg. "willingness to pay" metrics) have been utilised and supplementary qualitative analysis is provided.
		Crowding out of local art exhibitions and performances		Increased interactive learning environments			
<b>Social impacts and quality of life</b>	Social cohesion	Increased opportunities for establishing relationships with others in the arts and cultural industry	Increased opportunities for the development of new community networks	Increased opportunities for intergenerational and intercultural contact	Increased opportunities for intergenerational and intercultural contact		Drawing upon assessments for similar projects where non-market valuation techniques (eg. "willingness to pay" metrics) have been utilised and supplementary qualitative analysis is provided.
	Local image and identity	Increased sense of belonging and involvement in the community		Increased pride in local traditions and culture	Increased pride in local traditions and culture	Increased pride in local traditions and culture	
	Appreciation of the arts and cultural heritage			Increased awareness and appreciation of the arts	Increased awareness and appreciation of the arts	Increased awareness and appreciation of the arts	

Approach and methodology

		Industry		Community			Approach for assessment
		Cultural industry	Other	Local	Region	State	
				Increased awareness and appreciation of cultural heritage	Increased awareness and appreciation of cultural heritage	Increased awareness and appreciation of cultural heritage	
	Health and well-being	Increased quality of life for artists					
<b>Environmental</b>	Site enhancement			Enhanced amenity of the site and neighbouring sites, and greater management of potential environmental issues			Qualitative assessment utilising existing information.
	Urban enhancement			Enhanced urban amenity including additional greenspace, public transport and connection with the CBD			Qualitative assessment utilising existing information.

Approach and methodology

		Industry		Community			Approach for assessment
		Cultural industry	Other	Local	Region	State	
	Sustainable design			Minimise environmental effects during construction and operational phases	Minimise environmental effects during construction and operational		Qualitative assessment utilising existing information.
	Sustainable development			Integration of sustainable design values, protection and enhancement of natural landscape, heritage values and scenic amenity			Qualitative assessment utilising existing information.

# 4

## *Options and scenarios*

## 4.1 Project options

Council has undertaken an extensive process to identify appropriate masterplan and design options for the Entertainment Precinct site. These are described below, followed by a description of the project options shortlisted for the Business Case. Following the preliminary evaluation, seven project options were shortlisted to two project options for analysis under the business case:

1. Option 1 from the Preliminary Evaluation (the Base Case); and
2. Option 7 from the Preliminary Evaluation. To ensure consistency with Savills, Option 7 is referred to as “Option 6 Stage One” in this appraisal.

### 4.1.1 Preliminary masterplan and concept designs

Council prepared a preliminary client brief, including supporting planning briefs for theatre design, acoustics, exhibition space and museum. This brief was the basis for the development of two masterplan designs and subsequently a number of concept designs. These designs were subsequently provided for stakeholder and community comment, to identify preferred options.

Each of the design options are described below.

Table 4.1: Masterplan and concept design options developed for the Cairns Entertainment Precinct

Design	Description	Included for appraisal?
<b>Site Masterplan</b>		
Masterplan 1 - Single Level Plaza	This option creates the major public space (plaza) and circulation at near-ground level (RL 3.35), with the theatres and their foyers also at this level. The plan provides a mezzanine level for access to the upper seats of the main theatre with a small external plaza.	No
Masterplan 2 - Dual Level Plaza	This option raises the main plaza up some 5.3 metres higher than in Option 1 to RL 8.65. The aim of the strategy is to improve the flood and storm surge resilience of the theatres and their support facilities, and to provide the public with elevated views over the port service road and wharf to Trinity Inlet. The strategy results in a part lower (street) level plaza and foyer, part elevated plaza and foyer, and a further mezzanine level and foyer.	Yes
<b>Architectural ‘concept development’ design</b>		
Concept 1 - ‘Architectural Rainforest’	This concept is based upon the notion of creating a dramatic roof canopy that focuses architectural attention on the central public space rather than on the mass of the theatre complex. The canopy is considered integral to the architectural vision, however more importantly, the canopy is key to the success of the precinct in its response to the tropical climate of Cairns.	Yes
Concept 2 - ‘Layered Roof-scape’	The ‘Layered Roof-scape’ concept responds to a repeatedly raised issue in the community consultation workshops: the scale and dominance of the fly-tower to the Main Theatre. The architectural idea of this concept is to create a series of ‘ribs’ across the precinct which undulate through the length of the precinct to disguise the scale of the fly-tower.	No

## 4.1.2 Options subject to appraisal

As a result of the iterative master-planning and concept development processes, Council identify seven project options which would be subject to preliminary financial and economic appraisal for the Preliminary Evaluation. Option 1 represented the base case or the existing Civic Theatre. Options 2 to 7 were based on the 'Masterplan 1 – Dual Level Plaza' and Concept 1 – "Architectural Rainforest". All project options that were considered for the Preliminary Evaluation are outlined in Appendix A.

Following the preliminary evaluation, seven project options were shortlisted to two project options for analysis under the business case – Option 1 and Option 7. These are described in Table 4.2.

To ensure consistency with Savills, Option 7 is referred to as "Option 6 Stage One" in this appraisal.

Table 4.2: Project options for the Cairns Entertainment Precinct

Project options	Description
Option 1 - Base Case (Civic Theatre)	The ongoing operation of the existing Cairns Theatre on the current site within the current management and operational structure for a period of 30 years. The base case does not involve any development, upgrade or refurbishment to the existing theatre.
Option 7 - Concept 1 (Rationalised - 1 Stage)	Carpark, Whites shed, turf/landscape to future museum space, Public Domain, Performance Space 1

## 4.2 Modelling scenarios (sensitivity analysis)

Sensitivity testing was undertaken to determine the impact of changes in key parameters on the results of the discounted cash flow analysis. These parameters are detailed below.

Whilst the key parameters identified and analysed under the sensitivity analysis can be used to consider "generic" risks posed to most tourism facilities, scenarios more tailored to the project's risks were constructed and analysed under a separate risk analysis (refer to Section 4.3). This included, for example, sensitising operating expenditures in response to risks identified in the project risk register (refer to Appendix G).

Note construction cost overruns were considered by Council to be a risk borne by the builder, rather than Council. As such, capital costs were excluded from sensitivity analysis.

### 4.2.1 Discount rate

The choice of discount rate is an important determinant of the value of public projects. Notwithstanding, there significant disagreement on the appropriate discount rate to use to calculate present value. For the purposes of this appraisal, a real discount rate of 7 per cent has been adopted, with sensitivity testing at 4 per cent and 10 per cent (refer Appendix B).

The equivalent nominal discount rates are presented in Table 4.3 below.

Table 4.3: Discount rates

Scenario	Real discount rate	Nominal discount rate <sup>1</sup>
Low <sup>2</sup>	3.42%	6.00%
Medium	4.88%	7.50%
High	7.00%	9.67%

<sup>1</sup> Real discount rate converted to nominal using the Fischer formula. A 2.5% inflation rate was adopted which is the mid-point of the Reserves Bank's target inflation range.

<sup>2</sup> A nominal discount rate of 6.0% was requested by Queensland Treasury.

## 4.2.2 Escalation rates

Escalation rates were applied to a number of revenue/cost items, including:

- revenues received;
- renewals maintenance costs;
- operating costs; and
- headcount escalation costs (staffing costs).

The values for each of these parameters were derived from industry sources (refer Appendix B).

Given the extended timeframe for the analysis, these parameters were varied -1% (low scenario) and +1% (high scenario) for sensitivity testing. This reflects that the parameters are more likely to fall within an overall 'range' over the analysis timeframe, rather than experience significant fluctuations, as may be expected over a shorter timeframe.

The values applied to the parameters for each of scenarios are presented in the table below.

Table 4.4: Parameters applied for each of scenarios

Scenario	Revenue	Renewal maintenance cost	Operating cost	Headcount escalation costs
Low	1.5%	4.0%	1.5%	3.4%
Medium	2.5%	5.0%	2.5%	4.4%
High	3.5%	6.0%	3.5%	5.4%

## 4.2.3 Visitation rates

The financial and economic viability of the Entertainment Precinct will be significantly affected by visitation. For the purposes of the preliminary appraisal, a number of visitation scenarios were constructed, based on past and forecast future trends in population and tourism numbers. The input data and calculations used to construct each scenario are presented at Appendix B.

The annual growth in forecast visitation to each facility over the period of the analysis is presented in Table 4.5. Visitation was calculated on the basis of current participation in cultural and arts activities (by local residents and tourists) with future growth based on population forecasts and potential increases in tourism.

## Options and scenarios

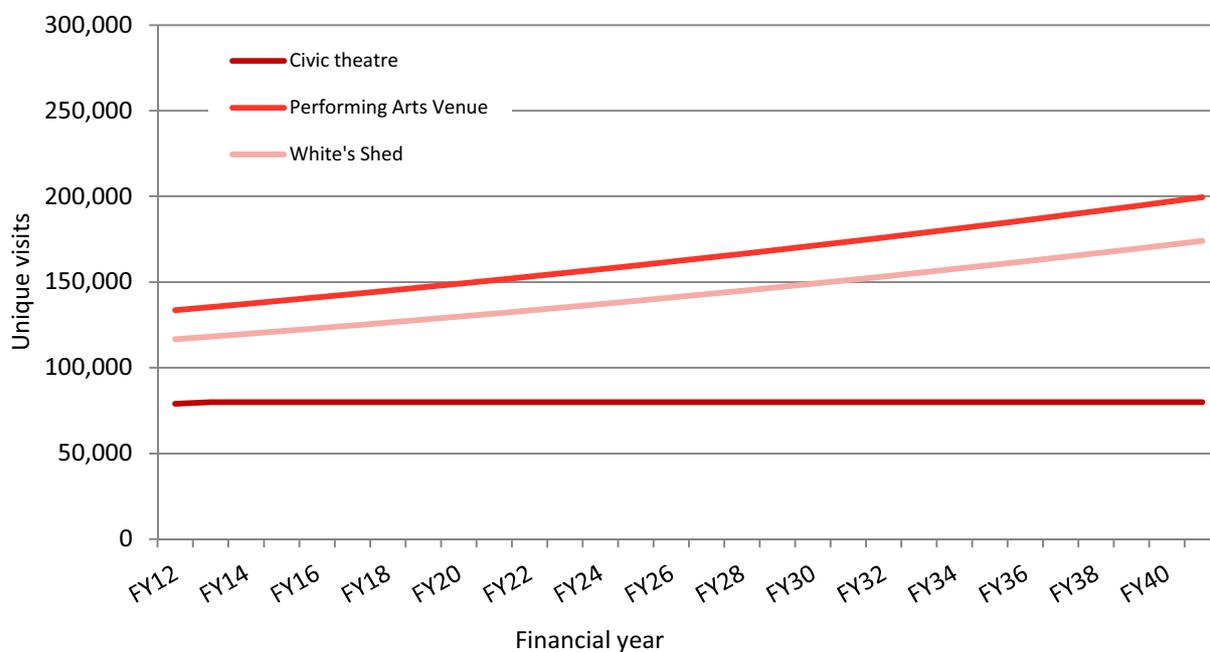
It should be noted that visitation represents unique visits to each facility, and visitation to individual facilities cannot be summed to calculate total visitor number to the Entertainment Precinct. It was assumed that there would be no significant change in visitation to the Civic Theatre given the limitations of the current facility.

Table 4.5: Annual growth in forecast visitation to each facility over the projection period

Scenario	Civic Theatre	Performing arts	White's Shed
Low	0%	1.6%	0.6%
Medium	0%	2.0%	1.6%
High	0%	3.1%	2.9%

Forecast visitation to each facility under the 'medium' scenario is presented in Figure 4.1 below.

Figure 4.1: Forecast visitation to each facility under the 'medium' scenario



## 4.3 Risk analysis

Council has provided PwC with a risk register outlining all the risks currently being monitored. A comprehensive assessment of risk impacts was undertaken, in which test cases were created for all risks with a rating of “High” or “Extreme”, and which were deemed to be quantitatively material in nature. Table 4.6 sets out the tests developed to quantify the impact of major project threats to the financial outcomes of the Entertainment Precinct.

Table 4.6: Risk assessment tests applied to Option 6 – Stage 1

Test	Description
1	State funding was reduced from \$57.3 million to \$0.
2	Federal funding was reduced from \$40 million to \$20 million. This represents 50% of first year expenditure, and assumes Federal funding will not continue into Year 2 of the project.
3	Operating costs and revenues were reduced by 20% to reflect sub-contractors' inability to service visitors.
4	Maintenance costs were increased by 30%. Renewal capex rates were also escalated by an extra 2%.
5	All State and Federal funding was reduced to \$0.
6	The low visitation scenario was applied.
7	Operating costs were increased by 20%. Maintenance costs were increased by 30%.
8	Operating costs were increased by 20%. The low visitation scenario was applied.
9	State and Federal funding was halved to \$28.7 million and \$20 million respectively.
10	Project start date delayed by 6 months. Initial capex costs escalated by 2.50% over 6 months.
11	Project start date delayed by 12 months. Initial capex costs escalated by 2.50% over 12 months.

Appendix G maps the above tests to the risks in the risk register.

# ***5 Results and discussion – Financial Appraisal***

## **5.1 Background**

To inform the Preliminary Evaluation phase of work, a scenario analysis model ('CEP Financial Evaluation') was constructed to determine the least cost option for developing the Entertainment Precinct. The model compares the development options against each other, as well as against the "Base Case" (i.e. the financial impact of not developing the Entertainment Precinct, and continuing Civic Theatre operations as-is). The model was modified to meet the specific requirements of the Business Case, and compares only the Base Case with development Option 6 – Stage 1.

A number of sensitivities were applied to each option:

- discount rates
- escalation rates
- visitation rates.

The primary measure in determining the financial viability of each option was project NPV over a thirty year timeframe. NPV calculates the net value of cash inflows and outflows over the forecast period, discounting them at a rate representative of the level of project risk. The NPV calculations incorporate the discounted terminal values for the Precinct.

The planned Entertainment Precinct, much like the Civic Theatre currently in operation, is forecast to run at an operating loss which is to be funded by Council. As there is no expectation of a future stream of positive cash flows, traditional financial measures of evaluating projects, such as Internal Rate of Return ("IRR") and Payback Period cannot be applied. In order for the Entertainment Precinct to be assessed on a "like-for-like" basis against the only other viable option – the continued operation of the Civic Theatre – the cost to Council associated with the initial capital expenditure of the project has not been included in the NPV analysis; that is, only the operating impact to Council has been considered.

The results show both the stand-alone (conventional) NPV, as well as the incremental NPV, which is a measure of variance between a given option and the Base Case.

Unless otherwise specified, NPV results will be presented on an incremental basis.

## **5.2 Scenario Results**

### **5.2.1 Capital expenditure**

Capital expenditure ("Capex") is comprised of two components of cost:

The cost associated with building the Masterplanned Precinct; and  
Additional costs borne by specific facilities in order to ready it for operation.

Capex differs from operating expenditure ("opex") in that it is a cost borne by Council for a benefit to be received in future periods. Whilst the difference in classification does not alter the NPV or FCF measures in this analysis, it is useful to consider the total cost of building the infrastructure and readying facilities for operation.

Council intends for the total initial capex amount of \$154.6 million to be funded by:

- Federal government funding of \$40.0 million
- State government funding of \$57.3 million

## Results and discussion – Financial Appraisal

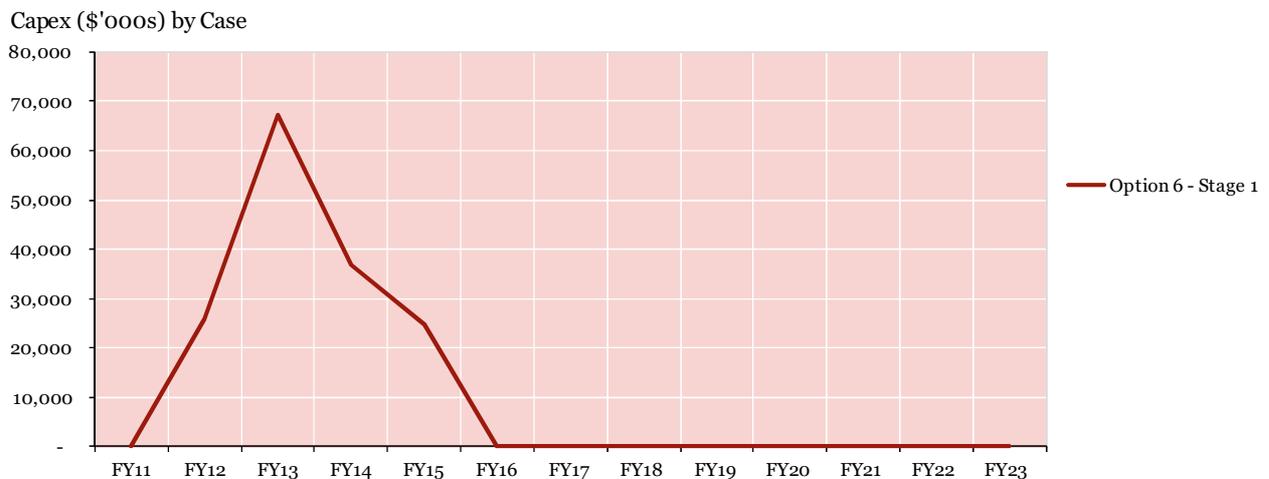
- Council funding of \$57.3 million.

The financial impact of not receiving funding commitments in full from the State and Federal governments is presented in Section 5.4.

Table 5.1: Capital expenditure forecast for each option under consideration, based on Masterplan estimates (in \$'000s)

Capex by Option	Total	FY12	FY13	FY14	FY15	FY16	FY17
Option 1	-	-	-	-	-	-	-
Option 6 – Stage 1	154,612	25,811	67,362	36,712	24,726	-	-

Figure 5.1: Capital expenditure forecast for Option 6 – Stage 1, based on S-Curving of Masterplan estimates (in \$'000s)



Option 6 – Stage 1 would be built in a single stage, and at a greatly reduced cost to the other options put forward in the Preliminary Evaluation. As can be seen in Table 5.2 the total initial capex spend of \$154.6 million does not include the museum or community hub, which have been excluded from this scope of works.

Construction of the PAC is estimated to constitute 58% of the initial capex. The second-most costly facility to construct would be the basement carpark, constituting 24% of initial capex spend. The public plaza would make up only 12% of the total cost, whilst refurbishment of Whites Shed is only scheduled to make up 6% of initial capex.

Table 5.2: Capital expenditure forecast for Option 6 – Stage 1, by Precinct facility (in \$'000s)

Capex: Option 6 – Stage 1	Total	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Basement Carpark	36,570	6,105	15,933	8,684	5,849	-	-	-	-
Whites Shed	9,458	1,579	4,121	2,246	1,513	-	-	-	-
PAC	89,855	15,001	39,149	21,336	14,370	-	-	-	-
Public Plaza	18,728	3,126	8,160	4,447	2,995	-	-	-	-
<b>Total</b>	<b>154,612</b>	<b>25,811</b>	<b>67,362</b>	<b>36,712</b>	<b>24,726</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

### 5.2.2 Revenue

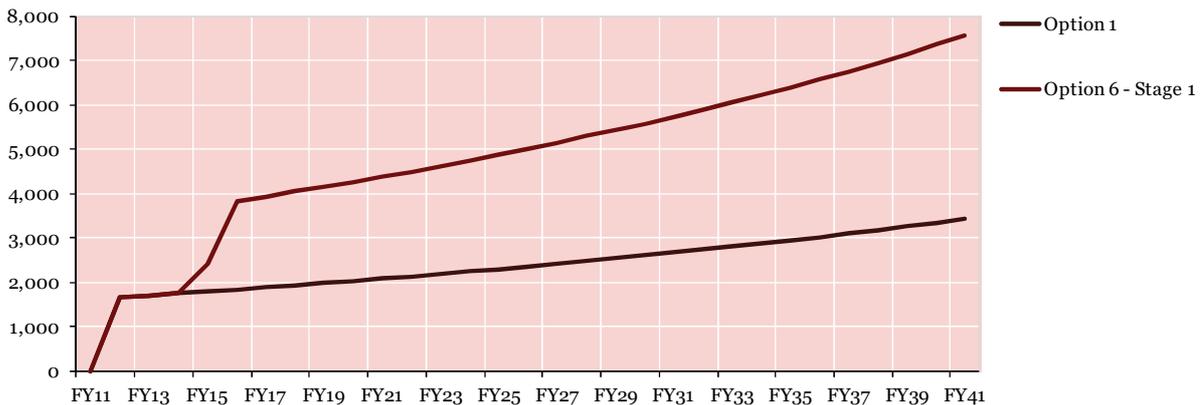
Revenue profiles under the two options are as follows:

Table 5.3: Revenue forecast for each option under consideration (in \$'000s)

Revenue by Option	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Option 1	1,673	1,715	1,758	1,802	1,847	2,089	2,675	3,424
Option 6 – Stage 1	1,673	1,715	1,758	2,412	3,840	4,379	5,732	7,553

Figure 5.2: Revenue forecast for each option under consideration (in \$'000s)

Revenues (\$'000s) by Case



In FY 2016, the first full year of operation for the Precinct, revenues are forecast to be approximately 2.1 times that of the Civic Theatre’s projected revenues. By FY 2041, Precinct revenues as a proportion of Civic Theatre revenues are projected to grow marginally to 2.2 times. The Entertainment Precinct offers a wider diversity of revenue streams than currently provided by the Civic Theatre:

- fee revenue generated from a 200-space basement carpark
- event hire revenue for use of Whites Shed space
- revenue from functions held in the PAC
- studio hire and equipment hire
- commissions, fees and charges to be earned from tickets sold for the PAC’s 1,100 seat theatre
- food and beverage revenue

Table 5.4 sets out the revenue forecast by Precinct facility. The PAC is by far the dominant source of revenues for the Precinct, representing approximately 80% of Precinct revenues between FY 2016 and FY 2041.

Table 5.4: Revenue forecast for Option 6 – Stage 1, by Precinct facility (in \$'000s)

Revenue: Option 6 – Stage 1	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Basement Carpark	-	-	-	-	358	533	682	873
Whites Shed	-	-	-	-	244	276	354	453
PAC	-	-	-	255	3,124	3,570	4,696	6,227
Public Plaza	-	-	-	-	-	-	-	-
Civic Theatre	1,673	1,715	1,758	1,802	-	-	-	-
<b>Total</b>	<b>1,673</b>	<b>1,715</b>	<b>1,758</b>	<b>2,412</b>	<b>3,840</b>	<b>4,379</b>	<b>5,732</b>	<b>7,553</b>

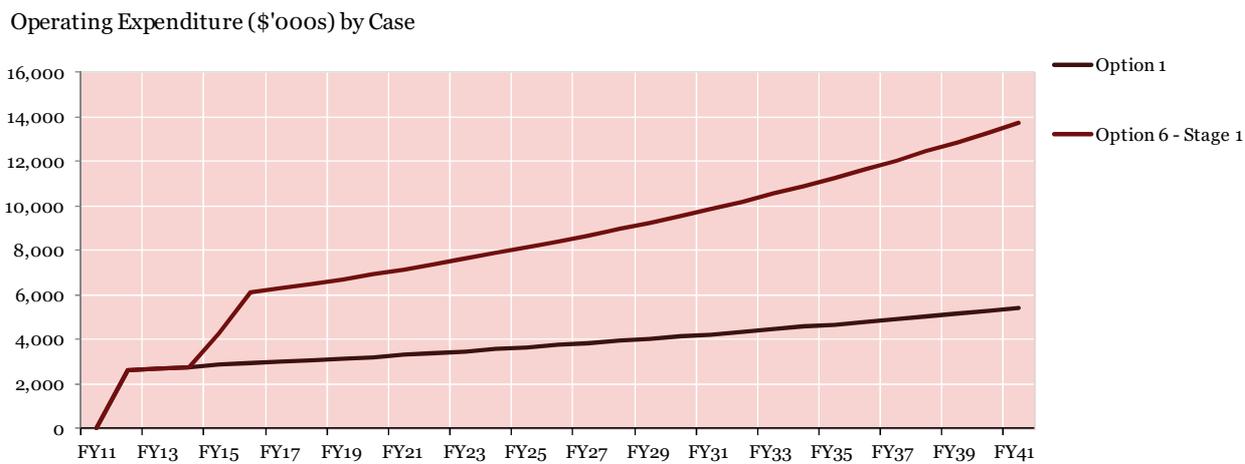
### 5.2.3 Operating Expenditure

Operating expenditure (“Opex”) profiles under the options under consideration are as follows:

Table 5.5: Operating expenditure forecast for each option under consideration (in \$’000s)

Opex by Option	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Option 1	2,653	2,720	2,788	2,857	2,929	3,314	4,242	5,430
Option 6 – Stage 1	2,653	2,720	2,788	4,255	6,101	7,160	9,881	13,748

Figure 5.3: Operating expenditure forecast for each option under consideration (in \$’000s)



In FY 2016, the first full year of Precinct operations, operating costs are forecast to be approximately 2.1 times that of the Civic Theatre’s projected costs. By FY 2041, Precinct opex is expected to grow to be 2.5 times that of the Civic Theatre. The difference in growth rates during this time – between 3.20% and 3.40% per annum for the Entertainment Precinct, and 2.50% per annum for the Civic Theatre – is due to a portion of the Precinct’s cost base being linked to PAC utilisation, which is expected to increase in stages of the first 30 years of operation.

Mirroring the revenue profile, the PAC is by far the dominant source of operating expenditure for the Entertainment Precinct, representing 95% of forecast FY 2016 Precinct opex. This is explained by the PAC:

- having the largest employee headcount of all facilities in the Precinct
- having a high variable cost base, particularly in areas such as food and beverage costs, function costs and community hire subsidies for theatre hire by community groups
- incurring sizeable entrepreneurial programming, advertising and marketing costs.

PAC opex as a proportion of total expenditure is expected to stay relatively consistent throughout the forecast period to FY 2041.

Table 5.6: Operating expenditure forecast for Option 6 – Stage 1, by Precinct facility (in \$’000s)

Opex: Option 6 – Stage 1	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Basement Carpark	-	-	-	29	116	131	167	214
Whites Shed	-	-	-	15	62	70	90	115

Opex: Option 6 – Stage 1	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
PAC	-	-	-	1,321	5,790	6,808	9,430	13,171
Public Plaza	-	-	-	33	134	151	193	248
Civic Theatre	2,653	2,720	2,788	2,857	-	-	-	-
<b>Total</b>	<b>2,653</b>	<b>2,720</b>	<b>2,788</b>	<b>4,255</b>	<b>6,101</b>	<b>7,160</b>	<b>9,881</b>	<b>13,748</b>

### 5.2.4 Free cash flow

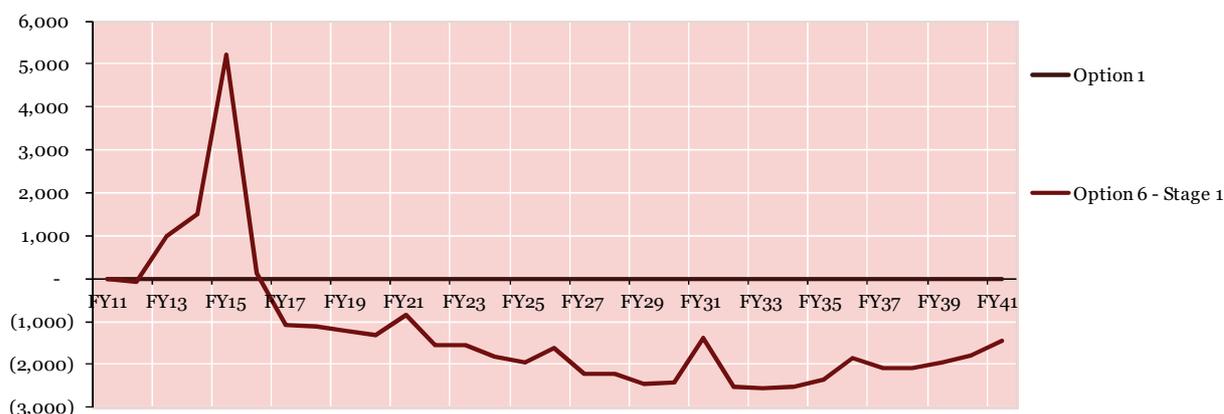
Free cash flow ('FCF') represents the actual cash movements to be borne to Council in association with the development. For the purposes of this analysis, terminal values have been excluded from the FCF measure (as there is no cash transacted), and cash flows are presented on an incremental and discounted basis. Maintenance costs associated with the Precinct have been included in the analysis, and netted off against revenues and opex.

