



Roads and Maritime Services

Burrill Lake Bridge Environmental Investigations

Socio Economic Issues Investigation

April 2013

Executive summary

Introduction and purpose

This Socio Economic Issues Investigation has been prepared by GHD Pty Ltd on behalf of RMS Infrastructure Services, Southern Region, to inform the environmental investigation (EI) of options for Burrill Lake Bridge.

Roads and Maritime Services (RMS) is investigating options for the future of the Burrill Lake Bridge over Burrill Lake on the Princes Highway south of Ulladulla. At 55 years, the bridge is half-way through a 100 year design life. The bridge piles have experienced cracking and deterioration of concrete due to the bridge's location in a saline environment. This has the potential to compromise the structural integrity of the bridge. It is expected that the bridge would require either replacement or substantial maintenance within the next 10 years to retain its functionality (Roads and Traffic Authority, 2010).

In 2010 RMS undertook a high level review of the future of Burrill Lake Bridge. This review examined engineering issues relating to the following options:

- Reinforcing the deteriorating concrete columns.
- Adding new concrete columns.
- Replacing the existing bridge between the causeway and the southern bank of the lake.
- Building a new 200 metre bridge on a new alignment.

A strategic concept and options study was prepared (Aurecon, 2010) which outlined potential engineering constraints and impacts associated with each of these options. Since completing the engineering based strategic study, RMS needed to gain a greater understanding of the potential socio-economic constraints and opportunities associated with the future options for the bridge.

The scope of this study is to investigate the potential socio-economic opportunities and constraints associated with the future of the bridge, which will inform the selection of options for the Burrill Lake Bridge. This Socio Economic Issues Investigation provides:

- an overview of the socio-economic environment in Burrill Lake.
- identifies potential socio-economic opportunities and constraints relevant to the future options for the bridge.
- makes recommendations to RMS which relate to considering the identified socio-economic opportunities and constraints in the development of future options for the bridge.

Description of the site and surrounds

Burrill Lake is located on the NSW south coast, approximately three hours' drive from Sydney and over two hours' drive from Canberra. The town of Burrill Lake borders the lake, and is located approximately five kilometres south of Ulladulla, one the Shoalhaven LGA's regional centres.

Surrounded by bushland, Burrill Lake is a quiet residential, coastal town and holiday destination, providing for a diverse range of recreational opportunities such as fishing and various water sports. There is a variety of holiday accommodation in the area, including holiday homes, self-contained holiday cottages, and caravan parks.

The town of Burrill Lake is split east to west by the lake, and north to south by the Princes Highway. The Burrill Lake Bridge provides the only connection between the north and south sides of town, with a pedestrian and cycle path located on the north-bound side of the bridge/highway. As a major road linking Sydney to Melbourne, the Princes Highway plays a vital role in the regional road network, with high volumes of traffic travelling over the bridge and through Burrill Lake every day.

Consultation outcomes

RMS has been consulting with the Burrill Lake community and various stakeholders on the options for the Burrill Lake Bridge since May 2012. This has been in order to inform the community about the need for the investigations into the future options for the bridge, gather information about important community issues and values, and gather feedback on the preferred options.

GHD's surveys with shoppers and businesses in November 2012 also sought to further understand the local socio-economic environment and community opinions about future options for the bridge, particularly any issues associated with local businesses. This section provides an overview of the key outcomes of these consultation processes which relate to the future options for the bridge.

Consideration of the socio-economic issues and constraints

The Burrill Lake Bridge plays an important role in the local community of Burrill Lake. Any future maintenance works or replacement will impact on the lives of community members, businesses, tourists and passing motorists.

In 2011, the population of Burrill Lake suburb was 1,328 people. Burrill Lake is characterised by an older population, with almost half the population aged 50 years and over (48.8 per cent or 647 persons compared to 35.3 per cent for Shoalhaven LGA), reflecting the trend for many retirees making a 'sea change' to the area.

As a small town located within five kilometres of a regional centre, the social infrastructure located in Burrill Lake services a small catchment of residents. Key social infrastructure such as schools, libraries, large shopping centres, childcare and so on is located to the north in Ulladulla or south in Batemans Bay. Key features of Burrill Lake include the recreational amenity provided by the lake and public open space, and shops and businesses.

As a small and scenic town located on a lake, Burrill Lake provides opportunities for short pedestrian and bicycle trips for local residents and tourists.

The Princes Highway is the only direct major coastal road which links Sydney to Melbourne. The highway is subject to relatively high traffic volumes including local, commercial and freight traffic and seasonal increases in recreational motorists.

The major economic driver for Burrill Lake is tourism, which is also the key industry for the Shoalhaven City. Burrill Lake is a holiday destination for many families attracted to the recreational amenity provided by the lake and beach, and offers a range of tourist accommodation options.

The businesses located in Burrill Lake service local residents, tourists and passing motorists. Burrill Lake's retail and service businesses are located on either side of town, with a small shopping village on the western side, and another small row of businesses on the eastern side. Both the groups of businesses front the Princes Highway, attracting trade from passing motorists as there is room on each shoulder of the highway for motorists to park their vehicles, either directly in front of the businesses or within a short distance.

Potential socio-economic opportunities and constraints

The analysis of the socio-economic environment of Burrill Lake, as well as consultation with community members and businesses, has identified a number of potential socio-economic opportunities and constraints.

Potential benefits of the future options include:

- Strengthening of the regional road network
- Improvements in the safety of road users
- Improved traffic times
- Decreased traffic congestion through town
- Improved pedestrian and cyclist safety and accessibility
- Mitigation of flood risks
- Potential improvement of the ecology of the lake

Potential socio-economic constraints which should be taken into consideration in the development of future options for the bridge include:

- Older population which is more vulnerable to potential noise, vibration, amenity and accessibility impacts resulting from any maintenance and construction works.
- High reliance on motor vehicle travel and access to the highway and bridge for daily commuter travel.
- Access to recreational opportunities associated with the lake and the Lions Park for residents, tourists and passing motorists.
- Importance of the tourism industry to the local economy and the need to ensure that any potential impacts are minimised, particularly during peak tourist seasons.
- Reliance of businesses on trade from passing motorists and the need to ensure continued visibility and convenient access to reduce risk of a decrease in revenue.
- The local amenity and character of Burrill Lake and the risks to the tourism industry resulting from any maintenance and construction works which cause visual, vibration and noise impacts.

Recommendations

Overall recommendations to RMS include:

- Continue to engage with the community and stakeholders in the development of the future of the highway crossing to protect attributes that the community values and promote local ownership of the decision.
- Ensure that the key socio-economic opportunities and constraints which have been identified in this report inform the development of future options for the Burrill Lake Bridge.
- Ensure the local community, businesses and stakeholders are kept informed on the progress of the options development, and preferably involved in their development.

The future options for the Burrill Lake Bridge present potential socio-economic benefits and risks for a variety of stakeholders, including Burrill Lake community members and businesses, tourists, passing motorists and road users and government agencies. Overall, this report has identified various potential socio-economic opportunities and constraints which should be taken

into consideration in the development of the options for the bridge. Importantly, a comprehensive socio-economic impact assessment should be undertaken if replacement of the bridge is the preferred option to ensure that potential socio-economic benefits and risks are fully understood, and enhancement or mitigation strategies are considered and defined.

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1. Introduction

1.1 Background

Roads and Maritime Services (RMS) is investigating options for the future of the Burrill Lake Bridge over Burrill Lake on the Princes Highway south of Ulladulla.

Burrill Lake Bridge is located in the City of Shoalhaven Local Government Area (LGA) on the New South Wales south coast, about 230 kilometres south of Sydney, and approximately five kilometres south of Ulladulla (**Error! Reference source not found.**). The bridge is a key link on the southeast transport route along the Princes Highway. Constructed in 1958, the bridge comprises a combination of a 55 metre bridge and causeway about 200 metres in length.

At 55 years, the bridge is half-way through a 100 year design life. The bridge piles have experienced cracking and deterioration of concrete due to the bridge's location in a saline environment. This has the potential to compromise the structural integrity of the bridge. It is expected that the bridge would require either replacement or substantial maintenance within the next 10 years to retain its functionality (Roads and Traffic Authority, 2010).

RMS is investigating options for the potential upgrade or replacement of the Burrill Lake Bridge. In 2010 RMS undertook a high level review of the future of Burrill Lake Bridge. This review examined engineering issues relating to the following options:

- Reinforcing the deteriorating concrete columns.
- Adding new concrete columns.
- Replacing the existing bridge between the causeway and the southern bank of the lake.
- Building a new 200 metre bridge on a new alignment.

A strategic concept and options study was prepared (Aurecon, 2010) which outlined potential engineering constraints and impacts associated with each of these options. This study did not take into consideration social impacts associated with an upgrade of the bridge.

Since completing the engineering based strategic study (Aurecon, 2010), RMS needed to gain a greater understanding of the potential environmental and socio-economic constraints and opportunities within the study area, taking into with consideration options for the future of the bridge.

The scope of this study is to investigate the potential socio-economic opportunities and constraints associated with the future of the bridge, which will inform the selection of options for the Burrill Lake Bridge.

1.2 Purpose of report

This Socio Economic Issues Investigation has been prepared by GHD Pty Ltd on behalf of RMS Infrastructure Services, Southern Region, to inform the environmental investigation (EI) of options for Burrill Lake Bridge. The purpose of the EI is to identify potential constraints and factors that may influence the development of design options for the upgrade of Burrill Lake Bridge.

The EI identifies and summarises the potential environmental opportunities and constraints in the study area. It is one of the inputs into the identification of a preferred option and/or the concept design process. Once a preferred option has been chosen and a concept plan developed, a detailed environmental impact assessment would be prepared to assess the potential environmental impacts of the preferred option and would detail the environmental

management measures to be implemented. The EI process documents the integration of environmental, social and economic factors and constraints into the RMS decision making process.

This Socio Economic Issues Investigation provides:

- an overview of the socio-economic environment in Burrill Lake.
- identifies potential socio-economic opportunities and constraints relevant to the future of the bridge.
- makes recommendations to RMS which relate to considering the identified socio-economic opportunities and constraints in the development of future options for the bridge.

This report is subject to, and must be read in conjunction with, the limitations set out in section 0 and the assumptions and qualifications contained throughout the Report.

1.3 Methodology

This Socio Economic Issues Investigation has been developed in line with RMS's draft *Socio-economic assessment practice note*, and presents a "comprehensive" investigation (as defined in the draft RMS practice note).

The socio-economic investigation has involved the following:

- Review of various technical data, including from the *Preliminary Environmental Investigations* report, traffic and noise analysis, relevant planning controls and policies; traffic, pedestrian, cycle and car parking analysis of the surrounding community; noise and visual investigations.
- Demographic and social research to identify and consider issues. This included a review of the literature base related to road bypasses, and consideration of other locations with similar environments and issues.
- Analysis of the ABS Collector District (now known as SA1's) of the key small areas within and around Burrill Lake, with comparison drawn to the LGA and NSW where relevant.
- A Land Use Survey which identifies local businesses, key community hubs and cultural facilities, significant paths of travel, modes utilised in travel, community movement and interaction patterns.
- Desktop review of the key outcomes of RMS consultation activities to date.
- Consultation with local businesses through semi-structured discussion and response to a survey.
- Survey of shoppers in the vicinity of the Burrill Lake IGA over the course of one weekend afternoon.
- Socio-economic issues investigation, identifying potential socio-economic constraints and benefits.

1.4 Study Area

This socio-economic investigation considers the potential socio-economic issues associated with the development of options for the bridge on the town of Burrill Lake, as well as surrounding suburbs including Dolphin Point Kings Point, and Ulladulla. Broader impacts are considered for the Shoalhaven Local Government Area. Scope and limitations

This report: has been prepared by GHD for Roads and Maritime Services and may only be used and relied on by Roads and Maritime Services for the purpose agreed between GHD and the Roads and Maritime Services as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Roads and Maritime Services arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Roads and Maritime Services and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

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2. Description of the site and its surrounds

Burrill Lake is located on the NSW south coast, approximately three hours' drive from Sydney and over two hours' drive from Canberra. The town of Burrill Lake borders the lake, and is located approximately five kilometres south of Ulladulla, one the Shoalhaven LGA's regional centres (see Figure 1 below).

Surrounded by bushland, Burrill Lake is a quiet residential, coastal town and holiday destination, providing for a diverse range of recreational opportunities such as fishing and various water sports. There is a variety of holiday accommodation in the area, including holiday homes, self-contained holiday cottages, and caravan parks.

Figure 2 displays a map of Burrill Lake, displaying the various shops, services, tourist accommodation options, and social infrastructure located in the town.



Figure 2 Map of key land uses in Burrill Lake

The town of Burrill Lake is split east to west by the lake, and north to south by the Princes Highway. The Burrill Lake Bridge provides the only connection between the north and south sides of town, with a pedestrian and cycle path located on the north-bound side of the bridge/highway. As a major road linking Sydney to Melbourne, the Princes Highway plays a vital role in the regional road network, with high volumes of traffic travelling over the bridge and through Burrill Lake every day. Identified as regionally significant infrastructure by the NSW Department of Planning and Infrastructure in its *South Coast Regional Strategy 2006-2031* (NSW Department of Planning, 2007), the Princes Highway is recognised as an important link between local communities, as well as supporting the economic development of the region.

As depicted in Figure 2, the town centre is located on the eastern side of the lake and bridge, bordering the north-bound lane of the highway. A small cluster of shops and services provide a focal point for the town, including an IGA X-press, café, newsagent and hairdresser. The town centre acts as a small community 'hub' where local residents meet and shop in the local businesses.¹ These shops attract trade from passing motorists, with many customers parking their vehicles on the shoulder of the highway to visit the stores. Table 1 below provides an overview of the key land uses in the study area. To the south-bound side of the highway are a small number of houses, a mostly cleared lot of land which is directly adjacent to the highway, and a motel and caravan path bordering the mouth of the lake.

Table 1 Overview of land uses in the study area

Area	Dominant land uses	Key features
North of the bridge, west of the highway	Residential Commercial Community use	<ul style="list-style-type: none"> • Bait and Tackle • Fish and chip shop • Hot Glass Gallery • Bottle Shop • General practitioner • Community hall • Sports field
North of the bridge, east of the highway	Residential Community use Accommodation	<ul style="list-style-type: none"> • Lions Hall • Edgewater motel • Burrill Lake Tourist Park • Seniors Living Units
South of the bridge, west of the highway	Residential Community use Accommodation	<ul style="list-style-type: none"> • Lions Park • Dolphins Point Tourist Park • Public beach access
South of the bridge, east of the highway	Residential Commercial Accommodation	<ul style="list-style-type: none"> • IGA • Brill Café • Newsagent / post office • Real estate showroom

¹ According to comments made by local residents to GHD staff when administering surveys on 3 November 2012

Area	Dominant land uses	Key features
		<ul style="list-style-type: none"> • Hairdresser • Big 4 Bungalow Park

The eastern and western foreshores of the lake contain low density housing, with small areas of public open space and reserves, and a number of small jetties and boat ramps.

The western side of the town also includes low density housing, with a small number of businesses located along the north-bound side of the highway. As with those located on the northern side of the bridge, these businesses attract trade from passing motorists, who park their cars on the shoulder of either side of the highway. Also in the western side of town, opposite the shopping village and along the mouth of the river, is a large park with public amenities including public toilets, barbeques, shelters and a canoe launch area. This park is a popular place for tourists to park their motorhomes when passing through the area.²

Other nearby areas include Dolphins Point, on the coast south of the lake. This area is dominated by residential housing, a tourist park and public beach access. Kings Point is located on the north eastern foreshore of the lake.

² Ibid.

3. Consultation Outcomes

This section of the report provides an overview of the key community concerns associated with the future options for the bridge. The community issues and values have been identified through various community consultation activities.

RMS has been consulting with the Burrill Lake community and various stakeholders on the options for the Burrill Lake Bridge since May 2012. This has been in order to inform the community about the need for the investigations into the future options for the bridge, gather information about important community issues and values, and gather feedback on the preferred options.

GHD's surveys with shoppers and businesses in November 2012 also sought to further understand the local socio-economic environment and community opinions about future options for the bridge, particularly any issues associated with local businesses. This section provides an overview of the key outcomes of these consultation processes which relate to the future options for the bridge. The survey forms are provided at Appendix B.

3.1 Submissions received by RMS

Consultation activities undertaken by RMS during May and June 2012 included:

- community information displays at the Burrill Lake Newsagency and Post Office, Ulladulla library and civic centre and Shoalhaven City Council office in Nowra;
- community updates; and
- community drop in sessions in Ulladulla.

A community update newsletter was issued to the Burrill Lake community in May 2012. The update was distributed to more than 5,000 properties in the Burrill Lake, Dolphin Point, Kings Point, Ulladulla, Mollymook and Milton areas. The update provided a brief explanation of why the development of options for the bridge are required, and stated that RMS had not yet made a decision on whether replacement or maintenance would be the preferred future option. The update also encouraged submitting feedback on the options of maintenance or replacement, or meeting with RMS team members at drop in sessions held on May 22 and June 2, 2012.

Around 30 community members attended the two drop in sessions, with 49 written submissions received by email and post. Twenty three of the submissions received were in the form of a petition. The petition stated:

"Our preferred option is that a new 200 metre long bridge be built on a new alignment thus enabling the old bridge to be used while the new bridge is under construction."

The petition does not provide any details as to why this is the preferred option. All of the signatories to the petition lived in suburbs surrounding the Burrill Lake Bridge including: Dolphin Point, Burrill Lake, Ulladulla, Narrawallee, Bawley Point, Kings Point, Mollymook and Milton.

The remaining 26 submissions were also predominantly from the surrounding area. Two submissions were from outside the immediate area with one from Korora (located in Northern NSW) and the other from Kiama (in the Illawarra region). All of the submissions with the exception of the submission from Shoalhaven City Council were provided by private individuals.

A summary of the main issues and concerns raised in the submissions is provided below.

Table 2 Main issues and concerns raised by the 26 submissions

Issue	Number of submissions
The Causeway has a negative impact on the lake's ecology and hydraulics	17
Support for a new bridge	10
Traffic congestion and safety	9
Sea-level rise and flooding	8
Improved pedestrian arrangements	7
Concerns about consultation undertaken as part of the project	3
Access for emergency services	3
Old bridge should be retained as a community asset	3
Ensuring bridge is integrated into character of the area	2
Noise, dust and drainage impacts from realignment or during construction	2
Status of the Milton Ulladulla Bypass	2

Overall, the submissions show general support for a new bridge. There is a significant amount of concern for the ecology of the lake, with many respondents indicating a belief that the causeway which supports the bridge is detrimental to the health of the lake. This is related to a perception that the causeway interferes with water flow from the ocean.

