



Mooloolaba Beachside Caravan Park Economic Impact Assessment

Sunshine Coast Council
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Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council

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Executive Summary

Background & Purpose

The Sunshine Coast Council has developed the *Place Making Mooloolaba Draft Master Plan* that envisions a redevelopment of Mooloolaba. The plan identifies a number of precincts, including the Foreshore. Part of the Foreshore redevelopment includes the existing Mooloolaba Beachside Caravan Park for a variety of open space and recreational activities for the community and visitors.

AEC Group Pty Ltd (AEC) was engaged by the Sunshine Coast Council to evaluate the current economic contribution of the Mooloolaba Beachside Caravan Park as well as the future potential economic contribution of the redevelopment.

Approach

This study uses Input-Output modelling techniques to assess the economic contribution associated with the existing Mooloolaba Beachside Caravan Park as well as its planned redevelopment. Existing visitor nights and expenditure associated with the caravan park as well as net new visitor nights and expenditure associated with future tourism opportunities that may be enabled through the redevelopment of the caravan park were used to drive the assessment.

Key Findings

The opening up of this land to residents and visitors (in terms of public open space, recreational activities and other amenity) would provide considerable social benefits to the community, given its current use is restricted to caravan park guests.

The Mooloolaba Beachside Caravan Park currently operates at an annual occupancy rate of 69%, which would compare favourably to many other caravan parks around the Sunshine Coast or the nation. This high level of occupancy is attributable to its beachside location, which often translates to 100% occupancy during peak times.

The 6,212 sqm of the Mooloolaba Beachside Caravan Park site, if it is included in the foreshore redevelopment, dramatically increases the total area of the Foreshore, enabling larger and more significant events. Consultation indicates inclusion of the caravan park site in the Foreshore redevelopment would enable the following existing events to be extended/new event to take place:

- **IRONMAN 70.3 extension:** the IRONMAN 70.3 is one of the signature major events for the Sunshine Coast (and Queensland).

If the additional land were available, this event could be extended by one day.

- **Mooloolaba Triathlon Festival extension:** the Mooloolaba Triathlon Festival is another signature major event for the Sunshine Coast (and Queensland).

If the additional land were available, this event could be extended by one day.

- **Major Food and Wine Event:** new events, potentially similar to Margaret River Gourmet Escape, Barossa Gourmet Weekend, Noosa Food and Wine Festival.

If the additional land were to be available, then the Foreshore would be capable of hosting a range of new major food and wine events.

These future potential activities are not possible without the additional land that the caravan park currently occupies.

The Mooloolaba Beachside Caravan Park is estimated to generate visitor expenditure of \$1.40 million currently. Redevelopment as part of the Foreshore has the potential to support future visitor expenditure that wouldn't otherwise be achieved of \$12.54, resulting in a net increase in visitor expenditure of \$11.14 million.

*Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council*

Table ES.1. Visitor Nights and Expenditure, Mooloolaba Beachside Caravan Park

Reference	Existing/ Future Use	Visitor Nights	Expenditure (\$M)
A	Mooloolaba Beachside Caravan Park	18,606	\$1.40
B	Redevelopment Scenario	51,957	\$12.54
C=B-A	Net Increase/Decrease	33,351	\$11.14

Note: Visitor nights and expenditure generated by local Sunshine Coast residents has been excluded.

Source: ABS (2014a), IRONMAN (2015), SCC (2015a), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015a), TRA (2015b), AEC.

The net increase in visitor expenditure of \$11.14 million would result in increased economic activity on the Sunshine Coast (Table ES.2), including an increase in Gross Value Added (similar to Gross Regional Product) of \$13.7 million and the addition of 123 jobs (direct and indirectly).

Table ES.2. Economic Contribution, Redeveloped Mooloolaba Beachside Caravan Park, Sunshine Coast Region

Impact	Output (\$M)	Gross Value Added (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$11.1	\$5.9	\$3.5	71
Type I Flow-On	\$5.3	\$2.6	\$1.4	18
Type II Flow-On	\$9.2	\$5.3	\$2.3	34
Total	\$25.7	\$13.7	\$7.2	123

Note: Totals may not sum due to rounding. Values are expressed in 2014-15 Dollars.

Source: ABS (2015b), ABS (2015c), ABS (2014a), ABS (2012), IRONMAN (2015), SCC (2015a), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015a), TRA (2015b), AEC.

*Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council*

Table of Contents

DOCUMENT CONTROL	I
EXECUTIVE SUMMARY	II
TABLE OF CONTENTS	IV
1. INTRODUCTION	1
1.1 BACKGROUND	1
1.2 APPROACH	1
2. EXISTING AND POTENTIAL FUTURE USE	2
2.1 MOOLOOLABA BEACHSIDE CARAVAN PARK	2
2.2 PLACE MAKING MOOLOOLABA DRAFT MASTER PLAN	2
2.3 FUTURE POTENTIAL EVENTS	4
3. ECONOMIC IMPACT ASSESSMENT	5
3.1 APPROACH	5
3.2 MODEL DRIVERS	5
3.3 MODEL RESULTS	7
4. FINANCIAL IMPACT	10
REFERENCES	11
APPENDIX A: INPUT-OUTPUT METHODOLOGY	12

1. Introduction

1.1 Background

The Sunshine Coast Council has developed the *Place Making Mooloolaba Draft Master Plan* that envisions a redevelopment of Mooloolaba. The plan identifies a number of precincts, including the Foreshore. Part of the Foreshore redevelopment includes the existing Mooloolaba Beachside Caravan Park.

The Sunshine Coast Council engaged AEC Group Pty Ltd (AEC) to identify the economic impact associated with the inclusion of this land in the overall redeveloped Foreshore. This assessment considers the current economic contribution that the existing caravan park makes and compares it to the potential future economic contribution (if the land of the existing caravan park were included in the Foreshore redevelopment).

1.2 Approach

This study uses Input-Output modelling techniques to assess the economic contribution associated with the existing Mooloolaba Beachside Caravan Park as well as its planned redevelopment. Existing visitor nights and expenditure associated with the caravan park as well as net new visitor nights and expenditure associated with future tourism opportunities that may be enabled through the redevelopment of the caravan park were used to drive the assessment.

The study includes:

- An overview of the existing and potential future uses of the land are provided in Chapter 2.
- The assumptions and modelling results of the impact assessment are presented in Chapter 3.

A description of Input-Output modelling and methodology is provided in **Appendix A**.

2. Existing and Potential Future Use

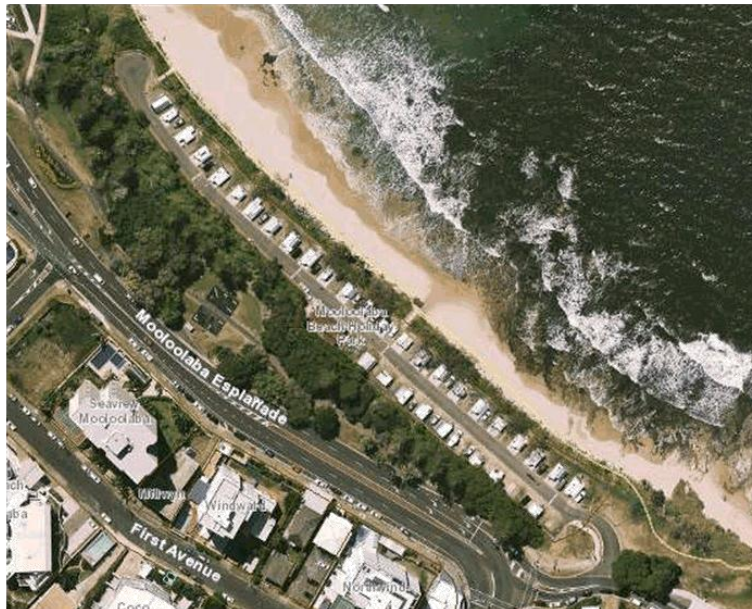
2.1 Mooloolaba Beachside Caravan Park

The Mooloolaba Beachside Caravan Park includes 34 caravan park sites occupying 6,212 sqm of land on the northern end of the Mooloolaba Foreshore. Given its absolute beachfront location, it is not surprising that it is often very full.

According to figures from the Sunshine Coast Council, owner of the caravan park (SCC 2015a), the Mooloolaba Beachside Caravan Park operates at an annual occupancy rate of 69%. The make-up of visitors to the park is mixed, consisting of typical 'grey nomads' as well as families that are drawn to the Sunshine Coast for typical summer holidays. Over winter, stays tend to be longer and dominated by the 'grey nomads' with summer and spring stays being shorter and with more of a mix of visitors. During peak periods (i.e. Christmas break and school holidays), the park is often at 100% occupancy. The remainder of spring and autumn are also very full.