Table 5.7: Discounted free cash flow forecast for the options under consideration (in \$'000s) – Standalone and incremental

Discounted FCF - Standalone	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Option 1	-1,020	-2,048	-2,507	-874	-1,948	-1,236	-1,583	-402
Option 6 – Stage 1	-1,104	-1,050	-999	4,337	-1,827	-2,076	-2,952	-1,844
Discounted FCF - Incremental	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Option 1	-	-	-	-	-	-	-	-
Option 6 – Stage 1	-84	998	1,508	5,211	120	-840	-1,369	-1,441

Figure 5.4: Incremental, discounted free cash flow forecast for Option 6 – Stage 1 (in \$'000s)

Incremental Discounted FCF by Option (\$'000s)



The preferred development option contains a large spike in FCF resulting in positive incremental discounted cash flows between FY 2013 and FY2016, resulting from:

- A saving in maintenance works in FY2013 and FY2014 that would otherwise be required to keep the Civic Theatre operating under Option 1
- Sale proceeds from the Civic Theatre offsetting an otherwise-negative free cash flow position expected from the Entertainment Precinct in FY 2015.

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- There are minor positive movements in FY 2021, FY 2026, FY 2031 and FY 2036; again, these are due to major capital renewals which would need to be made to the Civic Theatre under Option 1.

Below is a summary of each considered option's discounted FCF on a facility-by-facility basis.

Table 5.8: Discounted free cash flow forecast for Option 1, by Precinct facility (in \$'000s)

Discounted FCF: Option 1	Total	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Basement Carpark	-	-	-	-	-	-	-	-	-
Whites Shed	-	-	-	-	-	-	-	-	-
PAC	-	-	-	-	-	-	-	-	-
Public Plaza	-	-	-	-	-	-	-	-	-
Civic Theatre	-23,571	-1,020	-2,048	-2,507	-874	-1,948	-1,236	-1,583	-402
<b>Total</b>	<b>-23,571</b>	<b>-1,020</b>	<b>-2,048</b>	<b>-2,507</b>	<b>-874</b>	<b>-1,948</b>	<b>-1,236</b>	<b>-1,583</b>	<b>-402</b>

Table 5.9: Discounted free cash flow forecast for Option 6 – Stage 1, by Precinct facility (in \$'000s)

Discounted FCF: Option 6 – Stage 1	Total	FY12	FY13	FY14	FY15	FY16	FY21	FY31	FY41
Basement Carpark	-2,522	-	-	-	23	195	33	-308	-185
Whites Shed	-495	-	-	-	155	109	44	-85	-52
PAC	-50,010	-	-	-	-927	-2,001	-1,977	-2,244	-1,419
Public Plaza	-5,583	-	-	-	-53	-130	-175	-315	-188
Civic Theatre	1,986	-1,104	-1,050	-999	5,139	-	-	-	-
<b>Total</b>	<b>-56,624</b>	<b>-1,104</b>	<b>-1,050</b>	<b>-999</b>	<b>4,337</b>	<b>-1,827</b>	<b>-2,076</b>	<b>-2,952</b>	<b>-1,844</b>

Both options show the Civic Theatre is forecast to run at a cash loss, however, the Civic Theatre's negative cash flows are larger under Option 1, as the maintenance schedule requires that more work be completed to keep the facility in good working order.

Whilst some facilities under Option 6 – Stage 1 begin operating on a cash flow positive basis, the maintenance capex schedule results in no facilities being cash flow positive by FY 2031.

### 5.2.5 NPV evaluation

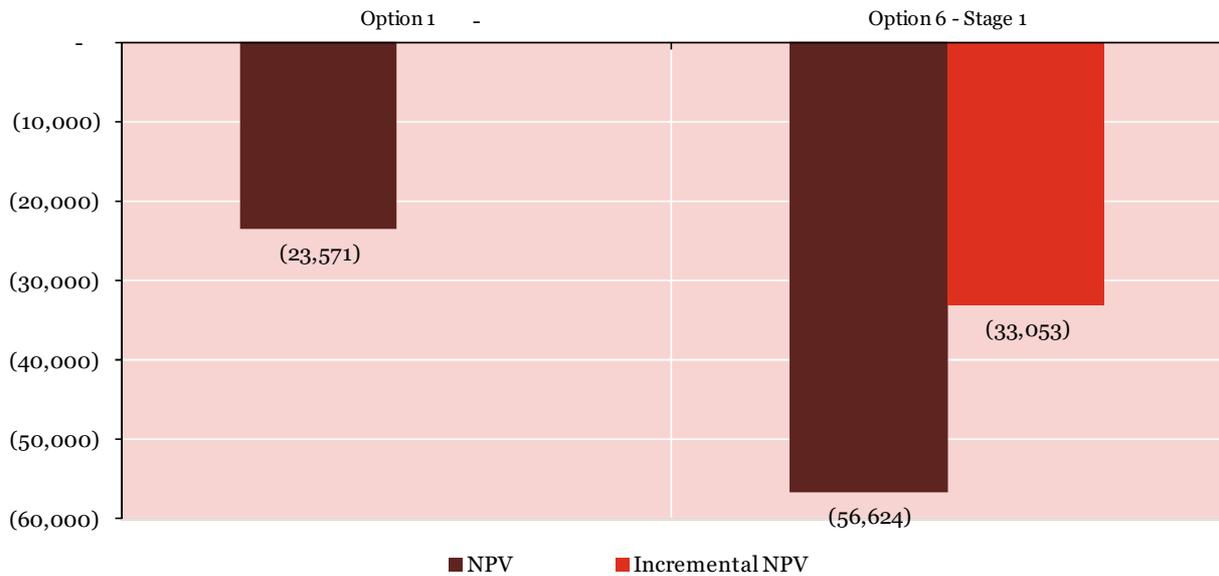
The NPV results are presented below. The continued operation of the Civic Theatre under the Base Case (Option 1) provides an NPV of -\$23.6 million, in comparison with the Entertainment Precinct options produced.

Table 5.10: Net present value and incremental net present value of operating cash flows for the options under consideration

Scenario	NPV (\$'000s)	Incremental NPV (\$'000s)
Option 1	-23,571	0
Option 6 - Stage 1	-56,624	-33,053

Figure 5.5: Net present value and incremental net present value for the options under consideration

NPV (\$'000s) by Option



The results demonstrate that neither option is self-funding on a purely commercial/financial basis. Option 1 is presented for comparative purposes only for this appraisal, and does not represent a viable solution for Council. Under Option 1, the Civic Theatre continues to operate at a loss of approximately \$1 million (in FY11), with an additional renewal cost of between \$0.1 million and \$5.7 million in each year of operation.

The incremental NPV for Option 6 – Stage 1 is \$33.1 million. The negative NPV results reflect that the discounting of future cash flows is not offsetting the forecast operating losses and renewal costs associated with the Precinct.

## 5.3 Sensitivity analysis

### 5.3.1 Discount rates

Our financial evaluation was undertaken using a nominal discount rate of 7.50%, representing a real discount rate of 4.88% in an environment of 2.50% inflation. To determine the size of impact the discount rate has on the project valuation, we sensitised the NPV using the following rates:

- Low: 6.00%, as requested by Queensland Treasury (real discount rate of 3.42%)
- Medium: 7.50% (real discount rate of 4.88%)
- High: 9.67% (real discount rate of 7.00%)

Table 5.11: Net present value and incremental net present value results under sensitised Discount Rates, by Option (in \$'000s)

Option	Sensitivity Case	NPV (\$'000s)	Incremental NPV (\$'000s)
Option 1	Low	-28,419	-4,848
	Medium	-23,571	-
	High	-18,480	5,092
Option 6 – Stage 1	Low	-79,905	-56,333
	Medium	-56,624	-33,053
	High	-43,228	-19,656

The results are as expected. The large variance in the discount rates used produced proportionally large changes in NPV and incremental NPV. Under the low case, the continuous negative cash flows generated decreased the NPV by 29% in Option 6 – Stage 1.

The higher discount rate increased the NPV of Option 6 – Stage 1 by 31%, although in no instance did the NPV become positive.

## 5.2.2 Escalation rates

Given financial forecasts' inherent reliance on growth rate assumptions, we sensitised our escalation rates under the following scenarios:

- Medium: revenue & opex growth rates of 2.50%, headcount-related opex growth rate of 4.40% and renewal capex growth rate of 5.00%
- Low: reduced all escalation rates by 1.00%
- High: increased all escalation rates by 1.00%.

Table 5.12: Net present value and incremental net present value results under sensitised Escalation Rates, by Option (in \$'000s)

Option	Sensitivity Case	NPV (\$'000s)	Incremental NPV (\$'000s)
Option 1	Low	-21,138	2,434
	Medium	-23,571	-
	High	-26,429	-2,858
Option 6 – Stage 1	Low	-47,041	-23,470
	Medium	-56,624	-33,053
	High	-67,964	-44,393

The impact on Option 6 – Stage 1 was that the Low Case had a positive impact of approximately 20% and the High Case had a negative impact of 17% on NPV. Option 1's NPV improved by 12% under the Low Case, and declined 11% under the High Case. The Civic Theatre is less sensitive to escalation rate increases, as it is expected to run at a smaller operating loss than the Entertainment Precinct over the thirty year forecast period.

### 5.2.3 Visitation rates

Assumptions relating to cultural tourism numbers impact the forecast operating results for both the Performing Arts Centre and Museum. Visitor number sensitivities were applied in the following cases:

- Low – 0.5% decrease in population growth rate in the Cairns region and 1% decrease in tourism figures. Performing Arts Centre utilisation increases from 45% to 65% over 20 years. Occupancy increases from 40% to 60% over 30 years.
- Medium – Performing Arts Centre utilisation increases from 50% to 70% in Year 7, and up to 90% over 20 years. Occupancy increases from 50% to 80% over 30 years.
- High – 0.5% increase in population growth rate in the Cairns region and 1% increase in tourism figures. Performing Arts Centre utilisation increases from 65% to 100% over 20 years. Occupancy increases from 65% to 90% over 30 years.

Table 5.13: Net present value and incremental net present value results under sensitised Visitation Rates, by option (in \$'000s)

Option	Sensitivity Case	NPV (\$'000s)	Incremental NPV (\$'000s)
Option 1	Low	-23,571	-
	Medium	-23,571	-
	High	-23,571	-
Option 6 – Stage 1	Low	-61,322	-37,751
	Medium	-56,624	-33,053
	High	-50,835	-27,264

Low visitation has a negative impact on incremental NPV of 8% on Option 6 – Stage 1. High visitation has a positive impact on NPV of 11%.

Based on these findings it can be concluded that under the current set of operating assumptions, visitor numbers potentially have a material impact on the project valuation.

### 5.4 Risk analysis

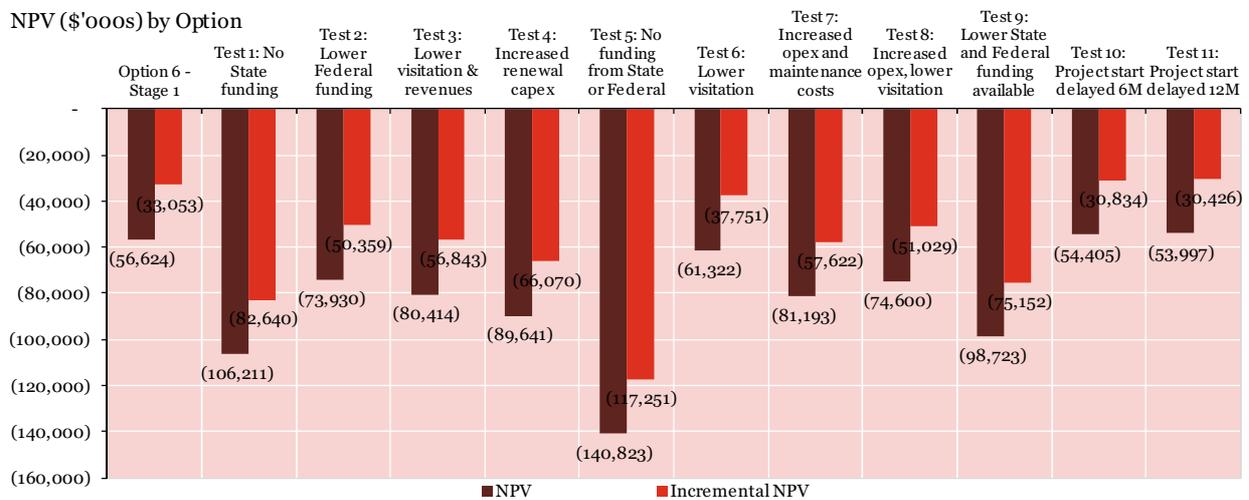
Section 4.3 sets out the risk assessment tests which were performed on the Option 6 – Stage 1. Table 5.14 below summarises the revised NPVs for the preferred development option for each test applied.

Table 5.14: Net present value impact (in \$'000s and % terms) for each test case, against the base Option 6 – Stage 1 case (in \$'000s)

Test	Test description	NPV impact (\$'000s)	NPV impact (% variance)
1	State funding was reduced from \$57.3 million to \$0.	-49,586	-47%
2	Federal funding was reduced from \$40 million to \$20 million.	-17,306	-23%
3	Operating costs and revenues were reduced by 20%.	-23,790	-30%
4	Maintenance costs were increased by 30%. Renewal capex rates were also escalated by an extra 2%.	-33,016	-37%
5	All State and Federal funding was reduced to \$0.	-84,198	-60%
6	The low visitation scenario was applied.	-4,698	-8%
7	Operating costs were increased by 20%. Maintenance costs were increased by 30%.	-24,569	-30%
8	Operating costs were increased by 20%. The low visitation scenario was applied.	-17,976	-24%
9	State and Federal funding was halved to \$28.7 million and \$20 million respectively.	-42,099	-43%
10	Project start date delayed by 6 months. Initial capex costs escalated by 2.50% over 6 months.	2,219	4%
11	Project start date delayed by 12 months. Initial capex costs escalated by 2.50% over 12 months.	2,627	5%

Figure 5.6 presents a graphical representation of the sensitised results. Refer to Appendix G for the mapping of the above tests to the project risks in the risk register.

Figure 5.6: Net present value for each test case derived from sensitising the base Option 6 – Stage 1 case (in \$'000s)



The greatest quantifiable risks identified through the analysis revolve around project funding. The removal of all State and Federal funding decreased project NPV by 60%. Removing all State funding decreased NPV by almost 50%, whilst halving State & Federal assistance reduced the NPV by almost 45%

Operating outcomes posed the second-largest risks to the project. This included cases where operating costs and maintenance capex were assumed to be higher than anticipated, and where revenues were lower than expected. NPV variances ranged from -24% to -37%.

Delays to the project start of 6 months and 12 months had an immaterial impact on the financial outcome for the Precinct, increasing NPV by 4% and 5% respectively.

## 5.5 Budget analysis

A budget analysis was prepared to assist the project's key stakeholders better understand Council's ongoing financial commitment relating to development and operation of the Entertainment Precinct. The budget analysis differs somewhat from the free cash flow analysis presented in Section 5.2.4, as its final output is Net Operating Income ("NOI"); NOI can be described as an "earnings" figure accounting for accrual items and financing:

Operating expenses and routine maintenance expenditure was subtracted from the Precinct's revenues

Depreciation was calculated on a straight-line basis, beginning in the year of each facility's commissioning, and continuing for the useful economic life of the Precinct (assumed to be 40 years)

Interest expense was estimated by modelling forecast debt schedules, utilising a funding schedule<sup>28</sup> in the following order:

- Federal grants (\$40.0 million)
- State grants (\$57.3 million)
- Council equity (\$10.5 million)
- Sale proceeds from Civic Theatre (\$8.0 million; available from FY 2015 only) and other Council property (\$8.0 million, available from FY 2017 only)
- Council debt funding requirements (\$38.8 million)

Depreciation and interest expense were subtracted from net revenue, to derive the "NOI Including Interest Expense" measure.

Refer to Figure 5.7 overleaf to view the 10 year budget analysis forecast under Option 6 – Stage 1. Key observations to be made:

- At no point over the 10 year forecast period is the net operating impact of the Precinct on Council's budget positive. The operating result (earnings before interest and depreciation) steadily increases from -\$1.2 million to -\$3.2 million.
- From FY 2017, once all facilities have become operational, depreciation expense is expected to be \$3.9 million per annum. Interest expense peaks in FY 2015 at \$2.4 million, after which the Civic Theatre's sale proceeds are used to pay down the principal balance of outstanding debt.

Figure 5.8 provides the results of the budget analysis under the risk analysis test 3. This demonstrates a deterioration in the Net Operating Impact (with interest), from \$8.5 million to \$11.0 million in FY 21.

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<sup>28</sup> The funding schedule assumed that funding would be drawn down as initial capital costs are incurred during the construction phase of the project. Once Federal Grants have been fully exhausted, funding of the capital costs will be split between State Grants and Council on a 50%/50% basis. Council debt would only begin to be drawn down once Council equity and proceeds from property sales have been exhausted. Only the shortfall in a given financial year would be drawn down in that period.

## Results and discussion – Financial Appraisal

Figure 5.7: 10 year budget analysis forecast under Option 6 – Stage 1

		Year Ended									
		30-Jun-12	30-Jun-13	30-Jun-14	30-Jun-15	30-Jun-16	30-Jun-17	30-Jun-18	30-Jun-19	30-Jun-20	30-Jun-21
<b>Net Operating Impact</b>											
<b>NOI Excluding Depreciation</b>	\$'000s	(1,249)	(1,285)	(1,321)	(2,220)	(2,217)	(2,379)	(2,546)	(2,738)	(2,953)	(3,210)
<b>Depreciation</b>											
Basement Carparking	\$'000s	-	-	-	231	914	914	914	914	914	914
Whites Shed	\$'000s	-	-	-	60	236	236	236	236	236	236
Performing Arts Centre	\$'000s	-	-	-	568	2,246	2,246	2,246	2,246	2,246	2,246
Public Plaza	\$'000s	-	-	-	118	468	468	468	468	468	468
Civic Theatre	\$'000s	398	398	398	398	-	-	-	-	-	-
<b>Total</b>	<b>\$'000s</b>	<b>398</b>	<b>398</b>	<b>398</b>	<b>1,375</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>
<b>NOI Including Depreciation</b>	<b>\$'000s</b>	<b>(1,647)</b>	<b>(1,682)</b>	<b>(1,719)</b>	<b>(3,594)</b>	<b>(6,082)</b>	<b>(6,244)</b>	<b>(6,412)</b>	<b>(6,603)</b>	<b>(6,818)</b>	<b>(7,075)</b>
<b>Interest Expense</b>	<b>\$'000s</b>	<b>-</b>	<b>(1,043)</b>	<b>(2,209)</b>	<b>(2,433)</b>	<b>(2,363)</b>	<b>(2,288)</b>	<b>(1,688)</b>	<b>(1,603)</b>	<b>(1,512)</b>	<b>(1,415)</b>
<b>NOI Including Interest Expense</b>	<b>\$'000s</b>	<b>(1,647)</b>	<b>(2,725)</b>	<b>(3,928)</b>	<b>(6,028)</b>	<b>(8,445)</b>	<b>(8,532)</b>	<b>(8,099)</b>	<b>(8,206)</b>	<b>(8,330)</b>	<b>(8,490)</b>

Figure 5.8: 10 year budget analysis forecast under Option 6 – Stage 1, risk analysis test 3

<b>Net Operating Impact</b>											
<b>NOI Excluding Depreciation</b>	<b>\$'000s</b>	<b>(1,249)</b>	<b>(1,285)</b>	<b>(1,321)</b>	<b>(2,626)</b>	<b>(4,383)</b>	<b>(4,608)</b>	<b>(4,842)</b>	<b>(5,103)</b>	<b>(5,391)</b>	<b>(5,721)</b>
<b>Depreciation</b>											
Basement Carparking	\$'000s	-	-	-	231	914	914	914	914	914	914
Whites Shed	\$'000s	-	-	-	60	236	236	236	236	236	236
Performing Arts Centre	\$'000s	-	-	-	568	2,246	2,246	2,246	2,246	2,246	2,246
Public Plaza	\$'000s	-	-	-	118	468	468	468	468	468	468
Civic Theatre	\$'000s	398	398	398	398	-	-	-	-	-	-
<b>Total</b>	<b>\$'000s</b>	<b>398</b>	<b>398</b>	<b>398</b>	<b>1,375</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>	<b>3,865</b>
<b>NOI Including Depreciation</b>	<b>\$'000s</b>	<b>(1,647)</b>	<b>(1,682)</b>	<b>(1,719)</b>	<b>(4,000)</b>	<b>(8,249)</b>	<b>(8,473)</b>	<b>(8,707)</b>	<b>(8,968)</b>	<b>(9,257)</b>	<b>(9,587)</b>
<b>Interest Expense</b>	<b>\$'000s</b>	<b>-</b>	<b>(1,043)</b>	<b>(2,209)</b>	<b>(2,433)</b>	<b>(2,363)</b>	<b>(2,288)</b>	<b>(1,688)</b>	<b>(1,603)</b>	<b>(1,512)</b>	<b>(1,415)</b>
<b>NOI Including Interest Expense</b>	<b>\$'000s</b>	<b>(1,647)</b>	<b>(2,725)</b>	<b>(3,928)</b>	<b>(6,434)</b>	<b>(10,612)</b>	<b>(10,761)</b>	<b>(10,395)</b>	<b>(10,571)</b>	<b>(10,769)</b>	<b>(11,002)</b>

# 6

## *Results and discussion – Economic Appraisal*

## 6.1 Introduction

The key economic costs and benefits to be considered when assessing the development of the Cairns Entertainment Precinct are best classified as costs and benefits relating to the five key “impact categories”:

1. Direct and indirect expenditures;
2. Labour;
3. Education and skills training;
4. Social benefits/quality of life; and
5. Environment.

The costs and benefits falling under each of these categories are discussed in turn below and then synthesised into a comparative framework in Section 6.7, which summarises the CBA discounted cash flow results, together with the supplementary quantitative and qualitative analysis.<sup>29</sup> Costs and benefits for Option 6 - Stage 1 have been specifically identified for the two key phases of the project – the construction phase and the operational phase.

When assessing the costs and benefits considered in the economic appraisal, significant weight should be given to the social and educational (non-market) costs and benefits that are subject to qualitative analysis in the economic appraisal, particularly in light of Council and Queensland Government’s key outcomes and objectives for the Entertainment Precinct (see Figure 3.3 and Appendix A). As Queensland Government’s Project Assurance Framework states, *“important cultural projects seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than their economic impact.”*

It is important to note that only the direct expenditures in the construction and operational phases of each Option have been monetised for the purpose of the PAF CBA framework, from which the Net Present Economic Value (NPEV) and Benefit Cost Ratio (BCR) metrics are calculated. These metrics are to be read in line with supplementary quantitative and qualitative analysis provided, particularly for non-market economic costs and benefits.<sup>30</sup> Section 6.7 brings together all monetised, quantified and qualified costs and benefits.

**Based on careful consideration of the discounted cash flow results; the quantitative and qualitative analysis of the five key impact categories; and the State and Local Governments’ goals and objectives sought for cultural progress in the Far North region, Option 6 - Stage 1 presents as the preferred project option.**

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<sup>29</sup> The economic costs and benefits assessed in this appraisal are consistent with the financial appraisal presented above. That is, the estimates of revenues and costs in the financial appraisal, are the key data utilised for the quantifiable costs and benefits in the economic appraisal.

<sup>30</sup> Leading into the Business Case stage of the Cairns Entertainment Precinct evaluation, PwC reviewed the treatment of non-market costs in the economic evaluation to explore the possibility their inclusion in the discounted cash flow analysis. It was concluded that the benefits transfer approach utilised for the preliminary evaluation could not be expanded due to the limited publicly available literature and research. The only way to appropriately monetise these costs and benefits in a robust manner would be to undertake an extensive and detailed survey process to determine, for example, “willingness to pay” estimates. PwC is of the belief that the qualitative assessment is sufficient to assess the economic arguments for the shortlisted options and to appropriately rank those options in light of the key outcomes and objectives sought by Government.

## 6.2 Direct and indirect expenditures

The impact of each project option on expenditures, both in the facility and external to the facility, can be classified into two key categories – direct and indirect expenditures. “Direct expenditures” refers to economic activity that is *directly* related to the facility, while “indirect expenditures” refers to any flow-on or economy-wide effects. As addressed above, the latter is largely subject to qualitative assessment.<sup>31</sup> Estimates of the value added that is associated with the direct spend are provided.<sup>32</sup>

It is important to note that, while construction projects, like that of the Entertainment Precinct, are often considered to be fundamental when attempting to stimulate economic activity, the supply-side constraints of the economy must be recognised when assessing the economic impacts of such projects. That is, there does not exist an unlimited supply of primary factor inputs that may be drawn upon to increase economic activity indefinitely.<sup>33</sup>

The extent to which additional expenditure in the economy instigates growth in economic activity largely depends on the extent to which the economy is operating at capacity. If the economy is utilising close to all of its resources then the addition of, for example, a construction project, is likely to have a significant crowding out effect since there are few spare resources available.<sup>34</sup> As such, the flow-on economic activity and employment would be negligible as the new activity would simply be redirecting resources that are currently in use on other projects. On the other hand, if there is an underutilisation of resources (such as in an economic downturn) the flow-on economic activity may be quite high.<sup>35</sup>

Supply-side constraints and substitution effects are also relevant for the operation of the Precinct. That is, expenditure at the Precinct may simply have been redirected from other facilities within Cairns. For example, a tourist visiting Cairns for one day may decide to attend a performance at the Performing Arts Centre at the Precinct. If the Precinct didn't exist, the tourist may have visited an exhibit at the Convention Centre instead. As such, the expenditure at the Precinct cannot simply be considered to be new

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<sup>31</sup> The decision to limit the assessment of the indirect effects to a qualitative discussion was based on guidance from Queensland Treasury around the most appropriate methodology for the economic appraisal component of the preliminary evaluation. The methodology presented in this report is, therefore, acceptable for Queensland Treasury's purposes.

<sup>32</sup> The value of an industry's output after deducting the value of goods and services used in producing them is termed “value added”. This may also be viewed as the return received by the factors of production (labour and capital). Value added is a net measure of the size of an industry's output and allows the production of different industries to be added together without the risk of double counting. Gross value added may be considered a proxy for gross domestic product (or gross regional product and gross state product).

<sup>33</sup> Constraints on the availability of inputs require prices to act as a rationing device.

<sup>34</sup> Appropriately skilled labour is a particularly significant constraint.

<sup>35</sup> The complexity of these economic mechanisms mean that it is difficult to accurately quantify the flow-on impacts of projects like the Cairns Cultural Precinct without utilising very complex modelling techniques. While input-output (I-O) multiplier analysis is often used to quantify the economy-wide impacts of projects and policies, it is not a robust methodology and often results in a significant overestimation of the benefits of projects and policies. As such, I-O multiplier analysis has not been used in this economic appraisal. This approach was supported by Queensland Treasury who does not condone the use of I-O multipliers for any economic impact analysis presented to the Department. The substantial limitations of I-O multipliers are recognised by the ABS (ABS cat 5209.0.55.001):

<http://www.abs.gov.au/AusStats/ABS@.nsf/Latestproducts/5209.0.55.001Main%20Features4Final%20release%202006-07%20tables?opendocument&tabname=Summary&prodno=5209.0.55.001&issue=Final%20release%202006-07%20tables&num=&view=>

More complex methodologies, such as those inherent in CGE models, are required to overcome these shortcomings. However, CGE modelling is extremely complex and requires significant amounts of time. It is appropriate to simply quantify the direct impacts of the project and provide qualitative discussion around the economy-wide impacts, as has been achieved in this appraisal. This approach was supported by Queensland Treasury in the preparation of this appraisal.

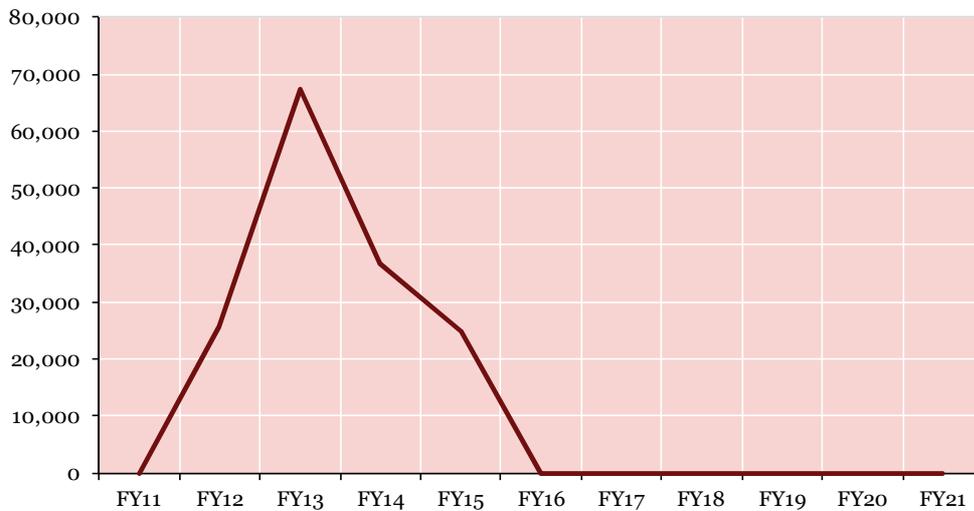
expenditure in the Cairns economy, but rather is expenditure that has been redirected from another activity.

