BATEMANS BAY BRIDGE REPLACEMENT

Socio-economic impact assessment

Prepared for Roads and Maritime Services

BLANK PAGE

Document control record

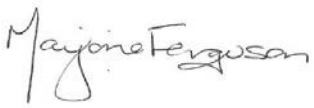
Document prepared by:

Hill PDA Pty Ltd
ABN 5200 3963 755

Level 3, 234 George Street
Sydney NSW 2000
GPO Box 2748
Sydney NSW 2001

T: +61 2 9252 8777
F: +61 2 9465 5598
E: Hillpdasydney@hillpda.com
W: www.hillpda.com

Document control

Document control	
Report title	Batemans Bay Bridge –Socio-economic Impact Assessment
Project number	C18044
File name	J:\Jobs-Current\C18044 - Bateman's Bay Bridge - SEIA\08 - Draft report\C18044_Batemans Bay Bridge SEIA_20170822.docx
Client	Auricon
Author	**Elle Clouston** ***Associate*** BRTP Hons 1A, MPIA, MUDIA Elle.Clouston@hillpda.com **Maria Hall** ***Senior Consultant*** Master of Planning and Regeneration (QUB), MsC.,RTPI, IPI Bachelor of Planning Geography and Environmental Policy (UCD), BA (Hons), RTPI, IPI Maria.Hall@hillpda.com
Reviewer	**Marjorie Ferguson** ***Principal*** M Economic History (Hons). Grad Dip Urban and Regional Planning. Grad Dip Leisure Studies. MPIA CPP Marjorie.Ferguson@hillpda.com
Review approval	

Revision version	Details/status	Issued by	Issued for	Date of issue
V1	First draft	Elle Clouston	Aurecon review	Insert text
V2	Second draft	Maria Hall	Aurecon review	3/10/17
V3	Third draft	Maria Hall	Aurecon review	13/10/17
V4	Final draft	Maria Hall	Aurecon review	24/10/17
V5	Final draft	Marjorie Ferguson	RMS review	27/10/17
V6	Final	Maria Hall	Final	30/10/17

CONTENTS

FIGURES

TABLES

Glossary of terms and abbreviations

Term	Definition
A	
ABS	Australian Bureau of Statistics
Aurecon	Aurecon Australasia Pty Ltd
Arterial roads	The main or trunk roads of the state road network that carry predominantly through traffic between regions
C	
CBD	Central business district
Cumulative impacts	Impacts that, when considered together, have different and/or more substantial impacts than a single impact assessed on its own
D	
dBA	A-weighted decibels A-weighting is applied to instrument-measured sound levels in effort to account for the relative loudness perceived by the human ear, as the ear is less sensitive to low audio frequencies
DCP	Development Control Plan
E	
EIA	Economic Impact Assessment
Environment	As defined within the Environmental Planning and Assessment Act 1979 (NSW), all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
G	
GIS	Geographical information systems
H	
Heavy vehicles	A heavy vehicle is classified as a Class 3 vehicle (a two axle truck) or larger, in accordance with the Austroads Vehicle Classification System
Heritage item	Any place, building or object listed on a statutory heritage register
I	
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment
IVA	Industry Value Add
L	
LCZ	Landscape character zones
LEP	Local Environmental Plan
LGA	Local Government Area
Local road	A road or street used primarily for access to abutting properties
M	
m	Metres
m2	Square metres
N	
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
P	

Term	Definition
Proposal	A new Princes Highway bridge over the Clyde River at Batemans Bay known as the Batemans Bay Bridge replacement project. The new bridge would provide two lanes in both directions improving traffic flow along the Princes Highway in Batemans Bay.
Proposal area	The land required to construct and operate the proposal. This includes permanent operational infrastructure, and land required temporarily for construction
Property	Based on ownership, with the potential to contain more than one lot and Deposited Plan (DP)
Public transport	Includes train, bus (government and private), ferry (government and private) and light rail (government and private) services
R	
Roads and Maritime	NSW Roads and Maritime Services
S	
SA1	Statistical Area 1 (ABS)
SA2	Statistical Area 2 (ABS)
SEARs	Secretary's Environmental Assessment Requirements
SEIA	Socio-economic impact assessment
SEIFA	Socio-Economic Indexes for Areas
Sensitive receiver/receptor	Includes residences, educational institutions (including preschools, schools, universities, TAFE colleges), health care facilities (including nursing homes, hospitals), religious facilities (including churches), child care centres, passive recreation areas (including outdoor grounds used for teaching), active recreation areas (including parks and sports grounds), commercial premises (including film and television studios, research facilities, entertainment spaces, temporary accommodation such as caravan parks and camping grounds, restaurants, office premises, retail spaces and industrial premises)
SEPP	State Environmental Planning Policy
Socio-economic	Involving combination of social and economic matters
Spoil	Surplus excavated material
T	
Transport for NSW	NSW Government Department Transport for NSW
TPA	Transport Performance Analytics
U	
Urban design	The process and product of designing human settlements, and their supporting infrastructure, in urban and rural environments

BLANK PAGE

Executive summary

Roads and Maritime Services is proposing to construct a new bridge on the Princes Highway over the Clyde River at Batemans Bay. The Batemans Bay bridge replacement (the proposal) would remove the existing bridge and provide a new bridge with two lanes in each direction, improving traffic flow along the Princes Highway in Batemans Bay. The proposal is subject to assessment under two planning pathways, a review of environmental factors (REF) under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and an environmental impact statement (EIS) under Part 4 of the *EP&A Act*.

The socio-economic impact assessment identifies and assesses the potential positive and negative social, economic and business impacts that may arise due to the construction and operation of the proposal. Environmental management measures have been identified to avoid, reduce, mitigate or manage adverse impacts associated with the proposal.

The socio-economic impact assessment has been undertaken in accordance with the Roads and Maritime Environmental Impact Assessment Practice Note - Socio-economic assessment (EIA-N05). As part of this, the assessment considers a range of policy and strategy objectives at local, state and commonwealth levels, and how the proposal complements these.

For the purpose of the report, ABS geographic boundaries (referred to as Statistical Area Level 2 (SA2)) were used to define the socio-economic study area. The study area includes the township of Batemans Bay and the surrounding suburbs of Surfside, Long Beach, Maloneys Beach, North Batemans Bay and Catalina. The wider local government area (Eurobodalla Shire) was used to inform the regional context of the proposal and provide comparison to the socio-economic data obtained at the Batemans Bay SA2 level, from the ABS.

Socio-economic impacts

The construction and operation of the new bridge would result in a range of positive and negative impacts to the socio-economic environment. These impacts were informed by the findings from the community, businesses and stakeholder consultation within the study area and surrounds as well as the review of Council's community strategic plans. The following section identifies the moderate and major socio-economic impacts and benefits identified.

Adverse impacts

Construction noise

The construction of the proposal would generate considerable noise, with the highest noise exceedances generally experienced at buildings closest to construction areas and ancillary facilities. The highest noise level exceedances are predicted during site establishment and pavement and infrastructure works, which require the use of chain saws and concrete saws. These construction activities would generate an exceedance of day-time noise levels on nearby receivers. Where noise impacts cannot be mitigated there is the potential for adverse impacts upon the socio-economic environment.

Seven commercial properties are predicted to be highly affected, as well as a reduction in the amenity of two local parks (Korners Park and Lions Park). The incorporation of noise monitoring, site sheds and other standard and additional mitigation measures would assist in alleviating the extent of noise impact on local amenity and the socio-economic environment. Additional mitigation measures to be implemented include the implementation of the Community and Stakeholder Engagement Strategy that will inform and notify residents and businesses about potential noise exceedances and the anticipated duration of these activities. These measures would assist in reducing annoyance, anxiety and stress in relation to noise exceedances.

The overall impact on the socio-economic environment would be moderate negative.

Heritage values

The existing bridge is visually prominent and a local landmark. Its removal would alter the landscape character and identity of the area. The bridge is valued as an iconic part of Batemans Bay's history having a major association for residents, tourism and the recreational boating industry. The bridge would be demolished as part of the proposal. Notwithstanding, Roads and Maritime understand the need to memorialise the bridge following demolition.

The overall of impact on the socio-economic environment would be a major negative.

Property acquisitions

To facilitate the proposal, four properties would be fully acquired and five would be partially acquired. In addition, eight properties would be leased for use during construction. This would accommodate construction of the new bridge, construction compounds during construction and the widening of the existing arterial roads or construction of new road connections. Acquisitions would include motels, as well as homes, with resultant adverse effects on property owners, tenants, business owners and potentially the local tourist economy.

The overall impact upon the socio-economic environment would be moderate negative.

Business Employee and customer access and travel time

Road network performance is expected to be affected during construction and upon operation. The resultant alteration in access routes may result in a minor increase in confusion and/or annoyance to local drivers. Access difficulties and delays have the capacity to result in long-term changes to consumer behaviour and permanent economic impacts for local motels.

The overall impact upon the socio-economic environment would be moderate negative.

Passing trade and business visibility

The construction and operation phases of the proposal would result in changes to vehicle and pedestrian flows that may influence the level of passing trade due to the closure of Clyde Street/Princes Highway intersection. Businesses located along North Street may benefit as passing trade is re-directed towards their businesses, while businesses along Clyde Street North may be adversely impacted as traffic is diverted away and visibility of their business is reduced. A change in pedestrian or vehicle routes and traffic volumes may also affect the exposure of businesses to potential clients.

These adverse impacts to businesses located along Clyde Street may have the potential to be mitigated by the improved amenity of the foreshore and the new pedestrian and cyclist shared path which would be located in close proximity to the proposal. The spatial extent of adverse effects are relatively localised to northern end of Clyde Street. The duration of possible effects would be for a long term with the severity of change from the existing baseline condition would be medium.

The overall impact upon the socio-economic environment would be moderate negative.

Key benefits

Arterial road network alterations

With the proposal in place, travel times and average speeds along the Princes Highway would improve. The improvements would be due to the increased road capacity from one lane to two lanes in both directions and the proposed improvements at Kings/Princes Highway roundabout.

The proposal would also provide more reliable journey times as the bridge would no longer be required to open to accommodate maritime traffic. The operation of the proposal is likely to reduce the traffic congestion either side of the bridge, which is likely to increase the attractiveness and amenity of the environment.

The overall impact upon the socio-economic environment would be major positive.

Bridge maintenance and performance

The existing bridge has been identified as being in poor condition with a number of maintenance concerns. The new bridge would reduce ongoing maintenance costs and improve safety by increasing the width of the bridge and upgrading traffic barriers.

The existing bridge often represents a significant risk to the network if the lift span should fail during operation. The new bridge would improve the reliability of connection for all road users through to essential services and minimise economic and social impacts resulting from an extended road closure or reduced capacity.

The overall impact upon the socio-economic environment would be major positive.

Parking access and availability

Upon operation, improved public parking along the northern and southern river foreshore is proposed. This would result in a benefit for the community and businesses. Overall, the effects of operation on parking would result in a small change to existing baseline conditions.

The overall impact on the socio-economic environment would be minor positive.

Pedestrian and cyclist network

The proposal has been designed to include a new shared use path which would provide improvements to the existing active transport network. This would occur through the facilitation of new and enhanced, safer movement patterns around the study area, linking pedestrians and cyclists to popular waterfront and open space areas and wider shared use path network in the area.

The overall impact on the socio-economic environment would be major positive.

Maritime transport

The new bridge would offer a significant improvement over the existing bridge by allowing vessels less than 12 metres tall to pass under the bridge, without the need to operate a lift span. Currently the lift span is opened twice a day for ferry traffic and only by appointment for all other vessels. The increased height of the new bridge would allow the vast majority of vessels to pass unhindered.

A small proportion of vessels that currently use the lift span would not be able to pass under the bridge at all. Future trends in the boating industry indicates that the proportion of tall vessels is set to fall in the future, meaning the proportion of vessels unable to pass would be smaller in number.

For the majority of boat users however and the businesses that serve them, the new bridge would provide a significant benefit for ease of travel up the river.

The overall impact upon the socio-economic environment would be major positive.

Local amenity

The new bridge would entail changes to landscape character, visual amenity and ambience of the environment due to the presence of new and amended infrastructure, traffic redirection, landscaping and urban design features.

These improvements provide the opportunity to create a strong link with the town centre, improve access to the foreshore and the amenity of Batemans Bay town centre. This has the potential to improve the desirability of the town centre as a shopping destination, improve the attractiveness of the foreshore as a location for active and passive recreation and the attractiveness of Batemans Bay as a tourist destination, resulting in considerable social and economic benefits to the study area.

The negative impacts associated with the construction of these improvements were deemed minor.

The overall impact on the socio-economic environment would be moderate positive.

Future land use

The proposal would include a program of foreshore works to rehabilitate areas disturbed by works, to relocate functional areas that have been directly impacted and to provide connections to and around new bridge and along the banks of the Clyde River.

The operation of the proposal would result in altered land use and character of locations within the study area. However, the improved access to the foreshore and increased pedestrian and cyclist links would provide substantial socio-economic benefits.

The overall impact on the socio-economic environment would be major positive.

Freight and commercial vehicle efficiency

The new bridge would be wider and could be used by heavier freight vehicles, which is anticipated to result in an increase in heavy vehicles along the Princes Highway. This would improve the state and regional freight efficiency.

Alterations to the efficiency of the road network would have a noticeable impact on local and regional economic development and impact where businesses choose to locate. The Batemans Bay industrial precinct may become more attractive to businesses.

The proposal would deliver important improvements to the existing situation for a large number of businesses within the region.

The overall impact on the socio-economic environment would be major positive.

Employment and construction expenditure

HillPDA estimates, that based on a four year construction period, 650 direct (on site) job years would be created between 2018 to 2022, which is equivalent to about 160 jobs per annum. Furthermore, about 1,905 indirect (off site) job years would be generated, equivalent to 480 jobs per annum based on a similar proposal period.

Construction of the proposal would have a high likelihood of producing job opportunities, skill development and economic benefits to the region.

The overall impact upon the socio-economic environment would be moderate positive.

Tourism

Surveys indicated that tourism provides a significant overall economic benefit to the local community. The proposal is likely to be a benefit to key tourist attributes, that have the potential to be impacted by the proposal including access to beaches, heritage and improved connectivity to Canberra and Sydney.

The overall impact upon the socio-economic environment would be moderate positive.

Value add (economic multipliers)

It is estimated that construction of this proposal would generate around $228 million of activity in production induced effects and around $170 million in consumption induced effects. Total economic activity generated by the construction of the proposed development would be about $579 million. Overall, construction of the proposal would have a long term, economic benefit to the region.

The overall impact upon the socio-economic environment would be major positive.

Batemans Bay Towncentre ambience

Upon operation, the ambiance of Batemans Bay town centre and Clyde Street business cluster is likely to improve due to increased access to the foreshore, additional landscaping and additional pedestrian and cyclist connectivity. This has the potential to improve the attractiveness of Batemans Bay as a shopping and tourist destination and directly benefit Batemans Bay town centre business cluster and Clyde Street business cluster.

The overall impact on the socio-economic environment would be moderate positive.

Summary of impacts

Upon completion, the majority of impacts identified would be positive and are considered to be in accordance with State Government objectives. The proposal would incur some negative impacts. However the majority would occur during the construction phase and therefore would be temporary in nature. Overall, the negative impacts of the proposal can be successfully managed with the implementation of mitigation measures. It anticipated that the new bridge would have an overall beneficial impact on the Batemans Bay area and wider region and in terms of socio-economic outcomes.

BLANK PAGE

1.0 INTRODUCTION

1.1 Proposal identification

Roads and Maritime Services is proposing to construct a new bridge on the Princes Highway over the Clyde River at Batemans Bay. The Batemans Bay bridge replacement (the proposal) would remove the existing bridge and provide a new bridge with two lanes in each direction, improving traffic flow along the Princes Highway in Batemans Bay.

This report supports the environmental assessment for the proposal. The proposal is subject to assessment under two planning pathways, a review of environmental factors (REF) under Part 5 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and an environmental impact statement (EIS) under Part 4 of the *EP&A Act*.

1.1.1 Proposal location and setting

The proposal is located on the Princes Highway crossing of the Clyde River at Batemans Bay, generally between the Kings Highway and North Street (refer to Figure 1-1). Local roads including Clyde Street, Wharf Road and Old Punt Road would also be modified by the proposal.

The Batemans Bay bridge is an important link for the Princes Highway. The Princes Highway is a classified State Highway (A1) and is the primary coastal route between Sydney and Melbourne. The Kings Highway, which is Canberra's primary road connection to the NSW south coast, intersects with the Princes Highway to the north of the proposal area. The crossing over the Clyde River is also an important local connection between the commercial centre of Batemans Bay and areas north of the river, such as North Batemans Bay.

On the southern side of the bridge is Bateman Bay's main shopping and commercial area including a large supermarket and shopping mall. Key features adjacent to the proposal area on the south side of the bridge include holiday accommodation, commercial areas, river foreshore areas and facilities as well as an area mapped as a State Environmental Planning Policy 14 Coastal Wetlands (SEPP 14). On the northern side of the bridge are the suburbs of North Batemans Bay and Surfside. Other features near the proposal area include holiday accommodation, residences and commercial development.

1.1.2 Key features of the proposal

Key features of the proposal include:

- Construction of a new bridge to the west (upstream) of the existing Batemans Bay bridge across the Clyde River including:
  - Bridge approaches generally between Wharf Road on the northern side and Clyde Street on the southern side
  - Two traffic lanes in each direction
  - A three-metre-wide shared use path on the eastern side of the new bridge connecting the Kings Highway to North Street
  - Navigational clearance of about 12 metres from mean high water spring level
  - No access to Clyde Street, which would pass under the new bridge
- Upgrade of the Princes Highway generally between North Street and the Kings Highway
- Upgrade of the Kings Highway / Princes Highway intersection
- Local road adjustments at Clyde Street, Wharf Road and Old Punt Road

- Earthworks, including cuttings and embankments and retaining walls to support the new bridge approaches
- Temporary ancillary facilities during construction including water quality controls, site offices, construction / demolition compounds, batching plants and stockpile sites
- Permanent operational water quality controls
- Utility relocations including optic fibre, telecommunications, electrical, water, drainage and sewerage
- Replacement of the T-wharf downstream of the existing bridge
- Removal of the existing bridge following opening of the new bridge
- Site rehabilitation and landscaping works.

The key features of the proposal are shown in Figure 1-1.

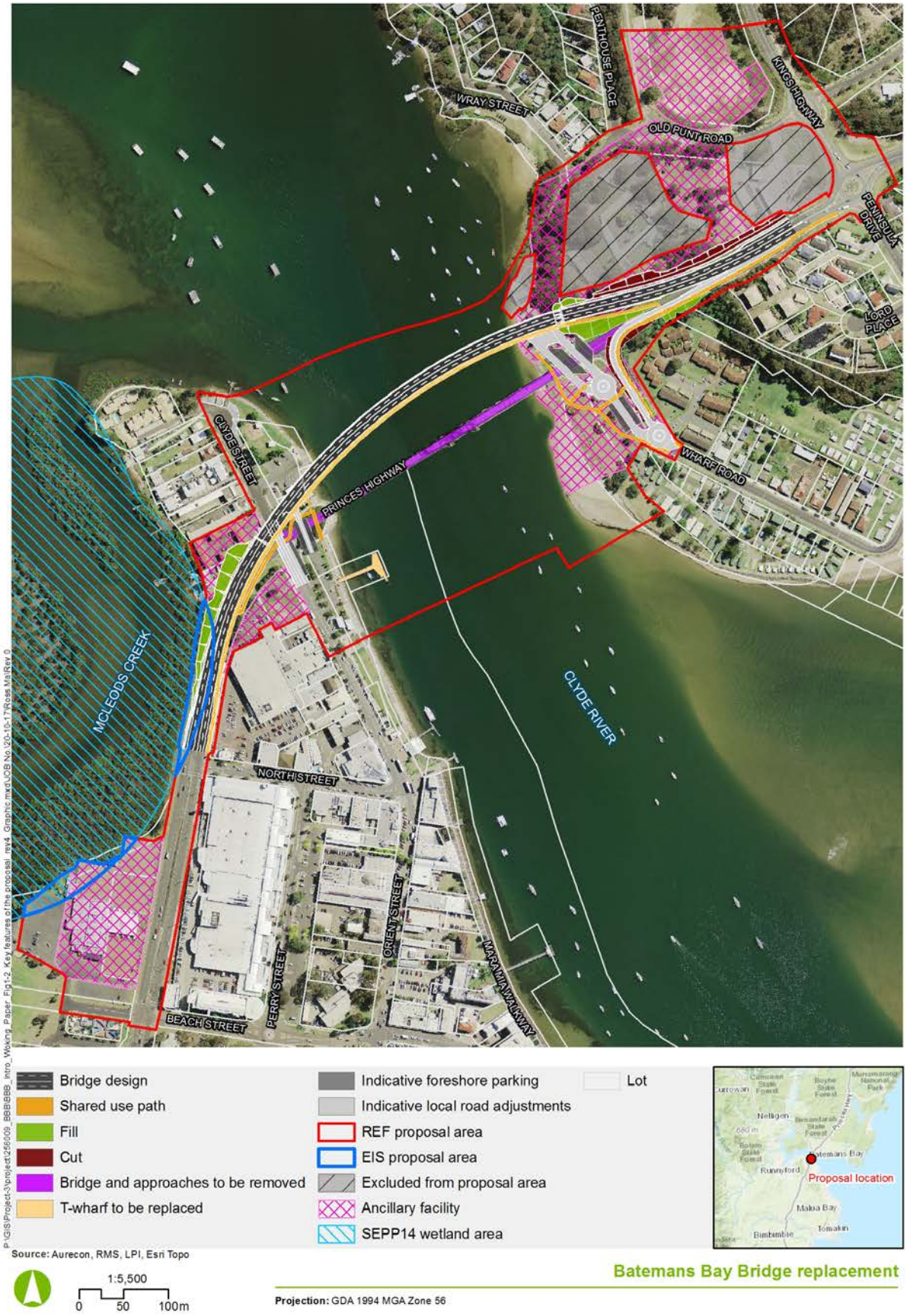
A number of temporary ancillary facilities and road diversions would be established for the proposal. These features would be removed and the relevant sites rehabilitated at completion of the proposal.

1.1.3 Proposal background

The Batemans Bay bridge is located on the Princes Highway around 270 kilometres south of Sydney and 150 kilometres east of Canberra. The existing bridge over the Clyde River at Batemans Bay was constructed in 1956 with a central lift span used to allow boats up to 23 metres in height to pass underneath. The bridge was constructed to replace a vehicle ferry across the Clyde River. While water traffic was originally related to the local timber and fishing industries, this has increasingly changed to recreational and commercial water traffic. The lift span is generally raised twice each day for a local tourist ferry but also for private yachts and commercial and recreational vessels. When the lift span is raised however, traffic along the Princes Highway is disrupted.

The existing bridge is structurally in poor condition, and does not conform to modern safety standards. Major structural components of the trusses are vulnerable to vehicle strike and there is evidence of significant vehicle impacts to the bridge occurring in the past. Higher Mass Limit (HML) vehicles are not permitted to use the bridge due to the poor structural condition and height limitations. Issues with the central lift span have closed the bridge on numerous occasions resulting in local and regional traffic and economic impacts. The existing bridge provides a single, narrow lane in each direction, which can result in substantial congestion especially in peak holiday periods. When there is an incident on the bridge or where the lift span has failed, the detour for highway traffic is around 350 kilometres.

Figure 1-1: Key features of the proposal



1.2 Purpose of the report

This report has been prepared to support the REF and EIS for the proposal. This report has been prepared in accordance with *Environmental Impact Assessment Practice Note – Socio-economic assessment* (EIA-N05) (Roads and Maritime 2013) and the Secretary's *Environmental Assessment Requirements* (SEARs) for the proposal.

The purpose of this report is to describe the proposal, to document the likely impacts of the proposal on the environment, and to detail environmental management measures to be implemented.

Socio-economic impact assessment (SEIA) involves analysing, monitoring and managing the social and economic consequences of development. It involves identifying and evaluating changes to or impacts on, communities, business and industry that are likely to occur as a result of a proposed development and to mitigate or manage impacts and maximise benefits.

Road infrastructure projects have the potential to produce both positive and negative socio-economic impacts for local residents, businesses and visitors, through such things as changes in pedestrian and vehicular accessibility, streetscape amenity, property impacts and employment opportunities. Socio-economic impacts, and how they are managed, may also influence the perceived reputation of the project owner.

The purpose of this report is to:

- Ascertain existing socio-economic conditions in the proposal area
- Assess potential positive and negative impacts and develop measures to enhance the proposal's benefits
- Avoid, manage or mitigate potential negative impacts.

2.0 ASSESSMENT METHODOLOGY

2.1 Assessment guidelines

2.1.1 Environmental Impact Assessment Practice Note – Socio-economic assessment (EIA-N05)

Roads and Maritime Practice Note EIA-N05 applies when assessing the socio-economic impacts. This includes identifying the level of assessment appropriate for a project.

Table 2-1 outlines the rationale for the level of assessment (scale and magnitude of impact) and the expectations around a moderate level SEIA.

Table 2-1: Triggers to undertake moderate level of SEIA

Scale of impacts	Magnitude of impacts	Information expectations	Socio-economic baseline content
• Several impacts OR • Two or more medium or high impacts OR • Impacts on groups of people	• Impacts of a moderate nature OR • Impacts of moderate duration • Impacts that require specific mitigation measures	• Desktop research • Quantitative information from secondary sources • Limited primary research required • Targeted consultation with some key community and government stakeholders to identify specific impacts and mitigation measures	• ABS Census data, fully describing population and demographic characteristics • Local community structure and patterns • Relevant business and economic data • Stakeholders and interest groups and outcomes of targeted consultation

Source: Roads and Maritime Services, 2012 'Environmental Impact Assessment Practice Note: Socio-economic assessment – EIA-N05 – Table 1', Transport for NSW

The practice note further outlines the requirements for establishing the socio-economic baseline. A moderate assessment is required to consider the full range of qualitative and quantitative aspects of a socio-economic profile.

In addition, the practice note provides a range of matters to be considered in assessing the socio-economic benefits and impacts of a road project. These include issues such as property impacts, changes to population and demography, business and industry, social infrastructure, community values, local amenity, and access and connectivity. In scoping impacts, the practice note states that consideration should be given as to whether:

- Changes would be negative or positive
- Quality of life, community identity, safety, health or economic viability would be affected
- Impacts would be acceptable or tolerated by most people, that is, would not cause concern or discomfort
- The area affected is limited to people for whom individual arrangements can be made, or extends to an area which requires more detailed strategies to be implemented
- Impacts would affect social equity, such as access to housing, employment, services or customers
- Negative impacts would be temporary or permanent
- The impacts would compromise wider planning goals or community values.

Specific socio-economic issues raised by the practice note have been separately assessed within **Chapter 5** and have been integrated into the SEIA methodology as outlined in **Chapter 2**.

2.2 Methodology overview

In preparing the SEIA, the following process was implemented:

1. Review of assessments undertaken for similar projects, such as the Nelligen Bridge replacement, to scope issues and identify the potential scale and magnitude of impacts
2. Definition of the study area and precincts, as identified in section 4.0
3. Development of a profile of existing geographic areas, social infrastructure and businesses that may be influenced by the proposal (using Australian Bureau of Statistics (ABS) Census 2016 and Transport Performance and Analytics (TPA))
4. Review of consultation findings from the community, businesses and stakeholders within the study area and surrounds to determine community, stakeholder and business values and concerns. Review of Council's community strategic plans to further inform the types of values held by the community
5. Identification of likely changes/impacts that may occur as a result of the proposal, including specific effects on stakeholders, general community, businesses, social infrastructure and other receivers
6. Assessment of the significance of social, economic and business impacts during construction and operation
7. Assessment of the cumulative social, economic and business impacts
8. Identified mitigation, plans and strategies for monitoring and managing the impacts during both construction and operation.

The SEIA has also been informed by the outcomes of various working papers that have been prepared for the proposal. This includes traffic and transport, noise and vibration, landscape and visual impacts, non-Aboriginal heritage, Aboriginal heritage and biodiversity impacts. In consideration of the results of the working papers and the outcomes of consultation, a comprehensive assessment of construction and operational socio-economic impacts has been prepared in accordance with the Roads and Maritime guideline.

