Singleton bypass

Technical working paper: Socio-economic Impact Assessment

Roads and Maritime Services | November 2019

NSW GOVERNMENT

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Singleton bypass

Technical working paper: Surface and Groundwater assessment

Roads and Maritime Services | November 2019

Prepared by AECOM Australia Pty Ltd and Roads and Maritime Services

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Approval and authorisation

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Accepted on behalf of NSW Roads and Maritime Services by:	Joel Rosendahl Project Development Manager
Signed:	
Dated:	

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Executive summary

Purpose

Roads and Maritime Services NSW (Roads and Maritime) proposes to build a New England Highway bypass of Singleton (the proposal). The proposal is anticipated to improve traffic flow, travel times and safety through the Singleton town centre.

The purpose of this Socio-economic Impact Assessment (SEIA) is to assess the potential socio-economic impacts that may occur as a result of the construction and operation of the bypass and recommend appropriate mitigation measures to manage these impacts. This SEIA has been prepared in accordance with the Roads and Maritime *Environmental Impact Assessment Practice Note – Socio –economic assessment 2013*.

Existing socio-economic environment

The New England Highway is a major freight and commuter route, passing through Singleton and forming the main road access through the town and to the town centre. The route allows for the transport of goods to domestic and international markets via Newcastle and Sydney. Due to mining activities in the region, the route also accommodates the transport of mining equipment and vehicles, which are often oversize and/or over-mass vehicles. Average daily traffic volumes indicate that up to 28,000 vehicles use the highway through Singleton each day, with around 15 per cent of these being heavy vehicles.

Singleton is a vibrant and diverse regional town, located at the centre of the Hunter Valley, 200 kilometres north west of Sydney and 75 kilometres from Newcastle via the Hunter Expressway. The population of the Singleton Local Government Area (LGA) was 22,987 in 2016.

Singleton has a diverse economic base including key industries such as mining, agriculture, tourism and retail. It is a progressive town with a range of community assets making it a wonderful lifestyle choice. Residents of Singleton have access to eight public schools, two private schools, a TAFE NSW campus, a community college and is in close proximity to the University of Newcastle. It also has generous sporting amenities, shopping options and modern public amenities. There are a range of health facilities, a variety of church and religious presences and many active service clubs.

The main streets of Singleton are George Street and John Street where the majority of businesses are located. Businesses range from retail, to eateries/cafes, banking and finance, automotive services, accommodation and other goods and services.

Potential impacts

The proposal would lead to both socio-economic impacts and benefits for communities in Singleton.

Community cohesion impacts

Community cohesion impacts anticipated as part of the proposal include full or partial acquisition of properties which can lead to:

- Loss of land and infrastructure
- Property severance
- A feeling of loss.

Potential community cohesion impacts would primarily be focused around areas of property acquisition south of the town in proximity to the Hunter River floodplain.

Amenity impacts

Noise and vibration

Exposure to noise and vibration during construction has the potential to:

- Create annoyance
- Interfere with daily activities or the enjoyment of these activities
- Interfere with concentration and memory
- Disrupt sleep and rest patterns.

Potential construction noise impacts would occur at residential receivers along the bypass and would be focused around where construction activities are closest to residential areas including at Putty Road and Gowrie Gates.

Once operational there would be increases in road traffic noise at residential receivers located in proximity to the bypass to the north and east.

Air quality

Potential air quality and amenity impacts to nearby residential receivers and social infrastructure in Singleton anticipated as part of the construction works include:

- Annoyance due to dust deposition on surfaces and visible dust plumes
- Elevated particulate (PM_{10}) concentrations due to dust-generating activities
- Exhaust emissions from diesel-powered plant and equipment.

It is anticipated that potential impacts would be readily managed through the implementation of standard mitigation measures.

Once operational the proposal is unlikely to impact on air quality.

Visual amenity

During construction, visual amenity would be affected by factors such as:

- Removal of established vegetation
- Installation of construction ancillary facilities
- Presence of construction equipment.

Construction activities would only be visible to those with views of the proposal which is primarily limited to properties located to the south of the town with views to the Hunter River floodplain and motorists travelling on the New England Highway and Putty Road.

Once operational, the built form components of the proposal would result in alterations to existing views for a number of properties. During operation, amenity within the Singleton town centre is expected to improve due to the absence of heavy vehicles from the town centre, resulting in less engine noise and exhaust emissions, as well as safer conditions for motorists and pedestrians.

Access and connectivity

Public transport and active transport

Negligible impacts on public transport or active transport are expected during construction and operation of the proposal. The reduction in traffic forecast on key roads with the proposal is expected to improve the reliability of bus services and access to public transport (ie train stations).

There are no anticipated impacts on existing pedestrian and cyclist facilities as a result of the proposal.

Road network

Impacts on traffic on the New England Highway during construction would be minor and temporary in nature. Potential impacts caused by construction traffic would include increased travel time due to reduced speed limits and short-term partial or complete road closures on Putty Road and the New England Highway.

Once operational, the proposal is forecast to improve travel times, reduce congestion and reduce travel costs.

Parking

The construction compounds would provide parking for both light and heavy vehicles, including sufficient parking for workers. Therefore, impacts to parking availability are considered negligible.

Once operational, there are no anticipated impacts to on-street parking.

Social infrastructure

Changes in amenity can affect how users interact with, or enjoy an environment, or their ability to participate and concentrate. Impacts to social infrastructure were assessed and found to be minor.

Business impacts

Passing trade

The proposal would be constructed in a way that would allow existing traffic arrangements to continue until the new connections are operational. Businesses are unlikely to face a downturn; rather construction worker expenditure would benefit local businesses and suppliers.

Once operational the proposal has the potential to impact local businesses within Singleton due to the diversion of traffic around the town. Surveys of local businesses and commuters carried out as part of investigations for the proposal identified that the overall impact to businesses is likely to be minor. The surveys identified that a large portion of highway traffic does not stop in Singleton despite travelling through. With this through traffic removed, amenity impacts in Singleton may improve due to reduced vehicle volumes in town. Singleton would remain visible from the bypass, with signage encouraging traffic to continue to stop in town to access local businesses.

Once operational, effects on businesses in Singleton are expected to include the support of new business development opportunities. Singleton would remain visible from the bypass, encouraging traffic to continue to stop in town.

Agricultural sector impacts

The proposal would involve impacts to the agricultural sector associated with property acquisition. The proposal would only occupy about 0.006 per cent of land used for agricultural purposes within the Singleton LGA. Impacts to the agricultural sector within Singleton would therefore be minor.

Economic impacts

Expenditure and employment

Construction of the proposal would increase local employment opportunities and is considered to have a positive benefit for the local economy. The proposal would improve transport connections, reducing commuting time and lowering vehicle operating costs between employment and tourist destinations.

Freight and efficiency

The proposal would result in substantial potential benefits for freight vehicle movements. Improvements in the efficiency and reliability of these transport networks would likely result in increased productivity, reduced costs and broader economic benefits for these workforces.

Employment connectivity

The NSW Government is committed to delivering an efficient and effective transport system that reduces the time it takes to travel around Sydney and across NSW. The proposal would help meet this NSW Government commitment by increasing average speeds for freight and passenger movements on the New England Highway.

Cumulative impacts

Several construction projects in the vicinity of the proposal were identified. It was determined that it is unlikely cumulative impacts would be experienced from these projects.

Management measures

Mitigation measures would be put in place to minimise the impacts and disruptions to affected parties. This would include the implementation of on-going consultation throughout the construction period.

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Appendices

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Figures

Terms and acronyms used in this technical working paper

Terms and acronyms used in this report

Term / Acronym	Description
ABS	Australian Bureau of Statistics
AECOM	AECOM Australia Pty Ltd
Amenity	Amenity refers to the quality of a place, its appearance, feel and sound, and the way its community experiences the place. Amenity contributes to a community's identity and its sense of place.
CEMP	Construction Environmental Management Plan
CHPP	Coal Handling and Preparation Plant
CNVMP	Construction Noise and Vibration Management Plan
Community cohesion	Community cohesion refers to the connections and relationships between individuals and their neighbourhoods.
Consultation	Inviting feedback from the community and stakeholders to inform a proposal.
Construction fatigue	Construction fatigue relates to receivers that experience construction impacts from a variety of proposals over an extended period of time with few or no breaks between construction periods.
CTMP	Construction Traffic Management Plan
Cumulative Impacts	Impacts that, when considered together, have different and/or more substantial impacts than a single impact assessed on its own.
dB(A)	A-weighted decibels A-weighting is applied to instrument-measured sound levels in effort to account for the relative loudness perceived by the human ear, as the ear is less sensitive to low audio frequencies.
DECC	Department of Environment and Climate Change
DPE	NSW Department of Planning and Environment (now Department of Planning, Industry and Environment)
Environment	As defined within the *Environmental Planning and Assessment Act 1979* (NSW), all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings.
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
GSP	NSW Gross State Product
Heavy vehicle	A heavy vehicle is classified as a Class 3 vehicle (a two axle truck) or larger, in accordance with the Austroads Vehicle Classification System.

Term / Acronym	Description
IER	Index of Economic Resources
Impact	Influence or effect exerted by a proposal or other activity on the natural, built and community environment.
Industry value add	This metric refers to the total value of goods and services produced by an industry, minus the cost of goods and services used in the production process.
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
km	Kilometre
km/h	kilometre per hour
kV	Kilovolt
L_{Aeq}	A-weighted equivalent sound level
Local Road	A road or street used primarily for access to abutting properties
Local Study Area	The local study area refers to the Singleton Statistical Area Level 2 (SA2) as defined by the Australian Bureau of Statistics
ICNG	Interim Construction Noise Guideline
LCVIA	Landscape Character and Visual Impact Assessment
LEP	Local Environmental Plan. A type of planning instrument made under Part 3 of the EP&A Act.
LGA	Local Government Area
Magnitude of impacts	Severity or scale and intensity, spatial extent and duration of the impact.
Mtpa	Million tonnes per annum
NCA	Noise Catchment Area
NEH	New England Highway
NLTN	National Land Transport Network
NML	Noise Management Level
NSW	New South Wales
NVTA	Noise and Vibration Technical Assessment
OD	Origin and destination surveys
ONVR	Operational Noise and Vibration Review

Term / Acronym	Description
Passing trade	Passing trade refers to customers who choose to visit a business because they see it when walking or driving past, or as a matter of convenience when on route to another destination, rather than an intentional trip with that business as the desired destination.
Pinch point	A place or point where congestion occurs
Practice Note	Roads and Maritime's Environmental Impact Assessment Practice Note – Socio-economic assessment (EIA-N05)
Property	Anything that is owned by a person or entity. Land property can contain more than one lot and Deposited Plan (DP)
Proposal	The proposal refers to the proposed ~eight kilometre long section of highway bypassing Singleton, starting at the New England Highway at Whittingham and re-joining the New England Highway north of McDougalls Hill.
Proximity to the proposal	Within 400 metres of the proposal boundary
Public transport	Includes train, bus (government and private), ferry (government and private) and light rail (government and private) services
REF	Review of Environmental Factors
Regional Study Area	The regional study area refers to the area within the Singleton Local Government Area (LGA)
REMPLAN	REMPLAN Economy, an online resource that provides analytical resources featuring detailed economic and demographic data.
Rest areas	A roadside area with restrooms and other facilities for the use of motorists.
Roads and Maritime	NSW Roads and Maritime Services
RTA	Roads and Traffic Authority, now Roads and Maritime
SA2	Statistical Area Level 2 (ABS)
SEIA	Socio– economic Impact Assessment
SEIFA	Socio–economic indices for areas

Term / Acronym	Description
Sensitive receiver	Includes residences, educational institutions (including preschools, schools, universities, TAFE colleges), health care facilities (including nursing homes, hospitals), religious facilities (including churches), child care centres, passive recreation areas (including outdoor grounds used for teaching), active recreation areas (including parks and sports grounds), commercial premises (including film and television studios, research facilities, entertainment spaces, temporary accommodation such as caravan parks and camping grounds, restaurants, office premises, retail spaces and industrial premises).
Sensitivity of affected stakeholders	Defined by the susceptibility or vulnerability of people, receivers or receiving environments to adverse changes caused by the impact, or the importance placed on the matter being affected.
SEPP	State Environmental Planning Policy. A type of planning instrument made under Part 3 of the EP&A Act.
Social infrastructure	Social infrastructure facilities generally operate at a local, district and/or regional level and are defined by the scale of the population catchment they serve.
Socio-economic	Involving combination of socio-economic matters
Specialised sporting facilities	Bowling clubs, tennis courts, golf courses, basketball courts and gymnasiums (includes the public swimming pool in Singleton).
Sydney-Brisbane Corridor	This transport network is funded by the Australian and State governments and is recognised for its strategic importance to national and regional economic growth, development and connectivity.
SSD	State Significant Development
UNSW	University of New South Wales

1 Introduction

1.1 The Proposal

NSW Roads and Maritime Services (Roads and Maritime) proposes to build a New England Highway bypass of Singleton (the proposal). The proposal is located to the west of Singleton and connects the New England Highway to the north and south of Singleton.

Key features of the proposal would include:

- About eight kilometres of new highway (the bypass) with a single lane in each direction
- Connection with the New England Highway at the southern end of the bypass (the southern connection) including a southbound entry ramp and northbound exit ramp
- A 1.7 kilometre long bridge over the Main North railway line, the Doughboy Hollow and Hunter River floodplain, Army Camp Road and Putty Road (bridge over the floodplain)
- Connection to Putty Road including a northbound entry ramp and southbound exit ramp (the Putty Road connection)
- A 40 metre long bridge over the entry ramp at the Putty Road connection
- A 100 metre long bridge over Rose Point floodway
- A 205 metre long bridge over the Hunter River
- A 40 metre long bridge over the New England Highway west of the existing Main North railway line overbridge (known as Gowrie Gates)
- Connection with the New England Highway at Gowrie Gates consisting of a southbound entry ramp and northbound exit ramp. The northbound exit ramp would connect to the New England Highway via a new roundabout intersection at Maison Dieu Road
- A 1.7 kilometre northbound climbing lane between Gowrie Gates and the northern connection
- Connection at Magpie Street providing access to the nearby industrial area (the northern connection), consisting of a southbound entry ramp, southbound exit ramp and northbound entry ramp
- A 60 metre long bridge over the bypass at the northern connection.

The location of the proposal is shown in Figure 1-1 and an overview of the proposal is provided in Figure 1-2. Section 3 of this assessment describes the proposal in more detail.

1.2 Purpose of this report

The purpose of this Socio-economic Impact Assessment (SEIA) is to identify and assess the socio-economic impacts of the proposal and recommend management and mitigation measures to address the identified impacts. This SEIA has been prepared to support the Review of Environmental Factors (REF) for the proposal.

The SEIA considers the direct, indirect and cumulative socio-economic impacts (where relevant) on the following groups/communities:

- Residents (local and regional)
- Businesses
- Users of social infrastructure, including education facilities, health care facilities, places of worship, and other community services, as well as users of open space and recreational facilities
- Commercial road users including freight transport operators
- Private road users.

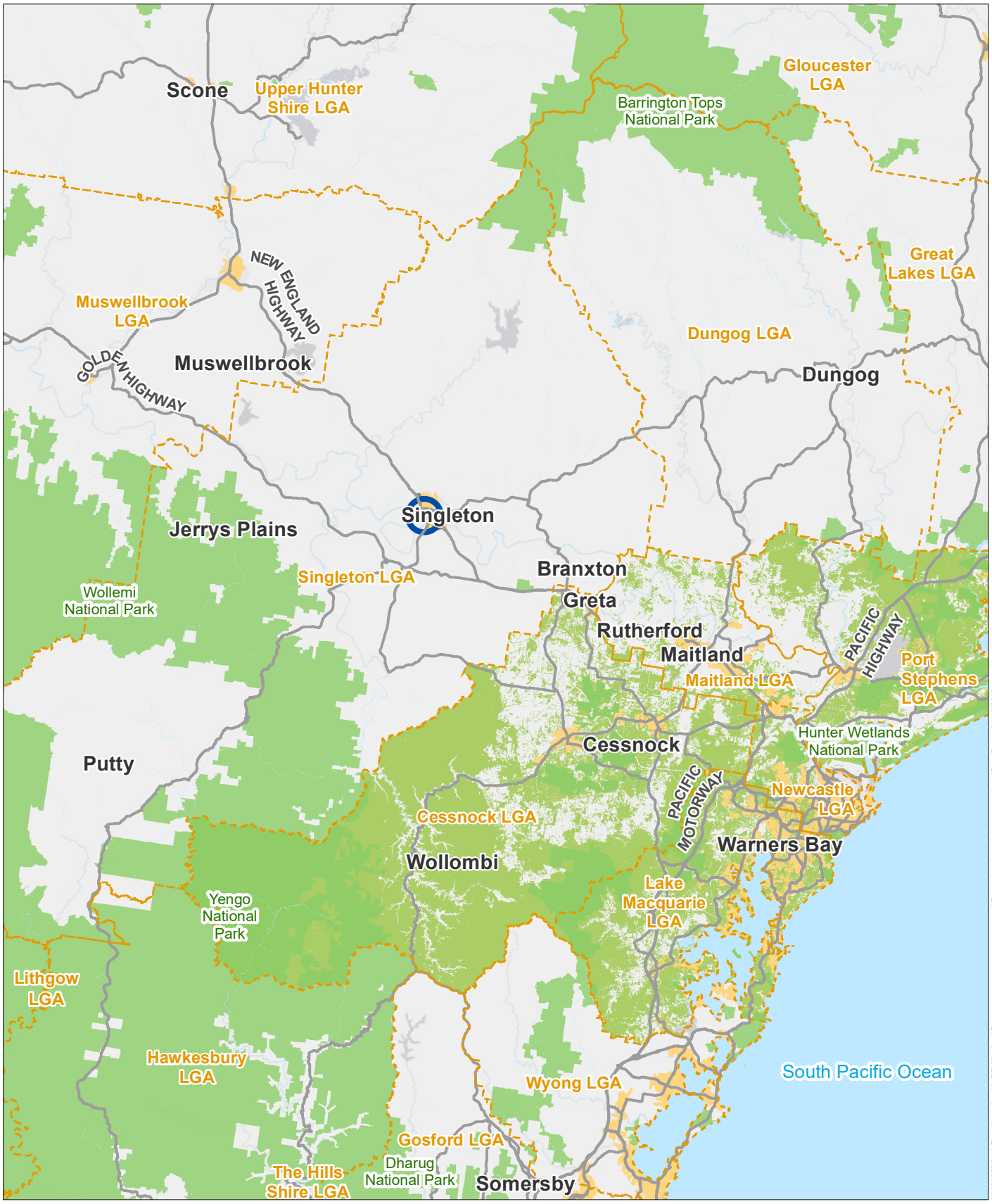

FIG. 1-1 LOCATION OF THE PROPOSAL

N 0 10 20 km

Legend

Proposal features

- Proposal location

Other features

- State roads
- Local Government Area

Environment features

- Watercourse
- National Parks and Wildlife Estate
- State Forest
- Built up areas

Source: LPMA 2016, LPI 2019

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

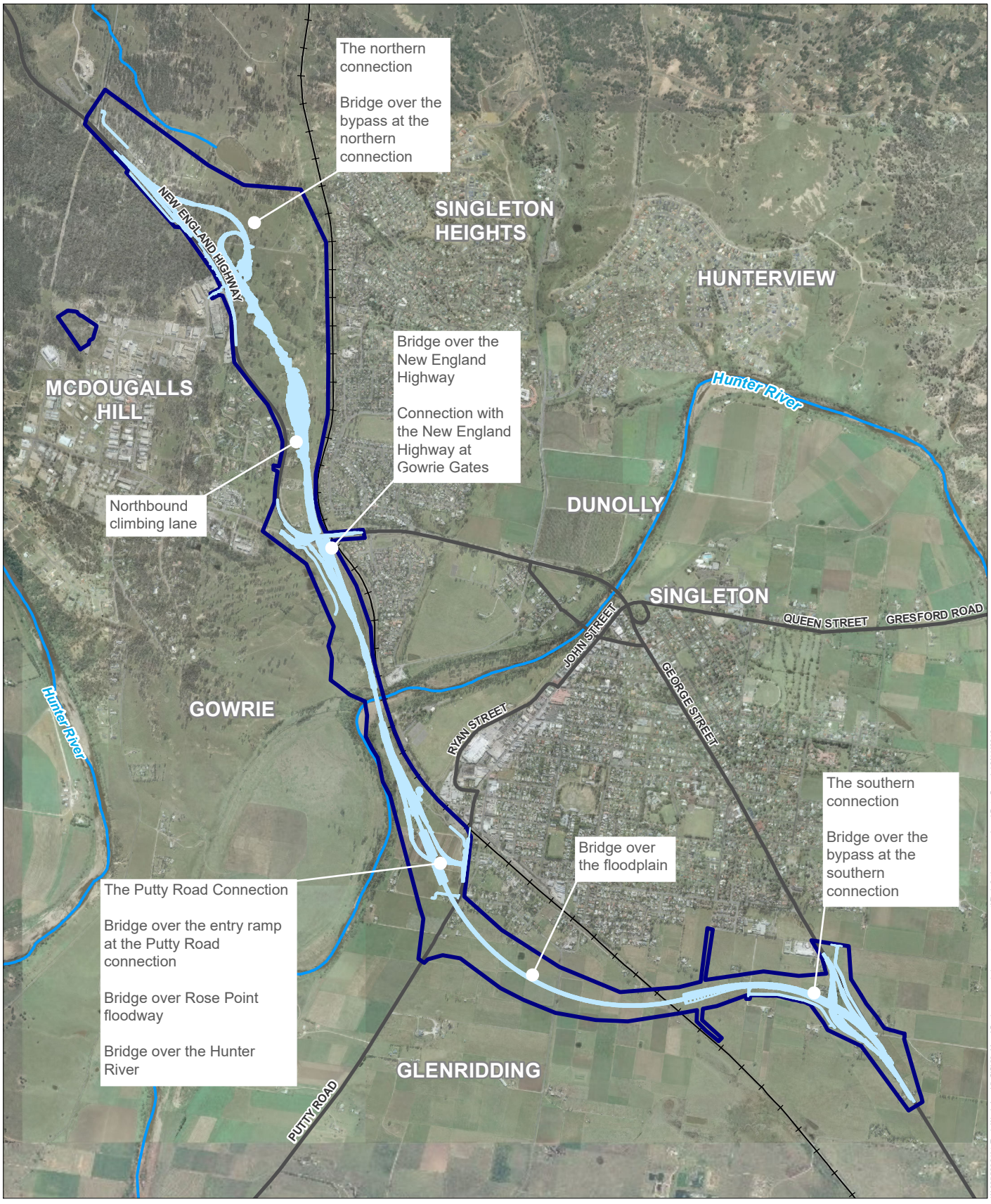

FIG. 1-2 The proposal

Legend

Proposal features

- Proposal area
- Proposal design
- Main North railway line
- Watercourse

Other features

- State roads

Source: LPMA 2016, LPI 2019, NSW Crown Copyright - Planning and Environment
Imagery credit: (c) 2011 Spatial Services 2019, (c) 2017 AAM Pty Ltd 2019 and (c) 2008 SKM 2019

2 Methodology

2.1 Overview

This SEIA assesses the impacts of the proposal in accordance with Roads and Maritime's *Environmental Impact Assessment Practice Note – Socio-economic assessment* (EIA-N05) (Practice Note) (NSW Roads and Maritime Services, 2013). The Practice Note outlines the requirements for establishing the socio-economic baseline and guides the process for assessing socio-economic impacts of Roads and Maritime activities. In accordance with the Practice Note, the following methodology has been employed:

Study area

Definition of the study area (a description of the study area is provided in section 2.2)

Literature review

Review of literature including previous assessments relevant to the proposal, with particular reference to socio-economic information, see section 2.3.

Scoping

Identification of the appropriate scope of the SEIA for the proposal (section 2.4). After scoping was undertaken, the appropriate level of socio-economic assessment was identified as 'comprehensive'.

Consultation

Identification and consultation with local communities and stakeholders who could be affected by the proposal (refer to Chapter 5 of the REF and section 2.5 of this report). Consultation with local communities completed by the communications team has also been considered in the preparation of this SEIA.

Description of the socio-economic environment

Development of a baseline profile of the existing socio-economic environment for the study area based on information available from the Australian Bureau of Statistics (ABS). Relevant local, regional and State policies and plans, and the outcomes of consultation undertaken for the proposal which consisted of origin and destination surveys, business surveys and stopper surveys were also used, see section 2.6, section 3.0 and section 5.0.

Impact assessment

Identification and assessment of the potential construction, operation and cumulative impacts of the proposal on socio-economic matters, including an assessment of the significance of these impacts (as described in section 2.6.2). These impacts have been informed by other technical assessments including air quality, traffic and transport, noise and vibration, urban design, property and land use, landscape and visual impacts, see section 6.0, section 7.0 and section 8.0.

Management and mitigation

Identification of measures for managing and monitoring the potential socio-economic impacts of the proposal, see section 9.0.

These elements of the methodology are outlined in further detail in the following sections.

2.2 Definition of the study area

The study area for the assessment of socio-economic impacts has been chosen based on the proposal's likely area of social influence. This addresses the need to consider both local community impacts and those impacts likely to occur on a broader or more regional scale, such as economic and employment opportunities created by the proposal. The study area for the SEIA considers both the regional and local boundaries as described below:

Local study area

The local study area, defined by the Singleton Statistical Area Level 2 (SA2) – The local study area begins west of Belford and extends along the New England Highway and ends south of Camberwell. The local study area comprises the following areas (in addition to the township of Singleton):

- Whittingham
- Glenridding
- Hambledon Hill
- Wylies Flat
- Combo
- Darlington
- McDougalls Hill
- Hunterview
- Singleton Heights
- Rixs Creek
- Obanvale.

Regional study area

The regional study area, defined by the Singleton Local Government Area (LGA) - The regional study area includes the local study area and encompasses the smaller towns and districts located around Singleton, including but not limited to:

- Garland Valley
- Howes Valley
- Milbrodale
- Fordwich
- Rixs Creek
- Maison Due
- Broke
- Bulga
- Belford and Lower Belford
- Jerries Plains
- Warkworth
- Liddell
- Doyles Creek
- Apple Tree Flat
- Mount Royal.

Demographic data for the whole of NSW has been provided for context and comparison against the above local and regional study areas, where relevant. The local and regional study areas are shown on Figure 2-1.