These key considerations have influenced the economic appraisal, particularly for the direct and indirect expenditures analysis.<sup>36</sup>

### 6.2.1 Option 6 - Stage 1 Construction Phase

Figure 6.1 below presents direct expenditure under the construction phase for Option 6 - Stage 1. Construction expenditure is projected to be over \$150 million over the four years from FY12 to FY15, with expenditure peaking in FY13 (to \$67.4 million).

Figure 6.1: Expenditure on construction in Option 6 - Stage 1



As well as these direct expenditure effects, it is possible that the flow-on effect of the project will influence economic activity, at least in the short to medium run. In the case of the Entertainment Precinct, it is difficult to predict the indirect impacts that may occur during the construction phase. We recognise three key considerations in this regard:

- The unemployment rates for Cairns and the Far North statistical division (Figure 3.2) suggest that these economies are not operating at capacity<sup>37</sup> and, as such, increased expenditure in the economy (via the Precinct construction) may instigate positive economic activity and employment growth;
- While the unemployment rates suggest that there may be some capacity to expand economy activity and employment in Cairns and the Far North statistical division, it may be the case that some of the more specialised resources that are necessary for this project will not be sitting idle and will simply be drawn from other projects. This redirection of primary factors and economic activity will mean that the flow-on impact may not be as great as if all resources were readily available and going unused;

<sup>36</sup> These concepts are also crucial for the employment analysis, as discussed below.

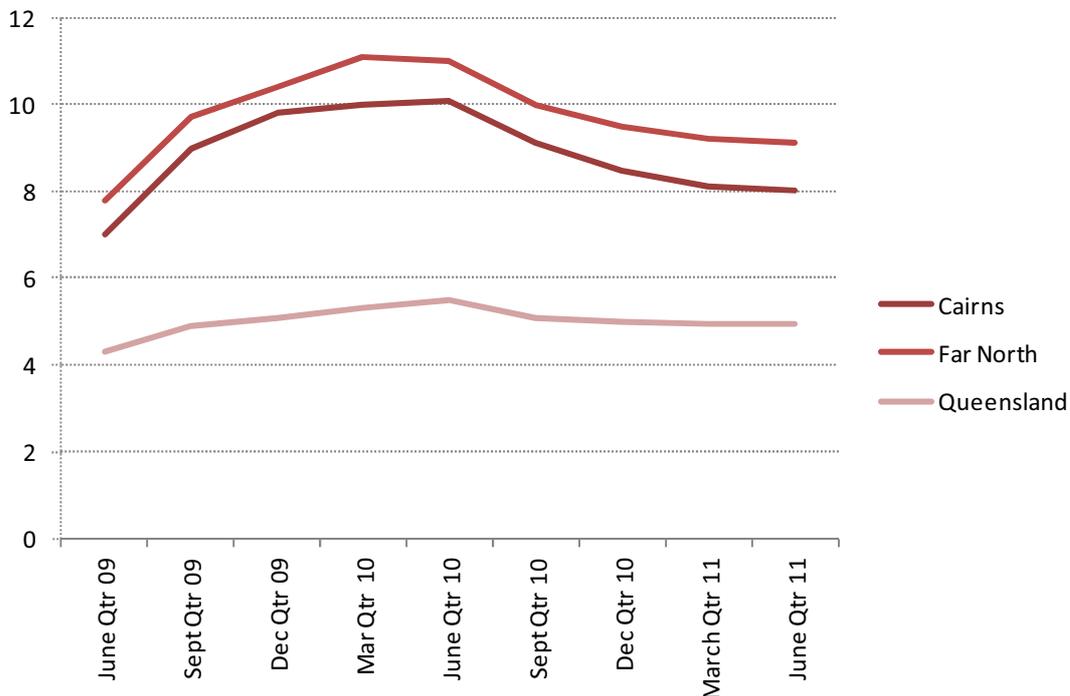
<sup>37</sup> High unemployment rates (in relation to the Queensland average) are an indication that productive resources, in this case, labour are idle in the current economy. In other words, the economy is not operating at capacity and has the potential to deliver economic activity from increases in investment spending by not completely crowding out other activity.

- The reconstruction effort after Cyclone Yasi (and other Queensland natural disasters), together with the increasing demand for unskilled labour resources in the Mining sector (particularly since Cairns has been earmarked as a key fly-in fly-out base for mining workers), may be drawing upon the otherwise underutilised labour resources in the Cairns and Far North Queensland economies.

It may be argued that, following the temporary shock to the labour market arising from the Queensland reconstruction effort, some of these resources may then be directed to construction projects like the Entertainment Precinct. This would assist in maintaining economic activity in the Cairns and Far North Queensland region following reconstruction.

Further detail of evidence around the capacity of the construction industry is provided in Section 6.3.1 below.

Figure 6.2: Unemployment rate, June quarter 2009 to March Quarter 2011



Source: OESR Office of Economic and Statistical Research, Queensland Treasury, Queensland Regional Profiles  
 NOTE: Based on 4-quarter smoothed series

### 6.2.2 Option 6 - Stage 1 Operational Phase

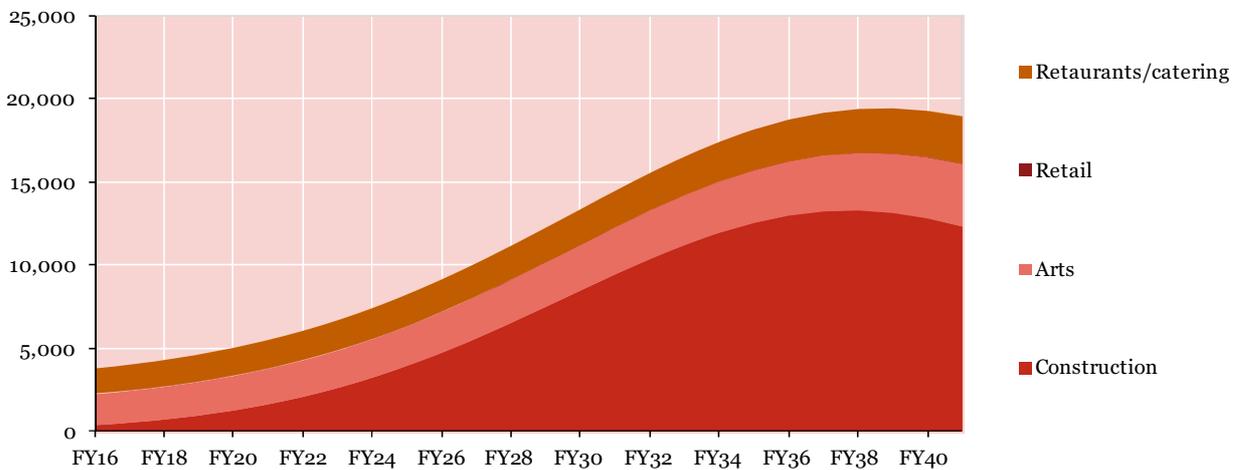
The expenditures that directly accrue to the arts and cultural facilities under Option 6 - Stage 1 is presented in Figure 6.3. Expenditures are presented by industry.<sup>38</sup>

The key messages to take away from these data are as follows:

<sup>38</sup> The direct expenditures that will accrue to the Precinct can be allocated to certain industries that operate with the Cairns, Regional and State economies. The industry classification adopted in this analysis is in line with that utilised by the Centre of Policy Studies for their whole-of-economy database construction. The industries are conformed to standard ABS ANZSIC industry classification. It is important to note that the arts industry captures all creative arts, including performing arts venues and visual arts exhibitions. The construction industry excludes residential construction.

- **Retail trade** makes up the smallest proportion of direct expenditures during the operational phase. Expenditure in the industry peaks at around \$20,000 during the operation phase. The retail trade that is reported prior to 2016 is that which accrues to the Civic Theatre (which is still operational while the Precinct is constructed).
- Expenditure on **Restaurants/Catering**<sup>39</sup> increases over the projection period, peaking at around \$3 million in 2041. When maintenance construction expenditure is removed, the Restaurants/Catering industry share of direct expenditures is maintained at around 39 per cent across the projection period.
- Expenditure on **Arts** increases over the projection period, peaking at around \$3.8 million in 2041 and makes up for the greatest share of direct expenditures during the operational phase.
- Activity in the **Construction** industry provides some stimulus beyond the construction phase of the project in the form of maintenance expenditure. As discussed in the financial analysis, the maintenance expenditure has been derived using an “S-curve approach” and assumptions around escalation rates.<sup>40</sup>

Figure 6.3: Operational expenditure under Option 6 - Stage 1, by industry



While growth in, for example, tourism activity that may arise as a result of the Cultural Precinct is likely to contribute positively to economic activity in the Cairns region, the flow-on benefits from direct expenditures in the operational phase, particularly at a State and National level, may be minimal. This is largely because the directly affected industries are only a small proportion of the state and national economies. As addressed above, it is also important to keep in mind the substitution effects of these direct expenditures. That is, the direct expenditures at the Precinct may simply have been diverted from other areas of Cairns,

The significance of the directly affected industries<sup>41</sup> to the economy as a whole, both at the regional, State and National level, may be assessed by measuring their contribution to economic activity and the extent to which the industries are integrated into the domestic economy.

<sup>39</sup> While the restaurant in the Precinct has been excluded from Option 7, food/snack facilities will still be available in the Performing Arts Venue.

<sup>40</sup> See the financial appraisal methodology and results sections for further detail.

<sup>41</sup> The directly affected industries are those identified above – that is arts, services to the arts, retail, accommodation, restaurants and catering.

The value added that is associated with the direct expenditures presented above is shown in Figure 6.4,<sup>42</sup> while Table 6.1 shows industry gross value added as a proportion of economy-wide gross value added in the Australian, Queensland and Far North Queensland economies. The value of an industry’s output after deducting the value of goods and services used in producing them is termed “value added”. This may also be viewed as the return received by the factors of production (labour and capital). Value added is a net measure of the size of an industry’s output and allows the production of different industries to be added together without the risk of double counting.<sup>43</sup>

Figure 6.4: Value added that is associated with the expenditure under Option 6 - Stage 1, by industry

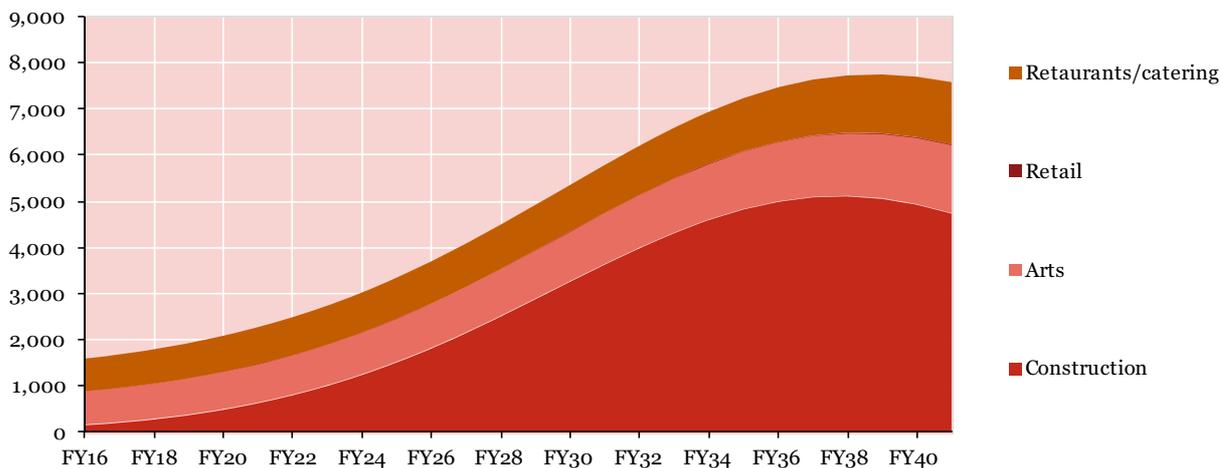


Table 6.1: Industry value added as a proportion of gross value added for the Australian, Queensland and Far North Queensland economies (2005-06)

Industry	Australia (%)	Queensland (%)	Far North Queensland (%)
Arts	0.24	0.16	0.19
Retail trade	4.87	5.68	6.98
Accommodation	0.18	0.22	0.86
Restaurants/Catering	2.13	2.61	3.57

Source: Centre of Policy Studies, Monash University; ABS cat 5209.0.55.001; PwC

The key messages to take away from these data<sup>44</sup> are as follows:

<sup>42</sup> The value added that is associated with the expenditure in each industry has been calculated from ABS Input-Output data. It is not a multiplier but rather the value added that is associated with each unit of output in the industry. It is important to note that the I-O database that has been used to inform this analysis is from 2005-06. It is likely that each individual industry has changed somewhat between 2005-06 and today. It is also likely that each industry (and the structure of the economy which the I-O table describes) will likely change over the projection period chosen for this economic appraisal.

<sup>43</sup> Gross value added may be considered a proxy for gross domestic product (or gross regional product and gross state product).

<sup>44</sup> It is important to note that most of the data used in this analysis is in line with the 2005-06 Input-Output Table or the 2006 ABS Census, as this is the most recent and consistent economy-wide data available. The structure of the economy may have shifted somewhat since this point in time. More recent supplementary data has been utilised where possible.

- *The gross value added in the **Arts industry** in Far North Queensland makes up 0.19 per cent of the region's economic activity, greater than the equivalent proportion for the State economy as a whole.<sup>45</sup>*

In the Far North Queensland region, Cairns contributes significantly to activity in the Arts industry. In 2010, more than 120,000 tickets were sold for performances at performing arts venues across Cairns.<sup>46</sup> The Civic theatre alone hosted 183 performances throughout the year and sold more than 92,000 tickets.<sup>47</sup> This compares favourably with other regional cities with larger and better equipped facilities.<sup>48</sup> As Savills pointed out in the SASR, the strong support of an inferior facility like the Civic Theatre illustrates a strong demand for performing arts in Cairns. Of the 23,926 registered businesses in Far North Queensland in 2008-09, approximately 300 were Arts and recreational services related and two thirds existed in Cairns.<sup>49</sup>

Across Queensland as a whole, the Arts industry's share of value added is 0.16 per cent. To put this in context, this is approximately the same as the value added share from key agriculture industries (including the Sheep industry and the Forestry and Fishing industry) and Queensland's textiles, clothing and footwear industry. Around 4 per cent of Queensland's registered businesses and Arts and recreational services related.<sup>50</sup>

It is not surprising that, at the national level, the Arts industry makes a larger contribution to gross value added than it does in Far North Queensland and the State. While industry activity at a national level experienced a slump in 2008-09, it has since grown consistently.<sup>51</sup> While a continuation of this growth is expected out to 2015-16, it is important to note that this growth is likely to be less than economy-wide growth.<sup>52</sup>

While the expenditure in the Cairns Arts industry as a result of Precinct may provide only limited economic benefits to the wider State and Australian economies, the Cultural Precinct will no doubt strengthen Cairns' hold on the Arts industry in Far North Queensland and provide another facet for the Performing Arts scene across Queensland and Australia.

- ***Tourism** related industries in Far North Queensland (such as Retail Trade, Accommodation, Restaurants) make up 11.41 per cent of the region's economic activity.<sup>53</sup> This is greater than the contribution at the State and National levels (9.25 and 7.18 per cent respectively) and illustrates the importance of tourism activity in the region.*

The Cairns economy is more heavily reliant on tourism activity than most other regional centres in Queensland. However, in recent years, the tourism activity that is integral to the Cairns (and the Far

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<sup>45</sup> This will largely be because the contribution of the Arts industry to the State economy is diluted by the areas of the state that do not have an Arts industry presence at all (such as western Queensland).

<sup>46</sup> TicketLink data and *Creative Economy*

<sup>47</sup> Of the patrons at the Civic Theatre, 76 per cent were locals to Cairns and 18 per cent were from areas 2 hours outside of Cairns.

<sup>48</sup> Savills, SASR

<sup>49</sup> Office of Economic and Statistical Research, Queensland Treasury, *Queensland Regional Profiles: Far North Statistical Division* (2011); Office of Economic and Statistical Research, Queensland Treasury, *Queensland Regional Profiles: Cairns Regional Council* (2011)

<sup>50</sup> Office of Economic and Statistical Research, Queensland Treasury, *Queensland Regional Profiles: Far North Statistical Division* (2011).

<sup>51</sup> IBISWorld Industry Reports

<sup>52</sup> IBISWorld Industry Reports

<sup>53</sup> It is important to note that activity in these industries does not just arise from tourism activity but also household consumption and general economic activity. Nevertheless, it still provides an indication of tourist activity.

North Queensland) economy has been adversely affected by the global financial crisis, the high Australian dollar and natural disasters. Activity in tourism related industries has, therefore, experienced slowdowns in activity.

In light of this, Tourism Queensland has highlighted the need to develop tourism product that not only revives the tourism activity in Cairns but increases the length of stay of an average tourist. Enhancing cultural tourist facilities could have a positive impact in this regard. Research suggests that there is potential for more than 145,000 visitors per annum to visit performing arts activities in tropical north Queensland and more than 300,000 to visit museums and art galleries.<sup>54</sup> Arguably, Cairns, being the major regional centre, would attract the majority of this potential audience, particularly with appropriate facilities.

It is expected that in the next year or two, tourism in Queensland and the Far North may continue to suffer in light of, for example, a persisting high Australian dollar and lost tourist demand from Japan (the fourth largest tourism market for Queensland).<sup>55</sup> As the Cultural Precinct will not become operational until FY 2016, it will not assist with this initial tourism slump.

The Precinct may, however, prove to be an attraction once it is operational and tourism activity (both international and interstate) has picked up. As Queensland Treasury pointed out in the 2011-12 Budget, growth in China's outbound tourism is likely to accelerate in the coming decade and, while the Latin America and Caribbean countries have yet to become a major market for Queensland's overseas tourism, growth in tourism from these countries has been noticeable in the past decade. Interstate tourists and tourists from other areas of Queensland may also be attracted to the Precinct, particularly in light of the Australian cultural heritage that will be celebrated in the facilities.

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<sup>54</sup> Arts Nexus, *Cultural Tourism Strategy for Tropical North Queensland* (2009)

<sup>55</sup> Queensland Treasury Budget 2011-12, Economic Outlook

## Cultural tourism in Australia

In 2009, Tourism Research Australia found that 51 per cent of all overseas visitors attended at least one cultural attraction while in Australia, with expenditure from cultural and heritage visitors exceeding \$16.3 billion in Australia in that year.<sup>56</sup> The average amount spent per trip \$6,280, as compared to \$3,832 per trip for international visitors who were not considered (cultural and heritage visitors).<sup>57</sup>

The share of international cultural and heritage visitors by activity type is presented in Table 6.2. Notably, 57 per cent of all international cultural and heritage visitors in 2009 visited a museum or art gallery during their stay, while 24 per cent attended a theatre performance, a concert or another performing arts performance. Twenty per cent visited aboriginal art/craft and cultural displays.

Domestic cultural tourism is differentiated by day trips and overnight trips. Tourism Research Australia found that, in 2009, 9.5 million domestic day trips<sup>58</sup> were taken by Australians over age 15 for visitation of cultural and heritage facilities and sites (7 per cent of all day trips taken in 2009).<sup>59</sup> On the other hand, 14 per cent (9.4 million) of all overnight trips within Australia in 2009 by Australians over age 15 were cultural and heritage related. Visiting museums and art galleries was the most popular cultural activity for both overnight and day trip domestic visitors.

Table 6.2: Share of overseas and domestic cultural and heritage visitors, by activity type (2009)

Type of cultural and heritage tourism activity	Percentage of domestic day-trip cultural and heritage visitors (%)	Percentage of domestic overnight cultural and heritage visitors (%)	Percentage of overseas cultural and heritage visitors (%)
Attend theatre, concerts or other performing arts	23	23	24
Visit museums or art galleries	43	36	57
Visit art/craft workshops/studies	6	5	17
Attend festivals/fairs or cultural events	19	20	22
Experience aboriginal art/craft and cultural displays	3	2	20
Visit an aboriginal site/community	2	1	11
Visit historical/heritage buildings, sites or monuments	29	25	62

Source: Tourism Research Australia 2009 *Cultural and Heritage Tourism in Australia*, 2009 and ABS cat 4172.0

<sup>56</sup> ABS cat.4172.0 “Arts and Culture in Australia: A Statistical Overview” 19 Oct 2010; Tourism Research Australia 2009 *Cultural and Heritage Tourism in Australia*, 2009

<sup>57</sup> The differential is largely explained by the longer average length of stay for cultural and heritage visitors, that is 45 nights for the latter as opposed to 23 nights for other international visitors.

<sup>58</sup> Day trips are defined by the ABS as a round trip distance of at least 50 kilometres, with the traveller being away from home for at least four hours (but not overnight). Routine travel such as commuting between work and home is excluded.

<sup>59</sup> ABS cat.4172.0 “Arts and Culture in Australia: A Statistical Overview” 19 Oct 2010; Tourism Research Australia 2009 *Cultural and Heritage Tourism in Australia*, 2009.

### 6.2.3 Base Case

The expenditures that directly accrue to the arts and cultural facilities under the Base Case is presented in Figure 6.5. Maintenance expenditure over the projection period is contained in Figure 6.5. Expenditures are presented by industry.

The key messages to take away from these data are as follows:

- **Retail trade** makes up the largest proportion of direct expenditures under the Base Case. Expenditure in the industry increases steadily from around \$1 million in FY2012 to \$2 million by the end of the projection period.
- Expenditure on **Restaurants/Catering** increases steadily over the projection period, peaking at around \$500,000 in 2041. When maintenance expenditure is removed, the Restaurants/Catering industry share of direct expenditures is maintained at around 15 per cent across the projection period.
- Expenditure on **Arts** increases over the projection period, peaking at around \$887,000 in 2041.
- Activity in the **Construction** industry provides some stimulus beyond the construction phase of the project in the form of ongoing maintenance expenditure, as illustrated in Figure 6.6.

Figure 6.5: Operational expenditure under the Base Case, by industry

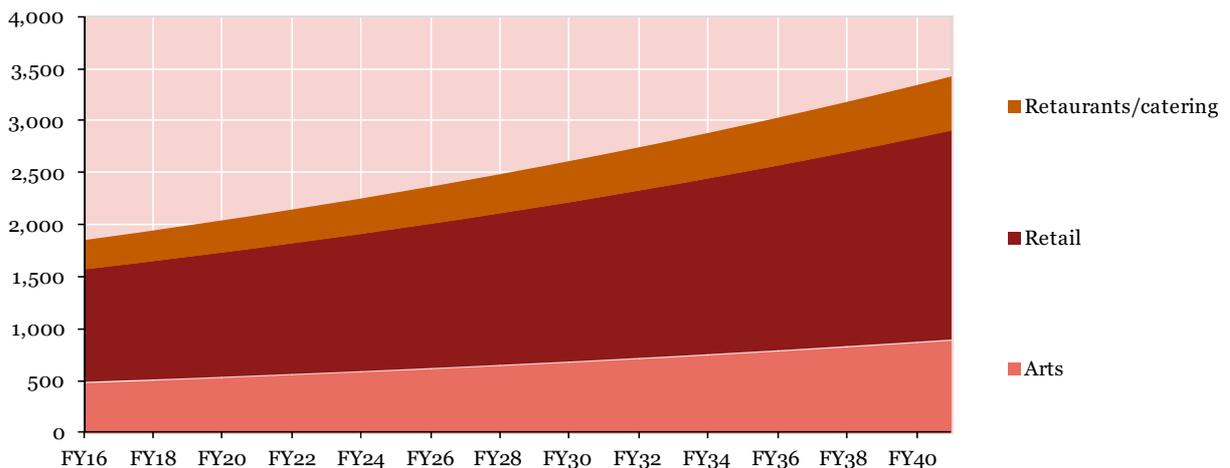
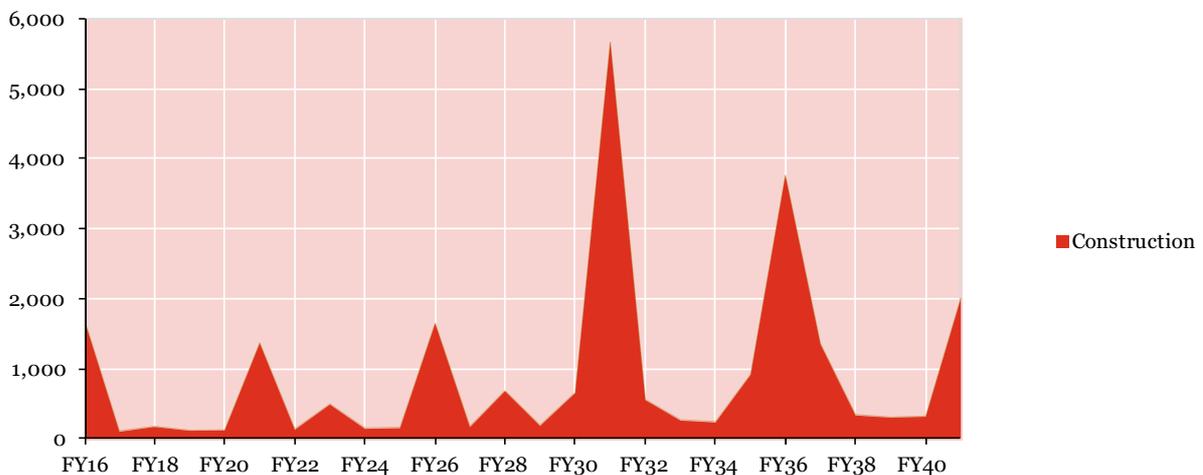


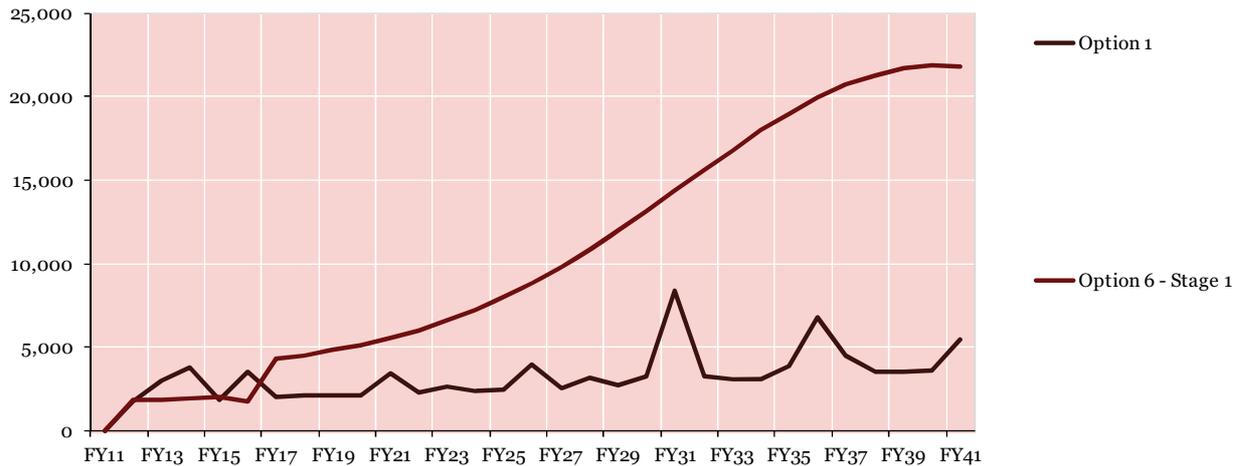
Figure 6.6: Maintenance expenditure under the Base Case



As illustrated by Figures 6.1 to 6.6, Option 6 - Stage 1 will provide greater stimulus to the Construction, Arts and Restaurants/Catering industries as compared to direct expenditures under the Base Case. The larger, complementary performing arts facilities at the Precinct allow for larger revenues from Arts activities in particular, with more than four times the revenues accruing to the Arts industry under Option 6 - Stage 1 as compared to the Base Case.