Review of recent booking details and analysis of post codes revealed 9.1% of visitor nights in the caravan park are generated by residents of the Sunshine Coast¹.

Figure 2.1. Mooloolaba Beachside Caravan Park



Source: MyMaps (www.sunshinecoast.qld.gov.au)

2.2 Place Making Mooloolaba Draft Master Plan

The *Place Making Mooloolaba Draft Master Plan* sets out a theme of immersion and establishes a series of strategies across the four precincts to achieve its vision:

Mooloolaba is a world class beachfront destination that embraces and sustains its outstanding natural beauty. It is a healthy and active place that celebrates its unique location, connecting ocean to river and headland to spit.

Draft Master Plan Overview (SCC, 2015b)

¹ Post codes do not match 100% with the boundaries of the Sunshine Coast Council and post code booking information was incomplete.

*Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council*

The redevelopment seeks to define Mooloolaba and establish it as one of Australia’s most iconic tourism destinations. The planning process has been underway for over a year and has included considerable community consultation.

Figure 2.2. Place Making Mooloolaba Draft Master Plan



Source: SCC (2015b)

Key elements of the Foreshore and Esplanade include a tidal pool, children’s water play area, junior child’s play adventure area and numerous outdoor park and lawn areas, as well as an ocean front walk way that extends the length of the foreshore and connects across the Alexander Headland.

The existing Mooloolaba Beachside Caravan Park occupies land that is earmarked to become the Northern Parklands as part of the redeveloped Foreshore precinct. The redevelopment of this area opens up the foreshore for enhanced public use and provides a key opportunity to create a ‘Great Ocean Walk’ connecting to and ultimately around Alexandra Headland.

This redeveloped area will cater for visitors and residents alike, providing access to this area that was not possible previously (except to guests of the caravan park). The area provide a significant healthy and active recreation and fitness role for the precinct. The large adventure play area and the Cove Kiosk will be the key features as well as a variety of open natural space providing spectacular views and opportunities for various events and functions.

Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council

Figure 2.3. Northern Parklands, Place Making Mooloolaba Draft Master Plan



Source: SCC (201b)

2.3 Future Potential Events

The 6,212 sqm of the Mooloolaba Beachside Caravan Park dramatically increases the total area of the Foreshore, enabling larger and more significant events.

In consultation with event organisers and Sunshine Coast Destination Ltd, the addition of the land that the existing Mooloolaba Beachside Caravan Park occupies to the Foreshore would enable the following events (or extension of existing events):

- **IRONMAN 70.3 extension:** the IRONMAN 70.3 is one of the signature major events for the Sunshine Coast (and Queensland). If the additional land were available, this event could be extended by one day.
- **Mooloolaba Triathlon Festival extension:** the Mooloolaba Triathlon Festival is another signature major event for the Sunshine Coast (and Queensland). If the additional land were available, this event could be extended by one day.
- **Major Food and Wine Event:** if the additional land were to be available, then the Foreshore would be capable of hosting a major food and wine event (similar to Margaret River Gourmet Escape, Barossa Gourmet Weekend, Noosa Food and Wine Festival).

These events (or extension of existing events) would not be possible without the additional land of the existing Mooloolaba Beachside Caravan Park being made available for this purpose due to existing constraints and the large volume of visitors that are associated with these events.

Beyond the events above, consultation also revealed that numerous other events and activities could also be held on the land currently occupied by the Mooloolaba Beachside Caravan Park, including:

- Weddings
- Markets (similar to those in Eumundi)
- Other large events (i.e. music festivals, outdoor movies, etc.)
- Creation of a 'Great Ocean Walk' (similar to the Lighthouse Trail in Byron Bay)
- Fitness training, yoga instruction and other similar recreational activities.

These events could enable additional tourism and economic activity, however, they have not been included due to the available areas in other parts of the Foreshore that could host such activities. It should be noted that the Mooloolaba Beachside Caravan Park site does provide greater levels of flexibility and potential amenity for these activities.