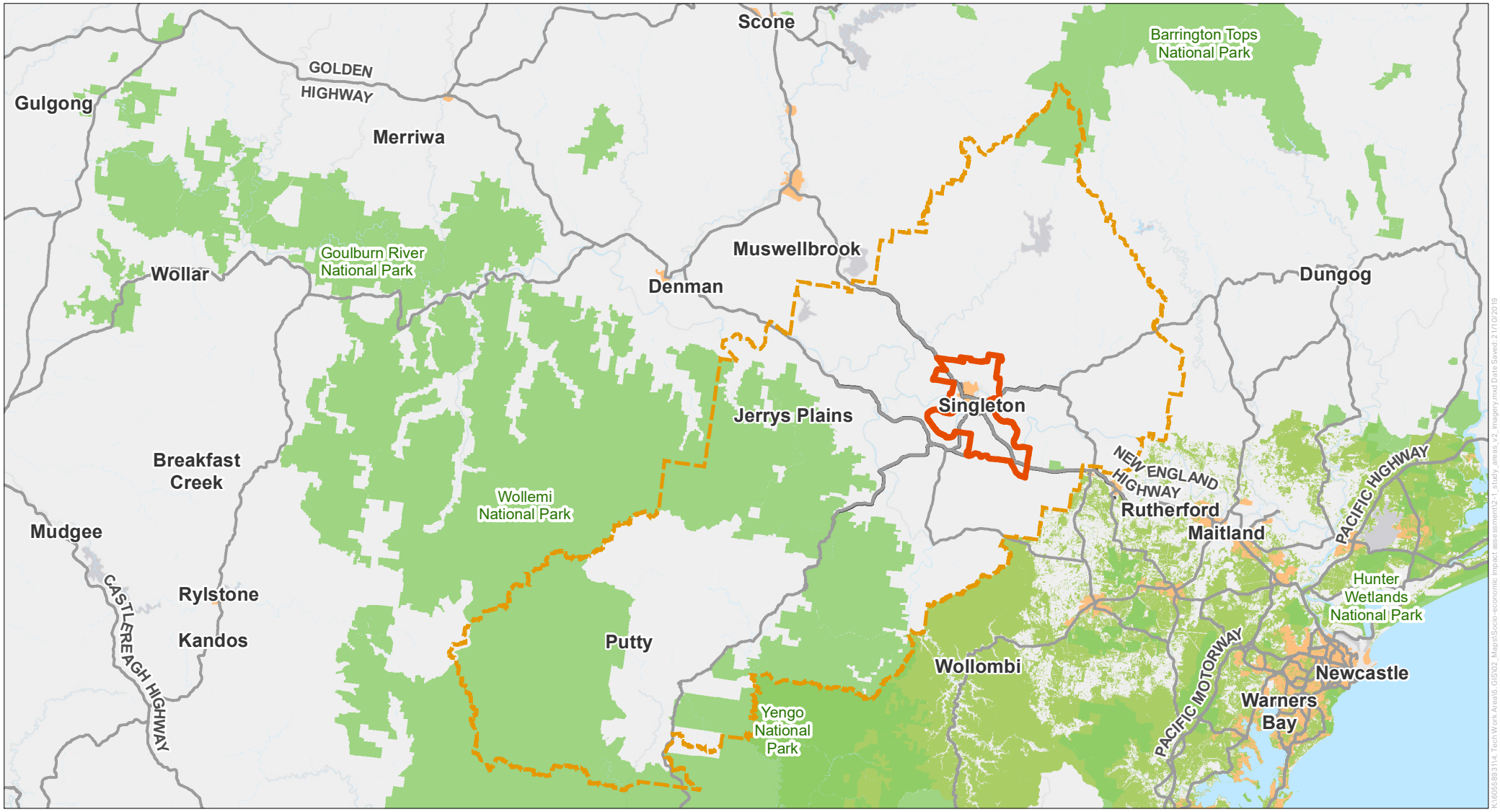

FIG. 2-1 SEIA STUDY AREAS

Legend

Study areas

- Regional (Singleton LGA)
- Local (Singleton SA2)

Built features

- State roads
- Built up areas

Environment features

- Watercourse
- National Parks and Wildlife Estate
- State Forest

Source: LMPA 2016, LPI 2019

2.3 Literature review

A review of relevant literature was undertaken to inform the proposal team's understanding of likely socio-economic impacts associated with the proposal. This review examined a broad range of documentation, including:

- Bureau of Transport and Communications Economics 1994, Working Paper 11. The Effects on Small Towns of Being Bypassed by a Highway: A Case Study of Berrima and Mittagong
- Summary of highway bypass studies (Leong, 2000)
- Urban Regional Planning Program, University of Sydney 2009, The Karuah Highway Bypass, Economic and Social Impacts: The 5 Year Report
- NSW RTA and University of Sydney, 2012, Evaluation of the Economic Impacts of Bypass Roads on Country Towns: Final Report (this report presents studies undertaken at Yass, Gunning and Goulburn)
- NSW RTA and University of NSW 2011, Economic Evaluation of Town Bypasses: Review of Literature
- NSW RMS 2012, Foxground and Berry bypass Princess Highway upgrade: Technical paper: Socio-economic
- NSW Roads and Maritime Services (2013) *Environmental Impact Assessment Practice Note – Socio-economic assessment* (EIA-N05).

A summary of the findings of this literature review are detailed in Section 4.

2.4 Scoping

Scoping for the proposal was undertaken in accordance with the Practice Note to identify the appropriate level of SEIA required for the proposal. After the scoping process was completed, it was concluded that a 'comprehensive' SEIA would be prepared.

2.5 Consultation

The SEIA has been informed by stakeholder and community consultation undertaken for the proposal. Consultation activities undertaken for the proposal are detailed in Chapter 5 (Consultation) of the REF.

Community consultation has been ongoing since 2013, involving information sessions, community updates, operation of a dedicated website for the proposal, phone number and email address to allow the community to ask questions and provide feedback as well as meetings with land owners and local businesses. Consultation with Singleton Council and NSW State Emergency Services has occurred as per the requirements of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP). Other various government agencies and stakeholders have been consulted about the proposal as detailed in the REF.

Feedback from the community and stakeholders was collected through the business surveys and stopper surveys conducted for this SEIA. The responses have been analysed, along with local community plans, to provide insights into community identity, values and goals, and the community's perceived impacts associated with the proposal. The results of each of these surveys were collated and reported separately (see Appendix B and Appendix C).

2.6 Description of the socio-economic environment

Existing socio-economic characteristics of the study area were developed with regard to the demographic profile, social infrastructure, business and transport services, community values and relevant local plans and strategies. Data was collected from the ABS website, including information from the 2006, 2011 and 2016 Censuses and the Australian Statistics Business Indicators, and other resources such as the Bureau of Transport Statistics (2015).

Business surveys, stopper surveys and an origin and destination survey were also undertaken for the proposal. Feedback received during the survey period has been analysed, along with local community plans, to provide insights into community identity, values and goals. A summary of the survey outcomes is provided in Appendix B and Appendix C.

2.6.1 Business surveys

Bypass projects can affect businesses in a variety of ways depending on a range of factors. These include business type, range of services offered, location, visibility, accessibility, breadth of the customer base, spend/reliance on media advertising, brand loyalty and the presence of similar businesses nearby or regionally. These impacts can be both positive and negative, sometimes even within the same business, for example, a bypass can reduce business visibility from a reduction in passing traffic but can increase regional accessibly and hence the customer base.

A business impact survey was undertaken to gain a better understanding of the key issues, perceptions and concerns of local businesses with regard to the proposal's construction and operation. Consideration was given to the areas and types of businesses that are likely to be affected by the bypass.

Business surveys were conducted within the local study area, with businesses selected across the key business districts within Singleton. These business districts include:

- The New England Highway / Maitland Road / George Street corridor
- The Singleton town centre along John Street
- The McDougalls Hill industrial and commercial estate
- Other businesses in the region.

A total of 40 businesses were invited to participate in the survey, of which 39 businesses participated. The business surveys were carried out from 26 – 29 November 2018.

The businesses that received the survey were selected using the following method:

1. All businesses that could be identified throughout the business districts in Singleton including the Singleton town centre, Singleton Heights and McDougalls Hill industrial and commercial estate were listed
2. A desktop impact assessment was completed for those businesses that were considered likely to be dependent on passing trade, and the surveys targeted those businesses
3. The businesses considered dependent on passing trade were then categorised by type such as retail, food/beverage, medical services etc
4. The proportion of each categorised business type across the local study area was then calculated and tabulated eg retail as a percentage of all businesses
5. The surveys were completed for a representative portion of each categorised business type.

Business survey questions were developed to understand the respondent's level of knowledge about the proposal, their customer base and dependency on passing trade (i.e. customers who visit because they are passing through) for the business, and their perception as to how the business may be affected (both positively and negatively) by the bypass.

Information gathered as part of the business surveys was collated into a database and analysed. A summary of the findings from this survey along with the survey questionnaire, are provided in Appendix B. Survey results have been used to inform the assessment of potential socio-economic impacts on businesses within Sections 5, 6 and 7.

2.6.2 Stopper surveys

A survey was carried out to supplement the findings of the business surveys and to understand the demographics, travel patterns and spending habits of people currently stopping in Singleton (referred to as 'stoppers'). The survey also aimed to capture information about if, or how, stoppers might change their behaviour once the proposal is in operation.

The stopper surveys were carried out on weekdays and the weekend between Thursday 29 November and Tuesday 4 December 2018, during which time 257 stoppers were surveyed. Most of the stopper surveys were carried out between 8am and 6pm over these days.

The survey aimed to capture information from stoppers such as:

- Demographic and geographic information on the stopper (eg age, gender, residential address)
- Origin and destination of stoppers
- Method of travel to Singleton and number of passengers
- Level of knowledge about the proposal
- Reasons for stopping in Singleton
- Approximate duration of their stop in Singleton
- Activities carried out during the stop
- Approximate amount of money spent in Singleton during the stop
- How often they currently visit Singleton and likelihood of returning to visit Singleton if the proposal was operational.

The locations for the survey were determined through desktop analysis of rest areas and major businesses in Singleton that were anticipated to have high numbers of stoppers. Stoppers were approached by the proposal team and asked to complete the survey. Specifically, the survey was carried out at the following locations in Singleton:

- Rest area in Townhead Park, near the Singleton Visitor and Information Centre
- McDonald's, Maitland Road
- KFC, William Street
- Coles Express service station, George Street
- BP service station, George Street
- Caltex, McDougalls Hill, New England Highway.

Findings from the stopper surveys have been analysed and summarised in section 5.0 and Appendix C. In addition to the face to face stopper surveys, printed community updates (New England Highway – Singleton bypass, August 2018) were distributed by the proposal team. Community updates were distributed to both those who participated in the survey and those who did not.

2.6.3 Origin and destination survey

A vehicle origin and destination (OD) survey was carried out in Singleton by Austraffic on Wednesday 28 February 2018. The data was collected in 15 minute intervals between 5am and 9.30am and between 3pm and 7pm. The OD survey was carried out to gain a detailed understanding of trip patterns for both local residents within Singleton and determine the number of through traffic.

The survey included 33 count stations throughout Singleton and along all main access roads into the town centre, to ensure all vehicle trips were counted. At each count station the number of vehicles were counted and split into heavy and light vehicles. Licence plates used to provide information on the route the vehicles took. This data was used to estimate the number of vehicles travelling through Singleton on the New England Highway and local Singleton traffic. The location descriptions for each station included (for the purpose of this list the New England Highway is represented by NEH and road types abbreviated):

- NEH south of White Falls Ln
- NEH - Putty Rd south of Carrington St
- NEH north of Magpie St
- NEH - Bridgman Rd north of NEH
- NEH - Queen St east of Raworth St
- Cambridge St east of NEH
- Kent St east of NEH
- Market St east of NEH
- Goulburn St east of NEH
- Gipps St east of NEH
- Percy St east of NEH
- Boundary St east of NEH
- Howe St east of NEH
- Queen St west of Civic Ave
- John St south of Macquarie St
- York St east of Laurel Ln
- Orchard Ave south of NEH
- York St west of NEH
- Castlereagh St west of NEH
- Pitt St west of NEH
- William St west of NEH
- Hunter St west of NEH
- Elizabeth St west of NEH
- Macquarie St west of NEH
- Campbell St west of NEH
- Burn Ln off Ryan Ave
- Ryan Ave south of Burn Ln
- Retail Car Park off Gowrie St
- John St north of Newton St
- Magpie St west of NEH
- Maison Dieu Rd south of NEH
- Simpson Tce south of NEH
- White Ave north of NEH

The OD survey results are summarised in Section 6.5 of the REF.

2.7 Assessment of significance impacts

The socio-economic impacts associated with a bypass proposal are likely to vary broadly depending on the nature of the receptor and the degree of impact. These impacts may be both adverse (e.g. loss of local economic activity) as well as positive (e.g. Improving the town centre amenity and road safety).

Potential socio-economic impacts assessed in this SEIA include:

- Community cohesion impacts
- Amenity impacts such as noise, air quality and visual impacts
- Access and connectivity impacts
- Impacts to social infrastructure
- Impacts to community identity, values and aspirations (construction)
- Business impacts
- Economic impacts.

Figure 2-2 outlines the assessment framework that was used to determine the significance of socio-economic impacts.

The significance of each potential socio-economic impact during the construction and operation of the bypass was assessed as a function of the magnitude of the impact, based on the spatial extent, duration and severity of that impact, and the sensitivity of potentially affected stakeholders. This approach is aligned with recent guidance from NSW Roads and Maritime Services (EIA-N05) and the Department of Planning and Environment (DPE) with regard to social impact assessment (NSW DPE, 2017).

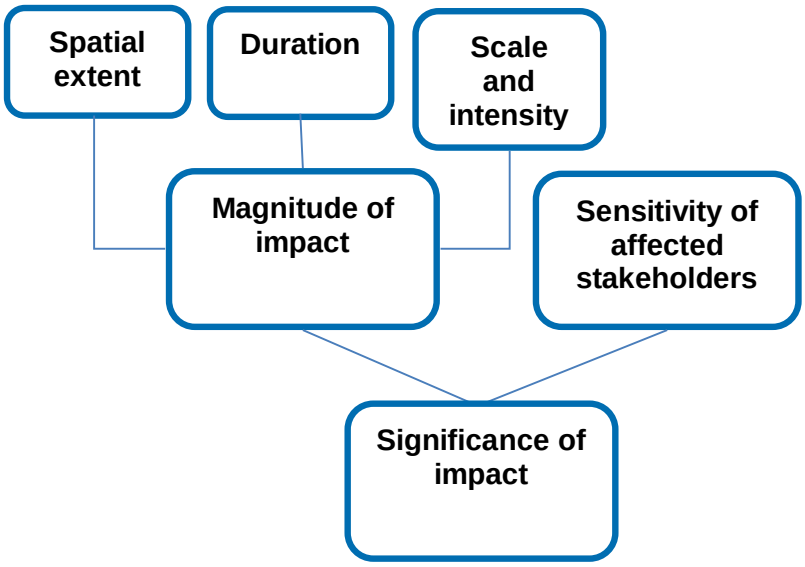

Figure 2-2 Assessment framework for determining significance of socio-economic impacts.

The criteria for assessing each impact would be established based on:

- **Magnitude of impact**, which is made up of:
  - Scale and intensity (the types of works, operational uses and built form etc)
  - Spatial extent (e.g. the geographical area affected which may be local, suburb, regional, State, International or to community groups etc)
  - Duration (short, medium or long-term, hours of works, frequency, reversibility etc).
- **Sensitivity of affected stakeholders**, which is defined by the susceptibility or vulnerability of people, receivers or receiving environments to adverse changes caused by the impact, or the importance placed on the matter being affected.

The above methodology is not applied to positive impacts however these are assessed and discussed as appropriate.

Table 2-1 was used to identify the magnitude of an impact, with regard to its spatial extent, duration and severity. This was informed by survey, baseline and background data as well as professional judgement.

Table 2-1 Example of magnitude levels and their constituent factors

Magnitude	Example
Negligible	No discernible positive or negative changes caused by the impact. Change from the baseline remains within the range commonly experienced by receptors.
Low	A discernible change from baseline conditions. Tendency is that the impact is to a small proportion of receptors over a limited geographical area and mainly within the vicinity of the proposal. The impact may be short term or some impacts may extend over the life of the proposal.

Magnitude	Example
Moderate	A clearly noticeable difference from baseline conditions. Tendency is that the impact is to a small to large proportion of receptors and may be over an area beyond the vicinity of the proposal. Duration may be short term to medium or some impacts may extend over the life of the proposal.
High	A change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent.

In assessing the level of significance of impacts, consideration was given to:

- The range of potential direct and indirect impacts during construction and operation
- Cumulative impacts with other proposals
- Whether potential impacts may be positive, negative or neutral.

Table 2-2 was used to identify the sensitivity of potentially affected stakeholders, based on the ability of stakeholders to adapt to change, their vulnerability, the level of concern raised in feedback during community and stakeholder consultation or change to community identity, values, or goals.

Table 2-2 Example of sensitivity levels and their constituent factors

Sensitivity	Example
Negligible	No vulnerability and able to absorb or adapt to change. Issues not raised in feedback during community and stakeholder consultation, or would not result in change to community identity, values, or goals.
Low	Minimal areas of vulnerabilities and a high ability to absorb or adapt to change. Issues rarely raised in feedback during community and stakeholder consultation, or minor change to community identity, values, or goals.
Moderate	A number of vulnerabilities but retains some ability to absorb or adapt to change. Issues raised in feedback during community and stakeholder consultation, or moderate change to community identity, values, or goals.
High	Multiple vulnerabilities and/or very little capacity to absorb or adapt to change. Issues raised in feedback from a number of community members and stakeholders during consultation or significant change to community identity, values, or goals.

The assessment matrix provided in Table 2-3 has been used to determine the significance of each social impact as a function of the magnitude of the impact and the sensitivity of potentially affected stakeholders.

Table 2-3 Grading matrix to assess the significance of socio-economic impacts

Sensitivity	Magnitude			
	High	**Moderate**	**Low**	**Negligible**
High	High impact	High-Moderate	Moderate	Negligible
Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
Low	Moderate	Moderate-Low	Low	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

3 Description of the existing environment

This section provides an overview of the socio-economic characteristics of the local and regional study area with regard to the demographic profile, social infrastructure, business and transport services, community values and relevant local plans and strategies. Social infrastructure and land use zoning within proximity to the proposal are shown on Figure 3-5.

Based on the availability of data provided by the ABS, the study area for the assessment of socio-economic impacts would be the two groups identified in Section 2.2 which include the Singleton SA2 (the local study area) and the Singleton LGA (the regional study area). Data for the broader State of NSW is provided for context. Where relevant, information from the 2006, 2011 and 2016 Censuses has been provided to show demographic changes and trends over time for the local and regional study areas.

3.1 Strategic context

3.1.1 State and national strategic setting

The New England Highway forms part of the inland Sydney-Brisbane Corridor of the National Land Transport Network (NLTN). This transport network is funded by the Australian and State governments and is recognised for its strategic importance to national and regional economic growth, development and connectivity.

Traffic flow along the inland Sydney-Brisbane Corridor route is currently impeded by heavy vehicle traffic. The capacity and amenity of the route is expected to be put under further pressure as regional growth continues. The Australian and State government strategic documents relevant to the proposal are described in Chapter 3 of the REF (Project need and options considered).

3.1.2 Local and regional strategic setting

The New England Highway is a major freight and commuter route, passing through Singleton and forming the main road access through the town and to the town centre. The route allows for the transport of goods to domestic and international markets via Newcastle and Sydney. Due to mining activities in the region, the route also accommodates the transport of mining equipment and vehicles, which are often oversize and/or over-mass vehicles. Average daily traffic volumes indicate that up to 28,000 vehicles use the highway through Singleton each day, with around 15 per cent of these being heavy vehicles (Roads and Maritime, 2016).

The plans and strategies relevant at a local and regional level are outlined below.

Hunter Regional Plan 2036

The *Hunter Regional Plan 2036* provides the strategy necessary to deliver the vision for the Hunter region. The Plan sets priorities and provides a direction for regional planning decisions. It focuses on new housing and jobs and targets growth in strategic centres and renewal corridors close to transport to deliver socio-economic benefits. It sets in place line-of-sight land use planning for the region, regional districts like the Greater Newcastle metropolitan area and each council area including Singleton.

According to the *Hunter Regional Plan 2036*, the future of Singleton lies in growing and diversifying its industry base (including primary industries), improving its housing product mix and minimising land use conflict. Identified priorities for Singleton include maintaining its role providing administrative, retail, commercial, education and health services and to improve the connectivity of major transport corridors.

The proposal would assist in achieving a number of these outcomes, as it would improve connectivity of communities and industries, improve freight connections to markets and provide better links between the Upper Hunter and Lower Hunter regions.

Singleton Community Strategic Plan – Our Place: A Blueprint for 2023

Singleton Council's Community Strategic Plan Our Place: A Blueprint for 2023 was endorsed by Council on 17 June 2013. The plan is based on four pillars identified by the Singleton community that outlines the vision of the community. Local issues and desires identified by the community during the development of the Community Strategic Plan include the following:

- More affordable housing and a diversification of the local economy so it isn't dependent on mining
- Achieving a balance between mining, agriculture and the environment
- Improved public transport that is accessible and practical
- Investment in alternate energy options, improved flood plain management and the management of animal pests.

Singleton's local economy has also been significantly driven by mining. Mining accounts for about 23 per cent of the towns labour force. Approximately 33 per cent of workers live locally with thousands commuting to Singleton every day to work. There is need for more employment opportunities outside of mining, and a desire to create a greater sense of place in a community with a large population of transient workers. Activities associated with mining have also caused increased traffic congestion and pressure on the local roads and associated infrastructure. A bypass around the Singleton town centre and safe road networks were also desired by the community.

The strategies offered by Singleton Council related to these concerns include:

- Improve transport options within the community and region to ensure reliability, safety and affordability
- Partner to improve our road and infrastructure systems
- Provide and promote services and facilities that meet the needs of the community through various stages of life
- Partner with industry to create Singleton as an alternate energy hub
- Collaborate to protect, enhance and improve the towns environment
- Develop an economic diversification strategy.

The proposal would directly address the desire for a bypass around the Singleton town centre and safe road networks, as well as reduce the traffic congestion and pressure on local roads and associated infrastructure caused by the mining activities.

New England Highway Draft Corridor Strategy 2016

The New England Highway Draft Corridor Strategy (NSW Government, 2016) sets out the 20 year plan to manage and guide the development of the road corridor to improve safety, traffic efficiency and sustainability. The Strategy sets out the short-term priorities which include deciding on a preferred option for a bypass of Singleton and preserving the corridor in the Singleton LEP. The Strategy will encourage communities to grow around a hub-and-spoke network of economic regions, linked by key freight and service routes to markets and suppliers in major cities. They will focus on their competitive advantage in agriculture, mining, primary resource manufacturing and the visitor economy.

The proposal would assist in delivering the preferred option for a New England Highway bypass of Singleton which would also improve safety and traffic efficiency on this route.

Singleton Land Use Strategy

The *Singleton Land Use Strategy* (Singleton Council, 2008) outlines key land use policies and principles for the Singleton LGA. This Strategy notes that increased traffic along the New England Highway would affect the adequacy and safety of existing traffic arrangements within Singleton and recommends that options for a bypass of Singleton be considered. The Strategy also recognised

that selecting a suitable bypass route would assist in future planning, particularly in deciding the location and layout of future residential and commercial land.

The proposal would contribute to the future planning of Singleton by reducing current levels of traffic congestion, improving road safety and increasing capacity of existing road infrastructure along the inland route. The proposal would also reduce potential crashes associated with heavy vehicles travelling through Singleton.

3.1.3 Other relevant local plans and strategies

Singleton Community Safety Strategy 2015 - 2020

The Singleton Community Safety Strategy 2015 – 2020 (Safety Plan) identifies ways aimed to further enhance actual and perceived safety in Singleton. It recognises the many agencies and individuals who contribute to safety and identifies opportunities for partnerships to ensure that a safe and secure community where individuals and families can prosper.

The Safety Plan summarises the key issues identified through consultation, provides an overview of reported crime data for Singleton and summarises the key themes. Analysis of that information informs the identification of priority action areas (primary and secondary) to promote and enhance safety in Singleton.

The Primary Priority Areas consist of:

- Mental health
- Neighbourhood factors
- Domestic violence
- Road safety.

The Secondary Priority Areas include:

- Perceptions of safety
- Homelessness
- Alcohol and other drugs
- Emergency planning
- Business and farm security
- Social and geographic isolation.

Singleton Council is already delivering various programs and working in partnership with other organisations to address many of the priorities listed above. One of these includes the Singleton Road Safety program, where council is developing and implementing infrastructure works to address road safety for local roads, which is identified as a Primary Priority Area.

Consistent with this program, the proposal has been designed in accordance with relevant safety standards and design criteria and would improve road safety for through and local traffic in Singleton. The diversion of traffic, especially heavy freight vehicles, to the bypass would reduce the volume of traffic travelling through Singleton and reduce the potential for crashes involving heavy vehicles.

Singleton Town Centre Masterplan (2013)

The Singleton Town Centre Masterplan (Masterplan) was prepared and adopted by Council in 2013. The key objectives for the Masterplan are to:

- Recognise and protect the role of the Singleton town centre
- Encourage opportunities for economic growth and new businesses
- Increase opportunities for town centre residential living, in particular identify opportunities for higher density living and affordable housing

- Ensuring high quality urban design outcomes
- Strengthen the association of the town centre with the Hunter River
- Identify consolidation and redevelopment opportunities
- Protect the character of residential precincts and heritage conservation areas.

The study area for the Masterplan is located in the town centre of Singleton and generally focused along the New England Highway and John Street, the traditional main street. Growth of the town centre is physically constrained by the parklands along the Hunter River, the railway line and the New England Highway. Revitalisation of the town centre will therefore need to be achieved through redevelopment of existing town centre areas.

Constraints of the Singleton town centre and ideas for improvement were identified by council and the community. Constraints included the size of the town centre, the public domain and the market limitations to investment. Another major constraint identified was around traffic, access and parking. Redevelopment potential along the New England Highway/George Street is limited by its function as a major national route, making John Street the natural focus for business. The town centre experiences a significant amount of traffic which affects public and private spaces, as well as the ability to access and move around the town centre

The proposal would address the traffic efficiency and access issues by improving the movement of heavy freight vehicles and other road users along the bypass, rather than through the town of Singleton.

The Masterplan identifies Singleton bypass as a key trigger for urban renewal of the town centre along New England Highway/George Street. While the Singleton bypass is only identified in the Masterplan, it is expected that the Singleton bypass will assist to resolve some identified constraints by making the town centre more accessible due to a decrease in traffic.

3.2 Socio-economic profile

3.2.1 Population and demographic profile

The demographic profiles of the local and regional study areas are informed by the 2016 Census of Population and Housing (2016 Census) (ABS, 2017), Australian Statistics Business Indicators (ABS, 2016) and the Bureau of Transport Statistics (Bureau of Transport Statistics (2015). This forms the socio-economic baseline against which potential impacts of the proposal are assessed for the population and demographic impacts.

The following sections describe the demographic profile of the local and regional study areas, as defined in Section 2.2. A detailed set of data tables is presented in Appendix A.

Population

In 2016, the local study area had a resident population of 16,136. Of the resident population in 2016, 50.8 per cent were male and 49.2 per cent female. The regional study area had a resident population of 22,987 in 2016, representing 0.29 per cent of the overall population of NSW.

Age

The median age of the Singleton local study area was 35 in 2016, lower than the median age of the Singleton regional study area (36) and NSW (38). The Singleton local study area and Singleton regional study area both recorded an increase in median age compared with the 2011 Census (33 and 35 respectively), consistent with the trend for NSW. The Singleton local and regional study areas both recorded similar results for younger (between 0-14 years) and older (over 65 years) aged groups, being around 21 per cent and 12 per cent, respectively. For these age groups, NSW recorded 18.5 per cent of people between 0-14 years and 16.3 per cent of people over 65 years.