3.2 Survey of Burrill Lake Shoppers

The survey administered to shoppers at the shopping village was undertaken on Saturday 3 November 2012 between 11:00am and 3:00pm. Overall, 42 people completed the survey, with 70 per cent of respondents living in Burrill Lake or surrounding areas.

Almost 90 per cent of survey respondents were aware that the Burrill Lake Bridge would require either replacement or significant maintenance in the next ten years. Table 3 below provides a summary of the key themes raised by respondents in regard to this issue.

Table 3 Key themes of most important issues for investigating bridge options

Theme	Number of comments
Replace with a new bridge	16
The bridge should be elevated to allow boats to pass and prevent flooding	14
Other comments	13

Theme	Number of comments
The solution will need to address the issue of traffic congestion	10
Environmental issues/ecology of the lake	10
The bridge should be more pedestrian-friendly with pedestrian access on both sides and improved lighting	8
Upgrade the existing bridge	7
Remove the causeway to improve flow and stop the lake from blocking	7
Bypass would be a good option that would not necessarily impact on holiday goers	3
Businesses are reliant on tourism	2
Total	90

The most common theme raised by respondents was to replace the existing bridge with a new bridge. Comments related to constructing a wider bridge to improve traffic flow, or constructing a new bridge which spans the entire lake and does not require the causeway to support it, with some comments made that this option would result in improved water flow in the lake. The next highest theme related to lifting the bridge to a higher level, particularly to prevent flooding and allow boats to pass underneath. A variety of 'other' comments were made about issues associated with the bridge, lake, town and community. The next most common themes related to the need to improve traffic congestion, and the environmental issues associated with the lake (primarily in relation to the causeway interference with the lake water flow).

Survey respondents were also asked to identify what they think are important issues that RMS should consider in investigating the options for the future of the bridge. Table 4 below provides a summary of the key comments.

Table 4 Main themes of most important issues expressed by respondents for investigating options

Theme	Number of comments
Ensure bridge is built for high levels of traffic to help ease congestion in the area	15
Improve safety for pedestrians and cyclists through wider pathways and a foot bridge on both sides	12
Improve the ecology of the lake reducing pollution and improving water quality	10
Include a bike path on the bridge that connects to Ulladulla	4
Consider the impact on businesses and tourism	4

Theme	Number of comments
The new bridge should be higher	3
The new bridge should look nice	3
Include more lanes on the bridge (four lanes) to accommodate the population growth	2
Get rid of the causeway	2
Other comments	7
Total	62

As summarised in the table above, the highest number of comments are associated with ensuring that current issues associated with traffic congestion in Burrill Lake are addressed by RMS. This is followed by the need to address pedestrian/cyclist safety and access, particularly by having a pathway on both sides of the bridge which connects the town to other surrounding areas. The third most common theme related to improving the ecology and water quality of the lake through consideration of tidal flow/blockage issues.

There is a strong community perception that the causeway has had a negative impact on the ecology of the lake by blocking tidal flow, resulting in the lake being unable to drain. This often leads to the lake 'smelling bad', which in turn negatively impacts on the tourism industry and businesses. Many comments were made regarding the need to remove the causeway, which may require replacing the bridge with a new one which spans the entire lake, and which is higher than the existing bridge. Other key issues related to ensuring that RMS considers the impacts on businesses and the tourism industry when investigating options.

3.3 Survey of Local Businesses

Nine businesses were surveyed by GHD, seeking to gain an understanding of the local economy, the relationship of the businesses to the bridge and the highway, and identify any key issues associated with the future options.

The business survey revealed that most of the businesses surveyed depend heavily on trade from tourists to the lake, as well as passing motorists. However the local shops such as those located in the shopping village, as well as those to the north of the bridge, also rely on trade from local residents, particularly during the low tourist season. Almost all the businesses identified a reliance on access to the bridge for their operations, including receiving or sourcing inventory, and for staff travelling to their place of work.

The majority of business owners or managers surveyed are aware that RMS is investigating future options for the bridge, however opinions on their preferred option are mixed. Some indicated support for a new bridge to replace the existing bridge, while there was some support to maintain the existing bridge.

Respondents to the business survey identified a number of issues which RMS should consider when investigating the options for the future of the bridge, with a key focus being access to their businesses, both during and post any construction activities. Most respondents, particularly those who owned shops, commented on the need to ensure that passing motorists could continue to park in a location of convenience, and their businesses remain visible from the highway.

Respondents were also concerned about the design of any new bridge, that it is designed in a way that is consistent with the local character of Burrill Lake, and that if the bridge is replaced, the old bridge be retained as local feature such as a pedestrian/cycle path and fishing platform.

3.4 Summary of Key Opportunities and Constraints

The key opportunities and constraints associated with the future options for the bridge which were identified by community members include:

- **Ecology of the lake** – many community members indicated concern for the health of the lake. There is a common community perception that the existing causeway inhibits the water flow of the lake, leading to blockages, which in turn has a negative impact on the local tourism industry. Many respondents indicated a belief that replacing the bridge and removing the causeway would improve the health of the lake.
- **Traffic congestion** – during peak tourist seasons, the Princes Highway at Burrill Lake often experiences traffic congestion due to high traffic volumes. There is support for improving the bridge or replacing it with a bridge which is wider and allows for increased traffic flow through town.
- **Improved pedestrian safety and access** – community members identified the potential for improved pedestrian safety and access through the replacement of the existing path over the bridge, improving the ability of pedestrians and cyclists to safely cross the highway, and linking the town to other surrounding areas through the construction of new pathways.
- **Impacts on tourism industry** – Most of the businesses in Burrill Lake rely on trade from tourists. Any maintenance or construction activities should seek to limit the impacts on these groups, particularly being scheduled outside of peak tourist seasons.
- **Reliance of businesses on passing motorists** – Any maintenance or construction activities should ensure continued access to these businesses for motor vehicles which is convenient. Construction activities could lead to a loss of trade for these businesses. Additionally, any designs for a replacement bridge should consider visibility of these businesses from the highway, as well as convenient access for motor vehicles.
- **Mitigation of flood risks** – the potential construction of a new bridge offers the opportunity to alleviate the risk of flooding if it was designed to be higher than the existing bridge. This would have significant benefits for road users, tourists and residents of Burrill Lake.
- **Improved motorist safety** – maintenance or replacement of the bridge would contribute to the overall safety of all road users.
- **Local character and amenity** – any design options for a replacement bridge should take the local character of Burrill Lake into consideration, ensuring that the bridge does not detract from the scenic amenity or lead to community severance and disruption.

4. Consideration of socio-economic issues and constraints

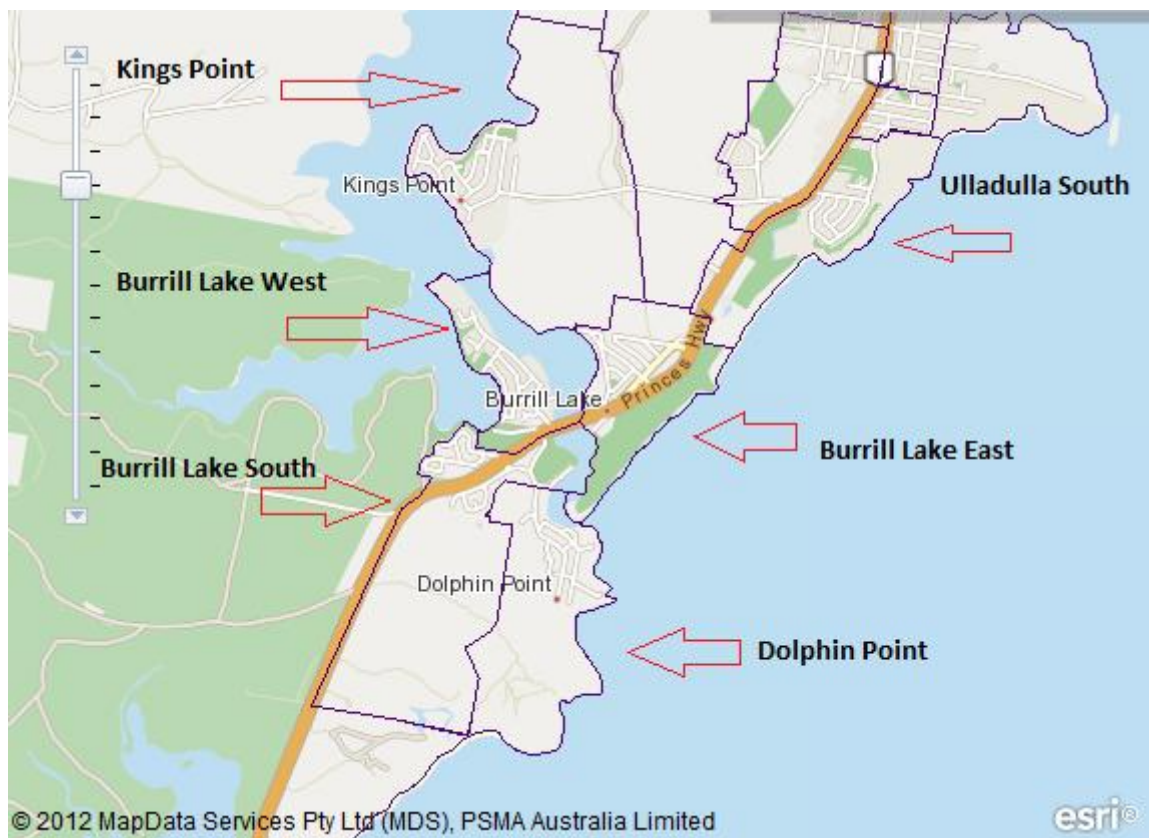
The Burrill Lake Bridge plays an important role in the local community of Burrill Lake. Any future maintenance works or replacement will impact on the lives of community members, businesses, tourists and passing motorists. This section provides an overview of the potential socio-economic opportunities and constraints which should be considered in the development of options for the future of the bridge.

4.1 Demographic profile

The suburb of Burrill Lake is made up of three Census Collection Districts, shown in Figure 3 below. For the purpose of this report, they are referred to as Burrill Lake East, Burrill Lake West, and Burrill Lake South.

Also considered in this report are the suburbs of Dolphin Point and Kings Point (see section 2 of this report), and the small area referred to in this report as Ulladulla South, located to the north of Burrill Lake.

Figure 3 Map showing Census Collection Districts within Burrill Lake



(Australian Bureau of Statistics, 2012)

In 2011, the population of Burrill Lake suburb was 1,328 people. Burrill Lake is characterised by an older population, with almost half the population aged 50 years and over (48.8 per cent or 647 persons compared to 35.3 per cent for Shoalhaven LGA), reflecting the trend for many retirees making a 'sea change' to the area.

Shoalhaven City Council population forecasts for the Burrill Lake – Lake Tabourie and surrounding area³, indicate that by 2036, the area will experience an increase of 1,135 people, from 2,715 in 2006. Over a 30 year period, this represents an average annual growth rate of 1.17 per cent, which is slightly lower than the growth rate for the LGA (1.28 per cent).

Within Burrill Lake, more seniors aged 70 years and over live in Burrill Lake West, however all three areas have more seniors compared to the state average. Burrill Lake South has more children under 12 years compared to the state average, which could reflect the recent housing development located to the south of the Princes Highway.

Other populations which may be more vulnerable to the impacts resulting from the future options for the Burrill Lake Bridge include:

- Aboriginal and Torres Strait Islander people, with a slightly higher proportion than the state average located in Burrill Lake East, however all three areas are less than the average for Shoalhaven LGA.
- All three areas of Burrill Lake have more low income households than the state and LGA average.
- More single parent families located in Burrill Lake South.
- More unemployed people live in Burrill lake South and Ulladulla South.

Appendix A provides thematic maps of the Census Collection Districts in and around Burrill Lake according to these and other key indicators.

The high proportions of older people, particularly those aged over 70 years, reveals that the population of Burrill Lake may be more vulnerable to social impacts resulting from the future options for the bridge, such as noise and amenity impacts resulting from any construction or maintenance activities, or accessibility to services and businesses.

4.1.1 Spatial patterns of advantage and disadvantage

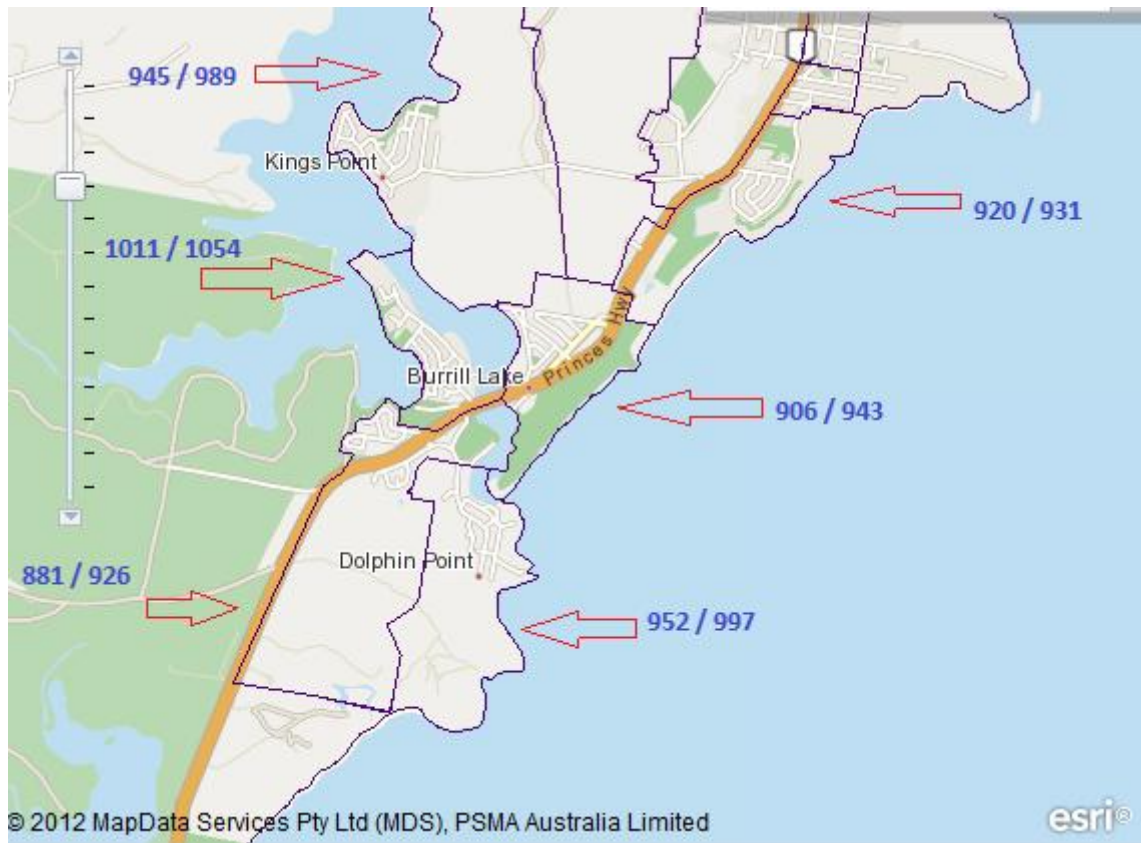
Social impacts are distributed and experienced differently amongst different groups in society. In general, more disadvantaged residents have fewer resources to cope with various social impacts.

Figure 4 below shows the Socio-Economic Indexes for Areas (SEIFA) scores for each of the Census Collection Districts in Burrill Lake and surrounding areas. It should be noted that the scores for 2006 have been used in this report as the 2011 scores were not available at the time this report was produced. The boundaries of the Collection Districts have altered slightly since 2006, so the map below is indicative only.

Two scores are shown, the first being the **Index of Relative Advantage and Disadvantage** and the second being the **Index of Relative Disadvantage**. The Index of Relative Socio-economic Advantage and Disadvantage is a continuum of advantage (high values) to disadvantage (low values) which is derived from Census variables related to both advantage and disadvantage, like household with low income and people with a tertiary education. The Index of Relative Socio-economic Disadvantage is derived from Census variables related to disadvantage, such as low income, low educational attainment, unemployment, and dwellings without motor vehicles (ABS, 2008). A higher score on both indexes indicates a **lower** level of disadvantage, while a lower score indicates a **higher** level of disadvantage.

³ As identified in the Shoalhaven City Council community profile (profile.id)

Figure 4 2006 SEIFA scores for Burrill Lake and surrounding Census Collection Districts



(ABS, Census, 2012)

The 2006 SEIFA scores for the Burrill Lake and surrounding Collection Districts show that Burrill Lake West has a lower level of disadvantage, while Burrill Lake South and Burrill Lake East have higher levels of disadvantage. The presence of more vulnerable sections of the community should be considered in the development of options for the Burrill Lake Bridge.

4.2 Social infrastructure in Burrill Lake

As a small town located within five kilometres of the regional centre of Ulladulla, the social infrastructure located in Burrill Lake services a small catchment of residents and tourists. Key social infrastructure such as schools, libraries, large shopping centres, childcare and so on are located to the north in Ulladulla. Additionally, key social infrastructure are also located in Milton (approximately 12 km north) and Batemans Bay (approximately 40 km south).

Key social infrastructure in Burrill Lake is displayed in Figure 2 of this report. As well as the businesses fronting the highway, the eastern side of town features a medium sized sports field with a cricket pitch, and a small park with a playground. There is also a community hall located directly adjacent to the Princes Highway, heading towards Ulladulla, and a Lions Hall just to the north of the bridge on the southern side of the highway. A General Practitioner (GP) operates from a small shopfront next to the bait and tackle by appointment on Wednesdays between 9.30am and 12.00pm.

Key social infrastructure on the western side of town includes the small shopping village, seniors living accommodation, and Lions Park which provides public amenities and recreation opportunities including a canoe launching area. Public beach access is located at Dolphins Point.

There is a pedestrian footpath on the north-bound side of the highway which crosses the bridge. The pathway provides the only pedestrian access between the northern and southern sides of the town. The bridge also provides an opportunity for fishing in the lake.