Figure 6.7 summarises the differential in direct expenditures in the operational phase between Option 6 - Stage 1 and the Base Case.

Figure 6.7: Direct expenditures in the operational phase, by option.



## 6.3 Labour

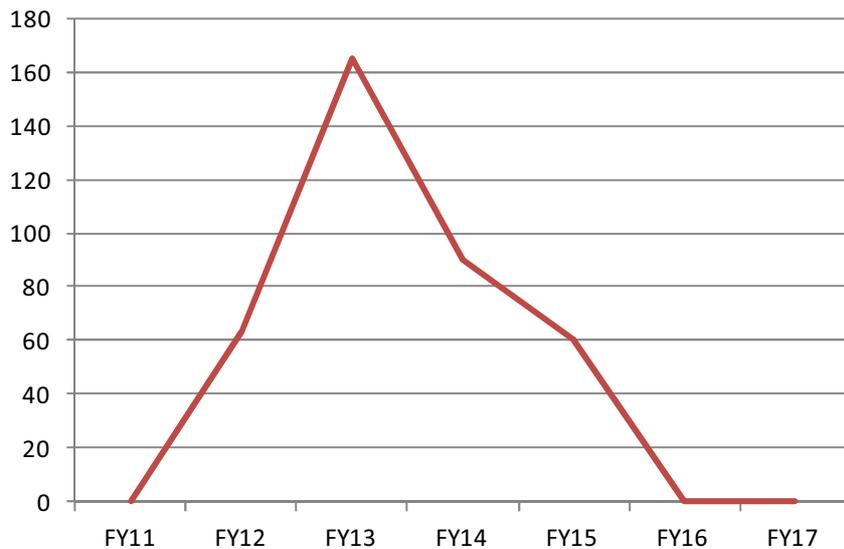
### 6.3.1 Option 6 - Stage 1 Construction Phase

Employment impacts during the construction phase of the Precinct may be classified as direct or indirect impacts. The number of persons *directly* employed on the construction site during the construction phase of the project is illustrated in Figure 6.8.<sup>60</sup> The number of employees required on site during the construction phase is dependent on the expenditure profile for the construction phase.

The maximum number of persons employed during the construction phase of the Precinct is in 2012-13, peaking at around 165 persons. The employment sustained by the Precinct’s construction diminishes after 2012-13 until it reaches completion in 2016-17.

<sup>60</sup> These estimates are based on advice from Savills who have drawn on employment estimates from similar projects that have occurred previously. As these estimates have not been derived specifically for the Cairns Entertainment Precinct, PwC warns that they should be used with caution.

Figure 6.8: Number of workers on site during the construction phase of the Entertainment Precinct



These estimates should be considered as employment that is *sustained* as a result of the construction of the Precinct, as opposed to jobs that are created. For example, some of the persons employed to construct the Precinct may be employed on other construction projects in the region if the Entertainment Precinct was not developed.

As discussed above, it is difficult to accurately predict the indirect employment and economic activity impacts that may occur during the construction phase. The key reason for this is the conflicting views as to the capacity of the Cairns region's economy and the state of the construction industry. While some parties may argue that there is no room for additional economic activity and employment to result from the Precinct, it is not that "cut and dry", particularly in light of the recent negative outlook for the global economy.

On the one hand:

- The reconstruction effort after Cyclone Yasi (and other Queensland natural disasters), together with possible increasing demand for unskilled labour resources in the Mining sector (particularly since Cairns has been earmarked as a key fly-in fly-out base for mining workers), may be drawing upon the otherwise underutilised labour resources in the Cairns and Far North Queensland economies; and
- It may be the case that some of the more specialised resources that are necessary for this project will not be sitting idly by and will simply be drawn from other projects. This redirection of labour resources and economic activity will mean that the flow-on impact may not be as great as if all resources were readily available and going unused.

On the other hand:

- The unemployment rates for Cairns and the Far North Statistical division suggest that these economies are not operating at capacity and, as such, increased expenditure in the economy (via the Precinct construction) may instigate positive economic activity and employment growth;
- Across the country, developers are remaining reluctant to commit to construction work because of fears about the global economy and banks setting stringent lending conditions. The Australian Industry Group Performance of Construction Index (PCI), a joint effort with the Housing Industry Association, shows that the level of construction activity across the housing, commercial and large-end engineering sectors, fell 4 points to 32.1 in August. This is well below the 50 point mark that

illustrates a stable industry and is at its lowest level in two years. Activity has now fallen for the 15th month<sup>61</sup>

- Even if the status of the Australian and Queensland construction industries as a whole are far weaker than that of the Cairns/Far North region, this may mean that any increase in activity in the Far North will attract un/derutilised labour resources from other areas of the State, thereby supporting economy-wide employment;
- Beacon Consulting in the Cairns Contractor Sentiment Survey (October 2011), stated that “contractors are relying heavily on Government spending for future workload and growth....Government investment over the next twelve months will be vital to the to the strength of the Cairns construction economy”.

These points illustrate that there is currently mixed opinion on the state of the Far North Queensland construction industry<sup>62</sup> and, as such, it is not possible to categorically state that the development of the CEP will have absolutely no impact of employment and economic activity outcomes. Modest claims regarding these potential impacts, as provided in this analysis, are not unsubstantiated in light of mixed views regarding the market for construction services.

There is evidence to suggest that the construction industry in the region is competitive<sup>63</sup> and that demand for labour resources in the construction industry may be exceeding supply.<sup>64</sup> Hence, additional construction activity from, for example, the Entertainment Precinct *may* redirect labour resources and economic activity away from other projects.

While there is currently mixed opinion on the state of the Far North Queensland construction industry,<sup>65</sup> it may be argued that, following the temporary shock to the labour market arising from the Queensland reconstruction effort, some of these resources may then be directed to construction projects like the Entertainment Precinct. This would assist in maintaining employment levels in the Cairns and Far North Queensland region.<sup>66</sup>The complexity of these economic mechanisms means that, as stated above, it is difficult to accurately quantify the flow-on impacts of projects like the Cairns Entertainment Precinct without utilising very complex modelling techniques.<sup>67</sup>

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<sup>61</sup> Further evidence of a weakening construction market is the contrasting activity between companies providing materials to the residential (and, to a lesser extent, commercial) construction market and those servicing the resource industry; Many other statistical indicators related to the construction industry appear to be pointing downwards. For example, the ABS suggests residential and non-residential building work decreased substantially in the June Quarter.

<sup>62</sup> Eg. Beacon Consulting, *Cairns Contractor Sentiment Survey* (October 2011).

<sup>63</sup> Beacon Consulting, *Cairns Contractor Sentiment Survey*, October 2011.

<sup>64</sup> This may be due to reconstruction activity or the mining industry’s demand for construction industry labour; Beacon Consulting, *Cairns Contractor Sentiment Survey* (October 2011).

<sup>65</sup> Beacon Consulting, *Cairns Contractor Sentiment Survey* (October 2011). While this survey indicates a high level of competition in the industry and increasing labour costs (implying a strong demand for labour resources), it also indicates that some firms may lose staff over the next twelve months.

<sup>66</sup> Beacon Consulting in the *Cairns Contractor Sentiment Survey* (October 2011), stated that “contractors are relying heavily on Government spending for future workload and growth over the next twelve months. Government investment over the next twelve months will be vital to the to the strength of the Cairns construction economy”.

<sup>67</sup> While input-output (I-O) multiplier analysis is often used to quantify the economy-wide impacts of projects and policies, it is not a robust methodology and often results in a significant overestimation of the benefits of projects and policies. As such, I-O multiplier analysis has not been used in this ESDIS. This approach is supported by Queensland Treasury who does not condone the use of I-O multipliers for any economic impact analysis presented to the Department. The substantial limitations of I-O multipliers are recognised by the ABS (ABS cat 5209.0.55.001):

It is possible, however, to draw upon a Queensland Treasury methodology to quantify indirect employment impacts in a way that is comparable to the estimates of employment supported by State Government expenditure on construction.

In the Queensland Government’s Capital Statement for 2011-12 (Budget Paper Three), Queensland Treasury estimates a level of indirect employment that is supported by government final demand for construction services. That is, the level of employment supported “in the construction industry together with employment in the industries that supply goods and services to the construction industry and, in turn, the industries that supply these industries”.<sup>68</sup>

Queensland Treasury estimates that for each \$1 million of the construction component of the capital works program, employment of 6.7 full-time equivalents will be supported in 2011-12. This employment ratio has been used to derive the estimate of 93,000 full-time jobs being supported by the 2011-12 capital program.

While PwC has concerns regarding the robustness of this methodology to estimate indirect employment resulting from government final demand for construction services,<sup>69</sup> we have utilised the methodology to provide comparative estimates for employment supported by the construction of the Entertainment Precinct. These are provided in the last column of Table 6.2. *We stress that these estimates should only be used to compare Entertainment Precinct employment estimates to employment estimates derived by Queensland Treasury for Capital Statements, not as definitive estimates of indirect employment supported by the construction of the Entertainment Precinct.*

Table 6.3 also illustrates how we might expect the employment ratio (6.7 FTEs for each \$1 million of government gross fixed capital formation) to change through time if projections for productivity and price movements are taken into account.<sup>70</sup> These projected employment ratios have been used to derive the full-time employment estimates for the Precinct by year for the construction phase.

Table 6.2: Employment supported by final demand of construction services for the Cairns Entertainment Precinct (please note key limitations below)

	Projected employment per \$1 mill expenditure (adjusted for price and productivity movements)	Expenditure on construction services in each year of the construction phase	Employment supported by government final demand of
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<http://www.abs.gov.au/AusStats/ABS@.nsf/Latestproducts/5209.0.55.001Main%20Features4Final%20release%202006-07%20tables?opendocument&tabname=Summary&prodno=5209.0.55.001&issue=Final%20release%202006-07%20tables&num=&view=>

More complex methodologies, such as those inherent in CGE models, are required to overcome these shortcomings. However, CGE modelling is extremely complex and requires significant amounts of time which was not available for this task. We believe it is appropriate to simply quantify the direct impacts of the project and provide qualitative discussion around the economy-wide impacts, as has been achieved in this ESDIS. This approach is supported by Queensland Treasury and the ESDIS Guidelines.

<sup>68</sup> For example, the employment estimate would include employment supported on State construction projects together with employment supported in the ready mixed concrete industry which, in turn, supports employment in the sand quarrying industry. Quote taken from Queensland Government State Budget 2011-12, *Budget Paper 3 - Capital Statement*, <http://www.budget.qld.gov.au/budget-papers/bp3.shtml>

<sup>69</sup> For example, this methodology implicitly assumes that the economy has no supply side constraints. That is, it is assumed that extra output can be produced (and growth in employment can result) without taking resources away from other activities. As such, this methodology can overstate employment impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at capacity.

<sup>70</sup> PwC has drawn upon the methodology produced by OESR and documented in their publication *Employment Supported by Final Demand for Construction Services* (June 2011). The PwC employment ratio estimates provided in column 2 of table 3.1 have been derived using projections for construction price changes and labour productivity changes based on their respective long run averages. This key limitation should be kept in mind when assessing the results.

	<i>FTE Jobs</i>	<i>\$ million</i>	<b>construction services for the CEP</b> <i>FTE Jobs</i>
2010-11	7.0	-	-
2011-12	6.7	25.8	<b>174.2</b>
2012-13	6.5	67.4	<b>436.3</b>
2013-14	6.2	36.7	<b>228.3</b>
2014-15	6.0	24.7	<b>147.6</b>
2015-16	5.7	-	-

While the employment estimates for the Entertainment Precinct, as presented in Table 6.2, provide a comparative estimate to State wide employment supported by Queensland Government’s capital expenditure, key limitations must be kept in mind when assessing and presenting these results:

- Employment ratios for construction in Queensland are estimated from economy-wide data and thus should be considered to be average employment effects for construction projects. Individual construction projects like the Entertainment Precinct may vary from the average;
- The employment ratios provided by Queensland Treasury and those projected by PwC are based on data for the Queensland economy, not for the Cairns or Far North Queensland regions;
- The estimates *do not* include “consumption induced effects”. For example, the income spent in retail industries by workers employed on the construction of the Entertainment Precinct is not included. Inclusion of such effects is considered inappropriate for this analysis;<sup>71</sup> and
- The PwC employment estimates for the Entertainment Precinct should only be used to compare to the full-time employment estimates derived by Queensland Treasury for the Budget Capital Statements. It is not appropriate to present these estimates as definitive estimates of indirect employment supported by the construction of the Entertainment Precinct.

### **6.3.2 Option 6 - Stage 1 Operational Phase**

The number of persons *directly* employed during the operational phase of the Cairns Entertainment Precinct is illustrated in Table 6.4. As with the construction phase, these estimates should be considered employment that is *sustained* as a result of the Precinct, as opposed to jobs that are created. For example, some of the 30 persons employed by the Performing Arts Centre may have been employed by the Civic Theatre if the Cultural Precinct was not developed. Hence, this should not be regarded as additional employment in the regional economy.<sup>72</sup>

<sup>71</sup> Supported by OESR, *Employment Supported by Final Demand for Construction Services* (June 2011).

<sup>72</sup> As noted below, the number of persons directly employed at the Entertainment Precinct’s facilities are greater than that of the Civic Theatre.

Table 6.4: Number of employees at the Cairns Entertainment Precinct when operational

Occupation/Role	Head count (FTE)
<b>ADMINISTRATION AND PROGRAMMING</b>	
General Manager	1.0
Finance Manager	1.0
Administration Officer	1.0
Programming Manager	1.0
<b>MARKETING</b>	
Marketing & Dev. Manager	1.0
Marketing Co-ordinator	1.0
Promotions/ Publicist	1.0
Events Co-ordinator	1.0
Venue Operations Manager	1.0
<b>TECHNICAL</b>	
Technical Manager	1.0
Lighting Technician	1.0
Sound Technician	1.0
Technicians (Casual)	2.1
<b>TICKETING AND CUSTOMER SERVICE</b>	
Customer Service Manager	1.0
Ticketing Coordinator	1.0
Ticket sellers	2.8
<b>FRONT OF HOUSE</b>	
Front of House Co-ordinator	1.0
FOH staff	1.5
Food and beverage casuals	2.0
<b>MAINTENANCE STAFF</b>	
Cleaners	3.0
Grounds Maintenance	1.0
Building Maintenance	1.5
*Corporate Overhead staff allocation	1.0
<b>TOTAL</b>	<b>29.25</b>

As well as these direct labour effects, it is likely that the flow-on effect of the project will *support* economy-wide employment. Table 6.5 presents a list of key industries in which employment is likely to be supported as a result of the Precinct. Table 6.5 also shows the labour intensity of these industries (that is, the proportion of labour of total primary factor inputs).<sup>73</sup> It is important to note that Table 6.5 does not provide a complete list of all industries that may be supported by the Precinct. For example, if the Precinct initiates a very positive tourism response, that may create a positive shock to the local economy and employment in industries economy-wide may be supported.<sup>74</sup>

*Table 6.5: Key industries in which employment will be supported during the operational phase of the Precinct, together with each industry’s labour proportion of primary factor inputs into production*

Industry	Labour proportion of primary factor inputs (%)
Arts <sup>75</sup>	95
Retail trade	68
Accommodation	67
Restaurants/Catering	67

Key considerations in relation to employment supported during the operational phase include:

- **Increased tourism activity:** Table 6.6 presents current tourism visitation in Far North Queensland and cultural tourism participation rates. Tourism activity that may be generated by the operation of the Entertainment Precinct will likely support employment in retail, accommodation and the restaurant and food related industries in the regional economy.
- **Expenditure in retail trade, restaurants and catering:** Expenditure in Retail Trade and Restaurants/Catering will likely provide support for economy-wide employment, not only in the Precinct but in the wider Cairns area. Modelling of direct expenditures at the Entertainment Precinct in the operational phase suggests that the annual average expenditure in the retail and restaurants/catering industries will be around \$1.8 million. As Retail Trade and Restaurants/Catering are relatively labour intensive industries (as shown in Table 6.5), expenditure in these industry will likely support employment. Indirect expenditures in the industry through, for example, increased tourism activity, will further support employment in the wider Cairns and Far North Queensland area.
- **Consumer demand for arts:** While most cultural institutions are run as commercial operations and are exclusively staffed by paid employees, a few draw upon the assistance of volunteers. As such, consumer demand for the arts does not necessarily mean support for paid employment. For example, 6,582 people Australia wide undertook voluntary work for performing arts operations during June 2007. This was slightly more than the number of paid employees 6,569.<sup>76</sup>

<sup>73</sup> The more labour intensive an industry, the more likely expenditure in that industry will support employment.

<sup>74</sup> Inter-industry linkages must be kept in mind in this regard. For example, if tourism activity instigates activity in the restaurants industry, not only will employment and production be supported in that industry, but employment and production in industries that directly feed into the restaurants industry (like Food Production industries) will also be positively affected.

<sup>75</sup> The arts industry captures all creative arts, included performing arts venues and visual arts exhibitions.

<sup>76</sup> ABS cat.4172.0, *Arts and Culture in Australia: A Statistical Overview* (19 Oct 2010).

Table 6.5: Tourism visitation in Far North Queensland and cultural tourism participation rates.

Industry	Tourism visitation in Far North Queensland (persons '000s)	Cultural tourism participation rates (%)
Local visitors	-	-
Domestic day visitors	1,845	4.1
Domestic overnight visitors	1,474	15.4
International visitors	778	61

It is important to note that, even in the operational phase, any expenditure that may support employment in the Cairns and Far North Queensland regions may simply be drawing labour away from other areas.

### 6.3.3 Base Case

The Civic Theatre, as it currently stands, employs approximately 23 people, approximately 7 less than that under Option 6 – Stage 1. Table 6.7 provides a breakdown of this employment estimate by occupation/role.

Table 6.7: Personnel employed at Civic Theatre

Facility	Head count
Theatre Manager (FT)	1.0
Operations Manager (FT)	1.0
Business & Venue Co-ordinator (FT)	1.0
Event Officer (FT)	1.0
Administration Officer (FT)	1.0
Marketing Co-ordinator (FT)	1.0
Sales & Publicity Co-ordinator (FT)	1.0
Cultural Tourism & Dev Officer (FT)	1.0
Ticketing Co-ordinator (FT)	1.0
Senior Ticket Seller (FT)	1.0
Ticket Sellers (FT)	2.0
Ticket Sellers (Casual)	0.8
Production Co-ordinator (FT)	1.0
Senior Technician Sound (FT)	1.0
Senior Technician Lighting (FT)	1.0
Technician (Casual)	1.2
Maintenance/Utility Officer (Casual)	0.5
Front of House Supervisor (PT)	0.6
Ushers (Casual)	1.0

Facility	Head count
Bar staff (Casual)	0.7
Cleaners (Contract)	1.8
*Facilities Maintenance staff	0.2
*Corporate Overhead staff allocation	1.0
<b>TOTAL</b>	<b>22.8</b>

*\*Note: Facilities Maintenance Staff are specialist staff (eg. plumbers, electricians and carpenters) utilised from other departments of CRC. Corporate Overhead staff allocation is a charge to our budget for CRC Administration staff.*

The Civic Theatre will require maintenance throughout its life (to FY 2041).<sup>77</sup> It can be expected that for major projects (painting, upgrading aircon, seats, carpet etc) the Civic Theatre would engage contractors who would employ 4 construction workers for at least a 3 week period in a typical year. The maintenance requirements will increase through time and, hence, will likely require greater labour inputs.

The Civic Theatre does not currently operate as a key tourist attraction, nor does it support a significant level of retail/restaurant/catering activity and employment. As such, the economy-wide employment supported under the Entertainment Precinct option is expected to be greater than that under the Base Case.

## 6.4 Social cohesion and quality of life

### 6.4.1 Option 6 - Stage 1 <sup>78</sup>

The social benefits that may accrue to Cairns and Far North Queensland as a result of the Entertainment Precinct (and, to a lesser extent, the State) may be classified into five broad categories:

1. Social cohesion;
2. Local image and identity;
3. Appreciation of arts and culture;
4. Health and well-being; and
5. Non-use benefits.

These are discussed in turn below.

These benefits, together with those that relate to education and training that are addressed below, are crucial to the economic appraisal of the Cairns Entertainment Precinct. While economic costs and benefits that have been quantified in this appraisal do not provide economic justification for the development of the Entertainment Precinct, arguably, the indirect and non-market economic benefits addressed here do

<sup>77</sup> The financial and economic modelling undertaken by PwC and utilised by Savills in the Business Case is subject to a projection period of FY 2012 to FY 2041. It is assumed that, under the Base Case, the Civic Theatre will still be operational in FY 2041 but require increasingly demanding maintenance over the projection period.

<sup>78</sup> This impact category is not relevant for the construction phase of the Entertainment Precinct, only the operational phase..

provide economic justification for the project, particularly in light of the Government's key outcomes and objectives for this project.

In assessing these non-market benefits, PwC has drawn upon a broad range of economic studies. Some of these are critiqued in detail in Appendix E.

### ***Social cohesion***

The current facilitation of festivals and cultural performances in Cairns is limited by the lack of a designated multi-purpose community place or space.<sup>79</sup> One of the key reasons for the development of the Cairns Entertainment Precinct is to meet the need for a community meeting place and to promote social cohesion.

Social cohesion is a concept that describes social connectedness, including family and community well-being. The term often describes a broad goal of public policy – the promotion of stable, co-operative and sustainable communities.<sup>80</sup>

Research indicates that arts and cultural services can contribute significantly to the social cohesion of a community<sup>81</sup> and, as such, arts and cultural policies and programs have been developed throughout Australia with a primary objective of enhancing social cohesion.<sup>82</sup> The Cairns Entertainment Precinct is one such project.

The Precinct has been designed to provide state-of-the-art cultural and arts facilities, together with the public plaza for everyday recreational use, encouraging community networks that are inclusive and equitable. It is expected that the Precinct will foster:

- **Creative participation:** The facilities will provide numerous opportunities for “creative” participation in the arts by non-professionals, creating a community network for friendships to develop. For example, research suggests that 91% of adult participants in arts based activities make new friends as a result<sup>83</sup> and that involvement in arts projects assists participants in feeling part of their local community.<sup>84</sup>

A stronger community network among professionals in the arts and cultural industry is also likely to develop in light of the increase in the number and quality of arts and cultural facilities.

- **Intergenerational contact:** The precinct will have the facilities required to attract people of all ages. School children will be able to attend children's entertainment performances, people of all ages may use the public plaza as a place of leisure or socialising and residents will be able to enjoy the shows the theatre has to offer. In this way, the precinct will provide the opportunity for people to gather and interact with different generations.

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<sup>79</sup> Cardew, L. 2011, *Cairns Cultural Precinct, Preliminary Client Project Brief Issue v1*, Cairns Regional Council.

<sup>80</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>81</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>82</sup> Australian Government, Department of Immigration and Citizenship, 2011. *The Diversity and Social Cohesion Program*, [online] Available at: <http://www.harmony.gov.au/dscp/> [Accessed 8 July 2011].

<sup>83</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>84</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

In addition, arts and cultural events that will occur at the precinct may provide the opportunity for people to form new relationships with people from different generations, strengthening networks at a community level and providing a valuable contribution to social cohesion. For example, performing art exhibitions could involve school children and teachers, as well as professional and amateur artists of all ages. This contact across the ages is often an incidental outcome of arts and cultural activities and may also contribute to reducing anxiety and fear that some older residents feel towards the younger population.<sup>85</sup>

- **Intercultural contact:** The additional arts and cultural events in the Cairns Entertainment Precinct will provide greater opportunity for intercultural contact and those belonging to minority groups will be able to extend their social circles, within and beyond their own cultural communities. For example, the public plaza will support organised celebrations and community events on occasions such as Australia Day, NAIDOC week, Chinese New Year and Harmony Day. These events will encourage the community to unite as one group and enhance intercultural contact and promote tolerance and diversity.

Arts and cultural events are proven to promote intercultural understanding, co-operation and tolerance.<sup>86</sup> The Cairns and wider Far North Queensland regions have a rich indigenous and multi-cultural heritage and there is great potential to incorporate this into the Cairns Cultural Precinct. The centre will likely attract visitors from Northern Queensland and has the potential to bring together remote areas and communities of rural and outback Australia and the Pacific through events and festivals at the centre.

The performing arts centre will be sensitive to the unique requirements of multi-cultural artists and audiences. Those involved in the creation of arts and cultural events and performances will also gain an understanding and appreciation of other cultures.<sup>87</sup>

It should also be noted that new skills and increased confidence as a result of participation in the arts can crystallise into an enhanced commitment to local activism and support for local projects, often in the form of volunteering. This can further develop social cohesion and contribute to community networks.<sup>88</sup>

### ***Local image and identity***

One of the objectives of the Cairns Entertainment Precinct is to develop greater awareness, within both the local community and the wider Queensland community, of the historical significance and value of Far North Queensland. This will be achieved through the various facilities on offer in the precinct. For example, White's Shed, a heritage listed building on the development site, is expected to be restored and used as a facility in conjunction with the performing arts venue, to, for example, hold educational workshops or undertake community performing arts activities. White's Shed is currently unused and has previously never been fully recognised as a place of cultural significance. The restoration of the building

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<sup>85</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>86</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>87</sup> In Matarasso's study, people frequently spoke about how they learnt to get on with a wider range of people, across cultures and generations. Over half of those surveyed indicated that they had learnt about other people's cultures as a result of involvement in an arts project. However, it was noted that projects assist with cultural integration most when they are directly intended to do so. Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>88</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

will ensure proliferation of heritage knowledge and experience, which is believed to lead to common heritage value, social identity and cultural continuity.<sup>89</sup>

The Precinct as a whole is likely to foster community involvement in the creation of additional music and theatre performances. One of the arts projects considered in Matarasso's study<sup>90</sup> was an Aboriginal community in Alice Springs, where three artists were brought into the school to work on a large-scale music and theatre production. The experience was said to have left the community 'feeling strong and united' and the project had a marked influence on the confidence of the participating children. This is an ideal example of the importance of cultural identity among a rural minority in Australia and how cultural identity can be strengthened via the arts and culture.

Research has shown that the arts help people to express and define what it means to be Australian.<sup>91</sup> Additional arts and cultural facilities will therefore strengthen the Australian image and identify and provide a connection to our past and to our nation. In addition, it is likely that the Entertainment Precinct will contribute to the continuing evolution of contemporary culture.

### ***Appreciation of the arts and cultural heritage***

A heightened appreciation of the arts and cultural heritage may be achieved as a result of exposure to and involvement in these industries. Any arts or cultural events or festivals that occur in the public plaza at the Entertainment Precinct will assist in creating awareness and an appreciation of arts and culture.

Due to the Far North Queensland's rich indigenous and multi-cultural heritage, there is a great opportunity in Cairns to develop performing arts unique to the region. Increased exposure to this cultural heritage will no doubt lead to an increased appreciation and tolerance of the arts and what it has to offer.

Creative participants also gain an appreciation of arts. More than 8 in 10 of those involved in the arts projects considered in Matarasso's study indicated that they would like to be involved in more art and cultural activities.<sup>92</sup> Professionals in other fields that were part of the survey, have indicated that direct involvement in arts activities often had a marked impact on them, realizing the contribution that the arts could make to their profession. Youth workers, teachers and health workers are examples of professionals that recognised the value of arts to their particular programmes and have since utilized arts to enhance the lives of those they work with<sup>93</sup>.

The direct use value of historic heritage places like White's Shed is often very little, with the majority of value being defined as the existence value or bequest value.<sup>94</sup> Growing knowledge of particular historic heritage places, as will be fostered by the Entertainment Precinct, is likely to raise these non-use values as more people become aware of their existence and develop an appreciation of their significance.<sup>95</sup>

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<sup>89</sup> Productivity Commission, 2006. *Conservation of Australia's Historic Heritage Places – Inquiry Report No37*, Canberra.

<sup>90</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>91</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>92</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>93</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>94</sup> Productivity Commission, 2006. *Conservation of Australia's Historic Heritage Places – Inquiry Report No37*, Canberra.

<sup>95</sup> For example, Whites Shed is a heritage listed building, which will remain preserved with the new development.

## ***Conservation of Australia's Historic Heritage Places***

The Productivity Commission published an inquiry report on the conservation of Australia's historic heritage places in 2006. It examined a number of issues surrounding the conservation of heritage places, including measuring their benefits and value.

Choice modelling was one of the methods used to determine peoples' willingness to pay estimates for different attributes of historic places. It was found that:

The willingness to pay (WTP) for places protected was \$5.53 per person per year (for 1000 heritage places protected)

The willingness to pay (WTP) for increased development controls imposed on owners was \$53.07 to change from 'demolition permitted' to 'minor modifications permitted only' and \$39.50 to change from 'demolition permitted' to 'substantial modifications permitted by no demolition'.