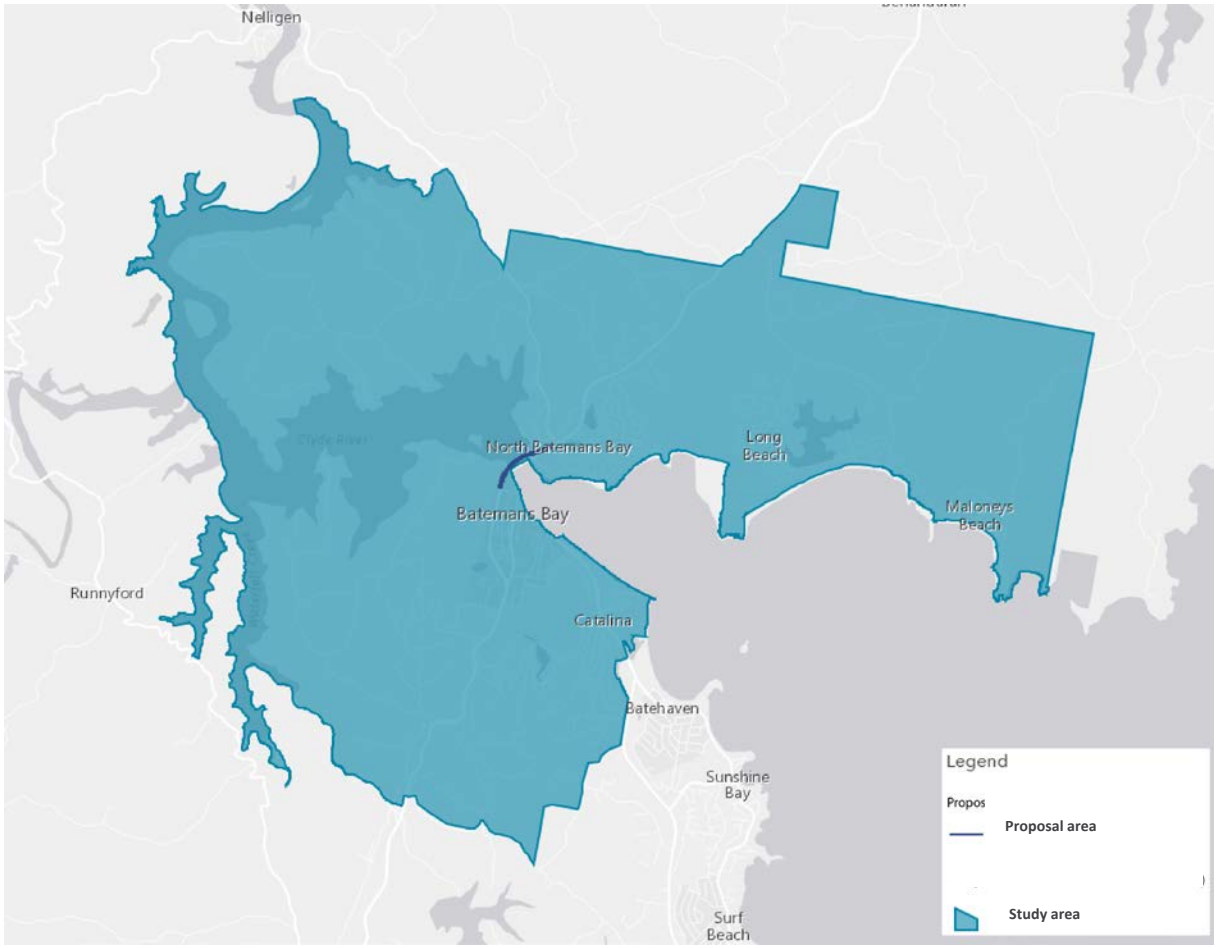
2.3 Defining the study area

ABS geographic boundaries (referred to as Statistical Area Level 2 (SA2)) were used to define the socio-economic study area (see Figure 2-1). The township of Batemans Bay and the surrounding suburbs of Surfside, Long Beach, Maloneys Beach, North Batemans Bay and Catalina form the study area. The wider local government area (Eurobodalla Shire) was used to inform the regional context of the proposal and provide comparison to the socio-economic data obtained at the Batemans Bay SA2 level, from the ABS.

Although not defined within the SA2 boundary, the study area also extended to downstream and upstream areas of the Clyde River and some tributaries. It was necessary to include appropriate consideration of oyster leases located in the Clyde River upstream, of the proposal area, and commercial ferry, tourism and other maritime interests that operate within Batemans Bay.

When considering direct construction and operational effects, the scoping of issues determined that social infrastructure or businesses that were within close proximity to the construction sites and ancillary facilities were more likely to be exposed to potential impacts. In most instances, direct effects were generally confined to within a 400 metre radius of the site. The existing environment section of the report identifies the social infrastructure and business clusters located within this 400 metre parameter.

Figure 2-1: SEIA study area



Source: ArcGIS and HillPDA 2017

2.4 Initial scoping of project impact

The Practice Note includes an initial scoping checklist to be used as a starting point for investigation of potential social and economic impacts of the proposal. This initial scoping exercise suggests that key social and economic issues of relevance for the proposal are likely to include:

- Property impacts including full and partial acquisition and future use implications
- Changes to the community values and character of the local area
- Changes in the way people access and use local facilities, including the foreshore, social infrastructure, open space and public transport.
- Changes to the amenity for some residents, including visual and landscape, noise, light spill, privacy and activity level impacts
- Business and industry (including tourism) impacts.

A moderate level of assessment is appropriate, for the following reasons:

- There are several potential impacts around property, access, amenity and community values which are likely to cause local community disruption
- Several impacts are of a moderate nature although largely temporary and are likely to require specific mitigation strategies to reduce impact. Residual and property impacts are likely to remain after mitigation strategies are applied.

2.5 Data sources used to inform the study

In preparing this report, HillPDA utilised the following data sources:

- ABS (Census 2016)
- ABS (8165.0 Counts of Australian Businesses 2016)
- ABS (5220.0 Australian National Accounts 2016)
- NSW Department of Planning and Environment Population and Dwelling Forecasts 2017
- Transport Performance and Analytics, 2017
- Relevant State, local government and agency policies and guidelines (Section 4.0)
- Outcomes of community, business and stakeholder information sessions
- Outcomes from the business survey, community consultation survey and a boat survey
- Geographic information system (GIS) information on land uses as informed by relevant Local Environmental Plan.

2.6 Stakeholder and community engagement

Stakeholder and community consultation has been undertaken for the proposal. Outcomes from consultation (see Appendix A and Appendix B) have underpinned the SEIA. This assessment has analysed the findings from consultation undertaken in August and September 2017 for the preferred option which included community information sessions and community and business surveys.

During August and September 2017, Roads and Maritime asked for community feedback on the preferred Batemans Bay bridge option. The consultation included:

- Three drop in sessions attended by more than 240 community members
- A Preferred Option Survey on the Roads and Maritime website completed by 253 community members
- Business Surveys were completed by 34 business in Batemans Bay
- Stakeholder meetings held with river users, local council, businesses and transport operators
- Project information delivered to all residential properties in the north Eurobodalla area and displayed at advertised locations, in local newspapers, on social median and Roads and Maritime.

2.6.1 Business Survey

A business survey was used to gain a better understanding of the types of businesses that operate within proximity to the new bridge and their perceptions and concerns regarding the existing bridge and; the design, construction and operation of the new bridge. The business survey was conducted within the Batemans Bay centre on both the northern and southern end of the Batemans Bay Bridge. The survey was conducted over a two-week period in September 2017.

Businesses were approached at random with around 34 businesses participating in the survey. The business survey was undertaken across a wide variety and representative sample of business types including businesses such as retail, commercial, cafés, restaurants, tourist services and health/beauty services.

All information gathered as part of the business survey was collated into a database. Findings from this survey have been analysed and summarised in Table 6-1. The survey report is provided as Annexure A to this assessment.

2.6.2 Preferred Option Survey

A Preferred Option Survey was used to gain an understanding of the community's understanding of the main issues, perceptions and concerns in regard to existing bridge and; the design, construction and operation of the new bridge. The Preferred Option Survey was available on the Roads and Maritime Website between Friday 4 August and Friday 1 September 2017 and was completed by 253 community members. It consisted of seven survey questions and one open ended response question.

All information gathered as part of the Preferred Option Survey was collated into a database. Findings from this survey have been analysed and summarised in Table 6-1. The survey report is provided as Annexure A to this assessment.

2.7 Impact assessment framework

The impact assessment presented in this report identifies and evaluates changes to existing socio-economic conditions arising from the construction and/or operation of the proposal. This includes the assessment of direct and indirect impacts and benefits, as well as consideration of cumulative impacts.

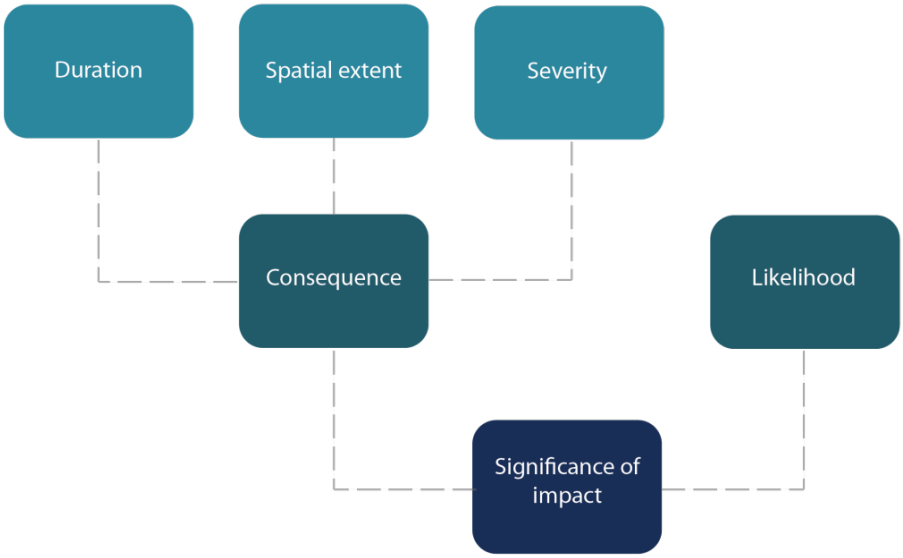
The following impact assessment considers:

- Property impacts, including the socio-economic consequences of both direct and indirect impacts associated with property acquisition and potential changes to property access, values, amenity and plans for residual land use
- Social impacts arising from construction and operation relating to population and demography, amenity, community health, community values, social infrastructure, local access and connectivity, heritage, and visual character
- Business impacts and benefits relating to passing trade, vehicle parking, servicing and deliveries, employment and recruitment, business access and connectivity, and business amenity
- Economic impacts to local and regional industries associated with construction expenditure and employment, economic value add and freight and efficiency costs.

These issues have been assessed in Section 5.0.

Figure 2-2 outlines the assessment framework that was employed to determine the overall significance of socio-economic impacts. The following sections outline the criteria that underpin each of the components of the assessment framework. Project data and knowledge and professional judgement have been applied on a case-by-case basis to identify the duration, spatial extent, severity, consequence, likelihood and ultimately the significance of impact on the socio-economic environment for each identified impact.

Figure 2-2: Socio-economic assessment framework



Source: HillPDA 2017

2.8 Consequence

Consequence refers to the degree of benefit or detriment associated with the impact. Duration, spatial extent and severity of change (**Table 2-2**, **Table 2-3** and **Table 2-4** respectively) are the underlying criteria that contribute to the determination of the overall consequence level. The definition of the various levels of consequence is included in **Table 2-5**.

2.8.1 Duration

Table 2-2 categorises the potential duration that an impact or impacts may affect a household, business or community.

Table 2-2: Duration of impact

Duration	Description
Short term	Less than six months
Short-medium term	Between six months and two years
Medium term	Between two and five years
Medium-long term	Between five and ten years
Long term	More than ten years (effect likely to be irreversible)

2.8.2 Spatial extent

Table 2-3 categorises the geographic extent of an impact with consideration of the number of people within the geographic extents.

Table 2-3: Spatial extent of impact

Spatial extent	Description
Locality	Street, multiple streets or neighbourhood level
Suburb	Suburb as defined by ABS
Statistical Area Level 2	Batemans Bay SA2
LGA (or greater)	Eurobodalla Shire Local Government Area (LGA)

2.8.3 Severity of impact

Table 2-4 defines the severity of impact based on the intensity of potential effect and the potential change to the existing socio-economic environment (baseline condition). Severity effects could be acute or chronic.

Table 2-4: Severity of change

Severity	Description
Neutral	No discernible change to baseline condition
Small	Small change to baseline condition
Medium	Medium change to baseline condition
Large	Large changes to baseline condition

2.9 Level of consequence

Table 2-5 identifies the consequence of the impact, based on the extent, duration and severity of the impact.

Table 2-5: Consequence of impact

Consequence	Description
Negligible	No discernible positive or negative changes to baseline condition.
Slight	Small change to baseline condition, generally short or short-medium term, confined to a locality or suburb and are able to be mitigated or enhanced.
Moderate	Medium change to baseline condition that may be short, medium, or long term. The spatial extent may vary; however impacts would usually respond to mitigation or enhancement.
Major	Large change to baseline condition usually resulting in medium to long-term effects. Spatial extent is generally at an LGA or regional level with the potential for substantial effects on the social or economic environment. Negative impacts would require extensive mitigation.

2.10 Likelihood of impact

Table 2-6 categorises the likelihood criteria used for the assessment.

Table 2-6: Spatial extent of impact

Likelihood	Description	Probability
Near certain	Expected to occur, almost frequently	~ 90 per cent
High	Could occur in many instances	~ 70 per cent
Possible	Just as likely to happen as not	~ 50 per cent
Low	Very limited occurrence	~ 30 per cent
Rare	Occurrence in exceptional circumstances	~ 10 per cent

2.11 Significance of impact

The significance of the impact is determined with consideration of the:

- Consequence of the impact, based on the extent, duration and severity of the impact
- Likelihood of the impact occurring.

The nature of the impacts may be:

- Positive – the impact benefits the socio-economic environment or community values
- Negative – the impact adversely effects the socio-economic environment or community values
- Neutral – the impact is neither positive nor negative.

The following assessment matrix (**Table 2-7**) determines the significance of the impact on the socio-economic environment.

Table 2-7: Significance of socio-economic effects

		Consequence			
		Neutral	Slight	Moderate	Major
Likelihood	Rare	Negligible	Negligible	Minor	Moderate
	Low	Negligible	Negligible	Minor	Moderate
	Possible	Negligible	Minor	Moderate	Moderate
	High likelihood	Minor	Minor	Moderate	Major
	Near certain	Minor	Moderate	Major	Major

3.0 SOCIO-ECONOMIC POLICY FRAMEWORK

This section provides an overview of strategic and policy documents relevant to the SEIA. This includes planning guidelines and policies from various local and state government agencies.

3.1 NSW Government

3.1.1 South East and Tablelands – NSW Regional Plan 2036

The South East and Tablelands NSW Regional Plan 2036 has been developed by the NSW Government to provide a strategy necessary to guide the future vision of the region. The plan is intended to provide an overarching framework to guide specific land use plans, development proposals and infrastructure funding decisions within the region. This framework is outlined through goals directed at improving the region.

Relevant to the proposal, is enhancing tourism and export opportunities through the Batemans Bay port which is identified as a priority, as is creating advancements in information technology to enable smart work opportunities for residents within Batemans Bay. Further investments in the road network to strengthen the connection to Canberra for jobs and services, is also highlighted as a goal within the Plan.

Batemans Bay is highlighted as the main retail and commercial centre within the Eurobodalla Shire Local Government Area (LGA) and expanding the mixed-use nature of the town is flagged as a priority, as is re-developing the Mackay Park Precinct. This precinct includes the former bowling club site that has been purchased by Council. Council plans to redevelop the land and has formed a committee called the 'Batemans Bay Mackay Park Precinct Sunset Committee'.

3.1.2 Princes Highway Corridor Strategy 2016

The Princes Highway Corridor Strategy 2016 has been developed by NSW Government to identify:

- Objectives specific to the Princes Highway Corridor that support the NSW Long Term Transport Master Plan, Regional Transport Plans and other State plans
- The concerns, values and issues that are important to the community along the Princes Highway
- The sources of transport demand along the road corridor
- The performance of the Princes Highway in meeting specific targets, standards and objectives
- How future transport demands that are likely to be placed on the Princes Highway over the next 20 years can be managed and what road corridor improvements are therefore likely to be needed
- Current and future challenges in meeting the objectives for the corridor and short, medium and long term priorities to address these challenges on the Princes Highway.

The strategy states that all bridges on State and Regional roads should be able to carry Higher Mass Limits (HML) loads. A long term strategy of the Princes Highway Corridor Strategy is to ensure that the bridges on the Highway should be suitable for HML vehicles. The strategy identifies that Batemans Bay Bridge is one of five bridges that have been identified as deficient for HML access.

In addition to being a HML constraint, the bridge has been identified as being in poor condition with a number of maintenance concerns. These include significant areas of cracking, spalling and corrosion of reinforcement in the piers and deck, and corrosion in the trusses and lift span equipment, combined with issues such as deficient traffic barriers. Notwithstanding, there are various proposed maintenance works programmed to ensure the bridge remains safe for road users.

The strategy states that though the bridge operates efficiently under regular traffic conditions, the lift span often results in traffic congestion on the road network either side of the bridge. The bridge is narrow and more than 60 years old, and represents a significant risk of network and community severance if the lift span should fail during operation or if the truss was struck by a vehicle.

The strategy identifies planning for a new bridge over the Clyde River as a short term priority.

3.2 Eurobodalla Shire Council

3.2.1 Eurobodalla Community Strategic Plan 2017

The Community Strategic Plan has been developed by Eurobodalla Shire Council aiming to provide a roadmap to the future over the next 20 years. The plan identifies the main goals and priorities for the region, in a high-level context. The plan steps out outcomes and strategies, including strengthening communities, celebrating culture and creativity, protecting the natural environment and enhancing the economy and proposed development in the region. The Community Strategic Plan has been developed with regard to the Premier's Priorities, State Priorities and other relevant Regional Plans with the success of the plan relying on Council, State agencies and community groups.

Batemans Bay is referenced in the Community Strategic Plan as a regional centre with plans to increase the availability of employment lands to generate further opportunities for eco-tourism and rural production growth.

3.2.2 Greater Batemans Bay Structure Plan 2007

The Greater Batemans Bay Structure Plan 2007 has been developed by Eurobodalla Shire Council in an effort to provide a visionary document that sets outs the planning framework for development for 25 years (2006-2031). The Plan was prepared in consultation with the community, and aims to manage development and growth appropriately.

Within the Plan, the planning framework, including zoning maps, environmental factors and economic and social needs are all considered in accordance with the twelve key communities within the Eurobodalla Shire LGA. The objectives of the plan include providing and enhancing accommodation for both residents and tourists, enhancing and protecting the natural environment including along the coastal frontages, expanding business and tourism ventures and protecting and enhancing view corridors and accessibility. The Structure Plan provides general directions for the development of the Local Environmental Plan (LEP) and Development Control Plans (DCP).

3.2.3 Batemans Bay Town Centre Structure Plan

The Batemans Bay Town Centre Structure Plan was adopted in April 2008 and provides a vision for the town centre of Batemans Bay, south of the Batemans Bay Bridge. The plan was subject to public consultation and sets the framework for the expansion of commercial, tourism and retail development over the next 25 years (2008-2033) within Batemans Bay township, considered the main commercial hub within the Eurobodalla Shire LGA. The study area is identified as the Batemans Bay town centre and adjacent industrial areas.

The Plan sets out objectives, strategies and actions to be achieved in future development and improvements within the town centre. The objectives and directions have been grouped into seven main themes, which would apply over the whole town centre:

- Town Centre Structure
- Economy and Employment
- Managing Retail/Commercial Structure

- Community Facilities, Health and Education
- Enhancing the 'Nature Coast'
- Natural Hazards
- Access, Transport and Parking Integration.

Furthermore, the plan contributes to informing the future transition and controls for the commercial centre of Batemans Bay as well as additional guidelines for development within different identified precincts of the township.

3.2.4 Eurobodalla Settlement Strategy 2006

The Eurobodalla Settlement Strategy 2006 was adopted in December 2006. The aims of the Eurobodalla Settlement Strategy are to conserve biodiversity, respect the diverse cultural background of Eurobodalla, stimulate economic and community development, and provide efficient public services.

The strategy identifies land capability and the carrying capacity of the land to determine appropriate land uses. The plan aims to generate social capital and cohesion, trust and human support systems through community economic development and a sustainable pattern of settlement.

The key objectives of relevance to this study include strengthening the role of Batemans Bay as a major centre and reinforcing the existing commercial hierarchy to ensure that neighbourhoods are centred on services and civic facilities.

3.2.5 Eurobodalla Local Environmental Plan 2012

The Eurobodalla Local Environmental Plan (LEP) is a statutory planning instrument, developed by Council to guide development and environmental considerations, in accordance with the relevant standard environmental planning instrument under section 33A of the *Environmental Planning and Assessment Act 1979*.

The particular aims of this Plan are as follows.

- To preserve the urban growth boundaries of Eurobodalla as identified in the Eurobodalla Settlement Strategy
- To ensure development embraces the principles of ecologically sustainable development and quality urban design, and encourages walking, cycling and public transport use
- To provide employment opportunities and strengthen the local economic base by encouraging a range of enterprises, including tourism, which respond to lifestyle choices, emerging markets and changes in technology
- To identify and protect the established residential neighbourhoods and ensure a sufficient supply of suitable land to meet the future residential needs of Eurobodalla
- To restrict development of land that is subject to flooding, coastline hazard, bush fires and land slip
- To ensure that resource lands, including agriculture, mineral resources and extractive materials are not rendered sterile from incompatible land use
- To provide measures to protect and manage the biodiversity and environmental values of the land and waterways
- To ensure that development takes into account the environmental constraints of the land and minimises any off site and on site impacts on biodiversity, water resources and natural landforms
- To identify and protect the cultural and architectural heritage of Eurobodalla, including Aboriginal relics and places, and assist in its promotion as a tourism asset.

Within the LEP there are specific provisions relating to the Batemans Bay area, including height restrictions, identified heritage items, and objectives that set out reinforcing Batemans Bay as a major regional centre in Eurobodalla.

3.2.6 Batemans Bay Regional Centre Development Control Plan 2011

The Batemans Bay Regional Centre Development Control Plan (DCP) provides specific objectives, for the area to the south of the river crossing considered to be the regional centre. The DCP aims to achieve the following objectives in relation to the Batemans Bay regional centre:

- Promote efficient use of land by encouraging redevelopment that benefits local residents as well as visitors to Batemans Bay
- Encourage the amalgamation of small properties for redevelopment
- Ensure that future buildings neither dominate this coastal setting nor intrude unreasonably onto coastal views that are available from surrounding residential hillsides
- Promote the highest standards of urban and architectural design quality
- Ensure high levels of amenity along streets and laneways.

The DCP is to be considered in conjunction with the LEP and provides further guidance in relation to undertaking development of a desirable nature within the Batemans Bay township.

4.0 EXISTING ENVIRONMENT

This section provides an overview of the socio-economic characteristics of the study area. The Eurobodalla Shire Local Government Area (LGA) and the Rest of NSW (Regional NSW), excluding Greater Sydney, were used as a comparison. This background has been informed by the Australian Census of Housing and Population (ABS, 2016), Australian Census of Housing and Population (ABS, 2016), Australian Statistics Business Indicators (ABS 2016), Australian Statistics Business Indicators (ABS 2016) and the Bureau of Transport Statistics (NSW Government). The Greater Sydney Metropolitan area was used as a comparison to enable the precinct areas to be placed into perspective.

4.1 Population and demography

4.1.1 Population by gender

The total population of the study area in 2016 was about 7,700 residents; comprising 49 per cent male and 51 per cent female (see **Table 4-1**). This gender division was comparable to the Eurobodalla Shire LGA and the Regional NSW figures.

Table 4-1: Population by gender

Gender	Batemans Bay SA2			Eurobodalla Shire LGA			Regional NSW		
	2006	2011	2016	2006	2011	2016	2006	2011	2016
Male	3,361 (48.4%)	3,652 (48.7%)	3,778 (49.1%)	17,167 (49%)	17,578 (49.2%)	18,270 (49.1%)	1,193,752 (49.3%)	1,239,007 (49.3%)	1,301,717 (49.2%)
Female	3,582 (51.6%)	3,851 (51.3%)	3,915 (50.9%)	17,849 (51%)	18,165 (50.8%)	18, 955 (50.9%)	1,226,014 (50.7%)	1,273,940 (50.7%)	1,341,813 (50.8%)
Total persons	6,940	7,503	7,692	35,013	35,739	37,232	2,419,769	2,512,952	2,643,536

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.1.2 Population change

As seen in **Table 4-2**, between 2006 and 2016, the total population of Batemans Bay rose by about 10 per cent, equating to an annual average population growth rate of 1 per cent. This was in comparison to Eurobodalla Shire LGA and Regional NSW, which recorded lower proportional population increases of about 6 per cent (Eurobodalla Shire LGA) and 9 per cent (Regional NSW) with average annual growth rates of 0.63 per cent and 0.92 per cent respectively.

Table 4-2: Population change

Statistical area	Total population			Population increase (2006-2016)		Average population increase
	2006	2011	2016	Number	Percentage	Annual
Batemans Bay SA2	6,940	7,503	7,692	752	10.8%	1.08%
Eurobodalla Shire LGA	35,013	35,739	37,232	2,219	6.3%	0.63%
Regional NSW	2,419,769	2,512,952	2,643,536	223,767	9.2%	0.92%

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.1.3 Population age distribution

Table 4-3 identifies the population age distribution. As of 2016, the age distribution across the study area reflected a greater proportion of these residents under the age of 15 years (about 16 per cent) when compared to Eurobodalla Shire LGA (about 14 per cent). Regional NSW recorded a higher proportion of zero to fourteen year olds (about 18 per cent). The precinct also contained a higher proportion of residents within the 60-74 years age cohort (about 26 per cent, which was marginally less that the Eurobodalla Shire result (about 27 per cent) and greater than Regional NSW (about 18 per cent). At 13 per cent, the 75 years and over cohort was consistent with the Eurobodalla Shire LGA (about 13 per cent) and greater than Regional NSW (about 9 per cent).

Table 4-3: Population age distribution

Age distribution	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
0-14 years	1,241	16.1%	5,317	14.3%	485,259	18.4%
15-29 years	953	12.4%	4,315	11.6%	451,218	17.1%
30-44 years	1,072	13.9%	4,782	12.8%	451,173	17.1%
45-59 years	1,443	18.8%	7,845	21.1%	535,832	20.3%
60-74 years	1,983	25.8%	10,208	27.4%	479,913	18.2%
75+ years	997	13.0%	4,767	12.8%	240,137	9.1%

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.1.4 Cultural diversity

The study area's cultural diversity indicators are outlined in Table 4-4. The number of people within the study area that were born overseas (around 14 per cent) was higher than Eurobodalla Shire LGA (13 per cent) and Regional NSW (11 per cent). There was also a higher population of Aboriginal and Torres Strait Islander people living in the study area (around eight per cent) compared to Eurobodalla Shire LGA (around 6 per cent) and Regional NSW (around six per cent).

Table 4-4: Cultural diversity

Cultural diversity	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
Aboriginal and Torres Strait Islander People	595	7.7%	2,081	5.6%	145,189	5.5%
People born overseas	1,098	14.3%	4,957	13.3%	295,824	11.2%
Language spoken other than English	348	4.5%	1,400	3.8%	152,530	5.8%

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.1.5 Socio-economic Indexes for Areas

The index of relative socio-economic disadvantage (SEIFA) summarises the household conditions within an area. The Index of Relative Socio-Economic Disadvantage is derived from attributes such as low income, low educational attainment, high unemployment, jobs in relatively unskilled occupations and variables that broadly reflect disadvantage rather than measure specific aspects of disadvantage (e.g. Indigenous and Separated/Divorced).

This index is weighted one to 10, with 10 being the least disadvantaged. The study area received an index of **two**, which is lower than the Eurobodalla Shire LGA index of four. An index of two is considered to be a low score, reflecting that the area is relatively disadvantaged.

4.1.6 Need for assistance and dependents

Dependents are persons aged 0–14 and those over the age of 65 who are no longer in the workforce. As can be seen in Table 4-5, the study area recorded a lower proportion of children aged 0–14 (around 16 per cent) compared to Regional NSW (around 18 per cent), however higher compared to Eurobodalla Shire LGA (around 14 per cent). The study area recorded a higher proportion of people aged 65 years and over (around 30 per cent) compared to Regional NSW (around 27 per cent), however lower compared to Eurobodalla Shire LGA (around 40 per cent). The study area recorded the highest proportion of persons needing assistance (around nine per cent) compared to Eurobodalla Shire LGA (around eight per cent) and Regional NSW (around six per cent).

Table 4-5: Need for assistance and dependents

Need for assistance	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
Need for assistance	659	8.6%	2,878	7.7%	165,294	6.25%
Children aged 0–14	1,241	16.1%	5,317	14.3%	485,259	18.4%
People aged 65 years and over	2,307	30.0%	14,975	40.2%	720,050	27.2%

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.2 Families and housing

4.2.1 Dwelling type

As of 2016, there were around 3,355 occupied private dwellings within the study area. A significant proportion of these were a separate house (around 72 per cent), however this proportion remained lower than Eurobodalla Shire LGA and Regional NSW (around 80 per cent). This is reflected by a higher proportion of flat/unit/apartment dwellings (around 13 per cent) within the study area, compared to Eurobodalla Shire LGA and Regional NSW (around 7 per cent).

Table 4-6: Count of occupied private dwellings by type

Dwelling characteristics	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per centt
Separate House	2,422	72.2%	13,330	81.0%	853,234	80.9%
Semi-detached, row or terrace house	337	10.0%	1,318	8.0%	97,211	9.2%
Flat / unit/ apartment	443	13.2%	1,112	6.8%	71,509	6.8%
Other	127	3.8%	574	3.5%	24,714	2.3%
Not stated	18	0.5%	114	0.7%	8,510	0.8%
Total	3,355		16,450		1,055,183	

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.2.2 Dwelling tenure

As identified in Table 4-7, of the occupied private dwellings in the study area, around 60 per cent were owned or in the process of being purchased, around 30 per cent were rented and 2 per cent fell under another tenure arrangement. The percentage of dwellings owned was higher in Eurobodalla Shire LGA and Regional NSW with around 67 per cent and 65 per cent respectively. The study area does have a higher proportion of renters compared to Eurobodalla Shire LGA (23 per cent) and Regional NSW (27 per cent).