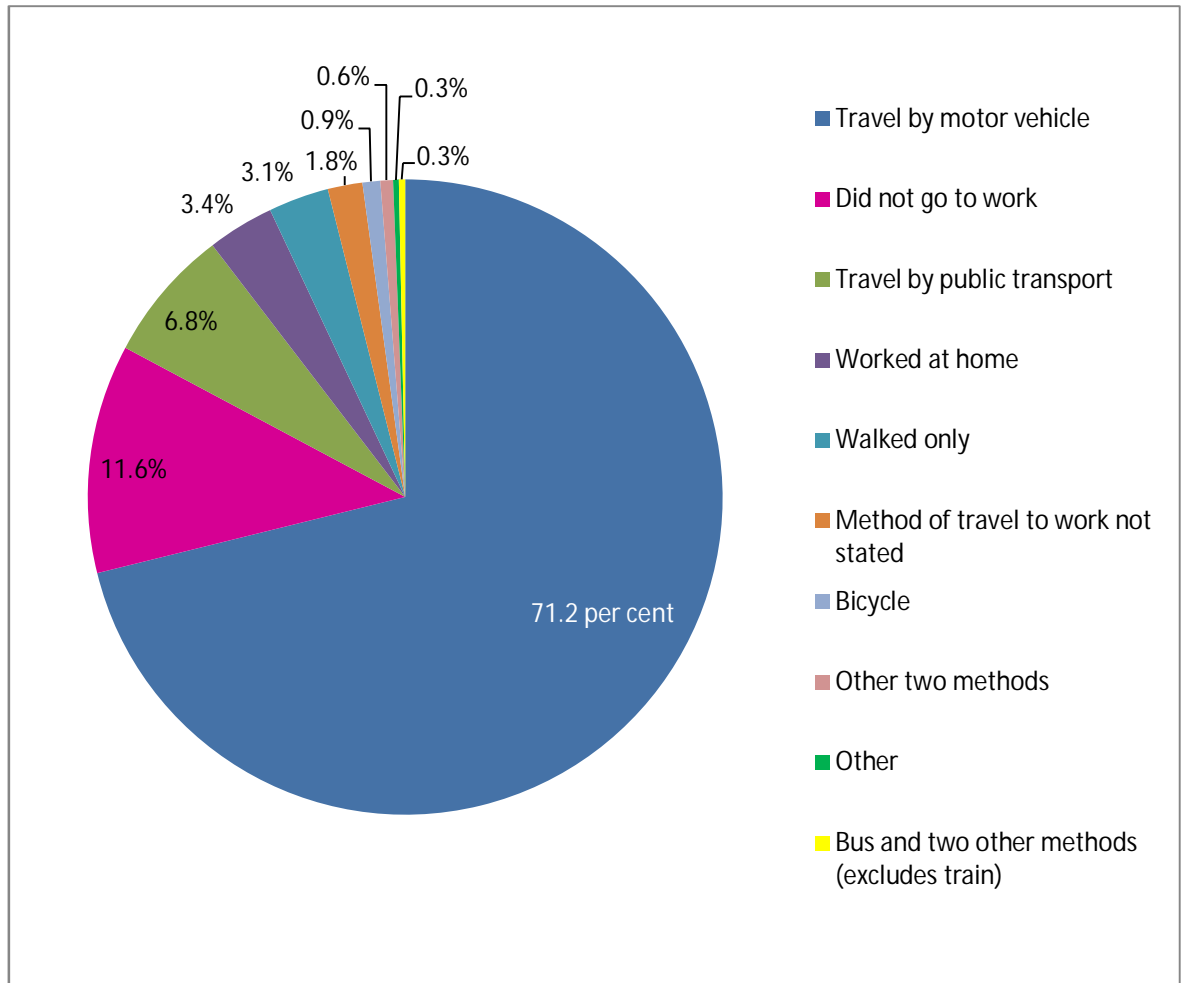
4.3 Travel behaviour, transport and traffic patterns

4.3.1 Travel behaviour

As a small and scenic town located on a lake, Burrill Lake provides opportunities for short pedestrian and bicycle trips for local residents and tourists. Burrill Lake is a 'walkable neighbourhood' (Queensland Government Department of Planning and Infrastructure, 2010), with most of the town within a 800 metre or 10 minute comfortable walk of the shopping village, shops to the north of the bridge, and Lions Park. This was confirmed by the observations of GHD staff when undertaking consultation, with many visitors to the shopping village walking there from surrounding areas, including walking across the Princes Highway and over the bridge. The importance of pedestrian and bicycle accessibility in Burrill Lake was also highlighted by respondents to the community and business surveys undertaken by GHD (see section 3 of this report).

The majority of employed residents are highly dependent on private motor vehicles to travel to work. Figure 5 below displays journey to work information for employed residents (over 15 years old) of Burrill Lake and surrounds (including Kings Point, Dolphin Point and Ulladulla South) for 2011. Only 6.8 per cent (66 residents) travelled by public transport, including bus and train travel. The graph below shows that Burrill Lake workers are highly dependent on travel by motor vehicle. It is likely that most workers who travel by private car would travel via the Princes Highway on a daily basis, with many crossing the Burrill Lake Bridge to travel to work. Additionally, 95.7 per cent (539) of Burrill Lake households own motor vehicles, which is only slightly lower than the LGA average (96.7 per cent of households).

Figure 5 Journey to work for Burrill Lake and surrounding residents



4.3.2 Public transport options

Burrill Lake is connected to the north and south by a public bus service, provided by Ulladulla Bus Lines. The 740 and 741 bus routes run Monday to Friday, connecting Kioloa in the south to Narrawallee in the north, between approximately 7.30am and 5.00pm. The 740 service also operates on a Saturday morning.

Ulladulla Bus Lines also operates school buses which service all schools within the Ulladulla Area. Four buses stop in Burrill Lake on school days between 8.15am and 9.05am and in the afternoon between 4pm and 5pm. Other regular bus services which travel along the Princes Highway through Burrill Lake include:

- A daily service from Sydney to Melbourne operated by Premier Motor Service; and
- A scenic bus service from Parramatta to Moruya (south of Batemans Bay) operated by Priors Scenic Express on Monday, Wednesday, Thursday, Friday and Sunday.
- A daily service which runs according to demand, from Milton to Batemans Bay, operated by Rixons

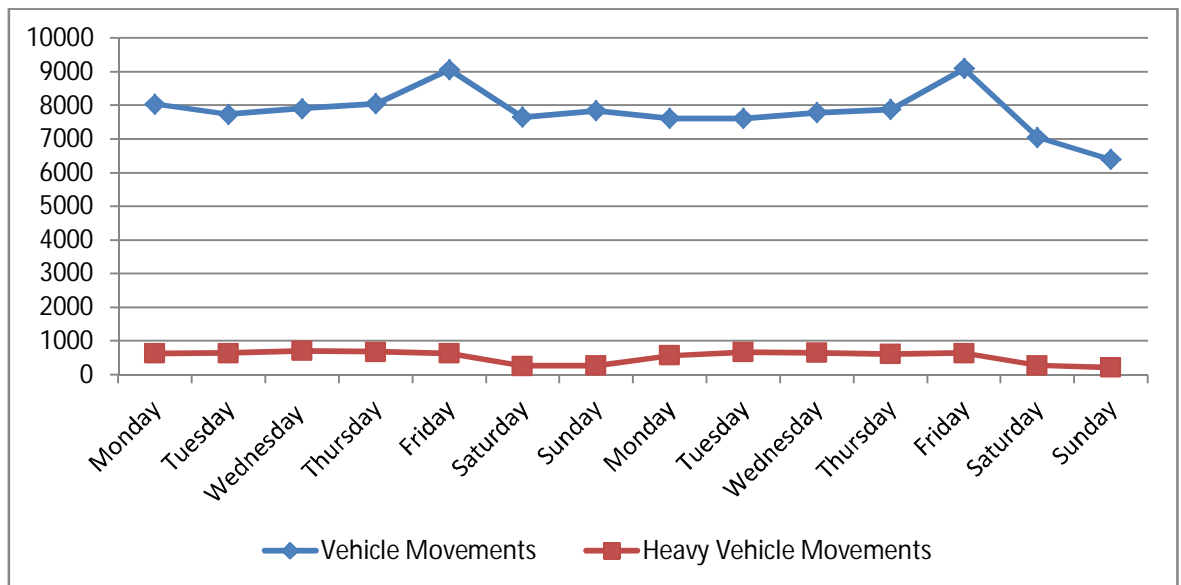
As only a small proportion (see previous section) of Burrill Lake workers travel to work by public transport, it is also likely that most residents travel by private car when travelling through the region.

4.3.3 Transport network and traffic patterns

The Princes Highway is the only direct major coastal road which links Sydney to Melbourne. The highway is subject to relatively high traffic volumes including local, commercial and freight traffic and seasonal increases in recreational motorists.

With the Princes Highway running through the middle of town, Burrill Lake often experiences heavy traffic volumes, leading to traffic congestion at times. This was confirmed in the EI report, which presented the findings of a traffic count undertaken by GHD between Monday 21 May and Sunday 4 June 2012, 100 metres east of the bridge. The data indicated there was an average of 8,045 vehicle movements in the first week, and 7,633 in the second week. Figure 6 below displays the traffic counts for each day during the two week period, for both heavy vehicles and all other motor vehicles.

Figure 6 Traffic counts for Burrill Lake Bridge during a two week period in May and June, 2012



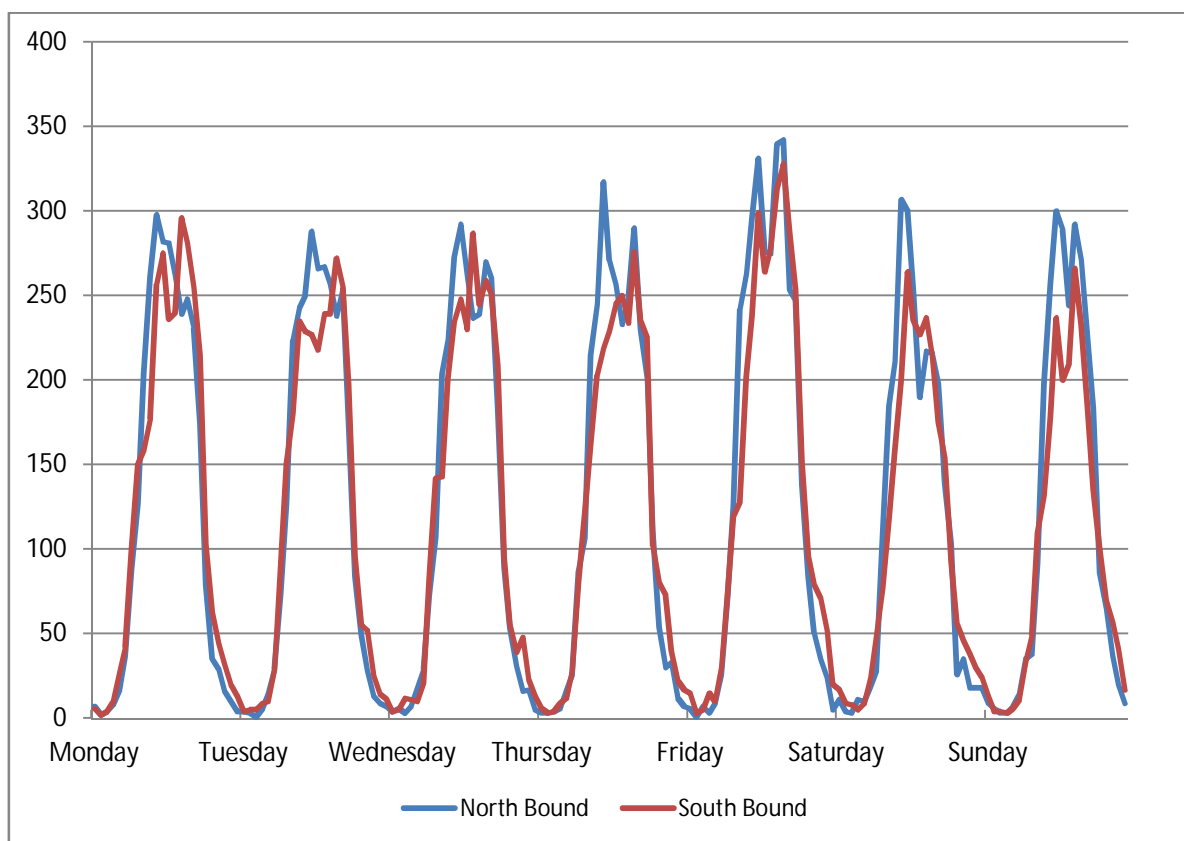
The graph demonstrates that traffic volumes increase on the bridge on weekends, peaking on Fridays, and decrease again by Sundays. It is likely that the increase in traffic volumes is due to tourists visiting the south coast on weekends.

Information provided by RMS confirms that these traffic volumes increase during busy tourist seasons when large numbers of tourists travel to the south coast, including the Christmas and New Year holiday period, long weekends and during school holidays. During these periods, the Princes Highway can experience traffic volumes up to twice the annual average daily traffic volumes, while during periods outside the seasonal peak times, daily traffic volumes can drop to below the annual average daily traffic volumes.

RMS has also provided traffic counts for Burrill Lake Bridge between Saturday 9 July 2012 and Sunday 24 July 2012. This data reflects the trends identified in the data gathered by GHD, with traffic volumes increasing on weekends and decreasing on week days. This is reflected in Figure 7, which shows the hourly variation in traffic volume for one week during this period (Saturday 9 July to Friday 15 July 2012).

The graph demonstrates that traffic volumes increase in the morning, remain relatively stable across the day, with some minor variations across times, and decrease again in the evening.

Figure 7 Traffic counts for Burrill Lake Bridge showing variation across time for one week in July 2012



(Roads and Maritime Services, 2012)

Consultation with Shoalhaven City Council staff has revealed that the Burrill Lake Bridge plays a vital role in the transport network, with a variety of road users such as freight companies, large supermarkets, significant services, or workers crossing the bridge on a daily basis.⁴

For example, many deliveries of goods into Ulladulla (e.g. catering) originate in Canberra, travelling via Batemans Bay and Burrill Lake. On a broader regional basis, supermarkets such as Woolworths operate their delivery trucks on loops starting in Gippsland in Victoria and travelling to Sydney via the Princes Highway, with an estimated twenty semi-trailer trucks travelling through Burrill Lake and over the bridge each day. Additionally, the regional Australia Post depot is located in Batemans Bay, with large trucks travelling to Ulladulla on a daily basis for deliveries.

Any potential maintenance or construction activities should take the variations in traffic volumes on the bridge across days of the week and times of the day into consideration to reduce the impacts on the various road users, such as increased travel time.

4.4 Local economy of Burrill Lake

The major economic driver for Burrill Lake is tourism, which is also the key industry for the Shoalhaven City. This is reflected in the industrial structure of Burrill Lake, with the highest proportions of employed persons aged 15 years and over working in retail or accommodation and food services. Other key industries for Burrill Lake include health care & social assistance, and construction. The industries of employment for Burrill Lake workers are displayed in Table 5 below.

⁴ Phone conversation held with Shoalhaven City Council's Economic Development Manager 23 November 2012

Table 5 Industrial Structure of Burrill Lake, 2011

Industry	Burrill Lake Suburb		Shoalhaven LGA	
	Number	%	Number	%
Agriculture, forestry & fishing	6	1.2 %	689	2.0 %
Mining	3	0.6 %	135	0.4 %
Manufacturing	22	4.5 %	2,665	7.9 %
Electricity, gas, water & waste services	4	0.8 %	373	1.1 %
Construction	60	12.4 %	3,146	9.3 %
Wholesale trade	15	3.1 %	696	2.1 %
Retail trade	76	15.7 %	4,329	12.8 %
Accommodation & food services	67	13.8 %	3,178	9.4 %
Transport, postal & warehousing	18	3.7 %	1,239	3.7 %
Information media & telecommunications	3	0.6 %	346	1.0 %
Financial & insurance services	0	0.0 %	553	1.6 %
Rental, hiring & real estate services	3	0.6 %	586	1.7 %
Professional, scientific & technical services	22	4.5 %	1,510	4.5 %
Administrative & support services	19	3.9 %	1,054	3.1 %
Public administration & safety	27	5.6 %	3,482	10.3 %
Education & training	36	7.4 %	2,617	7.7 %
Health care & social assistance	66	13.6 %	4,780	14.1 %
Arts & recreation services	7	1.4 %	572	1.7 %
Other services	17	3.5 %	1,246	3.7 %
Not Stated	13	2.7 %	650	1.9 %
Total	484	100 %	33,846	100 %

The top three industries of employment for the LGA are health care & social assistance, retail trade, and public administration & safety. Compared to the LGA, Burrill Lake workers are more dependent on the tourism industry for their employment, revealing the importance of tourism to the local economy.

4.4.1 The role of tourism

Shoalhaven City is the most visited LGA in NSW outside of the Sydney region. The tourism sector is one of the major economic activities in Shoalhaven City, and in the year ending June 2011 an estimated 1.27 million people visited the area. The vast majority of visitors are domestic, with international visitors making up 38,000 visitors to the Shoalhaven in 2010/2011 financial year. These visitors spent an estimated \$678 million in the City. The tourism industry is also a major employer for the LGA, responsible for 7,870 direct and indirect jobs (Shoalhaven City Council, 2011).