It should be noted that community valuation placed on heritage is expected to vary with the nature and type of the place. For example, iconic heritage items are likely to have substantial existence and bequest value, compared to a lesser known historic place. Also, when analysing 'heritage value' it is important to distinguish between the total value of all historic heritage places and the marginal value of listing one more place.

Due to these complexities, we have not attempted to transfer this willingness to pay to the Cairns Cultural Precinct; rather this can provide a broad indication of the value that residents may place on retaining the Whites Shed as a heritage place.

Source: Productivity Commission, 2006. Conservation of Australia's Historic Heritage Places – Inquiry Report No37, Canberra.

## ***Health and well-being***

Health and well-being benefits of arts and cultural activities accrue to both creative participants and receptive participants. There is widespread recognition across literature that, at the basic level, arts and cultural activities provide a unique and deep source of enjoyment, resulting in increased levels of happiness and the ability to cope with everyday pressures of life.<sup>96</sup>

In terms of receptive participation, the public plaza is intended for everyday recreational use by locals and tourists, and with a prime waterfront position, it is intended to become the ideal place to socialise and relax. There have been a number of studies conducted that indicate activities in public places (e.g. public concerts and market days) provide people with a source of enjoyment and stimulation, as well as a sense of community<sup>97</sup>.

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<sup>96</sup> Australian Expert Group in Industry Studies (AEGIS), 2004. *Social Impacts of Participation in the Arts and Cultural Activities- Stage 2 Report*, Sydney.

<sup>97</sup> Australian Expert Group in Industry Studies (AEGIS), 2004. *Social Impacts of Participation in the Arts and Cultural Activities- Stage 2 Report*, Sydney.

The cultural facilities also provide significant benefits for receptive participants. For example, the Australia Council of the Arts study<sup>98</sup>, 67% of those surveyed indicated that some form of art<sup>99</sup> helps them deal with stress, anxiety or depression.

Participation in the arts (creative participation) is also proven to make people happier, healthier and increase people's confidence, through a sense of achievement and a sense of worth. In the Matarasso study<sup>100</sup>:

- 80% became more confident as a result of their involvement in the arts;
- 77% were happier since being involved, and
- 48% felt better or healthier since being involved.

For many adults, one of the other most important outcomes was finding their own voice, or their courage to use it. Almost 8 in 10 Australians said they feel good when they can express themselves creatively.<sup>101</sup>

Programmes which offer creative participants genuine control over creative processes are those which result in empowerment and self-determination. For some, who are already at a point of looking for growth, they use the creative process as a springboard to a different way of seeing themselves, which leads them to make real changes in their lives.<sup>102</sup>

### ***Non-user benefits***

The social benefits discussed so far have been focussed on benefits to 'users' of the facilities of the Cairns Cultural Precinct. However, total economic value is the sum of both 'user' and 'non-user' value (see Appendix D). For the Cairns Cultural Centre, the 'non-user value' is the value attributed to the benefits from the arts and cultural facilities/activities accruing to persons who do not visit the facilities or participate in related cultural activities. This includes:

- the value that people place on *the option* to use the open public plaza, attend the performing arts theatre or participate in a cultural activity located in the precinct (option value);
- the value that people place on ensuring the cultural assets (eg. White's Shed) are available for future generations, as part of a shared cultural legacy (bequest value);
- the value that people would place on knowing that cultural heritage has been protected with the construction of the precinct or knowing that a cultural site still exists even though it may never be visited (existence value); and
- the value that people would place on the social cohesion that may result from promotion of a cultural activity (outside the cultural precinct).

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<sup>98</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>99</sup> In this study, the definition of art is very broad and includes visual arts (cinema) and literature (books). Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>100</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

<sup>101</sup> Australian Council of the Arts, 2010. *More than bums on seats: Australian participation in the arts*, Australian Council for the Arts, Sydney.

<sup>102</sup> Matarasso, F., 1997. *Use or Ornament? The Social impact of participation in the arts*, Comedia, Stroud.

Table 6.8 shows an estimation of the relative ‘non-use’ values of each of the facilities in the Cairns Cultural Precinct as high, medium or low and compares these to the ‘use’ values. Existence and bequest values are likely to be of greatest relevance for iconic historic heritage places.<sup>103</sup> Across the facilities, the option value of using or visiting each is likely to be similar.

Table 6.8: Relative use and non-use values of the facilities in the precinct

Facility	Non-use Value			Use Value
	Option Value	Bequest Value	Existence Value	
Open public plaza area	Medium	Low	Low	High
Performing Arts Centre	Medium	Low	Low	High
Whites Shed	Medium	High	High	Medium*

\*This will depend on the final use of the facility. It has been assumed that the facility will be used ‘part-time’ as an extension of the performing arts venue.

### 6.4.2 Base Case

While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities (both creative and receptive participation) to some extent, the Entertainment Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing much greater community-wide benefits, as discussed above.<sup>104</sup> The current Civic Theatre is an inferior facility that does not attract, nor can it support, large-scale, professional stage shows and cultural displays. Further, it does not encourage the level of creative participation by the community that will likely exist under Option 6 - Stage 1.

Facilities such as the Public Plaza will also foster greater social cohesion and health and well-being benefits that may not accrue to the community under the Base Case.

## 6.5 Education and skills training

Appropriately skilling the labour force in Queensland is vital to ensure long run labour market participation and competitiveness, assisting the Queensland Government in achieving the Smart State priority to “grow a diverse economy and create jobs”.

While the construction of the Entertainment Precinct may contribute to skills shortages currently being experienced by the Queensland construction industry, the education and skills training benefits that will be fostered by the Precinct once operational, will assist in the long term skilling of Queensland’s labour force, both for industries directly linked to the Precinct and for the wider community.

<sup>103</sup> Productivity Commission, 2006. *Conservation of Australia’s Historic Heritage Places – Inquiry Report No37*, Canberra.

<sup>104</sup> For example, the current facilities are unable to cater for large events and attract national and international participation. Stakeholders have specifically stated that the low capacity of the Civic Theatre in particular is a fundamental reason for performances and shows to not coming to Cairns.

The benefits of participation at arts and cultural facilities accrue to a number of groups within the community, from the professional performers themselves (“creative participants”) to consumers whose participation is merely receptive (“receptive participants”). These benefits accrue through a variety of forms, including:

- knowledge sharing;
- increased collaboration;
- cultural appreciation; and
- generic work place skill development (eg. communication and team work skills)

While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities (both creative and receptive participation), the Entertainment Precinct will likely foster and encourage *further* participation thereby harnessing additional community-wide benefits. These benefits are discussed further below.

### ***6.5.1 Option 6 - Stage 1 Construction Phase***

#### ***Skills shortages in the construction industry***

While the unemployment rates for Cairns and the Far North Statistical division (Figure 6.2) suggest that these economies are not operating at capacity,<sup>105</sup> it may be the case that those unemployed people are not appropriately skilled for employment on a construction project.

At present, the strong demand for labour in the construction services industry in Far North Queensland and across the State is outweighing the supply of labour in the industry. These skill shortages may continue to be apparent in the short to medium term in light of planned infrastructure building (and rebuilding) initiatives.<sup>106</sup> For example, the State Government 2011-12 Budget announced the following construction projects in Cairns alone:

- \$6.3 million to refurbish the Cairns Convention Centre;
- \$4.9 million for additional classrooms at Redlynch State College;
- \$8.9 million to complete the \$26.6 million upgrade of the Tropical North Queensland Institute of TAFE in Cairns;
- \$9 million of \$23.3 million to continue developing the foreshore in the Cairns Cityport;
- \$50 million towards the \$446.3 million towards the redevelopment of the Cairns Base Hospital, due to open in 2014.

Further, in response to the natural disaster events between November 2010 and March 2011, the Government established the Queensland Reconstruction Authority to manage and coordinate the

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<sup>105</sup> High unemployment rates (in relation to the Queensland average) are an indication that productive resources, in this case, labour, are idle in the current economy. In other words, there is evidence to suggest that the economy is not operating at capacity and has the potential to deliver economic activity from increases in investment spending without completely crowding out other activity.

<sup>106</sup> Growth in mining across the State and Australia is also, arguably, attracting workers that would otherwise work in the construction industry.

reconstruction effort across the State. The 2011-12 capital program includes \$1.75 billion in reconstruction works associated with these events. The reconstruction efforts include:

- \$1.26 billion in reconstruction grants to local governments;
- \$450.2 million in capital works to restore the roads network across the State;
- \$30 million for cyclone shelters in Queensland communities;

All of these infrastructure projects are likely to contribute to the skills shortage in the construction industry in Cairns, Far North Queensland and the State as a whole. While construction of the Entertainment Precinct will not commence until 2012, it might also contribute to the skills shortage dilemma.

### ***Addressing skills shortages in the construction industry***

While skills shortages in the construction industry are becoming increasingly apparent, there are numerous Queensland Government programs and policies currently in place to address this issue. In fact, by the time the construction of the Entertainment Precinct is at its peak, there may be greater demand for traineeships and an increase in labour supply in the industry as a result of such programs. These include:

- **The 10 per cent training policy:**<sup>107</sup> The 10 per cent training policy for Queensland Government Building and Construction Contracts plays a key role in ensuring the building and construction industry continues to employ apprentices and trainees and upskill its existing workforce. The policy applies to all Queensland Government Departments, statutory bodies and Government Owned Corporations that fund building and construction projects valued at over \$250,000. The policy requires that the projects ensure a minimum of 10 per cent of total labour hours be undertaken by apprentices, trainees or cadets; and that a maximum of 25 per cent of the labour hours be used in the development of existing workers skills with training that has been approved and contributes to recognised building and construction qualifications;
- **The User Choice 2010-2015 Program:**<sup>108</sup> The User Choice program provides public funding for the delivery of accredited, entry-level training to apprentices and trainees. The program works in conjunction with the Commonwealth Australian Apprenticeships System, under which apprentices and trainees enter into legally binding training contracts with their employers and receive structured training to achieve a nationally recognised qualification. Occupations that are classified as Priority One attract 100 per cent subsidisation for training programs. As shown in Figure 6.9, around a third of all occupations that are classified as Priority One are construction related.

Construction of the Entertainment Precinct will need to be undertaken in compliance with such programs.

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<sup>107</sup> Queensland Government, Department of Education and Training, *10% Training Policy*, <http://training.qld.gov.au/industry/10percent-policy.html>

<sup>108</sup> Queensland Government, Department of Education and Training, *User Choice 2010-2015 Policy*, <http://training.qld.gov.au/training-organisations/user-choice/index.html>

Figure 6.9: Occupations that are classified as “Priority One” under User Choice 2010-2015 Program

Construction related occupations	Non-construction related occupations
<ul style="list-style-type: none"> <li>• Bricklayers and stonemasons</li> <li>• Carpenters and joiners</li> <li>• Construction and trades workers</li> <li>• Electro technology and telecommunications trades workers</li> <li>• Floor finishers</li> <li>• Glaziers</li> <li>• Mechanical engineering trades workers</li> <li>• Metal casting, forging and finishing trades workers</li> <li>• Painting trades workers</li> <li>• Plasterers</li> <li>• Plumbers</li> <li>• Roof tilers</li> <li>• Wall and floor tilers</li> </ul>	<ul style="list-style-type: none"> <li>• Aged and disabled carers</li> <li>• Agricultural technicians</li> <li>• Aircraft maintenance engineers</li> <li>• Apparel cutter</li> <li>• Automotive electricians</li> <li>• Bakers and pastry cooks</li> <li>• Bicycle mechanic</li> <li>• Binders, finishers and screen printers</li> <li>• Boat builders and shipwrights</li> <li>• Butchers and small goods makers</li> <li>• Canvas and leather good makers</li> <li>• Child care centre managers</li> <li>• Child carers</li> <li>• Cooks</li> <li>• Graphic pre-press trades workers</li> <li>• Hairdressers</li> <li>• Horticultural trades workers</li> <li>• Machine and stationary plant operators</li> <li>• Motor mechanics</li> <li>• Plastics technician</li> <li>• Printers</li> <li>• Science technicians</li> <li>• Sign writers</li> <li>• Upholsterers</li> <li>• Vehicle body builders and trimmers</li> <li>• Waste water or water plan operator</li> <li>• Wood trades people</li> </ul>

## 6.5.2 Option 6 - Stage 1 Operational Phase

### Professional artists and performers

For artists and performers that participate creatively in artistic and cultural centres, knowledge sharing and increased collaboration will have benefits for their skills and techniques. Performance art centres facilitate an environment where artists are exposed to colleagues with different skill sets and methods and encourage artists to exchange ideas and build upon their skill sets.<sup>109</sup>

The national and international exposure that the Precinct will likely generate may create further benefits for the artistic and cultural development of the region.<sup>110</sup> The Precinct will be able to cater for and attract international performers and exhibits, as well as those from around Australia, further enhancing the education and skills of local artists through working collaboratively with these guests.

By enhancing the opportunities for local, interstate and international artists and performers to collaborate and share ideas and techniques, these artists and performers will not only broaden their professional capacity, but may also gain unique insight into, and actively participate in the expression of, the Far North Queensland culture.

<sup>109</sup> Savills Project Management, *Strategic Assessment of Service Requirements* (May 2011), page 47.

<sup>110</sup> One of the aims of the project is the development of a cultural precinct that will be of international significance in the region or, as described in Savills' Strategic Assessment of Service Requirements, “to establish Cairns as a cultural hub for the pacific rim”. With the current Civic Theatre being unable to cater for larger events, a venue with greater capacity and vastly improved infrastructure will arguably attract international participation. Stakeholders have specifically stated that the low capacity of the Civic Theatre in particular is a fundamental reason for performances and shows to not coming to Cairns. See Savills Project Management, *Strategic Assessment of Service Requirements* (May 2011), page 17.

### ***Receptive participation***

Numerous studies argue that exposure to arts venues, even solely through receptive participation, can help to promote learning.<sup>111</sup> A study by the ABS argues that, through the provision of information and the cultivation of an effective learning environment, receptive participation in arts related activities can result in improvement in the participant's ability to learn, communicate effectively, think critically and operate in a more innovative manner in the work place.<sup>112</sup>

Receptive participation in the arts may:

- have a direct impact on the creative abilities of participants and lead to enhanced imagination, vocabulary, confidence and social inclusion;<sup>113</sup>
- help to promote critical thinking and tolerance, allowing the individual to engage with different ideas, views and perspectives that they would normally not be exposed to;<sup>114</sup>
- assist participants in achieving improved learning outcomes; and
- promote cultural awareness by introducing participants to cultures other than their own, invoking a sense of curiosity and prompting them to delve deeper in their current understanding and appreciation of cultural diversity.<sup>115</sup>

In other words, the skills that participants obtain through receptive participation arguably improve their ability to learn and perform effectively both in and out of the workforce.

These are significant benefits that the Entertainment Precinct can harness by exposing the regional community to greater receptive participation in the arts. Having a local population that is increasingly able to think critically and is more confident and culturally aware, will enable the Cairns region to grow and better respond to the challenges associated with growth.

### ***Creative participation***

It is envisaged that the Entertainment Precinct will encourage both children and adults alike to creatively participate in the arts.<sup>116</sup>

Creative participation in the performing arts is said to have significant benefits for learning and generic skills development (for example, communication and team work skills). Teachers believe that exposure to the arts through facilities like the Entertainment Precinct can encourage school students and adults to creatively participate in the arts and have a positive effect on in a number of domains including:

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<sup>111</sup> ABS, *Arts and Cultural Heritage in Australia – Key issues for an information development Plan – Discussion Paper* (2006), page 32.

<sup>112</sup> ABS, *Arts and Cultural Heritage in Australia – Key issues for an information development Plan – Discussion Paper* (2006), page 29.

<sup>113</sup> Cultural Ministers Council- Statistics Working Group, *Social Impacts of participation in the Arts and Cultural Activities* (2004) page 25; Department for Culture Media and Sport, *Centres for Social Change: Museums, Galleries and Archives for All* (2000).

<sup>114</sup> For example, a study by the Department for Culture Media and Sport in the UK found that attendance at galleries led to a release of latent creative abilities and enhanced imagination, vocabulary and self-expression, leading to increased confidence and social inclusion - Department for Culture Media and Sport, *Centres for Social Change: Museums, Galleries and Archives for All* (2000).

<sup>115</sup> Queensland Government, *Valuing the Queensland Museum* (2008) page 31 - A survey of visitors to the Queensland Museum found that 45-65% of visitors felt that the exhibits invoked their curiosity, while 56-66% believed that they had discovered a new perspective.

<sup>116</sup> One of the objectives of the new Performing Arts Centre is to provide a place where cultures can participate in and enjoy the performing arts.

- developing language skills;
- physical coordination;
- creativity and imagination;
- social skills development.<sup>117</sup>

From a teacher's perspective, participation in the performing arts contributes to the educational development of children. Teachers have found that when students find participation in the performing arts to be enjoyable, their general attitude to learning improves.<sup>118</sup> This same cohort of teachers also noted an improvement in the school performance of 5-7 year olds who participated in visual arts and music programs, with progress particularly noticeable in reading and writing standards.

These benefits are not only obtained by children. Studies suggest that participation in the performing arts has played a role in the trend of adults going back to the education and training system. For instance, a survey of adult participants in cultural activities in the UK found that 37% decided to take up a training course while 80% stated that they had learnt new skills after being involved.<sup>119</sup> This is not isolated to courses related to the performing arts, with adults also being encouraged to take up training in areas with no connection to the arts, such as accountancy, youth work and outdoor pursuits.

The transferable skills adults can acquire from creative participation include:

- performance skills which can be applied to a range of commercial uses such as those relating to the organising of events, administration and managing people;
- public speaking skills, particularly developed through encouraging self-confidence; and
- skills that foster collaboration and team work.

If the Entertainment Precinct encourages local community members to participate creatively in the arts, and given that the associated skills acquired from such participation are transferable, it is envisaged that this may help to support regional growth in Far North Queensland. Re-skilling local communities and encouraging people to re-engage with the education system will ultimately lead to a more productive and flexible workforce that can meet the challenges of a growing region.

### **6.5.3 Base Case**

While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities (both creative and receptive participation) to some extent, the Entertainment Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing additional community-wide benefits, as discussed above.<sup>120</sup>

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<sup>117</sup> Matarasso F, *Use or Ornament? The Social Impact of participation in the arts* (2007) page 29.

<sup>118</sup> Matarasso F, *Use or Ornament? The Social Impact of participation in the arts* (2007) page 29.

<sup>119</sup> Matarasso F, *Use or Ornament? The Social Impact of participation in the arts* (2007) page 32.

<sup>120</sup> For example, the current facilities are unable to cater for large events and attract national and international participation. Stakeholders have specifically stated that the low capacity of the Civic Theatre in particular is a fundamental reason for performances and shows to not coming to Cairns.

## **6.6 Environmental effects**

### **6.6.1 Option 6 - Stage 1**

The purpose of the environmental assessment is to identify the extent and nature of any environmental issues associated with the site. This appraisal is to inform the identification of costs and benefits associated with the project, as part of the broader economic assessment.

The environmental benefits and costs associated with the Entertainment Precinct are described below.

#### ***Site enhancement***

The site is owned by Ports North Corporation Pty Ltd and was previously used for port purposes and is currently unoccupied with the exception of the historic White's Shed. The development of the Entertainment Precinct will result in a number of enhancements to this site. These include the removal of contamination as a result of former uses associated with the port, construction of stormwater management infrastructure, and landscaping and other final site improvements.

These works will enhance the amenity of both the Entertainment Precinct site and neighbouring sites, and will allow greater management of potential environment issues associated with the site (e.g. run-off, sediment control).

#### ***Urban enhancement***

The development of the Entertainment Precinct will enhance urban amenity within areas adjacent to the site, and more broadly within the Cairns CBD.

The Entertainment Precinct (along with the Convention Centre) will create a third node in the urban framework of the CBD, which will provide for better connections between land uses, public spaces and transport facilities. The Precinct will provide for higher levels of connectivity between inner city and outer city by anchoring the city centre with the shopping centre, Shields Street, the lagoon, and the Port lands boardwalk. This triangle also defines a circuit of high-amenity public spaces along the waterfront and the city centre.

In addition, the Entertainment Precinct will provide additional public and green space for community gathering.

The Precinct will be serviced by additional public transport which may contribute to reduced congestion on roads.

#### ***Sustainable design***

The Entertainment Precinct aims to achieve a 5 star Green Star rating equivalent, demonstrating leadership in the sustainable design of public buildings and place-making by local Government. Through effective specification and procurement, Council seeks to ensure that the project minimises adverse environmental impacts. The following are key items for consideration:

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- Technologies, measures and strategies that manage stormwater flow and quality, erosion and the risk of toxic chemicals being released into the environment;
- Technologies, measures and strategies that reduce or eliminate potential harm to flora and fauna;
- Technologies, measures and strategies that reduce air pollution; and
- Technologies, measures or strategies that deliver conservation or rehabilitation benefit for water ways and terrestrial habitats.

The development is to be designed to achieve high standards to energy efficiency and water conservation, life cycle analysis for a selection of materials, waste minimisation, low greenhouse gas emissions and an operational plan to maintain the standards for the life of the building.

Fundamental to innovative design is to be the use of initiatives and design elements to reduce the carbon footprint, particularly for facilities that traditionally use high levels of power for stage lighting and mechanical services. Further initiatives are to be the selection of water efficient fittings, waterless urinals, water metering, a fire-test water re-use system with temporary storage for test water, and a water efficient irrigation system.

Sustainable materials should be selected including sustainable timber (FSC certified) and materials with a high percentage of re-cycled components. PVC products are to be minimised and waste recycling storage is to be included. Carpet, performance space seats, and furnishings will be selected with environmental considerations in mind, including the environmental accreditation of the manufacturer, durability, re-cycled content, design for re-use and disassembly, packaging and life cycle.

All insulation is to be free of ozone-depleting gases in manufacture and composition. All refrigerants in the design are to be zero-ODP.

### ***Enhancing sustainable development***

Overall, the Entertainment Precinct will contribute to the sustainable development of the Cairns City through the integration of sustainable design values, protection and enhancement of the natural landscape, heritage values and scenic amenity, and the appropriate utilisation of land. The Precinct will act as a physical and sound barrier between the city and wharf 7 to 8 of the Port and will contribute to the liveability of the city.

The Precinct will provide opportunity for the improvement in existing social and community infrastructure and may facilitate partnerships between community organisations, business and government. An appropriately designed Precinct will also support economic development through careful selection of approaches to transportation, skill development, technological innovation, capital formation, and land use policies that can promote employment and a stronger local economy.

### ***6.6.2 Base Case***

Under the base case, the Entertainment Precinct site would not be subject to the enhancements detailed above, and there remains the potential for environmental issues associated with site contamination and stormwater/sediment control.

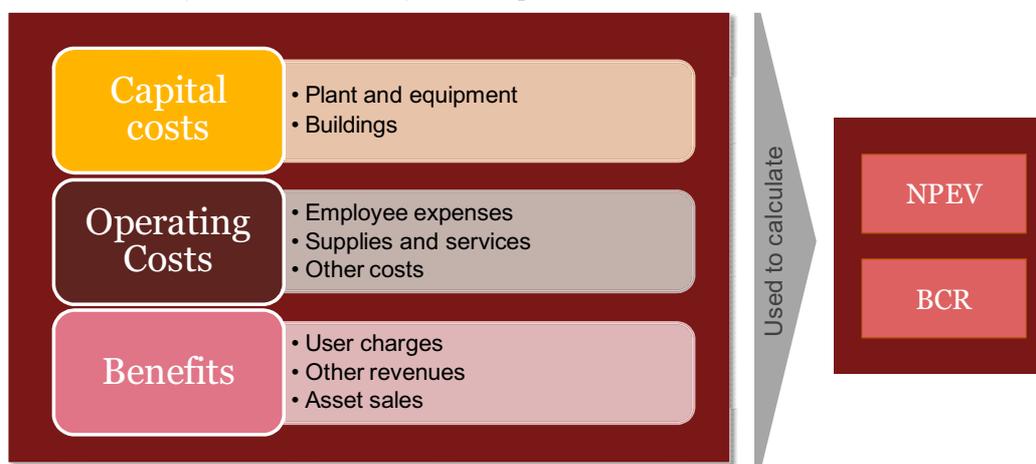
## 6.7 Bringing the economic costs and benefits together – the CBA Framework

### 6.7.1 Discounted cash flow results

Where possible, the economic costs and benefits identified above have been built into the CBA framework (as outlined in the PAF<sup>121</sup>), to provide a summary of the monetised costs and benefits. Figure 6.10 lists the monetised components of the CBA. It is important to read these monetised components in line with the crucial quantitative and qualitative costs and benefits as discussed above. Section 6.7.2 allows for a comparison of the quantified and qualified costs and benefits.

The monetised costs and benefits are summarised using two key CBA metrics – the net present economic value ('NPEV') and the benefit-cost ratio ('BCR').<sup>122</sup>

Figure 6.10: Costs and benefits quantified in the CBA framework to calculate the Net Present Economic Value (NPEV) and Benefit Cost Ratio (BCR) for each Option



NOTE: "Grants and subsidies" are not included as a benefit in the CBA framework as these are more appropriately considered to be "transfers".

If a project's costs and benefits can be fully quantified and captured in the discounted cash flow analysis, a project option may be considered to be economically viable if the BCR is greater than one and the NPEV is positive. However, as discussed in the PAF, for cultural projects like the Cairns Entertainment Precinct, summary CBA metrics (like NPEVs and BCRs) are not sufficient to provide an indication of the economic viability of a project.

Table 6.9 reports the NPEV and BCR for Option 6 - Stage 1, depending on the choice of discount rate. The NPEV and BCR are calculated off incremental<sup>123</sup> cash flows as required by the PAF. The PAF Summary Tables, presented in Appendix G, show the economic costs and benefits incorporated in the monetised CBA framework that have formed the basis of the NPEV and BCR calculations.

<sup>121</sup> Project Assurance Framework: Cost Benefit Analysis, page 28.

<sup>122</sup> These metrics are explained in Section 3.2 above.

<sup>123</sup> "Incremental" means that the cash flows under Option 1 (the Basecase) are subtracted from the cash flows for each Option to determine the benefit over and above the status quo.

While the PAF requires that all CBA metrics are to be calculated on an incremental basis, as we are only considering one option over and above the base case, it is informative to also look at CBA metrics that are not incremental.

While the metrics provided in Tables 6.9 and 6.10, when considered in isolation, might suggest that neither option is economically viable, it is important to note that these metrics have only been calculated based on the impacts that have been monetised in this assessment – that is, the direct expenditures under the construction and operational phases of each Option. The supplementary analysis presented above illustrates a broad range of costs and benefits that have not been monetised.

**Based on consideration of the non-monetised non-market benefits, together with key objectives and outcomes sought by the State Government and Council, Option 6 - Stage 1 presents as the preferred option.**

*Table 6.9: NPEV and BCR for Option 6 - Stage 1 depending on choice of discount rate (calculation based on incremental cash flows)*

Discount rate scenario	NPEV (\$'000s - nominal)	BCR
Low	-223,363	0.19
<b>Medium</b>	<b>-208,278</b>	<b>0.16</b>
High	-195,434	0.14

*Table 6.10: NPEV and BCR for Option 6 - Stage 1 and Base Case (not incremental)*

Option	NPEV (\$'000s - nominal)	BCR
Base Case	-14,498	0.63
Option 6 - Stage 1	-205,676	0.20

### ***6.7.2 Synthesising the monetised, quantified and qualified results to rank the options***

Figure 6.11 summarises and compares the monetised, quantified and qualified costs and benefits under each of the five impact categories for Option 6 - Stage 1 and the Base Case. The preferred option based on this comparison is Option 6 - Stage 1.