Table 4-7: Dwelling tenure type

Household tenure	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
Owned	1,986	59.2%	10,963	66.6%	676,971	64.2%
Rented	989	29.5%	3,800	23.1%	279,461	26.5%
Other tenure	52	1.5%	209	1.3%	10,427	1.0%
Not stated	329	9.8%	1,482	9.0%	88,325	8.4%
Total	3,355		16,450		1,055,183	

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.2.3 Household characteristics

Table 4-8 identifies that the proportional distribution of households is relatively consistent across the three statistical areas. Family households generally comprise around 67 per cent of dwellings, followed by lone person households at around 25 per cent and group households at around three per cent.

Table 4-8: Household characteristics

Household tenure	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
Family households	2,081	66.3%	9,797	67.4%	643,093	67.8%
Lone person households	786	25.0%	3,687	25.4%	234,110	24.7%
Group households	96	3.1%	360	2.5%	27,476	2.9%
Other/not stated	182	5.8%	692	4.8%	44,301	4.7%
Total	3,139		14,536		948,988	

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.2.4 Household size

The average household size in the study area and Eurobodalla Shire LGA was 2.2 persons per household. This was lower than the average household size of Regional NSW (2.4 persons per household).

4.3 Labour force, income and employment

4.3.1 Income

As identified in Table 4-9, the median total household income for the study area was $917 per week, which was slightly less than the median total household income of Eurobodalla Shire LGA ($946) and Regional NSW ($1,166). Personal income in the study area was around $500 per week, which was lower than Eurobodalla Shire LGA (around $515 per week) and Regional NSW (around $585 per week). Median rent in the study area was higher at $265 per week, compared to Eurobodalla Shire ($255 per week), however was lower than Regional NSW at $270 per week.

Table 4-9: Median income and rent

Medians	Batemans Bay SA2	Eurobodalla Shire LGA	Regional NSW
Median total personal income ($/weekly)	$503	$512	$584
Median total household income ($/weekly)	$917	$946	$1,166
Median rent ($/weekly)	$265	$255	$270

Source: ABS Census 2016, Time Series Profiles, 2017 release

4.3.2 Employment characteristics

As of 2011, there were around 6,175 residents aged 15 years and over within the study area. Of these residents, around 41 per cent were employed. The study area had a low proportion of residents employed in 'white collar' occupations (around 21 per cent) and a comparatively high proportion of residents employed in 'community/service' occupations (around 37 per cent) when compared to Eurobodalla Shire LGA (around 26 per cent and 34 per cent respectively) and Regional NSW (around 29 per cent and 31 per cent respectively).

Table 4-10: Employment characteristics

Employment characteristics	Batemans Bay SA2		Eurobodalla Shire LGA		Regional NSW	
	Number	Per cent	Number	Per cent	Number	Per cent
Blue collar	586	32.2%	3,518	30.9%	330,312	32.0%
Community/service	1,019	36.9%	4,620	34.1%	358,759	31.4%
White collar	889	21.2%	4,183	26.0%	364,903	28.9%
Unemployment	214	7.7%	1,013	7.5%	69,877	6.1%

Source: ABS Census 2011, Community profile

4.3.3 Key resident employment industries

The top four employment industries in the study area are similar to those across Eurobodalla Shire, being retail; accommodation and food services; health care and social assistance; and construction industries.

The top four employment industries in the study area are described in Table 4-11.

Table 4-11: Key resident employment industries Batemans Bay SA2

Employment industries	Batemans Bay SA2	
	Number	Percentage
Retail trade	420	16.5%
Accommodation and food services	340	13.3%
Construction	302	11.8%
Health care and social assistance	300	11.8%

Source: TPA 2011

This is compared to Eurobodalla Shire LGA where the top four employment industries are described in Table 4-12.

Table 4-12: Key resident employment industries Eurobodalla Shire LGA

Employment industries	Batemans Bay SA2	
	Number	Percentage
Retail trade	1,857	13.0%
Health care and social assistance	1,699	11.4%
Accommodation and food services	1,448	8.6%
Construction	1,369	8.3%

Source: TPA 2011

4.4 Travel behaviour

4.4.1 Resident travel to work

As identified in Table 4-13, 77 per cent of employed people working within the study area stated that driving was their primary method of getting to work, this is around 6 per cent higher when compared to Eurobodalla LGA (around 70 per cent).

Table 4-13: Resident travel mode to work (TPA)

Employment characteristics	Batemans Bay SA2		Eurobodalla Shire LGA	
	Number	Per cent	Number	Per cent
Car	3123	76.6%	8148.7	70.4%
Rail	0	0.0%	5.3	0.0%
Bus	31	0.8%	71.1	0.6%
Walking	112	2.7%	509.6	4.4%
Cycling	34	0.8%	94.5	0.8%
Other	778	19.1%	2,741	23.7%

Source: TPA Journey to work 2011

4.4.2 Employee travel to work

Of those that travelled to the study area for work (Table 4-14), around 72 per cent travelled by private car and four per cent walked only to work.

Table 4-14: Employee travel mode to work within statistical area

Employment characteristics	Batemans Bay SA2		Eurobodalla Shire LGA	
	Number	Per cent	Number	Per cent
Car	1,791	72.0%	8507.4	70.4%
Rail	3	0.1%	5.3	0.0%
Bus	8	0.3%	71.2	0.6%
Walking	104	4.2%	493.0	4.1%
Cycling	19	0.8%	97.5	0.8%
Other	562	22.6%	396.7	3.3%

Source: TPA Journey to work 2011

4.5 Business and industry

4.5.1 Eurobodalla Shire LGA industry overview (2016)

4.5.2 Number of businesses

As of June 2016, there were 2,832 businesses recorded within Eurobodalla Shire LGA, this is an increase of 82 businesses over the 2,750 recorded in 2015. The key industry groups in the LGA were comparable to those in 2015, although accommodation and food services had overtaken professional, scientific and technical services as the LGA's fourth largest industry (by number of businesses).

As at 30 June 2015 there were 692 recorded businesses in the Batesman Bay study area, while in 2011 there were 755 recorded businesses, representing a decline of 63 businesses or 8 per cent over the period. The key industry groups in the study area as of 2015 were construction (142), retail trade (77), accommodation and food services (70) and rental, hiring and real estate services (63).

4.5.3 Business and industrial clusters

The business and industrial clusters located within the study area are indicated within Figure 4-1. Table 4-15 identifies the key components of business and industry clusters located within close proximity to the construction and ancillary facilities.

The majority of the business and industrial zoned clusters are located on the south side of the bridge. There is a small neighbourhood centre located on the northern side of the bridge to the east however this lies outside of the 400m buffer zone and the socio-economic impacts would be considered minimal.

Figure 4-1: Business and industry clusters

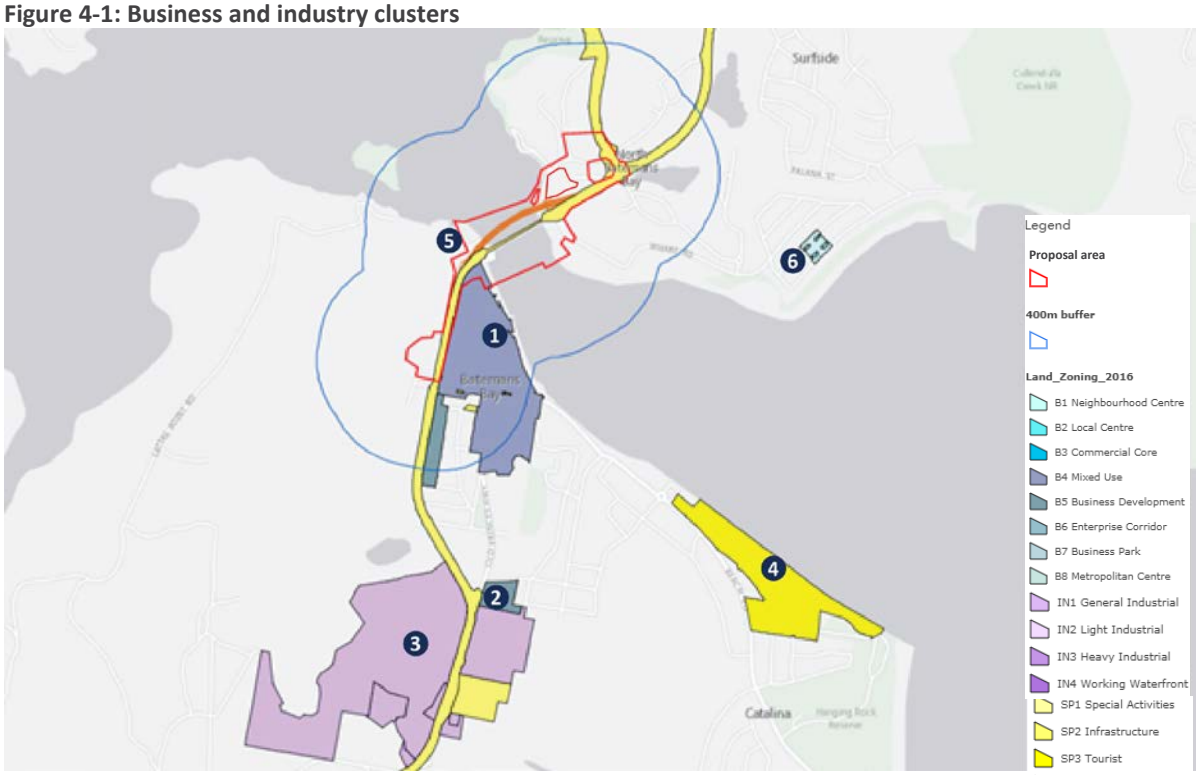


Table 4-15: Business and industry clusters

Map ID	Construction ancillary facility	Cluster name	Land zoning	Business cluster description
1	Southern carpark site	Batemans Bay town centre	B4 Mixed Use	This contains the main shopping and commercial precinct of Batemans Bay. The main retail and commercial streets include: • Clyde Street • North Street • Perry Street • Orient Street These streets comprise of a range of retail, dining services and a large shopping centre known as Bridge Plaza. These businesses serve a local and wide catchment.
2	NA	Highway Precinct	B5 Business Development	This precinct has been identified as a precinct with long-term development opportunities. This precinct currently comprises of: • South Coast Camping and Outdoors retail • Batemans Bay YHA • Bunnings Warehouse • Large residential and undeveloped lots. The precinct is predicted to provide a range of retail services that complement the Batemans Bay town centre to the north. This location is adjacent to the Princes Highway which provides visual exposure from passing traffic and economic opportunities for businesses requiring large floor plates and expanded display frontages that cannot be accommodated in the town centre.
3	NA	Batemans Bay Industrial Precinct	IN1 General Industrial	Batemans Bay Industrial Precinct is located along Vesper Street (Princes Highway) south of Batemans Bay town centre. This precinct contains a variety of industrial uses, manufacturers, office, wholesalers, specialised services and trades and food and beverage providers. This centre is unlikely to be dependent on passing trade or pleasant amenity.
4	NA	Batemans Bay Marina	SP3 Tourist	This business cluster comprises of Batemans Bay Marina and Coachhouse Marina resort tourist accommodation.
5	Reef Motel Inn Site	Clyde street tourist accommodation	R3 Medium Density Residential	Clyde street southern foreshore currently comprises of the following accommodation services: • The Reef Motel Inn site • Bridge Motel • Comfort Inn • Bay Executive Bluedock Apartments
6	NA	Surfside neighbourhood centre	B1 Neighbourhood Centre	Small neighbourhood centre that contains convenience shops which provide basic supplies. This centre is unlikely to be dependent of passing trade.

Although outside of the business clusters identified, there are a number of businesses within the study area that have the potential to be impacted by the proposal. These include but are not limited to:

- On the pier restaurant, 2 Old Punt Rd, North Batemans Bay NSW 2536
- Caltex Service Station, 2 Princes Highway, Batemans Bay
- Boatmans Bay Houseboat Hire, 21 Wray Street Batemans Bay
- Clyde River Houseboat Hire, Bert 21 Marina, Beach Road Batemans Bay
- Wray Street Oyster Shed, 5 Wray St, North Batemans Bay
- BIG4 Batemans Bay at Easts Riverside Holiday Park, Wharf Road North Batemans Bay.
- Accommodation facilities have been identified in section 4.5.2.4.

4.5.4 Employment generation

These 2,832 businesses in 2016 generated a total of 12,290 jobs with the four largest industries, by employment generation, being retail trade (1,834 jobs); health care and social assistance (1,725 jobs); accommodation and food services (1,458 jobs); and construction (1,323 jobs).

4.5.5 Gross Domestic Production and Industry Value Added

Eurobodalla Shire LGA's Gross Regional Product (GDP) was $1.4 billion as of the 30th June 2016, which represented 1.08 per cent of Regional NSW's GDP.

Industry value added (IVA) of an industry refers to the value of outputs less the costs of inputs. It measures the contribution that the industry makes to the country's wealth or GDP. The four largest industries, by IVA, are comparable to the four largest employment generators. However, the order is somewhat different - health care and social assistance ($134 million); construction ($110 million); retail trade ($93 million); and accommodation and food services ($88 million).

4.5.6 Worker productivity

Worker productivity by industry is calculated by dividing the industry value added by the number of persons employed in that industry.

It shows which industries generate the most value add per employee. For example, some industry sectors, such as retail trade, are not highly productive per worker ($50,867 per worker), but they generate a significant amount of employment (1,834 jobs or 14.9 per cent of all employment within the LGA).

The four largest industries within the LGA, by worker productivity, were mining ($1.1 million per worker); financial and insurance services ($270,371 per worker); rental, hiring and real estate services ($245,842 per worker); and electricity, gas, water and waste services ($239,200 per worker).

Table 4-16: Eurobodalla Shire LGA industry overview

Industry	Businesses	IVA ($m)	Employment	Productivity per worker
Agriculture, Forestry and Fishing	224	$37.1	348	$106,373
Mining	8	$35.8	31	$1,147,386
Manufacturing	109	$43.8	596	$73,542
Electricity, Gas, Water and Waste Services	9	$40.7	170	$239,200
Construction	683	$109.9	1,323	$83,105
Wholesale Trade	43	$20.2	196	$103,041
Retail Trade	268	$93.3	1,834	$50,867
Accommodation and Food Services	241	$88.1	1,458	$60,403

Industry	Businesses	IVA ($m)	Employment	Productivity per worker
Transport, Postal and Warehousing	138	$39.2	442	$88,724
Information Media and Telecommunications	14	$28.9	197	$146,698
Financial and Insurance Services	157	$49.3	182	$270,371
Rental, Hiring and Real Estate Services	251	$58.8	239	$245,842
Professional, Scientific and Technical Services	227	$43.2	485	$88,961
Administrative and Support Services	81	$37.5	410	$91,323
Public Administration and Safety	6	$65.4	718	$90,985
Education and Training	32	$81.9	1,071	$76,541
Health Care and Social Assistance	144	$133.6	1,725	$77,424
Arts and Recreation Services	38	$20.6	257	$80,041
Other Services	138	$32.5	608	$53,464
Total Industries	**2,832**	**$1,059.8**	**12,290**	**$3,174,291**

Source: Forecast economy 2017

4.5.7 Aquaculture industry

Aquaculture industries, such as the oyster farming industry within the study area, are a highly influential industry in the area. This industry is expanding into international markets, with product leaving the country from Canberra. The processing area for oyster farming is located on the southern bank of the river, and the industry relies on the Batemans Bay Bridge to access its market.

The importance of aquaculture industries within Eurobodalla Shire LGA is evident in the industry contributing 7.6 per cent of Regional NSW's aquaculture employment and 8.0 per cent of its value added in 2015/16.

Specifically, the aquaculture industry generated 47 jobs and contributed $4.6 million in value to Eurobodalla Shire LGA's economy in 2015/16.

4.5.8 Tourism

Tourism is an important industry within the study area as it provides a significant amount of economic benefit to the local community. Batemans Bay and surrounding coastal townships are renowned as popular, affordable tourist destinations, particularly for people living in Canberra and Sydney. The Eurobodalla Community Strategic Plan 2017 identifies that the seasonal variation in population, due to tourism, creates both opportunities and challenges for local businesses and Council.

Key tourist attributes, as identified in Eurobodalla Shire Council Tourist Marketing Plan 2016-17, include:

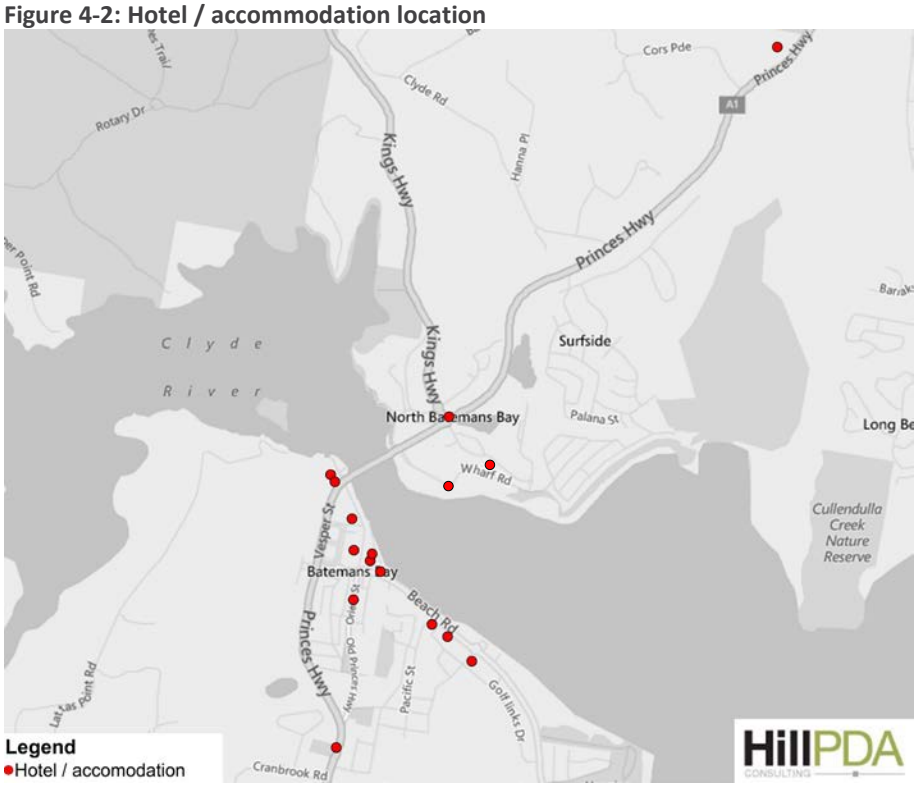
- Vast tracks of national parks, wilderness and native wildlife
- Strong connections to indigenous heritage and community
- Warm summers and mild winters
- Pallet of lush natural colour
- Close proximity to Canberra and Sydney
- Small friendly communities participating in a relaxed lifestyle
- Clean, uncrowded beaches, coastal marine park and inland waterways.
- Eurobodalla Shire Council, also provides tourism facilities such as foreshore paths, scenic parks, boat ramps and high quality streetscapes. These facilities make the area more desirable and appealing as both a tourist destination and also more liveable for local communities.

Over 1.2 million people visited Eurobodalla Shire LGA in 2015. Of these, 23,000 were international visitors, 666,000 were domestic overnight visitors and 470,000 domestic day visitors.

A total of $355 million was spent by these visitors within the LGA which supported local businesses, of which, around 550 were tourism businesses[1].

As of 30 June 2016, there were 16 recorded tourist accommodation establishments with 15 or more rooms, within the Batemans Bay Statistical Area. This is the same amount as recorded in 2012.

Figure 4-2: Hotel / accommodation location



Source: HillPDA, CoreList Australia

4.6 Transport and access

Changes to road, public transport and/or active transport networks during construction and operation have the potential to result in impacts on access and connectivity for residents, business owners and visitors. As access and connectivity are major components of the socio-economic assessment, it is important to consider the baseline transport infrastructure present within the study area. The existing baseline condition is presented in the following section and has largely been drawn from Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017), which provides a detailed analysis of the existing transport and traffic environment.

4.6.1 Passenger vehicles and public transport

Private vehicles are the predominant mode of transport across the study area, with 77 per cent of residents within the Batemans Bay SA2 travelling to work by this method. There are a number of arterial and local roads within the study area that would be impacted by the replacement of the existing bridge or during construction. These roads are described in Table 4-17.

Table 4-17: Arterial and local roads

Road Network	Description
Arterial	
Princes Highway	The A1 Princes Highway forms part of the main north south transport corridor that runs from Sydney to north east Victoria.
Kings Highway	The Kings Highway, is the primary east-west route between the Canberra/Queanbeyan region and the south coast at Batemans Bay. The Kings Highway intersects with the Princes Highway immediately north of the proposal.
Local	
North Street	North Street is a local street that runs east–west from a signalised intersection with the Princes Highway to Clyde Street.
Clyde Street	Clyde Street is a local road that provides access to the riverfront, accommodation, retail shops and boat ramps in Smoke Point.
Wharf Road and McLeod Street	Wharf Road is a local street that runs from a left in left out intersection with Princes Highway on the northern approach to Batemans Bay Bridge through to Mundarra Way and the residential area of Surfside. Wharf Road also provides access to Korners Park and the Clyde River foreshore and accommodation.
Peninsula Drive	Peninsula Drive is a local street that provides direct access to residential dwellings and a connection through to Batemans Bay Public School and Surfside.
Mundarra Way	Mundarra Way is an access road to Batemans Bay Public School and a short link road that connects Peninsula Drive to McLeod Street. It is generally one lane in each direction.
Beach Road	Beach Road provides a key link to the southern coastal suburbs of Batemans Bay as well as connecting into a recreational area on the western side of the Princes Highway.
Cranbrook Road	Cranbrook Road is a local street that provides access to an area comprising of various commercial businesses to the west of the Princes Highway.

Intersections within the study area are summarised within Table 4-18.

Table 4-18: Intersections in the study area

Intersection	Current Controls
Princes Highway / Kings Highway / Peninsula Drive	Roundabout
Princes Highway / Wharf Road	Unsignalised left in left out
Peninsula Drive / Mundarra Way	Roundabout
McLeod Street / Mundarra Way	Unsignalised T
Princes Highway / Clyde Street	Unsignalised Cross
Princes Highway / North Street	Traffic Signals
Princes Highway / Beach Road	Traffic Signals
Princes Highway / Cranbrook Road	Traffic Signals

4.6.2 Public transport

Modes of transport available across the proposal area include regional and local bus routes. A small proportion of residents in the proposal area travel to work by bus (less than 1 per cent).

4.6.2.1 Regional bus routes

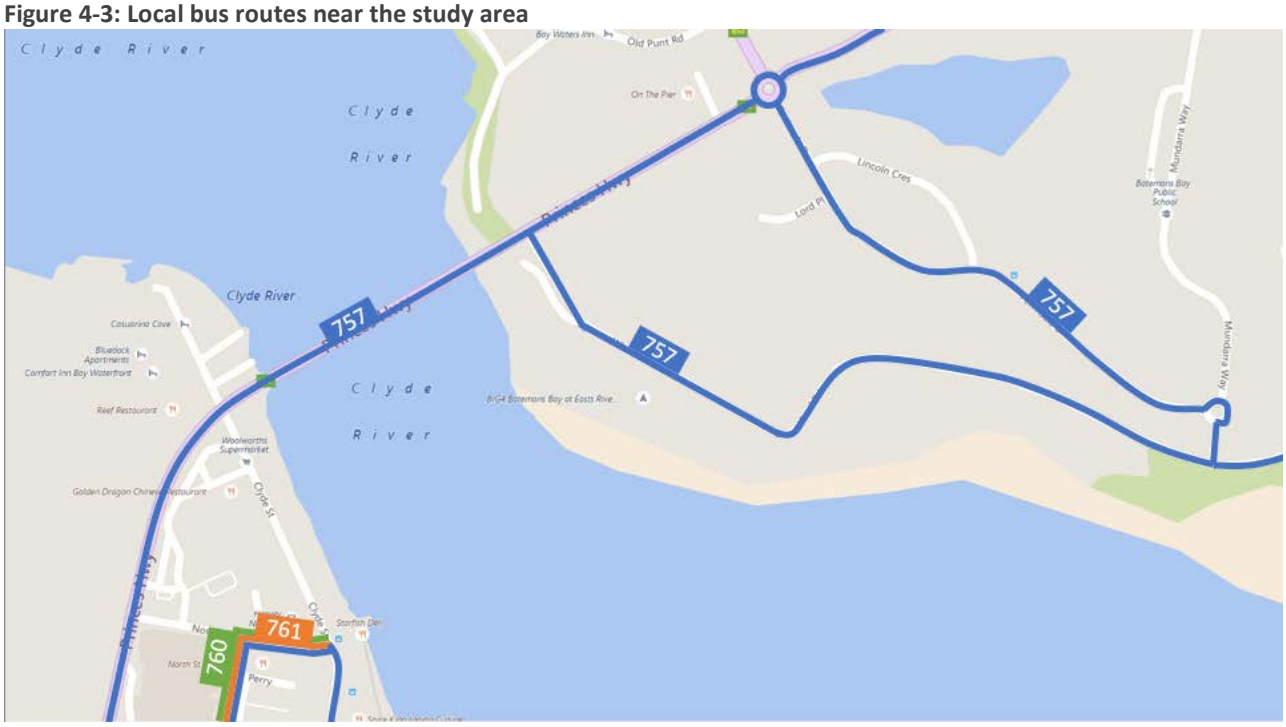
The A1 Princes Highway is a strategic bus corridor, used by frequent bus services that connect major regional centres. Regional bus services are provided by 14.5 metre coaches that currently turn from the Princes

Highway into Clyde Street to access the bus interchange located at the intersection of Clyde Street and North Street. On leaving the interchange, buses access the Princes Highway via the North Street intersection.

There are three local bus routes operating within Batemans Bay although only one route (757) uses the bridge. The local bus routes near the study area are shown in Figure 4-3, these include:

- Route 757 Long Beach/Maloneys Beach via Surfside (30 to 40 minutes frequency peak, two hour frequency off-peak)
- Route 760 Batemans Bay to Moruya (40 to 60 minutes frequency)
- Route 761 Sunshine Bay via Catalina (60 minutes frequency)

Figure 4-3: Local bus routes near the study area



Source: Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017)

4.6.3 Freight and commercial vehicles

There are a number of constraints to heavy vehicle freight traffic movement through the study area. This includes:

- The A1 Princes Highway is approved for use by heavy vehicles up to a 23 metre B-Double. Batemans Bay Bridge provides no current constraint to these vehicles.
- The Kings Highway is approved for use by heavy vehicles up to a 19 metre B-Double. However, 23 metre B-Doubles are prohibited
- Twenty-five metre and 26 metre B-Doubles are prohibited on both the Princes Highway and Kings Highway
- The A1 Princes Highway to the north of Batemans Bay Bridge and the Kings Highway are Higher Mass Limits (HML) short combination routes. The bridge is a constraint to these vehicles and as they are not permitted to use the bridge and must detour around the bridge for destinations south of the bridge
- HML 25 metre and 26 metre B-Doubles and HML A-Double Type 1 road trains are prohibited on both the A1 Princes Highway to the north and south of the bridge and on the Kings Highway

- The A1 Princes Highway is a 4.6 metre high vehicle route with conditions to the north and south and across Batemans Bay Bridge
- The Kings Highway is a 4.6 metre high vehicle route without conditions.

4.6.4 Cycling and pedestrian network

Walking was the most common form of active transport for commuters across the study area, however according the 2016 census only four per cent of residents within Eurobodalla Shire Council walk to work.

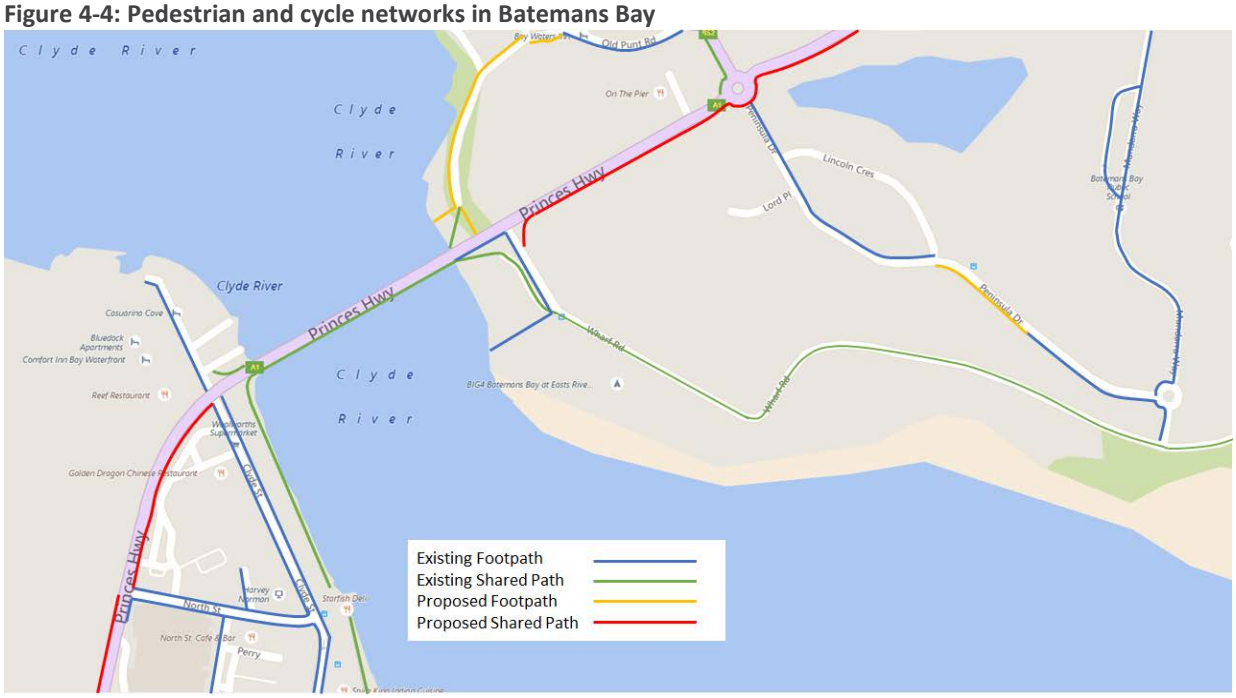
The *Eurobodalla Shire Council Pathway Strategy 2017* guides the provision of footpaths and shared use pathways throughout the shire. The main objectives of this plan are to:

- Support increased pedestrian and cyclist safety and access for intersections, roadways and bridges
- Enhance safety, access and comfort noting the significant budget limitations prevailing in a rates capped environment
- Ensure safety, access and comfort is maintained through or around construction zones.