Growth

The Singleton regional study area experienced a population growth of around 4.79 per cent between 2006 and 2016. The regional study area is forecast to continue to grow, with the NSW and LGA Population Projections for 2016 forecasting a 15.79 per cent growth for the LGA over the next 20 years, between 2016 and 2036 (refer Table 11-1 of Appendix A) (NSW Department of Planning and Environment, 2017).

No significant changes in population were recorded for the local study area between the 2011 and 2016 Censuses (refer Table 11-1 of Appendix A). No data was recorded for the local study area in the 2006 Census.

Language

In 2016, more than 90 per cent of the population within the local study area and the Singleton regional study area spoke English as the only language at home, compared to 68.5 per cent in NSW. Of the 5.3 per cent in the local study area and 3.11 per cent in the regional study area of the population who spoke another language at home in 2016, Afrikaans was the most common language spoken at home (23.97 per cent and 10.63 per cent, respectively) (see Table 11-1 in Appendix A).

Indigenous population

The Indigenous population of the regional study area increased between 2006 and 2016 by around 124 per cent (2.7 per cent of the overall population in 2006 (583 people) and 5.7 per cent in 2016 (1302 people)). No data for the local study area was recorded in 2006, however between 2011 and 2016 the Indigenous population in the Singleton regional study area increased by around 45.32 per cent (see Table 11-1 in Appendix A).

3.2.2 Socio - Economic Indices for Areas (SEIFA)

The Socio-Economic Index for Areas (SEIFA) (ABS, 2012) is produced by the ABS as an indicator of relative socio-economic advantage and disadvantage. SEIFA broadly defines relative socio-economic advantage and/or disadvantage in terms of people's access to material and social resources, and their ability to participate in society. SEIFA aids in providing an assessment of the welfare of Australian communities and helps in determining and prioritising areas that require funding and services.

The SEIFA publication consists of four indexes. The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) and the Index of Economic Resources (IER) have been used for this assessment in accordance with guidance presented in the Practice Note.

Index of Relative Socio-economic Advantage and Disadvantage

The IRSAD assesses the socio-economic conditions of people and households within an area, including both relative advantage and disadvantage measures. A low score indicates disadvantage. For example, an area could have a low score if there are many households with low incomes or few houses with high incomes. An index score of 1000 represents the median score across Australia (ABS, 2018).

The IRSAD statistics identify the Singleton LGA as scoring 974, indicating slight relative disadvantage for the Singleton LGA compared to the Australian average for 2016. The Singleton LGA also had decile of 7 for both Australian and NSW State rankings, indicating that 70 per cent of LGAs within Australia and NSW are more disadvantaged[1]. Due to the nature of the IRSAD ranking, measuring both advantage and disadvantage, this score could be attributed to high socio-economic advantage of some areas of the Singleton LGA, balancing out relative disadvantage in other areas of the LGA.

[1] Low deciles values (1-3) generally represent areas of disadvantage while high values (7-10) represent areas of least disadvantage. Areas are ordered from lowest to highest score, then the lowest 10% of areas are given a decile number of 1, next 10% are given a percentile number of 2 and this continues upwards. The highest 1% of areas has a percentile of 100 (ABS, 2018).

Index of Economic Resources

The IER summarises variables relating to the financial aspects of socio-economic advantage and disadvantage by summarising variables related to income and wealth. Areas with higher scores generally have relatively greater access to economic resources, with higher incomes and/or wealth, compared to areas with lower scores. This index excludes education and occupation variables because they are not direct measures of economic resources. According to the IER interactive map provided by the ABS, the Singleton LGA area is in the Quintile 5 area and has an 84 IER percentile and a decile of 9, which is close to the 'most advantaged' range (ABS, 2018).

3.2.3 Housing

Dwelling structure

The majority of the populated dwellings within the local study area, the regional study area and NSW are separate houses (refer Table 11-4 of Appendix A). The dwelling rates of flats and apartments have declined in both the local and regional study area as opposed to NSW which has had an increase between 2006 and 2016. There has been a decrease in flats and apartment ownership which could be as a result of the mining downturn. This has resulted in a loss of over 5000 jobs in the Hunter region. Many local businesses are focused on servicing the mining sector and have declined as a result of this (Singleton Economic Development Strategy, 2015). Unoccupied private dwellings have also increased which could be linked to the downturn.

Home ownership and household structure

As shown in Table 11-5 in Appendix A, family households are the dominant household structure in the local study area. Across NSW this living arrangement covers around 75 per cent of the population. Over half of the population in the local study area owned or were in the process of buying a house. Renting rates increased over the 10-year period (2006 to 2016) in the regional study area and in the five year (2011 to 2016) period in the local study area.

3.2.4 Employment

Employment status

Regarding the workforce in the local study area, 60.3 per cent was employed in full time occupations in 2016, compared to 59.5 per cent in the regional study area and 59.2 per cent in NSW. Of the local study area's workforce, 27.9 per cent was employed in part time occupations, compared to 28.9 per cent in regional study area and 29.7 per cent in NSW. The unemployment rate in the local study area was 6.9 per cent, compared to 6.11 percent in the regional study area and 6.3 percent in NSW. This is slightly higher when compared to NSW.

Employment by industry sector

As represented in Table 3-1 and in Appendix A, approximately 25 per cent of the jobs within the local study area were concentrated in the mining sector in 2016. Comparable figures for the Singleton regional study area and NSW are 23.4 per cent and 0.95 per cent respectively. About 32 per cent of jobs in the local study area are concentrated in retail, healthcare, public administration and accommodation and food services. Comparable figures for the regional study area and NSW are 29.35 per cent and 35 per cent respectively in 2016. Other than mining, employment in the local study area is not concentrated in any one or group of sectors.

At the 2016 Census, 7570 persons were employed within the Singleton local study area, of whom 4293 were employed in mining, retail, accommodation and food services, public administration and safety and health care and social assistance. This represents 56 percent of the Singleton local study area. The Singleton Military Area is also located just outside of the township, and much of this employment is related to servicing this sector. The prominence of the healthcare and social assistance services sector suggests a link to the retiree market.

Table 3-1 Employment by industry for 2016

Industry	Local study area (Singleton SA2)		Regional study area (Singleton LGA)		NSW	
	No. persons	%	No. persons	%	No. persons	%
Agriculture, Forestry and Fishing	95	1.25%	407	3.76%	72,625	2.15%
Mining	1879	24.82%	2531	23.39%	31,736	0.94%
Manufacturing	315	4.16%	495	4.57%	197,331	5.84%
Electricity, Gas, Water and Waste Services	230	3.04%	291	2.69%	31,881	0.94%
Construction	440	5.81%	678	6.27%	282,491	8.36%
Wholesale Trade	163	2.15%	236	2.18%	103,722	3.07%
Retail Trade	592	7.82%	808	7.47%	326,396	9.66%
Accommodation and Food Services	602	7.95%	819	7.57%	239,222	7.08%
Transport, Postal and Warehousing	209	2.76%	328	3.03%	158,760	4.70%
Information Media and Telecommunications	30	0.40%	47	0.43%	73,398	2.17%
Financial and Insurance Services	72	0.95%	118	1.09%	167,259	4.95%
Rental, Hiring and Real Estate Services	110	1.45%	153	1.41%	59,652	1.76%
Professional, Scientific and Technical Services	205	2.71%	305	2.82%	274,078	8.11%
Administrative and Support Services	312	4.12%	454	4.20%	117,482	3.48%
Public Administration and Safety	621	8.20%	719	6.64%	204,173	6.04%
Education and Training	458	6.05%	648	5.99%	282,568	8.36%
Health Care and Social Assistance	599	7.91%	829	7.66%	422,195	12.49%
Arts and Recreation Services	60	0.79%	81	0.75%	51,775	1.53%
Other Services	337	4.45%	481	4.44%	124,477	3.68%
Inadequately described/Not stated	241	3.18%	395	3.65%	159,108	4.71%
Total	**7570**	**-**	**10,822**	**-**	**3,380,332**	**-**

Percentages may not add to 100% due to rounding

3.2.5 Journey to work

As shown in Table 3-2 and in Appendix A, the vast majority of the population in the local study area uses a car to travel to work, as is the case with residents of regional study area and NSW. Of those persons using one mode of transport travelling to work, approximately 85 per cent of the local study area population uses a car, compared to 85.6 per cent of the regional study area. The use of a car to travel to work is also the most popular method used in NSW and is approximately 72 per cent.

Table 3-2 Journey to work (one mode of transport only) 2016

Transport method	Local study area (Singleton SA2)		Regional study area (Singleton LGA)		NSW	
	No. persons	%	No. persons	%	No. persons	%
Train	6	0.10%	7	0.10%	252,786	9.30%
Bus	24	0.40%	26	0.30%	133,903	4.90%
Ferry	0	0.00%	0	0.00%	7752	0.30%
Tram (includes light rail)	0	0.00%	0	0.00%	2732	0.10%
Taxi	12	0.20%	11	0.10%	6694	0.20%
Car, as driver	5462	84.90%	7,566	85.60%	1,953,399	71.60%
Car, as passenger	374	5.80%	472	5.30%	144,820	5.30%
Truck	74	1.20%	122	1.40%	32,908	1.20%
Motorbike/scooter	45	0.70%	72	0.80%	21,159	0.80%
Bicycle	26	0.40%	26	0.30%	23,332	0.90%
Other	118	1.80%	137	1.60%	18,811	0.70%
Walked only	304	4.70%	386	4.40%	130,957	4.80%
Total one method	**6433**	**-**	**8834**	**-**	**2,729,260**	-

Percentages may not add to 100% due to rounding

3.2.6 Place of work

As shown in Table 3-3 and in Appendix A, with the exception of mining and agriculture, the highest employment density is located within the Singleton Township which is the local study area. The regional study area, outside of the township/local study area, is where the majority of the mining, manufacturing, wholesale trade and agricultural jobs are located. Mining employs the greatest number of people, with 1490 people employed in the local study area and 5135 people in the regional study area.

Table 3-3 Place of work per industry between the local and regional study areas

Industry	Local study area (Singleton SA2)	Regional study area (Singleton LGA)
Retail trade	886	46
Agriculture	105	350
Mining	1490	5135
Manufacturing	363	399
Electricity, gas, water	94	27
Construction	520	429
Wholesale trade	155	228
Accommodation and food services	703	176
Transport postal and warehousing	290	100
Information media and telecommunications	47	3
Financial and insurance services	121	12
Rental, hiring and real estate	174	28
Professional, scientific and technical services	278	78
Administrative and support services	468	271

Industry	Local study area (Singleton SA2)	Regional study area (Singleton LGA)
Public administration and safety	995	67
Education and training	619	101
Health care and social assistance	797	18
Arts and recreation services	61	12
Other services	455	229

3.2.7 Vehicle ownership

As shown in Table 3-4 and in Appendix A, around 40 per cent of occupied private dwellings had two motor vehicles garaged or parked at their address in the local and regional study areas. In the local study area around 32 per cent of occupied private dwellings had one registered motor vehicle, 14 per cent had three registered motor vehicles and seven per cent had four registered motor vehicles. The regional study area had similar results where 28 per cent of occupied private dwellings had one registered motor vehicle, 16 per cent had three registered motor vehicles and approximately 10 per cent had four registered motor vehicles.

Table 3-4 Vehicle ownership count of private occupied dwellings 2016

	Category	Local study area (Singleton SA2)		Regional study area (Singleton LGA)		NSW Average	
		Number	%	Number	%	Number	%
Social Characteristics	**No motor vehicles**	266	4.75%	288	3.72%	239,625	9.20%
	One motor vehicle	1777	31.75%	2146	27.72%	946,159	36.33%
	Two motor vehicle	2215	39.58%	3078	39.76%	887,849	34.09%
	Three motor vehicle	785	14.03%	1248	16.12%	283,044	10.87%
	Four motor vehicle	389	6.95%	742	9.59%	152,005	5.84%
	Not stated	160	2.86%	241	3.11%	95,623	3.67%

Percentages may not add to 100% due to rounding

3.3 Social infrastructure

Social infrastructure comprises social services or facilities that are used for the physical, social, cultural or intellectual development or welfare of the community. Social infrastructure includes educational facilities, childcare centres, hospital and medical facilities, aged care, sporting and recreational facilities, community halls, clubs, and libraries, and services, activities and programs that operate within these facilities. Open spaces, parks and sporting fields that support sport, recreational and leisure uses are also identified as social infrastructure.

Social infrastructure facilities generally operate at a local, district and/or regional level and are defined by the scale of the population catchment they serve. Social infrastructure can often be classified as a sensitive receiver and may be directly or indirectly affected by the proposal.

This section provides an overview of key social infrastructure located within the local study area and identifies those located within 400 metres of the proposal (refer to Figure 3-5). Under the *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004,* a distance of 400 metres is considered to be the reasonable maximum walking distance between residents and social infrastructure, including community services, areas of open space and recreation, and local businesses. In an urban environment, walking a distance of up to 400 metres is also considered to be faster than driving (Australian Government Department of Infrastructure and Transport, 2013).

3.3.1 Educational facilities

Educational facilities located within the local study area include child care centres, primary schools, secondary schools and tertiary education facilities. The provision of educational facilities in Singleton meets the diverse needs for the community, including educational facilities for specific religious backgrounds and to meet special educational needs.

Educational facilities located within 400 metres of the proposal are identified in Table 3-5 and the remaining educational facilities located within the local study area are identified in Table 3-6.

Table 3-5 Educational facilities within 400 metres of the proposal

Educational facility type	Educational facility	Location	Distance from proposal boundary
High school	Australian Christian College	23 Maitland Road, Singleton	170 metres
Child care centre	Rainbows Early Learning Centre	23 Maitland Road, Singleton	170 metres (attached to the Australian Christian College)

The closest school to the proposal is the Australian Christian College School on Maitland Road. This school also shares the same area as the Rainbows Early Learning Centre, which is a child care centre. This school is located directly north of the proposed bypass southern connection.

Table 3-6 Educational facilities within the local study area, greater than 400 metres from the proposal

Educational facility type	Educational facility	Location	Distance from proposal boundary
Child care centre	Skallywags Preschool	154 Gardiner Circuit, Singleton Heights	660 metres
	Singleton Heights Preschool	8 Dorsman Drive, Singleton Heights	575 metres
	Singleton Pre-School Inc	56 York Street, Singleton	1.18 kilometres
	St Nicholas Early Education	Corner of Market and Boundary Street, Singleton	2 kilometres
Primary school	Singleton Heights Public School	1-13 Dorsman Drive, Singleton Heights	740 metres
	Singleton Public School	8 Hunter Street, Singleton	1.03 kilometres
	Singleton King Street Public School	8 King Street, Singleton	735 metres
High school	St Catherine's Catholic College	30-40 Combo Lane, Singleton	1.83 kilometres
	Singleton High School	75-81 York Street, Singleton	505 metres
Tertiary education	TAFE NSW Singleton	York Street, Singleton	775 metres

Child care centres and primary schools within the local study area would mainly draw students from the local area, accommodating residents within a local catchment around each facility. High schools and tertiary education facilities are more likely to draw from a wider catchment, particularly where they are situated close to public transport services or provide specialist education services.

3.3.2 Health, medical and emergency services facilities

Singleton is home to a number and variety of health care, emergency services and aged care facilities to meet the needs of local and regional communities. These include hospitals including ambulance services, medical centres, community health centres, an ambulance station and a police station.

Health care facilities in proximity to the proposal are listed in Table 3-7 and the health care facilities located within the local study area are listed in Table 3-8:

Table 3-7 Medical and emergency facilities within 400 metres of the proposal

Medical facility type	Medical facility	Location	Distance from proposal boundary
Optometrist	OPSM Singleton	37/1 Gowrie Street, Singleton	350 metres
Dentist	Pacific Smiles Dental Singleton	52-56 John Street, Singleton	370 metres

Table 3-8 Medical and emergency facilities within local study area, greater than 400 metres from the proposal

Medical facility type	Medical facility	Location	Distance from proposal boundary
Optometrist	AIE Optical Singleton	1/65 John Street, Singleton	400 metres
	Kevin O'Brien Optometrist	73 John Street, Singleton	422 metres
	The Eye Place	2/106 John Street, Singleton	600 metres
Physiotherapist	Singleton Physiotherapy and Allied Health	144 George Street, Singleton	998 metres
Dentist	MS Dental – Family Practice Singleton	99 John Street, Singleton	598 metres
	The Happy Tooth Singleton	126 John Street, Singleton	688 metres
	Singleton Dental Care	3/10 Pitt Street, Singleton	832 metres
	Hunter Valley Orthodontics	130 George Street, Singleton	1.08 kilometres
	Singleton Dental	3/127-129 John Street, Singleton	1.48 kilometres
Medical Practice	Coal Services Health	1 Civic Avenue, Singleton	1.88 kilometres
	Dangar Medical Practice	33 Danger Road, Singleton	1.11 kilometres
	Fairholme Surgery Singleton	16 Broughton Street, Singleton	1.59 kilometres
	Singleton Medical centre & Skin Clinic	4/122 George Street, Singleton	1.19 kilometres
	Raworth Medical	7/1 Laurel Lane Singleton, Singleton	710 metres

Medical facility type	Medical facility	Location	Distance from proposal boundary
	Singleton Heights Medical Practice	108 Blaxland Avenue, Singleton Heights	740 metres
	Hunter Imaging Group	Corner of Dangar Road and Boonal Street, Singleton	1.04 kilometres
Emergency Services	Singleton District Hospital	25 Dangar Road, Singleton	1.04 kilometres
	Fire & Rescue NSW Singleton Fire Station	1A Pitt Street, Singleton	770 metres
	Singleton Police Station	22 Hunter Street, Singleton	1.24 kilometres

Table 3-9 Identified health and emergency facilities in the local study area

Precinct	Provision	Facility types	No. of Facilities
Singleton Local Study Area	Local	Medical centres (including general practitioners, collection centres and specialist medical)	16
	District	Hospitals	1
	District	Fire stations	1
	District	Police stations	1

At the time of carrying out this SEIA, the local study area contained around 16 medical facilities and one district hospital (see Table 3-9). Emergency services were also dispersed across the local study area including a police, ambulance and fire station.

3.3.3 Aged care facilities

There are a number of aged care facilities within the local study area that meet the needs of the town's elderly population. No aged care facilities are located within 400 metres of the proposal. Table 3-10 lists the aged care facilities within the local study area.

Table 3-10 Identified aged care facilities in the local study area

Aged care facility	Name of facility	Location	Distance from proposal boundary
Aged care facility	Uniting Elizabeth Gates	128 Blaxland Avenue, Singleton Heights	1.11 kilometres
	Mercy Aged Care Services	24 Combo Lane, Singleton	1.98 kilometres
	Ourcare Services Ltd	3 Bathurst Street, Singleton	875 metres
	LCM Health Care	42 Bathurst Street, Singleton	460 metres

3.3.4 Places of worship

No places of worship are located within 400 metres of the proposal, however 12 places of worship are located within the local study area as shown in Table 3-11.

Table 3-11 Identified places of worship in the local study area

Places of worship	Name of church	Location	Distance from proposal boundary
Churches	Singleton Baptist Church	Corner of Bridgman Road and Gardner Circuit, Singleton Heights	1.08 kilometres
	St Luke's Anglican Church	2 Rawcliffe Street, Singleton	620 metres
	Christian Israelite Church	21 Bishopgate Street, Singleton	1.60 kilometres
	Generate Church	3 Campbell Street, Singleton	1.30 kilometres
	Anglican Church of Australia	40 High Street, Singleton	1.57 kilometres
	All Saints' Church	Bishopgate Street, Singleton	1.57 kilometres
	Singleton Evangelical Church	77 Casey Drive, Singleton	1.5 kilometres
	Singleton Presbyterian Church	7 Elizabeth Street, Singleton	1.47 kilometres
	Uniting Church in Australia	1 Church Street, Singleton	1.08 kilometres
	St Patrick's Singleton Church	28 Queen Street, Singleton	1.90 kilometres
	Singleton Seventh-day Adventist Church	2 Doyle Street, Singleton	1.06 kilometres
	Sacred Heart Church	37 Elizabeth Street, Singleton	1.26 kilometres

3.3.5 Community service facilities

Social infrastructure which supports community services, including community centres, halls, function centres and public libraries provides opportunities for:

- Educational, recreational and health services and programs
- Community, cultural and social activities.

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

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

Community facilities and halls located within 400 metres of the proposal are shown in Table 3-12.

Table 3-12 Community facilities and halls within 400 metres of the proposal

Community facility type	Community facility	Location	Distance from proposal boundary
Neighbourhood Centre	Singleton Neighbourhood Centre	Mary Street, Singleton	55 metres

Community facilities and halls located within the local study area are shown in Table 3-13.

Table 3-13 Community facilities and halls within the local study area, greater than 400 metres from the proposal

Community facility type	Community facility	Location	Distance from proposal boundary
Neighbourhood Centre	Singleton Public Library	8-10 Queen Street, Singleton	1.62 kilometres
	Singleton Civic Centre	12 Queen Street, Singleton	1.68 kilometres
	Singleton Family Support	Corner of Bishopgate and Market Street, Singleton	1.48 kilometres
	Singleton Girl Guides Hall Singleton Scout Group	54 York Street, Singleton 14 Edward Street, Singleton	615 metres
	Singleton Youth Centre	5 Pitt Street, Singleton	770 metres
	Singleton Senior Citizens Centre	1 Bathurst Street, Singleton	870 metres

3.3.6 Sporting and recreational facilities

The local study area has a number of passive open spaces and a number of sporting and recreational facilities which support a range of community activities. These are in the form of parks, reserves, playgrounds, sporting fields, swimming pools, gymnasiums and bowling clubs. The area also benefits from cycling and walking paths.

For the purposes of this assessment the above facilities have been categorised into parks/reserves (passive open spaces), playgrounds, sporting grounds/ovals (active spaces) and specialised sporting facilities. Specialised sporting facilities include facilities such as bowling clubs, tennis courts, golf courses, basketball courts and gymnasiums (which includes the public swimming pool in Singleton). It should be noted that many of the playgrounds and sporting facilities were located within the identified parks and reserves. Table 3-14 provides a summary of the sporting/recreational facilities within the Singleton local study area.

Table 3-14 Number of sporting/recreational facilities within local study area

Precinct	Facility type	No. of facilities
Singleton Local Study Area	Park/reserves	24
	Playgrounds	16
	Sporting grounds/ovals	9
	Specialised sports facilities	14

Table 3-15 shows the identified sporting/recreational facilities located closest to the proposal and are hence more likely to experience impacts from the construction and operation of the bypass.

Table 3-15 Identified sporting/recreational facilities within 400 metres of the proposal

Sporting facility type	Sporting facility	Location	Distance from proposal boundary
Park/reserve	Rose Point Park	Rose Point Road, Singleton	40 metres
	Alroy Park	7 Wakehurst Crescent, Singleton Heights	120 metres
	Matilda Park	8 Munro Lane, Singleton	288 metres
	Pritchard Park	John Street, Singleton	215 metres
	James White Park	White Avenue, Singleton	140 metres

Sporting facility type	Sporting facility	Location	Distance from proposal boundary
	Singleton off-leash dog Park	Darlington Road, Singleton	220 metres
Specialised sports facilities	Anytime Fitness Singleton	1/19 Ryan Ave, Singleton	110 metres
	KONG Au CrossFit Singleton	21/21 Ryan Ave, Singleton	52 metres
	Hunter Muay Thai & Mixed Martial Arts (MMA)	32 Victoria St, Glenridding	172 metres

Of the recreational facilities listed above, the parks are considered more likely to experience impacts from the construction and operation of the bypass.

Social infrastructure surrounding the proposal is shown on Figure 3-1, Figure 3-2, Figure 3-3, Figure 3-4 and Figure 3-5.