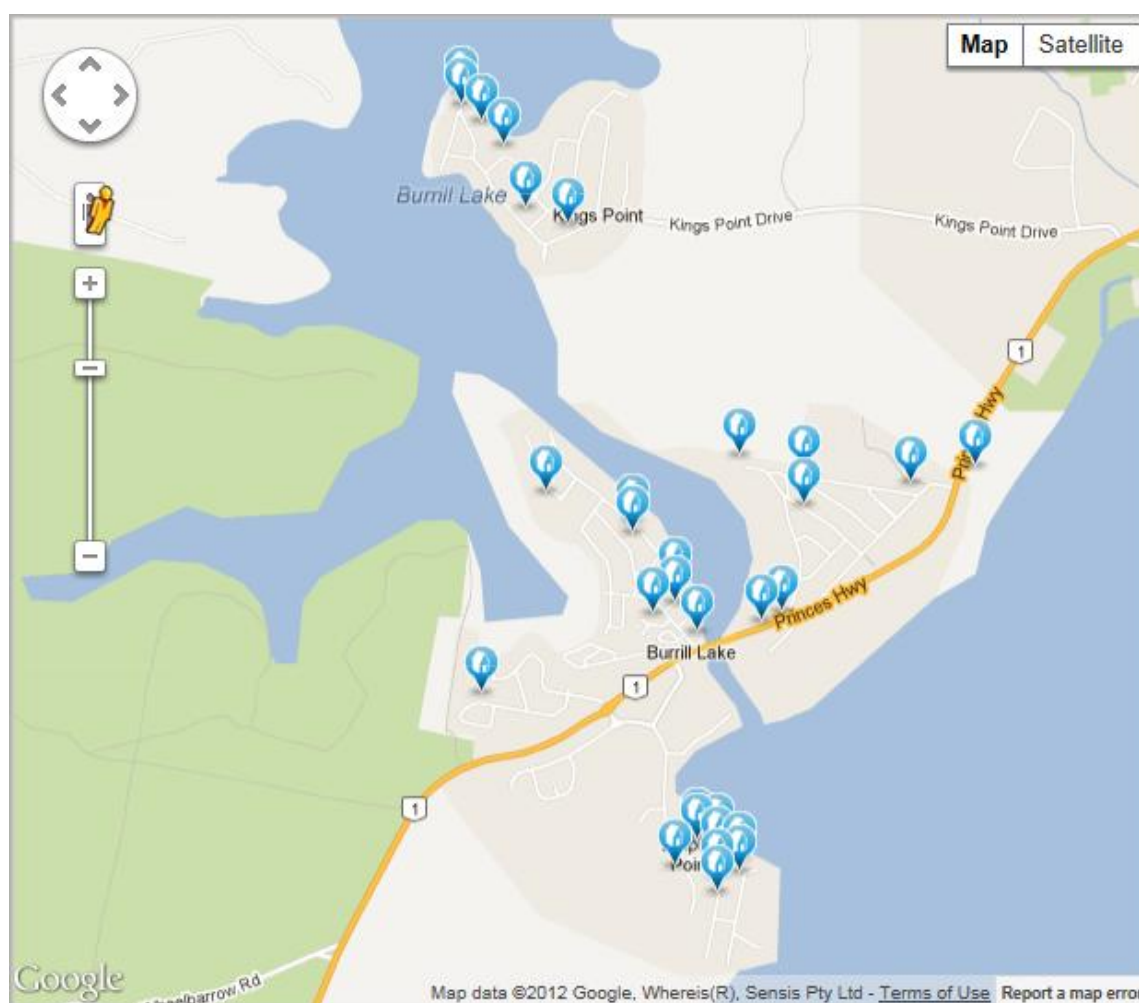
Most domestic overnight visitors (90.7 per cent) travel to the South Coast⁵ by car (private or company), followed by air travel (3.4 per cent) and railway (2.8 per cent) (Tourism New South Wales, 2010), suggesting that travel to the region, and to Burrill Lake, is highly dependent on the road network, both for visitors and for all other travellers.

Burrill Lake is a holiday destination for many families attracted to the recreational amenity provided by the lake and beach, and offers a range of tourist accommodation options. In the year ending March 2012, the most popular accommodation options for visitors to the Shoalhaven were staying with friends/relatives, caravan/camping and holiday rentals (Shoalhaven City Council, 2011). This is reflected in the tourism accommodation options available in Burrill Lake and surrounds.

The majority of accommodation options are holiday home properties. The 'Stayz' website, which lists holiday home accommodation for locations around Australia, lists 30 holiday home rental properties around Burrill Lake, Kings Point and Dolphin Point, as shown in Figure 8 below. There are six holiday homes in Kings Point, seven in Burrill Lake East, seven in Burrill Lake West, one in Burrill Lake South, and nine at Dolphin Point (see Figure 8).

This is consistent with Census data for Burrill Lake, which indicates that 29.2 per cent (232 dwellings) of private dwellings are unoccupied. This is higher than the average for the LGA (27.5 per cent) and over double that for the state (9.7 per cent).

Figure 8 Tourist accommodation at Burrill Lake



⁵ Including Kiama; Shellharbour; Wollongong; Bega Valley; Eurobodalla; Shoalhaven and Jervis Bay Territory.

(Stayz, 2012)

As displayed in Figure 2, other tourist accommodation options in Burrill Lake include three caravan parks (BIG 4 Bungalow Park, Burrill Lake Tourist Park, Dolphins Point Tourist Park) a motel (Edgewater Motel), and holiday units (Lake Edge Holiday Units).

4.4.2 Profile of Burrill Lake businesses

The businesses located in Burrill Lake service local residents, tourists and passing motorists. Table 6 below identifies the businesses located in Burrill Lake and surrounds.

Table 6 Summary of businesses in and surrounding Burrill Lake

Business type	Business name	Street address
Accommodation	Big 4 Bungalow Park	123 Princes Highway, Burrill Lake
	Burrill Lake Tourist Park	8 Princess Avenue, Burrill Lake
	Dolphins Point Tourist Park	12/Dolphin Point Road, Dolphin Point
	Edgewater Motel	1 Princess Avenue, Burrill Lake
	Lake Edge Holiday Units	27 Balmoral Road, Burrill Lake
Retail	IGA X-press	117 Princes Hwy, Burrill Lake
	Brill Café	117 Princes Hwy, Burrill Lake
	Burrill Lake Newsagency	117 Princes Hwy, Burrill Lake
	Rob's Bait and Tackle	105 Princes Hwy, Burrill Lake
	The Fish Shop	107 Princes Hwy, Burrill Lake
	Hot Glass Gallery	109 Princes Hwy, Burrill Lake
	Burrill Lake Cellars	101 Princes Highway, Burrill Lake
Specialty	Egyptian Beauty Spa	1 Commonwealth Avenue, Burrill Lake
Tourist	Burrill Lake Cruises and Fishing Charters	14 Maria Avenue, Burrill Lake
Services	Cowleys Harcourts Real Estate (show room)	39 Balmoral Rd, Burrill Lake
	General Practitioner	105 Princes Hwy, Burrill Lake
	Bliss Hairstylists	117 Princes Hwy, Burrill Lake

Burrill Lake's retail and service businesses are located on both sides of the river, with a small shopping village on the western side, and another small row of businesses on the eastern side (see Figure 2). Both the groups of businesses front the Princes Highway along the northbound lane, attracting trade from passing motorists as there is room on each shoulder of the highway

for motorists to park their vehicles, either directly in front of the businesses or within a short distance.

In order to gather information about the businesses in Burrill Lake and highlight any key socio-economic opportunities and constraints associated with the development of options for the bridge, GHD administered surveys with shoppers and business owners/managers in Burrill Lake in November 2012.⁶ The surveys sought to gather information about the types of businesses and their operations, their customer base, and their relationship to the bridge and highway.

Two surveys were held: one with shoppers at the small shopping village to the west of the bridge, and one with business owners/managers. The surveys included both quantitative and qualitative questions, and were approximately five to ten minutes in duration. The findings of the surveys are included at Appendix C and Appendix D, with a summary of the outcomes which relate to the business operations provided below.

The **customer survey** indicated that on the day of the survey, the majority of shoppers were local residents of Burrill Lake and surrounding suburbs. Customers spent relatively small amounts of money, and primarily visit the shops due to their convenient location to home or accommodation. Almost all customers purchase their groceries in Ulladulla or other larger centres, and purchase convenience items from the Burrill Lake businesses. The majority of customers are over fifty years of age, reflecting the age profile of the area. Many shoppers travel to the shops by car and park on the side street or on the shoulder of the highway, however a significant amount of shoppers walked to the shopping village from surrounding streets or areas (e.g. Dolphin Point).

The **business surveys** with business owners and staff members revealed that while many customers were local residents of Burrill Lake and surrounding areas (e.g. Dolphins Point, Kings Point, Lake Tabourie), most businesses rely on trade from tourists to Burrill Lake and motorists passing through the area, particularly during peak tourist seasons, when trade increases significantly.

Observations by GHD staff identified that a significant proportion of customers travelled to the shopping village and businesses on the eastern side of the bridge by motor vehicle, with many parking their cars on the shoulder of the highway. GHD staff estimated that on day of the survey, approximately 25 cars parked on each side of the highway to the south of the bridge. Additionally, approximately 40 per cent of shoppers (11 respondents) who drove to the shops stated that they parked their vehicles on the shoulder of the highway.

The surveys with shoppers and businesses demonstrate that most of the businesses in Burrill Lake rely on trade from tourists, with most of the shops which front the highway on either side of the bridge attracting trade from passing motorists. Observations and interviews with business owners/staff imply that a number of these shops attract customers due to their convenient location to the highway and ability for motorists to park their vehicles directly in front of businesses.

4.4.3 Economic impacts of highway bypasses

Any potential maintenance or replacement options for the bridge should consider the impacts on businesses, such as customer access, visibility of businesses to passing traffic, and the ability of passing motorists to conveniently park their vehicles. Should the bridge be replaced on a new alignment, this could have similar impacts on to those resulting from highway bypasses.

There is significant published research which explores the impacts of highway bypasses on towns which are reliant on highway-generated trade. A review of this literature and key case

⁶ The surveys were held on Saturday 3 November between 11:00am and 3:00pm.

studies provides an understanding of the potential socio-economic issues associated with the investigation of options for Burrill Lake Bridge.

The 2011 report commissioned by RMS, *Economic Evaluation of Town Bypasses* (Parolin B. , 2011), presents a review of the international and Australian literature in order to understand the long-term economic impacts of highway bypass roads, and how their communities have adapted and changed in response to these impacts. The economic impacts resulting from highway bypasses are generally considered to be related to highway generated trade and employment. The key findings from the report which are most relevant to the Burrill Lake Bridge project are summarised below.

The overall findings from the review indicate that in the long-term, highway bypasses do not have adverse economic impacts on the towns that are bypassed, and that the economic impacts that are experienced tend to be short-term and minimal. However, the review also found that small towns with populations less than 2,500 people are more at risk of negative economic impacts than medium and large towns. As well as this, those towns that have a higher degree of economic dependence on highway generated trade are more likely to experience difficulty in managing the effects of the bypass. Distance to larger centres was also found to be a key factor; some studies found that being close to a larger centre hindered a town's recovery following a bypass, while other studies found that being further away had a negative impact.

A number of studies have focused on the long-term impacts of bypasses on the retail sector that rely on highway generated trade. The three major findings from these studies are:

- Retail sales are not significantly affected by a town bypass.
- Small communities are more prone to negative impacts than larger ones.
- Other factors beyond a bypass contribute to a town's economic health and may play a role in the impacts resulting from the bypass.

It is important to note that these studies consider the long-term effects of the bypasses on towns. For example, while retail sales may not be significantly affected in the long-term, in the shorter term, businesses that rely on highway trade may have closed, to be replaced by businesses located along the bypass route. Or communities may "experience minor re-distributional effects – a gain in sales in the non-highway related sector and some decline in the highway related sector" (Parolin B. i., 1995).

A study of highway bypass case studies in America by Leong and Weisbrod (2000) reviewed the long-term impacts from bypasses opened in the 1960s and 1970s, finding that many bypassed towns experience positive impacts. The authors write "Communities and business districts that have a strong identity as a destination for visitors or for local shoppers are the ones that are most likely to be strengthened due to the reduction in traffic delays through their centres. However, there is also a broad perception that adequate signage to the bypasses business centre is an important need (and concern) for ensuring its continued success" (Leong, 2000). The importance of signage and marketing was also noted by Yeh et al. (1998) for small bypassed towns to ensure they become known as destinations and minimise negative economic impacts (Yeh, 1998).

There are, however, examples of serious negative impacts of highway bypasses on towns. A series of Australian studies by Phibbs et al (2001, 2005) have reported severe economic impacts on the town of Karuah, north of Newcastle, which was bypassed in 2004. One year after the bypass opened, six of the 38 businesses in Karuah had closed, and five years after the opening, Karuah had not been very successful in attracting passing travellers into town, with only 1 to 2 per cent of passing motorists detouring into Karuah.

Negative impacts on bypassed towns can however be reduced through the implementation of mitigation strategies. A community and economic redevelopment plan for Karuah ensured that after five years, a number of strategies were implemented which assisted many businesses to mitigate negative impacts and others to reach a transition phase (Phibbs, 2009).

Other Australian examples of bypassed towns have experienced successful transition from economies dependent on highway trade to tourist destinations through implementing various mitigation strategies. The town of Deloraine encouraged increased tourist traffic by undertaking beautification projects on the main street and in public spaces, and a festival was established to improve community spirit and attract visitors. The Tasmanian Craft Fair attracts over 30,000 visitors each year and contributes \$1 million to the local economy (Kenyon, 2001).

The findings of the review which are most relevant to the Burrill Lake Bridge project show that although the overall economic impacts of bypasses are not negative in the long-term on bypassed towns, small towns with economies that rely heavily on passing motorists are more likely to experience negative impacts. While Burrill Lake businesses rely significantly on the trade of passing motorists, they also rely on tourists and local residents. Those communities which recover more quickly and successfully are those which implement various mitigation strategies, including initiatives which focus on transitioning their economies from highway dependant to tourist destinations. This also requires communities and business owners to work collaboratively with local and state government and other agencies.

Although the potential realignment of the bridge would not necessarily result in a complete bypass of the town of Burrill Lake, the highway could be moved to a new alignment away from the businesses which rely on trade from passing motorists. This could lead to a loss of revenue for these businesses, negatively impacting on the future economic viability of Burrill Lake.

4.5 Local amenity and lifestyle

The community consultation undertaken for this socio-economic issues investigation revealed that Burrill Lake is valued by local residents as a small, quiet town where most people know each other. Residents value the recreation opportunities provided by the lake and nearby beach, which also attracts significant numbers of tourists. Any future maintenance or replacement works on the bridge could have the potential to impact on the visual and noise amenity of residents and visitors.

GHD undertook a preliminary noise and vibration assessment in July 2012 to identify sensitive receivers which could be impacted by any noise and vibration resulting from maintenance or construction activities, as well as future road noise. The assessment found that residential properties and businesses located within close proximity to the study area may be affected by both noise and vibration associated with any future works on the bridge. Additionally, tourists to Burrill Lake could also experience noise and vibration impacts when staying in the area. Those dwellings which are located within ten meters of the study area could potentially experience adverse vibration impacts during any construction activities, while those located up to 100 meters from the study area could also notice vibration from construction works. The assessment also found that road noise could somewhat increase due to predicted traffic growth, however this increase is not expected to be significant. Any changes in the design of the bridge and road alignment could also result in changes in road noise.

GHD also undertook an assessment of the landscape character and visual constraints to inform the EI. The assessment identified the lake, foreshores and surrounding forested areas as key features of the landscape. As the existing bridge has a low profile, future maintenance would not significantly alter the landscape. A change in alignment or height of the bridge may however impact on the visibility of the bridge and traffic in the town and surrounding landscape. Additionally, construction activities would also have a visual impact, and although these are

temporary impacts, can still cause disruption to the local community, particularly associated with the attractiveness of Burrill Lake to tourists.

The potential realignment of the bridge could lead to positive social impacts on the town. For example, the literature on the social impacts of highway bypasses considers impacts on quality of life (safety, access, visual amenity) and environmental amenity (reduced air and noise pollution). Overall, quality of life and environmental amenity impacts resulting from highway bypasses are reported to be positive.

4.6 Community health and safety

Burrill Lake is serviced by emergency services based in Ulladulla or Batemans Bay, with police, fire and ambulance located in both larger centres. As previously mentioned, a GP operates during restricted hours one day per week (Wednesdays between 9.30 and 12 pm), from a small shopfront on the eastern side of the bridge. The nearest hospitals are located at Milton and Batemans Bay. Ensuring continued access to emergency services throughout Burrill Lake is a key consideration for any potential maintenance or construction works on the bridge, particularly as the bridge provides the only connection for vehicles between each side of the lake.

Pedestrian and cyclist access and safety was raised as a key community concern by a number of respondents to the shopper and business surveys undertaken by GHD (see section 3). There is a perception amongst community members that the Princes Highway can be unsafe for pedestrians to cross, and that the existing pathway which spans the bridge is not considered safe. Future options for the bridge should consider pedestrian and cyclist accessibility, both across the highway and the bridge. Realignment of the existing bridge offers potential opportunities to reduce traffic congestion through the town, leading to increased pedestrian safety.

Pedestrian safety was a reported benefit in Karuah (see section 4.4.3), with the highway bypass resulting in a reduction of traffic in the town centre and consequently to increased pedestrian safety, improved appearance of the town, and improved air and noise quality (Rowe, 2005). Surveys held with business operators five years after the bypass opened revealed that the majority of respondents felt Karuah had become a better place to live, despite the fact that the same respondents felt that the bypass had negatively affected the economy.

4.7 Summary of Key Opportunities and Constraints

This section of the report has identified several potential socio-economic opportunities and constraints for the future options for the Burrill Lake Bridge, which include maintaining the existing bridge, or replacing the bridge with a bridge that is potentially higher and on a new alignment. The key socio-economic opportunities and constraints which should be taken into consideration include:

- **The older population of Burrill Lake** – older people are more vulnerable to impacts resulting from any maintenance or construction works. These impacts could be related to noise, vibration and amenity, or accessibility to services and businesses.
- **High reliance on motor vehicles for travel**– the majority of Burrill Lake workers commute by motor vehicle to their place of work. In addition, emergency services, public bus users including school students, and other road users such as transport companies rely heavily on motor vehicles for travel along the Princes Highway and Burrill Lake Bridge. Any disruptions to traffic flow as a result of maintenance or construction works could have a negative impact on the travel time for commuters and other road users.
- **Recreational amenity and accessibility** – the lake itself is the key feature of the town, and attracts many tourists in peak seasons. Any potential options for the bridge should

seek to minimise any negative impacts on public access to the lake for recreational purposes. Additionally, the Lions Park which is adjacent to the highway is a key community facility, providing for recreational uses of residents, tourists and passing motorists. Continued access to the park should be maintained for any potential option.

- **Strengthening of the regional transport network** – the Princes Highway is a key piece of infrastructure in the regional transport network, with high traffic volumes crossing the bridge on a daily basis, such as public transport and freight companies. Improvement or replacement of the bridge has the potential to improve travel times, decrease congestion and improve road safety for all road users. Construction times should be scheduled for times which minimise impacts such as traffic delays on road users.
- **Importance of tourism** – Burrill Lake is highly dependent on tourism to the area, with many businesses reliant on trade from visitors. Any potential maintenance or construction works should be scheduled to take place outside of peak tourist seasons and consider ongoing temporal variation in traffic volumes, to minimise impacts on weekends. Improvement or replacement of the bridge could provide an opportunity to address traffic congestion in Burrill Lake, leading to flow on benefits for tourists travelling through the area.
- **Reliance of businesses on passing motorists** – many businesses which front the Princes Highway reported various levels of dependence on trade from passing motorists. Any maintenance or construction activities should ensure continued access to these businesses for motor vehicles which is convenient. Additionally, any designs for a replacement bridge should consider visibility of these businesses from the highway, as well as convenient access for motor vehicles. In the event of bridge realignment, opportunities to create or enhance adjacent open spaces could benefit passing trade, tourists and residents alike.
- **Local amenity and character** – Burrill Lake is attractive to many residents and visitors due to the natural landscape and character as a small and quiet town. Potential maintenance and construction works could lead to noise, vibration and visual impacts, which could negatively impact on the tourism industry. Replacement of the bridge is also likely to lead to changes in the visual landscape, and will require careful urban design to minimise negative impacts on local character.
- **Pedestrian and cyclist safety and accessibility** – Replacement of the bridge may lead to improved safety of pedestrians and cyclists in Burrill Lake through improvements to road, pedestrian and cyclist infrastructure, addressing road safety concerns and improving road infrastructure.