Figure 4-4 illustrates the existing and proposed pathways in the proposal area. The current cycling network is predominantly oriented towards recreational trips rather than commuter trips, with dedicated cycleways concentrated within recreational spaces and along the foreshore.

The shared path along Batemans Bay Bridge is used by both cyclists and pedestrians. Shared pedestrian and cycle paths also run both sides of Clyde River, providing connection to the foreshore. The proposal includes new and upgraded active transport paths that ensure that the regional cycleway connectivity is retained along the Princes Highway, south of Clyde Street.

Figure 4-4: Pedestrian and cycle networks in Batemans Bay



Source: Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017)

4.6.5 Clyde River maritime environment

The existing Batemans Bay Bridge is about 300 metres in length and comprises a single traffic lane in each direction. The bridge has a central single lift span which can be raised to a height of about 23 metres. Traffic lights are located at both ends of the lift span and are only used when the lift span is opening.

The central lift span of the bridge is raised twice a day (at 11.45am and 2.20pm) for about 5 minutes for a tourist ferry with additional openings for private maritime vessels (when requested). On average, the central lift span is raised about 1,000 times each year.

The Clyde River is an active maritime environment, which is navigable by small vessels upstream to Nelligen, from Batemans Bay. A report by NSW Maritime in 2009 defines the degree of usage of Batemans Bay and the Clyde River to the east of the bridge as low to moderate. Further details are provided in Table 4-19.

Table 4-19: Clyde River maritime environment

Section	Degree of Usage	Type of Usage	Facilities
Batemans Bay	Moderate	A broad expanse of water popular for fishing, cruising, sailing and charter operations. Area is used for sailing regattas and fishing competitions.	Corrigans and Caseys beaches located on the southern side of the bay and Long Beach on the northern side are popular for boaters and swimmers, especially near camping and picnic areas.
Batemans Bay downstream of bridge	Low to Moderate	An area that includes the Clyde River bar, a narrow navigation channel, moorings, the marina and Batemans Bay township. Little or no towing activity. Marine Park Authority sanctuary zone at Cullendulla Creek.	Boat ramps at Hanging Rock and the Boat Harbour. Swing moorings and the Batemans Bay Marina is also located in this area. Public wharves located at Hanging Rock and adjacent to Batemans Bay town centre.
Clyde River upstream of bridge	Low	Intensive aquaculture (oyster) activity in this area. Some fishing and small sailing craft. Little or no towing activity. NB the area is used for sailing activities for disabled	Boat ramps immediately west of the Batemans Bay Bridge, on northern and southern banks of the river. A number of boatsheds are located on the northern shore.

Source: NSW Maritime Clyde Estuary Safe Boating Plan 2009-2013

Key components of the maritime environment within and near the proposal area are:

- The current maximum clearances available for maritime vessels under the existing bridge are:
  - Lift span closed 3.6 metres above mean high water mark
  - Lift span open 22.8 metres above mean high water mark.
- The navigable width of the lift span section of the bridge is about 23 metres and the navigable water depth varies depending on vessel draft.
- No anchoring is permitted either side of the bridge due to submarine cabling
- There are two boat ramps that are located either side of the Clyde River, upstream of the existing bridge. The facilities provided at each launching facility include:

  Southern bank – Lions Park boat ramp

  - Hard surface / formed ramp
  - Trailer parking facilities
  - Car parking spaces
  - Toilets
  - Picnic facilities

  Northern bank – Old Punt Road boat ramp

  - Hard surface / formed ramp

- Informal trailer parking accommodating about 10 vehicles plus trailer
- Picnic facilities

- Public toilet facilities are located on the east side of the existing bridge on the southern foreshore with a footpath provided underneath the bridge.
- There are about 112 private moorings and 45 commercial moorings within the Clyde River / Batemans Bay area, the majority of which are located either side of Batemans Bay Bridge.

There are various existing maritime users of the area surrounding the Batemans Bay Bridge. These include 112 vessels which are registered locally as well as tourist/visiting vessels. Most of the locally registered vessels are motor cruisers and yachts (making up approximately 60% of all vessels). Other significant users in the region are houseboats, which are the next most common type of vessel at 13% of all vessels.

These vessels are moored both upstream and downstream of the bridge. These vessels traverse under the bridge in order to access the sea or for maintenance and inspection at a dry dock. There are a number of commercial ferries in the region which are also regular users of the current lift span. A local mooring contractor also operates a barge to install moorings up and downstream of the bridge. A boat study was completed in September 2017, to identify maritime users on the Clyde River and results are provided in Table 4-20.

Table 4-20: Boat survey findings

Source: Boat Survey, Aurecon 2017

4.7 Community values

Community values are those that are held in common by residents and visitors in regards to a particular area or the enhancement of quality of life or sense of place. Values can be tangible or intangible. Physical aspects such as heritage items, social infrastructure or local features such as public art and trees are generally highly valued by communities, as are intangible elements such as the perception of safety and health or the sense of belonging and connectivity with people.

This section describes the community values held by residents, businesses and visitors in the study area. The community values have been informed through project consultation (summarised in Appendix A and Appendix B) and the review of the Council's Community Plans and Strategic Plans as outlined in section 3.0). A summary of the community identity, values and future aspirations within the study area is provided in Table 4-21.

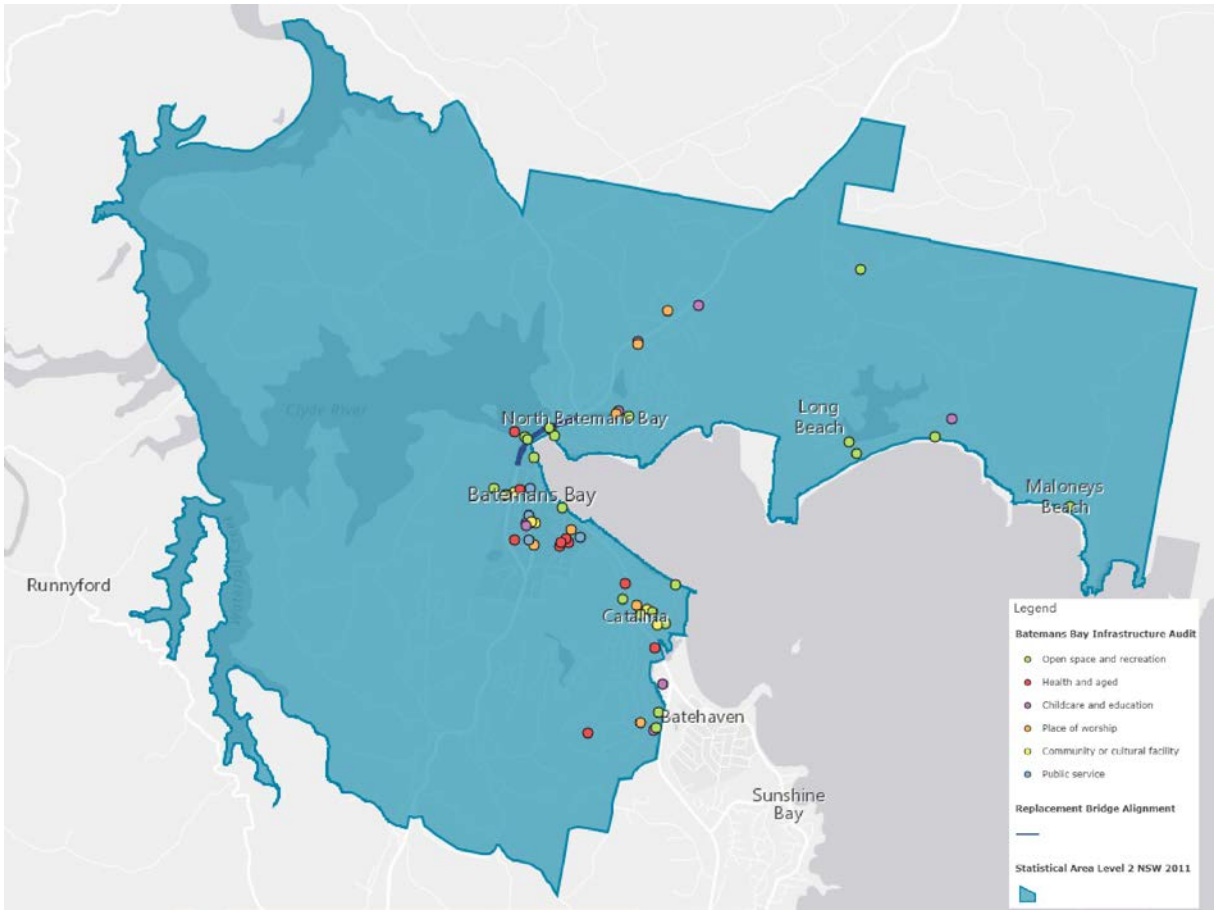
Table 4-21: Community values

Theme	Community values	Report section
Road network connectivity	• A new four lane bridge would improve residents' daily commutes • Traffic delays at the Princes and Kings Highway intersection is a significant issue • Road closures during construction and operation.	Section 5.1.1
Congestion	• Traffic delays and traffic congestion in Batemans Bay town centre • Increase in vehicles in Batemans Bay town centre due to the increase in road capacity.	Section 5.1.1
Parking	• Loss of on/off-street parking during construction and operation.	Section 5.1.2
Active transport	• Requests for cyclists and pedestrians paths • Pedestrian paths to be a sufficient width to support running and cycling • Ensure active transport routes are safe.	Section 5.1.4
Maritime	• It is important that taller boats can travel upstream under the bridge at all times • Ensure that foreshore facilities (boat ramps, dinghy launch facilities, fishing and moorings) are provided at both ends of the bridge • Potential for a ferry wharf.	Section 5.1.5
Heritage	• The old bridge should be memorialised within Batemans Bay town centre or utilised a tourist attraction • The existing bridge has value as a heritage item among the community.	Section 5.3.5
Community and social cohesion	• Assistance should be provided for vulnerable, disabled and isolated people • Construction traffic should be minimised on local streets to conserve safety for residents.	Section 5.3
Amenity, character and identity	• The existing bridge is seen as iconic and an important part of the towns character and identity • Views and vistas of heritage, waterways are to be protected • The metal from the bridge could be utilised for public art • The design of the new bridge should be iconic and integrate with the character and identity of the town • Significant trees and vegetation enhance scenic amenity and should be retained.	Section 5.2
Environmental	• Water quality impacts during construction and demolition of the existing bridge.	Section 5.3.4
Social infrastructure	• Open space contributes to neighbourhood identity with specific areas holding particular community importance included the foreshore parks • Improve open space at the approaches to the old bridge.	Section 5.8
Economy	• Ensure that the foreshore is improved and made 'tourist-friendly' • Businesses would benefit from improvements to the Princes and Kings Highway intersection.	Section 5.6

4.8 Social and public infrastructure

This section provides an overview of the social infrastructure located within the study area (Batemans Bay SA2 – see Figure 4-5) and identifies the social infrastructure located within close proximity (400m) to the proposal.

Figure 4-5: Social infrastructure within the study area



Source: ArcGIS and HillPDA 2017

Figure 4-6: Social infrastructure within 400m of the proposal area

Source: ArcGIS and HillPDA 2017

4.8.1 Defining social and public infrastructure

Social infrastructure includes assets that accommodate social services or facilities that are used for the physical, social, cultural or intellectual development or welfare of the community. Social infrastructure may include physical infrastructure such as schools, libraries and the services, activities and programs that operate within these facilities. Open spaces, parks, recreation areas and sporting fields that support sport, recreational and leisure uses are also included in this definition. Public services such as emergency and government provided services are also considered.

The social infrastructure audit provides an important indication of the type, number, and importance of the facilities within the study area. The audit is indicative and based on the data available at the time of preparing report. This audit was sourced from various data points including local Council social infrastructure lists, Google and MapInfo Geographical Information System (GIS). Although every effort has been made to capture all relevant social and public infrastructure, due to errors in data sources, facilities not being registered or the facility not having a virtual presence, some facilities may not be captured.

The following section identifies the range of social infrastructure facilities located in the study area.

4.8.2 Childcare and education facilities

Catchments for childcare centres and primary schools are local in nature, primarily serving the needs of the local community. Secondary schools are district level facilities as they often draw from a wider catchment. Families are willing to travel further to enrol within schools with particular personal meaning, reputation or history.

At the time of preparing the report, the study area contained a range of educational facilities including around four childcare centres, one primary school and two tertiary (higher education) educational facilities. The Batemans Bay High School is located on the border of the study area and has been considered as being within the study area for the purpose of this assessment.

Table 4-22 provides a summary of the childcare and educational facilities within the study area.

Table 4-22: Childcare and education facilities within the study area

Social and public infrastructure	Number of Facilities	Facilities within the study area	Facilities within 400m of proposal area
Childcare centre	4	• Batemans Bay Child and Family Centre • Busy Bodies Longbeach Early Learning • Northside Early Learning Centre • Surfside Kidz Childcare	NA
Primary school	1	• Batemans Bay Primary School	NA
Secondary school	1	• Batemans Bay High School	NA
Tertiary education	2	• Eurobodalla Adult Education Centre • South Coast Colleges Adult Education Centre	NA

4.8.3 Open space and recreation facilities

The study area contains a substantial amount of active and passive space in the form of parks, reserves, playgrounds, aquatic centres and golf clubs. The area also benefits from cycling and walking paths located alongside waterfronts and other natural waterways. For the purpose of the report, facilities have been broken down into parks/reserves (passive spaces), playgrounds, sporting grounds/ovals (active spaces) and specialised sporting facilities. Specialised sporting facilities include facilities such as tennis courts, golf courses, BMX club, skate parks and aquatic centres.

This study area also includes a former bowling club that has been recently purchased by Council.

At the time of preparing the report, there were about twelve parks/reserves located within the study area, three sports grounds, four playgrounds and six specialised sports facilities. It should be noted that many of the parks and reserves identified also contained playgrounds and sporting facilities such as grass ovals and cricket pitches.

Table 4-23 provides a summary of the sporting/recreational facilities within the study area.

Table 4-23: Open space and recreation facilities within the study area and 400m of the proposal area

Facility type	Number of facilities	Facilities within the study area	Facilities within 400m of proposal area
Park and Reserve	12	• Albert Ryan Park • Batemans Bay Foreshore Reserve • Caseys Beach North Reserve • Corrigans Beach Reserve • Hibiscus Close Reserve • Long Beach Foreshore Reserve • Old Punt Road Reserve • Sandy Place Reserve • Kroners Park • Lions Park.	• Old Punt Road Reserve • Korners Park • Lions Park • Batemans Bay Foreshore Reserve
Playground	4	• Higgins Park Reserve	• Korners Park

Facility type	Number of facilities	Facilities within the study area	Facilities within 400m of proposal area
		• Korners Park • Lions Park • Melaleuca Reserve	• Lions Park
Sportsground	3	• Hanging Rock Sportsground • Mackay Park Sportsground • Surfside Oval	NA
Specialised sports facilities	6	• Batemans Bay Skate Park • Batemans Bay Tennis Club • Batemans Bay BMX Club • Catalina Country Club Golf Course • Billabong Indoor Pool • Batemans Bay Swimming Centre	• Batemans Bay Swimming Centre

4.8.4 Health and aged care facilities

The study area contains a range of health and age care facilities servicing the local and wider community. At the time of preparing the report, the study area contained around four medical facilities, five age care facilities and one hospital.

Table 4-24 provides a summary of the health and age care facilities located within the study area.

Table 4-24: Health and aged care facilities within the study area 400m of the proposal area

Facility type	Number of facilities	Facilities within the study area	Facilities within 400m of proposal area
Medical centre	4	• Batemans Bay Medical Centre • Batemans Bay Community Health Centre • Bayview Medical Cottage • Mayne Laverty Pathology Collection Centres	NA
Age care	5	• Crown Gardens, IRT Lifestyle and Care • The Clyde, IRT Lifestyle and Care • The Glen, Residential Care Centre • The Manor Bateman's Bay Retirement village • Uniting Coorinda Batemans Bay	• Crown Gardens, IRT Lifestyle and Care • Uniting Coorinda Batemans Bay
Hospital	1	• Batemans Bay District Hospital	NA

4.8.5 Community, cultural and civic facilities

The study area contains a number of community centres, halls and places of worship for a variety of faiths. These facilities provide opportunities for increased community, cultural and social activities and interaction. In addition to this, community centres within the study area play a role in:

- Delivering a range of educational, recreation and health services and programs
- Building community connections and relationships
- Improving the inclusion of community members especially within areas of highly diverse cultural and linguistic backgrounds.

At the time of preparing the report, the study area contained around two community centres, one museum, one information centre, seven places of worship and one library. Emergency services were also dispersed across the study area, including police and fire stations.

Table 4-25 provides a summary of the community centres, libraries and places of worship located within the study area.

Table 4-25: Community, cultural and civic facilities within the study area and 400m of the proposal area

Facility type	Number of facilities	Facilities within the study area	Facilities within 400m of proposal area
Community facility	2	• Batemans Bay Community Centre • Hanging Rock Sports Club Function Centre	NA
Cultural facility	2	• Batemans Bay Visitor Information Centre • Old Court House Museum	• Batemans Bay Visitor Information Centre
Library	1	• Batemans Bay library	NA
Places of worship	7	• Anglican Church, Batemans Bay • Batemans Bay Worship and Lifestyle Centre • Cross Central Church Batemans Bay • Greek Orthodox Archdiocese • Presbyterian Manse • Southland Church • Uniting Church, Batemans Bay	NA
Civic	3	• Fire and Rescue NSW Batemans Bay • Rural Fire Station • Service NSW	NA

5.0 IMPACT ASSESSMENT

This section describes the potential impacts on the socio-economic environment arising from construction and operation of the proposal. The assessment determines the consequence of change from the existing environment (Section 4.0) including consideration of the duration of impact, spatial extent and severity of change. The assessment also considers the likelihood of socio-economic effects occurring. The sensitivity of user groups has been considered during the assessment as informed by:

- Relevant socio-economic policy, including community strategic plans
- Feedback from stakeholder, business and community engagement
- Sensitivities identified on similar projects
- The experience of the authors in evaluating user sensitivities on comparable projects.

Table 5-1 defines the key issues and constraints as relevant to the socio-economic environment and identifies the section of the chapter where these are addressed.

Table 5-1: Key issues and constraints relevant to the proposal

Topic	Description	Assessment section
Traffic and transport	The section of the Princes Highway within the study area is typically free of traffic congestion and has good levels of service during typical weekday peak periods but is known to deteriorate considerably during holiday periods, particularly over summer. The operation of the lift span for maritime users stops the Princes Highway while vessels pass through.	**Section 5.1 Access and connectivity**
Maritime transport and users	Maritime users operate both upstream and downstream of the bridge and require access on either side of the bridge. The existing bridge does not allow vessels higher than 3.6 metres to pass underneath without the use of the lift span. Operational records indicate demand for the lift span is highly seasonal, generally peaking in December and January of each year. The majority of lifts are performed for the local tourist ferry which generally passes twice daily.	**5.1 Access and connectivity**
Threatened ecological communities	The vegetation communities of Coastal Saltmarsh and Swamp Oak Floodplain Forest are listed under the *Threatened Species Conservation Act 1995.* Coastal Saltmarsh is also listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both are present in the study area.	**5.3.1 Environmental values**
Threatened and migratory species	Thirteen threatened and migratory fauna species are present in the study area. Three threatened and migratory species recorded during field surveys are listed under the EPBC Act.	**5.3.1 Environmental values**
Aboriginal heritage	A search of the Aboriginal Heritage Information Management System (AHIMS) register found 15 sites within 500 metres of the study area. Archaeological investigations have identified five Aboriginal archaeological sites within the proposal area. The sites comprise three shell middens and two artefact scatters.	**5.6.2 Heritage values**
Non-aboriginal	Two heritage items located within the proposal area are listed on the Eurobodalla LEP 2012 as being of	**5.6.2 Heritage values**

Topic	Description	Assessment section
heritage	local significance and include the Batemans Bay Bridge (which is also listed on the Roads and Maritime S170 register as being of local significance). Another five listed heritage items are located near the proposal area. No heritage items listed on state or national heritage registers are within or near the proposal area.	
Aquaculture	The Clyde River and Batemans Bay contain an oyster industry of regional significance.	**5.6.1 Environmental values**
Landscape and visual amenity	The Batemans Bay Bridge itself has a distinctive visual character which makes it a landmark within the local and regional context of Batemans Bay and the south coast of NSW. The proposal provides an opportunity to create a new landmark entrance.	**5.10 Business and industry**
Land use	The Princes Highway corridor through Batemans Bay is constrained and has limited space. The proposal requires acquisition of land adjacent to the existing corridor.	**5.2.2 Landscape character and visual**

Source: Roads and Maritime, 2017 'Batemans Bay Bridge Project – Strategic Options Paper' NSW Government

The proposal has the potential to affect residents, businesses, road and water users, social infrastructure users and the wider community, both positively and negatively. An assessment of the proposal has been undertaken to determine the type and magnitude of the impacts and to identify measures to avoid, minimise, manage and mitigate these impacts.

5.1 Access and connectivity

Changes to road, public transport and active transport are likely to arise from the establishment and operation of ancillary sites for construction, new infrastructure alignment, intersections, surface road changes and operational infrastructure that trigger alterations or disruptions to traffic and transport connections and access to properties, businesses and social infrastructure. These include changes to:

- Road network efficiency and connectivity
- Parking access and availability
- Public transport connectivity
- Pedestrian and cyclist connectivity.

5.1.1 Road network efficiency and connectivity

Changes in road network efficiency and connectivity would occur across the study area from the construction and operation of the proposal. This would include traffic disruptions or diversions due to temporary, partial or full closures of roads, increased construction traffic (including heavy vehicles) and alterations to standard travel routes. All traffic modifications, including road closures and diversions, or route alterations are outlined in detail in the Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017). These changes are likely to affect general motorists and freight operations.

The significance of impact on the performance of the road network is likely to vary due to the seasonal nature of tourism in Batemans Bay. During peak holiday seasons, there is likely to be greater numbers of vehicles using local and arterial roads and therefore the significance of impact would be greater. For the purpose of this study, the worst-case scenario (peak holiday period) has been considered.

5.1.1.1 Construction effects

Construction of the proposal would generate light and heavy vehicle movements within and around the proposal area. Additional vehicle movements would mainly be associated with:

- Delivery of construction materials
- Spoil removal
- Delivery and removal of construction equipment and machinery
- Workers travelling to, from and within the construction area.

Construction vehicles

As identified in Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017), the construction traffic assessment indicates that during construction, daily traffic movements would increase on both local and arterial routes. An estimate of the construction worker vehicle movements, as outlined in the Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017) are shown in Table 5-2.

Table 5-2: Construction worker estimate vehicle movements per day

Vehicle type	Total vehicle movements per day (average)	Vehicles per day at peak construction periods
Construction personnel (cars employee light vehicles)	240	260
Light construction vehicles/utility vehicles	10	10
Heavy vehicles/trucks	6	37
Total	**256**	**307**

These light vehicle movements may reduce the amenity of local streets around the construction areas and ancillary facilities and increase traffic at local road intersections. Increased traffic, particularly on local streets may affect the safety of the environment, particularly if those streets that are primarily residential and had previously experienced lower traffic numbers. Throughout the construction period, haulage or traffic movements would be required along the highway and local road network. The greatest numbers of construction vehicle movements are anticipated:

Arterial network

- About 170 daily one-way vehicle movements during peak construction period at Princes Highway South
- About 155 daily one-way vehicle movements during peak construction period at Batemans Bay Bridge
- About 130 daily one-way vehicle movements during peak construction period at Kings Highway/Princes Highway
- About 95 daily one-way vehicle movements during peak construction period at Princes Highway North
- Local roads
- Around 130 daily one-way vehicle movements affecting Old Punt Road
- Around 160 daily one-way vehicle movements affecting the Bowls and Recreation Centre access.

Standard mitigation measures such as a Traffic Management Plan would be developed and refined during construction to facilitate the safe and efficient movement of traffic through and around the proposed construction area and ancillary facilities.

As identified in the Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017) the change in daily traffic movements on local and arterial roads in the vicinity of the works would be minor and are unlikely to result in any negative impacts on the socio-economic environment. The overall significance of impact would be negligible.

Road alteration, intersection performance and traffic travel times

Construction on major roads has the capacity to influence the performance of the broader road network. Due to the Princes Highway being a major north-south arterial road, changes associated with the proposal are likely to affect both local communities and the broader region, potentially resulting in both positive and negative effects on the socio-economic environment.

Construction impacts on major road networks may temporarily reduce the efficiency of freight movements and accessibility of residents travelling north-south. As the existing Batemans Bay Bridge would remain operational while construction of the new bridge occurs, effects on arterial road network performance are anticipated to be limited.

The Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017) assessed intersection performance across the study area during construction. Although the construction of the new bridge would be undertaken clear of existing highway traffic, traffic delays may be expected on the Princes Highway and intersecting local roads.

Increased intersection delays and traffic congestion have the capacity to:

- Increase stress and anxiety for road users
- Reduce resident, business and social infrastructure accessibility
- Increase air and noise pollution
- Incur greater travel costs for residents and visitors
- Incur greater service and delivery costs for businesses and social infrastructure
- Deter people from visiting a location, business or social infrastructure facility
- Affect the costs and efficiency of the freight network.

Although construction would generate a small, net worsening of intersections across the study area, the variance between the existing baseline conditions would be minor and unlikely to impact day to day traffic speeds or result in any delays. However, reduced travel speeds during public holidays are anticipated as the number of vehicles utilising the Princes Highway is at its highest.

It is noted that this is a worst-case assessment, based on peak construction traffic levels. Adverse road and intersection impacts would be expected to reduce once peak construction is completed.

The effect would be medium term and has the capacity to alter the efficiency of the network across the study area. The consequence of the changes on the socio-economic environment would be moderate, with a possible likelihood. As such, the overall impact upon the socio-economic environment would be moderate negative.

5.1.1.2 Operational effects

Arterial road network alterations

The Batemans Bay Bridge replacement traffic and transport assessment (Aurecon, 2017) identifies that the new bridge would have little impact on the network performance during weekday and weekend peaks. However, during holiday peaks vehicle kilometres, travel times and average speeds would improve by about

eight minutes. This means that more trips could be made on the network in a shorter time. Efficient road networks may improve the ability for individuals to access education, employment, health care, entertainment or businesses and tourist destinations.

The improvements would be due to the increased road capacity from one lane to two lanes in both directions and the proposed improvements at Kings/Princes Highway roundabout. The proposal would provide more reliable journey times as the bridge would no longer be required to open to accommodate maritime traffic. As identified in section 4.6, currently the central lift span of the bridge is raised twice a day for about 5 minutes.

As identified in section 3.0, the *Princes Highway Corridor Strategy 2016* identifies that the bridge currently operates efficiently under regular traffic conditions, but the lift span often results in traffic congestion along the Princes Highway either side of the bridge. The bridge is narrow and more than 60 years old and represents a significant risk of network and community severance if the lift span should fail during operation or if bridge trussesare struck by a vehicle.

The operation of the proposal is likely to reduce the traffic congestion either side of the bridge and indirectly affect Clyde Street and Wharf Road. This reduction in congestion and vehicle stopping is likely to increase the attractiveness and amenity of the environment, however this may also reduce the business visibility for the motels located along Clyde Street.

Effects would be long term and would result in improved access and connectivity. The change to existing baseline conditions would be medium. The consequence of change would be moderate and the likelihood of impact would be near certain. As such, the overall impact upon the socio-economic environment would be major positive.

Local road network alterations

The proposal would require local road network alterations which would affect the accessibility of areas for local residents, businesses and visitors. Direct local road impacts are expected at:

- Wharf Road, where the Princes Highway intersection would become a left in intersection only
- Wharf Road, with a new connection to Old Punt Road under the new bridge
- The Clyde Street and Princes Highway intersection would be removed. Clyde Street would no longer connect with the Princes Highway and would pass underneath the bridge. Traffic would be required to travel via North Street to the intersection with the Princes Highway.

These streets provide access to residential properties, social infrastructure facilities and businesses. Maintaining access to these properties is important in enabling the continuity of a business or an individual's daily routine. In most instances, these modifications are minor and would result in a marginal increase in travel time.

Businesses along Clyde Street, between North Street and the existing Princes Highway alignment may experience a slight alteration in business visibility upon operation. As the Princes Highway intersection at Clyde Street is being closed, there is potential for fewer cars to be driving past these businesses. In addition, there would be no direct access from the highway to the motels located on Clyde Street, which could result in tourists passing by these motels in favour of other motels.

Effects would be long term and would result in reduced access and connectivity, and business and social infrastructure visibility. The change to existing baseline conditions would be medium. The consequence of change would be slight and the likelihood of impact would be near certain. As such, the overall impact upon the socio-economic environment would be minor negative.