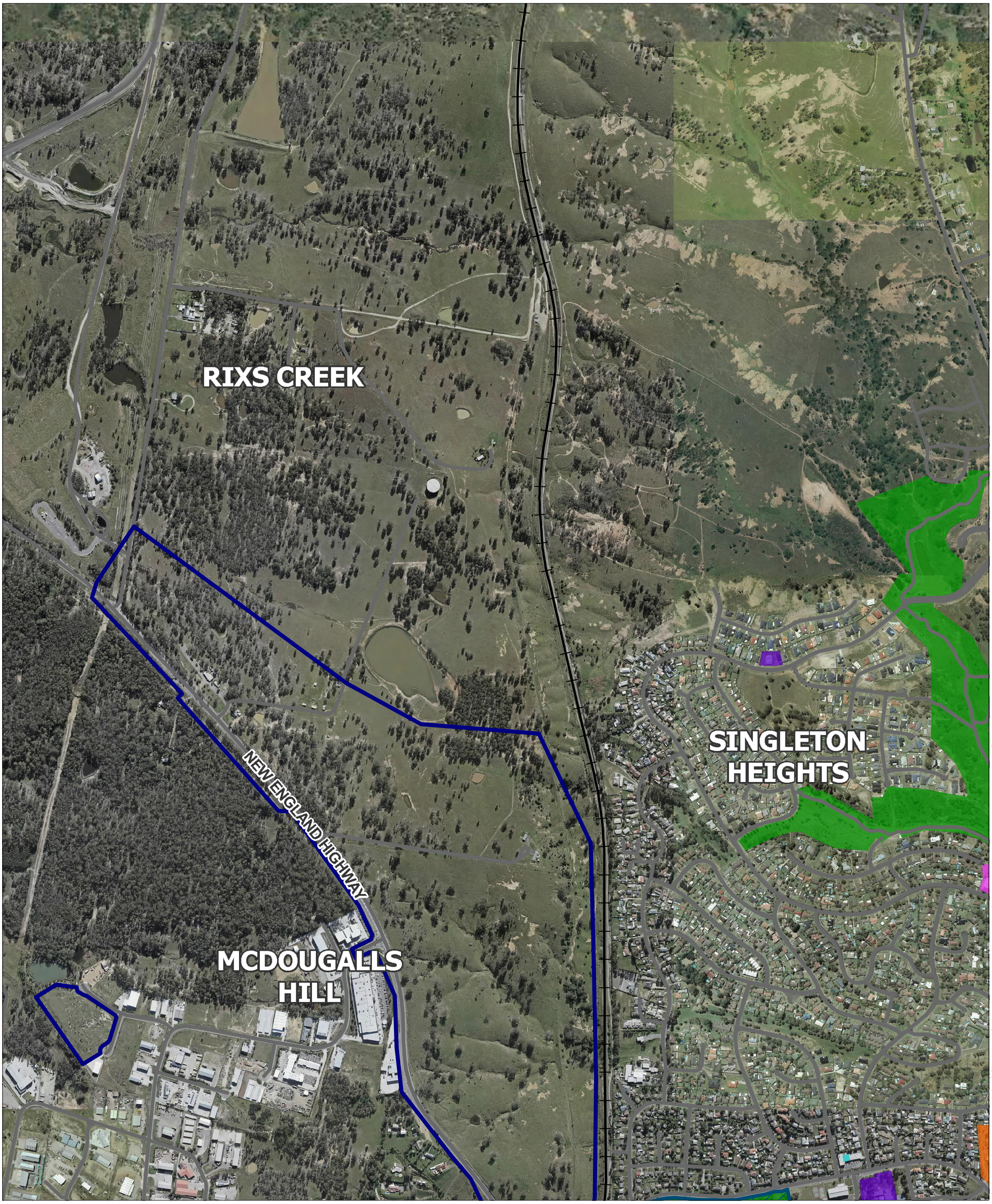

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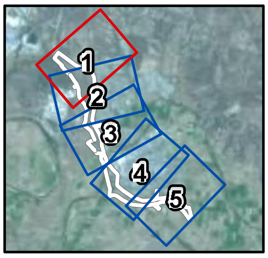
FIG. 3-1 SOCIAL INFRASTRUCTURE SURROUNDING THE PROPOSAL AREA

Legend

Proposal features
- Proposal area

Other features
- Railway line
- Roads
- Watercourse

Social infrastructure
- Aged care facility
- Community facility
- Educational facility
- Emergency Services
- Medical facility
- Places of worship
- Sport and recreation
- Within 400m of the proposal area



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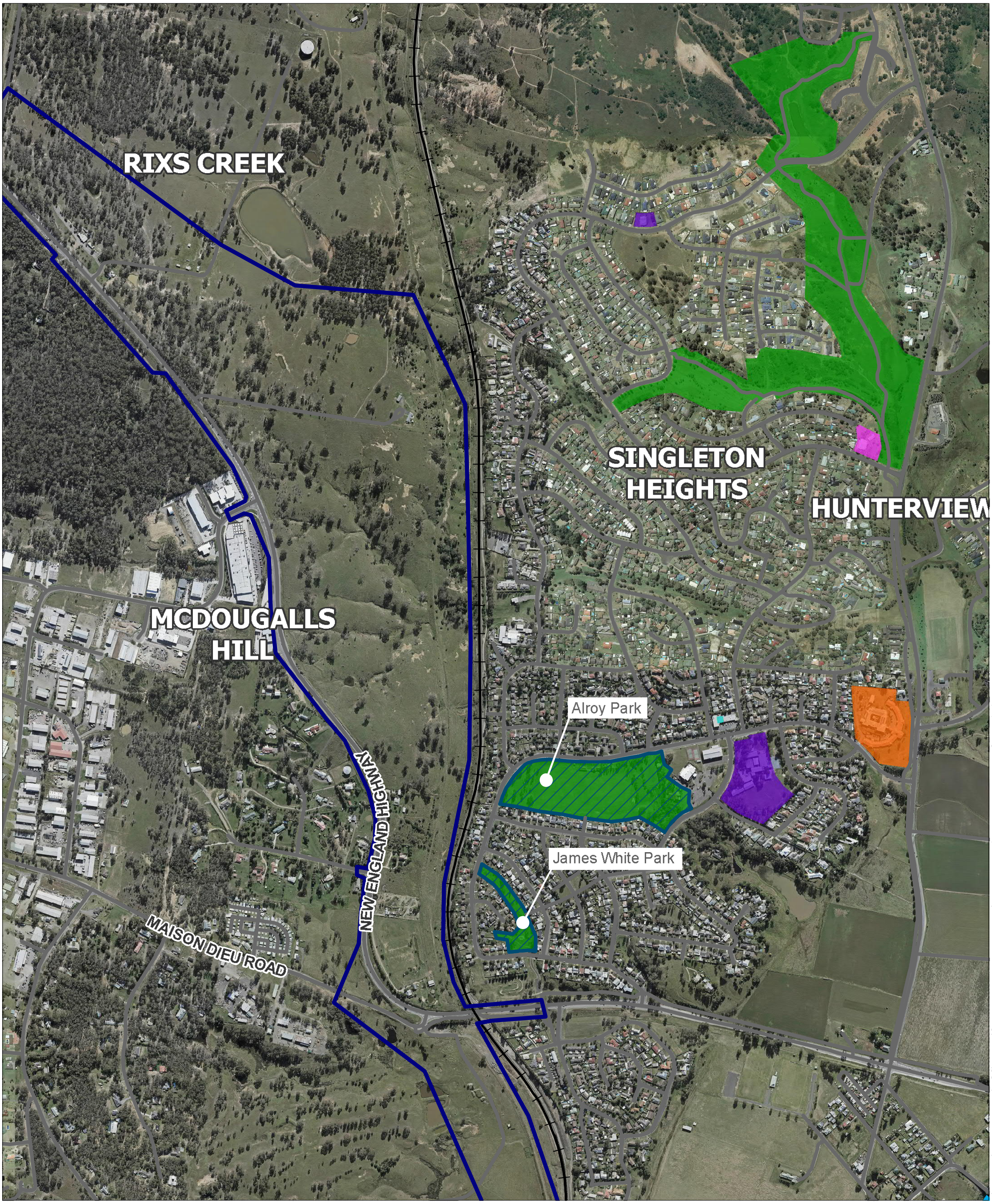

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FIG. 3-1 SOCIAL INFRASTRUCTURE SURROUNDING THE PROPOSAL AREA

0 200 400 Meters

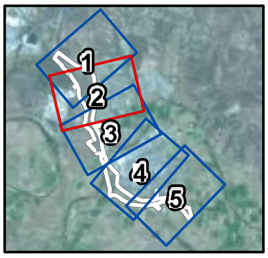
Legend

Proposal features
- Proposal area

Other features
- Railway line
- Roads
- Watercourse

Social infrastructure
- Aged care facility
- Community facility
- Educational facility
- Emergency Services
- Medical facility
- Places of worship
- Sport and recreation
- Within 400m of the proposal area

Source: LPI 2019. LPMA 2016
Imagery credit: (c) 2011 Spatial Services, (c) AAM Ptty Ltd 2019 and (c) 2008 SKM 2019



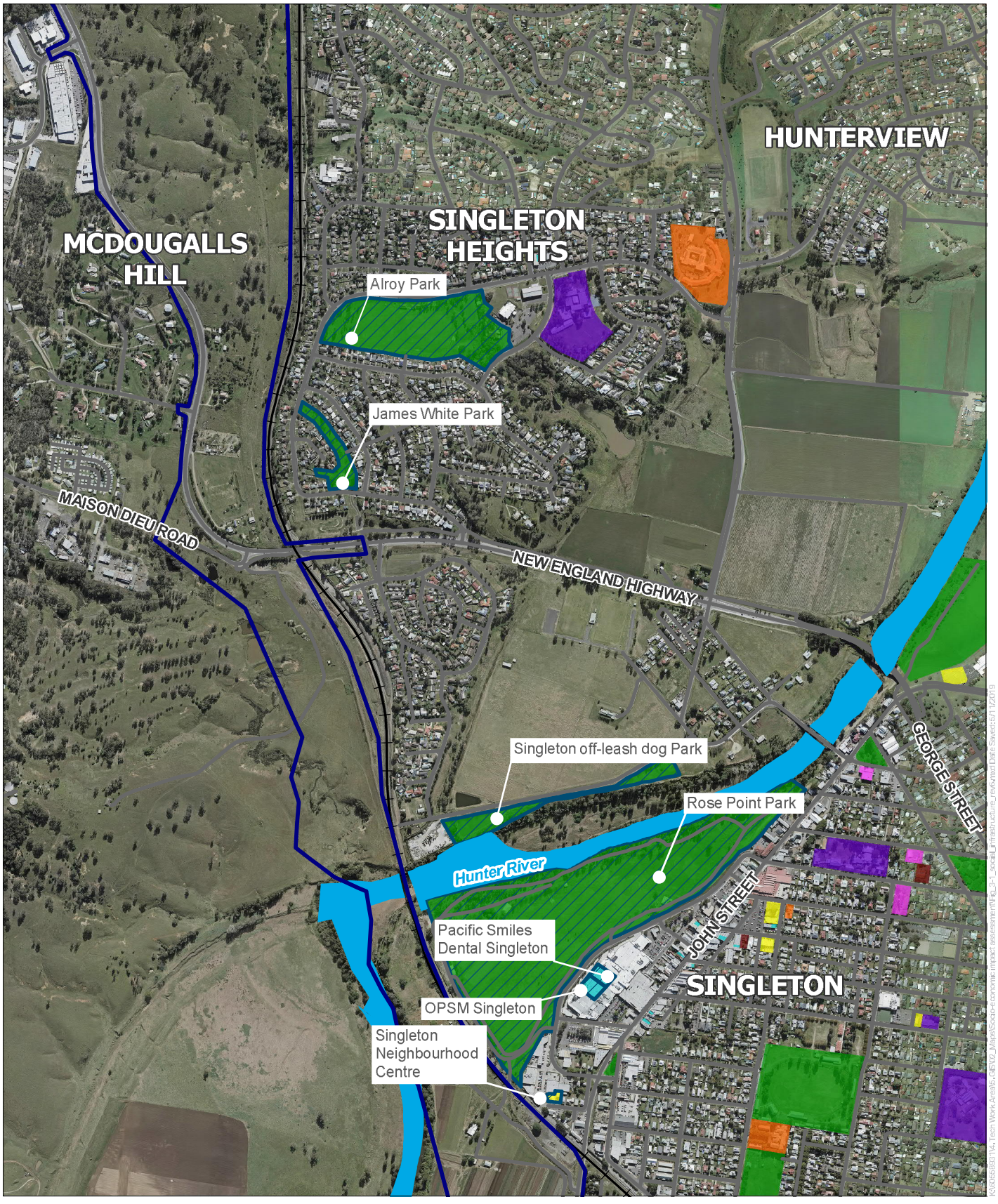


FIG. 3-1 SOCIAL INFRASTRUCTURE SURROUNDING THE PROPOSAL AREA

N

0 200 400 Meters

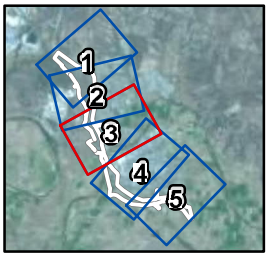
Legend

Proposal features
- Proposal area

Other features
- Railway line
- Roads
- Watercourse

Social infrastructure
- Aged care facility
- Community facility
- Educational facility
- Emergency Services
- Medical facility
- Places of worship
- Sport and recreation
- Within 400m of the proposal area

Source: LPI 2019, LPMA 2016
Imagery credit: (c) 2011 Spatial Services, (c) AAM Pty Ltd 2019 and (c) 2008 SKM 2019



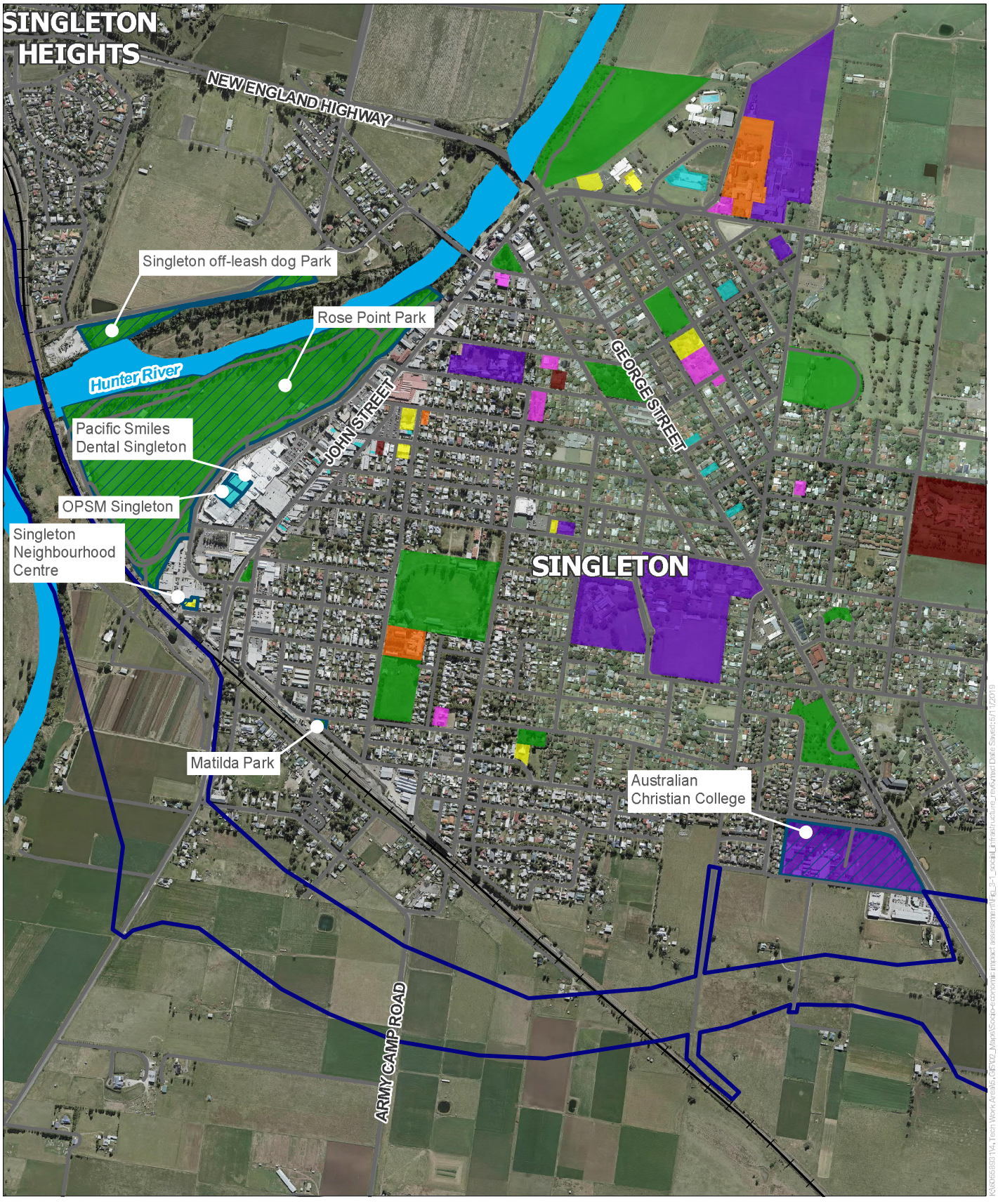


FIG. 3-1 SOCIAL INFRASTRUCTURE SURROUNDING THE PROPOSAL AREA

N

0 200 400 Meters

Legend

Proposal features
- Proposal area

Other features
- Railway line
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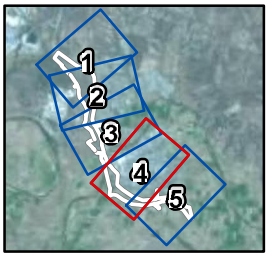

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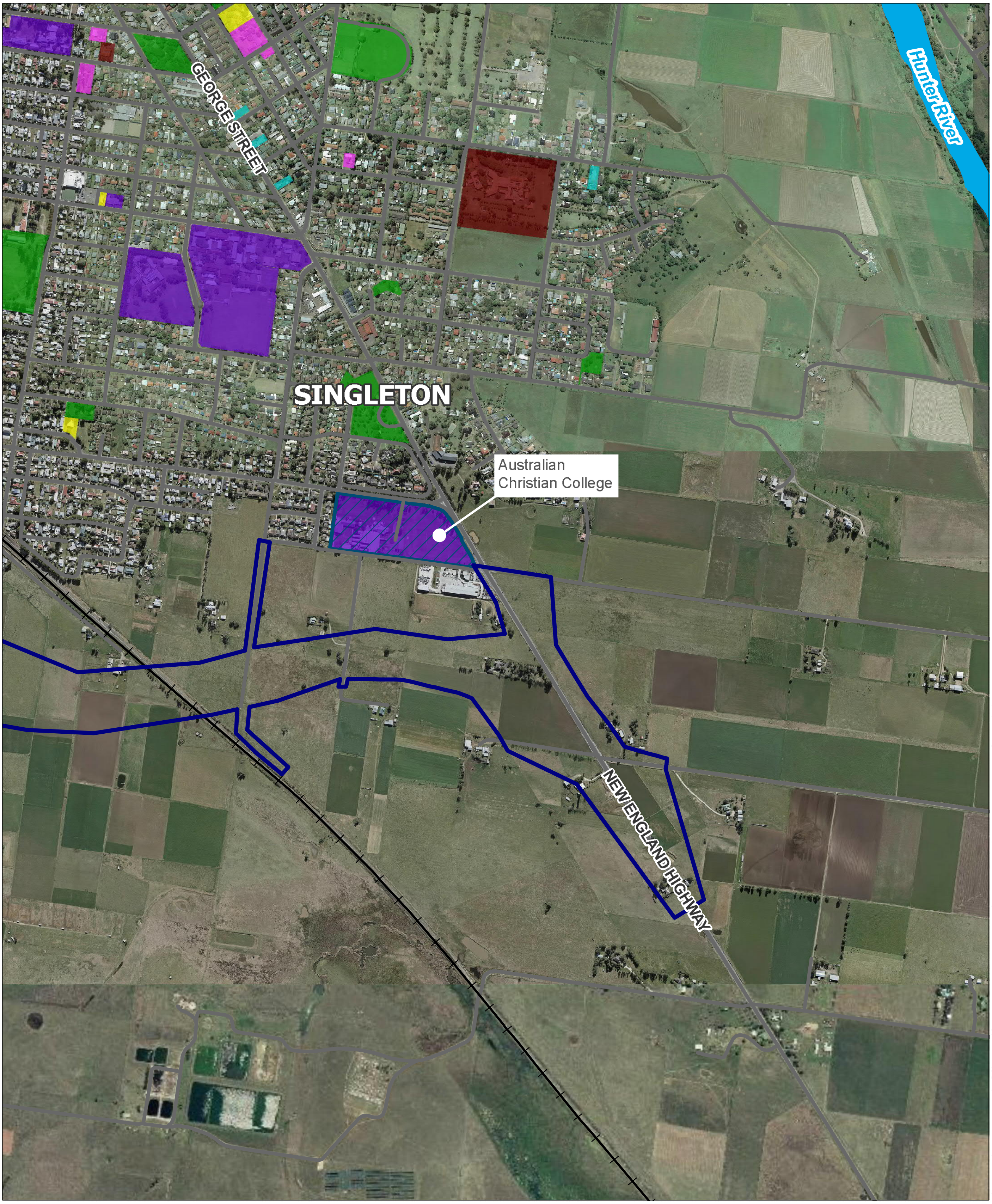

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FIG. 3-1 SOCIAL INFRASTRUCTURE SURROUNDING THE PROPOSAL AREA

N 0 200 400 Meters

Legend

Proposal features
- Proposal area

Other features
- Railway line
- Roads
- Watercourse

Social infrastructure
- Aged care facility
- Community facility
- Educational facility
- Emergency Services
- Medical facility
- Places of worship
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- Within 400m of the proposal area

Source: LPI 2019. LPMA 2016
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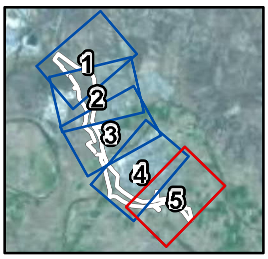

3.4 Employment centres

Singleton's economy is based primarily on mining, tourism, agriculture, retail, food and trade and defence given its proximity to coal mining with the Hunter Valley, proximity to the lower Hunter Valley wine region and history of cropping grazing industries.

Mining

Coal mining industries have played a significant role in Singleton's history since the late 1800s. Mining accounts for about one fifth of the resident labour force, directly employing around 2800 workers. Many employees commute to Singleton daily to work in one of the coal mines or their associated support industries (Singleton Council 2018).

Around 20 coal mines operate in the Singleton LGA/regional study area and produce approximately 57 million tonnes of coal annually. The mining industry has contributed to 36 per cent of local employment and creates $5.1 billion in regional output annually. The mining royalties generated and employment opportunities demonstrate the importance of this industry to Singleton's local economy (Singleton Council – Singleton Community Strategic Plan 2017-2027 2017).

Tourism

Singleton has the advantage of being geographically close to Newcastle and Sydney, two of the largest populations of NSW, and is a short drive from Pokolbin which is the centre of the Lower Hunter Valley wine region. That advantage, with its wine and food experiences, has translated into a well-developed visitor economy driven by a large day trip market and growing reputation for leisure events. The strong visitor profile has caused the progressive development of a large and diverse asset base for visitors which has allowed for a large range of wineries, a strong accommodation base, a number with conference and meeting facilities; along with quality golf courses. These visitor experiences are supported by the main service hubs of Singleton and Cessnock (Hunter Valley Visitor Economy Destination Management Plan – Part A 2014).

According to the Singleton Community Strategic Plan 2017-2027, 1.34 million visitors visit the Hunter Region annually. The tourism sector is therefore important to Singleton both in terms of economic activity and job creation. No tourism statistics are available for Singleton specifically.

Agriculture

The Singleton LGA region features a long history of cropping and grazing. The variety of soil landscapes including broad valley floor areas and alluvial soils support a diverse range of agricultural industries. The most common agricultural land use throughout Singleton is beef cattle grazing. Dairying and equine grazing enterprises are concentrated in areas that feature alluvial soils suitable for highly productive pastures and reliable access to water. Other grazing enterprises include sheep (for wool), prime lambs and smaller scale domestic goat grazing for meat or wool.

Singleton is also located in an important wine producing region and has over 40 vineyards growing a variety of grapes. Olive groves are also an important contributor to Singleton's agricultural economy.

Domestically, Singleton is close to the Sydney market for export and has connectivity to regions to the north, west and south, and the export capability available through the Port of Newcastle and Newcastle Airport. Singleton also has access to transport routes and markets to service the variety of agricultural industries via the Hunter Expressway, New England Highway, Golden Highway and regional rail links (Singleton Council 2018).

Retail accommodation and food services

Retail trade, accommodation and food services are vital industries in attracting visitors to Singleton, while supporting the local community (Singleton Council 2017). The retail market in Singleton comprises a traditional retail strip, with the prime location focussed along John Street and George Street. Characteristic of many country towns, hotels, pubs and retail stores are prominent building types. The area offers cafes, food and beverage outlets, bank branches,

gymnasiums/fitness centres and neighbourhood service retail functions, in addition to serving its adjacent housing and local businesses.

Additionally, there is a shopping centre known as Singleton Square located towards the western periphery of the Singleton Town Centre off John and Gowrie Streets. Singleton Square is anchored by Coles, Woolworths and Big W and contains around 40 specialty stores. An $11 million town centre revitalisation project was completed in October 2015. Singleton Square and Singleton Plaza located within the town centre provide both tourists and locals convenient access to major retailers and essential services.

Defence

The Australian Army School of Infantry is located at the Lone Pine Barracks which is eight kilometres south of the Singleton town centre. The Barracks cover approximately 14,000 hectares and is an important contributor to the local economy. Approximately 60 per cent of the base's military staff live locally with their families and six per cent own a local home (Hunter Valley Visitor Economy Destination Management Plan – Part A 2014).

3.4.1 Business centres

Singleton is strategically located in the centre of the Hunter Valley and is within easy reach of other major centres including Maitland, Newcastle and Sydney. The local/regional study area includes the Singleton town centre, Singleton Heights, McDougalls Hill and Mt Thorley Industrial Estate key business centres:

Singleton town centre

Singleton's town centre is the main commercial and retail centre for the local population and for visitors to the area. John Street, the main street, has three shopping centres providing access to major retailers and essential services. Along with the town square, these centres hold a collection of specialty and boutique shops.

The town centre also contains modern sports amenities and a cinema complex. In 2015, Singleton Council implemented the Singleton Town Centre Master Plan which had an objective to improve the main shopping and dining precinct. Singleton's town centre precinct has recently been refurbished and John Street now has a variety of vintage stores, cafes, pubs and restaurants.

Singleton Heights

The Singleton Heights area includes a small business cluster containing a supermarket and various take-away shops. Singleton Heights also has a Diggers/RSL club and is the only restaurant/club in this area of town.

McDougalls Hill

McDougalls Hill is Singleton's Industrial area/estate. This area contains various businesses including vehicle service and dealership type businesses, smash repairers, machinery repairers and manufacturers, steel and engineering suppliers and home improvement stores.

Mt Thorley Industrial Estate

This area is similar in nature to McDougalls Hill but is more focused on supporting the surrounding coal mines. This area also hosts construction and landscaping companies and equipment hire companies.

3.4.2 Industry value add

The metric of 'Industry value add' refers to the total value of goods and services produced by an industry, minus the cost of goods and services used in the production process. The industry value add is a refined measure of economic contribution than gross output as some industries have higher levels of output but require large amounts of input expenditure to achieve that (eg mining versus retail sales).

Table 3-16 represents the industry value add for each industry in the Singleton LGA. The data used to create this table was taken from Singleton Council's economic profile which was provided by REMPLANs. The data from this software is based on data sourced from the ABS 2016 Gross State Product and the June 2017 National Input Output Tables.

Table 3-16 Industry Value added by industry sector

Industry	Singleton LGA Industry Value Add ($ millions)
Mining	$2,438.908
Rental, hiring and real estate services	$267.731
Public administration and safety	$249.746
Construction	$169.776
Administrative and support services	$125.610
Manufacturing	$120.711
Health care and social assistance	$75.393
Wholesale trade	$73.479
Education and training	$70.671
Retail trade	$66.045
Agriculture, forestry and fishing	$62.199
Financial and insurance services	$58.045
Accommodation and food services	$57.993
Electricity, gas, water and waste services	$57.637
Other services	$50.236
Transport, postal and warehousing	$46.803
Professional, scientific and technical services	$45.374
Information media and telecommunications	$10.969
Arts and recreation services	$4.929
Total	$4,052.254

In the Singleton LGA, mining, rental, hiring and real estate and public administration and safety are the three largest generators of economic value. The rental, hiring and real estate and administration and safety industries are likely to benefit from the presence of the mining industry in the Singleton LGA due to their ability to provide support services to this industry.

The total value added by the Singleton economy is estimated at $4.052 billion. Singleton represents 8.98 per cent of the $45.106 billion value added in the Hunter Region, 0.75 per cent of the $539.359 billion value added in NSW and 0.25 per cent of the $1.642 trillion value added in Australia (REMPLAN economy 2018).

3.5 Access and connectivity

3.5.1 Road and freight network

The New England Highway is a state road that forms part of the inland Sydney to Brisbane road link. It experiences 18,000 to 28,000 vehicles per day within Singleton. This road forms the spine of the local traffic network, providing direct access to the Singleton town centre as well as connectivity to Muswellbrook to the north and Branxton to the south-east.

3.5.2 Public transport

Singleton is a key public transport interchange with rail and bus facilities provided at the Singleton railway station. Transport for NSW and Countrylink offer services to Singleton, which is located on the Hunter line. The bus network within Singleton provides connections between Singleton, Singleton Heights, Darlington, and Hunterview, and provides a town service around the Singleton town centre stopping at places such as the library and hospital. Bus services are also offered between Singleton and Maitland. Singleton is also serviced by a local taxi service.

3.5.3 Active transport network

Walking and cycle networks are present in the Singleton area, including across the Hunter River and connecting Singleton to Singleton Heights, Darlington and Hunterview.

3.6 Community identity, values and aspirations

The identification of community values and goals aids in the assessment of potential socio-economic impacts.

Community values are those that are shared by residents and visitors about a particular area, or about the enhancement of quality of life or sense of place. Physical aspects, such as heritage items, social infrastructure or local features (such as public art and trees) are generally highly valued by communities. Intangible elements such as neighbourhood identity, community safety, health and wellbeing, and community cohesion also contribute to community identity and values.