5. Conclusion and recommendations

5.1 Potential socio-economic opportunities

The future options for the Burrill Lake Bridge would provide a number of potential social and economic opportunities. Retaining and maintaining the existing bridge could provide opportunities to improve pedestrian and road user safety, as well as maintain the local character and amenity of Burrill Lake, which attracts the many tourists which the town is economically dependent on.

The replacement and potential realignment of the bridge could lead to other potential benefits including:

- Strengthening of the regional road network
- Improvements in the safety of road users
- Improved traffic times
- Decreased traffic congestion through town
- Improved pedestrian and cyclist safety and accessibility
- Mitigation of flood risks

Additionally, the replacement of the existing bridge with a bridge on a new alignment could lead to the removal of the causeway, which is associated by many community members with the poor health of the lake. Further investigation into the relationship of the causeway to the water flow of the lake is required to ascertain if this option would lead to an improvement in the health of the lake.

5.2 Potential socio-economic constraints

Key socio-economic constraints which should be taken into consideration in the development of future options for the bridge include:

- Older population which is more vulnerable to potential noise, vibration, amenity and accessibility impacts resulting from any maintenance and construction works.
- High reliance on motor vehicle travel and access to the highway and bridge for daily commuter travel.
- Access to recreational opportunities associated with the lake and the Lions Park for residents, tourists and passing motorists.
- Importance of the tourism industry to the local economy and the need to ensure that any potential impacts are minimised, particularly during peak tourist seasons.
- Reliance of businesses on trade from passing motorists and the need to ensure continued visibility and convenient access to reduce risk of a decrease in revenue.
- The local amenity and character of Burrill Lake and the risks to the tourism industry resulting from any maintenance and construction works which cause visual, vibration and noise impacts.

5.3 Recommendations

Overall recommendations to RMS include:

- Continue to engage with the community and stakeholders in the development of the future of the highway crossing to protect attributes that the community values and promote local ownership of the decision.
- Ensure that the key socio-economic opportunities and constraints which have been identified in this report inform the development of future options for the Burrill Lake Bridge.
- Ensure the local community, businesses and stakeholders are kept informed on the progress of the options development, and preferably involved in their development.

Recommendations relating to the potential options for the bridge include:

Maintenance of the existing bridge

- Undertake a moderate socio-economic impact assessment to inform further environmental assessment.
- Develop a plan for construction works and activities in consultation with the community and stakeholders to avoid peak tourist times and times which will most impact on the local community.
- Improve the pedestrian and cycle path over the bridge and crossings over the highway to increase safety and accessibility.
- Work with other stakeholders such as Shoalhaven City Council to investigate the relationship of the causeway to the health of the lake and make the findings publicly available.

Replacement of the bridge

- Undertake a comprehensive socio-economic impact assessment to understand potential impacts of the replacement of the bridge.
- Undertake consultation with community members, businesses and key stakeholders (e.g. Shoalhaven City Council) to ensure potential socio-economic impacts and opportunities are fully understood and defined, and the community and stakeholders are involved in the development of realistic mitigation and enhancement measures.
- Develop a plan for construction works and activities in consultation with the community and stakeholders to avoid peak tourist times and times which will most impact on the local community.
- Any designs should seek to ensure continued convenient access to and visibility of businesses to passing motorists.
- Any designs should seek to ensure that local resident and tourist pedestrian/cyclist access to facilities is maintained or enhanced.

The future options for the Burrill Lake Bridge present potential socio-economic benefits and risks for a variety of stakeholders, including Burrill Lake community members and businesses, tourists, passing motorists and road users and government agencies. Overall, this report has identified various potential socio-economic opportunities and constraints which should be taken into consideration in the development of the options for the bridge. Importantly, a comprehensive socio-economic impact assessment should be undertaken if replacement of the bridge is the preferred option to ensure that potential socio-economic benefits and risks are fully understood, and enhancement or mitigation strategies are considered and defined.

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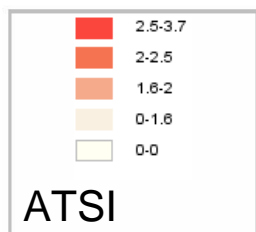
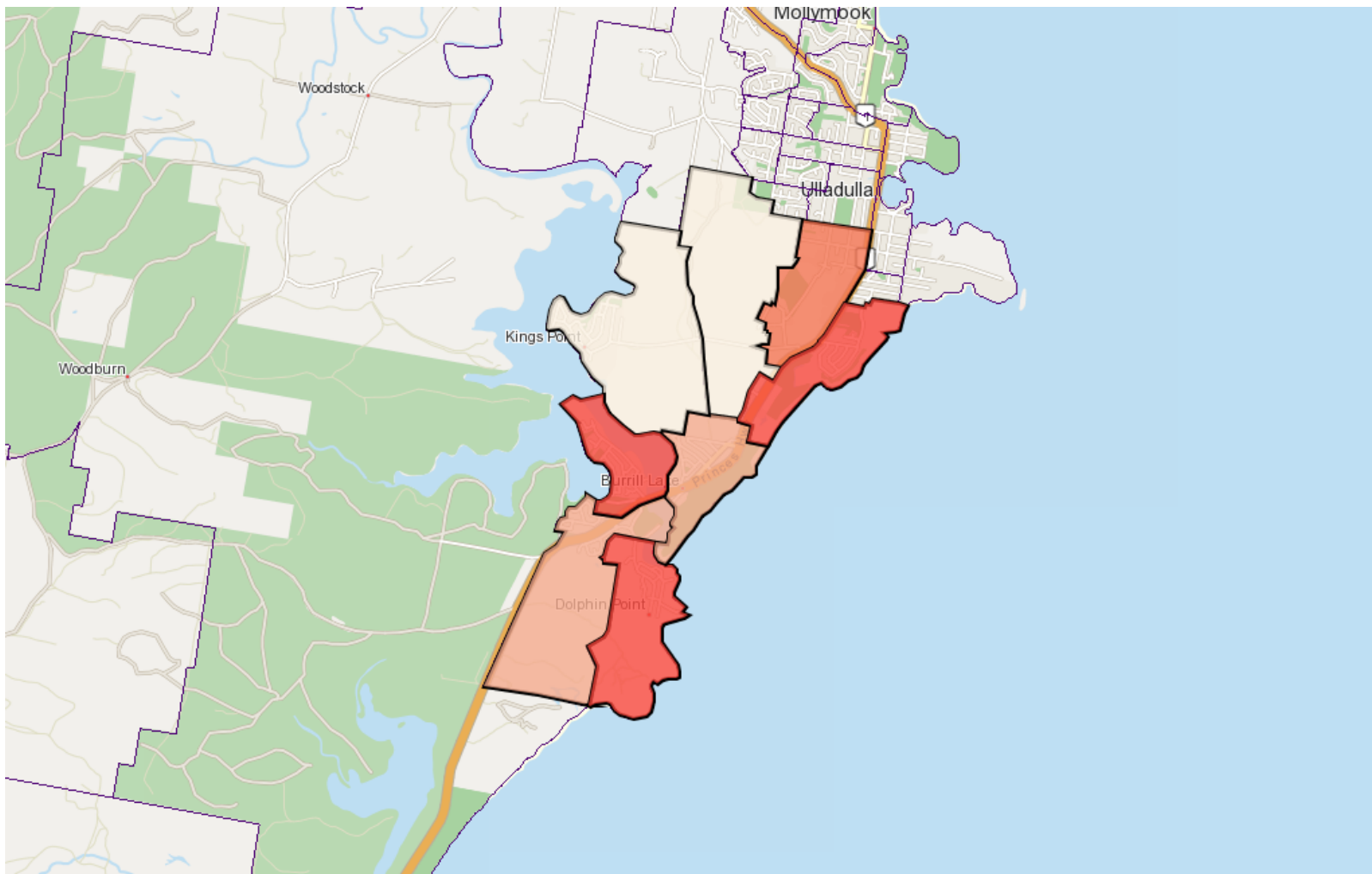
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Appendices

Appendix A – Maps displaying indicators of social disadvantage

SA1 by Indigenous Status (INGP)

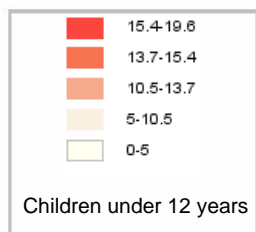
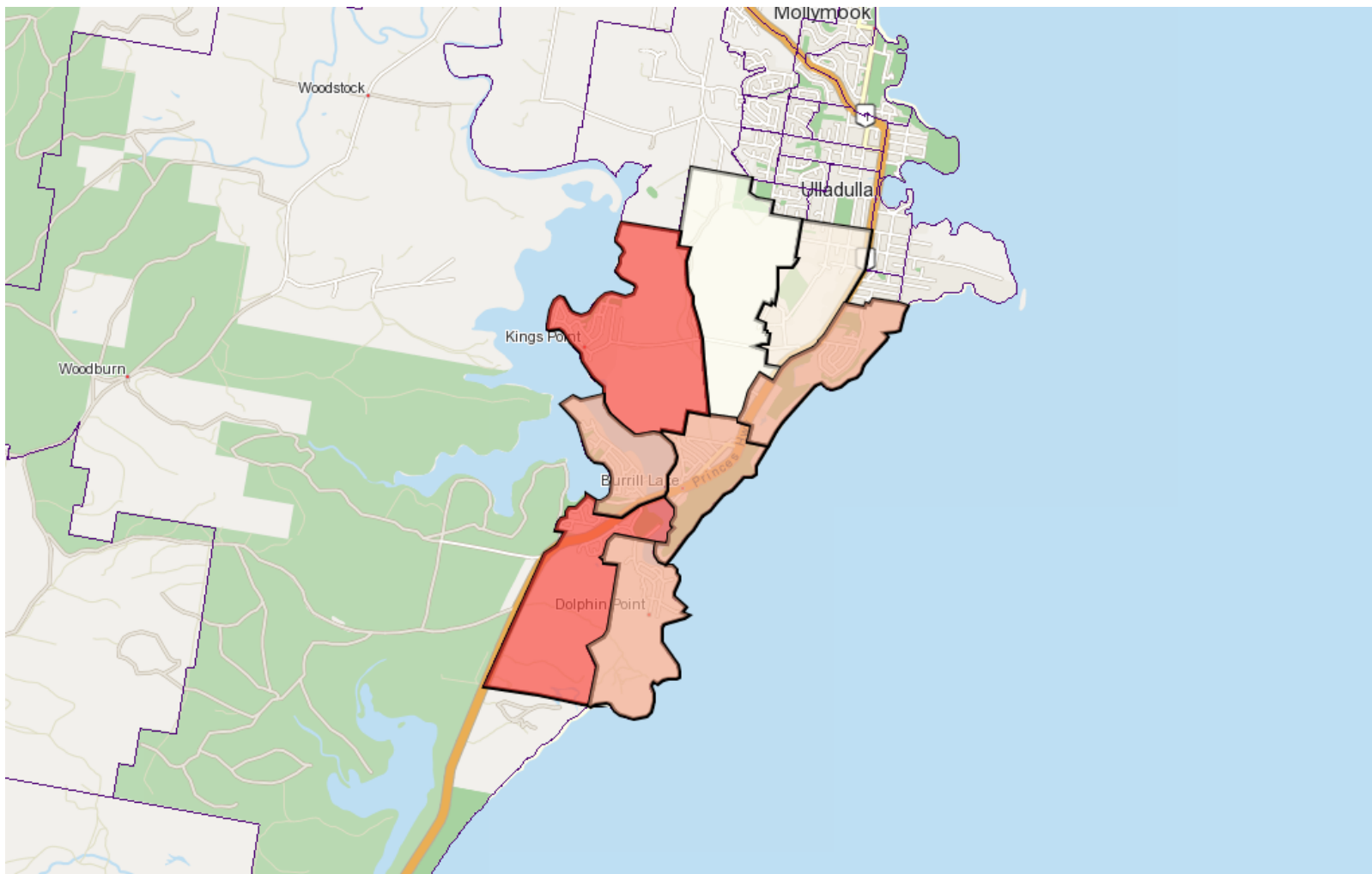
Counting: Persons, Place of Usual Residence



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

SA1 by Age in Single Years (AGEP)

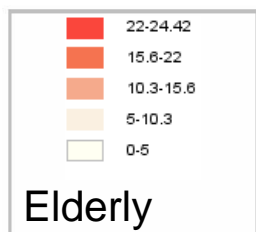
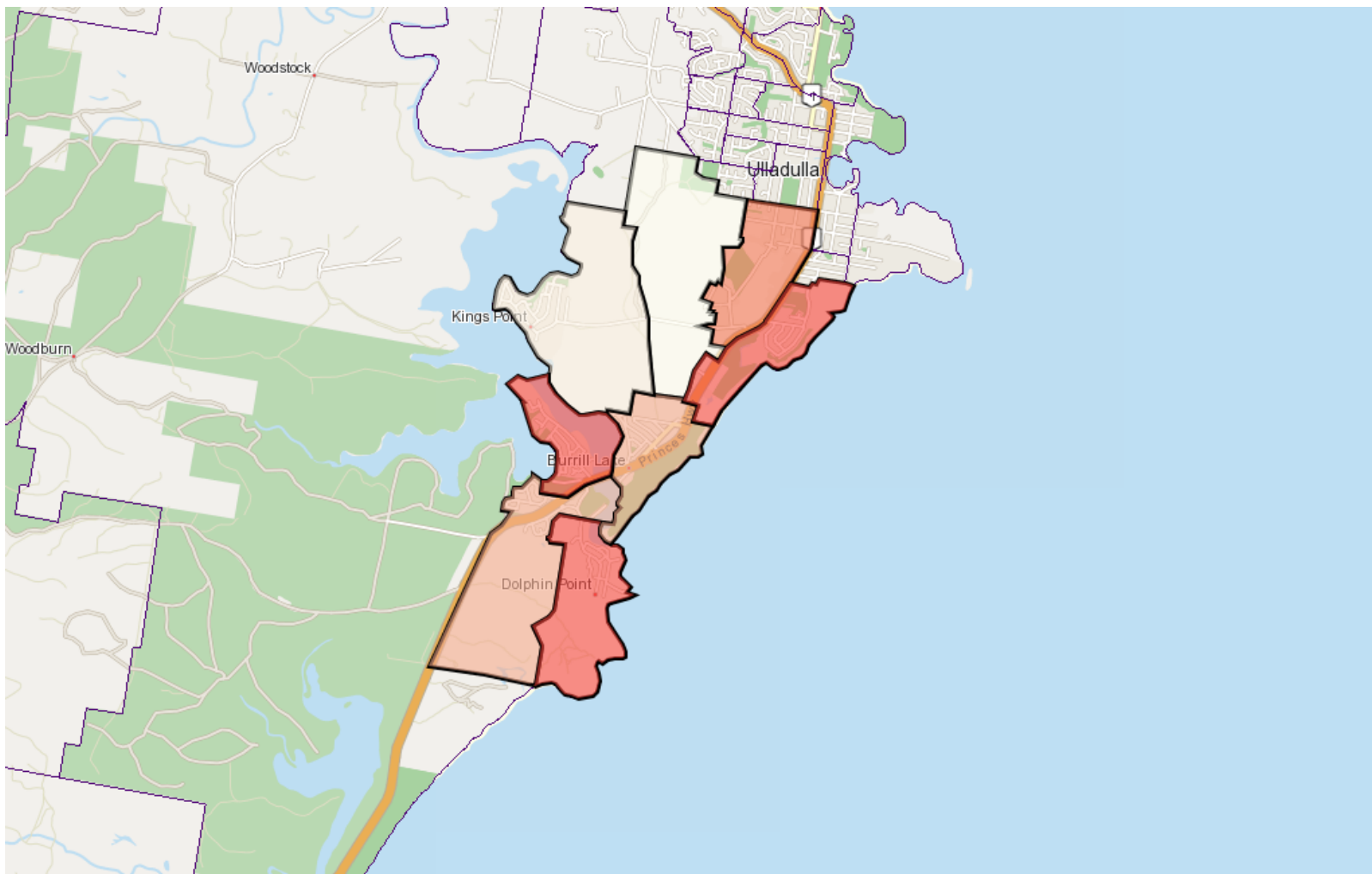
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SA1 by Age in Ten Year Groups (AGE10P)