Figure 6.11: Summary and comparison of costs and benefits under each impact category for Option 6 - Stage 1 and Base Case

	Option 6 – Stage 1	Base Case	Preferred option based on impact and ability to meet outcome sought
<b>Direct and indirect expenditures</b>			
Construction phase	<p>Construction expenditure is projected be over \$150 million over the five years from FY12 to FY16, with expenditure peaking in FY13 (\$60.9 million).</p> <p>Construction activity may assist in sustaining economic activity in Cairns and the Far North Queensland following Queensland’s reconstruction effort.</p>	N/A	Option 6 – Stage 1
Operational phase	<p>Option 7 will provide support for the Construction, Arts and Restaurants/ Catering industries, with direct expenditures exceeding \$20 mill in 2041.</p> <p>Heightened tourism activity under Option 7 will also provide support for the region’s retail, restaurant/catering and accommodation industries.</p>	<p>While the Base Case will provide support for the Construction, Arts and Restaurants/Catering industries, direct expenditures under this option is far less than Option 6 Stage 1 (approx \$5 mill)</p> <p>The Civic Theatre does not currently operate as a key tourist attraction</p>	Option 6 – Stage 1
<b>Labour</b>			
Construction phase	<p>The construction of the Precinct may directly sustain employment for up to 160 persons.</p> <p>The flow-on employment from the construction of the Precinct may not be substantial. This construction may direct resources away from other construction (or mining) activity. There is mixed opinion as to the current state of the construction industry labour market.</p>	N/A	Option 6 – Stage 1
Operational phase	<p>Operation of the Precinct may directly sustain employment for 30 people.</p> <p>Tourist activity, together with expenditure in, for example, retail and restaurant/catering industries, may support economy wide employment.</p>	<p>Ongoing operation of the Precinct may directly sustain employment for 20 people</p> <p>Economy-wide employment supported by the Precinct is expected to be far greater than that under the Base Case, due to its additional facilities and capacity to attract visitors.</p>	Option 6 – Stage 1

	Option 6 – Stage 1	Base Case	Preferred option based on impact and ability to meet outcome sought
Social cohesion/ quality of life			
Construction phase	N/A	N/A	N/A
Operational phase	<p>The Precinct’s facilities will foster community networks that are inclusive and equitable. It will encourage intergenerational and intercultural interaction.</p> <p>The Precinct will foster a heightened appreciation of arts &amp; cultural heritage and a more defined local image and identity.</p> <p>Arts &amp; cultural activities provide a unique source of enjoyment, resulting in increased levels of happiness &amp; the ability to cope with everyday pressures of life.</p>	<p>While the Civic Theatre and other venues throughout Cairns currently encourage participation in arts and cultural activities to some extent, the Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing additional community-wide social benefits.</p> <p>Facilities such as the Plaza will also foster greater social cohesion and health and well-being benefits that may not accrue to the community under the Base Case.</p>	Option 6 – Stage 1
Education and skills training			
Construction phase	<p>While the construction of the Precinct may contribute to skills shortages currently being experienced in Queensland’s construction industry, there are numerous government programs in place to address this issue.</p> <p>Once construction of the Precinct is at its peak, there may be an increase in labour supply in the local construction industry due to these programs.</p>	N/A	Option 6 – Stage 1
Operational phase	<p>For artists and performers that participate creatively in artistic and cultural centres, increased knowledge sharing and collaboration will have benefits for their skills and techniques.</p> <p>Receptive and creative participation by consumers at the Precinct may assist in enhancing learning ability and performance in the work place.</p>	<p>While the Civic Theatre and other venues throughout Cairns currently encourage both creative and receptive participation in arts and cultural activities to some extent, the Precinct, with its larger complementary facilities, will foster and encourage much greater participation, thereby harnessing additional community-wide skills development benefits.</p>	Option 6 – Stage 1
Environment			
Throughout the project	<p>The development of the Cultural Precinct will enhance urban amenity of the Precinct site, areas adjacent to the site and more broadly within the Cairns CBD. It will contribute to the sustainable development of the Cairns City through integration of sustainable design values, protection and enhancement of the natural landscape and appropriate utilisation of the land.</p>	<p>Under the base case, the Entertainment Precinct site would not be subject to the urban enhancements, and there remains the potential for environmental issues associated with site contamination and stormwater/sediment control.</p>	Option 6 – Stage 1

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# 7

## *Conclusions and findings*

## **7.1 Summary of economic and financial appraisal**

### **7.1.1 Financial appraisal**

The discounted cash flow analysis showed that no project option, including the base case under which the Civic Theatre continues operating, is the project self-funding on a purely commercial/financial basis. Given the cost of the initial capital works is assumed to be entirely covered by grants from Federal, State and Local governments, the negative NPV is solely a result of the forecast revenue streams being inadequate to cover ongoing operating expenditure and renewals capex outgoings.

- The least cost development option identified in the Preliminary Evaluation, Option 6 – Stage 1, is estimated to have a NPV impact of -\$56.6 million. Of this, -\$37.9 million, or 67% of the NPV is attributable to renewals capital expenditure.
- The choice of discount rate can have a significant impact on the project appraisal, while escalation rates have a moderate impact. The visitation scenarios have only a minor impact on results, reflecting that these have been set very conservatively and there is only a minor variation across each scenario. The impact of changes in Performing Arts Centre staff award rates is not significant.
- The greatest financial risks posed to the project are related to the provision of funding from the State and Federal governments. Secondary risks relate to operating outcomes – higher opex, higher maintenance capex and lower revenue scenarios. Project delays do not pose a material risk to the project's financials except in the event that compromise the availability of government fundings for the project (examined separately).
- Over the forecast period, both the Civic Theatre and the Entertainment Precinct are estimated to run at a financial loss to Council, as measured by Net Operating Income, including depreciation and interest expense.

### **7.1.2 Economic appraisal**

The economic appraisal considers a far broader range of costs and benefits relating to social, cultural, economic and environmental factors associated with project options. As many of the associated costs and benefits are 'intangible', and do not have a market price, the economic appraisal has been undertaken using a combination of discounted cash flow analysis, quantitative analysis and qualitative assessment.

- As stated in the PAF, if an economic argument is to be made for this sort of cultural facility, the greatest weight should be given to the significant non-market impacts (such as increased social cohesion and quality of life, arts and cultural heritage appreciation, increased education and training facilities and health improvement), together with the key outcomes sought by government when undertaking the project. Option 6 - Stage 1 presents as the preferred option based on these considerations.
- Construction expenditure for the Entertainment Precinct is projected to be over \$150 million over the five years from FY12 to FY15, with expenditure peaking in FY13 (\$67.4 million). While there is evidence to suggest that the demand for labour resources in the construction industry is currently exceeding supply, it may be argued that, following the temporary shock to the labour market arising from the Queensland reconstruction effort, some of these resources may then be directed to construction projects like the Entertainment Precinct. This would assist in maintaining economic activity and employment in the Cairns and Far North Queensland region following reconstruction.

- Throughout the operational phase, Option 6 - Stage 1 will provide greater support for the Construction, Arts and Restaurants/Catering industries, as compared to the Base Case. The larger, complementary performing arts facilities at the Precinct allow for larger revenues from Arts activities in particular, with more than four times the revenues accruing to the Arts industry under Option 6 - Stage 1 as compared to the Base Case. Heightened tourism activity under Option 6 - Stage 1 will also provide support for the region's retail, restaurant/catering and accommodation industries.
- It is estimated that, during the operational phase, the Entertainment Precinct will directly employ 34 people, while the Civic Theatre will employ around 20. As well as these direct labour effects, it is likely that the flow-on effect of the project will support economy-wide employment, particularly in tourism related industries like retail trade and restaurants/catering. The Civic Theatre does not currently operate as a key tourist attraction, nor does it support a significant level of retail/restaurant/catering activity and employment. As such, the economy-wide employment supported under the Entertainment Precinct option is expected to be greater than that under the Base Case.
- In light of the key objectives sought by Council and Government, particular weight should be given to the social and educational benefits that have been described. In particular, the Entertainment Precinct will have the capacity to increase social cohesion and enhance health and well-being for both those in the Cairns community and those attracted to the area. It will promote stable, co-operative and sustainable communities that encourage intergenerational and intercultural interaction.
- Participation in arts and cultural activities can have a direct impact on the improvement of education and training outcomes, not only for performers and artists, but also for consumers whose participation is merely receptive. It promotes knowledge sharing, increased collaboration, cultural appreciation and skills development. The Cairns Cultural Precinct will likely foster and encourage participation in arts and cultural activities, thereby harnessing these associated benefits.
- The development of the Cultural Precinct will enhance urban amenity of the Precinct site, areas adjacent to the site and more broadly within the Cairns CBD. It will contribute to the sustainable development of the Cairns City through integration of sustainable design values, protection and enhancement of the natural landscape and appropriate utilisation of the land.
- The discounted cash flow results must be read in line with the qualitative assessment of key indirect and non-market benefits that cannot be appropriately quantified in a CBA of a cultural project like the Cairns Entertainment Precinct. The CBA metrics (NPEV and BCR) have only been calculated on the basis of the impacts that have been able to be monetised in this assessment – that is, the direct expenditures under the construction and operational phases of each Option. Conclusions regarding the economic viability of the Precinct cannot be made by considering the BCRs and NPEVs in isolation.

## 7.2 Meeting the objectives and outcomes sought

Drawing upon the Cairns Regional Council goals and key State Government initiatives and policy objectives,<sup>124</sup> PwC identified that, for the purpose of this appraisal, the four overriding outcomes sought for the project are:

1. To meet community need for art and cultural facilities;
2. To meet the need for a community meeting place;
3. To develop greater awareness of the historical and cultural value of the Far North;
4. To support regional growth.

As Queensland Government's *Project Assurance Framework* states, "important cultural projects seek to promote Queensland and should not be assessed by using possible economic and employment benefits. Rather, it may be better to rank options by their ability to deliver specific outcomes and assess them against the performance criteria for promotional success rather than their economic impact." As such, the four key objectives identified are crucial to the economic and financial appraisals, forming the benchmark for final conclusions regarding the preferred option. The preferred option must, regardless of whether it is preferred on a financial and economic basis, be capable of meeting the outcomes sought.

**The assessment above demonstrates that Option 6 - Stage 1 meets the four key objectives, while the Base Case does not.** The Entertainment Precinct will replace the existing Cairns Civic Theatre which is an inferior facility, unable to attract or support large-scale stage shows and cultural displays. It is widely acknowledged to no longer meet the needs of the city.

The Precinct will provide facilities for the performing arts industry, and the region's families and communities, which have not been previously available. These facilities will not only harness significant social and educational benefits, but provide a unique attraction for the Cairns and Far North Queensland region, fostering the region's cultural value and local identity.

The Public Plaza and White's Shed will form a central meeting place for community interaction. Such community meeting places are acknowledged by policy makers as crucial to enhance urban structures and liveability of cities. They can also provide a sense of enjoyment, resulting in improved individual and community well-being.

It is envisaged that the Entertainment Precinct will support the changing nature of the Cairns CBD by providing a catalyst for business growth, allowing local business to take advantage of long business hours available providing greater public amenity and safety, and by providing economic benefits to the city from business events and heightened tourism activity. The Precinct is therefore regarded by Council and the State as a priority catalyst project for the development of the Cairns CBD.

Together with sustaining employment during the construction phase and fostering regional growth during the operational phase, the Entertainment Precinct will encourage participation in the arts and cultural activities, thereby harnessing the associated non-market social benefits discussed above. These benefits include improved languages skills; more developed critical thinking ability and increased confidence to engage with the education system. Having a local population that is increasingly able to think critically and

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<sup>124</sup> See appendix A.

is more confident and culturally aware, will lead to a more productive workforce that can meet the challenges of a growing region like Cairns and Far North Queensland.

As stated by the Premier the Honourable Anna Bligh in 2010, *“if you live in regional Queensland, arts and culture has to be...just as important to liveability as schools and hospitals and roads. It doesn’t matter where you live, you should be able to access arts and culture. It’s important to who we are, and it shouldn’t be that you only ever see great shows or aspire to seeing a great orchestra if you travel out to bigger centres or capital cities... importantly, [the Entertainment Precinct also] provides the opportunity to provide a whole new destination for visitors from other parts of Queensland, Australia and the world.”*

### ***Overall finding***

**Having regard to the State and Local Governments’ goals and objectives sought for cultural progress in the Far North region, Option 6 - Stage 1 presents as the preferred project option.**

As stated in the PAF, ranking of the options for cultural projects should be based on the options’ ability to meet the key requirements and objectives of the policy makers. The non-quantifiable benefits, particularly the social and educational benefits, provide sufficient justification for Option 6 - Stage 1 in light of the key objectives sought. The Civic Theatre is widely acknowledged to no longer meet the needs of a growing city and tourist hub like Cairns.

# **8**

## ***Appendices***

## Appendix A Project Options considered as part of the Preliminary Evaluation

As a result of the iterative master-planning and concept development processes, Council identified seven project options which were subject to financial and economic appraisal for the Preliminary evaluation. Following the preliminary evaluation, these were shortlisted to two project options for analysis under the business case – Option 1 and Option 7. For consistency with Savills, Option 7 has been renamed to “Option 6 – Stage 1” for the Business Case.

Table A.1: Project options for the Cairns Entertainment Precinct

Project options	Description
Option 1 - Base Case (Civic Theatre)	The ongoing operation of the existing Cairns Theatre on the current site within the current management and operational structure for a period of 30 years. The base case does not involve any development, upgrade or refurbishment to the existing theatre.
Option 2 - Concept 1 (All Works)	<ul style="list-style-type: none"> <li>All works described in Concept Option 1 “Architectural Rainforest”</li> <li>No Staging</li> </ul>
Option 3 - Concept 1 (2 Stages)	<ul style="list-style-type: none"> <li>Stage 1 - Carpark, Performing Arts Centre, Public Domain, Restaurant, White’s Shed (including retail)</li> <li>Stage 2 – Museum</li> </ul>
Option 4 - Concept 1 (3 Stages)	<ul style="list-style-type: none"> <li>Stage 1 - Carpark, PAV (Ex. Performance Space 2 &amp; Rehearsal room), Public Domain, and White’s Shed (including retail).</li> <li>Stage 2 - Performance space 2 (Base build and fit-out), Rehearsal (Base build and fitout), Restaurant</li> <li>Stage 3 – Museum</li> </ul>
Option 5 - Concept 1 (Rationalised - 2 Stages)	<ul style="list-style-type: none"> <li>Stage 1 -Carpark (including turf/landscape to roof of carpark and PAV location), Whites shed, Museum, Public Domain (lower plaza only)</li> <li>Stage 2 - PAV + upper plaza + restaurant</li> </ul>
Option 6 - Concept 1 (Rationalised - 3 Stages)	<ul style="list-style-type: none"> <li>Stage 1 - Carpark, Whites shed, turf/landscape to future museum space, Public Domain, Performance Space 1</li> <li>Stage 2 - Performance space 2 (Base build and fit-out), Rehearsal (Base build and fit-out), Restaurant</li> <li>Stage 3 – Museum</li> </ul>
Option 6a - Concept 1 (Rationalised - 3 Stages with additional delay)	<ul style="list-style-type: none"> <li>Stage 1 - Carpark, Whites shed, turf/landscape to future museum space, Public Domain, Performance Space 1</li> <li>Stage 2 – Museum</li> <li>Stage 3 - Performance space 2 (Base build and fit-out), Rehearsal (Base build and fit-out), Restaurant</li> </ul>
Option 7 - Concept 1 (Rationalised - 1 Stage)	<ul style="list-style-type: none"> <li>Stage 1 - Carpark, Whites shed, turf/landscape to future museum space, Public Domain, Performance Space 1</li> <li>Stage 2 - Nil</li> <li>Stage 3 – Nil</li> </ul>

## Appendix B Summary of government plans, policies and strategies that are relevant to the Entertainment Precinct

Cairns Regional Council goals and key State Government initiatives and policy objectives have been drawn upon to develop the key objectives against which the project options are assessed.

Figure 1 contains a selection of the plans, policies, strategies and guidelines at all levels of government align with the key outcomes sought for the development of Cairns cultural facilities. Figure 2 illustrates Cairns Regional Council’s key goals for the Cultural Precinct.

Figure B.1: Summary of government plans, policies, strategies and guidelines

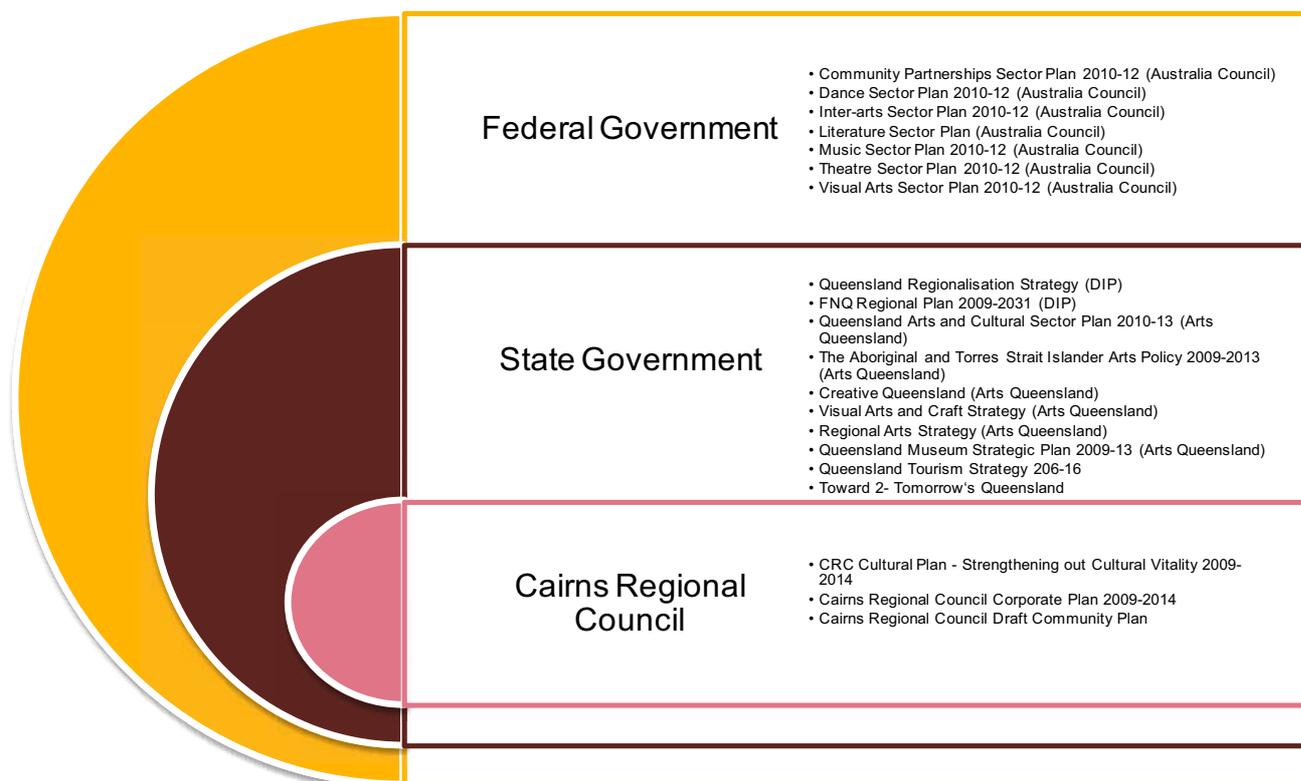
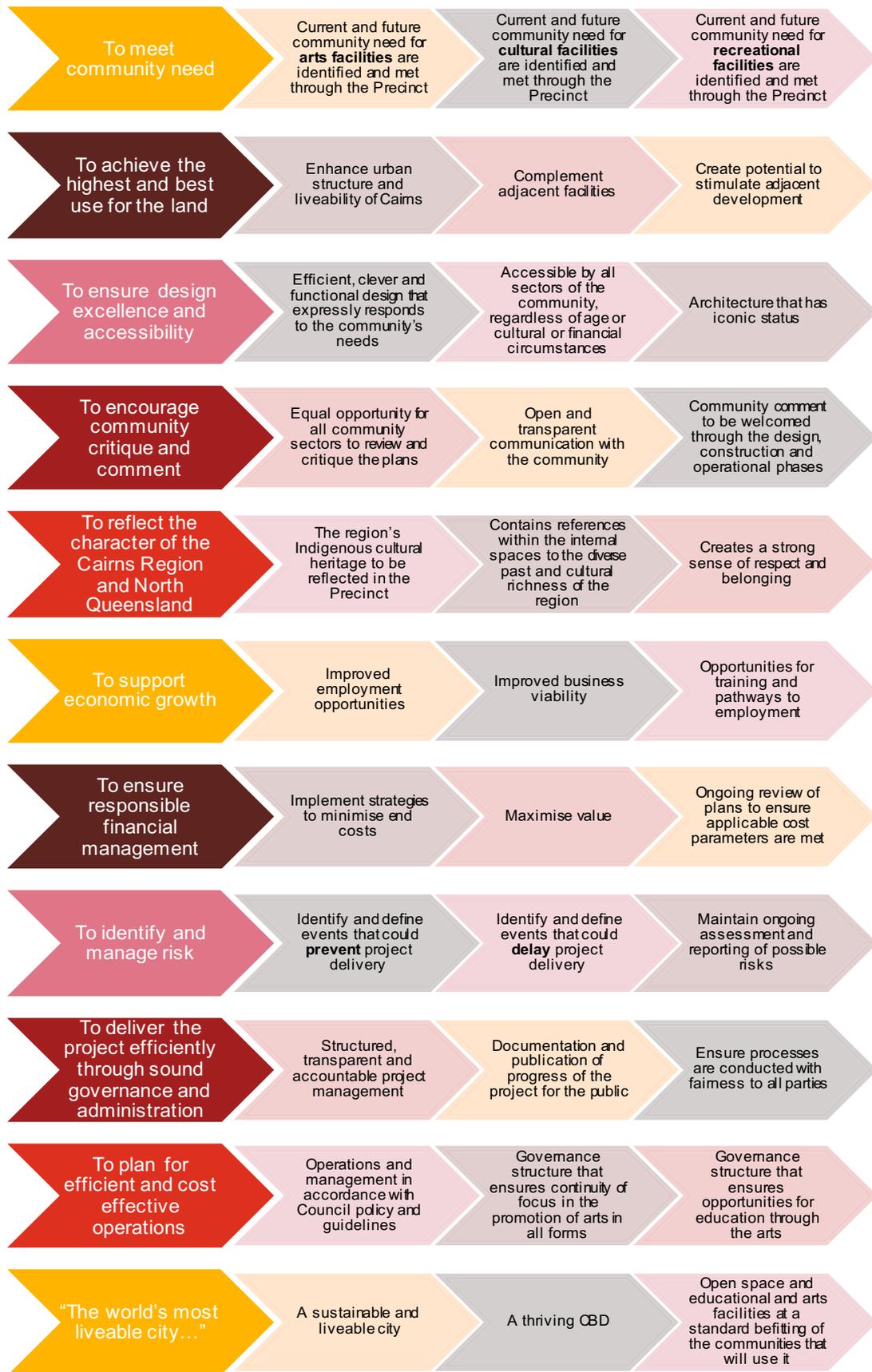


Figure B.2: Cairns Regional Council goals for the Entertainment Precinct



## Appendix C: C & B Group report- Developing the CEP Site

In 2004, consultants to Ports North, C & B Group, prepared a study detailing the heritage matters impacting on White's Shed, which in turn impact on the development (and hence the commercial value) of the site.<sup>125</sup> The C & B Group report states that the Cityport Masterplan recognises the heritage significance of White's Shed, and that given that significance, notes there are a number of factors that affect the development within this area of the Cityport.

That report discusses the opportunities and constraints that the redevelopment of the shed and the precinct. Being part of a heritage listed precinct, the report notes that future development within the Precinct is to be located between the Shed and Wharf Street, and is to be limited to two storeys and is to be set back 20m from the centre line of Wharf Street.

While the Masterplan identifies that White's Shed offers an opportunity to create significant public attractions such as a maritime museum or public gallery, it further specifies that the redevelopment of the building and any additional structure will require sensitive design given both the heritage status of the structure and the location of the site as the gateway into Cityport. It states that as the precinct also adjoins the working Seaport to the South, the use of the building should therefore not compromise the continued operation of the Port.

The report notes that the Cairns Port Authority Land Use Plan states the intent for the precinct, including the Shed, and that the "Shed should be retained and adapted into a commercially viable use. Through an appropriate redesign and reuse, this building offers an excellent opportunity to create a significant public attraction (subject to commercial viability). Uses that complement the heritage values of this building would be the most suitable, such as a regional use (e.g. Museum, public gallery, performance venue or a conference facility associated with the nearby Cairns Convention Centre) or commercial or tourist activities. Given this precinct adjoins seaport (to the South) residential activities are not envisaged."

The C & B Group then investigated the feasibility of re-using White's Shed for a regional Museum. There were a number of outcomes of this study, the most notable being that it was not financially feasible to reuse the structure for a Museum, with one of the factors being the structural integrity of the Shed. In addition, advice from SKM [reference unclear] indicated that the work necessary to restore structural integrity would be cost prohibitive in the context of a commercially viable future use option.

The C & B Group report went on to state that the Cairns Port Authority has a level of responsibility to maintain the Cairns Wharf complex. The report examined a number of development scenarios, but recognised that the retention and reuse of White Shed is the intended outcome for the precinct based on the Cityport Master plan. It noted that this option would involve:

- the repair and maintenance of the shed structure to achieve minimum structural engineering standards - approval from the Heritage Council will be required to undertake any works on the structure;
- detailed design of the proposed redevelopment of the shed and any alterations additions to the structure; and
- approval for the modifications to the shed as per the Queensland Heritage Act requirements.

In terms of undertaking these works and a potential end-user of the precinct, C&B cited two options:

- to release the site to the market seeking an Expression of Interest for the redevelopment of the site. This would need to include development options and financial offer for the site;
- or Cairns Port Authority undertake all works associated with the site/precinct.

The report states that "there are clearly a number of implications are associated with each of these options. Given the constraints to development within the precinct (e.g. heritage listing, site contamination, limited heights and GFA requirements) an offer from a third party is likely to come at a financial cost.

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<sup>125</sup> [White's Shed Heritage Matters Status Report](#), March 2004 (C&B Group) for Cairns Port Authority

However, there are also extensive financial (and other) implications if CPA undertake the site works. The latter option also requires further consideration of an end user/activity.”

The report states “Both options clearly have significant financial implications, particularly given the recommendations of the structural report that has been prepared on the shed.”

### Redevelopment

The report noted that, as with the reuse of the existing structure, there are a number of scenarios within this approach, although redevelopment relies on ability to remove/demolish the building will require heritage approval. In order to obtain this approval it would need to be demonstrated that there is no prudent or feasible alternative to development, a relatively “high” test which requires extensive background studies to support the view. There is also no guarantee that the approval will be granted.

Assuming the demolition/removal of the building is supported, significant planning needs to occur to guide future development within the precinct, giving consideration to the vision of the masterplan, the interface with seaport, the adjoining heritage precinct sector. In addition to the planning and approvals required under this scenario, there are a number of other potential implications, including the possible community criticism to the removal/destruction of the heritage and the development of this precinct contrary to the current seaport masterplan.

### Conclusions

The information obtained during the course of the financial/economic analysis indicates that there are limited commercial opportunities for the site. In particular, the site has minimal development appeal as:

- the site sits partly within a heritage precinct;
- the site is constrained by adjoining Ports uses and view corridors;
- development is subject to very constrained height and GFA limits;
- any development must complement the heritage listed precinct;
- the site is (commercially) burdened by the heritage-listed White’s Shed;
- the White’s Shed structure is commercially prohibitive to restore;
- residential development within this Precinct is not contemplated by the Ports Land Use Plan; and
- Ports North consultants advise that a commercial offer is “likely to come at a cost” (to Ports).

It is concluded that it is unlikely that the either Council, or another third-party, could develop the site in such a way as to achieve a commercial outcome, which limits the land value of the site. The use of the site for public purposes has largely focused on the development of cultural facilities which can incorporate the existing White’s Shed. Other public uses may include parks or green space. The options for public uses generally do not provide a commercial yield and do not support significant land values.

Given the limited uses to which the site can be put, and the likely difficulties in achieving a commercial return from these activities, it was concluded that the opportunity cost of the precinct land would be minimal. We understand that Council has been unable to obtain a copy of a recent land valuation to validate the potential value of the site.