Community cohesion refers to the connections and relationships between individuals and their neighbourhoods. Levels of community cohesion and sense of belonging are said to be good where communities have access to a diverse range of local and regional infrastructure, barriers to movement are minimised and there are a variety of meeting places which encourage strong local support networks.

3.6.1 Community strategic plans

A review of community strategic planning documents relevant to Singleton LGA was undertaken to identify values and aspirations specific to the local and regional community.

The Singleton Community Strategic Plan 2017-2027 identifies strategic planning directions for the future of Singleton. Singleton Council developed this plan in partnership with state government agencies, groups and individuals within the Singleton community. The aim of the plan is to "set the course for a vibrant, progressive, sustainable, connected and resilient community" (Singleton Council 2017).

Through consultation which consisted of communication via online platforms, face to face and social media, the community of Singleton provided their ideas and aspirations for the future of Singleton. Key community values and aspirations identified in the plan include:

- *Singleton is a creative, vibrant, inclusive, safe and healthy community*
- *Singleton is a well-planned, sustainable, accessible and safe community with vibrant places and spaces*
- *We value, protect and enhance a sustainable environment*
- *We have an innovative, sustainable and diverse economy*
- *Singleton community is resilient, informed, connected and engaged*
- *An effective and efficient operational Council*
- *A highly functioning and progressive elected Council.*

The Singleton Community Strategic Plan 2017-2027 identifies five key strategic 'pillars' for the Singleton LGA. The five pillars have been developed to reflect the community's expectations. These strategic 'pillars' include:

- **Our People** – Aims to decrease crime rates, increase participation numbers in events and programs and increase healthy lifestyles
- **Our Places** – Aims to increase public transport access and increase community satisfaction with participation in and outcomes from strategic planning
- **Our Environment** – Aims to ensure compliance with water quality targets (drinking, effluent, river health), improve air quality, increase recycling, reuse and landfill diversion rates, decrease the occurrence of noxious weeds, decrease household energy and water consumption and increase participation rates in household/community education programs

- **Our Economy** – Aims to increase tourism visitation, increase in business counts, increase in Gross Regional Product and decrease unemployment
- **Our Leadership** – aims to increase employee engagement (trending towards 65 per cent) improving risk management by having zero harm to people, property and the environment.

The Singleton Community Strategic Plan 2017-2027 is to be supported by the Delivery Program 2017 – 2021 and the Resourcing Strategy.

The purpose of the Delivery Program 2017 – 2021 is to drive the medium-term action plan for how Singleton Council is going to turn the Singleton Community Strategic Plan 2017-2027 into reality over the next few years and to set the course for the next 10 years. For the five strategic 'pillars' outlined in the Singleton Community Strategic Plan 2017-2027, strategies have been developed and a number of deliverables have been proposed that reflect the community's expectations. Key strategies for the five key strategic 'pillars' for the Singleton LGA are outlined in Table 3-17.

Table 3-17 Key strategies to support the pillars

Key strategic pillar	Key strategies to achieve support the pillars
Our People	• Provide services and facilities that meet the needs of the community at different stages of life • Provide social recreational and cultural services which educate, inspire and entertain and to provide services for public health, healthy living and lifestyles • Improving services relating to health, education and security and to facilitate and support programs and activities which promote inclusion and celebrate diversity.
Our Places	• Provide safe and well-maintained facilities and infrastructure • Improve transport connectivity and support sustain alternatives • Provide safe and reliable water and sewer services • Facilitate land use planning and development outcomes which respect and contribute in a positive way to the community • Promote and facilitate sustainable village living.
Our Environment	• Collaborate to enhance, protect and improve our environment • Educate and advocate to improve air quality in Singleton • Promote efficient water and waste management and increase reuse and recycling • Collect and manage urban stormwater effectively • Manage and reduce risks from environmental pollution and disease • Increase the planning and preparedness for natural disasters.
Our Economy	• Attract new investment to increase the diversity and resilience of the Singleton economy • Support the capacity of Singleton businesses to be flexible, adaptable and prepared for change • Continue to support local tourism operators for the promotion of Singleton as a tourism destination

Key strategic pillar	Key strategies to achieve support the pillars
	• Inform and inspire our community to be prepared and embrace jobs of the future • Enhance relationships between local business, industry and government to set strategic economic goals • Seek funding to provide infrastructure programs, services or events which value add to the delivery of the objectives of Singleton 2027 • Facilitate the development of a night time economy for Singleton • Foster initiatives that strengthen Singleton brand identity.
Our Leadership	• Council's service delivery is aligned with our community's needs and delivered the best way possible • Services are provided by the right people, in the right jobs, with the right skills and attitudes at the right time • Provide accurate and timely communication to our community • Develop strong partnerships to deliver services • Improve the connectivity between the community, stakeholders and council to create an informed community • To lead, govern and regulate in an ethical, equitable and transparent way • Infrastructure, services, facilitated and council are managed in a financially sustainable way.

4 Review of bypass case studies

4.1 Key issues affecting bypassed towns

Reported socio-economic impacts associated with bypass projects have been reviewed to inform this SEIA. This section summarises the findings of the case study review, identifying the characteristics of the towns studied before the bypass and discovering the key issues encountered once the bypass was complete. The studies reviewed were as follows:

- Bureau of Transport and Communications Economics 1994, *Working Paper 11. The Effects on Small Towns of Being Bypassed by a Highway: A Case Study of Berrima and Mittagong*
- *Summary of highway bypass studies* (Leong, 2000)
- Urban Regional Planning Program, University of Sydney 2009, *The Karuah Highway Bypass, Economic and Social Impacts: The 5 Year Report*
- NSW RTA and University of Sydney, 2012*, Evaluation of the Economic Impacts of Bypass Roads on Country Towns: Final Report* (this report presents studies undertaken at Yass, Gunning and Goulburn)
- NSW RTA and University of NSW 2011, *Economic Evaluation of Town Bypasses: Review of Literature*
- NSW RMS 2012, *Foxground and Berry bypass Princess Highway upgrade: Technical paper: Socio-economic*.

The *Economic Evaluation of Town Bypasses study* (RTA and UNSW, 2011) identified a number of factors that influence the longer-term social-economic impact of highway bypasses in NSW. The review examined three key areas of highway bypass impacts – economic impacts, social impacts and community response and mitigation measures. The review found that:

Population size - small towns (population less than 2500) are generally at more risk of adverse economic impacts from a highway bypass compared to medium and larger towns, yet they continue to survive.

Economic base – towns with a higher level of dependence on highway trade experience greater economic impact than towns with a lower dependence level.

Distance from a larger economic centre

Some studies showed that being closer to a larger centre was seen as harmful to post-bypass recovery as motorists could use the bypass to quickly access the larger centre for highway related services. Highway dependent businesses seen as vulnerable to impacts from a bypass included service stations and restaurants. Studies of highway bypass impacts in NSW show similar findings, with service stations, food and beverage outlets being the most affected businesses, with accommodation establishments being less affected.

Longer-term traffic levels in medium or larger bypassed towns may approach those of pre-bypass levels, due to increased economic activity from local and regional customers and from stopping traffic.

Other external factors

Rural population decline, restructuring of industry and services and the number scale of chain retail stores may have more of an impact on the economy of a town than the introduction of a highway bypass. In the US, a highway bypass was found to bring about positive land use and land value changes for the bypassed community and for businesses on the main street, with new land use activity generated along the bypass route.

The social impacts of a highway bypass on towns have the potential to be positive, with the perception of improved quality of life and environmental amenity. Residents benefit from significant reductions in traffic flows through main streets and town centres, with improved access, safety and

parking. Air quality would also be improved due to the diversion of vehicles (and associated vehicle emissions) to the bypass.

Table 4-1 has been designed to provide a summary of each town represented in the case studies, focusing on identifying the key issues each faced throughout their associated bypass projects.

Table 4-1 Review of bypass case studies

Case Study Towns	Town characteristics before bypass	Key issues on bypass completion
Berrima and Mittagong (Bureau of Transport and Communications Economics 1994)	• Berrima and Mittagong were similar as their main industries were 'tourism' (provision of accommodation) • Berrima had a population of 655 in 1986 • Mittagong had a population of 4240 in 1986 • Berrima had well-preserved colonial buildings with tourist appeal • Mittagong served as a convenient stopping place for regional traffic of which a number of businesses were associated.	**Berrima:** • Tourist appeal was enhanced by eliminating heavy vehicle traffic • Noise declined and pedestrian safety increased • Reduction of heavy vehicle traffic made the town a 'nicer place to visit' based on a BTCE survey • The town's economy improved due to an increase in tourism, retailing businesses and employment. The bypass resulted in an increase in the number of tourism related businesses. **Mittagong:** • Traffic on the old Hume Highway declined since the bypass opening • The town's economy suffered in the short term, reducing sales in the tourism and retailing sector. Food shops and petrol stations were the most affected.
Karuah (University of Sydney 2009).	• The main sources of revenue derived from oyster farming and servicing passing motorists • Two sawmills on the outskirts of town provide additional employment • 41 per cent of all businesses in Karuah were totally or substantially reliant on passing motorists – accounting for 60 per cent of total employment in the town.	• 48 jobs were lost in one year after the bypass opened • 35 jobs were lost five years after the bypass opened • Service stations, food outlets/cafes/restaurants were seriously affected with a loss of 52 jobs since the opening of the bypass in 2004. Only seven of these jobs lost occurred between 2005 to 2009, indicating that the businesses mainly suffered within the first year of the bypass opening. • Businesses which made effective adjustments were able to stabilise themselves better than their competition. Adjustments included increased advertising, changing services and products and adjusting employment levels • Despite the negative effects on the town's economy, residents felt that Karuah had become a better place to live.

Case Study Towns	Town characteristics before bypass	Key issues on bypass completion
Yass, Gunning & Goulburn (RMS 2012)	**Yass** • Yass was used as a truck stop between Melbourne and Sydney. **Goulburn** • The town of Goulburn serviced the needs of a large resident population and its rural hinterland • Businesses were reliant on highway trade. **Gunning** • Businesses were reliant on highway trade	• Few businesses were affected in the longer-term in the post bypass environment. Many of the business adjustments in the post bypass environment now focus on advertising and promotion using internet media. **Yass:** • The town experienced a reduction in employment attributable to the bypass (93 jobs at 18 businesses) • Benefits occurred to the main street amenity through the removal of heavy vehicles and reduction in traffic • Development of services along the highway close to the Yass turn-off compensated in considerable part for job losses sustained by businesses dependent on highway related trade. **Goulburn:** • Impacts were not significant as job losses corresponded to less than one per cent of total employment • The removal of heavy vehicles and reduction in traffic improved the main street amenity. **Gunning** • 5 jobs were lost at Gunning because of the bypass mainly because businesses at the time were orientated more to serving the needs of the local population • Given its relative location between Yass and Goulburn, it is unlikely that Gunning was ever more than an optional stopping place for fuel for most through traffic on the Highway.
Berry (RMS 2012)	• The town contains a number of historic buildings, well established gardens and vegetation • Agriculture such as dairy farms is one of the main sources of revenue for the town. Most of this land has been classed as high quality • The town contains several gift shops, cafes and food shops and clothes shops • Berry is a popular tourist destination, with several natural attractions such as beaches, waterways, national parks and state forests. Historical villages and buildings are also an attraction within the area.	• The highway is to become part of the view from businesses such as bed and breakfast establishments • The Berry bypass was expected to improve the amenity of the town however the reduced traffic volumes may impact on the businesses reliant on passing trade from the highway • Noise impacts are expected to be experienced by residents of nine isolated rural properties outside of Berry.

The following key issues have been identified based on the review of the case studies on bypassed towns:

- The ability to see the town from the bypass is not necessarily a critical factor in determining the ongoing functioning of the bypassed town. For example, Berrima and Goulburn have flourished post-bypass
- Towns whose businesses relied heavily on highway trade were more affected by the bypass. Service stations, some retailing, takeaway food and restaurants were most affected
- Businesses that serviced a resident community and hinterland were not adversely affected
- A number of vulnerable businesses such as service stations, over time, repositioned themselves to adapt to the post bypass environment
- While economic impacts can be severe in the short term, this impact is often reduced in the medium term
- Towns that were destinations in themselves eg Berrima, performed better post bypass than those whose role in the region was less well defined eg Mittagong
- There was a universal improvement in amenity and lifestyle quality as a result of removing heavy traffic from the towns' main streets.

4.2 Relevance for Singleton

In the context of the key issues identified in Section 4.1, the following can be surmised for the township of Singleton:

- The population of Singleton is greater than 2500 (16,136 in the 2016 census) and so is likely to be more resilient to the socio-economic impacts of a bypass
- Businesses within Singleton are generally not heavily reliant on passing trade and are therefore more resilient to the economic impacts of a bypass. In the business surveys (refer to Appendix B) 54 per cent of businesses described their primary customers as persons working/ living locally only. Singleton's economy is diverse and based on mining, tourism, agriculture as well as retail food and trade
- Singleton is around 50 kilometres south of Muswellbrook, which is a regional centre with a population for around 17,000 people. While Muswellbrook may represent an alternative to stopping in Singleton for some journeys, Muswellbrook is a comparatively smaller regional centre and so therefore may not necessarily represent a more preferable destination as it may not have the range of services and facilities that Singleton does
- Removal of traffic, particularly heavy vehicles, is likely to improve amenity for local businesses and residents located along and adjacent to John Street and George Street.

Singleton has upgraded John Street as part of the revitalisation of the town centre outlined in the Masterplan. Work on John Street commenced in January 2015 and officially opened in October 2015 (Singleton Council). The revitalised town centre may continue to attract people to town after the bypass has been built, mitigating the loss of passing trade once the bypass is operational.

5 Survey results

This section is a summary based on the results of the business impact surveys, stopper surveys and shown in Appendix B and Appendix C that were undertaken for the proposal. A summary of the OD survey is also provided in this section.

5.1 Business impact survey results

The business impact survey was undertaken across a wide range and representative sample of business types in Singleton, including:

- Retail
- Recreational services/tourism
- Professional/financial services
- Food/beverage
- Wholesale
- Service stations.

As described in Section 2.6.1, 40 businesses were offered the opportunity to complete a survey, and 39 completed surveys were received. One business was provided several opportunities to complete the survey but did not return a completed survey to the proposal team. Thirty-seven businesses completed the survey in person and two businesses completed the survey remotely.

The business surveys were carried out from 26 to 29 November 2018. It is assumed each survey respondent represented their business as a whole, as business owners and managers were consulted.

When asked on a broad scale where their customers come from, 85 per cent of businesses said their customers come from the local Singleton area and 79 per cent of businesses indicated that their customers come from the Hunter region. Fewer businesses indicated that their customers come from within NSW, interstate or overseas. Additionally, when asked how they would describe their primary customers, 54 per cent of businesses described their primary customers as persons working/ living locally only. Eighteen per cent of businesses said their customers were made up of a combination of persons working / living locally, passing trade and visitors to Singleton. The same number of businesses described other customer types as their primary customers, including mine workers and corporate guests. Ten per cent of businesses said their primary customers consist of passing trade only.

Businesses were asked to score the dependence of their business on passing trade. Forty-four per cent of businesses said they were highly dependent on passing trade, while 23 per cent said they were moderately dependent. Twenty-one per cent of businesses said they were slightly dependent, and 13 per cent said they were not at all dependent on passing trade. Although it would be difficult for businesses to specifically determine the proportion of each type of trade, it can be said that the degree of dependence on passing trade varies from business to business, where some businesses (such as service stations, some eateries and accommodation facilities) rely more on passing motorists than others. Consultation indicated that the majority of trade for these businesses is generated by locals or visitors to Singleton, although passing highway trade does provide additional customers.

Businesses were asked what negative aspects they think the proposal could bring to their business during operation. This was an open-ended question for respondents to complete. A range of responses were received. The most common answer was businesses experiencing a significant loss in trade from a reduction in passing traffic. The second most common answer was the business could see no negative aspects to their business during operation.

Overall, it is considered that businesses in Singleton have a moderate degree of dependence on highway-related trade

5.2 Stopper Surveys

A stopper survey was undertaken to gain a better understanding of the demographics, travel patterns and spending habits of people currently stopping in Singleton. The survey also sought to capture information about if, or how, stoppers might change their behaviour once the Singleton bypass is in operation. The stopper surveys were undertaken in November and December 2018, during which time 257 stoppers were surveyed.

As described in Section 2.6.2, the locations for the survey were determined through desktop analysis of rest areas and major businesses in Singleton that were anticipated to have high numbers of stoppers. Stoppers were approached by the proposal team and volunteered to complete the survey. Specifically, the survey was undertaken at the following locations in Singleton:

- Rest area in Townhead Park, near the Singleton Visitor and Information Centre
- McDonald's, Maitland Road
- KFC, William Street
- Coles Express service station, George Street
- BP service station, George Street
- Caltex, New England Highway at McDougalls Hill.

Table 5-1 below provides a summary of the number and locations of the surveys received over the six day period.

Table 5-1 Number and locations of the surveys received

Date	Time	Location	Number of surveys completed	Total number of surveys
Thursday 29 November 2018	11am – 4pm	Rest area, Townhead Park	8	20
		Coles Express service station, George Street	2	
		McDonald's, Maitland Road	10	
Friday 30 November 2018	9am – 6.00pm	Caltex, McDougalls Hill, New England Highway	11	50
		Rest area, Townhead Park	22	
		Caltex, McDougalls Hill, New England Highway	17	
Saturday 1 December 2018	8am – 4.30pm	Rest area, Townhead Park	14	51
		BP service station, George Street	4	
		McDonald's, Maitland Road	18	
		Rest area, Townhead Park	15	

Date	Time	Location	Number of surveys completed	Total number of surveys
Sunday 2 December 2018	8am – 5pm	Rest area, Townhead Park	32	65
		McDonald's, Maitland Road	20	
		Rest area, Townhead Park	13	
Monday 3 December 2018	8am – 5pm	Rest area, Townhead Park	18	38
		KFC, William Street	9	
		Rest area, Townhead Park	11	
Tuesday 4 December 2018	9am – 2pm	Rest area, Townhead Park	33	33

More stoppers were surveyed on Friday, Saturday and Sunday, compared to Thursday. In addition to the face to face stopper surveys, printed community updates (New England Highway – Singleton bypass, August 2018) were distributed to stoppers. Community updates were distributed to both those who participated in the survey and those who did not.

Stoppers were asked if they normally live in the Singleton local area, Hunter Valley, within NSW (areas outside of the Hunter Valley), interstate or overseas. The survey found that 70 per cent of stoppers lived within NSW, 17 per cent of stoppers lived in the Hunter Valley region, seven per cent lived in the Singleton local area and five per cent lived interstate.

Stoppers were then asked where they started their journey. Frequently mentioned locations include Sydney, Newcastle, Singleton, Tamworth, Quirindi and Nelson Bay. Stoppers were then asked where they were journeying to, of which Singleton was the more frequently mentioned response, followed by Tamworth then Muswellbrook. The vast majority of stoppers, 95 per cent, were travelling by car or motorbike. Only four per cent of stoppers had travelled by truck or semi-trailer.

When asked why they stopped at Singleton, 53 per cent of stoppers said it was a good stopover location for their journey. Those who stopped because they needed a break made up 12 per cent of stoppers. Seven per cent said they always stop in Singleton for goods and services, while three per cent said it is a good halfway point in their trip. The remaining 25 per cent provided other reasons for stopping. Common answers included working near or in town and meetings with friends, family or colleagues living in Singleton.

Consultation found that 43 per cent of stoppers said they would be visiting food/beverage businesses during their stop in Singleton. Twenty-four per cent of stoppers said they would not be visiting any businesses in town. Thirteen per cent said they would buy fuel during the stop in Singleton, and seven per cent each said they would visit retail businesses and other services.

Survey and observations revealed passing highway trade, particularly for retailers, eateries, accommodation and food shops, is mainly generated by people travelling in light vehicles.

Overall, it is considered that businesses in Singleton would continue to have a moderate degree of dependence on highway-related trade after comparing these results to the business surveys.

5.3 Origin and destination survey results

A vehicle OD survey was carried out in Singleton by Austraffic on Wednesday 28 February 2018. The data was collected in 15 minute intervals between 5am and 9.30am and between 3pm and 7pm.

Section 2.6.3, outlined the locations of each of the traffic counting stations. Analysis of the OD survey data indicated:

- During the morning period, up to 44 per cent of trips originating south of Singleton (south of White Falls Lane) were through (northbound) trips along the New England Highway. Heavy vehicles comprised 10% of the total trips and 11% of through trips
- During the morning period, up to 54 per cent of trips originating north of Singleton (north of Magpie Street) were through (southbound) trips along the New England Highway. Heavy vehicles comprised 13% of the total trips and 16% of through trips
- During the evening period, up to 36 per cent of trips originating south of Singleton (south of White Falls Lane) were through (northbound) trips along the New England Highway. Heavy vehicles comprised 7% of the total trips and 13% of through trips
- During the evening period, up to 51 per cent of trips originating north of Singleton (north of Magpie Street) were through (southbound) trips along the New England Highway. Heavy vehicles comprised 8% of the total trips and 10% of through trips

The survey data above indicates that for the surveyed locations, up to around half of all vehicle trips during peak periods are through trips. This indicates up to around half of all people travelling from outside Singleton do not stop in the town as part of their journey in the morning and evening. This is likely to be representative of vehicle movements associated with people travelling through Singleton to reach places of employment. The survey data indicates that heavy vehicles comprise around 10% of all vehicle trips and comprise a slightly higher proportion of through trips.

6 Assessment of construction impacts

6.1 Property impacts

Property impacts, including details of property acquisitions, temporary occupation of land and settlement and subsidence impacts are discussed in Section 6.11 of the REF. This report assesses the socio-economic implications of property impacts. Long term impacts to properties are discussed in Section 7 as operational impacts.

Acquisition of property and changes to land use

Land for ancillary facilities would be leased by Roads and Maritime for the construction of the proposal or located on land already acquired by Roads and Maritime for the proposal. Lease arrangements would be negotiated with the property owner. It is estimated that five ancillary facilities would be located wholly or partly outside of the acquisition area for the proposal and require lease arrangements. These compounds include:

- Army Camp Road laydown area
- Waterworks lane construction compound
- Gowrie Gates construction compound
- Northern connection construction compound
- McDougalls Hill facility.

The Waterworks Lane construction compound and Gowrie Gates construction compound are located on land owned by ARTC. The use of this land for construction compounds would require a lease agreement which would be in negotiation with ARTC. This would impact the existing use of the land for rail activities, however there is capacity in surrounding land owned by ARTC that would ensure the ongoing functioning of the Main North railway line.

Property access impacts are discussed in Section 6.3

6.2 Amenity

Amenity refers to the quality of a place, its appearance, feel and sound, and the way the community experiences the place. Amenity contributes to a community's identity and its sense of place (Handy 2002).

Construction of the proposal has the potential to affect amenity as a result of changes to levels of noise and vibration, traffic, air quality and odour and visual impacts.

The following sections describe potential impacts to amenity and community wellbeing during construction of the proposal.

Noise and vibration impacts

A Noise and Vibration Technical Report for Singleton bypass – concept design and environmental assessment was prepared by AECOM (2019). The report outlined and assessed potential noise and vibration impacts associated with the proposal under reasonable worst case construction scenarios.

Receivers in proximity to the proposal primarily comprise residential and commercial properties, with some social infrastructure. Where the proposal is in close proximity to residential receivers around Putty Road and Gowrie Gates, noise impacts would be particularly felt by people who work from home, shift workers, the elderly and households with young children that are more dependent on quieter environments to work, rest and relax. Such impacts would be greater at night time, although night time works would generally be limited to the southern and northern connections to the existing road network.

Noise impacts from the proposal are expected to be further influenced by the existing noise levels from the New England Highway and the Main North railway line. Noise levels from the works along the proposal alignment would exceed the noise management levels at nearby receivers during a number of scenarios. Most exceedances would be less than 10 dB(A), however some would be greater than 20 dB(A). Up to seven residences would be highly noise affected during these works.

Works outside of standard working hours along the proposal and at the ancillary facilities would exceed the noise management levels at nearby receivers during a number of scenarios. The pavement works are likely to cause the largest number of exceedances and sleep awakening reactions. Most exceedances would be less than 25 dB(A). Table 6-1 shows a summary of the noise impacts at each construction compound, along with their assessment of significance ratings.

Table 6-1 Construction noise impacts on local amenity

Compound	Construction Noise Impacts	Magnitude	Sensitivity	Significance
Army Camp Road laydown area	• The only exceedance of the noise management levels from this compound is during demobilisation during standard hours and laydown, storage and delivery out of hours. Both activities are short term • Receivers to be affected from the works are mostly residential. A minor exceedance of the noise management level at the Wyland Caravan Park has also been predicted for a minor laydown, storage and delivery out of hours.	Low	Moderate	Moderate-low
Gowrie Gates construction compound	• Exceedances of noise management levels during standard hours are generally minor and associated with site establishment activities which are short term • There would be a number of exceedances of noise management levels during out of hours laydown, storage and delivery activities • Receivers to be affected from the works associated with the Gowrie Gates construction compound are mostly residential, located in the Darlington, Maison Dieu and the southern Singleton Heights areas • No exceedances are predicted at the Country Acres Caravan Park.	Moderate	Moderate	Moderate
Northern connection construction compound	• Exceedances of noise management levels would be limited to six residential receivers and are generally minor.	Low	Moderate	Moderate-low
Southern Connection laydown area	• There would be generally minor exceedances of noise management levels during standard hours vegetation removal works and demobilisation however both are short term activities • There would be generally minor exceedances of noise management levels at nine residential receivers during laydown, storage and delivery out of hours • Noise impacts on amenity at the Singleton Christian College and Rainbows Early Learning Centre are unlikely be noticeable	Moderate	Moderate	Moderate

Compound	Construction Noise Impacts	Magnitude	Sensitivity	Significance
McDougalls Hill facility	• This compound site is located in an industrial area • Construction noise would be generally compliant with noise management levels at the McDougalls Hill ancillary facility.	Low	Low	Moderate-low
Waterworks Lane construction compound	• There would be a number of exceedances of noise management levels for residential receivers, including exceedances of greater than 20 db(A) during standard and out of hours construction activities • Exceedances of the awakening reaction criterion are predicted for up to eight receivers during laydown, storage and delivery out of hours • Exceedances at nearby social infrastructure are anticipated to be minor	High	Moderate	High-moderate
Singleton bypass alignment	• There would be a number of exceedances of noise management levels for residential receivers. The largest number of exceedances is associated with pavement works both during standard hours and out of hours (however the majority of works along the alignment would be undertaken during standard hours). The majority of predicted exceedances are minor however a number of exceedances of over 20 dB(A) are predicted. • Noise impacts may affect the classes and activities undertaken at the Singleton Christian College and the Rainbows Early Learning Centre • May affect the use and enjoyment of sporting activities and functions at Rose Point Park, Alroy Oval and Matilda Park • Vibration can also impact human comfort in a manner that occupants or users of buildings are inconvenienced or possibly disturbed	High	Moderate	High-moderate

Overall noise amenity

While the changes to noise amenity as described above would be restricted to the construction period the magnitude is considered to be moderate due to the predicted noise levels and number of receivers which exceed noise management levels. The sensitivity of receptors within this area is considered to be moderate due to sensitivity of receivers to noise, which includes a large number of residential residents, businesses and social infrastructure including the Singleton Christian College, Rainbows Early Learning Centre, Rose Point Park and Singleton Neighbourhood Centre. As such the socio-economic impact of changes to noise amenity associated with the construction of the proposal would be moderate.