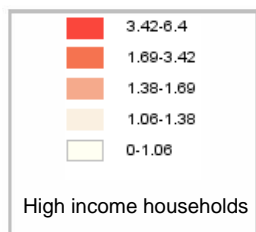
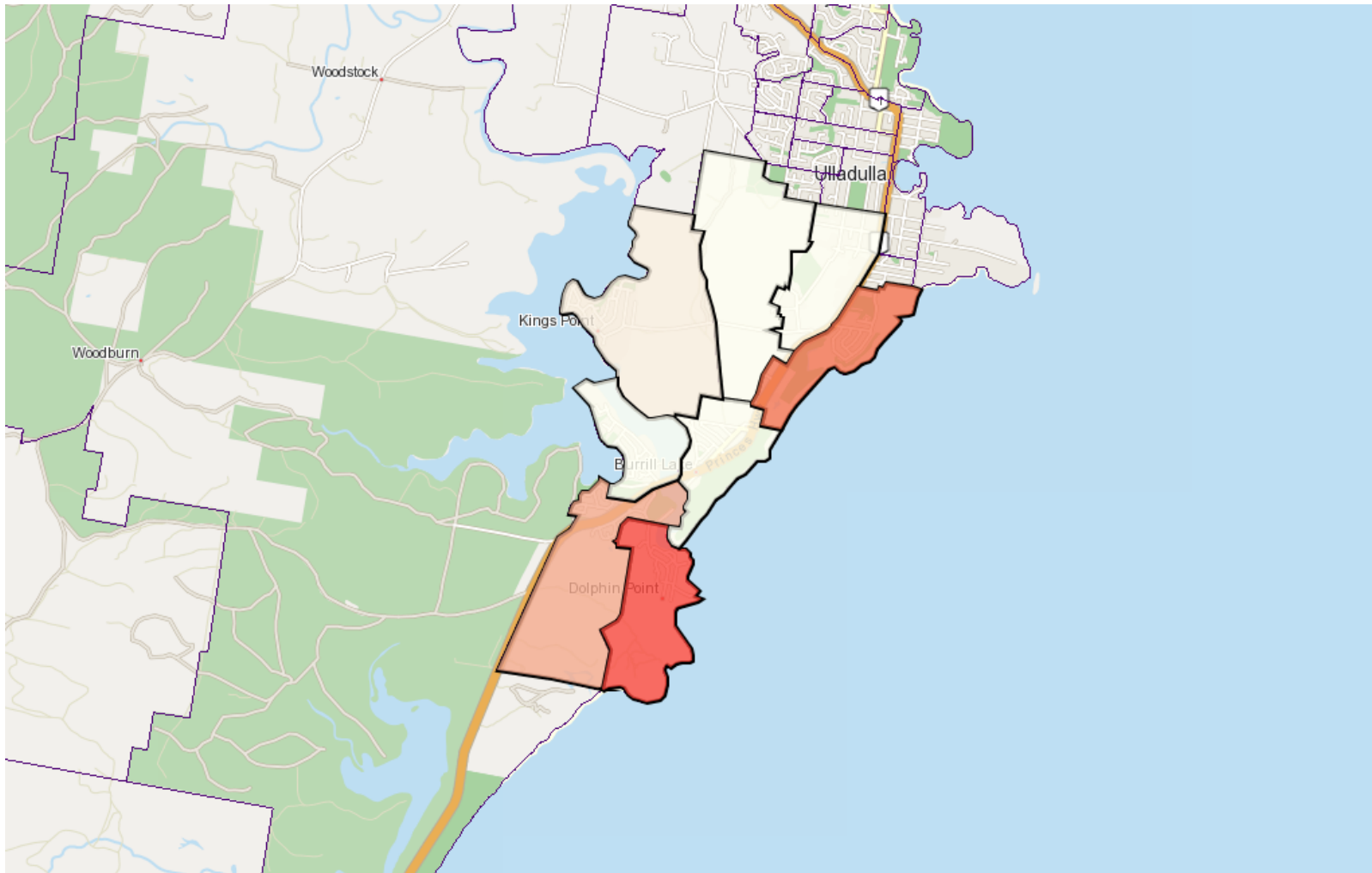
Counting: Persons, Place of Usual Residence



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SA1 by Total Household Income (weekly) (HIND)

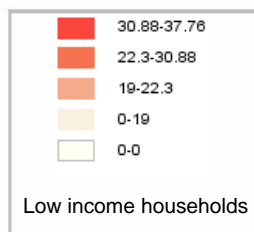
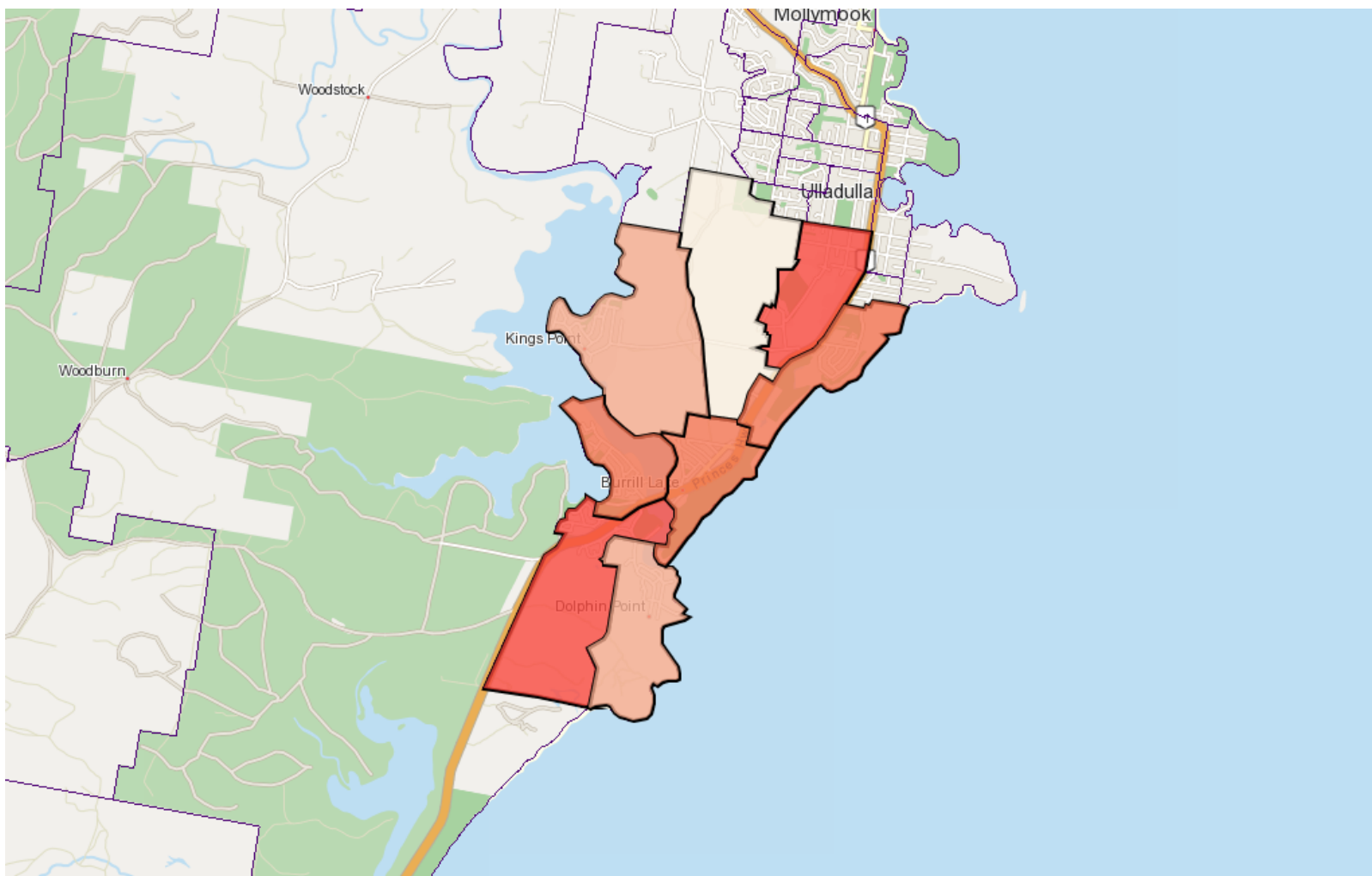
Counting: Dwellings, Location on Census Night



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

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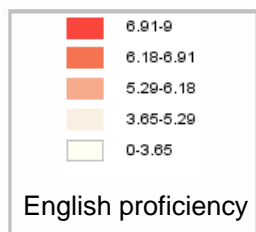
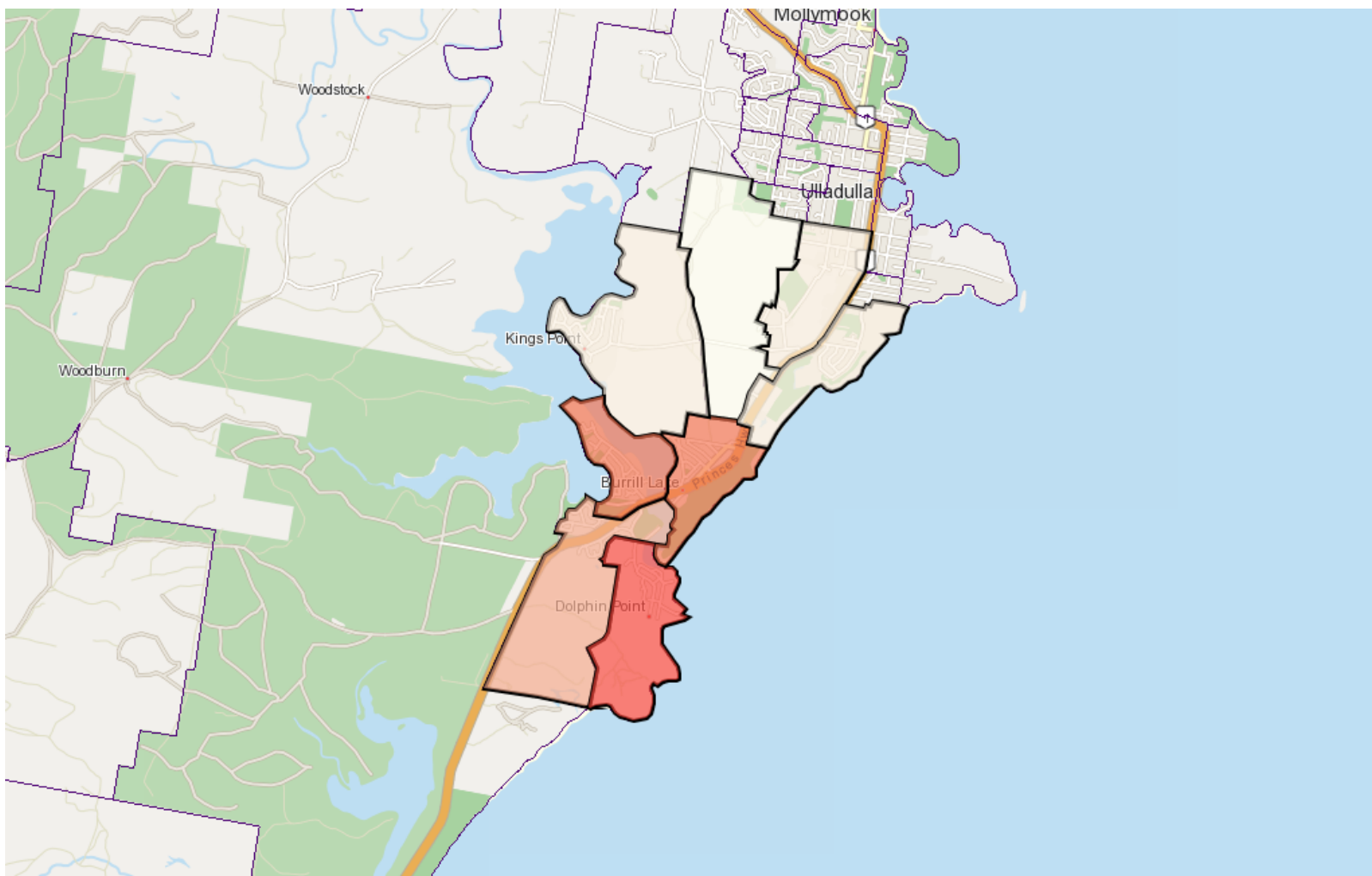
Counting: Dwellings, Location on Census Night



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

SA1 by Proficiency in Spoken English (ENGP)

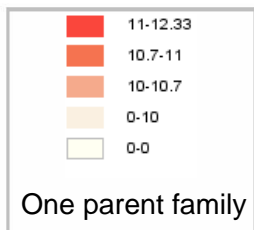
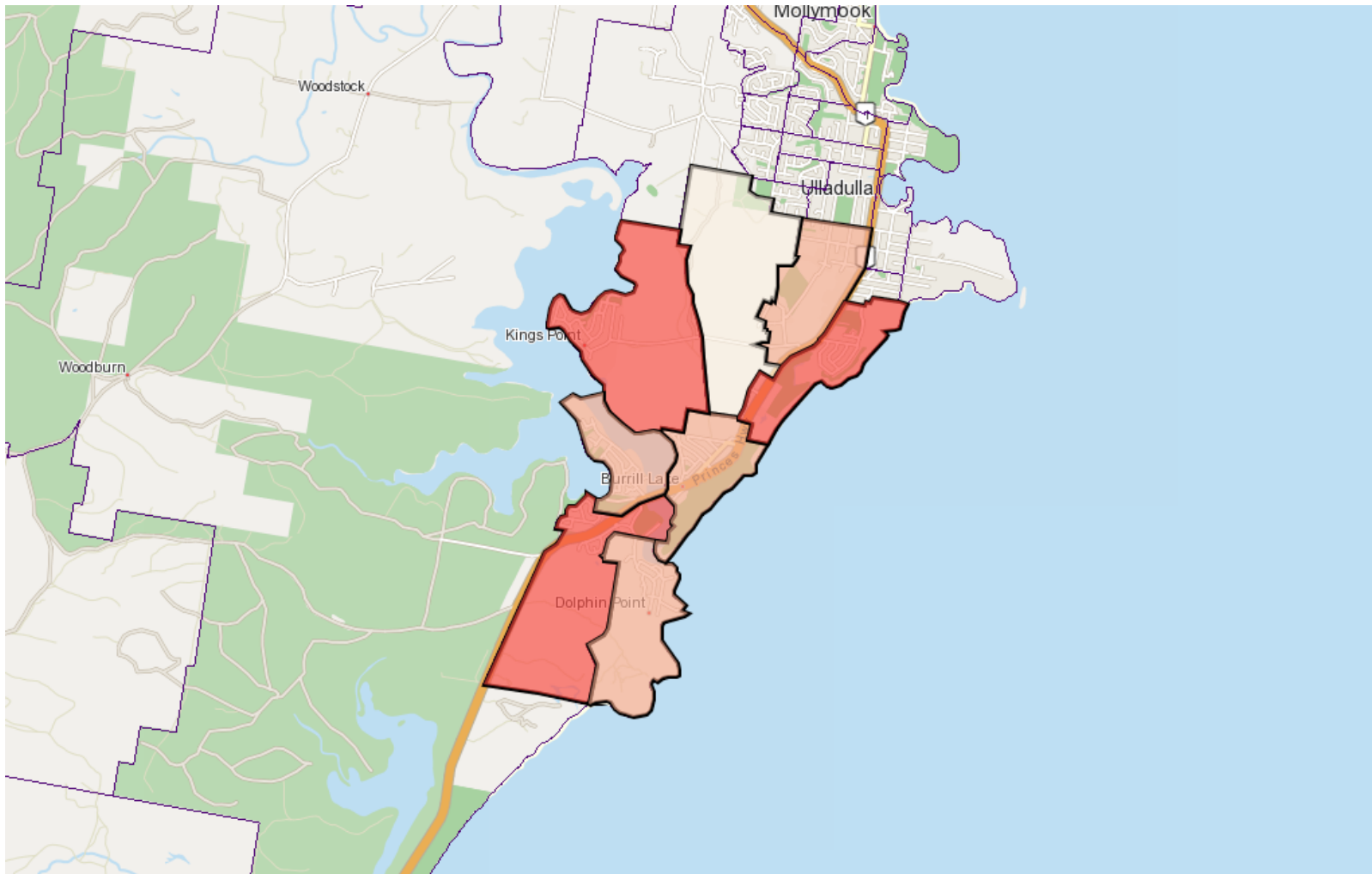
Counting: Persons, Place of Usual Residence



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

SA1 by FMCF - 1 Digit Level

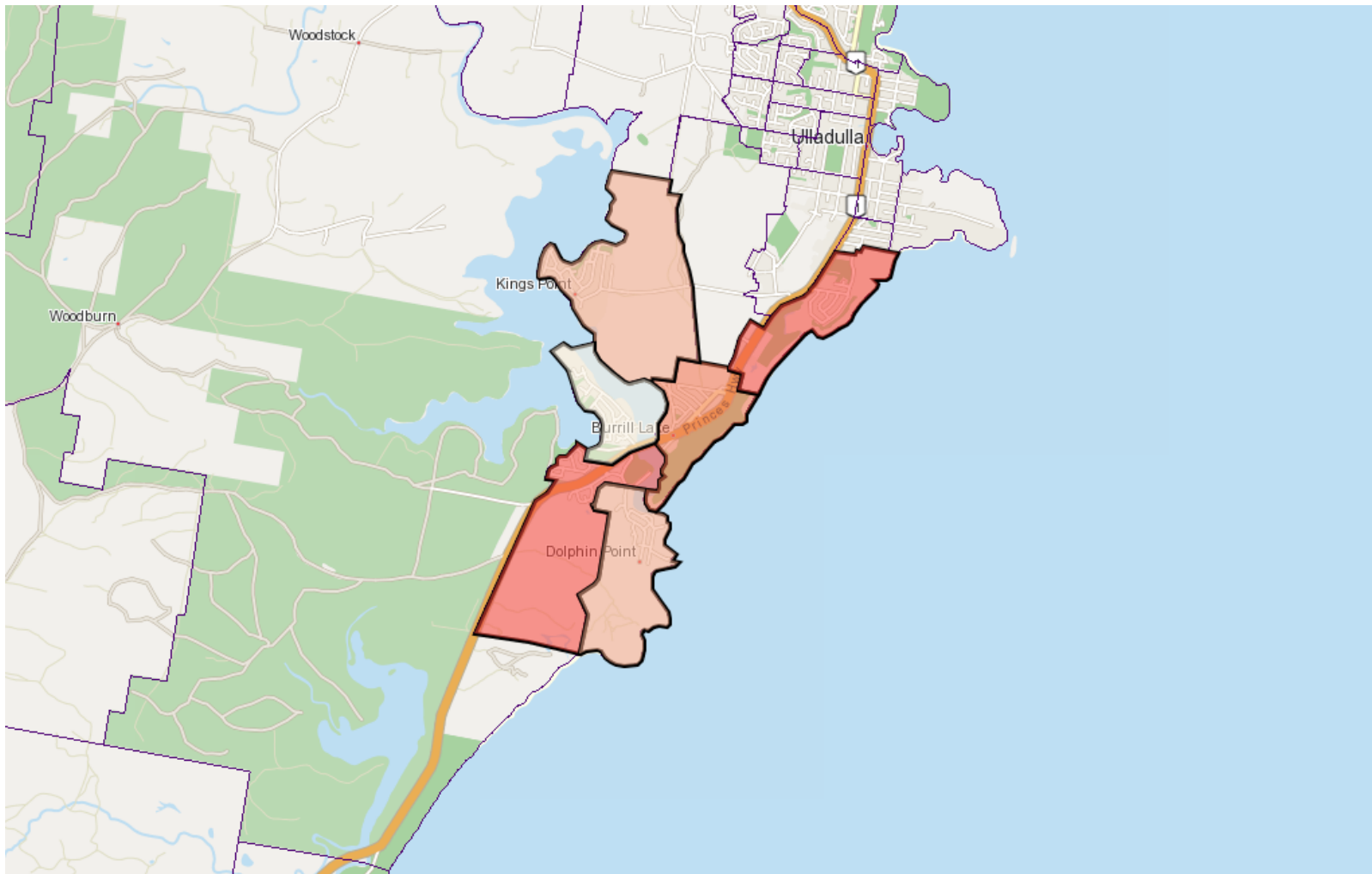
Counting: Families, Place of Usual Residence