## Appendix D Summary of assumptions

### Financial appraisal

Table C.1: Summary of assumptions for the financial appraisal

Assumption	Description
<b>Visitation forecasts</b>	Three separate visitation forecasts as a measure of the Precinct's utilisation. Refer to Section 4.0 for further information.
<b>Escalation rates</b>	<p>Separate escalation rates were forecast for:</p> <ul style="list-style-type: none"> <li>• Revenues</li> <li>• Renewal costs</li> <li>• Opex (excluding headcount-related opex)</li> <li>• Headcount-related opex</li> </ul> <p>Revenue and opex escalation rates were set at CPI as there was no evidence to suggest these would increase at a different rate. Renewals costs escalation rates were obtained from the Department of Public Works (Qld). Headcount escalation rates were set at the Queensland Government increase in wages under the latest Enterprise Bargaining Agreement.</p>
<b>Precinct funding contributions</b>	<p>Federal, State and Local government funding was assumed to follow the same profile as capital expenditure.</p> <p>Philanthropic contributions, sponsorship and membership assumptions for the Performing Arts Centre were provided by Creative Economy, and escalated by CPI over the forecast period.</p>
<b>Capital expenditure</b>	<p>Capital expenditure forecasts for each of the development options were prepared by WT Partnerships in the form of fully-costed Master Plan estimates. The estimates provided by WT already incorporated cost escalation, and as such were treated as nominal inputs into the model.</p> <p>The Master Plan costings were provided at a level of detail which easily allowed us to identify costs specifically associated with facilities. For costs to be shared across all facilities, apportionment occurred based on each facility's proportion of total floor space.</p> <p>We converted these estimates into a time-based capex forecast, using staging/timing assumptions provided by Savills and applying an S-curve algorithm.</p>
<b>Operating expenditure – Basement carpark</b>	<p>Indicative operating and management costs were provided by Savills in consultation with Secure Parking (NSW), and assume a 200-space carpark, unmanned and with back-to-base control room monitoring.</p> <p>All other costs were sourced from Rawlinsons estimates for a suburban shopping centre, and escalated over the forecast period at CPI.</p>
<b>Operating expenditure – Whites Shed</b>	<p>Operating costs associated with renting floor space were derived from the mid-points of estimates provided by two Knights Frank consultants and one CBRE consultant to Savills. These estimates were escalated by CPI over the forecast period.</p> <p>All other costs were sourced from Rawlinsons estimates for a suburban shopping centre, and escalated over the forecast period at CPI.</p>
<b>Operating expenditure – Performing Arts Centre</b>	<p>Operating costs associated with renting Community Hub floor space were derived from the mid-points of estimates provided by two Knights Frank consultants and one CBRE consultant to Savills. These estimates were escalated by CPI over the forecast period.</p> <p>Insurance, cleaning, security, repairs &amp; maintenance expense and management expense</p>

Assumption	Description
	<p>were sourced from Rawlinsons estimates for a suburban shopping centre, and escalated over the forecast period at CPI.</p> <p>All other cost estimates – including salary costs under both the award rate and current Council rates – were provided by Creative Economy. For Option 6a, operating costs were apportioned between performance space 1 and performance space 2 on the basis of seating numbers.</p>
<b>Operating expenditure – Public Plaza</b>	<p>Lift maintenance costs were provided by AECOM (in FY11 terms), and escalated at a rate of 3.5% at AECOM's estimate.</p> <p>Hard and soft landscaping cost estimates were provided by Design Landscapes, and calculated on a \$ per sqm per visit basis.</p> <p>All other costs were sourced from Rawlinsons estimates for a suburban shopping centre, and escalated over the forecast period at CPI.</p>
<b>Revenues – Basement carpark</b>	<p>Carpark entry fees were set at a level commensurate with other existing carparks within the Cairns CBD. Entries were set at 1.5 per day.</p>
<b>Revenues – Whites Shed</b>	<p>Rental revenue assumptions were derived from the mid-points of estimates provided by two Knights Frank consultants and one CBRE consultant to Savills. These estimates were escalated by CPI over the forecast period.</p>
<b>Revenues – Performing Arts Centre</b>	<p>All revenue assumptions have been provided by Creative Economy, and escalated over the forecast period at CPI.</p>
<b>Revenues – Public Plaza</b>	<p>N/A – the Public Plaza does not have any associated revenues.</p>
<b>Renewal costs</b>	<p>Renewal costs – the cost associated with maintaining facilities to a required service standard – have been forecast annually at 2.5% of the initial capital cost, equating a useful life of 40 years to the Precinct and representing a consensus view from the Department of Public Works (Qld) and WT Partnership. Renewal costs are escalated at a rate of 5.00% per annum, which is the annual increase recommended by the Department of Public Works (Qld).</p>
<b>Terminal values</b>	<p>It is reasonable to expect the Precinct continues to operate beyond 2041. The value associated with future cash flows beyond this point have been calculated within each facility's terminal value. The replacement cost of each facility has been used as a proxy, calculated as:</p> <p><i>Capital Cost – (Useful Life ÷ Years in Operation)</i></p>
<b>Civic Theatre operations</b>	<p>The cash revenues and expenses for the Civic Theatre were estimated by escalating the FY11 revised budget figures by CPI over the forecast period.</p> <p>Renewals expense each year was estimated at an annual cost of \$2,720 per sqm (FY11 \$), sourced from Rawlinsons cost estimate for a small theatre. This is escalating by CPI throughout the forecast period.</p> <p>Under each of the Entertainment Precinct development options the Civic Theatre is decommissioned on 1 January 2016 and sold for \$8 million, in line with assumptions previously provided by CRC to Queensland Treasury Corporation.</p>
<b>Project NPV</b>	<p>NPVs for the development options were developed using a discounted cash flow methodology and the time-based outputs of the capital expenditure, operating costs, revenues, renewal costs, proceeds from the sale of the Civic Theatre, and the project discount rate.</p> <p>The choice of discount rate is an important determinant of the value of public projects. Notwithstanding, there significant disagreement on the appropriate discount rate to use to</p>

Assumption	Description
	<p>calculate present value. Academics, cost-benefit guides and textbooks give widely conflicting advice. The Productivity Commission recently looked at this issue in detail as part of a research paper.<sup>126</sup></p> <p>As guidance, the Commonwealth Office of Best Practice Regulation uses 7 per cent real (with sensitivity testing at 3 and 11 per cent). Infrastructure Australia recommends cost-benefit studies submitted to it should use 'real risk free' discount rates of 4, 7 and 10 per cent. Previously, Queensland Treasury recommended a real discount rate of 6 per cent, but now requests that it be consulted over the appropriate rate (mainly to determine the appropriate risk premium).</p> <p>A nominal discount rate of 9.67% was used to assess each option. This was derived from a real discount rate of 7.00% and an inflation rate estimate of 2.50%, using the Fisher equation:</p> $(1 + \text{nominal rate}) = (1 + \text{real rate}) \times (1 + \text{inflation rate})$ <p>Related measures calculated by the model include the internal rate of return (IRR), which represents the discount rate required to generate an NPV equal to zero, and the project's payback period.</p>

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<sup>126</sup> Harrison, M. 2010, *Valuing the Future: the social discount rate in cost-benefit analysis*, Visiting Researcher Paper, Productivity Commission, Canberra.

## Appendix E Valuation of non market economic impacts

### *Key economic concepts to keep in mind*

#### *Valuing Non-Market Impacts*

Developing the cultural character of the Cairns area would have both market and non-market impacts. Arts/cultural activities or facilities may provide value to, for example, those who visit galleries and attend performances, together with those who do not visit a facility or activity, but gain some value from its existence. In fact, cultural activities and facilities may be valued for a variety of intangible benefits that do not require a person to actually visit or participate in them. People may gain benefit from, for example, the option to participate in a cultural activity or the chance to bequeath cultural assets, as part of a shared cultural legacy (i.e. intergenerational value).

Such non-market impacts should undergo some form of valuation for inclusion in an economic appraisal of this nature. Where market values are not available for an identified cost or benefit, there are a number of approaches to attributing a value, the most common of which is utilising “Willingness to Pay” (WTP) and “Willingness to Accept” (WTA) metrics.<sup>127</sup>

The value a consumer places on an increment of a particular service is reflected in the consumer’s willingness to pay for that service or willingness to accept compensation for its loss. The amount of the WTP or WTA depends to a large extent on the levels of income available to the consumers of the goods or services.

Techniques to establish monetary values to non-market impacts generally involve inference of a price. This may be achieved via a revealed preference approach, which involves inferring an implicit price revealed indirectly by examining consumers’ behaviour in a similar or related market; or a stated preference approach, which involves obtaining estimates of WTP through conducting surveys and interviews.

#### *Total Use Value*

Total economic value of a good or service can be defined by the amount of money an individual is willing to pay for that good or service (WTP) or the amount of money an individual is willing to accept (WTA) as compensation for forgoing the good or service.

Many goods and services are exchanged on a market, which automatically reveals an appropriate value. For example, in the entertainment precinct, the price of entry to a performing arts event could be used to represent the market value of each of these services. These market prices, however, are capable of revealing only the ‘use-value’ of the total economic value, which people derive from direct use of the good or service. In the case of arts and cultural heritage, the ‘use-value’ of these services is commonly related to social benefits (personal enjoyment and pleasure) or educational benefits (learning new things).

The other component of total economic value is the ‘non-use’ component. This refers to the value that people derive from goods and services independent of any use (present or future). Non-use value includes option value, existence value and bequest value.

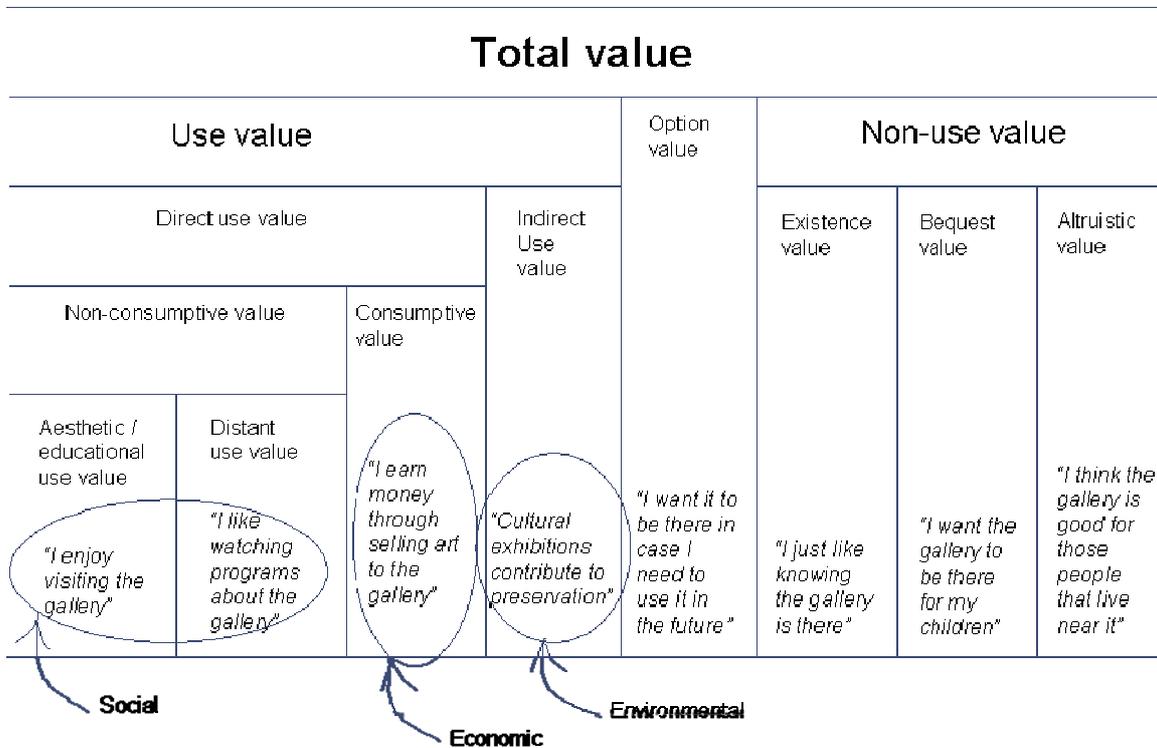
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<sup>127</sup> The UK “Green Book” – Overview of CBA; The Green Book also refers to a “Willingness to Accept” (WTA); B. Frey, ‘The evaluation of cultural heritage: Some critical issues’, in M. Hunter and I. Rizzo (eds), *Economic Perspectives on Cultural Heritage*, St Martin’s Press, New York, pp. 31-49.

- **Option value** is the value that a non-user places on having the option to use a particular good or service. For example, there will be people that will not directly use the services of the entertainment precinct (non-users) but would place a value on having the option to use the services in the future.
- **Existence value** reflects the benefits from simply knowing that a certain good or service exists. For example, the value that people would place on knowing that cultural heritage has been protected with the construction of the entertainment precinct or knowing that a cultural site still exists even though it may never be visited.
- **Bequest value** refers to benefits from ensuring that certain goods will be preserved for future generations. For example, museums are considered an important legacy to future generations and people place an additional value on ensuring that they are available for future generations.

There are other benefits that may accrue to non-users including the benefits of social cohesion that may result from promotion of a cultural activity.

Figure D.1: Total economic value of cultural infrastructure



## Appendix F Key sources used for assessment of social benefits

Table E.1: Summary of key studies chosen for detailed consideration

Publication	Description	Relevance according to criteria
Matarasso, F., 1997. <i>Use or Ornament? The Social impact of participation in the arts</i> , Comedia, Stroud.	<p><i>Use or Ornament?</i> addresses the social impact of participation in the arts. Case study research was undertaken in the UK and USA. A series of working papers on various aspects of social impacts of the art, including research in Australia was also published. The methodology included questionnaires, interviews, formal and informal discussion groups, participant observation and other survey techniques, as well as desk research.</p> <p>The research divided the social impact of participation in the arts into six different themes, relating to people as individuals or community change.</p>	<p>Matarasso's study has played an important role in establishing a belief of the social benefits from participation in the arts. The study was carried out across a range of countries and types of arts and cultural activities. One of the projects studied was in Australia. Although this paper was published in 1997, it is still considered very influential and cited in many more recent studies.</p> <p>The Cairns Cultural Precinct will encourage participation in arts and cultural activities and therefore this study can provide an indication of the various social benefits expected.</p>
Tranter, D., 2009, <i>Valuing the Queensland Museum: A Contingent Valuation Study</i> , Queensland Government.	<p>In 2008, the Queensland Museum (QM) commissioned a Contingent Valuation Study to determine the public value of the Queensland Museum (four campuses).</p> <p>Their findings incorporated a WTP estimate for existing services and a WTP for new developments (expansions to existing museums).</p> <p>The CVM also investigated a range of non-market values important to both users and non-users of the Queensland Museum.</p>	<p>The museum in the Cairns Cultural Precinct is proposed to be QM campus. Therefore, the results from this survey apply directly to this economic assessment.</p> <p>An independent economic advisor (Professor Throsby) led the project with the assistance of an independent consultancy firm that undertook the web-based study. The study conformed to best practice models and can be considered robust.</p> <p>The study was published in 2009.</p>
Australian Council of the Arts, 2010. <i>More than bums on seats: Australian participation in the arts</i> , Australian Council for the Arts, Sydney.	<p>The Australia Council aims to generate research that creates value for the arts sector, which adds new knowledge to the field, and provides insight and direction for policy, practice and innovation.</p> <p>This research provides a comprehensive picture of the way Australians are involved in the arts and helps us to understand audience attitudes and values and the ways these impact on participation and attendance.</p>	<p>This is a very recent study, published in 2010. It can be considered robust. The Australia Council Study defines 'arts' more broadly than the services offered in the cultural precinct (i.e. 'The arts include visiting art galleries, circus, street arts, painting, crafts, as well as reading books and creative writing. Involvement may even have been through the internet.')</p>

Publication	Description	Relevance according to criteria
Australian Government, Productivity Commission, 2006. <i>Conservation of Australia's Historic Heritage Places- Productivity Commission Inquiry Report No 37</i> , Canberra.	The Productivity Commission published an inquiry report on the conservation of Australia's historic heritage places in 2006. It examined a number of issues surrounding the conservation of heritage places, including measuring their benefits and value.	This recent publication directly relates to places of historic importance in Australia. Given that the Whites Shed is heritage protected; this study directly applies to the development of the Cairns Cultural Precinct. The choice modelling of historic heritage places (to determine a WTP), referred to in this document was carried out by the Allen Consulting Group (an independent body) using a clear methodology and large sample size.

TableE.2: Summary of findings from other investigations

	Users / Participation Type	Methodology to quantify incremental number of 'Users'	Key social benefits from other investigations				
			Increased social cohesion	Increased local image and identify	Increased appreciation of arts and culture	Increased health and well-being'	Increased education and skills
Arts and Cultural Users	<b>Creative participation</b> (Professional artists / performers)	Estimates of the number of new performances	Qualitative Review Only	N/A	N/A	Qualitative Review Only	TBA
	<b>Creative participation</b> (non-professional including school children and adults)	Estimate of creative participation	91% of adult participants made new friends (Matarasso) 56% learnt about other people's cultures (Matarasso) 53% become keen to help in local projects (Matarasso)	27% felt differently about the place where they lived after being involved. (Matarasso)	87% became interested in something new. 85% said they would like to be involved in more art and cultural activities (Matarasso)	80% became more confident 77% were happier since being involved 60% were encourage to try something new as a result (i.e increased self-esteem) 48% felt better or healthier (Matarasso)	TBA
	<b>Receptive participation - Museum</b>	Estimate of attendees	48%- 62% shared some of their knowledge gained with	34% - 57% experienced 'connection with the	62% - 71% gained an appreciation of historic events	62% - 73% experienced pleasure and enjoyment	TBA

	Users / Participation Type	Methodology to quantify incremental number of 'Users'	Key social benefits from other investigations				
			Increased social cohesion	Increased local image and identify	Increased appreciation of arts and culture	Increased health and well-being.	Increased education and skills
Recreational Users	(Consumers)		other people (Queensland Museum)	stories of other people's lives and achievements' (Queensland Museum)	(Queensland Museum) 45% and 65% got curious about finding out more about some things'  15% and 40% experienced 'real beauty' (Queensland Museum)	(Queensland Museum) 7% and 13% 'very much' inspired them to make something of themselves (Queensland Museum)	
	<b>Receptive participation – performing arts</b> (Consumers)	Estimate of the incremental number of attendees	83% agree that going to the arts is a great way of spending time with friends (Aust. Council Study)  53% agree that the arts helps them feel part of their local community (Aust. Council Study)	71% agree that the arts helps us express and define what it means to be Australian (Aust. Council Study)	86% agree that the arts help us to understand others whose lives are different from our own (Aust. Council Study)	67% agree that the arts contributes to health and well-being (Aust. Council Study)	TBA
	Those that will visit the precinct for recreational use (not necessarily involvement in art or culture)	Estimated number of visitors	Qualitative Review Only	Qualitative Review Only	N/A	Qualitative Review Only	



## Appendix G Incremental Discounted Cash Flow by Option

The following tables provide a summary of the quantifiable elements of the cost benefit analysis for Option 6 – Stage 1. The format is in line with that provided in the *Project Assurance Framework: Cost Benefit Analysis* guidelines.

All results presented in the table are

- Incremental to the Base Case;
- Nominal values.

A table is provided for each of the low, medium and high discount rates. Each table is labelled accordingly.

As stated in the report, when assessing the economic viability of each of the project option, figures in these tables must be read in line with the qualitative assessment of the non-quantifiable social and environmental benefits that will likely accrue as a result of a cultural infrastructure project like the Cairns Entertainment Precinct.

## Option 6 Stage 1 – Medium Discount Rate

All figures are incremental to the base case

All values are nominal.

### PAF Summary

Year Ended	Actual	Budget	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
	30-Jun-11	30-Jun-12	30-Jun-13	30-Jun-14	30-Jun-15	30-Jun-16	30-Jun-17	30-Jun-18	30-Jun-19	30-Jun-20	30-Jun-21	30-Jun-31	30-Jun-41
<b>Costs</b>													
<b>Capital costs</b>													
Plant and equipment	\$'000s	13,838	33,405	16,840	10,491	-	-	-	-	-	-	-	-
Buildings	\$'000s	9,982	24,097	12,148	7,568	-	-	-	-	-	-	-	-
Land	\$'000s	9,982	24,097	12,148	7,568	-	-	-	-	-	-	-	-
Total capital costs	\$'000s	33,802	81,600	41,136	25,628	-	-	-	-	-	-	-	-
<b>Operating costs</b>													
Employee expenses	\$'000s	-	-	-	402	1,540	1,495	1,444	1,394	1,346	1,300	915	645
Supplies and services	\$'000s	-	-	-	231	866	821	779	739	700	664	391	230
Other costs	\$'000s	-	-	-	411	1,788	1,696	1,609	1,526	1,447	1,373	810	478
Industry termination costs	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Total operating costs	\$'000s	-	-	-	1,045	4,194	4,013	3,831	3,658	3,494	3,337	2,116	1,352
<b>Benefits</b>													
<b>Benefits</b>													
User charges	\$'000s	-	-	-	262	1,036	980	929	880	835	790	461	270
Other revenues	\$'000s	-	-	-	202	1,667	1,585	1,507	1,434	1,365	1,298	792	487
Asset sales	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Grants and subsidies	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Value Added	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Total benefits	\$'000s	-	-	-	464	2,704	2,565	2,436	2,314	2,200	2,088	1,253	757
<b>Summary</b>													
Total Costs	\$'000s	33,802	81,600	41,136	26,673	4,194	4,013	3,831	3,658	3,494	3,337	2,116	1,352
Total Benefits	\$'000s	-	-	-	464	2,704	2,565	2,436	2,314	2,200	2,088	1,253	757
Benefits Minus Cost	\$'000s	(33,802)	(81,600)	(41,136)	(26,208)	(1,491)	(1,448)	(1,395)	(1,345)	(1,293)	(1,249)	(862)	(595)
NPEV	\$'000s	(208,278)	<i>NPEV</i>										
Benefit / Cost Ratio	#	0.16	<i>BCR</i>										

## Option 6 Stage 1 – Low Discount Rate

All figures are incremental to the base case

All values are nominal.

**PAF Summary**

	Year Ended	Actual	Budget	Forecast										
		30-Jun-11	30-Jun-12	30-Jun-13	30-Jun-14	30-Jun-15	30-Jun-16	30-Jun-17	30-Jun-18	30-Jun-19	30-Jun-20	30-Jun-21	30-Jun-31	30-Jun-41
<b>Costs</b>														
<b>Capital costs</b>														
Plant and equipment	\$'000s		13,949	34,221	17,531	11,099	-	-	-	-	-	-	-	
Buildings	\$'000s	<i>Renewals Capex included in here</i>	10,063	24,686	12,647	8,007	-	-	-	-	-	-	-	
Land	\$'000s		10,063	24,686	12,647	8,007	-	-	-	-	-	-	-	
Total capital costs	\$'000s		34,075	83,593	42,825	27,112	-	-	-	-	-	-	-	
<b>Operating costs</b>														
Employee expenses	\$'000s		-	-	-	451	1,755	1,732	1,699	1,667	1,636	1,605	1,328	1,098
Supplies and services	\$'000s		-	-	-	259	988	952	918	884	852	821	567	392
Other costs	\$'000s		-	-	-	464	2,062	1,987	1,916	1,847	1,780	1,716	1,189	825
Industry termination costs	\$'000s		-	-	-	-	-	-	-	-	-	-	-	-
Total operating costs	\$'000s		-	-	-	1,174	4,805	4,671	4,532	4,398	4,268	4,142	3,084	2,315
<b>Benefits</b>														
<b>Benefits</b>														
User charges	\$'000s		-	-	-	294	1,181	1,135	1,093	1,052	1,015	976	669	460
Other revenues	\$'000s		-	-	-	227	1,900	1,835	1,774	1,715	1,659	1,603	1,149	830
Asset sales	\$'000s		-	-	-	-	-	-	-	-	-	-	-	-
Grants and subsidies	\$'000s		-	-	-	-	-	-	-	-	-	-	-	-
Value Added	\$'000s		-	-	-	-	-	-	-	-	-	-	-	-
Total benefits	\$'000s		-	-	-	521	3,081	2,970	2,867	2,767	2,674	2,578	1,818	1,290
<b>Summary</b>														
Total Costs	\$'000s		34,075	83,593	42,825	28,286	4,805	4,671	4,532	4,398	4,268	4,142	3,084	2,315
Total Benefits	\$'000s		-	-	-	521	3,081	2,970	2,867	2,767	2,674	2,578	1,818	1,290
Benefits Minus Cost	\$'000s		(34,075)	(83,593)	(42,825)	(27,766)	(1,724)	(1,701)	(1,666)	(1,631)	(1,594)	(1,564)	(1,266)	(1,025)
NPEV	\$'000s	(223,363)												
Benefit / Cost Ratio	#	0.19												

## Option 6 Stage 1 – High Discount Rate

All figures are incremental to the base case

All values are nominal.

### PAF Summary

Year Ended	Actual	Budget	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
	30-Jun-11	30-Jun-12	30-Jun-13	30-Jun-14	30-Jun-15	30-Jun-16	30-Jun-17	30-Jun-18	30-Jun-19	30-Jun-20	30-Jun-21	30-Jun-31	30-Jun-41
<b>Costs</b>													
<b>Capital costs</b>													
Plant and equipment	\$'000s	13,674	32,236	15,870	9,655	-	-	-	-	-	-	-	-
Buildings	\$'000s	9,864	23,254	11,448	6,965	-	-	-	-	-	-	-	-
Land	\$'000s	9,864	23,254	11,448	6,965	-	-	-	-	-	-	-	-
Total capital costs	\$'000s	33,403	78,745	38,766	23,585	-	-	-	-	-	-	-	-
<b>Operating costs</b>													
Employee expenses	\$'000s	-	-	-	406	1,518	1,439	1,357	1,279	1,206	1,137	632	351
Supplies and services	\$'000s	-	-	-	233	855	792	733	679	629	582	270	125
Other costs	\$'000s	-	-	-	418	1,796	1,664	1,541	1,428	1,322	1,225	570	266
Industry termination costs	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Total operating costs	\$'000s	-	-	-	1,058	4,169	3,895	3,631	3,386	3,158	2,945	1,472	742
<b>Benefits</b>													
<b>Benefits</b>													
User charges	\$'000s	-	-	-	265	1,021	943	873	807	749	691	319	147
Other revenues	\$'000s	-	-	-	204	1,643	1,525	1,417	1,316	1,224	1,136	547	265
Asset sales	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Grants and subsidies	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Value Added	\$'000s	-	-	-	-	-	-	-	-	-	-	-	-
Total benefits	\$'000s	-	-	-	469	2,665	2,468	2,290	2,124	1,972	1,827	865	412
<b>Summary</b>													
Total Costs	\$'000s	33,403	78,745	38,766	24,643	4,169	3,895	3,631	3,386	3,158	2,945	1,472	742
Total Benefits	\$'000s	-	-	-	469	2,665	2,468	2,290	2,124	1,972	1,827	865	412
Benefits Minus Cost	\$'000s	(33,403)	(78,745)	(38,766)	(24,174)	(1,504)	(1,426)	(1,342)	(1,262)	(1,185)	(1,117)	(607)	(330)
NPEV	\$'000s	(195,434)	<i>NPEV</i>										
Benefit / Cost Ratio	#	0.14	<i>BCR</i>										

## Appendix H Project Risk Register Mapped To Sensitivity Analysis

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
<b>DEMAND, NEED, OBJECTIVES &amp; SCOPE</b>						
1	Stakeholder Needs - not adequately understood, defined and documented	MODERATE	MODERATE	MEDIUM	Needs to be defined in business case	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
2	Project Objectives - don't achieve CRC stakeholder needs or are inconsistent with demand and market analysis	UNLIKELY	MODERATE	MEDIUM	Project objectives to be tied to Business Case, demand and market analysis to be completed	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
3	Project not accepted by the community, having a detrimental effect on usage	UNLIKELY	MODERATE	MEDIUM	Community consultation to be included in programme. Regular briefing of the community	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
4	Project Objectives - inconsistent with CRC wider aims, objectives, mission statement and values	UNLIKELY	MINOR	LOW	Project objectives to be tied to wider CRC aims and objectives in the Business Case	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
5	Project Objectives and Critical Success Factors (CSF) not achieved	UNLIKELY	MAJOR	HIGH	Objectives to be defined & CSF's to be detailed.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
6	Concept options don't align with the project objectives	UNLIKELY	MODERATE	MEDIUM	Concept options to be considered and tested against objectives	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
7	Business Case - realisation of full benefits doesn't occur	UNLIKELY	MAJOR	HIGH	Business case to be prepared, and benefits assessed during the PAF process	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