Construction Traffic

Construction traffic has the potential to affect amenity, with increased traffic levels potentially impacting noise and air quality, as well as the visual presence of more vehicles on the road, particularly the New England Highway through Singleton. An increase in traffic volume also impacts trip duration, wait times at intersections, road safety, access to properties and community infrastructure.

Construction vehicles would access the site via regional roads as identified in Section 3 of the REF. However, some access points to some of the compounds would be via Waterworks Lane, a small section of Maison Dieu Road, Magpie Street and Rosedale Close. There are no residential receivers located on the sections of local road subject to construction traffic. The number of construction vehicle movements has been estimated to be up to 80 light and 140 heavy vehicles per day (up to 12 per hour) during peak construction periods across all ancillary facilities.

Heavy vehicle movements, which are likely to have the largest impact, would mainly be related to earthworks or spoil movement, but would also include other movements including girder delivery and plant delivery. The estimated 140 heavy vehicle movements described above includes movements associated with girder delivery and plant delivery, which are anticipated to be limited to around 10 per cent (14 movements per day) of the total daily heavy vehicle movements.

Haulage routes have been designed to avoid use of local roads. Heavy vehicles would only access sites from approved heavy vehicle routes. Both the New England Highway and Putty Road are classified as B-double routes.

Existing traffic flows on the New England Highway are greater than the proposed construction traffic numbers (over 1000 heavy vehicles from 7am to 10pm and over 300 heavy vehicles from 10pm to 7am each day). Therefore, construction traffic, including earthworks truck movement, would have a minor impact on existing traffic operations.

Based on the relatively small increase in overall traffic volumes, the magnitude of the impacts to traffic is considered to be low. The sensitivity of affected receivers is considered to be low given the existing heavy vehicle movements on the New England Highway. As such, the socio-economic significance of construction traffic impacts at this location would be low. Additional information regarding impacts to access and connectivity is discussed in section 6.3.

Air quality

Construction activities have the capacity to increase dust, air emissions and odour, and therefore affect amenity of the local environment. Increased dust can adversely affect human health and the cleanliness of infrastructure or surrounding land. Receptors more susceptible to air quality impacts during construction in the vicinity to the proposal, include Australian Christian College - Singleton, Rainbows Early Learning Centre and Rose Point Park as well as any individuals with respiratory illness.

An air quality assessment is presented as part of the REF in Section 6.9. The outcome of the assessment indicates that the unmitigated air emissions from the construction phase of the proposal pose a high risk for both dust soiling and human health impacts, however with the implementation of mitigation strategies this would not be significant.

The magnitude of impacts on air quality is considered to be moderate given that while there is a high risk for dust soiling and human health impacts, the nature of the impacts are common to road construction projects would adequately managed through the implementation of mitigation measures. The sensitivity of affected receivers is considered to be moderate, given the location of the proposal along the border of the township and the number of sensitive receptors in proximity to the works. As a result, the significance of air quality impacts as part of Singleton bypass alignment and associate construction compounds on the socio-economic environment is moderate.

Visual amenity impacts

Visual amenity may be described as the pleasantness of the view or outlook of an identified receptor or group of receptors (eg residences, recreational users). Visual amenity is an important part of an area's character and offers a wide variety of benefits to the community in terms of quality of life, wellbeing and economic activity.

The construction of the proposal would result in visual impacts to a variety of receptors. These include road users, residents and businesses. Visual amenity may be affected by removal of vegetation, establishment of construction ancillary facilities, installation of construction hoardings and the visual appearance of construction sites, equipment, materials and site sheds. Other factors may include the alteration of view corridors to heritage items or places, open space or water bodies. Table 6-2 shows a summary of the visual impacts at each construction compound, along with their assessment of significance ratings.

Table 6-2 Visual impacts on local amenity during construction

Compound	Construction Visual Impacts	Magnitude	Sensitivity	Significance
Army Camp Road laydown area	• Visible to commuters travelling along Army Camp Road and Carrington Street • Visible to two properties on Carrington Street with existing views of the floodplain • No vegetation shields the site.	Low	Moderate	Low-moderate
Gowrie Gates construction compound	• Existing rail noise walls separates houses located at Darlington from the railway track, blocking views • Vegetation obstructs views.	Low	Low	Low
Northern connection construction compound	• Vehicles entering and leaving the compound site would be visible to commuters passing that section of the New England Highway • Visible to two properties located along New England Highway.	Low	Low	Low
Southern Connection laydown area	• Vehicles entering and leaving the compound site would be visible to commuters passing along Waddells Lane and the New England Highway south of Singleton • Visible to seven properties on Waddles Avenue and Orchard Lane with existing views of the floodplain • Views from the Singleton Christian College, the Rainbows Early Learning Centre and Lancaster Motor Group • Vegetation is unlikely to obscure views	Low	Moderate	Low-moderate
McDougalls Hill facility	• Located within an industrial area • Visible during construction from businesses located along Rosedale Close and Magpie Street.	Low	Low	Low

Compound	Construction Visual Impacts	Magnitude	Sensitivity	Significance
Waterworks Lane construction compound	• The compound is closest to the Singleton town centre however views from east are blocked by the Main North railway line. The compound would be visible from Putty Road, Glenridding Road and nearby properties • Vehicles entering and leaving the compound site would be visible to commuters travelling on Putty Road • Trees would partially obstruct views to the site from the west	Low	Low	Low
Singleton bypass alignment	• Receivers expected to experience visual impacts include residents along the New England Highway, Orchard Lane, Railway Street, Army Camp Road, Church Street, Carrington Street, Putty Road, Glenridding Road, Waterworks Lane, Darlington Road, Maison Dieu Road, Park View Crescent and Magpie Street • The introduction of construction sites would reduce the privacy of some properties • The construction of the viaducts would create the most impact to the area's visual amenity due to their height.	Moderate	Moderate	Moderate

Overall visual amenity

The overall magnitude of visual impact within the local area is considered to be low given the temporary nature of construction activities, the visibility of the impacts and the number of properties that would have views to construction activities. The sensitivity of receptors within this area is considered to be moderate given the nature of existing views of the floodplain around the southern section of the proposal. As such the socio-economic impact of changes to visual amenity associated with the construction of the proposal would be Moderate-low. This rating considers the worst-case impacts at the southern section of the proposal. Construction activities north of Putty Road are to result in lower overall visual amenity impacts.

6.3 Access and connectivity

Access

Some existing accesses to residential properties may be temporary impacted during the construction period. Residents of these properties may be inconvenienced through changes in pedestrian and vehicle access to their properties. Most of these impacts would be limited to short term closures and alternate access arrangements would be provided. Property access impacts are generally limited to the southern section of the proposal at rural-residential properties on the Hunter River floodplain.

Construction activities may also cause temporary partial closure of roads and changes to speed limits on the New England Highway and Putty Road.

The magnitude of impacts to access is considered to be low given the number of properties that would be impacted, that temporary access arrangements would be implemented to ensure access is maintained during construction and that impacts to travel times would be minor. Rural-residential properties may have a degree of flexibility for alternate property access arrangements given lot size and available land however property access can be an important factor for agricultural activities. The sensitivity of receptors is therefore considered to be moderate. On this basis the socio-economic significance of this impact would be moderate-low.

Parking availability

The construction compounds would provide parking for both light and heavy vehicles, including sufficient parking for workers. Therefore, impacts to parking availability are considered negligible.

Public transport

The proposal is not expected to change any public transport services or routes. All existing bus services would be maintained during construction, with potential for minor delays on bus services due to construction speed limits and an increase in heavy vehicle movements. These delays are expected, which are limited to the areas of the proposal that interact with the existing New England Highway at the southern and northern connection, Maison Dieu Road and Gowrie Gates are considered to be negligible.

Active transport connectivity

The shared pedestrian and cyclist path west of the Main North railway bridge would be temporarily impacted during activities required for the construction of the bridge over the New England Highway and southern entry ramp at Gowrie Gates. Connectivity would be maintained through localised diversions where feasible.

An informal pedestrian access to the Hunter River is located beneath the Main North railway line near Rose Point Road. The informal access is used to access the Hunter River for recreational activities. This access would be closed during the construction of the proposal due to the work required for the bridge over the Hunter River. Recreational users of the Hunter River would continue to have the option to use an existing access to the river east of the proposal, to the north of Rose Point Park.

Therefore, impacts to Active transport connectivity are considered negligible.

6.4 Community identity, values and aspirations

The Singleton Community Strategic Plan 2017-2027 outlines five key strategic 'pillars' according to Singleton Council that are considered to represent the community values within the Singleton LGA and provides overarching goals and planning direction. An assessment of the potential construction impacts on these key five strategic pillars is provided below in Table 6-3.

Table 6-3 Assessment of potential construction impacts on community values

Key strategic pillar	Community value / aspiration and Council Strategy	Potential impacts
Our People	*Singleton is a creative, vibrant, inclusive, safe and healthy community.* *Singleton community is resilient, informed, connected and engaged*. Council strategies: Aims to increase customer satisfaction – trending towards 80 per cent, decreasing crime rates, increase participation numbers in events and programs and increase healthy lifestyles.	The proposal is generally located outside of the township of Singleton and so is unlikely to directly impact the ability of the community to be creative, vibrant, inclusive, safe and healthy. Potential impacts would be limited to indirect amenity impacts which may temporarily impact places or events where these values are demonstrated. An increase in construction activity in or around public open space and recreational areas has the potential to reduce the amenity and accessibility of these areas, as discussed in Section 6.2 and Section 6.3.
Our Places	*Singleton is a well-planned, sustainable, accessible and safe community with vibrant places and spaces* Council strategies: Aims to increase public transport access and Community satisfaction with participation in and outcomes from strategic planning (land use, transport, asset).	Potential impacts would be limited to indirect amenity impacts which may temporarily impact social infrastructure or other places within proximity of the proposal area. Construction of the proposal is not anticipated to impact public transport during the construction period. Public transport services would continue to be available to the community. Refer to Section 6.3 for further discussion on access and public transport related impacts.
Our Environment	*We value, protect and enhance a sustainable environment* Council strategies: Aims to ensure compliance with water quality targets (drinking, effluent, river health), improve air quality, increase recycling, reuse and landfill diversion rates, decrease the prevalence of noxious weeds, decrease household energy and water consumption and increase participation rates in household/community education programs.	Environmental issues during construction are discussed within the REF, with mitigation measures to be implemented to appropriately minimise or mitigate environmental impacts. The proposal would not affect this value/aspiration.

Key strategic pillar	Community value / aspiration and Council Strategy	Potential impacts
Our Economy	*We have an innovative, sustainable and diverse economy* Council strategies: Aims to increase tourism visitation, increase in business counts, increase in Gross Regional Product and decrease unemployment.	Potential impacts on the local and regional economy during construction are assessed in Section 6.5 and Section 6.6.
Our Leadership	*An effective and efficient operational Council* *A highly functioning and progressive elected Council* Council strategies: Aims to increase employee engagement (trending towards 65 per cent) improving risk management by having zero harm to people, property and the environment.	Potential employment opportunities during the construction period are further discussed within section 7.6.

Overall, the magnitude of impact upon community values and aspirations is deemed to be low, given that potential impacts that would conflict with the values above would be temporary and mitigation measures would be implemented to manage these impacts. The sensitivity of the community to these matters is considered to be high due to the potential changes to amenity, traffic and access and economic impacts. The overall socio-economic significance is moderate.

6.5 Business impacts

Businesses may be affected during construction by temporary increases in travel time (for employees, customers, and deliveries) and impacts to local amenity. Depending on the nature of the business, the actual impact on business would vary.

Passing trade

Passing trade refers to customers who choose to visit a business because they see it when walking or driving past, or as a matter of convenience when en route to another destination, rather than an intentional trip with that business as the desired destination.

As discussed in Section 5.1 and Appendix B, 44 per cent of the businesses surveyed say they are dependent on passing trade. Of the businesses surveyed, more than half (56 per cent) said that they depend on visibility to passing customers. When asked what positive aspects they think the proposal could bring to their business during construction, a potential increase in trade from construction workers visiting while working on the proposal was the main answer..

The proposal would be constructed in a way that would allow existing traffic arrangements to continue. Construction worker expenditure during the three-year construction period would benefit local services in the vicinity of the highway, such as cafes and takeaways, service stations, trades and services suppliers and potentially some accommodation providers.

Given existing traffic arrangements would continue, the overall magnitude is considered to be negligible. The sensitivity of businesses to the potential loss of customers is moderate given that some businesses rely on passing trade as a key source of revenue. On this basis the socio-economic significance of this impact would be negligible.

Access and travel time

Construction staging would be developed to minimise impacts on the road network, with activities that could substantially affect traffic being carried out outside peak periods where practical. Temporary changes to speed limits would be limited to the New England Highway and Putty Road, outside of the town centre. As described above, the proposal would be constructed in a way that would allow existing traffic arrangements to continue during construction.

Given the limited changes to speed limits and that existing traffic arrangements would continue, the magnitude of impacts to access and travel time for deliveries and employees travelling to work is considered to be low. The sensitivity of businesses to impacts to access and travel time is considered to be low given the potential economic cost associated with minor delays. The overall socio-economic significance is therefore considered to be low.

Parking

There may be a decrease in the availability of parking at some businesses as a result of additional construction workers utilising the businesses in town. These businesses include food outlets, service stations, trades and services suppliers and some accommodation providers. Given that the decrease in parking availability would be a result of increased customers, such impacts would be negligible to business.

Amenity

Amenity impacts include any factors that affect the ability of customers, employees or business owners to enjoy their workplace and daily activities. These may include adverse change to noise and vibration levels, views or air quality.

Many businesses such as accommodation providers, restaurants, cafes, and health and beauty businesses rely to an extent upon high levels of local amenity. This includes aspects such as low traffic, low background noise and the presence of positive visual environments including street vegetation and green spaces. The impact of amenity on a business could potentially result in loss of trade as customers shop elsewhere to avoid adverse conditions.

Most businesses in the local area are located in the town of Singleton and would only experience minor impacts to amenity. The presence of construction vehicles on the road network, construction ancillary facilities and construction activities would affect the visual, noise, air quality and traffic amenity of the environment surrounding businesses. The construction of the proposal has the potential to affect the amenity particularly around construction compounds and other construction locations. Potential impacts to amenity would primarily be associated with businesses located in proximity to the proposal around Waterworks Lane and Putty Road where construction works would be closest to the town centre. These impacts are discussed in further detail in Section 6.2. Businesses closest to the Singleton bypass alignment boundary and construction compounds are identified in Table 6-4.

Table 6-4 Business closest to the proposal alignment and construction facilities

Business name	Business type	Closest construction site or compound	Proximity
Lancaster Motor Group	Retail / Professional service	Singleton bypass alignment	Adjacent to
Bunnings Warehouse Singleton	Retail	Singleton bypass alignment	Adjacent to
Singleton Toyota	Retail	Singleton bypass alignment	Adjacent to
Caltex McDougall's Hill	Retail	Singleton bypass alignment	30 metres north

Business name	Business type	Closest construction site or compound	Proximity
Thrifty Car and Truck Rental Singleton	Retail	Singleton bypass alignment & Waterworks Lane construction compound	30 metres north
Valley Radiator Service	Professional service	Singleton bypass alignment & Waterworks Lane construction compound	30 metres north
Albion Hotel	Accommodation / food and beverage	Singleton bypass alignment & Waterworks Lane construction compound	45 metres east
KONG Au / CrossFit Singleton	Recreational facilities	Singleton bypass alignment & Waterworks Lane construction compound	48 metres north
Majestic Cinemas Singleton	Recreational facilities	Singleton bypass alignment & Waterworks Lane construction compound	55 metres north
Hunter Valley Rubber	Retail	Singleton bypass alignment & Waterworks Lane construction compound	58 metres east
Kirkwood Produce	Retail	Singleton bypass alignment & Waterworks Lane construction compound	88 metres east
Anytime Fitness	Recreational facilities	Singleton bypass alignment & Waterworks Lane construction compound	110 metres north east
Wyland Caravan Park	Accommodation	Singleton bypass alignment & Waterworks Lane construction compound	140 metres north

The magnitude of construction activity on amenity for business is considered to be moderate due to the temporary nature of impacts and also due to the proximity of construction works to some of the businesses. The sensitivity of affected businesses is considered to be moderate, given some businesses rely on a certain level of amenity to provide a particular customer experience. As a result, the socio-economic significance of construction activity on the amenity for businesses is considered to be moderate.

Agricultural sector impacts

Where the proposal requires acquisition of agricultural land, it has the potential to affect agricultural businesses. The productivity of agricultural businesses could be affected by the following:

- Direct loss of productive land
- Internal access changes between parts of the property
- Changes to the size and shape of paddocks.

Under the Singleton LEP, land use for agricultural activities falls under the RU1 land zoning category. Table 6-5 shows the area of agricultural land zoning covered by the proposal, the total area of that land zone within the Singleton LGA and the percentage to be taken by the proposal.

Table 6-5 Land zoning covered by the proposal

Land Zone	Area within the proposal area (hectares)	Area within Singleton LGA (hectares)	Percentage taken by the proposal
RU1 – Primary Production	11.10	183983.32	0.006 per cent

As shown in Table 6-5 the proposal would only occupy about 0.006 per cent of land used for agricultural purposes within the Singleton LGA. Impacts to the agricultural sector within Singleton would therefore be minor. For properties subject to severance, and partial acquisition, a change in how the impacted portion of the property is managed could be required as a result of the reduced availability or fragmented nature of the property.

The severity would be minor resulting in an overall magnitude of minor. The sensitivity of the agricultural properties to the proposed construction activity is considered to be low. On this basis, the socio-economic significance of the Singleton bypass on the regions agricultural sector is considered to be low.

6.6 Economic impacts

Adverse economic impacts tie in with the business impacts that have already been discussed in Section 6.5 above.

Expenditure and employment

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

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

During construction certain businesses are likely to benefit to a greater degree from the proposal's activities. These may include local construction contractors, businesses who service or supply goods to the construction industry such as food and beverage retailers, accommodation providers, and other retail outlets that would cater to the day-to-day needs of the construction workforce. This temporary increase in revenue may subsequently lead to increased employment opportunities locally, which would subsequently inject additional money in to the local economy.

Value add

The NSW Government has committed $92 million towards the Singleton bypass under the Rebuilding NSW Plan and allocated $2.7 million in 2019-2020 to continue development of the proposal (Roads and Maritime, 2019). The operation of the bypass would generate long term benefits through improved economic connectivity and freight efficiency as discussed in Section 7.6. Flow on effects from improved travel times are also predicted.

Overall, construction of the proposal would produce economic benefits for the region while also causing adverse impacts as discussed in Section 6.5.

7 Assessment of operational impacts

7.1 Property

Acquisition of property and future land use

The proposal requires the acquisition of land currently used for residential or agricultural purposes. The proposal would require the acquisition of 53 individual lots, of which six have already been acquired by Roads and Maritime. Of the remaining 47 individual lots, 16 would be subject to total acquisition and the 31 would be subject to partial acquisition. No social infrastructure would be acquired. The land zones for the remaining 47 lots still subject to acquisition include 42 zoned RU1 (Primary production), three zoned RE2 (Public recreation), one zones R1 (General residential) and one partially zoned RE2 (Private recreation) and R1 (General residential).

The proposal would fragment eight agricultural properties, potentially affecting the ability for land owners to access a part of their property that is otherwise not directly impacted by the proposal. This fragmentation may impact on agricultural operations and impact their ability for ongoing use of their land.

The proposal would result in a permanent change in land use from the existing land uses to a road corridor. This would remove the ability of the land to be developed for residential or agricultural purposes in the future. In the southern section of the proposal, potential fragmentation impacts would be reduced where the proposal is a bridge.

The magnitude of acquisition on the properties is considered to be moderate given the inconvenience caused by possible changes to access and the number of receptors potentially impacted. The sensitivity of affected individuals is considered to be moderate given the importance of households and the connection people can hold with their land. As a result, the significance of acquisition of residential properties on the socio-economic environment is considered to be moderate.

Acquisition impacts on community wellbeing

The full or partial acquisition of land may result in major changes to the lives of those affected giving rise to a sense of anxiety or uncertainty, a loss of amenity, financial costs and isolation. Owners may experience health and emotional effects if required to sell their property and relocate as a result of the proposal. Acquisition has the potential to affect people with a deep connection to their property, which may have been in the family for generations. In some instances, it may be difficult to find another property with equivalent facilities and amenity to that being acquired. Property acquisition may result in the fragmentation of social networks and interaction as people move away from friends and family.

To date eight property owners have applied for hardship acquisition. Six of these applications have been settled. Roads and Maritime are carefully assessing the outstanding two cases on their merits.

The overall magnitude of the socio-economic impact of property acquisition is considered to be moderate given the number of properties that would be acquired for the proposal. The overall sensitivity of affected residents is considered to be high given the emotional stress property acquisition can cause on individuals. On this basis the overall socio-economic significance of property acquisition on community wellbeing associated with the proposal would be high-moderate.

7.2 Amenity

Noise and vibration Impacts

Noise sensitive receptors include residents, certain businesses, and users of social infrastructure in the vicinity of the new road, as well as the existing road. The proposal would increase noise within the area surrounding the alignment. As discussed in Section 6.6 of the REF both the

daytime and night-time noise criterions would be exceeded at a number of receptors. Specific noise impacts during daytime and night-time periods include:

- Road traffic noise levels are predicted to exceed the L_{Aeq} noise criterion at a total of 93 sensitive receivers
- Noise levels that exceed the applicable noise criterion are predicted to increase by more than 2 dB(A) at 61 sensitive receivers
- Noise levels are predicted to exceed the cumulative limit at six additional sensitive receivers
- Noise levels exceed the relative increase criterion at 22 sensitive receivers
- 89 sensitive receivers are considered to be eligible for the consideration of additional feasible and reasonable noise mitigation measures.

One of the main goals of the proposal is to reduce heavy vehicle traffic through Singleton town centre. For receivers within the town, it is expected that the maximum noise events would decrease in both number and duration due reduced traffic, particularly heavy vehicle traffic. This decrease in noise would improve amenity for residents, businesses and visitors along and near the existing New England Highway.

Given the number of potential exceedances of the relevant operational noise criteria, the long-term nature of the impacts and the potentially reduced traffic noise impacts through the Singleton town centre, it is considered that the magnitude of the impact is moderate. The sensitivity of residents to the impact is considered to be moderate given the sensitivity of rural and rural-residential receivers to noise.

Air quality impacts

As discussed in Section 6.6 of the REF, predicted roadside Carbon monoxide (CO) and Nitrogen Dioxide (NO_2) concentrations would comply with EPA criteria once the proposal is operational and ten years after opening (2036).

Regarding particulate matter, predicted cumulative exceedances are limited to the area between the kerb and within 20 metres of the proposed alignment. It should be noted however that predicted exceedances are largely due to existing high background concentrations. Background data from the Singleton North West Air Quality Monitoring Station has been used for the calculation of all cumulative concentrations. Singleton North West Station has higher particulate concentrations than the other two stations due to the proximity of nearby mining activities and as such the use of this station provide a worst case indication (and potentially over-conservative) of background particulate concentration. The operation of the proposal would therefore have a minimal impact on particulate matter increases as the increases in concentrations would be mainly associated with the coal mines surrounding the town to the north.

Once operational the proposal is unlikely to impact on air quality. Air quality may improve within the town as vehicles, particularly heavy vehicles would be able to bypass around the town instead of through it moving this source of emissions.

Visual impacts

The Landscape Character, Visual Impact Assessment (LCVIA) (AECOM, 2019) assesses the operational impact to views from public land to the bypass. Viewpoints considered to represent the areas with the highest visual impacts were chosen for this assessment and are summarised in Table 7-1.

Table 7-1 Visual impacts during operation

Key Viewpoints	Operation Visual Impacts
New England Highway – North of Singleton	The establishment of the proposal represents a permanent change. The large footprint and scale of the works including the removal of trees and introduction of road infrastructure, embankments and overhead bridge would be in close proximity and visible to receptors located along this section of the New England Highway.

Key Viewpoints	Operation Visual Impacts
Magpie Street intersection	Impacts would be limited to road users travelling along the New England Highway or waiting at the Magpie Street intersection. For receivers such as Singleton Bunnings and Singleton Toyota, the change in the view is considered to have a high impact due to the close proximity of the proposal to receivers, and the large footprint and length of the proposal on an open, undulating rural landscape that is currently void of any roads and highway infrastructure. Residential receivers located near Park View Crescent, south of the Caltex at McDougalls Hill would have a significant change to views due to the introduction of a foreign element in a landscape that is unable to absorb such a visually significant change.
Maison Dieu Road Intersection	The proposal would introduce an overhead bridge crossing the New England Highway parallel to the existing railway bridge. The view would change due to the presence of a second strong horizontal feature associated with the bridge structure and roadside furniture. Receptors would have clear views of the new bridge structure that would be visually prominent. Residents located on Allen Circuit, closest to the highway would have the clearest views to this section.
John Street Bridge, Glenridding Road and Carrington Street Intersection	The strong presence of a bridge structure traversing the flat open floodplains would introduce a new horizontal element of contrasting colour and form to the visual scene. The vertical components of the piers and light poles would appear foreign within the horizontal landscape setting. Residents along Carrington Street, Glenridding Road, Victoria Street and Crown Street would have views to the new structures. At the Carrington Street intersection, the bridge would also partially block the views to the tree line and hills behind. The change in view is considered to be significant due to the introduction of a foreign element in a landscape that is unable to absorb such a visually significant change. Receptors located on the northern end of the John Street Bridge, within the Singleton township would have views hindered by existing rail barriers and the rising slope of the John Street Bridge.
Railway Street and Renshaw Street	The middle and distant view from Railway Street and Renshaw Street is typical for local residents living in the southern boundary of the Singleton township. They view out to flat open agricultural land with a tapestry of colours backdropped by the vegetated ranges of Wollemi and Yengo National Park in the distance. For residents of Railway Street the view is disrupted by the railway line and barrier fence. The strong presence of a bridge structure traversing the flat open floodplains would introduce a new horizontal element of contrasting colour and form to the visual scene. At street level it is anticipated that views to the ranges would be partially blocked. At elevated house levels views to the ranges may still be seen. Residents along Railway Street would be able to view the bridge structure. The horizontal form of the bridge would be close to the horizon line depending on the height in which the receptor is viewing the bridge. Houses behind those along Railway and Renshaw Street would be shielded to views.
New England Highway South of Singleton	The existing view is open and extends out over the agricultural landscape with a scattering of homesteads set back from the road edge. The view to the north is dominated by mature trees indicating the southern edge of Singleton township. Roadside advertising signage, street lights and built

Key Viewpoints	Operation Visual Impacts
	structures contribute to a town arrival view. The immediate arrival view of trees and rural scenes would be replaced by a large scale, grade-separated interchange consisting of a bridge, highway, off ramps, embankments and roadside furniture. The mature trees that dominate the view to the north would be removed as part of the works. Lighting would be introduced further changing the view at night and day. Residents along the southern points of the Ardersier Driver cul-de-sac and residents along Greenwood Avenue and White Falls Lane would be viewing the new structures for a long period of time. Landcaster Motor Group and the Singleton Christian College would also have views to the new structures.