3. Economic Impact Assessment

3.1 Approach

Economic modelling in this section estimates the economic activity supported by the net new increase in visitor expenditure that may be enabled by the redevelopment of the existing Mooloolaba Beachside Caravan Park. Input-Output modelling is used to examine the direct and flow-on² activity expected to be supported within the local economy. Modelling drivers used in the assessment are described in section 3.2 and underpin the results. A description of the Input-Output modelling framework used is provided in **Appendix A**.

Input-output modelling describes economic activity by examining four types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Value added:** Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic stimulus, both directly and indirectly through flow-on activity, expressed in full time equivalent (FTE) positions³.

3.2 Model Drivers

In order to identify the economic impact of the redevelopment of the Mooloolaba Beachside Caravan Park (as envisioned in the *Place Making Mooloolaba Draft Master Plan*), an assessment was made comparing the existing economic contribution of the caravan park with the potential future contribution that the land could enable. In order to do this, an estimate of annual visitor nights and expenditure for the existing Mooloolaba Beachside Caravan Park as well as the potential future events were developed.

3.2.1 Mooloolaba Beachside Caravan Park

Visitor nights in the Mooloolaba Beachside Caravan Park were derived using the 69% annual occupancy of the park and an estimate of 2.4 people per site, which is the average persons per room for the Sunshine Coast Tourism Region from the ABS Tourist Accommodation Survey 2013-14. It is acknowledged this survey is of hotel, motel and serviced apartment accommodation, however, no other comparable resource is available and this amount of people per site would seem indicative of the visitor profile for the caravan park. The per visitor night expenditure estimate (\$75/visitor night) was sourced from Tourism Research Australia (TRA, 2015a) and represents the national average per visitor night expenditure for visitors staying in commercial caravan and camping accommodation for the year ending June 2015.

² Both Type I and Type II flow-on impacts have been presented in this report. Refer to **Appendix A** for a description of each type of flow-on impact.

³ Where one FTE is equivalent to one person working full time for a period of one year.

*Mooloolaba Beachside Caravan Park Economic Impact Assessment
 Sunshine Coast Council*

Local Sunshine Coast residents contributed 9.1% of total visitor nights for the Mooloolaba Beachside Caravan Park. The expenditure from these residents would be spent in the region and contribute to the local economy regardless of visiting the park and as such, these visitor nights (and their associated expenditure) have been excluded so that the assessment focuses on the net contribution to the local economy from tourism.

While park management identified some minor levels of international visitation, no data was available to quantify any international visitation. As such, only domestic overnight expenditure data has been included. International per visitor night expenditure for visitors staying in commercial caravan and camping accommodation is only marginally higher than domestic (\$88/visitor night), so any discrepancy is likely to be marginal.

Table 3.1. Visitor Nights and Expenditure, Mooloolaba Beachside Caravan Park

Measure	Value
Visitor Nights	18,606
Expenditure (\$M)	\$1.40

Source: SCC (2015a), ABS (2014a), TRA (2015a), AEC.

3.2.2 Future Potential Redevelopment

Visitor nights for the future potential redevelopment scenario were developed in consultation with IRONMAN Asia Pacific and Sunshine Coast Destination Ltd. In order to identify visitor nights, participant information and visitation statistics for previous marathon events (i.e. both the IRONMAN 70.3 and the Mooloolaba Triathlon Festival) were reviewed. The most recent participation for the 2015 Mooloolaba Triathlon Festival and the 2014 IRONMAN 70.3⁴ were reviewed to identify the intrastate, interstate and international participants. In consultation with IRONMAN Asia Pacific and in conjunction with visitation statistics from previous events, the ratio of 1:3 was used to identify total visitation (i.e. participants and visitors)⁵. Average length of stay from a previous event was used to determine visitor nights.

Expenditure for participants and visitors was identified from Tourism Research Australia and the National and International Visitor Survey (TRA, 2015b). The appropriate national average expenditure per visitor night for participants and spectators for the year ending June 2015 has been used.

In consultation with Sunshine Coast Destination Ltd, the potential for a major food and wine festival (similar to the Margaret River Gourmet Escape or the Barossa Gourmet Weekend) was identified as a possibility, if the additional land along the Foreshore could be available. In order to identify potential future visitor nights, previous event statistics for the Margaret River Gourmet Escape in 2013 and the Noosa Food and Wine Festival in 2015 were used as a base and the average attendance (from outside the region) was used in combination with the national average length of stay for leisure events (2.7 nights).