Bridge maintenance and performance

As identified in section 3.0, the *Princes Highway Corridor Strategy 2016* identifies that the bridge is in poor condition with a number of maintenance concerns. These include significant areas of cracking, spalling and corrosion of reinforcement in the piers and deck, and corrosion in the trusses and lift span equipment, combined with issues such as deficient traffic barriers.

There are currently a number of maintenance programs planned for the next four years to ensure that the bridge remains safe for road users. The new bridge would reduce ongoing maintenance costs and improve safety by increasing the width of the bridge and upgrading traffic barriers.

As identified above, the existing bridge often represents a significant risk to the network if the lift span should fail during operation. The new bridge would improve the reliability of connection for all road users through to essential services and minimise economic and social impacts resulting from an extended road closure or reduced capacity.

Effects would be long term and the change to existing baseline conditions would be major. The consequence of change would be medium and the likelihood of impact would be near certain. As such, the overall impact upon the socio-economic environment would be major positive.

5.1.2 Parking access and availability

- Alterations to the accessibility and availability of public parking may affect access and convenience for local residents, visitors, customers and/or clients and workers of local businesses. Due to the seasonal population fluctuation of Batemans Bay, demand for parking would vary across the year. During peak tourism periods, parking demand along foreshore areas near businesses and social infrastructure is likely to be higher.

The extent of socio-economic affects likely to occur during construction and operation are discussed in the following sections.

5.1.2.1 Construction effects

Where practicable, public parking along the foreshore areas would be maintained during construction, however, Old Punt Road near the northern foreshore would be closed during construction, which would remove access to the public parking area associated with the boat ramp. On the southern foreshore, impacts to parking would be minimised. However, the use of the boat ramp may result in short term restrictions or closure.

The use of the former bowling club site as an ancillary facility could impact on available parking for the adjoining oval. However, it is anticipated that parking requirements for the oval may be highest during the weekends, where construction activities would be lower than during the week.

Temporary loss of parking spaces at the supermarket adjacent to the southern approach would occur during temporary staging works. This includes both formal parking spaces (about 58) and an informal parking area adjacent to the supermarket (21 Clyde Street). All formal parking spaces would be returned once temporary staging and utilites work are complete and the land at 21 Clyde Street (informal parking space) would be returned to the private land owner in a condition agreed upon with the property owner. Further consultation would be undertaken with the supermarket to enable adequate parking is available during construction.

To assist in the construction and demolition of the bridge, on-water construction barges are proposed during construction. Access to the Clyde River, to transport material to the barges is expected to be either via the Wharf Road foreshore area (Korners Park) on the eastern side of the northern abutment or via the area to the west of the northern abutment, which would be accessed either via Old Punt Road or a temporary access road from the casting yard along Wray Street. The southern foreshore boat ramp may also be used for access.

These areas are public open space and are highly valued by the community. Effects on social infrastructure are discussed in section 5.8. During construction, some parking spaces may be temporarily leased or permanently acquired. Parking impacts from the proposal are identified in Table: 5-3.

Table: 5-3: Parking impacts

Location	Timeframe	Sensitive receivers
Old Punt Road northern foreshore public parking	Permanent	• Recreational users of the northern foreshore • Users of Old Punt Road Reserve • Users of Old Punt Road boat ramp • Foreshore caravan park • On the pier restaurant
Southern foreshore	Short term restrictions or closures	• Motels located along Clyde Street • Residential premises along Clyde Street • Recreational users of the southern foreshore • Recreational users of Lions Park Batemans Bay park • Recreational users of Lions Park Playground
Clyde Street public parking	Temporary closures	• Businesses located in Batemans Bay CBD, particularly those located along Clyde Street
Supermarket at Clyde Street (40 temporary and informal)	Temporary closures	• Supermarket and some nearby shops on Clyde Street

The construction of the proposal is anticipated to create around 425 construction jobs across a three to four year period within the study area. These additional construction workers have the potential to increase competition for public parking, which would have the potential to:

- Reduce access and convenience levels for motorists
- Reduce accessibility for residents and employees
- Increase stress and anxiety for motorists seeking parking
- Deter customers from visiting businesses
- Deter people from recreating along the northern and southern foreshore.
- Streets within and surrounding the construction areas and ancillary facilities are likely to experience an increase in parking demand generated by construction workers. However, ancillary facilities would accommodate construction workers parking where practical. The significance of impact would vary dependent on the number of construction workers and the availability of street parking in those areas. Residential streets likely to be impacted include Old Punt Road, Wharf Road and Clyde Street.
- The construction effects would extend for a medium duration however would generally be confined to a suburb locality. The effects would result in a small change from the existing baseline condition. The consequence of the construction effects would be slight and the likelihood of the effects occurring would be possible. The overall impact on the socio-economic environment would therefore be minor negative.

5.1.2.2 Operation effects

Once in operation, the proposal would remove a number of on-street car parking spaces on Clyde Street north to facilitate a coach turning circle. However, additional public parking along the northern and southern river foreshore would be installed as part of the proposal, benefiting residents, businesses and tourists.

Overall, the effects of operation on parking would result in a small change to existing baseline conditions. The effects would be long term and affect people within the Batemans Bay LGA. The consequence would be slight, however there would be a possible likelihood of the effects occurring. The overall impact on the socio-economic environment would therefore be minor positive.

5.1.2.3 Public transport connectivity

Public transport networks minimise the impacts of travel on the environment, reduced travel costs and improve quality of life for residents and workers. The extent of socio-economic effects likely to occur due to alterations in public transport during construction and operation are discussed in the following sections.

5.1.2.4 Construction effects

The construction of the proposal would require temporary and permanent alterations to existing local and regional bus services. The proposal would result in no left out movements from Wharf Road onto the Princes Highway at the Wharf Road/Princes Highway intersection, which would affect local bus route 575 (Batemans Bay Village Centre to Maloneys Beach) permanently (during construction and operation) which currently uses Wharf Road to access the Princes Highway. Alterations to route 575 would have the potential to increase travel time, distance travelled for services, and could result in an increase in the length of journeys for customers. However, a roundabout would be installed to allow buses to turn around thereby minimising any impact on local bus services or the socio-economic environment.

The construction of the proposal would require the permanent closure of the Clyde Street access to the Princes Highway. Coaches would be diverted and could run via North Street, Orient Street and Beach Road resulting in increased travel times.

The alterations to these bus routes have the potential to:

- Increase in the distance bus patrons are required to walk
- Reduce travel speeds due to congestion and increased intersection delays
- Increase the length of journey for customers
- Increase the cost of providing the bus service
- Reduced reliability of bus service timetabling due to traffic congestion or detours.

To minimise alterations to the existing regional coach routes, a turning circle would be provided to allow coaches to turn around at the northern end of the Clyde Street. This would facilitate the continual use of the existing bus interchange.

These socio-economic impacts are likely to be temporary and confined to only one local bus route and one regional bus route, with impacts managed and mitigated where possible. Roads and Maritime will continue to consult with local and regional bus companies through the future stages of the proposal.

Overall, the effect of construction on the public transport network would be medium term at a suburban extent. The change in baseline conditions would be small and the consequence of construction effects would be slight, with possible socio-economic effects. As such, the overall significance of impacts on the socio-economic environment would be minor negative.

5.1.2.5 Operation effects

On operation, local and regional bus travel times and reliability are predicted to improve as the new bridge would not be required to close to allow maritime traffic to pass. This would result in increased socio-economic benefits particularly during public holidays and summer time.

The improvements to the public transport network would be medium-long term at a suburb extent. The severity of change to baseline conditions would be small and the consequence would be slight, with possible socio-economic benefits. As such, the overall significance of impact on the socio-economic environment would be minor positive.

5.1.3 Pedestrian and cyclist

Alterations to pedestrian and cyclist networks have the potential to affect travel durations, movement patterns and accessibility. Construction and operation of the proposal would result in changes to pedestrian and cycle access, including temporary and permanent closures or diversions of some pathways. As detailed in the traffic and transport assessment (Aurecon, 2017), a key objective of the construction program would be to minimise disruption to pedestrians and cyclists and maintain network legibility.

Pedestrian and cyclist links provide important community links and enable public access to the waterway. Any loss or temporary closure of these connections may adversely affect accessibility, community cohesion and resident and visitor enjoyment of public spaces. The extent of socio-economic effects likely to occur during construction and operation, due to alterations in the pedestrian and cyclist network, are discussed in the following sections.

5.1.3.1 Construction effects

Pedestrian connections that are in close proximity to construction works may also experience changes in amenity due to alterations in noise levels, construction dust or visual impacts. Persons with mobility impairments or families with young children may be more sensitive to alterations in the pedestrian environment. Having to walk longer distances or wait longer at crossings would reduce accessibility for persons with mobility impairments.

The amenity, safety and subsequent user experience of pedestrian and cyclist routes around construction areas and ancillary facilities would likely be temporarily affected due to the introduction of construction activities, heavy vehicles and construction traffic into the local environment. This has the potential to result in:

- An increase in the amount of uneven surfaces (due to cracks and pot-holes in the existing roads and pavements from construction vehicles or activities) or construction debris (soil runoff) on pedestrian and cyclist routes, which may increase trip hazards and injuries, or reduce the appeal of the route
- Reduced local amenity due to construction activities producing noise and dust
- Reduced surveillance and sightlines, increased potential for entrapment spaces and increased instances of anti-social behaviour (e.g. graffiti) due to the presence of construction hoarding and facilities
- Increased pedestrian/cyclist conflicts with vehicles.

Whilst the opportunity to walk or cycle in the proposal area would be maintained during construction, the alterations and changes to amenity may detract from the experience of the foreshore environment and potentially deter local residents from enjoying an active lifestyle or feeling connected with their community.

To reduce the impact on pedestrian and cyclist connections, a strategy for the maintenance of pedestrian and cyclist access during construction and information regarding alternative travel routes would be prepared

during detailed design. Any alterations to pedestrian and cyclist routes would need to maintain safety and access, while minimising detour distances.

Overall, construction of the proposal would directly affect the amenity of the pedestrian and cyclist environment at a locality extent. Changes would be medium term and reflect a small change to the existing baseline environment. The consequence of the impact would be slight, with a possible socio-economic effects occurring. As such, the overall impact on the socio-economic environment would be minor negative.

5.1.3.2 Operation effects

A successful pedestrian and cyclist network provides infrastructure that enables convenient, safe and enjoyable walking and cycling trips. The socio-economic benefits from active transport networks include enhanced community connectivity, increased opportunities for social interaction and community cohesion, reduced car dependency and reduced cost of travel.

A more active lifestyle results in numerous health benefits for the community, including maintaining a healthy weight and improved mental health. Improving the quality of the pedestrian and cyclist network encourages increased usage. Well designed, safe (e.g. separated from vehicles), well connected (e.g. to town centres, open space and other regional active transport networks) pedestrian and cycle routes are attractive to all members of the community.

Upon operation, the proposal has been designed to:

- Deliver a shared use path that would connect onto an existing path at North Street and to the Kings Highway / Princes Highway roundabout
- Deliver a shared use path that connects to both the northern and southern foreshore areas.

The new shared use path would provide improvements to the existing active transport network. These improvements would directly benefit residents and visitors to Batemans Bay. In relation to access and connectivity for pedestrian and cyclists, the proposal has the potential to positively affect the following socio-economic elements:

- Health outcomes
- Local amenity
- Social interaction
- Reduced travel costs and time.

This would occur through the facilitation of new and enhanced, safer movement patterns around the study area, linking pedestrians and cyclists to popular waterfront and open space areas, such as the Batemans Bay Foreshore Reserve, Lions Park, Old Punt Road Reserve and Korners Park. These improvements would encourage additional recreational and commuter users, benefiting all members of the community including persons with mobility impairments or families with young children.

The improvements would also have the potential to increase connectivity (and reduce community severance) between the communities of North Batemans Bay and Batemans Bay.

The proposed additions to the pedestrian and cyclist network would be long term and benefits would be at a suburb extent. Changes would reflect a medium change to the existing baseline environment. The consequence of the impact would be moderate, with a high likelihood of these effects occurring. As such, the overall impact on the socio-economic environment would be major positive.

5.1.4 Maritime transport

The new bridge would be located between 50 and 80 metres further upstream of the existing bridge. It would provide a navigational clearance of about 12 metres mean high water spring level, the new bridge includes an allowance for sea level change as well as tidal and storm influences.The extent of socio-economic effects likely to occur during construction and operation, due to alterations in the pedestrian and cyclist network, are discussed in the following sections.

5.1.4.1 Construction effects

The water-based construction associated with the proposal would include construction of six piers in the Clyde River and installation of scour protection below the water line. The construction activities for pier construction would include:

- Installing piles at pier locations to the required depth by bored piling methods. A steel case would be driven to the required depth and the pile bored within this tube. Material within the case would be removed and disposed of as required. A steel reinforcing cage would then be placed in the steel casing and the concrete poured into the pile. Works would be undertaken from barges moored at the pier locations. This piling methodology minimises the disturbance of sediments
- Installing pile caps and pier columns using either precast or cast in-situ methods, or a combination of these.

The construction of the new bridge and the demolition of the existing bridge would require the use of boats, barges and other maritime vessels. The number and type of maritime vessels required would be determined during detailed design.

The increase in maritime vessels is not expected to adversely affect the use of the Clyde River, and a navigational channel would be maintained throughout construction. When the existing bridge starts to be demolished, the lift span would no longer be operated. One of the first activities in the demolition is the removal of the road deck on either span 4 or 6. This would enable a navigational channel to be maintained through the remainder of the removal of the bridge. As such, the overall impact on the socio-economic environment would be negligible.

5.1.4.2 Operation effects

Upon operation the proposal would provide improved access for sail boats and yachts in the Clyde River. This is likely to attract additional tourists to the area and benefit the local economy.

The proposed design for the new bridge does not include a lift span. The new bridge would provide a higher clearance than the current 3.6 metre clearance (being 12 metres mean high water springs (MHWS) level) but a lower clearance than the 22.8 metres afforded by the operation of the existing bridge's lift span. Therefore, the proposed design would affect the number of vessels able to traverse under the bridge.

Table 5-4: Summary of vessels impacted by the proposal

Vessel category	Type of vessel	No. of vessels	Current clearance to MHWS 22.8 using lift span	New clearance to MHWS 12
Commercial operators	Tourist ferry	1	✓	✓
	Houseboat	9	✓	✓
	Barge	1	✓	✓
	Proportion of category unable to pass under bridge		**0%**	**0%**

Vessel category	Type of vessel	No. of vessels	Current clearance to MHWS 22.8 using lift span	New clearance to MHWS 12
Private mooring licensees	Private yacht (downstream of bridge)	50	✓	×
	Private yacht (upstream of bridge)	7	✓	✓
	Houseboat	11	✓	✓
	Motor cruiser	15	✓	✓
	Proportion of category unable to pass under bridge		**0%**	**60%**
Tourist / visiting	Visiting transportable sailboat / yacht	unknown	✓	✓
	Visiting yacht	unknown	✓	×
	Visiting yacht or other	unknown	✓	×
	Proportion of category unable to pass under bridge		100%	unknown
	Proportion of total vessels affected by bridge		**0%**	**53%**

The 12 metre clearance of the proposed design would allow yachts of up to 7 metres in length to traverse under the bridge. A boat survey undertaken for the proposal noted that this length is an estimate as yacht mast heights are not recorded. The survey also notes that of all vessels registered in the South Coast region, around 90% are below 6 metres in length and 97% are below 9 metres in length. Therefore the number of vessels that require a clearance of above 12 metres is expected to be small.

Roads and Maritime published a comprehensive review of boat ownership in July 2010 that summarised trends in NSW boat ownership over the preceding 10 years, as well as forecast trends to 2026.

The total number of maritime users is expected to grow in line with population growth but will grow significantly more in the South Coast region. The region is expected to experience a 91% increase in the number of boats by 2026, relative to 2009. The total number of boats in the Sydney Harbour region (potentially the source of tourists to the Batemans Bay area) is expected to grow by 19% in the same period.

As stated, only sailing vessels over 7 metres in length may be unable to traverse under the proposed bridge, representing less than 10% of all vessels registered in the region. The proportion of vessels over 6 metres in length is expected to increase over time; however the majority of this growth is expected to be in powered vessels. Not having masts, these vessels would not exceed the clearance level of the proposed bridge. The number of yachts over 6 metres in length (which could exceed the clearance level) is expected to grow, but at a slower pace than overall boat numbers.

Consequently, the overall proportion of sailing vessels able to pass upstream of the new bridge is therefore expected to reduce further than the currently low number. Tall vessels that can drop their masts would continue to be able to travel up stream.

For the majority of boat users and the businesses that serve them, the new bridge would provide a significant benefit for ease of travel up the river. The existing bridge is lifted only twice daily to allow vessels to pass under. This is a significant barrier to the movement of vessels limiting users' enjoyment and access to services/facilities/places in the area. The new bridge therefore would provide unlimited access up river for the vast majority of boat users.

In addition, the new bridge would enable the tourist ferry to potentially be able to travel up and down the river more frequently. Likewise houseboats, which have a minimum required clearance of 8.5 metres would benefit from the new bridge. The number of houseboats using the current lift span is currently small,

however, as part of a tourism-related industry, has significant potential for growth. The proposed design of the new bridge would have no impact on these commercial operators.

Overall, the proposal would have long term impact and would affect the LGA however the severity of change to baseline conditions would be medium and the consequence of impact would be high with a high likelihood of benefit to the socio-economic environment occurring. As such, the overall impact upon the socio-economic environment would be major positive.

5.1.5 Moorings

Moorings are currently located on both sides of the existing bridge so it is necessary for some vessels to pass under the bridge to access their mooring. The new bridge would see most vessels having increased accessibility to moorings upstream of the bridge as they would not be inconvenienced by the necessity of a lift span. This improvement in convenience has the potential to increase the attraction of the area for maritime tourists and local boat owners as well as the businesses that serve them.

A small number of the tallest yachts however would not be able to pass under the bridge and may need to consider new mooring locations downstream of the bridge. A change of mooring location from the upstream side of the bridge to the downstream side is likely to be a minor inconvenience to boat users. Notwithstanding, access to the town and surrounds would not be compromised by the change of mooring location. As part of the proposal, Roads and Maritime would replace the existing T-wharf downstream of the existing bridge to provide for mooring for taller vessels that cannot pass under the bridge.

Overall it is considered that the new bridge would have a positive impact on the majority of maritime traffic. The increase in attraction for all kinds of boat users would be long term and the change in baseline conditions would be large. The overall consequence would be moderate and the likelihood would be high. The overall significance on the socio-economic environment would be minor positive.

5.2 Local amenity

Amenity has its meaning of pleasantness, but also has a physical (or tangible) component. This includes the character and appearance of buildings, proximity to commercial or recreational facilities, quality of infrastructure and absence of noise, unsightliness or offensive odours. It also has a psychological or social component.

Changes to local amenity may affect the ability of a resident, a visitor or the community to enjoy or undertake activities (eg hanging washing outdoors, opening windows, enjoying walks) within their residential property/business or local area.

During construction and operation, various elements of a proposal may affect local amenity, including:

- The removal of established vegetation
- The introduction of construction facilities or operational infrastructure to the environment, affecting views and vistas
- Light spill from night-time construction works
- Increase in heavy vehicles
- Noise, vibration and dust arising from construction activities
- Unpleasant odours from construction activities
- Increased traffic volumes and/or congestion during construction.

Impacts on local amenity are generally contained within close proximity of construction activities or operational infrastructure. The following section details the impacts on local amenity that would affect the residents and the broader community as a result of construction and operation of the proposal.

5.2.1 Noise

Alterations in environmental noise due to the construction and/or operation may impact (both positively and negatively) local amenity and result in the following socio-economic affects:

- Sleep patterns/sleep disturbance
- Annoyance levels
- Hearing impairment
- Alterations in local amenity
- Interference with speech and daily activities
- Children's school performance through effects on memory and concentration
- Reduced efficiency and reduced participation in social life
- Cardiovascular health risks through elevated blood pressure.

Exposure to environmental noise may also affect the function of social and business services (both positively and negatively), especially those that are dependent on a quiet environment (such as health centres or outdoor dining areas).

Noise impacts may also affect the way people use space, their ability to communicate and the way individuals undertake daily activities. This includes heightened annoyance, stress and sleep disturbance. This would be particularly felt by people that work from home, shift workers, the elderly or households with young children that are more dependent on quieter environments to work, rest and relax.

The extent of socio-economic affects likely to occur during construction and operation are discussed in the following sections.

5.2.1.1 Construction noise

The construction of the proposal would generate considerable noise, with the highest noise exceedances generally experienced at buildings closest to construction areas and ancillary facilities. The highest noise level exceedances are predicted during site establishment, pavement and infrastructure works, which require the use of chain saws and concrete saws. These works are generally temporary and intermittent (only when concrete saws are in use).

Construction work is predicted to be carried out during standard daytime hours. However, there may be periods of evening and night time works required. This work would be undertaken in accordance with Construction Noise and Vibration Guidelines (Roads and Maritime 2016).

The demolition of existing buildings, utility works and roadworks are also likely to affect a high number of receivers. The operation of laydown areas across the study area are expected to generate noise exceedances and potentially disrupt night-time amenity.

Where noise impacts cannot be mitigated there is the potential for adverse impacts upon the socio-economic environment. The Batemans Bay Bridge Replacement Noise and Vibration report found that construction activities would generate an exceedance of day-time noise levels for nearby sensitive receivers. Table 5-5 outlines the maximum number of receivers that may be affected during construction activity as a worst-case scenario, without additional mitigation.

Table 5-5: Receivers likely to be affected during construction

	Exceedances	Highly Affected (>75 dB(A))
Residential	10	7
Commercial	13	7
Passive recreational facility	2	2

Seven residential receivers have been identified with the potential to be highly noise affected. High levels of construction noise at night may interrupt sleep patterns with consequential impacts upon health and well-being. Ongoing sleep disturbance may affect an individual's creativity, performance, memory, concentration, risk-taking behaviour and risk of accidents. This may have secondary effects on the socio-economic environment such as a reduction in employee productivity (affecting business operation and revenue) and student performance at school.

Increased noise due to construction activties has the potential to alter the ambience of the environment potentially affecting the function of a business or the ability to attract and retain customers and employees. As identified in Table 5-5, seven commercial properties are predicted to be highly affected. These include; one restaurant, three motels, a service station and a shopping mall. The restaurant and motels would be particularly sensitive to amenity impacts and would have a lower tolerance to changes in environmental noise.

The restaurant and motels may also experience communication difficulties during high noise periods, reducing the ability for employees to hear orders or conduct conversations, potentially increasing the instances of errors or reducing the guests' experience.

Social infrastructure facilities and open space may also be particularly sensitive to health and amenity impacts associated with noise exceedances. As identified in section 4.6, there are several of these services located near the proposal alignment. The Batemans Bay Bridge replacement Noise and Vibration report identified that Korners Park and Lions Park are expected to experience adverse noise impacts during construction. Increased environmental noise level at open space may also reduce person's desire or ability to exercise or engage in other recreational activties. This may result in adverse effects on cardiovascular health.

Increased environmental noise at Korners Park and Lions Park may deter people from utilising the picnic facilities, playgrounds or participating in active or passive recreation consequentially reducing social interaction. This may result in adverse impacts to community cohesion.

Overall, the presence of construction noise would result in a medium change from the existing environment. These impacts would generally respond to management and mitigation measures. The incorporation of noise monitoring, site sheds and other standard and additional mitigation measures would assist in alleviating the extent of impact on local amenity and the socio-economic environment.

With the suggested additional mitigation measures outlined in Batemans Bay Bridge replacement Noise and Vibration to be implemented, the severity of impacts on receivers would be reduced. The implementation of the Communication and Stakeholder Engagement Plan that continues to inform and notify residents and businesses about potential noise exceedances and the anticipated duration of these activities is recommended. This would assist in reducing annoyance, anxiety and stress regarding the noise exceedances, as individuals would feel more informed and know that the impact has an end date.

Noise affects during construction on local amenity would be intermittent in nature however would extend for a medium duration. The severity of impacts on individual receivers would vary depending on their proximity to the active construction areas and ancillary facilities with only a small number expected to be highly affected. The severity of impact would be medium and with a high likelihood to occur at a locality level. With consideration of these factors, the overall impact on the socio-economic environment would be moderate negative.

5.2.1.2 Operation noise

Exposure to environmental noise from traffic-related sources is reportedly the most annoying of all urban pollution types, interfering with enjoyment of daily activities and potentially affecting sleep and rest patterns. It may also affect the function of social and business services (both positively and negatively), especially those that are dependent on a quiet environment (such as motels, health centres or outdoor dining areas).

The operation of the proposal has the potential to impact environmental noise levels across the study area. The proposal involves a new bridge and approaches, resulting in the relocation of the road corridor and redistribution of road traffic noise. Batemans Bay Bridge replacement Noise and Vibration report discusses operational noise modelling undertaken to assess the potential road traffic noise impacts associated with the operation of the proposal. The assessment evaluated impacts on the community 600 metres either side of the proposal alignment.

Based on the relocated road corridor, residential receivers located to the east of the bridge along Wharf Road and the Princes Highway are expected to experience a reduction in noise exposure due to source motor vehicles being relocated further from these receivers. These locations are mostly residential, however BIG4 Batemans Bay at Easts Riverside Holiday Park and recreational users of the foreshore may also potentially benefit from reduced noise levels.

Residential receivers located to the west of the bridge and Princes Highway would potentially be exposed to higher maximum noise levels following the completion of the proposal. The proposal upon operation is expected to result in about 30 receivers experiencing noticeable (greater than 2dB(A)) increase in environmental noise, in both the day and night-time periods. This is mainly due to the redistribution of traffic due to the upgraded road approaches to the new bridge realigned closer to the affected properties.

Mitigation measures, would be provided as part of the proposal, which would reduce noise impacts. Six properties have been identified for further treatment, four of which are motels. These treatments would be finalised during the detailed design phase to allow for design changes to be considered.

It is important to note that at-property treatment is only required for areas of permanent residence and only the manager's/care taker's living quarters of the motels would qualify. Without mitigation residents in these locations would be more exposed to increased environmental noise. These would include general annoyance (eg having to keep windows closed), sleep disturbance, and interference with household activities (eg outside eating). Increased noise would likely reduce the ambiance of the outdoor and indoor environment, therefore potentially deterring the number of visitors and guests.

The change from the existing baseline environment would be both positive and negative and at a locality extent. Mitigation measures are expected to be implemented to reduce noise levels for the properties identified to experience adverse impacts. Therefore, the consequence would be slight and the likelihood medium. As such, the significance of impact is considered to be a minor negative.

5.2.2 Visual amenity

Visual amenity may be described as the pleasantness of the view or outlook of an identified receptor or group of receptors (eg residences, recreational users). Landscape character and visual amenity are an important aspect in a person's quality of life, sense of belonging, human health and well-being of individuals and the level of community cohesion within an area.

Changes to the landscape character or the visual amenity of a locality may affect the enjoyment and desirability of an environment, visitation numbers and trends and consequently the economic activity of a location.

The sensitivity of receptors to visual changes and the overall variance in the receiver's outlook is also relevant in determining the significance of impacts. The following sections detail the impacts on landscape character

and visual amenity that would affect the socio-economic environment because of construction and operation of the proposal.

5.2.2.1 Construction effects

During construction, visual amenity in locations in close proximity to construction areas and ancillary facilities has the potential to be affected by factors such as the removal of established vegetation, demolition of buildings and the existing bridge, the installation of construction hoardings, relocation of utilities, installation of construction equipment and/or the visual appearance of construction areas and ancillary facilities.

Residents likely to experience visual impacts are those that have views of the construction areas and ancillary facilities from internal and external living spaces. Residential properties expected to experience visual impacts include those located along:

- Clyde Street, Batemans Bay
- Wharf Road, North Batemans Bay
- Wray Street, North Batemans Bay
- Penthouse Place, North Batemans Bay

These impacts may affect the appeal of external and internal living spaces and reduce the overall amenity of an environment. Residential properties that have the amenity of their living and entertaining spaces reduced may be less inclined to entertain or interact with other household members as the appeal or privacy has declined.

The visual amenity of community facilities and open space are also expected to be adversely affected by the construction of the proposal. The following facilities may be affected:

- Batemans Bay Foreshore Reserve, Batemans Bay
- Korners Park and Korners Park Playground, North Batemans Bay
- Lions Park and Lions Park Playground, Batemans Bay
- Old Punt Road Reserve, North Batemans Bay
- Park Central, Batemans Bay

Visual impacts have the potential to reduce both the amenity and perceived safety of open space which may influence the amount of time people in public spaces or spend outdoors exercising may trigger a temporary reduction in community cohesion and social interaction.

The effects on business from changes to visual amenity would be dependent on the nature of the business and its dependency on amenity and aesthetics. For example, pleasant views and vistas may attract customers to a restaurant, however a smash repairer is unlikely to be effected by view alterations. As such, the impact on business revenue would vary.

Any removal of trees along Old Punt Road and the northern foreshore is unlikely to impact the privacy of residential properties. The alterations in visual amenity due to the construction of the proposal may directly impact the following sensitive businesses:

- Motels located along Clyde Street, Batemans Bay
- Retail strip at the southern extent of Clyde Street, Batemans Bay
- On the Pier restaurant located along Old Punt Road, North Batemans Bay
- BIG4 Batemans Bay at Easts Riverside Holiday Park located along Wharf Road
- Corymbia Motel and Clyde River Houseboat Hire along Wray Street, North Batemans Bay

Visual impacts on local amenity would be medium term in nature. The severity of impact on individual receivers would vary depending on the proximity from the construction areas and ancillary facilities. The severity of change from the existing environment would be small and generally confined to a locality level. The likelihood of the impact occurring is possible and of a slight consequence. With consideration of these factors, the overall impact on the socio-economic environment would be minor negative.