Collectively the proposal would permanently alter the views of the rural landscape of residents near the proposal. The proposal includes appropriate landscaping and design considerations to minimise these impacts as detailed in the LCVIA (AECOM, 2019). Receivers located within McDougalls Hill and the township of Singleton (north and east of the rail line, including Singleton Heights) and receivers north of the Singleton Christian College, would not be visually impacted.

Impacts would primarily be limited to road users who have been exposed to similar views through their travels along the New England Highway. Many who have travelled along the Hunter Expressway to Singleton or further would have seen familiar scenes of bridges, walls, embankments, signage and roadside furniture. Visual impacts for motorists would be short-term in duration as frequent travellers through Singleton would become use to the bypass and associated visual impacts.

The magnitude of impacts to visual amenity are considered to be high given the proposal would result in long-term visual impact that would impact a number of residential receivers and road users. The proposal, when visible, would represent a new visual element within the existing landscape. Impacts would primarily be limited to road users who would experience short term views of the proposal, however there would be impacts to limited residential receivers with high quality existing views of the Hunter River floodplain. The sensitivity of receivers is therefore considered to be moderate. As such, the operational socio-economic significance of visual amenity impacts at this location would be high-moderate.

Traffic

Traffic amenity has been assessed in detail in Section 7.3 below.

7.3 Access and connectivity

Access

All properties affected by changed access arrangements as a result of the proposal would be provided with restored or new permanent access arrangements during operation, including properties that would be fragmented.

The two properties south of the bypass at the southern connection, with existing access from Waddells Lane (Lot 2 DP 744891) and New England Highway (Lot 2/3/4 DP 1139915), would be provided with alternative access via Waddells Lane.

The magnitude of the impact is considered to be low given that while the alignment of access roads may be modified, the ultimate access point to the road network would generally remain unchanged from existing conditions. Rural-residential properties have a degree of flexibility for alternate property access arrangements given lot size and available land however property access can be an important factor for agricultural activities. The sensitivity of receptors is therefore considered to be moderate.

On this basis the socio-economic significance of this impact would be moderate-low.

Road network

The proposal is forecast to improve travel times, reduce congestion, reduce travel costs and reduce traffic-related mental and physical health impacts for both motorists and residents living near major arterial surface roads in the area such as George Street. The proposal would offer improved connectivity throughout the town of Singleton.

Generally, improvements to the overall road network and the mental and physical wellbeing of local residents on certain major roads are considered a high positive benefit to the socio-economic environment.

Parking availability

There are no anticipated impacts of the proposal to on-street parking. There would be no changes to local roads and parking around the Singleton town centre or along George Street and John Street. Furthermore, parking availability in adjacent side streets along these roads would remain unchanged.

Public transport

The reduction in traffic forecast on key roads with the proposal is expected to improve the reliability of bus services and access to public transport (ie train stations).

Active transport connectivity

There are no anticipated impacts on existing pedestrian and cyclist facilities as a result of the proposal. The proposal would not provide any new pedestrian or dedicated bicycle facilities along the bypass. Cyclists would be able to use the road shoulders on the bypass.

A separated shared pedestrian and cyclist path is located adjacent to the New England Highway in the area where the highway currently passes beneath the Main North railway at Gowrie Gates. This footpath provides connectivity under the rail bridge. The proposal would modify the shared path west of the Main North railway bridge to pass beneath the southern entry ramp to the bypass at Gowrie Gates.

The reduction of traffic along the New England Highway through Singleton could improve traffic conditions for cyclists, allowing this section of the New England Highway to form part of the on-road cycle route.

On this basis impacts on active transport networks are considered to be negligible.

7.4 Social infrastructure

Elements of the operation of the proposal have the potential to affect users of social infrastructure in the nearby area. These impacts are outlined and assessed with reference to the specific type of social infrastructure below in Table 7-2.

Table 7-2 Operational impacts on surrounding social infrastructure

Type of social infrastructure	Impacts	Assessment of significance
Educational facilities	The Singleton Christian College and Rainbows Early Learning Centre (attached to the College) are the only educational facilities that would be affected by the proposal. Operational impacts include noise exceedances and visual impacts from the bridge structure to the south.	The magnitude of the operational impact on the educational, care, health, medical, emergency services and community services is considered low. The sensitivity of affected stakeholders is considered moderate as a result of
Care, health, medical and emergency	While OPSM Singleton and Pacific Smiles Dental are located within 400 metres of the proposal, impacts to these businesses would be negligible.	

Type of social infrastructure	Impacts	Assessment of significance
service facilities	Both businesses are located within Gowrie Street Mall and therefore the proposal would not be visible. Noise impacts would be attenuated due to the surrounding buildings within the Singleton town centre.	noise and amenity impacts. Therefore, the overall significance to this social infrastructure is considered moderate-low.
Community service facilities	The Singleton Neighbourhood Centre is the only community facility located within 400 metres of the proposal. Most impacts on this facility are considered negligible however the operation of the proposal would result in increased noise impacts.	
Sporting and recreational facilities	Sporting and recreational facilities within the vicinity include: • Rose Point Park • Alroy Oval • James White Park • Matilda Park • Pritchard Park • Off-leash dog Park. Operational impacts to these facilities are expected to be negligible.	As the impacts to sporting and recreational facilities are considered negligible, an assessment of significance is not required.

7.5 Business impacts

Passing trade

Singleton would remain visible due to the design of the proposal, encouraging traffic to continue to stop in the town. While businesses relying on passing trade may experience a decrease in turnover and reduced employment in the short term. Conversely businesses may be more alluring due to increased appeal of the town resulting from the reduction in heavy traffic. Singleton's diverse economy would continue to form employment and business in a range of industry sectors.

As discussed in Section 4.1, studies of the impacts of highway bypass projects in NSW have shown that the most affected businesses are those directly serving the needs of the motorists. These include motor vehicle services, particularly service stations, food and beverage outlets, and accommodation establishments (to a lesser extent). The research shows that impacts of a bypass on local businesses would generally be short term. Businesses which made effective adjustments were able to stabilise themselves better than their competition. Adjustments included increased advertising, changing services and products and adjusting employment levels. The research indicates that the tourism appeal of the town being bypassed may also be boosted. The town's economy improved due to an increase in tourism, retailing businesses and employment.

During the business impact surveys, only 10 per cent of businesses said their primary customers consist of passing trade only. The results of the business surveys are discussed further in Section 5.1.

Business owners may be uncertain about the extent of impact the proposal would have on through traffic and trade. While some businesses would experience a decrease in turnover and reduced employment at least in the short term, evidence from bypassed towns indicates that some highway dependent businesses have been able to reposition themselves and become sustainable in the longer term.

The magnitude of impacts on passing trade are considered to be moderate on the balance of potential short-term turnover impacts, the need to make business adjustments and potential benefits associated with improved to amenity. The sensitivity of businesses to impacts to passing

trade is considered to be moderate around 10 per cent of businesses said their primary customers consist of passing trade only. On this basis the socio-economic significance of this impact would be moderate.

Access and travel time

Businesses rely on deliveries and dispatch of goods to support the sale of products and/or services, as well as relying on services from other businesses such as refuse collection. These activities may sometimes be required multiple times per day. The reduced congestion throughout the township has the potential to positively affect servicing, delivery and dispatch opportunities for businesses. Increased accessibility and connectivity has the potential to reduce delivery times, increase delivery reliability and reduce transport costs for businesses.

Access for customers travelling to business premises in the area would be improved as a result of better links to other regions within Singleton and beyond. Pedestrian access would also improve due to the decreased number of vehicles using the roads within Singleton.

A general reduction in traffic is expected along George Street and John Street which would potentially benefit businesses in these locations through generally improved amenity and improved delivery and dispatch efficiency. As explained in Section 7.3, the proposal is forecast to improve travel times, reduce congestion and reduce travel costs.

Parking

There would be no changes to parking on local roads within the township such that customer or worker access or servicing or deliveries to any existing businesses would be affected.

As discussed in Section 7.3, once operational, fewer vehicles would stop in Singleton, leading to an increase in the availability of parking.

Business amenity

Improved local amenity in the Singleton township is likely to result in positive business impacts through the support of new business development opportunities for both local and tourist trade and may encourage motorists to continue to stop in Singleton. The absence of heavy vehicles from the town centre could enable businesses to vary how they function and attract customers, for example by providing on-street dining.

7.6 Economic impacts

Freight and efficiency

The freight industry is an important part of the NSW economy as an enabler of economic activity, contributing an estimated $66 billion to NSW Gross State Product (GSP) (Transport for NSW, 2019). One objective of the proposal, in alignment with strategic planning at a national and state level, is to reduce the impediments caused heavy vehicle traffic along the inland Sydney-Brisbane Corridor route (New England Highway).

The modelling as described in Section 6.5 of the REF indicates that the introduction of the bypass is expected to remove up to 1500 vehicles per hour (two-way) from the New England Highway through the Singleton town centre. The modelling results suggest that the provision of the bypass would have significant benefits to freight movement and traffic movements in and through Singleton. Improvements in the efficiency and reliability of these transport networks would likely result in increased productivity, reduced costs and broader economic benefits for these workforces.

Employment connectivity

The proposal would improve transport connections, reducing commuting time and lowering vehicle operating costs between employment and tourist destinations.

This section of the New England Highway is a major transport artery for freight travelling between the Port of Newcastle and the Hunter Valley and has supported the significant growth in transportation for coal and agricultural industries and employment in NSW. In 2011, the Hunter region created over 226,500 employment opportunities which are projected to increase to 279,150

by 2031. Further, the gross value added for freight and logistics in NSW was estimated at $58 billion in 2011, with approximately half a million people working in logistics in NSW.

The NSW Government is committed to delivering an efficient and effective transport system that reduces the time it takes to travel around Sydney and across NSW (Roads and Maritime, 2013). As discussed in Section 6.5 of the REF, more trips would be completed in both peak periods with no unreleased trips in the morning or afternoon peak period. The proposal would help meet this NSW Government commitment by increasing average speeds for freight and passenger movements on the New England Highway.

8 Assessment of cumulative impacts

Cumulative impacts are those that result from the successive, incremental, and/or combined effects of a proposal when added to other existing, planned, and/or reasonable anticipated future projects. The cumulative effect of multiple proposals may decrease or intensify the socio-economic impacts on a particular receiver. Cumulative socio-economic impacts associated with transport and infrastructure proposals include:

- Extended periods of construction impacting local amenity, disruption to traffic and pedestrian networks
- Incremental loss or severance of open space
- Economic effects including changes to business operation and revenues
- Construction traffic from multiple proposals placing additional pressure on road networks and parking capacity
- Consultation and construction fatigue for local communities due to the concurrent or sequential planning and construction nature of the proposal.

Construction fatigue relates to receivers that experience construction impacts from a variety of proposals over an extended period of time with few or no breaks between construction periods. Construction fatigue may be brought on through traffic and access disruptions, increased noise and vibration, reduced air quality, reduced visual amenity, or any combination of these factors.

An assessment of the degree of impact arising from both the proposal and other nearby projects is provided below.

8.1 Review of other major projects

Major projects within the vicinity of the proposal and which are anticipated to result in cumulative impacts with the proposal are identified in Table 8-1.

Table 8-1 Major projects in the vicinity of the proposal and the anticipated cumulative impacts

Project	Distance from proposal	Description	Cumulative impacts
Roads and Maritime projects			
New England Highway upgrade between Belford and the Golden Highway	8km to the south-east	Roads and Maritime is planning to upgrade the New England Highway between Belford and the Golden Highway. The project would include: • Widening the New England Highway to provide a divided road with two travel lanes in each direction between Belford and the Golden Highway. This is the last section of the route between Newcastle and the Golden Highway intersections to be upgraded to a four lane divided road • Replacing the existing right turn movement form the Golden Highway to the New England Highway with a right turn flyover • Removing the Whittingham rest area near the New England Highway and Golden Highway intersection • Establishing a road corridor for future development of the New England Highway towards Singleton. The timing of this project is not confirmed.	*Construction* Given the construction stages of each project are unlikely to overlap, cumulative socio-economic impacts with this project are not likely to occur. However, depending on the timing of each construction phase, the ongoing and cumulative impacts of multiple road projects being undertaken back to back may result in construction fatigue impacts on residents and businesses in the region. The majority of the work proposed as part of the Singleton bypass would be carried out in agricultural land west of the current New England Highway route. There would be a small and localised amount of work involved with tying in the proposed bypass to the New England Highway both north and south of the township of Singleton. As the proposed work on trafficable roads (New England Highway) would be minor, it is unlikely that road users, residents and businesses would experience impacts from these works. *Operation* No negative cumulative impacts are expected to occur as a result of the operation of both the proposal and the New England Highway upgrade between Belford and the Golden Highway. The operation of the proposal and this project may assist in improving road user experience, such as improved travel time reliability and Level of Service.

Project	Distance from proposal	Description	Cumulative impacts
Roads and Maritime projects			
Other projects			
Rix's Creek Extension Project	Adjacent to proposal area	This project involves approval for the ongoing operation of the existing open cut mine and a small extension to the western boundary of the existing Mine Lease. The main components of this project are: • Extension of the operation of the existing mine for 21 years from the date of approval • Increasing production limits to a maximum of 4.5 million tonnes of run-of-mine coal • Extension of open cut mining of Pit 3. This project is expected to commence in 2020.	*Construction* The Rix's Creek Mine is an existing operation just north of the proposal. The extension of the mine is identified to occur in a north-westerly direction, which would move mining activities away from Singleton. Further, the activities carried out in the expansion would be generally consistent with current operations of the Rix's Creek Mine and is not anticipated to result in cumulative impacts during the extension phase of the project. *Operation* There is not anticipated to be any negative cumulative impacts associated with the concurrent operation of the proposal and Rix's Creek Extension Project.
United Wambo Open Cut Coal Mine	10 km to the west	The project involves merging the existing open cut operations at Wambo and establishing an open cut mine at United Collieries. The project is expected to produce up to 10 million tonnes of run-of-mine coal. Other parts of the project include: • Relocating a two kilometre stretch of the Golden Highway • Relocating a section of 330 kilovolt and 660 kilovolt transmissions lines to optimise coal recovery from the proposed open cut mine at United Collieries. This projected to commence in 2020.	*Construction* The United Wambo Open Cut Coal Mine is approximately 16 km west of Singleton and extends in a northern direction, away from Singleton. In addition, this mine is located on the Golden Highway. No noticeable cumulative impacts are anticipated to occur with the proposal. *Operation* There is not anticipated to be any negative cumulative impacts associated with the concurrent operation of the proposal and the United Wambo Open Cut Coal Mine project.

9 Environmental management

9.1 Management of impacts

Socio-economic impacts associated with other key environmental issues would be managed in accordance with the recommended management and mitigation measures outlined in their respective technical assessments for the proposal.

Mitigation measures to address direct socio-economic impacts on sensitive receivers and to manage community concerns with regard to key environmental issues are summarised in Table 9-1.

Table 9-1 Mitigation measures to be implemented

Impact	Environmental safeguards	Responsibility	Timing
Landowner impacts	Landowner surveys will be carried out to: • Gather information about the current use and activities carried out on their property • Identify how the proposal would affect ongoing land use and activities on their property • Inform the development of appropriate mitigation measures.	Roads and Maritime	Detailed design
Community cohesion	A Communication Plan (CP) will be prepared and implemented as part of the CEMP to ensure provision of timely and accurate information to the community during construction. The CP will include (as a minimum): • Mechanisms to provide details and timing of proposed activities to affected residents, including changed traffic and access conditions • Contact name and number for complaints • How the project webpage will be maintained for the duration of the proposal. • Minimum consultation activities to be carried out • A complaints handling procedure.	Roads and Maritime	Detailed design and construction
Community cohesion	Property acquisition will be carried out in accordance with the *Land Acquisition Information Guide (Roads and Maritime, 2014)* and the *Land Acquisition (Just Terms Compensation) Act 1991.*	Roads and Maritime	Detailed design and construction
Business impacts	Roads and Maritime will develop a signage strategy for the entrances to Singleton, in consultation with Singleton Council to encourage motorists to visit Singleton. This will include signage showing: • The travel distances and estimated times for travelling routes via the bypass compared to travelling via the Singleton town centre • Services and facilities available within the Singleton township • Any visitor attractions within the Singleton township	Roads and Maritime	Detailed design and operation

Impact	Environmental safeguards	Responsibility	Timing
Business impacts	Roads and Maritime will engage with Singleton Council and local businesses regarding the progress of the proposal to allow businesses time to prepare for changed traffic conditions through the town.	Roads and Maritime	Detailed design and construction

10 Conclusion

This SEIA has reviewed the existing socio-economic environment of Singleton which may be impacted as a result of the proposal.

The proposal has aimed to minimise potential impacts through the proposal design. The proposal has been designed to try and limit direct impacts on dwellings and minimise impacts on property boundaries. It has also been designed to limit property acquisition where possible.

The SEIA process involved the following tasks:

- Identification of the study area
- Literature review of other bypass studies
- Review of community consultation undertaken for the proposal as well as conducting shopper and business surveys for this SEIA. This has assisted in the understanding of the socio-economic environment of Singleton and identification of potential impacts, including perceived impacts, as a result of the interactions between the proposal and the existing socio-economic environment
- Identification and implementation of assessment framework for determining the significance of social impacts
- Impact identification and assessment including a review of different technical studies undertaken as part of the REF
- Recommendation of mitigation and management measures.

While the construction of the proposal is likely to stimulate broader economic benefits by way of job generation and construction multipliers, at a more local level, residential, social infrastructure users, businesses and landowners would experience a degree of disruption and other temporary negative impacts. This would be particularly felt by people located within close proximity to the proposed construction compounds and within close proximity to the bypass alignment.

Impacts associated with full or partial acquisition of properties, including loss of land through acquisition could also relate to loss of infrastructure and property severance. These impacts would vary according to individual circumstances. Amenity impacts on residents, social infrastructure and recreational facilities along or adjacent to the proposal created by increased noise and decreased visual amenity and air quality from the construction of the proposal would also be experienced.

Once operational, the proposal is likely to result in an overall major positive impact to the study area and broader region due to enhanced network capacity and connectivity along the New England Highway. The proposal would particularly support freight and commercial vehicle movements between the major economic regions of the Hunter Valley. Singleton and nearby communities would benefit from improvements in increased travel speeds. Other receivers may experience a slight reduction in the amenity due to alterations in views of new transport infrastructure.

The town centre of Singleton is anticipated to receive improved amenity benefits associated with reduced congestion and traffic, mostly associated with heavy vehicles. This is expected to result in improved travel times and improved safety within the town centre, with potential to lead to improved air quality as a result of reduced vehicle congestion. This is expected to enable Singleton to increase pedestrian activity and accessibility within the town centre.

Roads and Maritime would implement mitigation and management measures to avoid or minimise impacts. Ongoing consultation with affected property owners, businesses and communities as well as community participation in the ongoing planning, environmental management and monitoring would be important in avoiding and minimising potential socio-economic impact during construction and operation of the proposal. The implementation of the various environmental management measures identified in the REF for the proposal would also be important in mitigating potential amenity impacts.

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Appendix A

Socio-economic data tables

Table 11-1 Key demographic characteristics of the local and regional study area (2006, 2011 and 2016 Censuses)

Key Demographic	Singleton SA2			Singleton LGA			NSW Average		
Statistics	**2006**	**2011**	**2016**	**2006**	**2011**	**2016**	**2006**	**2011**	**2016**
Median age	N/A*	33	35	34	35	36	37	38	38
Total Resident Population (no. persons)	N/A	16,136	16,089	21,937	22,694	22,987	6,549,178	6,917,658	7,480,228
Population aged <15 (no. persons)	N/A	3646	3453	5363	5030	4862	1,298,914	1,332,511	1,386,330
%^	N/A	22.59%	21.46%	24.44%	22.16%	21.15%	19.83%	19.26%	18.53%
Population aged 15+ (no. persons)	N/A	12,489	12,645	16,575	17,665	16,446	5,250,265	5,585,147	6,093,914
%^	N/A	77.39%	78.59%	75.55%	77.84%	71.54%	80.16%	80.73%	81.46%
Population aged 65+ (no. persons)	N/A	1658	1940	2074	2351	2923	905,778	1,018,178	1,217,646
%^	N/A	10.27%	12.05%	9.45%	10.35%	12.715%	13.83%	14.72	16.27%
Unemployment rate	N/A	317	560	453	394	705	183,157	196,525	225,546
Indigenous population (no. persons)	N/A	684	994	581	845	1302	138,507	172,621	216,176
%^	N/A	4.2%	6.2%	2.648%	3.72%	5.66%	2.1%	2.50%	2.9%
Speaks a language other than English at home (no. persons)	N/A	481	317	428	606	715	1,314,556	1,554,333	735,563
%^	N/A	2.98%	5.3%	1.95%	2.67%	3.11%	20.07%	22.47%	26.5%

*N/A denotes information not available for respective Census year
^percentage of total resident population for respective Census year

Table 11-2 Population Projections for Singleton LGA (NSW Department of Planning & Environment, 2017)

Year	Projected Population for Singleton LGA	Percentage increase (from previous 5 year period)
2011	23,500	N/A
2016	24,700	5.11%
2021	25,800	4.45%
2026	26,800	3.88%
2031	27,750	3.54%
2036	28,600	3.06%

Table 11-3 2016 Labour Force Characteristics

Key Demographic	Singleton SA2	Singleton LGA	NSW
Statistics	**2016**	**2016**	**2016**
Total Labour Force	8129	11,531	3,605,872
Employed full time (FT)	4898	6859	2,134,521
%^	60.3%	59.5%	59.2%
Employed part time (PT)	2271	3333	1,071,151
%^	27.9	28.9%	29.7%
Employed away from work*	399	634	174,654
%^	4.9%	5.49%	4.8%
Unemployed	560	705	225,546
%^	6.9%	6.11%	6.3%

*Employed full time or part time, but away from work at the time of the 2016 Census
^percentage of total labour force for each geographical location

Table 11-4 Residential dwelling characteristics

	Category	Singleton SA2		Singleton LGA			NSW Average		
Residential dwelling characteristics	Statistics	*2011	2016	2006	2011	2016	2006	2011	2016
	Separate House	4738 (78.33%)	4691 (75.60%)	6491 (89.06%)	6886 (79.72%)	6790 (77.99%)	1,662,621 (71.41%)	1,717,701 (62.77%)	1,729,820 (59.87%)
	Semi-detached, townhouse or terrace house	399 (6.59%)	558 (8.99%)	280 (3.84%)	404 (4.68%)	558 (6.4%)	226,552 (9.73%)	263,926 (9.64%)	317,447 (10.98%)
	Flat or apartment	353 (5.83%)	262 (4.22%)	399 (5.47%)	351 (4.06%)	269 (3.08%)	411,793 (17.68%)	465,188 (17.00%)	519,380 (17.97%)
	Other dwelling (caravan, cabin, tent, flat attached to a shop)	98 (1.62%)	57 (0.91%)	118 (1.61%)	114 (1.32%)	63 (0.72%)	25,703 (1.10%)	21,141 (0.77%)	23,583 (0.81%)
	Dwelling not stated	3 (0.04%)	32 (0.51%)	0	4 (0.05%)	53 (0.60%)	1548 (0.06%)	3343 (0.12%)	14,077 (0.48%)
	Unoccupied private dwelling	457 (7.55%)	603 (9.71%)	N/A	879 (10.18%)	972 (11.16%)	N/A	265,338 (9.69%)	284,741 (9.85%)

*2006 Census data not available for Singleton SA2
Percentages may not add to 100% due to rounding

Table 11-5 Home ownership and household structure

	Category	Singleton SA2		Singleton LGA			NSW Average		
Home Ownership	Statistics	2011	2016	2006	2011	2016	2006	2011	2016
	Owned outright	1593 (28.5%)	1557 (27.8%)	2392 (32.82%)	2383 (30.72%)	2371 (30.6%)	810,706 (34.82%)	820,006 (33.18%)	839,665 (32.2%)
	Owned with a mortgage	2165 (38.80%)	2046 (36.5%)	2827 (38.78%)	3082 (39.73%)	2943 (38.0%)	742,157 (31.87%)	824,293 (33.35%)	840,004 (32.3%)
	Rented	1704 (30.5)	1838 (32.80%)	1876 (25.74%)	2117 (27.29%)	2200 (28.40%)	687,430 (29.52%)	743,050 (30.07%)	826,922 (31.8)
	Other tenure type	23 (30.5)	37 (0.7%)	40 (0.54%)	42 (0.54%)	58 (0.7%)	19,259 (0.82%)	20,418 (0.83%)	23,968 (0.9%)
	Tenure type not stated	106 (1.9%)	126 (2.2%)	153 (2.09%)	133 (1.71%)	171 (2.2%)	68,666 (2.94%)	63,529 (2.57%)	73,763(2.8%)
Household Structure	Family households	4150 (74.2%)	4077 (72.8%)	5722 (74.9%)	5951 (76.7%)	5850 (75.6%)	1,678,500 (67.9%)	1,777,398 (71.92%)	1,874,524 (72.0%)
	Single (or lone)	1272 (22.7%)	1380 (24.6 %)	1388 (18.2%)	1601 (20.64%)	1719 (22.2%)	526,628 (22.8%)	599,148 (24.24%)	620,778 (23,80%)
	Group household	172 (3.1%)	144 (2.6%)	178 (2.3%)	199 (2.57%)	166 (2.1%)	82091 (3.5%)	94,750 (3.83%)	109,004 (4.2%)

*2006 Census data not available for Singleton SA2
Percentages may not add to 100% due to rounding

Table 11-6 Employment by industry 2016

Industry	Singleton SA2		Singleton LGA		NSW	
	No. persons	%	No. persons	%	No. persons	%
Agriculture, Forestry and Fishing	95	1.25%	407	3.76%	72,625	2.15%
Mining	1879	24.82%	2531	23.39%	31,736	0.94%
Manufacturing	315	4.16%	495	4.57%	197,331	5.84%
Electricity, Gas, Water and Waste Services	230	3.04%	291	2.69%	31,881	0.94%
Construction	440	5.81%	678	6.27%	282,491	8.36%
Wholesale Trade	163	2.15%	236	2.18%	103,722	3.07%
Retail Trade	592	7.82%	808	7.47%	326,396	9.66%
Accommodation and Food Services	602	7.95%	819	7.57%	239,222	7.08%
Transport, Postal and Warehousing	209	2.76%	328	3.03%	158,760	4.70%
Information Media and Telecommunications	30	0.40%	47	0.43%	73,398	2.17%
Financial and Insurance Services	72	0.95%	118	1.09%	167,259	4.95%
Rental, Hiring and Real Estate Services	110	1.45%	153	1.41%	59,652	1.76%
Professional, Scientific and Technical Services	205	2.71%	305	2.82%	274,078	8.11%
Administrative and Support Services	312	4.12%	454	4.20%	117,482	3.48%
Public Administration and Safety	621	8.20%	719	6.64%	204,173	6.04%
Education and Training	458	6.05%	648	5.99%	282,568	8.36%
Health Care and Social Assistance	599	7.91%	829	7.66%	422,195	12.49%
Arts and Recreation Services	60	0.79%	81	0.75%	51,775	1.53%
Other Services	337	4.45%	481	4.44%	124,477	3.68%
Inadequately described/Not stated	241	3.18%	395	3.65%	159,108	4.71%
Total	**7570**	**-**	**10,822**	**-**	**3,380,332**	**-**

Percentages may not add to 100% due to rounding

Table 11-7 Journey to work (Single Method only) 2016

Transport Method	Singleton SA2		Singleton LGA		NSW	
	No. persons	%	No. persons	%	No. persons	%
Train	6	0.10%	7	0.10%	252,786	9.30%
Bus	24	0.40%	26	0.30%	133,903	4.90%
Ferry	0	0.00%	0	0.00%	7752	0.30%
Tram (includes light rail)	0	0.00%	0	0.00%	2732	0.10%
Taxi	12	0.20%	11	0.10%	6694	0.20%
Car, as driver	5462	84.90%	7566	85.60%	1,953,399	71.60%
Car, as passenger	374	5.80%	472	5.30%	144,820	5.30%
Truck	74	1.20%	122	1.40%	32,908	1.20%
Motorbike/scooter	45	0.70%	72	0.80%	21,159	0.80%
Bicycle	26	0.40%	26	0.30%	23,332	0.90%
Other	118	1.80%	137	1.60%	18,811	0.70%
Walked only	304	4.70%	386	4.40%	130,957	4.80%
Total one method	**6433**	**-**	**8834**	**-**	**2,729,260**	-

Percentages may not add to 100% due to rounding

Table 11-8 Place of work per industry between Singleton SA2 and Singleton LGA

Industries	Singleton SA2	Singleton LGA
Retail Trade	886	46
Agriculture	105	350
Mining	1490	5135
Manufacturing	363	399
Electricity, gas, water	94	27
Construction	520	429
Wholesale trade	155	228
Accommodation & Food Services	703	176
Transport Postal & Warehousing	290	100
Information Media & Telecommunications	47	3
Financial & Insurance Services	121	12
Rental, Hiring & Real Estate	174	28
Professional, Scientific & Technical Services	278	78
Administrative & Support Services	468	271
Public Administration & Safety	995	67
Education & Training	619	101
Health Care & Social Assistance	797	18
Arts & Recreation Services	61	12
Other Services	455	229

Table 11-9 Vehicle ownership count of private occupied dwellings 2016

	Category	Singleton SA2		Singleton LGA		NSW Average	
		Number	%	Number	%	Number	%
Social Characteristics	No motor vehicles	266	4.75%	288	3.72%	239,625	9.20%
	One motor vehicle	1777	31.75%	2146	27.72%	946,159	36.33%
	Two motor vehicle	2215	39.58%	3078	39.76%	887,849	34.09%
	Three motor vehicle	785	14.03%	1248	16.12%	283,044	10.87%
	Four motor vehicle	389	6.95%	742	9.59%	152,005	5.84%
	Not stated	160	2.86%	241	3.11%	95,623	3.67%

Percentages may not add to 100% due to rounding

Appendix B

Business impact surveys

Business survey form

AECOM Imagine it. Delivered.