Expenditure for this event was identified through using the national average expenditure per visitor night for leisure events (\$257/visitor night) from Tourism Research Australia (TRA, 2015b).

Table 3.2. Visitor Nights and Expenditure, Future Redevelopment Scenario

Event	Additional Visitor Nights	Additional Expenditure (\$M)
IRONMAN 70.3	8,628	\$1.84
Mooloolaba Triathlon Festival	10,545	\$2.27
Food and Wine Event	32,784	\$8.43
Total	51,957	\$12.54

Source: IRONMAN (2015), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015b), AEC.

⁴ The data for the 2015 IRONMAN 70.3 is not yet available.

⁵ For every 1 participant, there are three additional visitors.

Sunshine Coast Council is currently planning to add 46 additional caravan park sites at the Mudjimba site. No future increase in visitor expenditure enabled through this increase in caravan sites has been accounted for in this assessment.

Data from Tourism Research Australia's National Visitor Survey was used to identify the industries in which visitor expenditure may be spent across. Expenditure data for domestic overnight visitors in the 2014 calendar year (TRA, 2015b) was used, split by expenditure items. Some exclusions of expenditure items were made (e.g. expenditure on domestic airfares as this would likely be made outside the Sunshine Coast). Expenditure items were then allocated to relevant Input-Output industries for use in economic modelling. The proportion of visitor expenditure by industry is summarised in Table 3.3.

Table 3.3. Proportion of Visitor Expenditure by Industry

Industry	Overnight Visitors
Water, Pipeline and Other Transport	4.9%
Rental and Hiring Services (except Real Estate)	2.4%
Retail Trade	36.7%
Road Transport	3.1%
Accommodation	28.4%
Food and Beverage Services	17.7%
Heritage, Creative and Performing Arts	4.4%
Gambling	0.3%
Technical, Vocational and Tertiary Education Services	0.3%
Arts, Sports, Adult and Other Education Services (incl community education)	0.3%
Postal and Courier Pick-up and Delivery Service	0.8%
Personal Services	0.8%

Source: TRA (2015b), AEC.

3.3 Model Results

The economic contribution of the estimated visitor expenditure generated by the Mooloolaba Beachside Caravan Park is highlighted in Table 3.4. The potential future net new economic contribution from the redevelopment of the caravan park is highlighted in Table 3.5.

Table 3.4. Economic Activity Supported by Existing Use, Sunshine Coast Region

Impact	Output (\$M)	Gross Value Added (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$1.4	\$0.7	\$0.4	9
Type I Flow-On	\$0.7	\$0.3	\$0.2	2
Type II Flow-On	\$1.2	\$0.7	\$0.3	4
Total	\$3.2	\$1.7	\$0.9	15

Note: Totals may not sum due to rounding. Values are expressed in 2014-15 Dollars.
 Source: ABS (2015b), ABS (2015c), ABS (2012), SCC (2015a), ABS (2014a), TRA (2015a), AEC.