5.2.2.2 Operation

During operation, the proposal would include changes to landscape character and visual amenity due to the presence of new and amended infrastructure, traffic redirection, landscaping and urban design features. These impacts would be localised. Alterations to the landscape character and visual amenity have the potential to impact the sense of ownership by the community and alter a person's appreciation of their surroundings. During community consultation 91 per cent of survey respondents stated that it was important for that the new bridge looks good and has a strong focus on design.

Landscape character

The Landscape and Visual Impact and Urban Design Concept identifies a total of 12 Landscape Character Zones (LCZs) that have the potential to be affected by the proposal. The assessment found that, upon operation of the proposal, six LCZs would be subject to high-moderate impacts. Table 5-6 identifies the six locations that are anticipated to experience high-moderate impacts during the operation of the proposal.

Table 5-6: Alterations in landscape character

Landscape character zones	Project affect	Sensitive receivers
Impacts		
River and Creeks	The new bridge would alter the existing visual amenity of the area, due to the scale and height of the bridge.	• Recreational users of Clyde River • Boat and Marine businesses along Clyde River
The foreshore promenade (northern end)	The bridge would be more prominent than the existing bridge emphasising traffic related infrastructure from various vantage points.	• Residential properties along Clyde Street • Motels along Clyde Street • Recreational users of the foreshore
Batemans Bay town centre (North Street)	Additional traffic along North Street would impact local amenity and the character of the area.	• Commercial properties along North Street
The Hill	The top of the escarpment is likely to experience increased noise levels which may be mitigated by noise walls. Noise walls and the removal of escarpment vegetation would impact the sense of place and may create a more spatially enclosed character.	• Bay Waters Motel • Residential properties within Bay Ridge
Wray Bay	The new bridge would be more prominent and may appear more dominant on existing vistas. The removal of vegetation would impact the existing views and vistas.	• Residential properties along Wray Street • Residential properties along Penthouse Place • Corymbia Batemans Bay Hotel • Wray Street Oyster Shed

Landscape character zones	Project affect	Sensitive receivers
Benefits		
The foreshore promenade (southern abutment)	The redirection of traffic and opening of the foreshore would improve the visual amenity of the environment.	• Residential properties along Clyde Street • Motels along Clyde Street • Recreational users of the foreshore
Batemans Bay town centre (Northwest)	The grade separation of the highway would affect the overall streetscape character of the area. This would enhance the amenity and permeability of the town centre to the foreshore.	• Businesses located in Batemans Bay Town Centre particularly the Hotels located along Clyde Street
Northshore link	Extension of the parkland would enhance the functioning of the area and the character of the area.	• Recreational users of the foreshore • Recreational users of Korners Park • On the Pier restaurant on Punt Road • The Riverside Townhouse Batemans Bay • BIG4 Batemans Bay at Easts Riverside Holiday Park

Alterations to landscape character have the potential to improve access to the foreshore and the ambience of the environment. This has the potential to benefit the business located in Batemans Bay town Centre and in particular along Clyde Street.

Alterations in views

Landscape and visual impact assessment and urban design assessed a total of 10 locations for visual impacts. Table 5-7 identifies the locations that are anticipated to experience visual impacts due to the operation of the proposal, one location was identified to experience a negligible impact and has been omitted from the table.

Table 5-7: Visual impacts

View point	Significance of impact	Project affect	Sensitive receivers
Wray Bay	Moderate-High	The alignment sits above the existing bridge and would contrast against the sky and define the new skyline. The removal of the existing bridge would provide some improved visual permeability towards the township. At night time, the higher elevation of the bridge would make lighting more prominent, resulting in a high visual effect.	• Residents along Wray Street • Recreational users of the northern foreshore • Batemans Bay boathouse hire • Corymbia Batemans Bay motel
High hill on the	Moderate-	This area would become	• Guests of Bay Waters

View point	Significance of impact	Project affect	Sensitive receivers
North Foreshore	High	the approach to the bridge, strongly transforming this view, including night time.	hotel • Property owners located along old punt road • Recreational users of the northern foreshore
End of Old Punt Road	Moderate-High	The bridge would a higher element in the foreground foreshore setting, despite the opening of the foreshore visually to the south.	• Recreational users of the northern foreshore • On the pier restaurant • Boat ramp users • Bay Waters hotel
End of the new bridge on the northern foreshore	High-Moderate	This area would become the approach to the bridge, strongly transforming this view, including night time.	• Bay Waters hotel
At the beach in front of the foreshore park	High	The new bridge would be higher than the existing bridge, opening up of the foreshore visually with removal of the bridge embankments.	• Recreational users of the foreshore • Recreational users of the beach along Clyde Street • Big4 holiday park guests, owners and staff
Lions park	Moderate	The new bridge would become a dominant feature, yet the overall viewscape would greatly be retained. To some extent the removal of the existing bridge would mitigate this new situation.	• Recreational users of Lions Park • Recreational users of the foreshore • Residential properties along Clyde Street • Bridge Motel • Comfort Inn • Bay Executive • Bluedock Apartments • Recreational users of Lions Park playground
Bateman's Bay promenade	Moderate-High	The bridge would be visually dominant in this location due to the proximity of the viewer. At night time, the proposal would become slightly more dominant due to the height of night time fixtures.	• Recreational users of the foreshore
Beach Road foreshore	Moderate	The new bridge structure would be lighter and visible in the distance, the views to water and ranges are not impeded.	• Residents along Bridge road • Recreational users of the southern foreshore
Vesper Street (southern)	Moderate	High bridge structure above Clyde Street.	• Public and private vehicle users along Vesper Street

The closer to the foreshore area where the bridge is proposed, the higher the visual impact. Further away in both directions, the impacts are reduced as the overall structure in the skyline also opens up other views currently blocked by the existing bridge.

The built form components of the proposal would result in alterations to landscape character and views for individual residential properties along Wray Street, businesses along Clyde Street, recreational users of the

foreshore (north and south), and recreational users of Lions Park, tourists and existing motels located along Clyde Street. This may affect the sense of belonging and identity of its residents and visitors and consequently community cohesion.

The impact on landscape character and views would be long term and affect a small number of residents, businesses and tourists in the study area. Along the foreshore areas close to the new structure, impacts are generally high hence the need for integrated urban planning and design solutions for the foreshore areas that assist in mitigating the proposed new bridge alignment. However, the following mitigation measures have been proposed:

- The limitation of the overall height of the bridge
- The use of darker colours to visually recede the structure
- Limitation of the overall height of the bridge would assist in limiting visual impacts.
- Planting of tall evergreen trees would assist in settling the structure into the land on both sides of the water
- Locating light fixtures on the western side and tilting them away from the viewer
- Vegetative screen planting and large scale tree planting to minimise any visual glare a night time
- Integrated landscape/engineering design to achieve a strong foreshore open space buffer is essential.
- Proposed urban design/landscape concept plan opens up the foreshore and enhances its legibility and connectivity that visually improves that area. Tree planting beside the new bridge abutments is proposed
- A reduction in hard paved surfaces, e.g. narrowing of Clyde Street at this location, and emphasising the green/ open space connectivity to the foreshore, landscaping the address to the old bridge abutment, and formalising streetscape.

Urban design opportunities

Batemans Bay Bridge replacement Urban Design Report Landscape and Visual Impact Assessment has also identified urban design and landscaping opportunities that aim to minimise visual intrusion of proposal elements and respect and respond to the existing and desired character of affected areas. The proposal also provides opportunities to enhance foreshore areas as part of this proposal for the community.

The removal of the existing bridge approach opens up the opportunity for a visually more continuous foreshore by removing the existing embankment to the bridge approach.

The existing trees on the southern foreshore would be retained with additional trees planted along each side of the bridge to assist in visually mitigating the new structure in the overall landscape. Gentle batters and contouring would integrate the new bridge verge with the surrounding landscape.

The existing southern abutment of the bridge would be removed to spatially open up the eastern promenade with the boat ramp and park beyond. The promenade would also be extended along the foreshore to link with the park west of the boat ramp. This would create a strong link with the town centre and potentially improve the amenity of Batemans Bay town centre and make Batemans Bay more attractive as a tourist destination.

Summary of impact

Overall these improvements provide the opportunity to create a strong link with the town centre, improve access to the foreshore and the amenity of Batemans Bay town centre. This has the potential to improve the desirability of the town centre as a shopping destination, improve the attractiveness of the foreshore as a

location for active and passive recreation and the attractiveness of Batemans Bay as a tourist destination resulting in considerable social and economic benefits to the study area.

Changes to the existing environment would be long term in nature. The severity of change from the existing environment would be medium at a LGA extent. The likelihood of the impact occurring is high and of a medium consequence. With consideration of these factors, the overall impact on the socio-economic environment would be moderate positive.

5.2.2.3 Air quality

In some instances, construction activities such as demolition, earthworks, and truck movements have the capacity to increase dust, air emissions and odour. This has the potential to affect human health, reduce the amenity of an area and generate nuisance dust impacts due to the increase in dust deposition (dust soiling) potentially deterring people from using spaces, visiting businesses or enjoying residential amenity. Construction and operation of the proposal are not anticipated to generate air quality impacts that cannot be effectively mitigated through standard procedures. The anticipated impact on air quality is expected to be negligible.

5.2.2.4 Heavy vehicles

As identified in section 5.1, the new bridge would be wider and the height restriction for larger vehicles would be removed. This is anticipated to result in an increase in heavy vehicles within the study area. Although this would improve state and regional freight efficiency, the increased number of heavy vehicles would have the potential to reduce the amenity along Princes Highway and connecting arterial roads due to a potential increase in noise, reduced air quality and the visual presence of heavy vehicles. Reduced amenity may lead to reduced pedestrian activation of Princes Highway for residents, visitors and businesses. Reduced amenity also has the potential to impact sense of place, land value, health and well-being.

The effects would be medium-long term and would impact residents, businesses and community facilities located in the Eurobodalla LGA. The change from the existing baseline environment would be medium. The consequence of change would be moderate and the likelihood possible. As such, the overall significance of impact on the socio-economic environment would be moderate negative.

5.3 Community values

As identified in section 4.7 community values are those that are held in common by residents and visitors in regards to a particular area or the enhancement of quality of life or sense of place. Values can be tangible or intangible. Physical aspects such as heritage items, social infrastructure or local features such as public art and trees are generally highly valued by communities, as are intangible elements, such as the perception of safety and health or the sense of belonging and connectivity with people.

Community values identified may be categorised as housing and demography, neighbourhood character and sense of place, community cohesion, environmental values and heritage values. The socio-economic impacts associated with each of these elements are outlined in the following sections.

5.3.1 Housing and demography

Population and demography may be influenced by project-related factors, generally relating to the acquisition of properties and the alterations in road capacity.

The acquisition of one residential property is required for construction and operation. This is not expected to affect the population and demography of the area. The change from the existing baseline environment would be small. The consequence of change would be slight and the likelihood low. As such, the overall significance of impact on the socio-economic environment would be negligible.

5.3.2 Neighbourhood character and identity

Neighbourhood character and identity relates to the distinctive features of a place or environment that generate a sense of ownership by the community and contribute to a person's appreciation of their surroundings. The preservation of neighbourhood identity and character was raised as being an item of high community importance during consultation. As identified in section 4.7, community consultation identified the following community values that were associated with neighbourhood character and identity:

- The existing bridge is seen as iconic and an important part of the town's character and identity
- Views and vistas of heritage items and waterways are valued
- Heritage should be protected and enhanced
- Requests for the metal from the bridge to be utilised for public art
- Requests for the design of the new bridge to be iconic and integrate with the character and identity of the town
- Significant trees and vegetation enhance scenic amenity and should be retained

During community consultation, a large number of respondents discussed matters relating to landscape and visual amenity, specifically addressing the design of the new bridge. As the existing bridge is highly valued for its heritage and is seen as iconic to Batemans Bay, the loss of the bridge may diminish the sense of place and neighbourhood identity valued by the community.

The heritage places of NSW not only reveal the story of Australia's past; they safeguard and enrich our present and future. For communities, heritage plays a major role in the appeal and life of neighbourhoods. The community consultation process identified that preserving the heritage character of an area was a high priority for residents. Various management measures would be implemented to reduce the loss of heritage, including the area where the abutment was located would be retained. Heritage impacts have been assessed in section 5.3.5.

During community consultation, 91 per cent of survey respondents stated that it was important that the new bridge is visually appealing and has a strong focus on design. Some of these respondents suggested that the design should pay tribute to the old bridge by mimicking some of its design elements. Visual impacts and urban design impacts have been identified in section 5.2.2. The design of the new bridge would be finalised during the detailed design phase and would allow for further community consultation.

Overall, the proposal would directly affect values held by the community around neighbourhood identity and character. Although the impacts would generally be confined to a locality extent, they would be medium-long term and reflect a medium change to the existing baseline environment. The likelihood of impacts occurring ranges from possible to highly likely and the consequence on the socio-economic environment would be moderate. As such, the overall significance of impact upon the socio-economic environment would be moderate negative.

5.3.3 Community cohesion

Community cohesion refers to the connections and relationships between individuals and their neighbourhoods. The inverse of this concept is community severance, which refers to physical or psychological barriers between communities. Community severance may lead to short or long-term changes to people's behaviour patterns, affecting established community networks and an area's character and sense of place.

The existing bridge would remain open during the construction phase of the proposal as such this is considered unlikely to result in any community severance impacts. The access alterations to Clyde Street and Wharf Road are also considered unlikely to cause community severance, given that other through roads in the immediate surrounding area would remain open.

Once construction is completed, the proposal would deliver new pedestrian and cyclist pathways and enhanced access to the foreshore and open space, which would have the potential to increase social connectivity and community cohesion within the within the study area.

The operation of the proposal is expected to increase community cohesion for residents in the Batemans Bay LGA. The effects would be long term and the change in baseline conditions would be small. The overall consequence would be slight and likelihood would be possible. The overall significance of impact on the socio-economic environment would be minor positive.

5.3.4 Environmental values

During community consultation, concerns were raised regarding potential negative environmental impacts of the new bridge on water quality, oyster leases and the loss of trees and vegetation.

5.3.4.1 Water quality

Fifty nine per cent of the businesses surveyed were concerned about water quality impacts on the river during construction and demolition of the existing bridge.

The proposal has the potential to impact on water quality through the discharge of stormwater runoff from the new bridge and approaches into the Clyde River and McLeods Creek wetland, which may contain a range of pollutants. In addition, there is potential pollution from large spills of hazardous substances from traffic incidents which would have significant environmental impacts.

As identified in the Water Quality Assessment, the proposal includes a range of measures to mitigate these impacts and improve the existing situation. Of significance is that runoff from the new bridge and approaches would be collected and treated before discharging into Council's drainage systems. Spill containment measures would also be provided through the detailed design phase to ensure that spills are captured before entering sensitive environments.

As part of the mitigation measures a Soil and Water Quality Management Plan will be prepared as part of the CEMP and implemented throughout construction.

The Soils and Geology Assessment indicated that groundwater flow appears to be towards the Clyde River and/or Batemans Bay. However it concluded that impacts on the groundwater zone and resulting impacts on the Clyde River and/or Batemans Bay from the proposal were unlikely. This is due to the typical depth of the groundwater zone below the surface and the relative depth of construction work.

5.3.4.2 Oysters

Specific concerns were raised regarding oyster leases within the study area. As stated in section 5.3.3 oyster farming is a highly influential industry within the study area. The industry is growing by expanding into international markets and makes up a significant contribution to Eurobodalla Shire LGA's economy.

As the proposal would involve instream construction work, there would be potential for water pollution due to leaks or spills. In particular, the Biodiversity Assessment noted that the release of metals into the water column would likely lead to mortality of oysters. The potential for water pollution would be avoided through construction management methods that would contain any sediments.

The low risk of water pollution or any reduction in water quality of the proposed area means that the oyster leases are unlikely to be affected and therefore unlikely to impact the local aquaculture and tourism economy.

5.3.4.3 Trees

As outlined in the Biodiversity Assessment the proposal would result in direct impacts on native flora and fauna and their habitats. In conclusion however, while the Biodiversity assessment identified that native vegetation removal was inevitable it is unlikely to significantly adversely impact plant community types or flora or fauna species.

Specific management measures have been developed in the Biodiversity assessment to address potential impacts on biodiversity. These include the preparation of a Biodiversity Management Plan, biodiversity offsets, reestablishment of native vegetation where practicable and the timing of work to minimise impacts on the breeding seasons of fauna.

5.3.4.4 Summary of impact

Overall, the proposal would have long term impact on environmental values and would affect the LGA, however the severity of change would be small. The consequence of impact would be slight with a low likelihood of adverse socio-economic impacts occurring. As such, the overall impact upon the socio-economic environment would be negligible.

5.3.5 Heritage values

Community consultation, business consultation and the non-aboriginal heritage assessment report identified the existing bridge as an item of key heritage and community value. The bridge is listed in the Eurobodalla LEP 2012 and Roads and Maritime Section 170 Heritage and Conservation Register (Section 170 Register). This item is locally significant.

The bridge is one of 17 vertical lift span bridges and one of five Waddell-type bridges in NSW. Due to its location on a coastal waterway, it is an uncommon feasture of Batemans Bay and NSW's history as the majority of vertical lift span bridges were constructed on inland rivers. The bridge is visually prominent and a local landmark and its removal would significantly alter the landscape character and identity of the area.

The community consultation identified that the bridge is valued as an iconic part of Batemans Bay's history and as having a significant association with tourism and the recreational boating industry. During community consultation 68 per cent of respondents identified that the exiting bridge was an important part of the community and it was essential to find ways to pay tribute to its structure when it is removed. Other suggestions included turning the site of the old bridge as a tourist attraction and/or relocating and reusing the steel for historical interpretation off-site.

The bridge would be demolished as part of the proposal. The northern car ferry ramp from the development may result in the disturbance of the ramp and its heritage value; however, the southern car ferry ramp would be protected. These ramps are associated with the operation of the punt and car ferry from 1871 to 1956 and the fabric of both ramps still survive. The ramp on the northern side is in poor condition but the original timber beams are showing and are in a reasonable condition, while on the southern side of the river, the ramp has a higher integrity.

The impacts to the heritage value due to the demolition of Batemans Bay Bridge would be long term and the change in baseline conditions would be major and would result in the removal of all its heritage values. This would have a significant impact on Batemans Bays identity and sense of place. The area where the abutment was located would be retained as a historical element acknowleding the historic crossing. Opportunities for heritage interpretation, picnic or fish cleaning station could be considered in consultation with the community and other stakeholders.

The effects would be long term and have the potential to impact the entire LGA. The change in baseline conditions would be large and the overall consequence would be major. The likelihood would be near certain. The overall significance of impact on the socio-economic environment would be major negative.

5.4 Property impacts

5.4.1 Property and land acquisitions

The proposal has been designed to minimise the need for property acquisitions. Notwithstanding, to facilitate the proposal, four properties would be fully acquired and five would be partially acquired. In addition, eight properties would be leased for use during construction. Acquisitions and leases would be required for:

- Construction of the new bridge
- Construction compounds for the operation and storage of machinery, construction activity coordination and construction parking
- Widening of existing arterial roads or construction of new motorway connections.

Properties to be acquired are listed in Table 5-8.

Table 5-8: Property acquisition and leases

ID	Acquisitions	Description	Approximate area
PARTIAL LEASE DURING CONSTRUCTION			
1	Private Land	Vacant lot on corner of Kings Highway and Old Punt Road	12,000 m^2
LEASES DURING CONSTRUCTION			
2	Business	Bay Waters Motel	5,500m^2
3	Crown Land	Land located in Korners Park	5,300 m^2
4	Crown Land	Land located along Clyde River southern foreshore	7,000 m^2
5	Private Land	Informal parking space located at 21 Clyde Street	2,000 m^2
6	Private Land	Woolworths carpark in the south east	1,500 m^2
7	Jetty	Fisherman's Jetty	1,500 m^2
8	Council Land	Former bowling club site	14,000 m^2
PARTIAL ACQUISITION			
9	Crown Land	Land adjacent to Clyde River	3,200m^2
10	Crown Land	Land on the Clyde River southern foreshore	40m^2
11	Business	Bay Waters Motel	7,200 m^2
12	Crown Land	Land on the Clyde River southern foreshore	40m^2
13	Land	Land at McLeods Creek mangroves	750m^2
FULL ACQUISITION			
14	Business	Reef Motel Inn	1,000m^2
15	Residential	Private dwelling with access off Princes Highway	600m^2
16	Private Land	Vacant lot adjoining Princes Highway	500m^2
17	Crown Land	Land on the southern foreshore	600m^2

The extent of property acquisition and leasing would be refined and confirmed during detailed design in consultation with the property owners. This may result in:

- Increased stress and anxiety for the property owner and/or tenant. The relocation process may be emotionally and physically taxing. Vulnerable members of the community, including the frail, elderly, people with a disability or poor health and those with low English language skills may be most at risk of stress and in need of support when relocating
- Altered access for property owners. If acquisition results in households needing to move outside of Batemans Bay, this may affect continuing access to social services, family and local social networks.

All acquisition required for the proposal would be undertaken in accordance with the L*and Acquisition (Just Terms Compensation) Act 1991* (NSW), the Land Acquisition Information Guide (NSW Government 2014) and the land acquisition reforms announced by the NSW Government in 2016. Property adjustment plans would be developed in consultation with the relevant property owner.

As identified in Table 5-8 one motel (Reef Motel Inn) would be fully acquired. This motel would need to either cease operation.

The loss of this motel may impact the number of tourists in the area and in turn result in a loss of revenue for local businesses within Batemans Bay and negatively impact the local economy. However, there are many accommodation services (including AirBnB) in the locality that have the potential to accommodate these tourists and therefore mitigate the potential impact on the local economy or loss of service to the wider area.

Overall, the number of property acquisitions proposed to facilitate the proposal is relatively low for an infrastructure project of this scale. The impact upon individual residents and businesses would be major, however somewhat mitigated by the implementation of a detailed consultation and advice process, as per the abovementioned NSW property acquisition process. The affected properties would be offered support during the acquisition process and would normally be re-established in their homes/businesses within the short-medium term.

In regard to the broader socio-economic environment, the closure of motels are anticipated to have a slight effect on the baseline condition, with the economy projected to normalise and business expected to be re-established in a short-medium term. The spatial extent of impact would generally be confined to a suburb level. The likelihood of these changes occurring is near certain. Considering this, the overall impact of construction activities on the socio-economic environment is a moderate negative.

5.4.1.1 Social infrastructure

The construction of the project would result in temporary and permanent acquisition of land along the active and passive open space. A proportion of the following parks would be permanently acquired or leased by the project:

Leased:

- Part of Old Punt Road Reserve on the northern foreshore
- Korners Park south of the existing bridge on the northern foreshore
- Lions Park on the southern foreshore
- Batemans Bay Foreshore reserve on the southern foreshore
- Permanently acquired
- Part of Old Punt Road Reserve West of the existing bridge on the northern foreshore, refer Table 5-8, ID 9
- Part of Lions Park West of the existing bridge on the southern foreshore, refer to Table 5-8, ID 10

These parks are heavily used by local residents, visitors from the broader district and tourists due to their high amenity value and park facilities. The reduced access may alter a person's desire or ability to exercise or engage in recreational actives. This may result in adverse effects on cardiovascular health. Reduced access to these parks and facilities may prevent locals and tourists from utilising the picnic facilities, playgrounds or participating in active or passive recreation consequentially reducing social interaction. This may result in adverse impacts to community cohesion.

Acquisitions would result in medium-long term change to the existing baseline environment. The severity of change is however large and at a locality extent. There is a high likelihood of these changes occurring, with

slight consequences. Considering this, the overall impact of construction and operation activities on the socio-economic environment is a moderate negative.

5.5 Future land use

Once the proposal has been built and the existing bridge and approaches demolished, there is likely to be excess land that would not be further required by Roads and Maritime.

As identified in section 5.2.2 the proposal would include a program of foreshore works to rehabilitate areas disturbed by works, to relocate functional areas that have been directly impacted and to provide connections to and around new bridge and along the banks of the Clyde River. Foreshore works include:

- Removal of existing bridge approaches and abutments
- Relocation or reconstruction of parking areas on the northern and southern banks directly impacted by the proposal
- Relocation of facilities such as picnic tables and shelters
- Relocation of the northern boat ramp
- Connection of the new shared use path to existing paths along the foreshore on the northern and southern banks
- Hard and soft landscaping works (eg paving and planting) to rehabilitate areas disturbed by construction and to improve the functionality and appearance of existing open space areas
- Replacement of the existing T Wharf downstream of the bridge.

This would result in a larger, more functional park area on the northern bank and new park land areas on the southern bank. Preliminary plans for the two parklands are presented in the REF. The socio-economic benefits of improvements to the additional include:

- Improved active and passive recreational opportunities
- Economic development including enhanced local real estate values
- Improving the amenity and character of the area
- Promote healthy lifestyles by facilitating improvements in physical fitness through exercise, and also by facilitating positive emotional, intellectual, and social experiences
- Improve mental health and feelings of wellbeing, particularly lower stress levels
- Improve opportunities for social interactions and community cohesion.

Open space may also present some hazards, such as attracting antisocial behaviours (particularly in isolated areas). However, these may be mitigated through Crime Prevention Through Environmental Design (CPTED) principles.

Any ancillary facility sites that have been leased by Roads and Maritime would be returned to a condition pre-agreed with owners. Land required for the construction of the proposal that is not required for operation would be identified following detailed design and construction planning. For land not required by Roads and Maritime, the divestment potential would be assessed, including safety considerations and existing and potential uses, in consultation with Council where relevant. Provided the land is considered suitable, it would be sold at the completion of construction.

Although the operation of the proposal would result in altered land use and character of locations within the study area, the additional open space, improved access to the foreshore and increased pedestrian and cyclist links would provide substantial socio-economic benefits. Effects would be long-term and would benefit the LGA. The change from existing baseline environment would be large. The consequence of change would be

major and the likelihood of effects is near certain. The significance of impact on the socio-economic environment would be major positive.

5.6 Economy

5.6.1 Freight and commercial vehicle efficiency

The freight industry is an important part of the NSW economy as an enabler of economic activity. Numerous industries are dependent upon efficient transport to service operational requirements by moving goods and products around the State and further afield. Transport for NSW estimates that freight and logistics contributed $58 billion to NSW State Gross Product (SGP) in 2011, which represented 13.8 per cent of NSW SGP.

As identified in section 3.0, the *Princes Highway Corridor Strategy 2016* states that all bridges on State and Regional roads should be able to carry HML loads. The strategy identifies that Batemans Bay Bridge is one of five bridges that have been identified as deficient for HML access. A long term strategy of the Princes Highway Corridor Strategy is to ensure that all bridges on the Highway should be suitable for HML vehicle.

The extent of socio-economic affects likely to occur during construction and operation are discussed in the following sections.

5.6.1.1 Construction effects

The construction of the proposal has been designed to minimise impacts to freight and commercial vehicle efficiency. During construction the existing bridge would remain in use and therefore would not alter the existing situation resulting in a negligible impact on the socio-economic environment.

5.6.1.2 Operation effects

The new bridge would be wider and the height restriction for larger vehicles removed. The new bridge could be used by heavier freight vehicles, which is anticipated to result in an increase in heavy vehicles through Batemans Bay. This would improve the state and regional freight efficiency as these vehicles can use the Princes Highway, instead of detouring along a more inland highway route.

Alterations to the efficiency of the road network would have a noticeable impact on local and regional economic development and impact where businesses choose to locate. The Batemans Bay industrial precinct may become more attractive to businesses.

The proposal would deliver important improvements to the existing situation for a large number of businesses within the region. The effects would be long term, and benefit the region. This would result in a large change in baseline conditions. The consequence of impact would be major and the likelihood would be near certain. The significance of impact on the socio-economic environment would be major positive.

5.6.2 Employment and construction expenditure

Construction activity directly benefits the economy, injecting economic stimulus benefits into the local, regional and state economies. The economic benefit of construction is multi-dimensional, including:

- Increased expenditure at local and regional businesses through purchases by construction workers
- Direct employment through on-site construction activities
- Direct expenditure associated with on-site construction activities
- Indirect employment and expenditure through the provision of goods and services required for construction

The direct and indirect employment benefits of the proposal's construction can be quantified based on the following assumptions:

- A base year of 2018 for the project start-up that includes the relocation of utilities
- A four-year construction period (from [2018-2022])
- The project opening to traffic in 2021.

HillPDA has estimated the number of direct and indirect jobs generated as a result of an anticipated four year construction period. Direct jobs are defined as those relating to the proposal's development throughout construction, commissioning, operating and managing the facility. Direct jobs that would be generated include onsite labour, supervision, professional services and project managers.

Indirect jobs are defined as jobs (within Australia) that support the proposal through the provision of goods and services such as offsite manufacturing and equipment hire.

Major infrastructure projects can also have flow-on benefits to job generation through the raw material supply chain and jobs created as a result of new infrastructure. Secondary indirect jobs are not however included in the job generation calculations.

HillPDA estimates that based on a four year construction period, about 650 direct (onsite) job years would be created between 2018 to 2022, which is equivalent to about 160 jobs per annum. Furthermore, approximately 1,900 indirect (off site) job years would be generated, equivalent to about 480 jobs per annum based on a similar proposal period.

Overall, construction of the proposal would produce medium term job opportunities, skill development and economic benefit to the region. There is a high likelihood of these benefits occurring with potential moderate consequence on the socio-economic environment. As such, the overall impact upon the socio-economic environment would be moderate positive.