<sup>128</sup> Refer to Section 4.3 for a description of each test performed

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
8	Scope unclear and scope creep occurs	UNLIKELY	MODERATE	MEDIUM	A Functional Design Brief to be prepared and signed-off. Conduct regular reviews of project documentation to ensure consistency with control briefs. Implement Scope Management controls to avoid creep. To be managed during design development	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
9	Commercial / retail demand inadequate to satisfy the revenue streams required	UNLIKELY	MODERATE	MEDIUM	Retail requirements to be established by specialist consultant. Moderate level only to be included	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>COMMERCIAL &amp; LEGAL</b>						
10	Conditions of funding approval unacceptable	UNLIKELY	MODERATE	MEDIUM	Contracts and agreements to reflect conditions of funding approval. Implementation of appropriate management, review and reporting regime. Negotiate as required	<b>Test 5</b>
11	Construction Contact terms and conditions don't address the allocation of risks required by State / CRC	UNLIKELY	MODERATE	MEDIUM	Construction contract to be prepared and negotiated (if required) by appropriately experienced and qualified consultant and subject to independent review	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
12	Contractual and insurance claims	UNLIKELY	MODERATE	MEDIUM	Appoint appropriately qualified consultant to administer contracts and prepare / implement contract administration plan	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
13	Agreements with Ports North not satisfactory and not able to resolve	UNLIKELY	CATASTROPHIC	HIGH	Current ly in negotiation with Ports, who appear reasonably comfortable with the direction heading	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
14	Relationship with builder and other contracting parties becomes contractual	UNLIKELY	MODERATE	MEDIUM	Prepare and implement Communications Plan. Adopt consultative and non-adversarial approach in dealings with all contracted parties	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>ECONOMIC &amp; FINANCIAL RISK</b>						
15	CRC funding not available				CRC have confirmed the commitment of \$57.3m to the project at a council committee meeting on 21.09.11	<i>N/A - risk is considered to no longer be borne by Council</i>
16	QLD funding commitment withdrawn				Duplicate of No 17	<b>Test 1</b>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
17	Complete State funding not provided	MODERATE	CATASTROPHIC	EXTREME	Commence early dialogue with current state govt and potential new government to secure the additional required funding. Subject to PAF and CBRC approval. Staging plan being developed to mitigate risk of future funding	Test 1
18	Federal funding committed not spent by June 2012, and subsequently lapses	MODERATE	CATASTROPHIC	EXTREME	Programme to be developed that achieves required expenditure. Clarify requirements of the funding agreement to all the team. Met with Federal government	Test 2
19	Additional Federal funding not provided in time for initial stage of project				No additional funding is required for Stage 1 of the project	<i>N/A - risk is considered to no longer be borne by Council</i>
20	CBRC reviews cause delays to the project	MODERATE	MAJOR	HIGH	Maintain regular dialogue with Qld Treasury and provide drafts for review during the development of the PAF documents	Test 10, 11
21	Financial sustainability targets (	MODERATE	MODERATE	MEDIUM	The Business Case to nominate acceptable targets and proposed implementation of accounting and reporting methodology to review actual against budget targets / forecast (Implementation Plan)	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
22	Financial weakness and difficulties of contracting parties (contractor, sub-contractors or suppliers)	UNLIKELY	MAJOR	HIGH	Conduct two stage procurement process and undertake suitable level of company due-diligence to minimise risk	Test 10, 11
23	Cost of hiring becomes prohibitive for smaller community groups to use the venue	UNLIKELY	MODERATE	MEDIUM	Conduct reviews and benchmarking to establish level of hire charge / bump in cost that is sustainable. Early input from venue manager required to establish realistic hire rates	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
24	Cost of maintenance becomes excessive	UNLIKELY	MODERATE	HIGH	Value engineering workshops required to ensure that the maintenance cost is appropriate for a council community facility. Pragmatic approach to design required	Test 4
25	Fluctuation in venue hire during operation phase	MODERATE	MODERATE	MEDIUM	Regular consultation with user groups / touring groups . Venue Manager to be appointed early	<i>N/A – Deemed to have an immaterial impact on NPV</i>
26	Fluctuations in inflation, interest rates, foreign exchange, taxation or duties	UNLIKELY	MINOR	LOW	Monitor and transfer risk (where possible) to other contracting party. Sensitivity analysis to be included as part of the Business case	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
26.1	If Business Case doesn't reach a satisfactory level, unlikely funding would be available	UNLIKELY	CATASTROPHIC	HIGH	obtain understanding of the satisfactory level for funding. Apply adequate rigour to the process to ensure figures are accurate	Test 5
26.2	Whole of life costs are excessive and significantly exceed revenue beyond what is affordable	MODERATE	MODERATE	MEDIUM	Ensure a staging plan is developed to allow the scheme to be developed to suit what CRC can afford to operate	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>PROCUREMENT AND DELIVERY</b>						
27	Required levels of skill, management, leadership, capacity and capability (in-house and externally) to procure and deliver the project inadequate	UNLIKELY	MAJOR	HIGH	Prepare and implement a Resource Plan for the project	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
28	Management controls, levels of authority, approval processes and responsibilities unclear	RARE	MINOR	LOW	Prepare a Project Execution Plan (PEP) detailing management controls, levels of authority, approval processes and responsibilities	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
29	Project team capacity and capability inadequate	UNLIKELY	MAJOR	HIGH	Undertake review of project team capacity and capability	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
30	Project planning and consideration of all delivery aspects of the project not adequate	MODERATE	MODERATE	MEDIUM	Prepare a Project Execution Plan	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
31	Conflict of interest - service delivery	UNLIKELY	MODERATE	MEDIUM	Prepare a Project Execution Plan and Probity Plan with clear delineation of roles and responsibilities	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
32	Procurement methodology doesn't address the allocation of risk in the RMP	UNLIKELY	MODERATE	MEDIUM	A procurement methodology options paper to be provided in conjunction with risk paper. Workshops with CRC required and State	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
33	Project risks not managed	UNLIKELY	MAJOR	HIGH	A RMP and RMR have been prepared and implemented. Consultants to be engaged to manage across the life of the project	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
34	Lost opportunity - lessons learnt for future projects not documented	UNLIKELY	MINOR	LOW	Conduct post implementation review	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>AUTHORITY, COMPLIANCE AND APPROVALS</b>						
35	Statutory approvals - DIP, Utilities, etc, causes timing / cost issues	LIKELY	MAJOR	HIGH	Determine required approvals. Implement lodgement, negotiation, review and compliance management process.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
36	Utilities in the vicinity are inadequate to support the size of development	MODERATE	MODERATE	MEDIUM	Early assessment of requirements and discussion with providers	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
37	Approval from Ports North is delayed or conditions are unacceptable to support the development	MODERATE	CATASTROPHIC	EXTREME	Commence early discussions with Ports North planning consultant, and update during DA design development. Draft conditions to be sought. Discussions commenced with Ports and their approval consultant RPS	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
38	Adequate services currently but long term issues identified with services supply	UNLIKELY	MODERATE	MEDIUM	Early assessment of requirements and discussion with providers	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
39	Heritage approvals delay the project	MODERATE	MODERATE	MEDIUM	Early discussions with heritage Council. Heritage consultant to input into concept schemes	<b>Test 10, 11</b>
40	Delays in obtaining external authority approval (such as QFRS))	LIKELY	MODERATE	HIGH	Process timely and complete application for approval. Commence early discussions with QFRS	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
41	Complications with securing an Occupation Certificate	MODERATE	MODERATE	MEDIUM	Identify and manage implementation of OC process	<i>N/A – Deemed to have an immaterial impact on NPV</i>
<b>DESIGN AND DOCUMENTATION</b>						
42	Architect inadequately experienced to complete the design				Cox Appointed following lengthy selection process	<i>N/A - risk is considered to no longer be borne by Council</i>
43	Architect's design is inappropriate in its context locally				Local architect engaged by the selected team to provide local input	<i>N/A - risk is considered to no longer be borne by Council</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
44	Architectural design does not satisfy the functional requirements of the building	UNLIKELY	MAJOR	HIGH	EOI and tender process structured to ensure an appropriate / experienced architect is selected. Regular reviews at hold points by user group stakeholder team	Test 6
45	Architectural team is inadequately resourced to complete the project in the timeframe required	UNLIKELY	MODERATE	MEDIUM	EOI and tender process structured to ensure an appropriate / experienced architect is selected, that has adequate resources	Test 10, 11
46	The local Cairns based architect has an insufficient input into the design process	MODERATE	MODERATE	MEDIUM	Discussion required in post tender negotiations to understand input from the local architect	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
47	Disillusioned local architects generate adverse publicity for the project	MODERATE	MINOR	MEDIUM	Communication / feedback process to be implemented to maintain professional review of schemes	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
48	Architect insolvency	RARE	CATASTROPHIC	HIGH	Financial checks to be conducted and reviewed as required. DWG files requested of all plans	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
49	Architectural design is impractical to build	UNLIKELY	MODERATE	MEDIUM	Buildability reviews to be implemented. Consideration to a builder peer review. Possible builder input into design finalisation by way of Managing Contractor / GMP process	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
50	The concept designs do not provide value for money	MODERATE	MODERATE	MEDIUM	Value engineering sessions to be conducted at pre-determined gateways	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
51	Concept schemes provided for the PAF are unable to be constructed due to inadequate service provision	UNLIKELY	MODERATE	MEDIUM	Specialist advisers to be appointed to oversee development of the design for CRC, and to provide a concept design report confirming adequacy	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
52	Complete, consistent, workable and fully co-ordinated designs are not provided	MODERATE	MAJOR	HIGH	QA process to be included from main architect. Review previous projects of tendering architects	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
53	Whole of life costs are excessive	UNLIKELY	MODERATE	MEDIUM	Value engineering workshops required to ensure that the whole of life cost is appropriate for a council community facility. Pragmatic approach to design required. PAF to include sensitivity analysis	Test 7

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
54	Design of the building causes operational / maintenance cost / OH&S issues	UNLIKELY	MAJOR	HIGH	Regular reviews of scheme as it develops with theatre consultants, experienced consultants and Council staff	Test 7
55	Numerous design variations occur due to lack of co-ordination	UNLIKELY	MODERATE	MEDIUM	Contract to be structured to manage the risk of co-ordination issues. 3D modelling software to be implemented, including clash detection systems	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
56	Design proposals not acceptable to key stakeholders including the community	UNLIKELY	MODERATE	MEDIUM	Regular sessions for community / user consultation	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
57	Building services are inadequately designed resulting in cost / co-ordination issues	MODERATE	MODERATE	MEDIUM	Suitably experienced consultants to be appointed	Test 7
58	Accessibility not fully considered in the design	UNLIKELY	MODERATE	MEDIUM	Accessibility consultant to be appointed and regular reviews to be held with Council staff	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
59	Sustainability not integral with the design	UNLIKELY	MINOR	LOW	Consultants to be engaged who are capable of incorporating sustainability into the design rather than having as a 'bolt on' feature	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
60	Heritage elements of the project not adequately designed	UNLIKELY	MODERATE	MEDIUM	Early discussions with heritage Council. Heritage consultant to input into concept schemes	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
61	Design not able to be completed in accordance with the programme	UNLIKELY	MODERATE	MEDIUM	Designers resources to be contemplated at tender stage	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
62	Sustainability targets not achieved	MODERATE	MINOR	MEDIUM	Ensure successful architect experienced in delivery of projects with inherent sustainability rather than 'add-on'	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
63	Compliance with BCA and Australian Standards is difficult to achieve	UNLIKELY	MODERATE	MEDIUM	BCA consultant experienced in theatre design in Australia to be engaged. Review with Council PCA team as required.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
64	Design proceeding for enabling works package prior to DA results in redesign & extra costs	LIKELY	MODERATE	HIGH	Regular review of programme to establish opportunity for delaying design as late as possible, and establish whether possible to amend programme.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
65	Design proceeding for DA prior to CBRC approval	LIKELY	MODERATE	MEDIUM	Regular review of programme to establish opportunity for delaying design as late as possible, and establish whether possible to amend programme.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
66	Consultants inadequately experienced or resourced	UNLIKELY	MAJOR	HIGH	EOI and tender process structured to ensure appropriate / experienced consultants are selected	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
67	Secondary consultants inadequately resourced				Now contained within 66 above	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
68	Consultant insolvency	RARE	MAJOR	HIGH	Financial checks to be conducted and reviewed as required	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
69	Conflict arising within teams where partnered with local Cairns suppliers	UNLIKELY	MODERATE	MEDIUM	Review team proposals. Monitor, possibly conduct 6 monthly team reviews as required	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
70	Design not adequate to meet the requirements of the indigenous community	UNLIKELY	MODERATE	MEDIUM	Regular sessions for community / user consultation and reviews as design progresses. Indigenous consultant to be retained	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
71	Design not adequate to meet the requirements of users / museum operators	UNLIKELY	MAJOR	HIGH	Regular sessions for museum consultation and reviews as design progresses	<i>N/A - risk is considered to no longer be borne by Council</i>
<b>CONSTRUCTION</b>						
72	Main Contractor capacity and capability inadequate	UNLIKELY	MAJOR	HIGH	Undertake comprehensive assessment of Contractor capacity and capability through two stage EOI and RFT procurement process	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
73	Latent conditions creating additional time / cost	UNLIKELY	MODERATE	MEDIUM	Conduct investigations, testing (as required) and prepare condition report prior to contract with the builder. Consider transfer of risk to builder	<b>Test 10, 11</b>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
74	Main Contractor not experienced in the delivery of performing arts centres	UNLIKELY	MAJOR	HIGH	Undertake comprehensive assessment of Contractor capacity and capability through two stage EOI and RFT procurement process, including an assessment of previous experience in similar venues	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
75	Industrial relations and union risk	UNLIKELY	MINOR	LOW	Consider transfer of this risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
76	OH&S - accidents or incidents on site	UNLIKELY	MINOR	LOW	Safety Management Plan to be prepared, approved and implemented as a pre-condition to commencement of site works. Consider transfer of this risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
77	Resource and materials shortage or limitations	UNLIKELY	MODERATE	MEDIUM	To be considered by the design team during design development	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
78	Quality of construction work	UNLIKELY	MODERATE	MEDIUM	Minimum standards to be established through design documentation and control samples. Regime of site / work inspections to be implemented	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
79	Compliance with design and approvals	UNLIKELY	MODERATE	MEDIUM	Regime of site / work inspections to be implemented	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
80	Buildability and sequencing of construction activities	UNLIKELY	MODERATE	MEDIUM	Consider transfer of this risk to the builder. Construction Methodology Statement and Construction Programme to be prepared as pre-condition to commencement of site works	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
81	Contractor and labour performance inadequate	UNLIKELY	MODERATE	MEDIUM	Conduct regular inspections to assess performance against pre-determined programme and quality parameters. Hold appropriate levels of security	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
82	Contractor and sub-contractor payments	UNLIKELY	MODERATE	MEDIUM	Administer as per the Security of Payments Act	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
83	Sub-contractor management and co-ordination is inadequate	UNLIKELY	MODERATE	MEDIUM	Consider transfer of this risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
84	Theft, vandalism or other criminal activity on site	UNLIKELY	MODERATE	MEDIUM	Consider transfer of this risk to the builder	<i>N/A – deemed to have an immaterial impact on NPV</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
85	Contractor, sub-contractor or supplier failure (administration, bankruptcy, etc)	UNLIKELY	MAJOR	HIGH	Conduct necessary company due-diligence as part of the 2 stage procurement process and hold appropriate levels of security	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
86	Communication - internal and external	UNLIKELY	MODERATE	MEDIUM	Prepare and implement a Project Communications Plan. Adopt an inclusive and non-adversarial approach	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
87	Delay	MODERATE	MODERATE	MEDIUM	Conduct daily inspections to assess progress against pre-determined programme parameters. Identify potential 'bottle necks', areas of potential delay and implement proactive approach to programme / works management. Hold appropriate levels of security	<b>Test 10, 11</b>
88	Site Security	UNLIKELY	MODERATE	MEDIUM	Consider transfer of this risk to the builder	<i>N/A – deemed to have an immaterial impact on NPV</i>
89	Inadequate Commissioning expertise	MODERATE	MAJOR	HIGH	Commissioning requirements to be documented. Commissioning plan and programme to be prepared and implemented	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
90	Completion and Handover	MODERATE	MAJOR	HIGH	Completion requirements to be documented. Completion plan and programme to be prepared and implemented	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
91	Defects	MODERATE	MODERATE	MEDIUM	Conduct progressive defects inspections with aim of zero defects at completion. Hold appropriate level of retention / security	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>PROGRAMME</b>						
92	Project programme is inadequate, forcing delays due to rework (Design and construction)	UNLIKELY	MODERATE	MEDIUM	Prepare Master Programme and conduct weekly reviews / updates. March 2016 likely to be the required completion date	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
93	Inadequate time / process for community engagement	UNLIKELY	MODERATE	MEDIUM	Include within programme, numerous opportunities for stakeholder consultation at key stages	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
94	Staging programme not achievable	MODERATE	MODERATE	MEDIUM	Establish options for staging in concept development that can be staged in a suitable manner	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
95	Approval by CBRC of PAF causes delays to project	MODERATE	CATASTROPHIC	EXTREME	Regular reviews with AQ, Treasury and CBRC	<b>Test 10, 11</b>
96	PAF programme affected by inadequate historical needs data				Historical needs data provided..If deemed inadequate do in parallel with PE	<i>N/A – risk is considered to be no longer borne by Council</i>
97	Construction programme inadequate	UNLIKELY	MODERATE	MEDIUM	Review with experienced contractors and specialist consultants as required	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
98	Design programme inadequate to achieve funding dates	MODERATE	MAJOR	HIGH	Prepare design programme, monitor and review on regular basis with COX	<b>Test 5</b>
99	Insufficient time allowed for commissioning	MODERATE	MAJOR	HIGH	Prepare commissioning programme, monitor and review	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
100	Performance of the contractor against the programme	MODERATE	MODERATE	MEDIUM	Conduct regular inspections to assess progress against pre-determined programme parameters. Identify potential 'bottle necks', areas of potential delay and implement proactive approach to programme / works management	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
101	Inclement weather (Minor)	UNLIKELY	MODERATE	MEDIUM	Request gross programmes from builder, who are experienced in large construction projects in FNQ	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
102	Inclement weather (Major / prolonged weather incident affects works on site)	LIKELY	MAJOR	HIGH	Request gross programmes from builder, who are experienced in large construction projects in FNQ	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
103	Long lead items	UNLIKELY	MODERATE	MEDIUM	Determine likely long lead items and implement appropriate procurement strategy to ensure timely delivery and installation	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
104	Staging requirements (if required) don't address the operation of the initial venue or construction of following areas				Staged scheme developed that addresses the subsequent construction phases	<i>N/A – risk is considered to be no longer borne by Council</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
105	Client changes affect the construction or design programmes	MODERATE	MODERATE	MEDIUM	Regular meetings with client / user groups during design development. Manage via a strict structure for design changes	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
106	Delays in internal approval of consultant appointments by CRC				Appropriate process in place for approval of consultant recommendations	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
107	CRC don't accept the commercial risk of proceeding with design prior to approvals being issued (Refer Ports approval process)				CRC has accepted the risk of proceeding with design prior to approvals being in place	<i>N/A – risk is considered to be no longer borne by Council</i>
<b>COST</b>						
108	Project budget is in excess of previous allowances	UNLIKELY	MODERATE	MEDIUM	Prepare and update project cost estimates at pre-determined gateways	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
109	Revised scheme does not represent value for money	UNLIKELY	MODERATE	MEDIUM	Value engineering sessions to be conducted in parallel with design reviews	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
110	Cost exceeds available funding	MODERATE	MAJOR	HIGH	Value management workshops to be held to realign project scope with funding / feasibility	<b>Test 9</b>
111	Cost escalation and fluctuating market conditions	MODERATE	MODERATE	MEDIUM	Include appropriate escalation provision in the project budget. Consider transfer of this risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
112	Contingency for the project is inadequate	MODERATE	MODERATE	MEDIUM	Apply values to RMP risks in order to calculate appropriate project contingency. Monitor and potentially reallocate contingency allowances as risks materialise or are mitigated / avoided / transferred	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
113	Cost of design consultants required to complete designs prior to CBRC funding is greater than CRC funds				Cashflow complete - CRC funding in place	<i>N/A – risk is considered to be no longer borne by Council</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
114	Cost of redesign as a result of changes following DA / CBRC approvals				Regular consultation with PAF team to provide feasible designs	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
115	Additional cost of staging the development inaccurate	MODERATE	MODERATE	MEDIUM	Value engineering sessions to be conducted in parallel with design reviews. Full strategy for staging to be considered	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
116	Variations in quantities, material cost, labour rates or contract process from those estimated	UNLIKELY	MODERATE	MEDIUM	Consider transfer of this risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
117	Competitive procurement not achieved	UNLIKELY	MODERATE	MEDIUM	Develop procurement strategy and prepare a procurement methodology options and analysis paper for all project elements	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
118	Cost of consultants greater than anticipated				Overall consultant costs appear to be in line with expectations	<i>N/A – risk is considered to be no longer borne by Council</i>
119	Cost change and contingency control not managed adequately	MODERATE	MODERATE	MEDIUM	Quantity Surveyor has been appointed with adoption of appropriate cost change management controls	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>TECHNOLOGY</b>						
120	Future proofing of building services, communications and other imbedded technologies inadequate	MODERATE	MODERATE	MEDIUM	Establish appropriate specification benchmark and provide flexibility where possible	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>OPERATIONAL ENVIRONMENT</b>						
121	Impact of construction works on surrounding facilities ie Convention Centre / Ports operations / CBD	UNLIKELY	MINOR	LOW	Transfer risk to main contractor - regular updates with neighbours. Select builder who can work with neighbours	<i>N/A – risk is considered to be no longer borne by Council</i>
122	Operational difficulties upon completion	MODERATE	MAJOR	HIGH	Functional and operational requirements to be documented. Implement bump-in and operational testing programme if required. Regular review by Council and theatre consultant / user groups	<b>Test 8</b>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
123	Operational integration of staged elements not considered	MODERATE	MAJOR	HIGH	Options for construction of future stages to be considered when reviewing staging options during concept design stage	<i>N/A – risk is considered to be no longer borne by Council</i>
124	On-going maintenance excessive cost				DUPLICATE	<i>N/A – duplicate</i>
125	OH&S issues caused in operation due to design solution	MODERATE	MODERATE	MEDIUM	OH&S in operation to be considered - potentially engage venue manager early to advise	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>ENVIRONMENTAL</b>						
126	Hazardous materials in ground	LIKELY	CATASTROPHIC	EXTREME	Obtain agreement with vendor to remediate. Studies have been and are continuing to be done	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
127	Hazardous materials in Whites Shed	LIKELY	MODERATE	HIGH	Conduct HAZMAT survey prior to accepting site, and agree remediation costs with Ports North. Cost of Acid Sulphate Soils to be established	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
128	Geotechnical conditions not anticipated / costly to overcome	LIKELY	MODERATE	HIGH	Geotechnical investigations have been conducted. Consider possible transfer of risk to builder when conditions are known	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
129	Heritage issues - Failure to obtain heritage approval for adaptive reuse of Whites Shed	LIKELY	MODERATE	HIGH	Early engagement with heritage council and engagement of heritage consultant	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
130	Spill or pollution in harbour and / or surface drainage	UNLIKELY	MODERATE	MEDIUM	Storm Water Management Plan and Construction Management Plan to be prepared, approved and implemented	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
131	Pollution - noise (and vibration), dust, etc	MODERATE	MODERATE	MEDIUM	Construction Management Plan to be prepared, approved and implemented. Consider implementation of noise and vibration monitoring	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
132	Internal air quality, temperature and environment not suitable in Museum for exhibits	MODERATE	MODERATE	MEDIUM	Museum operational requirements (including environmental) during and post project works to be documented.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
133	Waste, water and energy sustainable targets not achieved	MODERATE	MODERATE	MEDIUM	Establish and document targets. Monitor, record and review.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>OCCUPATIONAL HEALTH &amp; SAFETY</b>						
134	Incident and accidents on site during construction	UNLIKELY	MODERATE	MEDIUM	Prepare, implement and monitor an OH&S Management Plan. Consider transfer of risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
135	Incident off site caused by site works	UNLIKELY	MODERATE	MEDIUM	Prepare, implement and monitor an OH&S Management Plan. Consider transfer of risk to the builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
136	Collapse of Whites Shed causing significant injury	RARE	CATASTROPHIC	HIGH	Full survey of the structural condition of Whites Shed to be completed at an early stage	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
137	Natural hazards, off-site accidents, fire, flood and earthquake	RARE	MODERATE	MEDIUM	Transfer risk to builder	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>GOVERNANCE &amp; PROBITY</b>						
138	Policy and procedures with respect to project governance and probity not clear / satisfied	RARE	MINOR	LOW	Consider preparation and implementation of Governance and Probity Plan. Probity auditor to be appointed	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
139	Procurement policies and guidelines not adhered to	RARE	MINOR	LOW	Confirm applicable procurement policies and guidelines, and ensure compliance within the Procurement Plan	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
140	Conflict of interest issues not reported	RARE	MINOR	LOW	Adopt zero tolerance approach and strategy of identification, prevention and management. All contracting participants to sign Statutory Declaration	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>POLITICAL</b>						
141	Change of Government effects support for the project	MODERATE	MODERATE	MEDIUM	Potential for lobbying opposition to be discussed at an early / appropriate stage	<b>Test 5</b>
142	Change in funding policy of State or Federal govt	MODERATE	CATASTROPHIC	EXTREME	Regular contact with funding bodies to discuss. Maintain dialogue with state / Federal member	<b>Test 9</b>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
143	Change in funding approval process	UNLIKELY	MAJOR	HIGH	Confirm funding approval process and monitor for possible changes	Test 1
144	Change in legislation affects design	UNLIKELY	MODERATE	MEDIUM	Obtain advice from BCA consultant and notify early any potential for change. Maintain dialogue with CRC staff	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
145	Change in CRC cultural services policies	UNLIKELY	MAJOR	HIGH	Early identification of possible / draft policies and procedures that may impact upon the project	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
146	Community acceptance not achieved affects CRC Councillor support	UNLIKELY	MAJOR	HIGH	Maintain awareness of community sentiment and regular lobbying / updates to councillors	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
147	Change in Council affects support for the project	MODERATE	MAJOR	HIGH	All decisions to be taken to Council project committee.	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
147.1	State Government going into caretaker mode affects ability to make decisions on PAF submission	MODERATE	CATASTROPHIC	EXTREME	Work to current programme, and attempt to develop alternate plans in case the State goes to caretaker mode	Test 1
147.2	Council goes into caretaker mode and affects ability to sign contracts / make decisions	MODERATE	CATASTROPHIC	EXTREME	Work to current programme, and attempt to develop alternate plans for when CRC goes to caretaker mode	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>STAKEHOLDERS &amp; COMMUNITY</b>						
148	Stakeholder definition and needs not satisfied				Defined in the Business Case - regular review at key stages	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
149	Stakeholder approvals not achieved	UNLIKELY	MODERATE	MEDIUM	Determine level of authority, approval parameters and required processes, and document within the Stakeholder Management Plan	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
150	Ports North requirements not managed adequately affecting public acceptance / by business	MODERATE	MODERATE	MEDIUM	Maintain dialogue with ports North	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

#	Risk	Likelihood	Impact	Level of Risk	Treatment / Mitigation Strategy	Tests undertaken <sup>128</sup>
151	Neighbours and local community issues	MODERATE	MODERATE	MEDIUM	Prepare and implement a community consultation process, including consideration of project web site, news letter, open days, etc	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
152	Traffic	MODERATE	MODERATE	MEDIUM	Prepare Construction Traffic Management Plan	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>
<b>SUSTAINABILITY</b>						
153	Compliance with Government and Department ESD controls (including Section J of the BCA) and other sustainability targets not achieved	MODERATE	MODERATE	MEDIUM	Consider appointment of ESD consultant. Confirm applicable controls, establish targets and benchmarks, and conduct independent design reviews and testing	<i>N/A – risk is qualitative in nature or cannot accurately be quantified through NPV analysis</i>

# Appendix I Certification of P90 Data Reliability

26 October 2011

Divisional Director  
Project Management NSW  
Savills Australia  
Level 7, 50 Bridge Street  
SYDNEY NSW 2000

**ATTENTION : ADAM THOMAS**

Dear Sir,

**RE: CAIRNS ENTERTAINMENT PRECINCT**

As requested we have carried out an Indicative Order of Cost Study for the Master Plan Stage 1 issued by Cox Rayner as of October 2011.

These indicative order of cost estimates have been prepared following:

- Project workshops;
- Site Inspections;
- The assessment of design documentation including functional area schedules.

The rates used in our estimates have been derived from a combination of current market rates for labour and materials, rates analysed from similar projects or project components and calculated rates based on estimates of time and materials.

We have prepared the costs to provide an accuracy in order with the P90 interval (i.e. 90 percent probability) when later measured against more detailed costs presented for investment decisions of the business case.

A more detailed cost assessment will be carried out during the next stage of the project when more detailed design documentation will be available.

Should you require any further information or need to discuss any aspect of the attached please do not hesitate to contact us.

Yours faithfully  
**WT PARTNERSHIP**



**PHIL ANSELINE**



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and Construction  
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