Table 3.5. Economic Activity Supported by Redevelopment, Sunshine Coast Region

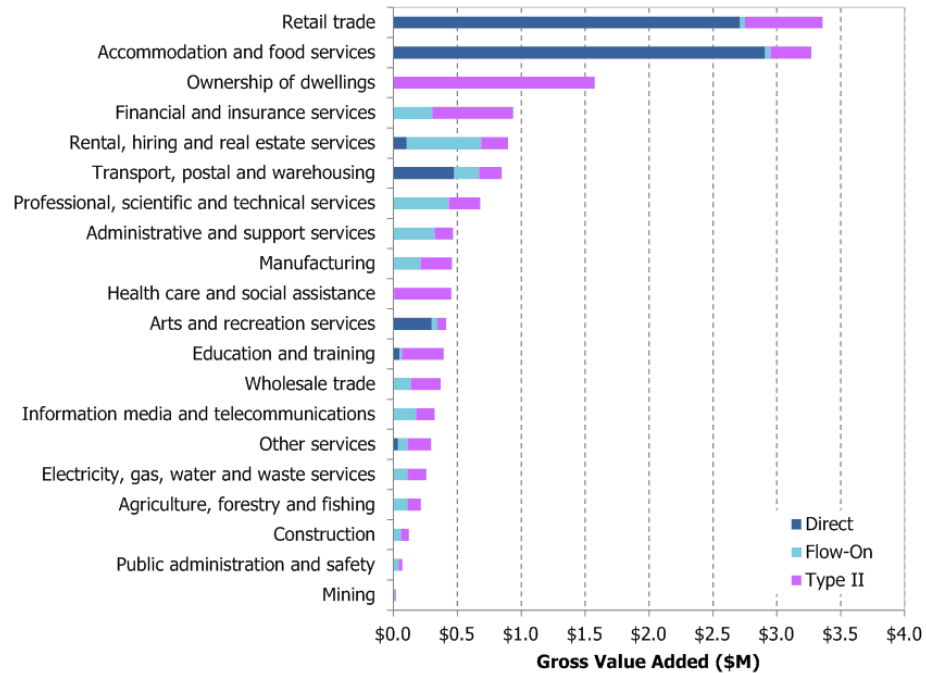
Impact	Output (\$M)	Gross Value Added (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$12.5	\$6.6	\$3.9	79
Type I Flow-On	\$6.0	\$2.9	\$1.5	20
Type II Flow-On	\$10.4	\$5.9	\$2.6	39
Total	\$28.9	\$15.4	\$8.1	138

Note: Totals may not sum due to rounding. Values are expressed in 2014-15 Dollars.
 Source: ABS (2015b), ABS (2015c), ABS (2012), IRONMAN (2015), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015b), AEC.

Mooloolaba Beachside Caravan Park Economic Impact Assessment
 Sunshine Coast Council

A breakdown of average GVA by industry supported in the Sunshine Coast economy as a result of the redevelopment of the caravan park and anticipated net new visitor expenditure is outlined in Figure 3.1.

Figure 3.1. GVA Supported by Industry, Sunshine Coast Region (\$M)

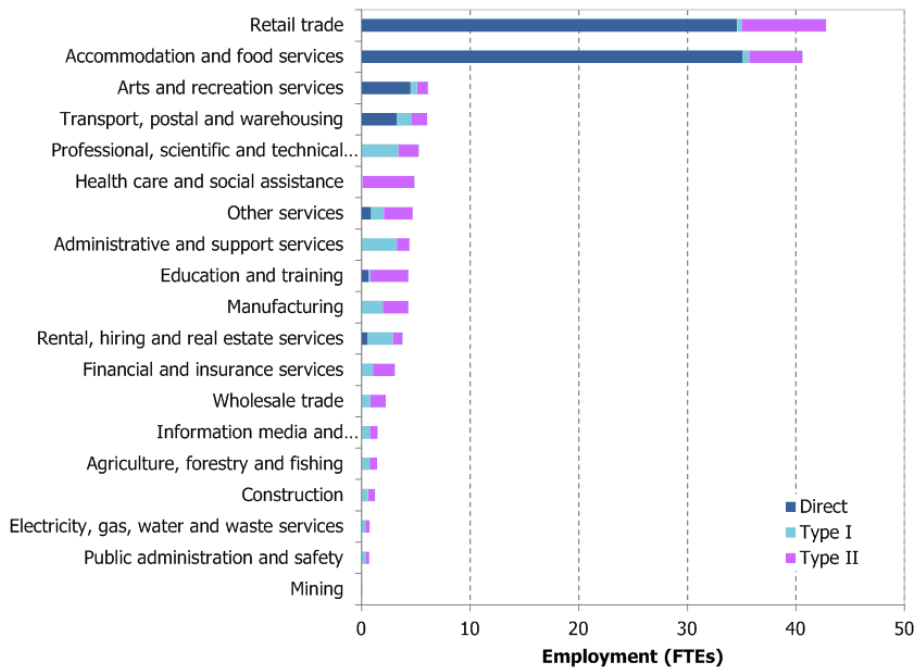


Note: Values are expressed in 2014-15 Dollars.
 Source: ABS (2015b), ABS (2015c), ABS (2014a), ABS (2012), IRONMAN (2015), SCC (2015a), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015a), TRA (2015b), AEC.

The vast majority of employment supported by attracted visitor expenditure in the Sunshine Coast will be in the industries of retail trade and accommodation and food services (Figure 3.2).

Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council

Figure 3.2. Employment Supported by Industry, Sunshine Coast Region (FTEs)



Source: ABS (2015b), ABS (2015c), ABS (2014a), ABS (2012), IRONMAN (2015), SCC (2015a), SCC (2015c), Sunshine Coast Daily (2015), TRA (2015a), TRA (2015b), AEC.

4. Financial Impact

Information contained in this section has been provided to AEC by the Sunshine Coast Council.

The removal of the 34 caravan sites from the Mooloolaba Beachside Caravan Park will impact the Sunshine Coast Council's finances. Information provided by Council highlights that if the 34 caravan sites from the Mooloolaba Beachside Caravan Park are removed and 46 new caravan sites are added at the Mudjimba site, Council would stand to experience a net loss of approximately \$32,000 in terms of annual cashflow.

Council's balance sheet, however, would experience a net gain in assets of \$5.7 million and the regional economy overall would experience significantly additional economic activity (in line with the analysis in the previous section).

Table 4.1. Cashflow Impact of Redevelopment to Sunshine Coast Council

Cashflow	Value
Existing Revenue & Costs	
Revenue	
Revenue from park	\$606,282
Costs	
Costs for park	\$303,141
DNRM Lease	\$44,460
Net Position	\$258,681
Future Revenue & Costs	
Revenue	
Revenue from 46 new sites at Mudjimba	\$453,330
Costs	
Costs for park	\$226,665
Net Position	\$226,665
Net Change	-\$32,016

Note: profit margin on operations is 50%.
 Source: SCC (2015d)

Table 4.2. Balance Sheet Impact of Redevelopment to Sunshine Coast Council

Balance Sheet	Value
Existing Use	
Written Down Value	\$546,417
New Amenities Block (scheduled for 2015/16)	\$500,000
Net Position	\$1,046,417
Future Use	
Capital expenditure for redevelopment	\$5,000,000
Capital expenditure for 46 new sites	\$1,750,000
Net Position	\$6,750,000
Net Change	\$5,703,583

Source: SCC (2015d)

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Appendix A: Input-Output Methodology

Input-Output Model Overview

Input-Output analysis demonstrates inter-industry relationships in an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. Input-Output analysis shows the direct and indirect (flow-on) effects of one sector on other sectors and the general economy. As such, Input-Output modelling can be used to demonstrate the economic contribution of a sector on the overall economy and how much the economy relies on this sector or to examine a change in final demand of any one sector and the resultant change in activity of its supporting sectors.

The economic contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
 - **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
 - **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

These effects can be identified through the examination of four types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Value added:** Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full time equivalent (FTE) positions.

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

Model Development

Multipliers used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns

based on a parent table, in this case, the 2012-13 Australian transaction table (ABS, 2015a).

Estimates of gross production (by industry) in the study areas were developed based on the percent contribution to employment (by place of work) of the study areas to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2012-13 Australian table.

Industry purchasing patterns within the study area were estimated using a process of cross industry location quotients and demand-supply pool production functions as described in West (1993).

Where appropriate, values were rebased from 2012-13 (as used in the Australian national IO transaction tables) to 2014-15 values using the Consumer Price Index (ABS, 2015b).

Modelling Assumptions

The key assumptions and limitations of Input-Output analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using Input-Output multipliers is the implicit assumption that the economy has no supply-side constraints so the supply of each good is perfectly elastic. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using Input-Output multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. The system is in equilibrium at given prices, and prices are assumed to be unaffected by policy and any crowding out effects are not captured. This is not the case in an economic system subject to external influences.
- **Fixed ratios for intermediate inputs and production (linear production function):** Economic impact analysis using Input-Output multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. That is, the input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs). As such, impact analysis using Input-Output multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount. Further, it is assumed each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies there is only one method used to produce each commodity and that each sector has only one primary output.
- **No allowance for economies of scope:** The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the "additivity assumption". This generally does not reflect real world operations.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these limitations, Input-Output techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by a project.

*Mooloolaba Beachside Caravan Park Economic Impact Assessment
Sunshine Coast Council*

In addition to the general limitations of Input-Output Analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).
- Intra-regional cross-industry purchasing patterns for a given sector vary from the national tables depending on the prominence of the sector in the regional economy compared to its input sectors. Typically, sectors that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input sectors than at the national level, and vice versa.



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