5.6.3 Tourism

As identified in section 4.5.2.4 tourism provides a significant overall economic benefit to the local community. Sixty eight per cent of businesses identified tourists as their usual customers. Key tourist attributes, that have the potential to be impacted by the proposal include, clean beaches, heritage and access and connectivity to Canberra and Sydney.

5.6.3.1 Heritage

Of the businesses surveyed, nine per cent identified the bridge as a key tourist attraction. Therefore, the removal of the bridge has the potential to adversely impact the local tourist economy. Although the proposal would remove the existing heritage bridge a small section of the existing abutment of the bridge on the southern extent is intended to be retained as a historical element. Opportunities for heritage interpretation would be considered in consultation with the community and other stakeholders.

5.6.3.2 Access and connectivity to Canberra and Sydney

Batemans Bay is renowned as a popular, affordable tourist destination, particularly for people living in Canberra and Sydney (to a lesser extent).

The proposal would result in improved access to Canberra and Sydney, particularly for freight vehicles. As identified in section 5.0 the new bridge would have little impact on the network performance during weekday and weekend peaks. However, during holiday's peak vehicle kilometres, travel times and average speeds would improve.

Improvement in access to Batemans Bay would have a beneficial impact on tourism, particularly during peak holiday periods, where traffic congestion would reduce. In addition, during these periods, the Princes Highway / Kings Highway intersection would be signalised, which would make traffic movements through the intersection more efficient. This would benefit tourists coming from Sydney and Canberra.

5.6.3.3 Beaches and foreshore

During the business survey 100 per cent of businesses identified that a tourist-friendly foreshore must be included in the proposal and 79 per cent of businesses stated that they would directly benefit from improvements to the foreshore. As identified in section 5.5 the removal of the existing bridge approach opens up the opportunity for a visually more continuous foreshore by removing the existing embankment to the bridge approach.

The promenade would also be extended along the foreshore to link with the park west of the southern boat ramp. Creating a strong link with the town centre and potentially improving the amenity of Batemans Bay town centre, and potentially making Batemans Bay more attractive as a tourist destination.

5.6.3.4 Summary of Impact

Effects would be long term and would result in improved access and connectivity. The change to existing baseline conditions would be medium. The consequence of change would be slight and the likelihood of impact would be near certain. As such, the overall impact upon the socio-economic environment would be moderate positive.

5.6.4 Aquaculture

As identified in section 5.3.3 oyster farming is a highly influential industry within the study area. The industry is growing by expanding into international markets and makes up a significant contribution to Eurobodalla Shire LGA's economy. However, as identified in section 5.3.4 the proposal is unlikely to result in water pollution or any reduction in water quality of the study area meaning it is unlikely to be affects oysters or the local aquaculture economy. Therefore the impact on the socio-economic environment would be negligible.

5.6.5 Value Add (economic multipliers)

The construction industry is a significant component of the economy accounting for 7.7 per cent of Gross Domestic Product (GDP) and employing over one million workers across Australia. The industry has strong linkages with other sectors, so its impacts on the economy go further than the direct contribution of construction.

In calculating the flow-on economic benefits of a particular proposal, it is common practice to employ economic multipliers. Multipliers refer to the level of additional economic activity generated by a source industry.

There are two types of multipliers:

- Production induced, which is made up of:
  - first round effects: which is all outputs and employment required to produce the inputs for construction
  - an industrial support effect: which is the induced extra output and employment from all industries to support the production of the first round effect.
- Consumption induced: which relates to the demand for additional goods and services due to increased spending by the wage and salary earners across all industries arising from employment.

The consumption effects comprise the increase in output required to satisfy the additional demand generated by the increased wages, salaries and supplements resulting from all increased output, ie direct and indirect employment.

The source of the multipliers adopted in this study is the ABS and Australian National Accounts: Input-Output Tables 2013-14 (ABS Catalogue 5209.0). These multipliers are based on both the building and non-building industry and therefore the effects are an approximation only.

It is estimated that construction of this proposal would generate around $348 million of activity in production induced effects and around $260 million in consumption induced effects. Total economic activity generated by the construction of the proposed development would be about $883 million. These estimates are based on both the building and non-building industry multipliers and therefore the effects are an approximation only.

It is important to note, however, when reviewing these estimates that multiplier effects have a national impact and not necessarily a local impact. Care is required in interpreting multiplier effects; which have been applied on a theoretical basis to produce estimates of the potential flow-on effects of construction activity to the rest of the economy.

Overall, construction of the proposal would have a long term, economic benefit to the region. There is a high likelihood of these benefits occurring with potential moderate consequence on the socio-economic environment. As such, the overall impact upon the socio-economic environment would be major positive.

5.7 Business and industry

The following section provides an overview of the socio-economic impacts that may be experienced by businesses within the study area during construction and operation of the proposal. It draws on the comments and information gathered by the business survey, along with an appreciation of the existing study area.

The extent of impact on individual businesses would vary depending on the proximity to the proposal and sensitivity to impact.

A business impact survey was undertaken at certain locations across the study area to gauge the perception of business impacts associated with the proposal. Of the businesses surveyed 88 per cent were located south of the bridge and the remaining 12 per cent were located north of the bridge. When asked about how the existing bridge benefits their business, 69 per cent of respondents stated access and connectivity, nine per cent identified tourism and six per cent benefited from boat access.

Fifty per cent of respondents believed that the existing bridge was an important part of the community finding it essential to find ways to pay tribute to the structure when removed. Conversely, 21 per cent of respondents 21 per cent of respondents strongly disagreed. Of the respondents that believed construction would be a positive for trade, over 70 per cent were food and beverage business types and 10 per cent were retail operations.

An exploration of the potential impacts on businesses is provided in the following sections.

5.7.1 Employee and customer access and travel time

The majority of businesses surveyed were in support of the proposal. A number of business survey respondents suggested that the existing bridge provided access and connectivity benefits for their business however identified that the opening and closing of the lift span often results in increased traffic congestion. A number of businesses also mentioned that issues with the lift span often has resulted in local and regional traffic delays, these delays have the potential to impact employee and customer access and deliveries. If the

bridge was not replaced customers may avoid or not return to the area due to the accessibility challenges experienced by the existing bridge, resulting in a potential loss of trade for some businesses.

The existing bridge traffic congestion or delays would act as a disincentive for customers visiting the local business area and would therefore affect business turnover. As identified in section 5.1, the proposal would result in improved existing traffic conditions which would benefit the overall transport network.

However, as identified in section 5.1.3, road network performance is expected to be affected during construction with the Clyde Street and Princes Highway intersection proposed to be removed. Clyde Street would no longer connect with the Princes Highway and would pass underneath the bridge. Traffic would be required to travel via North Street to the intersection with the Princes Highway.

These changes are unlikely to result in any increase to employee and customer travel time, as the overall network is expected to improve, therefore the impact is considered to be negligible.

However, alteration in access routes may result in a minor increase in employee and customer confusion and/or annoyance. Competing motels in more easily accessible locations that offer similar goods or services may benefit from this customer redirection. Access difficulties and delays have the capacity to result in long-term changes to consumer behaviour and significant permanent economic impacts for motels located along Clyde Street north.

The boat survey undertaken for the proposal identified that a navigational clearance of 12 metres MHWS would permit access for all commercial vessels (including houseboats that are available for rent, tourist ferry and barge operators). It is expected that these businesses would continue with no adverse impacts. The proposal's increased navigational clearance could provide improved mobility for these businesses, that would provide greater opportunities and could make the businesses more attractive to potential customers.

The spatial extent of effects are relatively localised to the northern end of Clyde Street. The duration of possible effects would be for a long term and the severity of change from the existing baseline condition would be medium. There is a high likelihood of these impacts occurring with potential moderate consequence on the socio-economic environment. As such, the overall impact upon the socio-economic environment would be moderate negative.

5.7.2 Passing trade and business visibility

Passing trade may be defined as those pedestrians, cyclists and motorists who choose to patronise a business because they see it when walking/riding/driving past, not because they planned to go there. Businesses that rely on passing trade and storefront exposure to attract customers may be affected by the presence of construction hoardings or reduced visibility and route redirections due to the proposal.

The construction and operation phases of the proposal would result in changes to vehicle and pedestrian flows that may influence the level of passing trade due to the closure of Clyde Street/Princes Highway intersection. Businesses located along North Street may benefit as passing trade is re-directed towards their business, while businesses along Clyde Street North may be adversely impacted as traffic is diverted away and visibility of their business is reduced. A change in pedestrian or vehicle routes and traffic volumes may also affect the exposure of businesses to potential clients. Although people may not be inclined to access a business on the day they see it, they may remember a business and travel to it in the future.

These adverse impacts to businesses located along Clyde Street may have the potential to be mitigated by the improved amenity of the foreshore and the new pedestrian and cyclist shared path which would be located in close proximity to the proposal.

The spatial extent of adverse effects are relatively localised to northern end of Clyde Street. The duration of possible effects would be for a long term with the severity of change from the existing baseline condition would be medium. There is a high likelihood of these impacts occurring with potential moderate

consequence on the socio-economic environment. As such, the overall impact upon the socio-economic environment would be moderate negative.

5.7.3 Business ambience

The ambience of a business is defined by its character and atmosphere. The proposal has the potential to alter the ambience of an environment due to the alterations in noise and visual impacts, potentially affecting the ability to attract and retain customers. Concerns regarding noise, vibration and dust impacts were raised by 60 per cent of business survey respondents.

The visual attractiveness of an environment may be important to businesses that rely on customer attraction to the pleasantness and quality of an environment, such as retail, personal service providers, cafes and restaurants. These businesses are more dependent on access to natural light and clear sight lines of the street to enhance the attraction of their business. This is particularly important for businesses that provide outdoor dining. Decreased visual amenity may result in a reduction in customer sales and repeat clients, affecting business revenue in both the short and long-term.

Business clusters that have higher dependency on amenity to attract and retain customers would be more susceptible to changes in amenity as a result of the proposal. Batemans Bay town centre and Clyde Road business cluster would is likely to have the highest sensitivity to alterations in the environment due to the number of motels, cafes, restaurants and retail stores.

Upon operation, the ambience of Batemans Bay town centre and Clyde Street business cluster are likely to improve due to increased access to the foreshore, additional landscaping and additional pedestrian and cyclist connectivity. This has the potential to improve the attractiveness of Batemans Bay as a shopping and tourist destination and directly benefit Batemans Bay town centre business cluster and Clyde Street business cluster.

As identified in section 5.1, businesses located along North Street may experience a minor increase in vehicles due to the closure of the Clyde Street/Princes Highway intersection and vehicles being required to access Clyde Street via North Street. This has the potential to result in decreased ambience and amenity due to increased noise, vehicle emissions and the visual presence of cars. However, as North Street currently contains two large supermarkets, motel and drive through fast food restaurant vehicle numbers are already expected to be high. Therefore, the severity of change from the existing environment would be low and therefore result in a negligible impact.

Overall the change to the existing environment would be long term in nature. The severity of change from the existing environment would be medium at a locality extent. The likelihood of the impact occurring is high and of a medium consequence. With consideration of these factors, the overall impact on the socio-economic environment would be moderate positive.

5.8 Social Infrastructure

Social infrastructure that is more sensitive to changes in the baseline condition include, educational institutions (including preschools, schools, universities, TAFE colleges), health care facilities (including nursing homes, hospitals), religious facilities (including churches), child care centres, passive recreation areas (including outdoor grounds used for teaching) and active recreation areas (including parks and sports grounds).

As outlined in the above sections, changes in access and amenity for some social infrastructure facilities are anticipated during construction and operation. This may arise from the introduction of construction areas or ancillary facilities to a locality or modifications to the transport network.

Changes in amenity may affect how users interact with, or enjoy an environment, or their ability to participate and concentrate. The sensitivity of a social infrastructure user to a construction or operation

impacts would vary dependent on proximity to the activity, the individual's sensitivity to the impact (eg noise, dust, vibration) and the duration of the activity.

The consequence of changes to access would vary across the spectrum of social infrastructure users, depending on what service or activity is undertaken at the facility. For instance, active sporting facilities, schools and hospitals may require good vehicle access to sustain these facilities. Access to these facilities may be affected by delays or diversions and a reduction in the availability of car parking. A reduction in the convenience of access to social infrastructure may also deter users and potentially affect community participation levels.

Table 5-9 details the social infrastructure that has a higher likelihood of experiencing multiple effects of construction or operation activity. The consequence of an impact on social infrastructure would vary dependent on the severity of change from the existing environment and the sensitivity of use types to construction effects. For instance, education facilities and childcare centres would be more sensitive to noise impacts as they may affect the capacity of students to hear and concentrate during lessons.

Social infrastructure users exposed to multiple construction activities may also be more susceptible to construction fatigue, which may have direct social and economic consequences.

Table 5-9: Social infrastructure and public facilities potential effects

Social infrastructure facility	Use type	Potential socio-economic effects during construction	Potential socio-economic effects during operation
Korners Park	Park and reserve	• Temporary lease during construction • Increased noise and dust • Reduced access due to partial temporary acquisition • Reduction in visual amenity	• Improved access • Improved and extended shared use path • Alterations to views
Old Punt Road Boat Ramp	Marine facility	• No access due to partial temporary acquisition	• Improved access • Improved and extended shared use path • Parking reinstated • Additional access from Wharf Road
Pedestrian and cyclist network	Public route	• Temporary amenity impacts	• Improved access • Improved and extended shared use path • Improved safety and convenience • Improved amenity • Reduced amenity along Princes Highway
Old Punt Road Reserve	Park and reserve	• Reduced access due to partial temporary acquisition • Reduced parking availability	• Improved access • Improved and extended shared use path
Lions Park	Park and reserve	• Increased noise and dust • Reduced amenity • Reduced access due to partial temporary acquisition • Reduced parking availability	• Improved access • Improved and extended shared use path
Batemans Bay Foreshore Reserve	Park and reserve	• Reduced access due to partial temporary acquisition	• Improved access • Improved and extended shared use path

The spatial extent of effects is relatively localised. The duration of possible effects would be for a medium term, to a locality extent for those further away. There is a high likelihood that effects would influence the operation of open space and the experience of users. The likelihood and consequence of potential impact on social infrastructure would reduce the further the facility is from the construction area or ancillary facilities and upon operation of the proposal. Considering this, the overall significance of impact on the socio-economic environment is a moderate negative.

6.0 MANAGEMENT MEASURES

6.1 Environmental management measures

Environmental management measures during construction and operation relevant to socio-economic impacts are outlined in the following sections.

6.1.1 Communication and Stakeholder Engagement Plan

A Communication and Stakeholder Engagement Plan will be prepared that detail:

- Procedures and mechanisms that will be implemented in response to the key social impacts identified for the proposal
- Procedures and mechanisms that will be used to engage with affected land owners, business owners and the wider community to identify potential access, parking, business visibility and other impacts and develop appropriate management measures
- Procedures to keep the community informed about construction and any associated changes to conditions (eg detours or lane closures) such as through advertisements in local media and advisory notices or variable message signs.

6.1.2 Property acquisition

Property acquisition will be carried out in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW)

Roads and Maritime will continue to consult with directly affected property owners throughout the detailed design phase.

7.0 CONCLUSION

Overall, this analysis has determined that the proposal would result in both positive and negative socio-economic impacts. The impacts would vary in their distribution across geographic areas and during construction and operational stages of the proposal.

During construction, a degree of disruption and negative impacts on the socio-economic environment are to be expected. These impacts would be particularly felt at locations in close proximity to construction sites and ancillary facilities. They would need to be carefully and proactively managed with businesses, social infrastructure providers and local residents being notified and effectively engaged with throughout the process.

The proposal requires a small number of commercial and residential property acquisitions. It would also result in the loss of heritage value due to the loss of a visually prominent local landmark which is valued as an iconic part of the area's history and has a significant association with tourism and the recreational boating industry.

However, resultant changes to the landscape character, visual amenity and ambience of the environment are likely to improve the overall amenity of the local area as a location for active and passive recreation. These improvements are likely to improve the attractiveness of Batemans Bay as a shopping and tourist destination, directly benefiting the businesses within the area.

The operation of the proposal is likely to generate large positive impacts for residents, tourists, local businesses and the broader economy through a faster and more efficient road network, the ability to carry heavier freight vehicles and less risk of disruption from failed infrastructure. Businesses from maritime transport would also benefit from increased boating capacity.

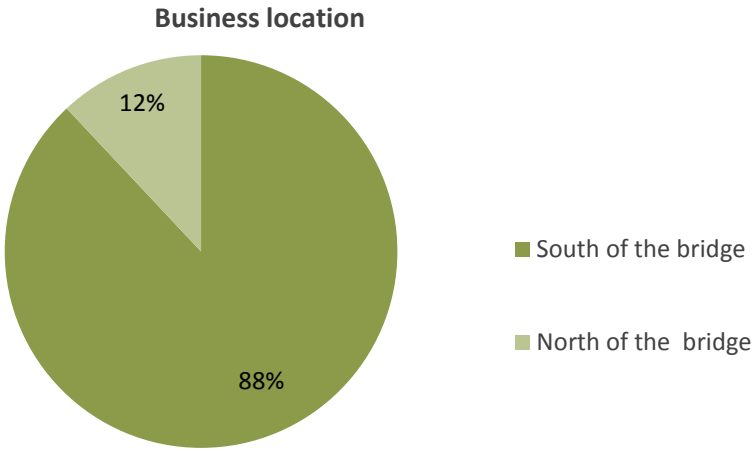
Construction of the proposal itself would also have a long term economic benefit to the region; this would be in the form of value-add from production and consumption induced effects.

Overall, the negative impacts of the proposal can be successfully managed with the implementation of mitigation measures outlined in this study. It is anticipated that the proposed development would have an overall beneficial impact on the Batemans Bay area and wider region in terms of socio-economic outcomes.

APPENDIX A BUSINESS SURVEY

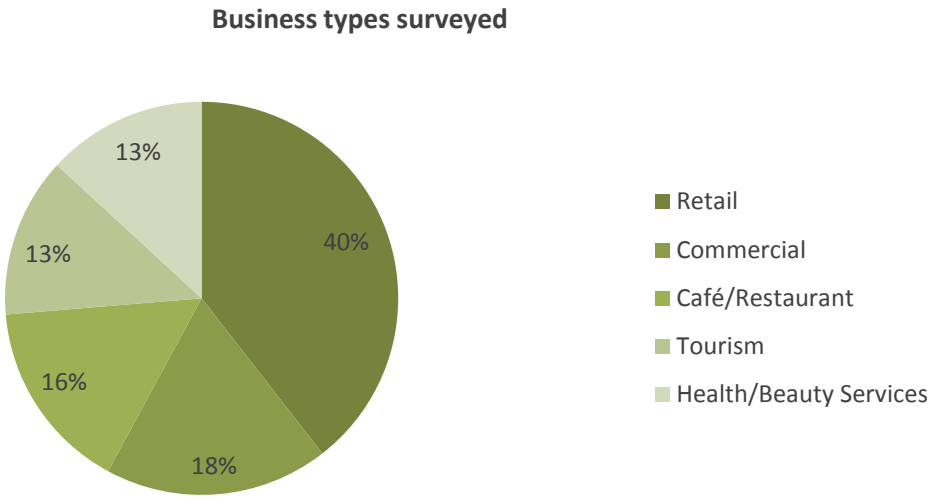
In order to identify the impacts of the proposal on businesses within the study area, a snapshot survey of 34 businesses located in the study area was undertaken. The methodology for undertaking the business surveys can be found in 2.0 of the main document. This annexure provides an overview of the core themes from the business survey. The implications of the findings and how they relate to the proposal have been discussed in section 5.0.

From the businesses that were surveyed, 88 per cent were located south of the new bridgeand 12 per cent were located north of the proposed bridge.



Q1. Business types surveyed

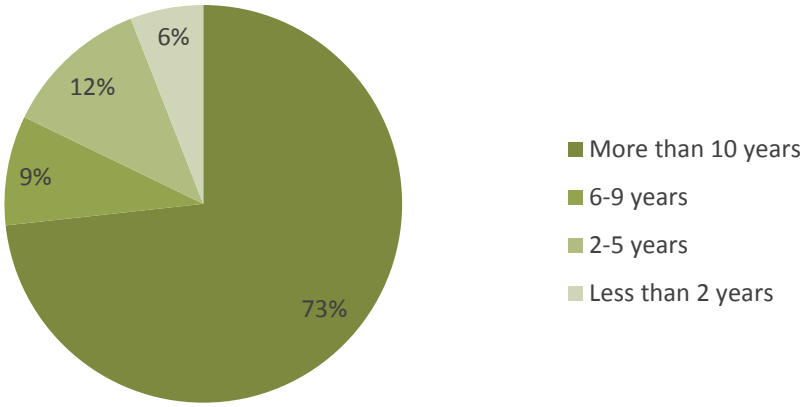
From the businesses surveyed, the business type breakdown is as follows: retail had the largest portion of business type with 40 per cent; commercial premises were the second largest category with 18 per cent, followed by café/restaurants with 16 per cent and tourism and health and beauty services with 13 per cent each.



Q2: How many years has your business been in operation?

From the businesses surveyed, 73 per cent have been in operation for more than ten years, 9 per cent between six and nine years, 12 per cent between two and five years and 6 per cent for less than two years.

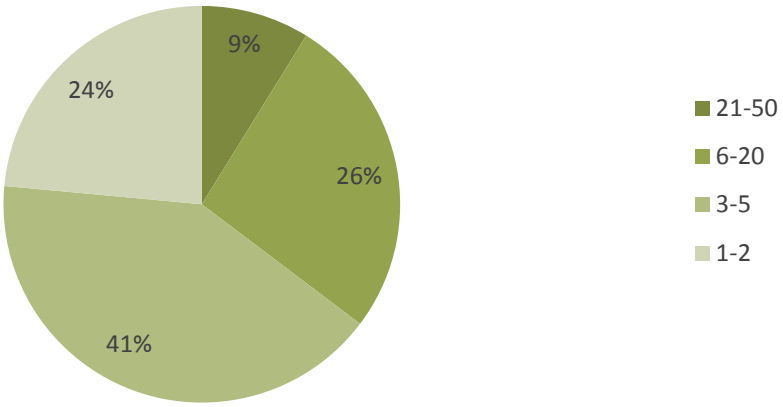
How many years has your business been in operation?



Q3. How many people do you currently employ?

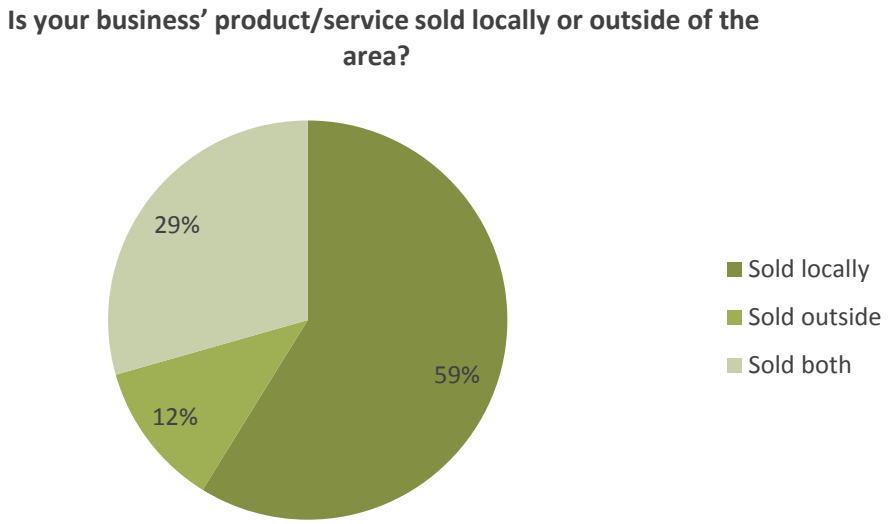
From the businesses surveyed, 41 per cent stated that they have between three and five employees, 26 per cent have between six and 20 employees, 24 per cent have between one and two employees and nine per cent have between 21 and 50 employees.

How many people do you currently employ?



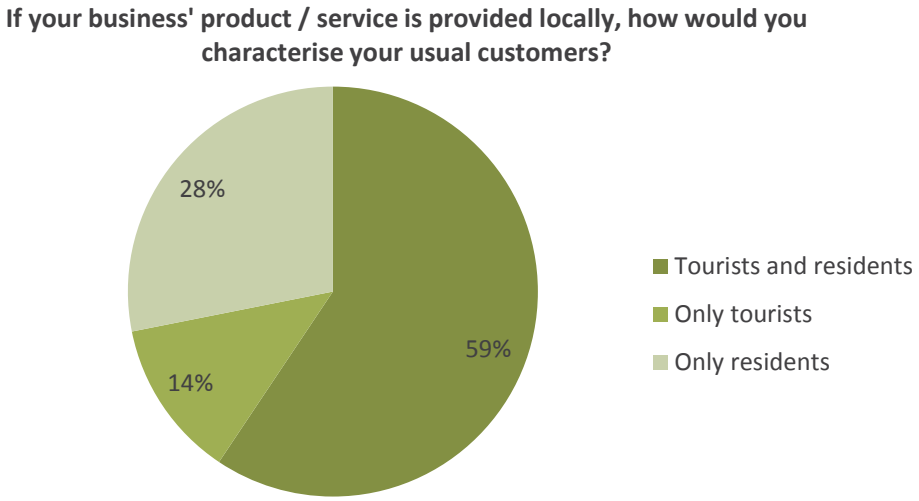
Q4. Is your business' product/service sold locally or outside of the area?

From the businesses surveyed, 59 per cent sell their product/service locally, 29 per cent sell their product/service within and outside the local area and 12 per cent sell their product/services exclusively outside of the area.



Q5. If your business' product / service is provided locally, how would you characterise your usual customers?

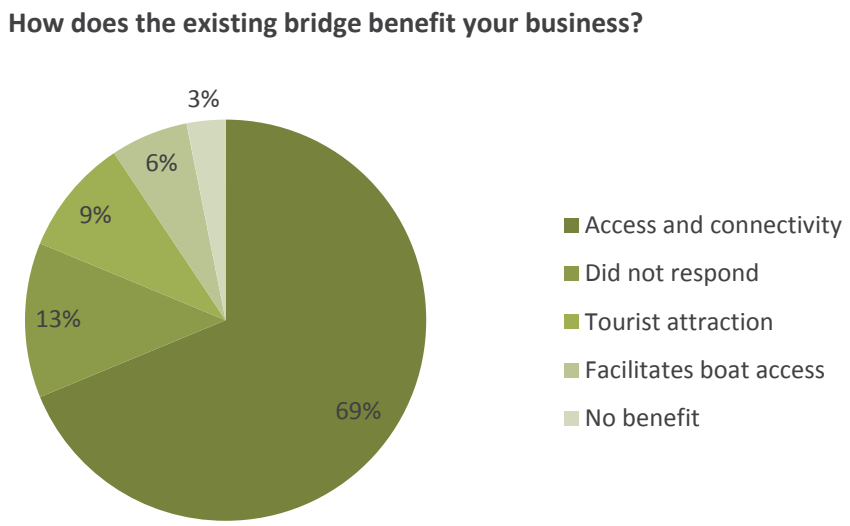
Of the 32 businesses that sell products/services locally, 59 per cent of businesses have a mix of local resident and tourist clients, 28 per cent of businesses usually only have local residents as their customers and 13 per cent of businesses have tourists as their usual customers.



Q6. How does the existing bridge benefit your business?

This question was open-ended when the survey was conducted. The following chart is a representation of the overall theme of the conversations conducted with businesses. Sixty nine per cent of the businesses surveyed

(22 respondents) noted the access and connectivity benefits of the existing bridge. Thirteen per cent of businesses did not respond to this question.



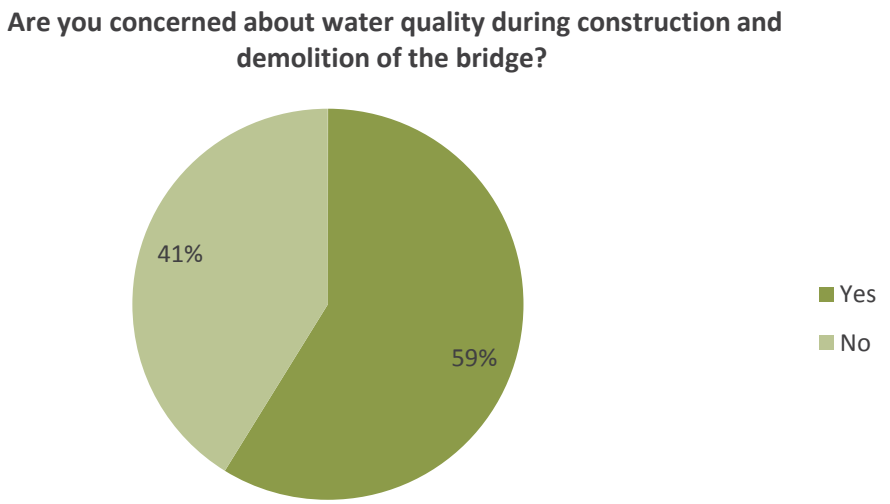
Q7. How does the existing bridge affect your business?

This question was open-ended when the survey was conducted. Ten responses responded by saying the existing bridge is not affecting their business. Twenty responses raised traffic/access issues associated with the bridge.

A number of responses elaborated on the traffic and access issues. Some responses discussed how customers and couriers have experienced major delays accessing their businesses due to the traffic and access issues. Other responses identified that holiday periods were when congestion and traffic issues were more notable.

Q8. Are you concerned about water quality during construction and demolition of the bridge?