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

SA1 by Age in Five Year Groups (AGE5P) and Labour Force Status (LFSP)

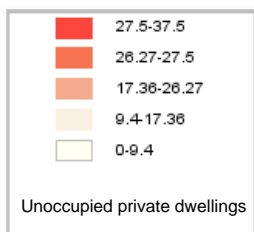
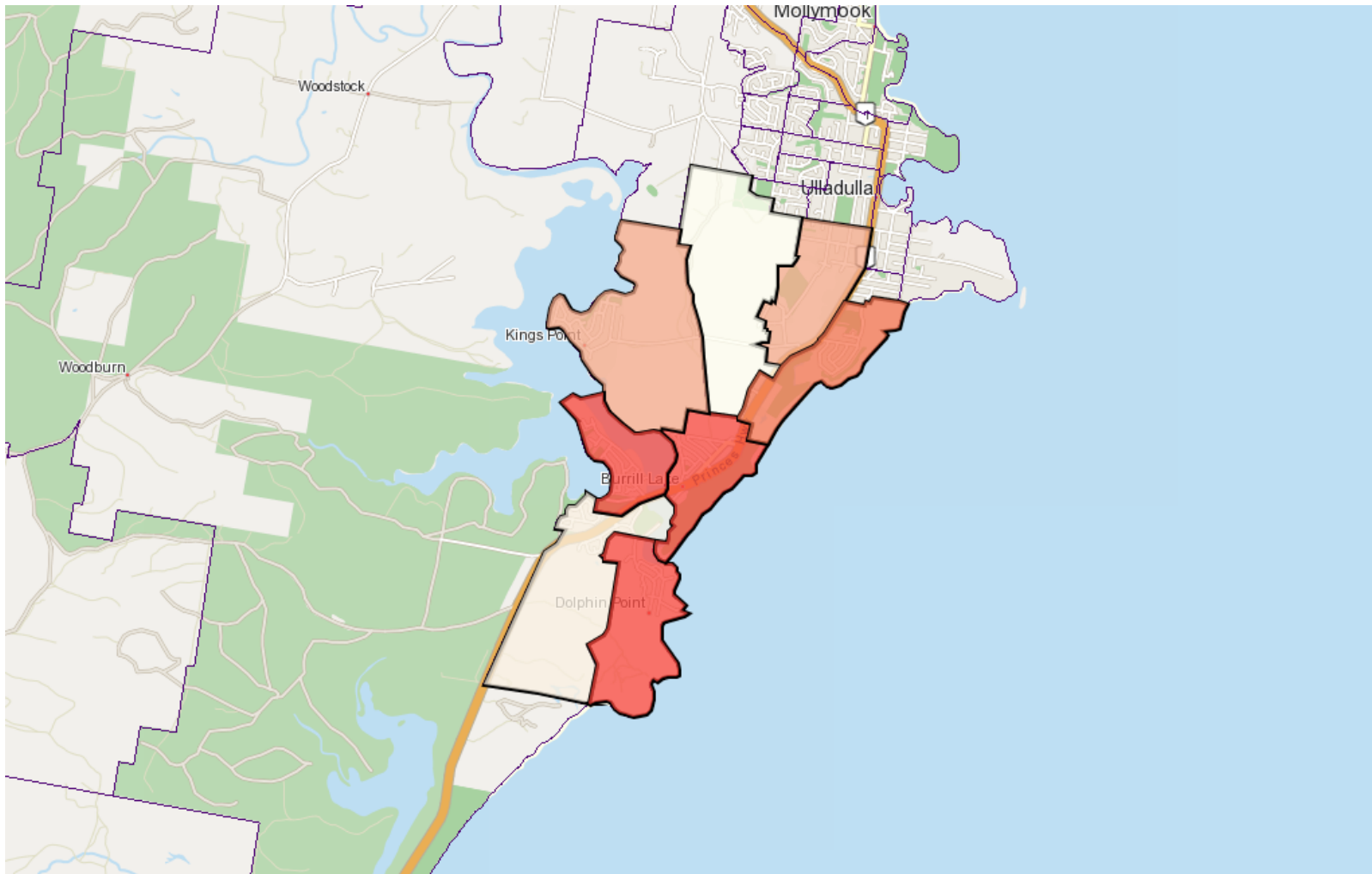
Counting: Persons, Place of Usual Residence



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SA1 by DWTD

Counting: Dwellings, Location on Census Night



This product uses a generalised version of ABS geographic boundaries. This removes some of the detail in the boundaries including very small islands and reduces the file size which enables the application to run more efficiently. More information on this is available in the TableBuilder Manual. The exact ASGS and ASGC boundaries are available from the ABS Statistical Geography Portal, www.abs.gov.au/geography

Appendix B Survey tools

Burrill Lake Bridge Business Survey



Good afternoon, my name is _____ and I'm from GHD. I'm calling in on behalf of the Roads and Maritime Services. The RMS is currently investigating options for the future of the bridge over Burrill Lake.

GHD is undertaking the investigation of issues which influence the community and business of Burrill Lake.

Could I please have 10 minutes of your time to discuss your business and your views of the bridge upgrading?

[If they have no time arrange another time that day,
or if they can be telephoned at a later day and time]

[If they have any further questions they can contact Adam Berry at the RMS on 02 4221 2586]

Business name: _____

Date of visit: _____

Address: _____

Contact name and position in business: _____

Contact details of business owner (if different): _____

Business type/ description: _____

1. What are the _____
Hours of operation: Monday Tuesday Wednesday Thursday Friday Saturday Sunday

2. Do you know the approximate floor area of the premises (beds if tourism)? _____
[Interviewer to estimate if not]

3. Does business own or rent this property? (circle) OWN RENT

4. Does the business have any off-street parking?

- ☐ On street only
- ☐ Off street ____ number of spaces
- ☐ Off street for staff only

5. Is there anything in particular you plan to do or change with this business in the near future?
(Do **NOT** prompt)

- ☐ Expansion (detail) _____
- ☐ Relocation (detail) _____
- ☐ Retirement (detail) _____
- ☐ Sale of business (detail) _____
- ☐ Other (detail) _____

6. How many staff does the business employ - Full time? _____ - Part time? _____

7. Where do the staff live? (number or proportion)

NORTH of bridge

SOUTH of bridge

Within Burrill Lake to the -		
Other towns to the -		



8. How do the staff travel to work? (*number or proportion*)

_____ Drive _____ Car as passenger _____ Bus
_____ Cycle _____ Walk _____ Other

9. Please nominate the estimated percentage of customers who are:

- a) Local residents of Burrill Lake _____%
- b) Local residents of towns south of Burrill Lake _____%
- c) Local residents of towns north of Burrill Lake _____%
- d) Holiday makers/tourist staying at Burrill Lake _____%
- e) Motorists travelling longer distances _____%
- f) Other (provide detail) _____% (_____)

[Check total equals 100%]

10. Does the business utilise the bridge in any other way during its day-to-day operation?

If so how?

PROMPTS: What for? Number of times per day typically?

SPECIFIC BUSINESS PROMPTS:

How/when is mail delivered?

11. From where and How often does the business receive inventory deliveries?

[PROMPTS]

Day(s) of week

Time(s) of day

12. Are you aware that the bridge will require either replacement or significant maintenance in the next 10 years to retain its functionality? (*circle*) YES NO

13. Do you have any opinions on these options? (*being replacement or maintenance*)

[Follow-up Prompt for both positive and negative opinions. "Do you see any positive/ negative benefits from any replacement"]

14. What do you think are the most important issues which RMS needs to consider in investigating these options?

[Interviewer Note: Draw rough sketch of (1) property layout (2) use (3) access]

THANK YOU

Burrill Lake Bridge Customer Survey



ELIGIBILITY: EVERYONE 18+ YEARS QUALIFIES

APPROACH:

Good morning/afternoon, my name is _____ and I'm from GHD. Today we are doing a survey among shoppers on behalf of the Roads and Maritime Services. The RMS is currently investigating options for the future of the bridge over Burrill Lake.

GHD is undertaking the investigation of issues which influence the community and business of Burrill Lake.

Could I please have 5 minutes of your time to discuss how often you visit these shops and your views of the bridge upgrading?

TIME COMMENCED: _____

1. Where do you live? _____
2. Which of the following do you consider yourself to be:
 - ☐ Local resident
 - ☐ Tourist
 - ☐ Business traveller
 - ☐ Or Something else? (specify) _____

FOLLOW-UP IF A LOCAL RESIDENT

3. Do you live to the north or south of the Bridge? *(circle)* NORTH SOUTH

FOLLOW-UP ALL OTHERS

4. Are you:
 - ☐ currently staying in Burrill Lake
FOLLOW- UP Do you mind if I ask where you are staying? _____
 - ☐ currently staying somewhere else nearby
FOLLOW- UP Do you mind if I ask where you are staying? _____
 - ☐ OR passing through town

ASK ALL

5. Do you mind if I ask your age? You can point to one of these age groups if you prefer *(circle)*
 - UNDER 18 YEARS (TERMINATE)
 - 18 – 24 YEARS
 - 25 - 29 YEARS
 - 30 - 34 YEARS
 - 35 - 39 YEARS
 - 40 - 50 YEARS
 - 45 - 49 YEARS
 - 50 - 54 YEARS
 - 55 - 59 YEARS
 - 60 – 64 YEARS
 - 65+ YEARS
 - REFUSED



6. Which store or stores did you/ will you be visiting today? (*tick all mentioned*)

<input type="checkbox"/>	IGA	<input type="checkbox"/>	Real Estate Agent	<input type="checkbox"/>	Glass gallery
<input type="checkbox"/>	Newsagent	<input type="checkbox"/>		<input type="checkbox"/>	Doctor
<input type="checkbox"/>	Post office	<input type="checkbox"/>	Boat Hire	<input type="checkbox"/>	Seafood / The Fish Shop
<input type="checkbox"/>	Hairdresser	<input type="checkbox"/>	Canoe/ Watercraft hire	<input type="checkbox"/>	Robs Bait n Tackle
<input type="checkbox"/>	Café	<input type="checkbox"/>		<input type="checkbox"/>	Bottleshop
<input type="checkbox"/>	Other _____				

7. Do you mind telling me how much you spent today in these stores? _____

8. Why did you decide to shop here today? (Do **NOT** prompt)

[Follow-up: Record all responses. If required follow-up/ prompt response in terms of the locality rather than the shop/ product purchased].

☐ Close to Home

☐ Work in the Area

☐ Passing

☐ Other (specify) _____

9. Where did you park your car today? _____

[IF A RESIDENT OF BURRILL LAKE OR NEARBY]

10. How often do you shop here at Burrill Lake? _____

11. What do you usually shop for here at Burrill Lake? _____

12. Is this the main shopping centre where you do your food and grocery shopping? YES NO

13. How often do you shop in Ulladulla for food and groceries?

[ALL]

14. Are you aware that the bridge will require either replacement or significant maintenance in the next 10 years to retain its functionality? (*circle*) YES NO

15. Do you have any opinions on these options? (*being replacement or maintenance*)

[Follow-up Prompt for both positive and negative opinions. "Do you see any positive/ negative benefits from any replacement]

16. What do you think are the most important issues which RMS needs to consider in investigating these options?

THANK YOU

Appendix C Customer Survey results

6.1.1 Introduction

GHD administered a community survey in order to gain an understanding of the local community, the businesses located immediately adjacent to the Burrill Lake Bridge and their customers, and the community's knowledge of the development of options for the bridge, and their preferred options.

The survey was held on Saturday 3 November 2012, between 11:00am and 3:00pm, with customers visiting the local shopping village located to the south of the bridge (in front of the IGA Express and other shops). The survey included both quantitative and qualitative questions, and was approximately five minutes in duration.

The weather on the day was very overcast, with intermittent showers. This could have influenced the number of customers visiting the shops on the day of the survey.

6.1.2 Summary of key survey outcomes

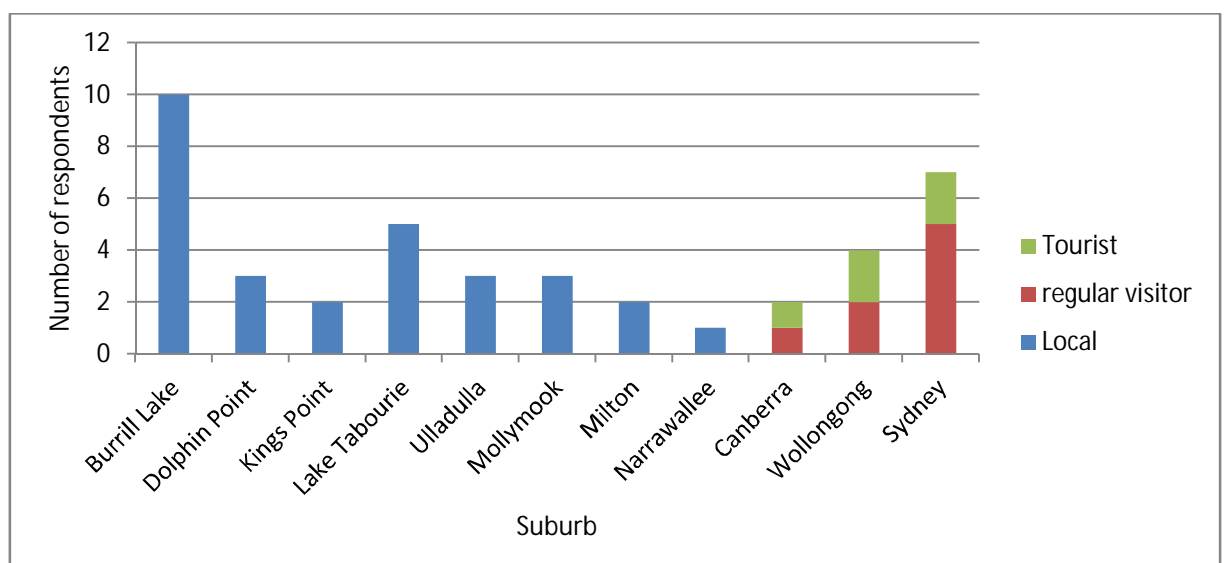
Residence of respondents

Overall 42 respondents completed the survey, of these nearly 70 per cent live in Burrill Lake or the surrounding suburbs of Dolphin Point, Kings Point, Ulladulla, Mollymook or Milton. For those travelling from further afield, 17 per cent live in Sydney, 10 per cent in the Illawarra or Wollongong and 5 per cent in Canberra.

The location of residence determined whether the respondent identified as being a local, regular visitor or tourist to the Burrill Lake area. The majority of respondents who stated that they would classify themselves as a local (70 per cent) came from Burrill Lake, Dolphin Point, Kings Point and Lake Tabourie.

There was considerable overlap between the 19 per cent that consider themselves to be 'regular visitors' and the 11 per cent that are 'tourists'. The regular visitors were those that visit a number of times during the year or on weekends, they tend to live in the outer suburbs of Sydney, such as Merrylands, and the Illawarra region encompassing Wollongong and Nowra. The tourists came from Sydney, Bermagui and the Illawarra. A table providing a breakdown of the classification and residential suburb is provided below.

Figure 9 – Suburb of residence and visitor type



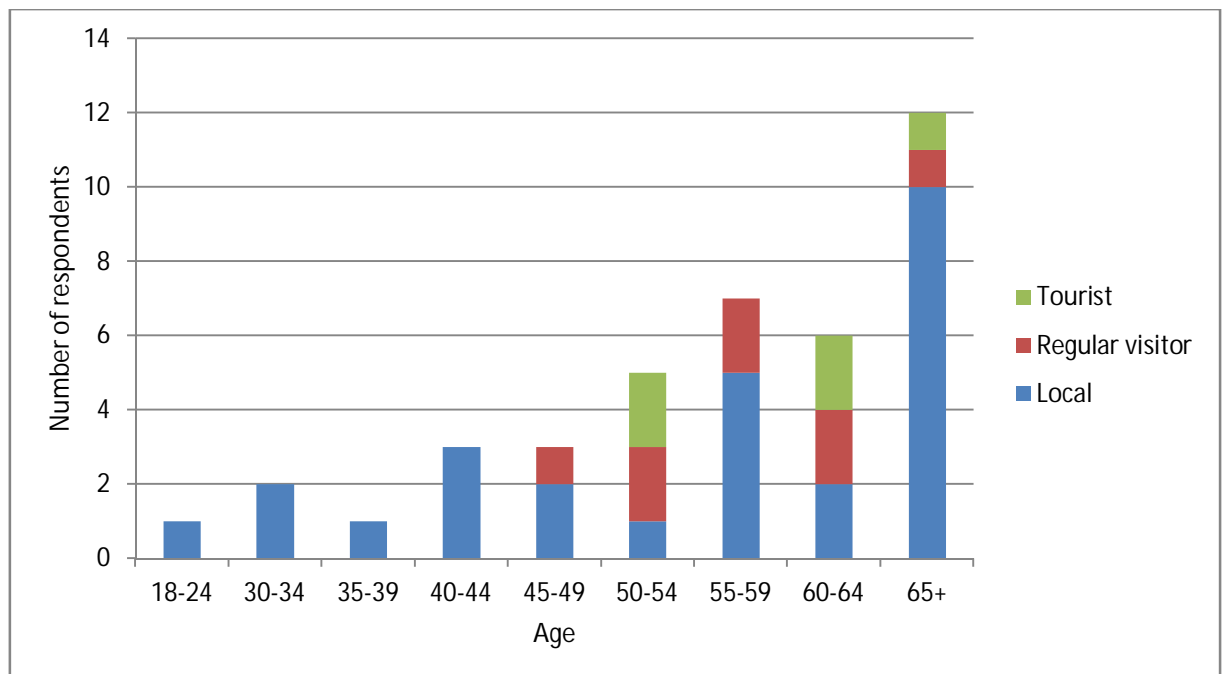
The 32 residents were asked where their residence was located in relation to the bridge. There was a fairly even divide between those that reside on the north (50 per cent) and those on the south of the bridge (47 per cent). One respondent stated that they lived west of the bridge.

For the ten visitors or tourists that responded to this question, 60 per cent were staying in Burrill Lake (of these 50 per cent were staying in the Burrill Lake Caravan Park), 10 per cent were staying in Dolphin Point, 10 per cent in Narravalle and 10 per cent staying nearby (location not specified). The remaining 10 per cent were passing through town.

Age of respondents

Respondents had to be over the age of 18 to complete the survey. As depicted in Figure 10 the majority of respondents (71 per cent) are over the age of 50. All of the respondents under the age of 50 considered themselves to be a local resident whereas above this age group respondents were a mix of tourist, regular visitor and local resident.