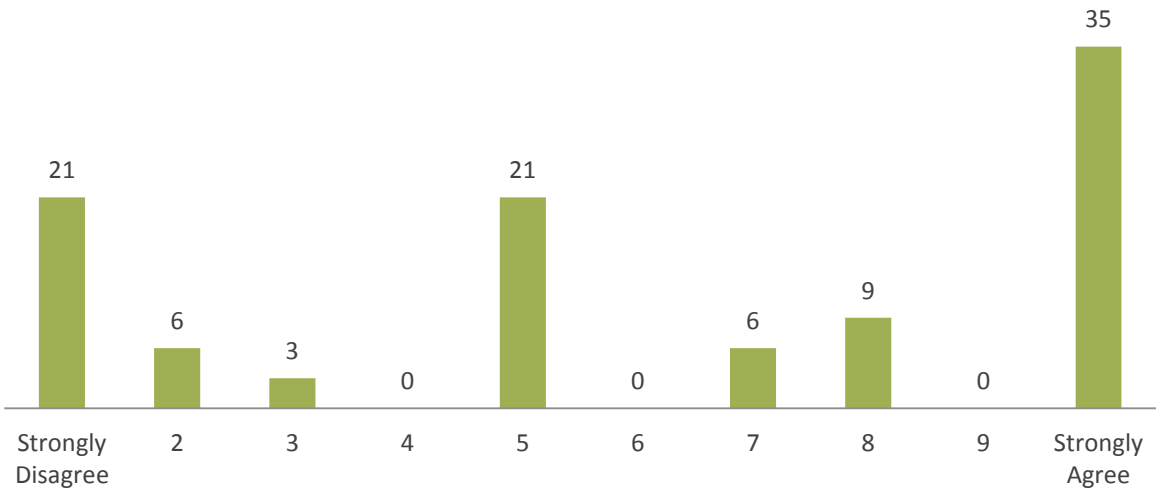
Fifty nine per cent of the businesses surveyed are concerned about water quality impacts during construction and demolition of the existing bridge.



Q9. The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 6, reflecting the mixed response to the statement that "*The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed*". The most common response was strongly agree, which accounted for 35 per cent of responses.

The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed (%)



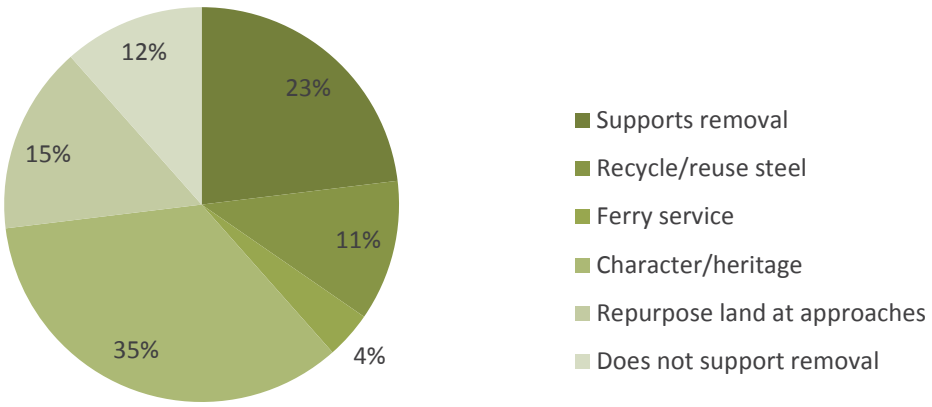
Q10. Do you have any additional comments on the existing bridge?

Respondents were invited to provide further commentary on the idea of interpretation of the existing bridge. This was an open ended question and a number of consistent themes emerged from the responses provided.

Thirty five per cent of respondents discussed the character and historic significance of the bridge. Twenty three percent of responses commented on the removal of the existing bridge without making comments on the significance of it.

When expanding further on the character and heritage of the existing bridge, two ideas were raised. One related to potential new uses for the land at the approaches to the old bridge. Other ideas related to the adaptive reuse of the steel structure of the existing bridge once decommissioned.

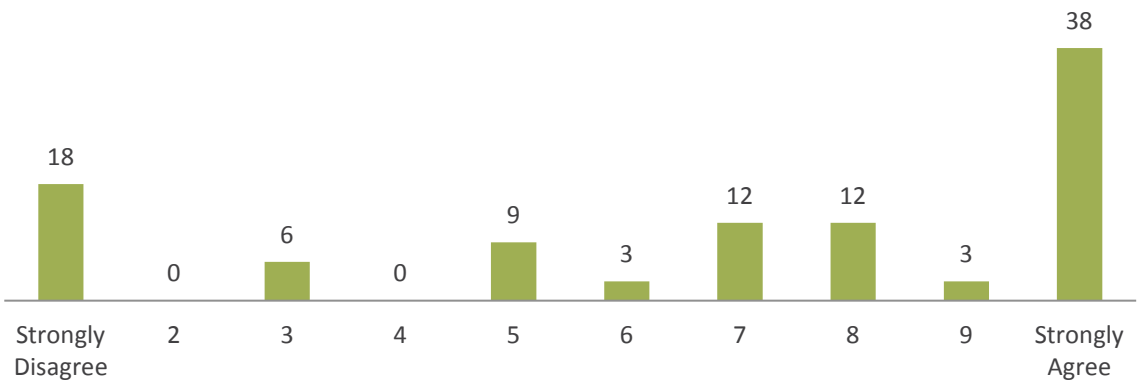
Do you have any additional comments on the existing bridge



Q11. Having a higher bridge to provide continuous access along the river is important to my business.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 7, reflecting general agreement with the statement that "*Having a higher bridge to provide continuous access along the river is important to my business*". The most common response was strongly agree, which accounted for 38 per cent of responses.

Having a higher bridge to provide continuous access along the river is important to my business (%)



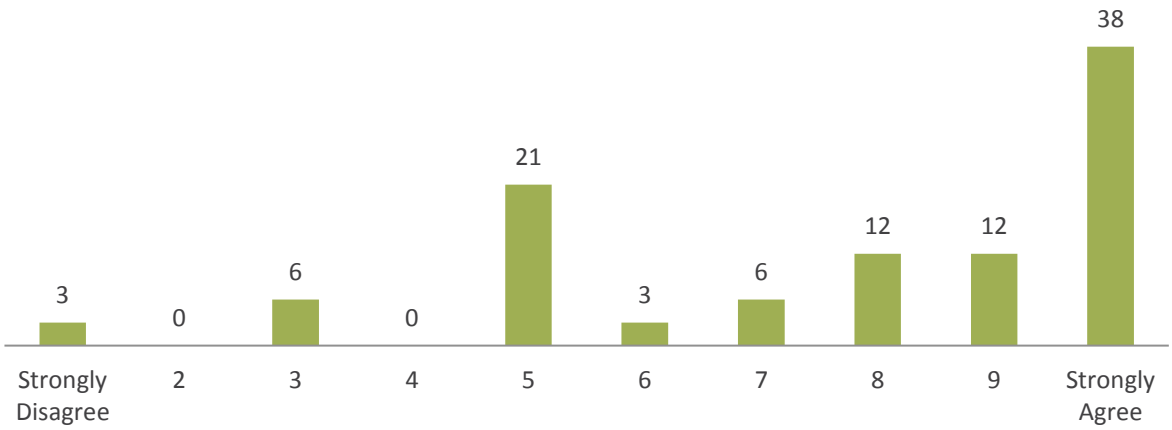
Q12. Do you operate a water vessel for commercial purposes?

Only one respondent identified that they operate a water vessel for commercial purposes.

Q13. Is it important for my business that the new bridge has a strong focus on good design?

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 8, reflecting strong agreement with the statement that "*Is it important for my business that the new bridge has a strong focus on good design*". The most common response was strongly agree, which accounted for 38 per cent of responses.

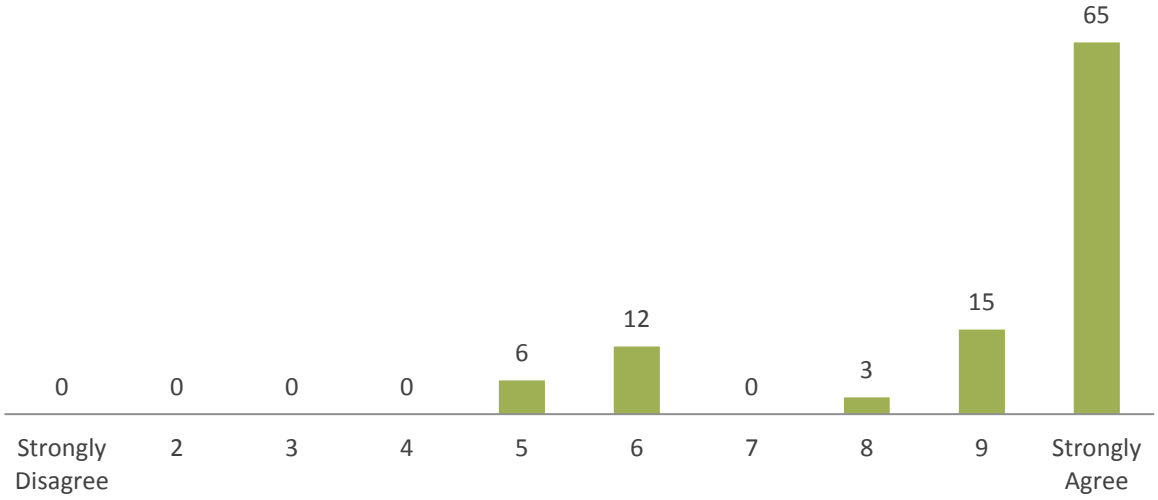
Is it important for my business that the new bridge has a strong focus on good design? (%)



Q14. An improved, tourist-friendly foreshore must be included in the proposal.

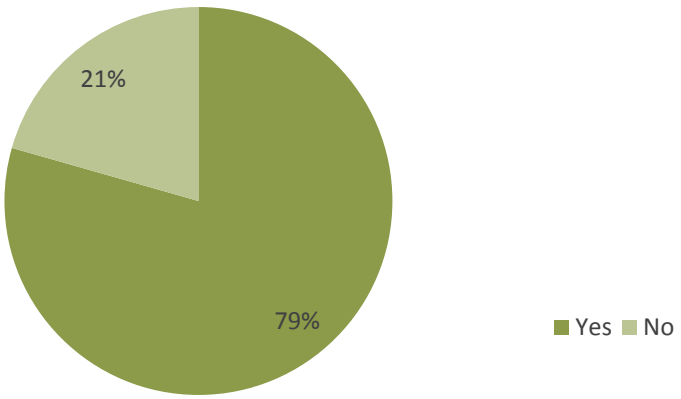
This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 9, reflecting strong agreement with the statement that *"An improved, tourist-friendly foreshore must be included in the proposal."* The most common response was strongly agree, which accounted for 65 per cent of responses.

An improved, tourist-friendly foreshore must be included in the project (%)



Q15. Would an improved foreshore area in Batemans Bay positively impact your business?

Would an improved foreshore area in Batemans Bay positively impact your business?

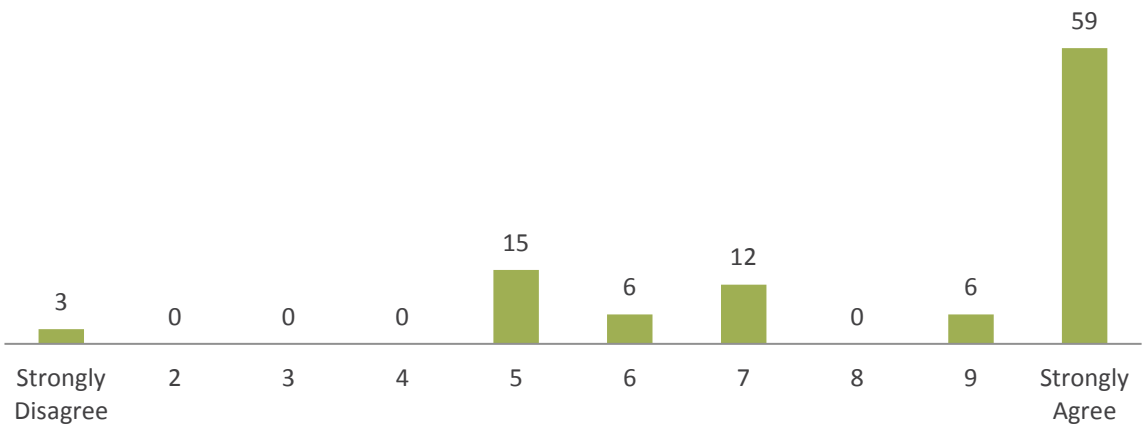


Q16. Is it important for my business that this proposal improves the Princes and Kings Highway intersection?

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 8, reflecting strong agreement with the statement that *"Is it important for my business that this proposal improves the Princes*

and Kings Highway intersection." The most common response was strongly agree, which accounted for 59 per cent of responses.

Is it important for my business that this project improved the Princes and Kings Highway intersection? (%)



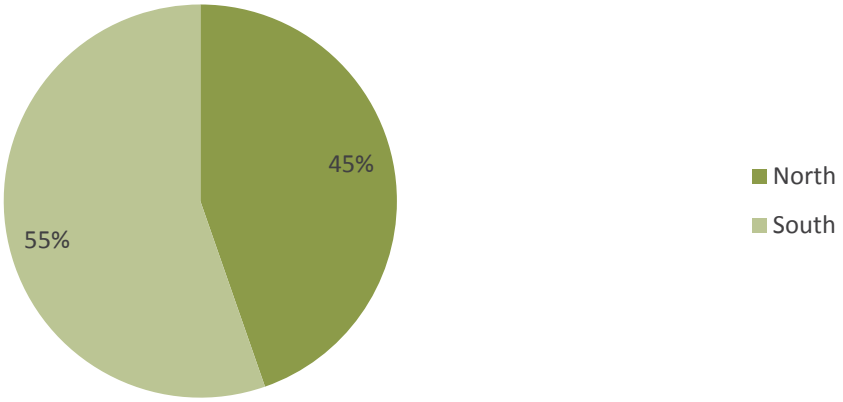
APPENDIX B COMMUNITY CONSULTATION

A preferred Option survey on the Roads and Maritime Website was available to community members during the community feedback period for the proposed new bridge at Batemans Bay. 253 community members responded to this survey. The methodology for undertaking survey can be found in section 2.0 of the main document. This annexure provides an overview of the core themes and responses to the survey. The implications of the findings and how they relate to the proposal have been discussed in section 5.0

Q1. Do you live north or south of the bridge?

From the 253 community members that were surveyed, 55 per cent were located south of the bridge and 45 per cent were located north of the bridge.

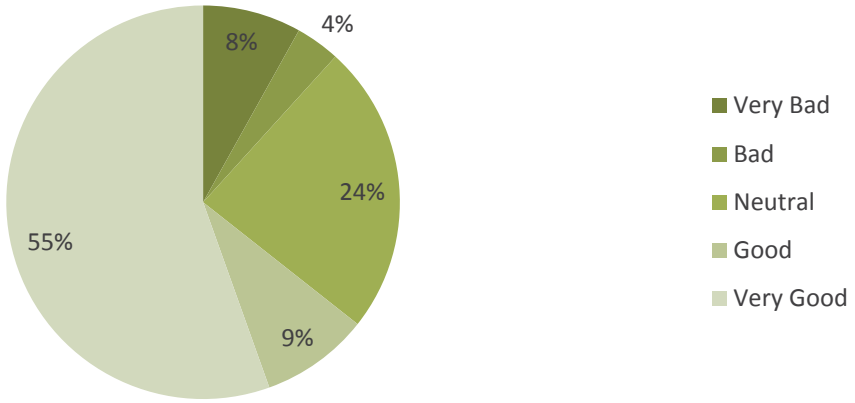
Do you live north or south of the bridge?



Q2. What impact would a new four lane bridge directly west of the existing bridge linking with the existing highway have on your daily commute?

This question asked respondents to label on a scale (very bad impact to very good impact) the impact that a new four lane bridge directly west of the existing bridge linking with the existing highway would have on daily commutes. Scores averaged around 74 per cent, with most believing the bridge would have a positive impact on commutes. Fifty five percent of respondents labelled the impact as very good, which was the most common response.

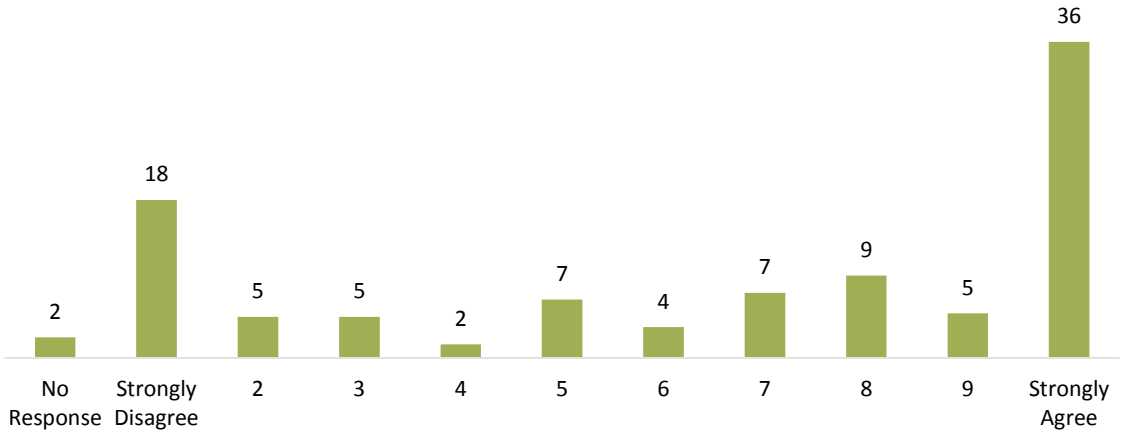
What impact would a new four lane bridge directly west of the existing bridge linking with the existing highway have on your daily commute?



Q3: The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 7, reflecting general support for the statement that "*The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed*". The most common response was strongly agree, which accounted for 36 per cent of responses.

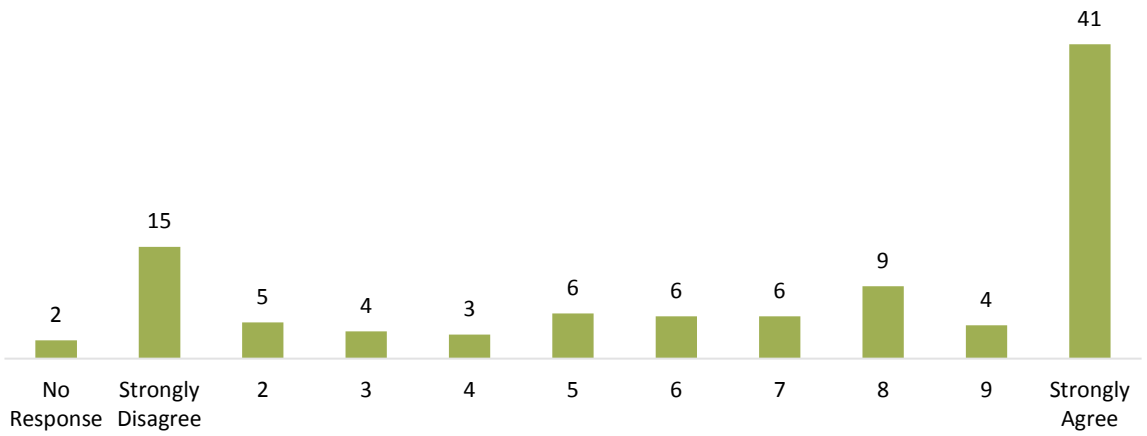
The existing bridge is an important part of the community and it is essential to find ways to pay tribute to the structure when it's removed (%)



Q4. It is important that taller boats can travel upstream under the bridge at all times.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 7, reflecting general support for the statement that "It is important that taller boats can travel upstream under the bridge at all times." The most common response was strongly agree, which accounted for 41 per cent of responses.

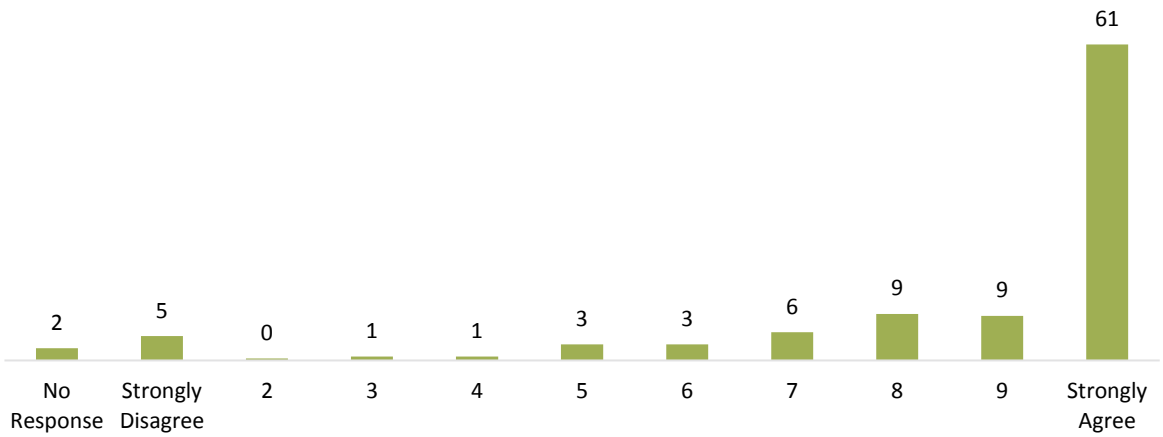
It is important that taller boats can travel upstream under the bridge at all times (%)



Q5. It is important for the town that the new bridge looks good and has a strong focus on design.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 9, reflecting strong support for the statement that "It is important for the town that the new bridge looks good and has a strong focus on design." The most common response was strongly agree, which accounted for 61 per cent of responses.

It is important for the town that the new bridge looks good and has a strong focus on design (%)

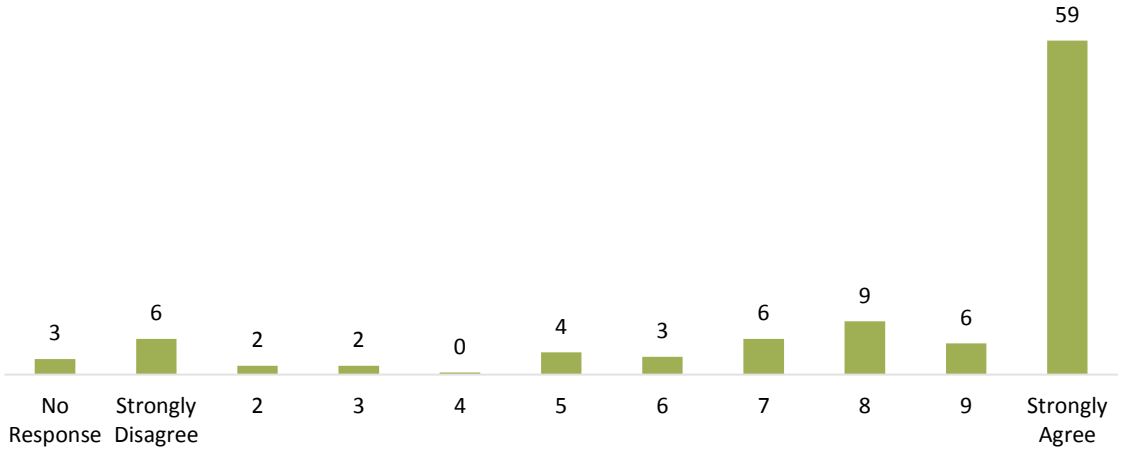


Q6. I want the river foreshore to be improved as part of this proposal.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 8, reflecting strong support for the statement that "I want the river foreshore to be improved as part of this proposal." The most

common response was strongly agree, which accounted for 59 per cent of responses.

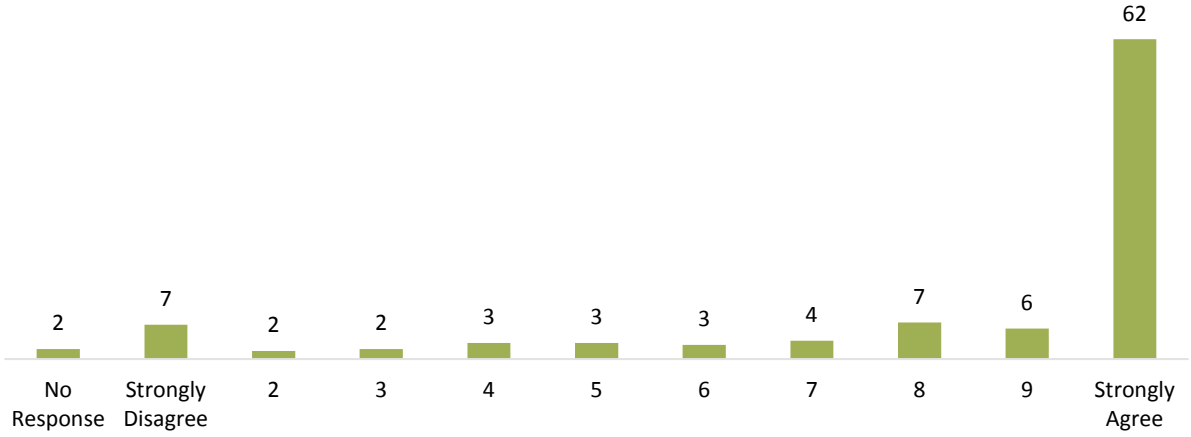
I want the river foreshore to be improved as part of this project (%)



Q7. Traffic delays caused by the Princes and Kings Highway intersection is an issue that must be addressed.

This question asked respondents to label on a scale of 1 (strongly disagree) to 10 (strongly agree) the importance that they place on the statement provided. Scores averaged around 8, reflecting strong support for the statement that "Traffic delays caused by the Princes and Kings Highway intersection is an issue that must be addressed." The most common response was strongly agree, which accounted for 62 per cent of responses.

Traffic delays caused by the Princes and Kings Highway intersection is an issue that must be addressed (%)



Q8. Do you have any other general comments on the Batemans Bay Bridge replacement proposal?

This question was open-ended when the survey was conducted. The 177 respondents who provided additional comments addressed a range of topics. Issues raised by these respondents were categorised into a number of themes including access and connectivity, heritage, landscape and visual amenity, environmental and amenity impacts.

Access and Connectivity

Given the proposal relates to the construction of a new replacement bridge for Batemans Bay a number of respondents discussed road transport, maritime transport and active transport in their comments.

Road transport

Fifty respondents discussed issues relating to road transport. Most of these comments were focussed on existing issues relating to traffic flow, traffic congestion and specifically, traffic circulation within the Batemans Bay town centre.

A number of these respondents expressed concern about the impacts associated with the closure of Clyde Street and Wharf Road. These impacts include; increased traffic congestion in the Batemans Bay village, impacts on existing bus stops in the immediate area, ease of access to amenities and businesses in Clyde Street and reduced access to the town centre.

Other issues raised by these respondents related to traffic and congestion in the area, particularly as a result of increased traffic volumes facilitated by the new, wider bridge and other recent proposals. Topics ranged from the management of speed limits, traffic light signalling and key intersection upgrades (particularly the Kings Highway – Princes Highway roundabout). A number of comments also expressed a preference for a bypass of Batemans Bay as an alternative to the proposed new bridge.

Maritime transport

Thirty eight respondents discussed maritime transport, which included discussion of the clearance for boats passing under the new bridge as well as ensuring that foreshore facilities are provided at both ends of the bridge. These facilities include boat ramps, dinghy launch facilities, fishing, moorings, adjacent car parking and a potential ferry wharf.

Of those who raised the topic of bridge height clearance, the majority expressed a desire for the bridge to be higher than the proposed 12-14m however some comments did not support a higher bridge to facilitate additional maritime access.

Active transport

Twenty respondents discussed active transport on the proposed bridge. This related to having sufficient space to accommodate cyclists and pedestrians as well as wheelchair access. Some of these comments stated they would like physically separated pedestrian and cycle paths, of a sufficient width so they can accommodate sporting events (e.g. running and cycling events). A few respondents noted the inadequate pedestrian safety arrangements in the streets surrounding the approaches to the proposed bridge, particularly crossing the Highway in the area. Access to the bridge from Wharf Road was also raised on a number of occasions.

Heritage

Thirty nine respondents discussed matters relating to heritage. The majority of comments commented on the existing bridge's retention or adaptive reuse. Comments arguing that the bridge should be removed in its entirety due to its lack of heritage significance were in the minority.

Comments in support of the heritage significance of the bridge suggested retention or partial removal. Other suggestions included turning the site of the old bridge as a tourist attraction and/or relocating and reusing the steel for historical interpretation off-site.

Landscape and visual amenity

Twenty four respondents discussed matters relating to landscape and visual amenity, specifically addressing the design of the new bridge. The general theme of these comments related to the importance of having a design that is iconic and visually impressive. Other bridges that possess these qualities were cited including the Gladesville, Sea Cliff, Anzac and Derwent bridges.

Some of these respondents suggested that the design should pay tribute to the old bridge by mimicking some of its design elements.

Environmental and amenity impacts

Respondents mentioned potential negative environmental and amenity impacts associated with the new bridge. These include tree removal, impacts on wetlands and light and noise pollution, particularly for those properties in close proximity to the new bridge.

BLANK PAGE

BLANK PAGE

SYDNEY

Level 3, 234 George Street

Sydney NSW 2000

GPO Box 2748 Sydney NSW 2001

t: +61 2 9252 8777

f: +61 2 9252 6077

e: sydney@hillpda.com

MELBOURNE

Suite 114, 838 Collins Street

Docklands VIC 3008

t: +61 3 9629 1842

f: +61 3 9629 6315

e: melbourne@hillpda.com

WWW.HILLPDA.COM