Figure 10 Age of respondents



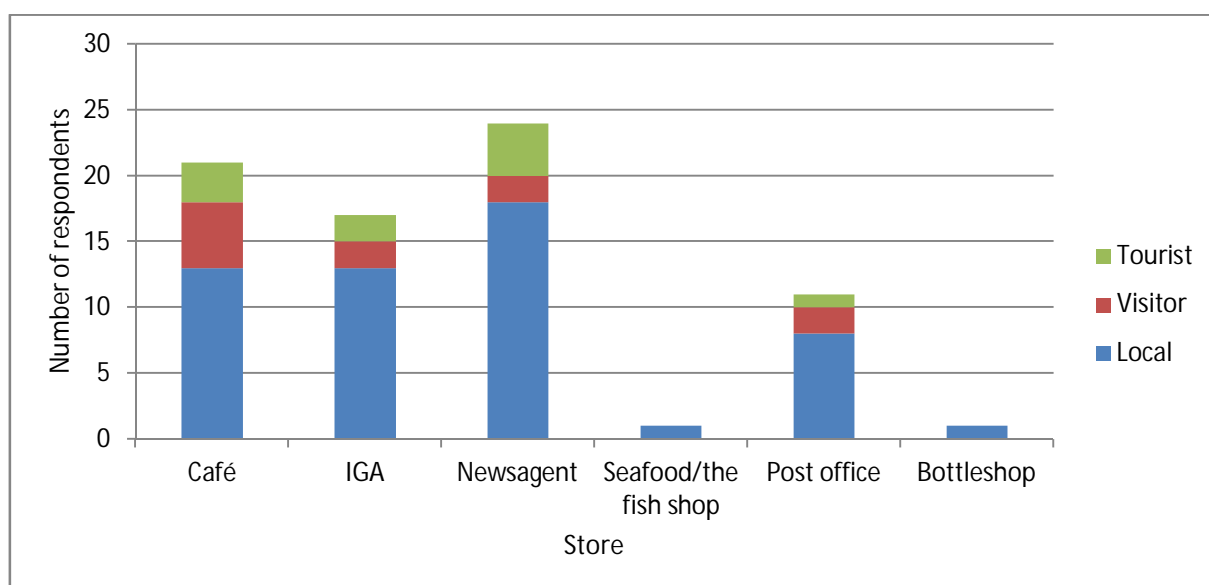
Mode of travel

Only 28 respondents drove to the shops (nine stated that they walked). Balmoral Road (side street) was the most common parking location where 14 of the respondents parked. The remainder parked on Princes Highway (11 respondents) and three parked in the Lions Park car park.

Shopper profile

The newsagent received the greatest number of customers (24) followed by the café (21) and IGA (17). All three businesses attracted a mix of tourists, regular visitors and local residents. The fish shop and bottle shop only had one customer who was a local resident.

Figure 11 Number and type of respondents that visit each of the Burrill Lake Shops



The amount of spending varied from \$3 to \$80 with one local resident stating that they would spend about \$200 a week at the local shops. The average amount spent by respondents at the time they completed the survey was \$30.40.

The following table presents a summary of the reasons provided by respondents for using the local shops.

Table 7 Themes raised by respondents as reasons for using the local shops

Reason	Number of respondents
Close to home and in walking distance	21
Support local businesses rather than the bigger supermarkets	7
Convenience	7
Good food and coffee	4
Driving through the area	3
Other reasons	3
Close to the Caravan Park	2
Total	46

Out of the 34 residents that completed the survey, 29 per cent stated that they shop at Burrill Lake on a daily basis with more than 75 per cent shopping at least once a week. The breakdown is provided in **Error! Reference source not found..** When asked whether the Burrill Lake Shops is considered to be their main shopping centre only 7 per cent of residents who responded to the survey agreed.

Figure 12 Frequency that residents shop at Burrill Lake

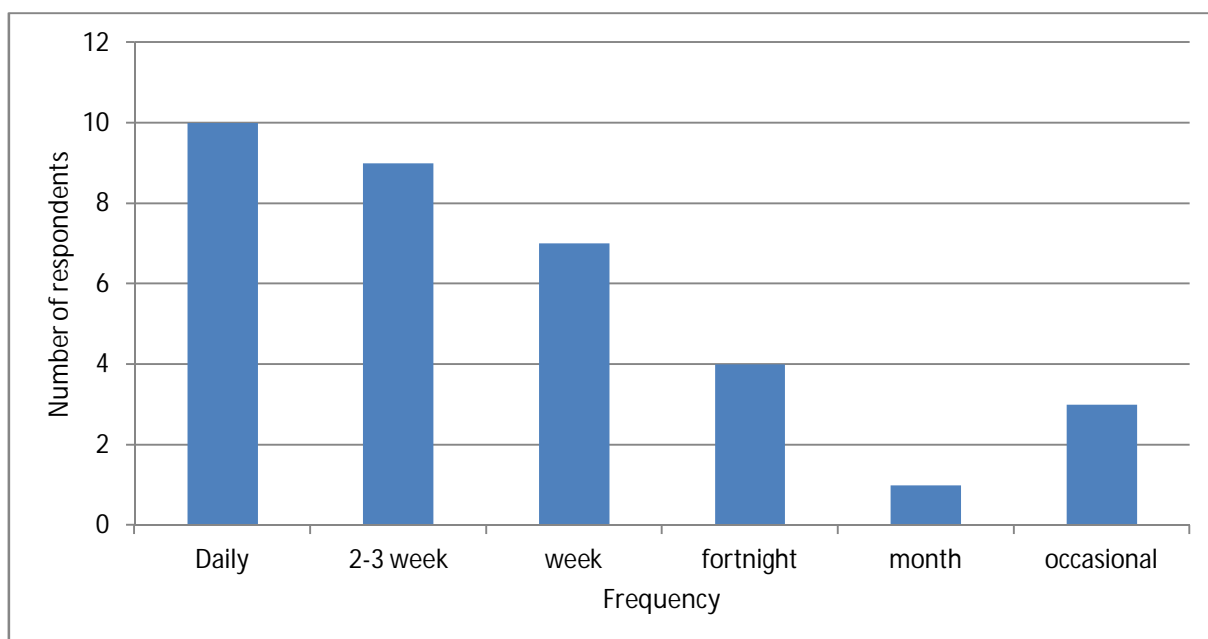


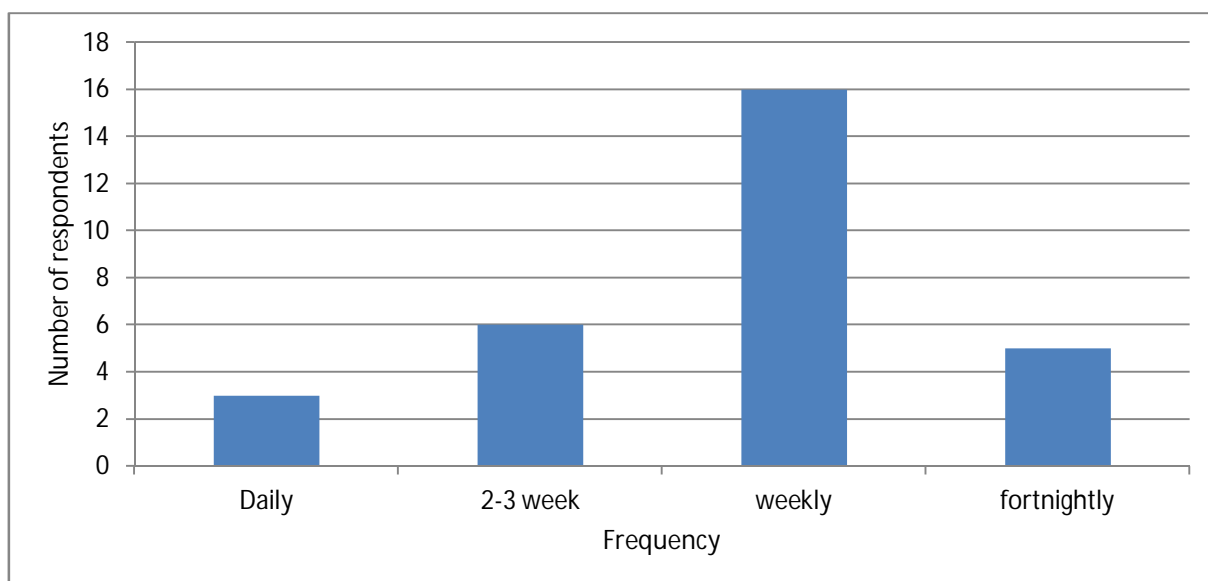
Table 8 below provides a summary of the items regularly purchased by the 34 residents.

Table 8 Items residents usually purchase

Item	Number of respondents
Groceries including milk and bread	27
Newspaper	16
Coffee	10
Lottery	4
Fish and chips	2
Drink	1

Over 83 per cent of local residents shop in Ulladulla at least once a week. The frequency of their shopping visits to Ulladulla is presented in Figure 13.

Figure 13 Frequency that residents visit Ulladulla for grocery shopping



Opinions associated with Burrill Lake Bridge

Nearly 90 per cent of survey respondents were aware that the Burrill Lake Bridge would require either replacement or significant maintenance. Of the four respondents who stated that they were not aware of the problems with the bridge; one considered themselves to be a local resident, one was a regular visitor and the remaining two were tourists.

Table 11 below provides a thematic summary of the opinions expressed by respondents regarding whether the bridge should be replaced or maintained.

Table 9 Key themes of most important issues for investigating bridge options

Theme	Number of comments
Replace with a new bridge	16
The bridge should be elevated to allow boats to pass and prevent flooding	14
Other comments	13
The solution will need to address the issue of traffic congestion	10
Environmental issues/ecology of the lake	10
The bridge should be more pedestrian-friendly with pedestrian access on both sides and improved lighting	8
Upgrade the existing bridge	7
Remove the causeway to improve flow and stop the lake	7

from blocking	
Bypass would be a good option that would not necessarily impact on holiday goers	3
Businesses are reliant on tourism	2
Total	90

The most common theme raised by respondents was to replace the existing bridge with a new bridge. Comments related to constructing a wider bridge to improve traffic flow, or constructing a new bridge which spans the entire lake and does not require the causeway to support it, with some comments made that this option would result in improved water flow in the lake. The next highest theme related to lifting the bridge to a higher level, particularly to prevent flooding and allow boats to pass underneath. A variety of 'other' comments were made about issues associated with the bridge, lake, town and community. The next most common themes related to the need to improve traffic congestion, and the environmental issues associated with the lake, as there is a common community perception that the causeway which supports the existing lake inhibits the drainage/water flow of the lake.

Survey respondents were also asked to identify what they think are important issues that RMS should consider in investigating the options for the future of the bridge. Table 10 below provides a summary of the key comments.

Table 10 Main themes of most important issues expressed by respondents for investigating options

Theme	Number of comments
Ensure bridge is built for high levels of traffic to help ease congestion in the area	15
Improve safety for pedestrians and cyclists through wider pathways and a foot bridge on both sides	12
Improve the ecology of the lake reducing pollution and improving water quality	10
Include a bike path on the bridge that connects to Ulladulla	4
Consider the impact on businesses and tourism	4
The new bridge should be higher	3
The new bridge should look nice	3
Include more lanes on the bridge (four lanes) to accommodate the population growth	2
Get rid of the causeway	2
Other comments	7

Theme	Number of comments
Total	62

As summarised in the table above, the highest number of comments are associated with ensuring that current issues associated with traffic congestion in Burrill Lake are addressed by RMS. This is followed by the need to address pedestrian/cyclist safety and access, particularly by having a pathway on both sides of the bridge, and the need to improve the ecology and water quality of the lake through consideration of tidal flow/blockage issues.

Appendix D - Business survey results

A survey was held with local businesses in Burrill Lake to gain an understanding of the local economy, the relationship of the bridge and the highway to the businesses, and the key issues associated with the future options for the bridge.

Most businesses were surveyed on the same day as the shopper survey, with some contacted by telephone at a later date if owners/managers were not available at the time. A total of x businesses were surveyed by the GHD team, identified in Table 11 below.

Table 11 Businesses in Burrill Lake surveyed by GHD

Location	Business name	Type of business
Shopping village, south of bridge	IGA X-press Burrill Lake	Convenience store
	Brill Café	Café - indoor and outdoor seating and takeaway
	Bliss Hairs Stylists	Hairdresser
	Burrill Lake Newsagency	Newsagent, Commonwealth Bank Agency, Post Office Boxes
South of bridge	Lake Edge Holiday Units	7 accommodation units
	Cowleys Harcourts Real Estate	Real estate showroom
North of bridge	Rob's Bait and Tackle	Fishing equipment
	The Fish Shop	Takeaway seafood
	Burrill Lake Cellars	Independent packaged liquor outlet

Additional to those identified above, GHD also interviewed the previous owner of the Brill Café, as the business had recently changed hands and the previous owner lived locally.

Overview of businesses

Businesses were asked to comment on the proportion of their customers that are passing motorists, tourists, and local residents, and provide estimates for the low and high season. An overview of the findings is provided below as an average across the year.

Of the nine businesses surveyed, five reported various results between 10 per cent and 75 per cent of customers are passing motorists. These businesses included the IGA, newsagent, café, bait shop, and fish and chip shop. The café reported the highest level of dependency on passing motorists, with between 65 per cent to 75 per cent of trade going to these customers. The bottle shop commented that approximately one sale per day is to passing motorists.

Seven businesses reported various proportions between 10 per cent to 100 per cent of trade are dependent on tourists to Burrill Lake, with the holiday units reporting the highest amount at 100 per cent. The other businesses that reported on their reliance on trade from tourists were

the IGA, newsagent, bait shop, fish and chip shop, hairdresser and bottle shop. The new café owners were unsure what proportion of customers were tourists.

Six businesses reported between 25 per cent to 90 per cent of customers are local residents of Burrill Lake, with the hairdresser reporting the highest amount at 90 per cent. The businesses that commented on this question included the IGA, newsagent, bait shop, fish and chip shop, hairdresser and bottle shop. The new café owners were unsure of the proportion of customers who were local residents.

Relationship to bridge and highway

Respondents were asked to provide details of how they use the bridge in their business operations. Of the nine businesses surveyed, eight commented that the bridge is used for the delivery or sourcing of inventory/stock. Six businesses identified that inventory is delivered daily via the bridge. These businesses were the IGA, café, bait shop, fish and chip shop, newsagent and holiday units. The bottle shop reported receiving inventory from across the bridge three to four times a week, while the hairdresser reported inventory being delivered on a fortnightly basis. The newsagent reported receiving inventory deliveries up to four times a day, at any given time.

Businesses were also asked to indicate where staff lived in relation to the bridge. Across the eight businesses that responded to this question, a total of nineteen people travel across the bridge to their place of work.

Opinion on options for the bridge

Survey respondents were asked if they were aware that the bridge would require either significant maintenance or replacement in the next ten years. Nine respondents indicated 'yes' they were aware, while the respondent from the fish and chip shop was the only business that was unaware. Of the nine respondents, four support the replacement of the existing bridge, with one respondent identifying the need for a higher bridge, one respondent commenting that a new bridge should be supported by removal of the existing causeway, and one commenting that any new bridge should be a 'full span bridge' indicating that the causeway should be removed. One respondent commented that 'something' needed to be done about the existing bridge as it was considered unsafe and prone to regular flooding (up to four times per year). Two respondents did not have an opinion either way, and another respondent did not comment directly on whether the bridge should be maintained or replaced. One respondent commented that the existing bridge should remain but the supporting causeway should be 'opened up' to aid the flow of water in the lake, as there is a community perception that the causeway is responsible for the lake's 'problems'.

Key issues for consideration by RMS

Table 12 below provides a summary of the key themes raised by respondents when asked to identify what they think the key issues that RMS should consider when investigating options for Burrill Lake Bridge.

Table 12 Key themes of most important issues for investigating bridge options

Theme	Number of comments
Pedestrian safety and access	8

Theme	Number of comments
Parking for customers	7
Design of new bridge	6
Customer access	5
Visibility/signage for shops and businesses to passing traffic	4
Retain existing bridge	4
Timing of construction	3
Remove the causeway	3
Tourism	3
Ensure highway frontage/access is retained for businesses	3
Connection of pedestrian/bicycle path to towns north and south	2
Ensure highway remains open during construction	1
Provision of legal fishing area	1
Motor vehicle speed limit	1
Access to side streets	1
Ensure existing bridge remains open during construction	1
Address traffic flow/congestion	1
Connection and use of foreshore	1
Retain causeway	1
Community education and information	1
Noise attenuation	1

The most common theme raised by respondents related to pedestrian safety and access. Comments covered issues including the need to retain the pedestrian-friendly nature of Burrill Lake, ensuring that pedestrians can cross the highway safely, and pedestrian access is provided across the bridge and on both sides of the bridge, which enables older people and young children to walk across safely over the lake.

Parking for customers to enable convenient access to shops and businesses was also raised as an important issue, both during any construction or maintenance activities, and post construction if a new bridge is built. Comments were made about the current lack of parking spaces on the highway and the need for additional parking to allow passing motorists to stop easily and access businesses. The size of car parks was also raised, and the need for them to be long enough to allow caravans and cars with trailers to stop near businesses. Parking was

often raised as a key issue for the businesses located along the highway, as they rely on trade from passing motorists.

The third most common theme raised was the design of the bridge if construction of a new bridge is the preferred option. A number of comments identified the need to lift the bridge higher than the existing bridge, as the existing bridge has flooded in the past. One comment was also made about the need for a new bridge to be wider than the existing bridge. One respondent made very specific comments about the height of a new bridge, identifying that a new bridge should only be raised to the minimum flood level. The reasons given for this are that a two meter high bridge would have visual impacts, require longer access ramps, change the character of Burrill Lake, divide the town into 'four quarters', and that 'impacts would be manageable' if the lower option was chosen. A number of comments were also made about the need for any new bridge to be designed in a way that is consistent with the local character of Burrill Lake.

The next most common theme raised by respondents regarding customer access to businesses, primarily during construction if a new bridge is the preferred option. Comments related to ensuring that motorists and customers could continue to conveniently access businesses.

Other key themes raised by respondents related to: ensuring that businesses were visible to passing traffic both during and after construction of a new bridge; and ensuring that the existing bridge is retained, either as part of the highway, or retaining it as a pedestrian footpath or feature of the town.

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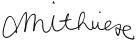
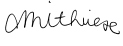
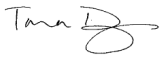
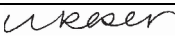
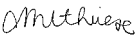

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