Roads and Maritime
15-Nov-2018

Business Impact Survey - Questionnaire

Singleton Bypass

Business Survey

Good morning/afternoon, my name is _____ and I'm from AECOM / Roads and Maritime. I am visiting on behalf of Roads and Maritime in relation to the Singleton Bypass proposal. We are undertaking an investigation into the potential social and economic impact of the proposal and are seeking input from business to help inform the impact assessment.

Would you be interested in participating in this survey? The survey should only take about 10 minutes to complete. All of the information you provide will be strictly confidential and will only be used to assist in understanding the socio-economic impacts of the proposal.

1. Are you aware of the Singleton Bypass project?

□ Yes	□ No	□ Unsure

Note to interviewer: Interviewer to ensure survey feels like a chat, open ended questions have been placed at the beginning of the survey to encourage a natural flow and feel to the conversation.

Business Information

2. Name of business

3. Contact / phone number

4. Address of business

5. Business type? (select multiple if necessary)

□ Retail	□ Food/beverage	□ Recreational / tourism	□ Professional / finance
□ Construction	□ Health care	□ Education	□ Wholesale
□ Service station	□ Other (please specify)		

6. How long have you operated in Singleton?

□ < 6 months	□ 6-12 months	□ 12 months – 2 years	□ 2 years – 5 years
□ 5 – 10 years	□ > 10 years		

7. What are your main trading days?

□ Weekdays (Mon to Friday)	□ Monday to Saturday	□ Seven days	□ Weekends only
□ Other (please specify)			

8. What are your general trading or opening hours?

□ Between 7am and 6 pm	□ Between 6 pm and 12 am	□ Open 24 hours
□ Other (please specify)		

9. How many of your staff are:

□ Full time: ____ □ Part time ____ □ Casual ____

10. Do your staff work shifts outside of normal business hours?

□ Yes	□ No

11. Broadly, where your costumers come from? (select multiple if necessary)

□ Local (Singleton)	□ Region (Hunter)	□ Within NSW	□ Interstate	□ Overseas

12. How would you describe your primary customers?

□ Persons working/living local	□ Visitors to Singleton and surrounds (tourists, family visitors	□ Passing trade (passing through via New England Highway)
□ Other (please specify)		

13. Does your level of business vary seasonally?

□ Yes	□ No (got to Q 15)

14. If yes, how does it vary? (e.g. during major events and holiday season)

15. Does your level of business vary within the week?

□ Yes	□ No (got to Q 17)

16. If yes, when does it vary? (e.g. more business on weekends).

17. How dependent is your business on passing trade (ie customers who visit because they are passing through)?

□ No dependant	□ Slightly dependent	□ Moderately dependent	□ Highly dependent

18. How dependent is your business on visibility?

□ Not dependant	□ Slightly dependent	□ Moderately dependent	□ Highly dependent

19. What are the three main ways you promote your business to passing customers?

□ Shop signage	□ Billboards	□ A-frame	□ Posters
□ Television	□ Radio	□ Vehicle signage	□ Transport advertising (buses, bus stops, seating)
□ Flyers	□ Other (please specify)		

20. Is there any part of your business that you think might be affected by road construction activities (e.g. sensitive equipment or need for quiet times)

□ Yes	□ No (got to Q 22)

21. If yes, please outline these below.

22. How do you think your business may be impacted by the bypass when it is in operation/after it has been built?

□ Large increase in trade	□ Some increase in trade	□ No change/ same	□ Some loss in trade	□ Large loss in trade	□ Unsure

23. Specifically, what positive aspects do you think the project may deliver to your business,

a. during construction?

b. during operation?

24. What negative aspects do you think the project may deliver to your business:

c. during construction?

d. during operation?

25. What strategies do you think Roads and Maritime should consider to minimise negative impacts on your business?

□ Variable Message Signage (VMS) during construction

□ Variable Message Signage (VMS) during first 6 months of operation

□ Tourism / Bypass town sign (show image)

□ Other:

Comments:

26. Do you have any other feedback or comments you would like to provide? (Surveyor to record feedback/comments provided at any point during the survey)

Note to interviewer: Interviewer and RMS representative must have a post interview debrief to ensure all information has been recorded.

27. Would you like a further opportunity to discuss the potential impacts of this project face to face with one of our consultation team?

□ Yes	□ No, no necessary

Contact details:

Business Survey results

In order to identify the impacts associated with businesses in Singleton, 39 businesses located in the local study area were surveyed. The business surveys were carried out from 26 – 29 November 2018 by a team consisting of a community engagement consultant and an environmental engineer. It is assumed each survey respondent represented their business as a whole, as business owners and managers were consulted.

This appendix provides an overview of the core themes and responses to the business survey and a summary is provided in Section 5.1 of the report.

Survey approach

A business impact survey was undertaken to gain a better understanding of the main issues, perceptions and concerns of local businesses in regard to construction and operation of the proposal. The survey also provided information about how the businesses are currently operating.

Surveys were undertaken over an initial two days, with an additional two days following up businesses that were not available at the initial contact.

The surveys were targeted at a proportion of the businesses that were considered dependent on passing trade. A desktop impact assessment was completed for those businesses that were considered unlikely to be dependent on passing trade.

Businesses located on land that would be directly acquired by the proposal were not included in the survey.

Specifically, the survey was offered to select businesses located along:

- George Street, Singleton
- William Street, Singleton
- Maitland Road, Singleton
- Magpie Street, Singleton
- John Street, Singleton
- Waddells Lane, Singleton
- Maison Dieu Road, Singleton
- Hunter Street. Singleton
- New England Highway, McDougalls Hill

The business impact survey was undertaken across a range of business types that were considered dependent on passing trade, including:

- Retail
- Recreational services/tourism
- professional/financial services
- Food/beverage
- Wholesale
- Service stations

Forty businesses were offered the opportunity to complete a survey, and 39 completed surveys were received. One business was provided several opportunities to complete the survey but did not return a completed survey to the proposal team. Thirty-seven businesses completed the survey in person and two businesses completed the survey remotely. Table 11-10 shows the businesses that were surveyed and their corresponding business category.

Table 11-10 Business's surveyed

Business	Business type
Happy Grillmores Pty Ltd	Food/beverage
Bakers of Singleton	Food/beverage
Worn out wares	Food/beverage
Midcity motor inn Singleton	Recreational services / tourism
United Singleton	Retail

Business	Business type
Landcaster Motors	Professional services
Hunter Floral Studio	Retail
Munkeeskins Cafe	Food/beverage
Tre Bella	Retail
BWS	Retail
Parkview cafe	Food/beverage
Cafe 45	Food/beverage
Pizza Hut	Food/beverage
Highway services	Retail
Charbonnier Hotel Singleton	Recreational services / tourism
Country Acres Caravan Park	Recreational services / tourism
Shirts and skirts Laundry	Other
Woolworths petrol station	Retail
Supercheap Auto	Retail
Royal Hotel	Recreational services / tourism / food / beverage
Horse and Jockey Hotel	Recreational services / tourism / food / beverage
Singleton Toyota	Professional services
Bunnings Warehouse	Retail
Caltex	Retail
KFC	Food/beverage
County Motor Inn	Recreational services / tourism
Hungry Jacks	Food/beverage
Subway	Food/beverage
McDonald's	Food/beverage
Criterion Hotel	Recreational services / tourism / food / beverage
Singleton Heights Bakery	Food/beverage
Sports power	Retail
BP	Retail
Singleton Highway Butchery	Retail
Coles Express	Retail
Burdekin Park Pharmacy	Retail
Hertz Car Wash	Retail
Benjamin Singleton Motel	Recreational services / tourism
Caledonian Hotel	Recreational services / tourism / food / beverage

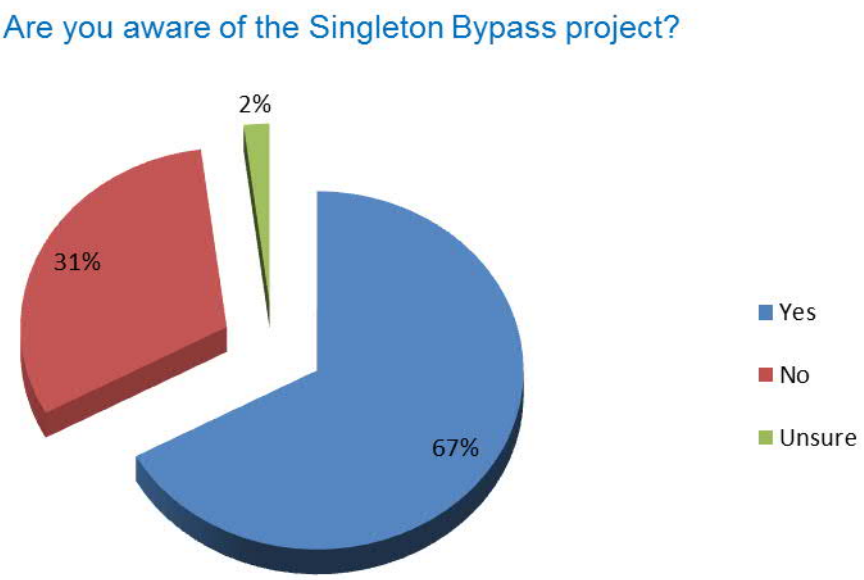
Findings from the business impact surveys have been analysed and summarised below.

Survey results

Awareness of the Singleton bypass proposal

Businesses were asked if they were aware of the Singleton bypass proposal.

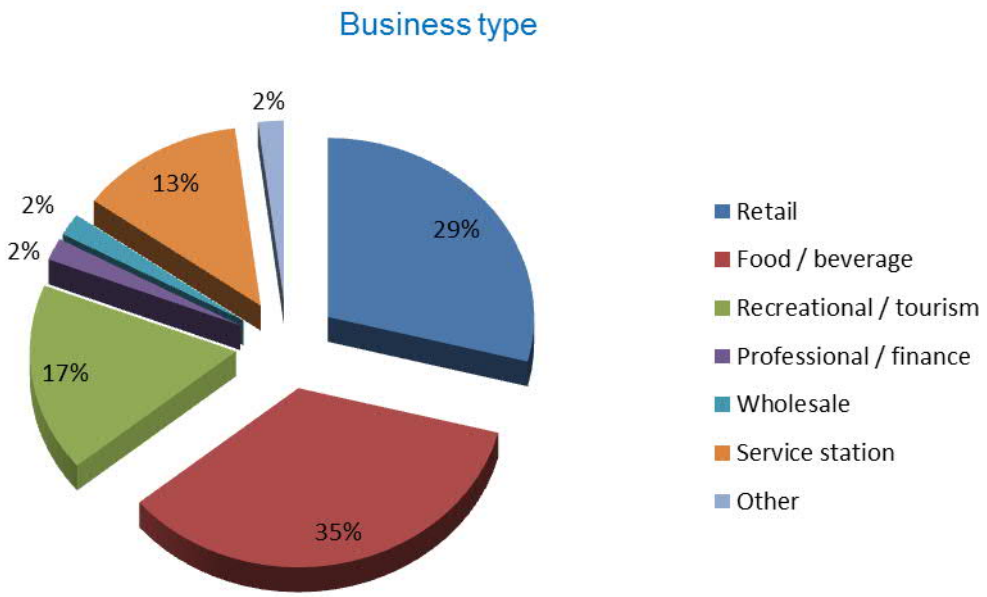
- Twenty-six businesses (67%) were aware of the proposal
- Twelve businesses (31%) had not heard about the proposal
- One business (2%) responded as unsure.



Business type

Businesses who participated in the survey consisted of a range of business types. Businesses were able to select more than one business type.

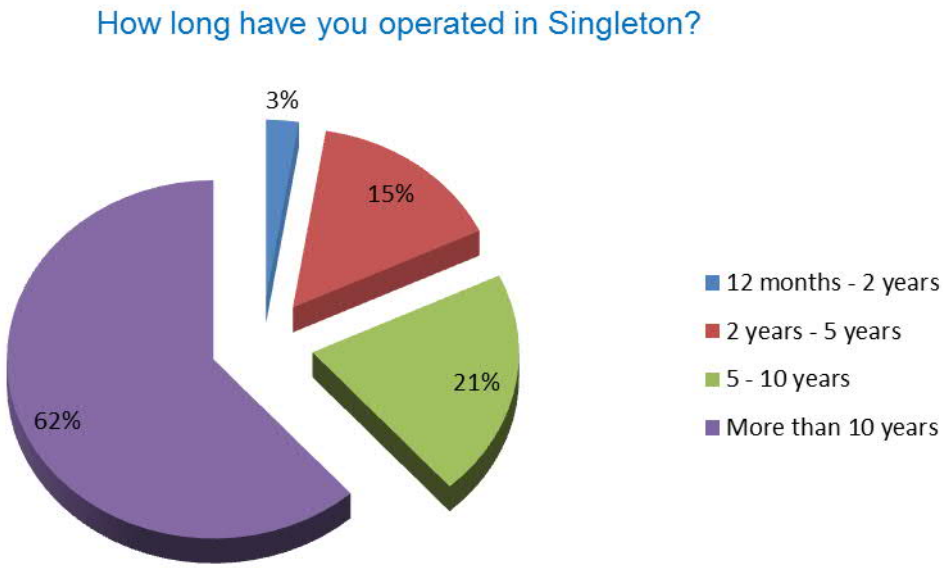
- Seventeen businesses (35%) were food/beverage businesses
- Fourteen businesses (29%) were retail businesses
- Eight businesses (17%) were recreational/tourism businesses or services
- Six businesses (13%) were service stations
- One business (2%) was a professional and financial service
- One business (2%) was a wholesale business
- One business (2%) responded as an ‘other’ business type.



Length of operation

Businesses were asked how long they have been operating in Singleton.

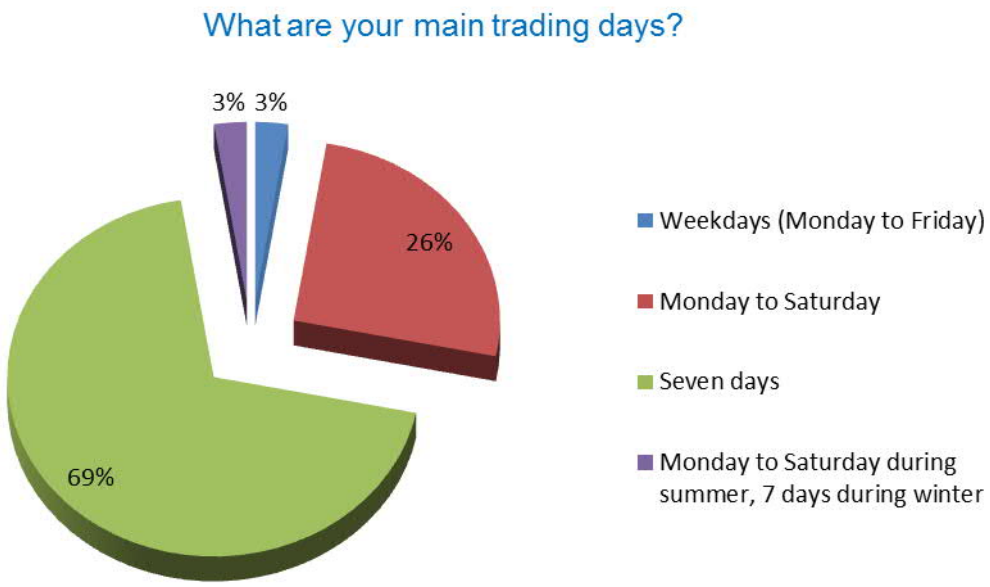
- Twenty-four businesses (62%) had operated in Singleton for more than 10 years
- Eight businesses (21%) had operated for between five and 10 years
- Six businesses (15%) had operated for between two and five years
- One business (3%) had operated for between one year and two years
- None of the businesses surveyed had operated in Singleton for less than a year.



Trading days

Businesses were asked how many days per week they normally trade.

- Twenty-seven businesses (69%) open seven days a week
- Ten businesses (26%) trade between Monday and Saturday
- One business (3%) opens only on weekdays
- One business (3%) trades between Monday to Saturday during summer and seven days during winter
- No businesses were open only on weekends.



General trading hours

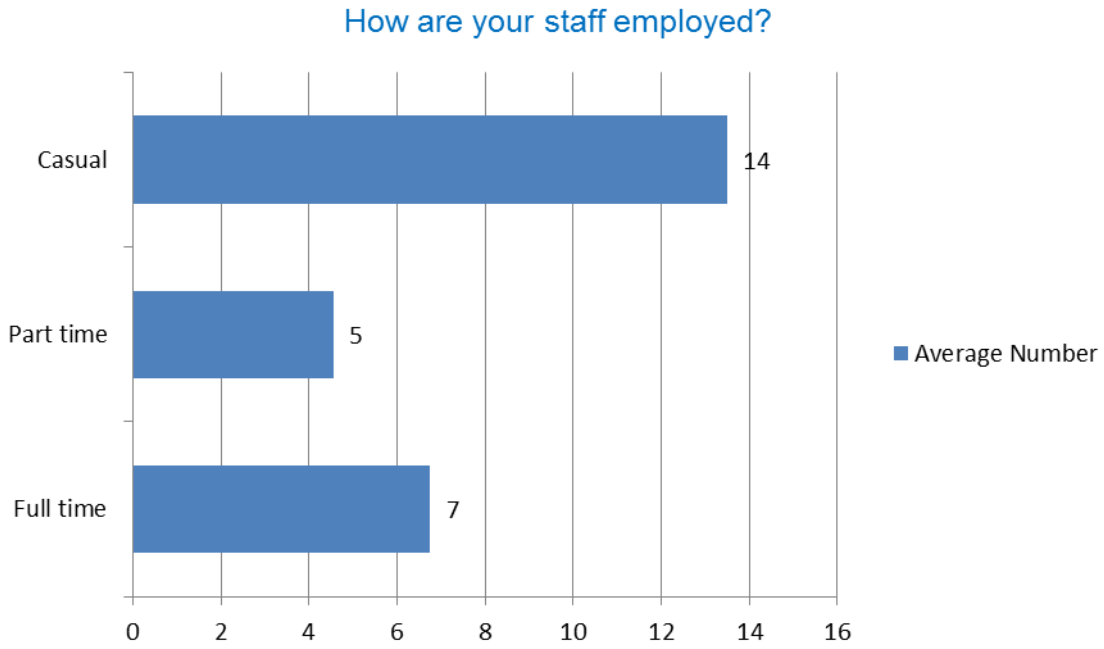
Businesses were asked about their general trading hours.

- Twenty-eight businesses (72%) had opening hours that were sporadic, unique or varied on different days of the week, captured in the 'other' category
- Seven businesses (18%) said they trade 24 hours a day
- Two businesses (5%) have opening hours of 7am to 6pm
- Two businesses (5%) have opening hours of 9am to 5pm
- No businesses said they have opening hours of 6pm and 12am.

Staffing at the businesses

Businesses were asked how they employ their staff.

- At the time of the survey, a total of 773 workers were recorded as being employed by the surveyed businesses
- The average number of staff employed per business was 20. The average business employed 14 staff on a casual basis, seven staff full time and five staff as part time.



A total of 33 businesses said they hire full time staff. Of these:

- Twenty-six businesses (79%) hire between one and five full time staff members
- Two businesses (6%) hires between six and 10 full time staff members
- One business (3%) hires between 11 and 20 full time staff members
- Four businesses (12%) hire over 21 full time staff members.

A total of 15 businesses said they hire part time staff. Of these:

- Ten businesses (67%) hire between one and five part time staff members
- Four businesses (27%) hire between six and 10 part time staff members
- No businesses hire between 11 and 20 part time staff members
- One business (7%) hires over 21 part time staff members.

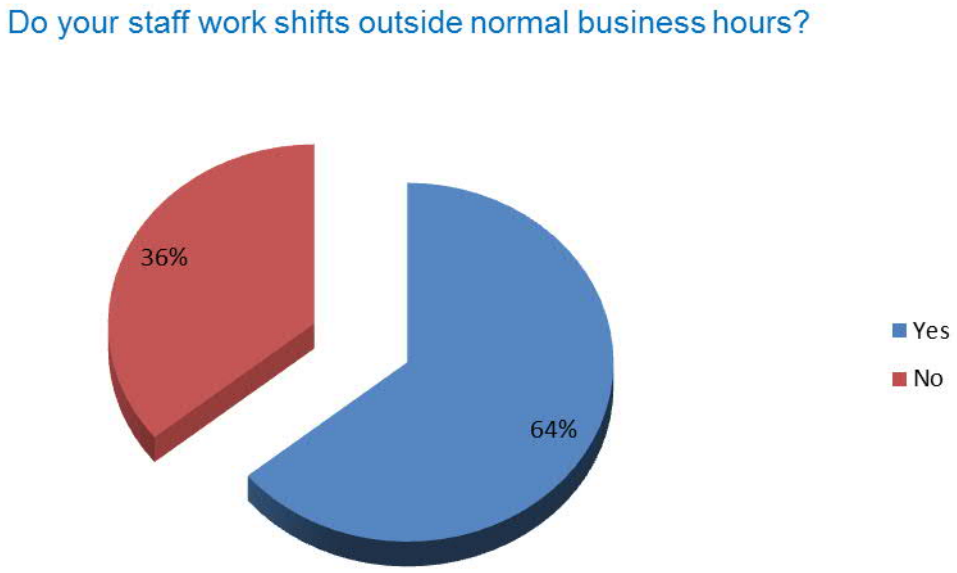
A total of 32 businesses said they hire casual staff. Of these:

- Eighteen businesses (56%) hire between one and five casual staff members
- Four businesses (13%) hire between six and 10 casual staff members
- Six businesses (19%) hire between 11 and 20 casual staff members
- Four businesses (13%) hire over 21 casual staff members.

Staffing working hours

Businesses were asked if staff work shifts outside normal business hours (9am – 5pm).

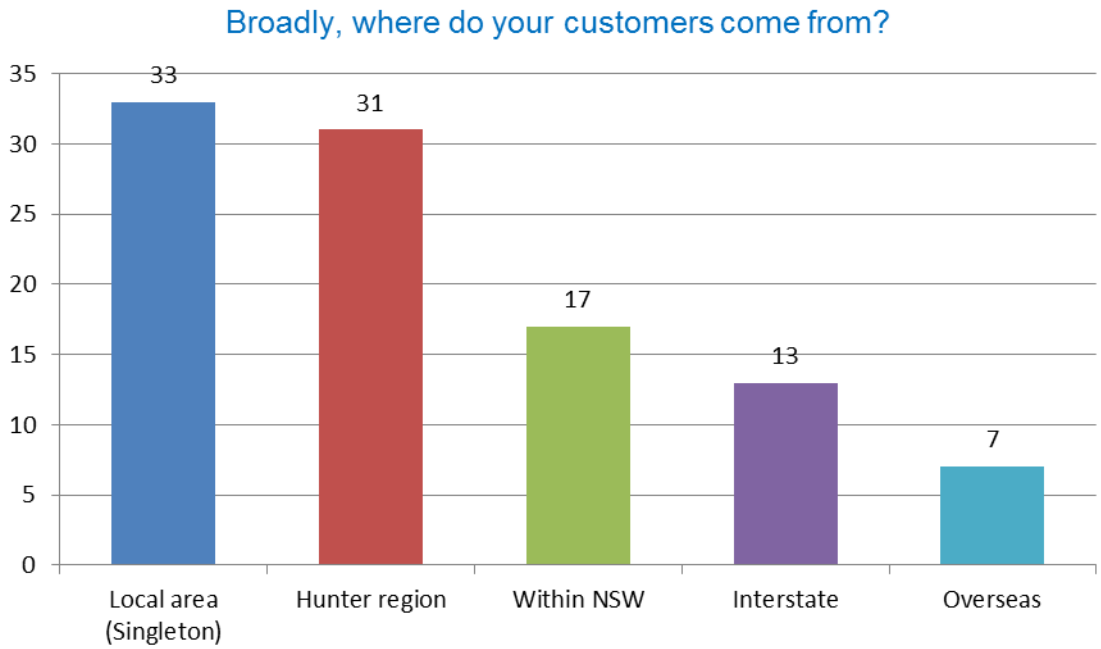
- Twenty-five businesses (64%) said staff work shifts outside normal business hours
- Fourteen businesses (36%) said staff work within normal business hours.



Passers, visitors and local/regional customers

Businesses were asked to answer, on a broad scale, where their customers come from. Businesses were given the opportunity to select multiple answers to this question.

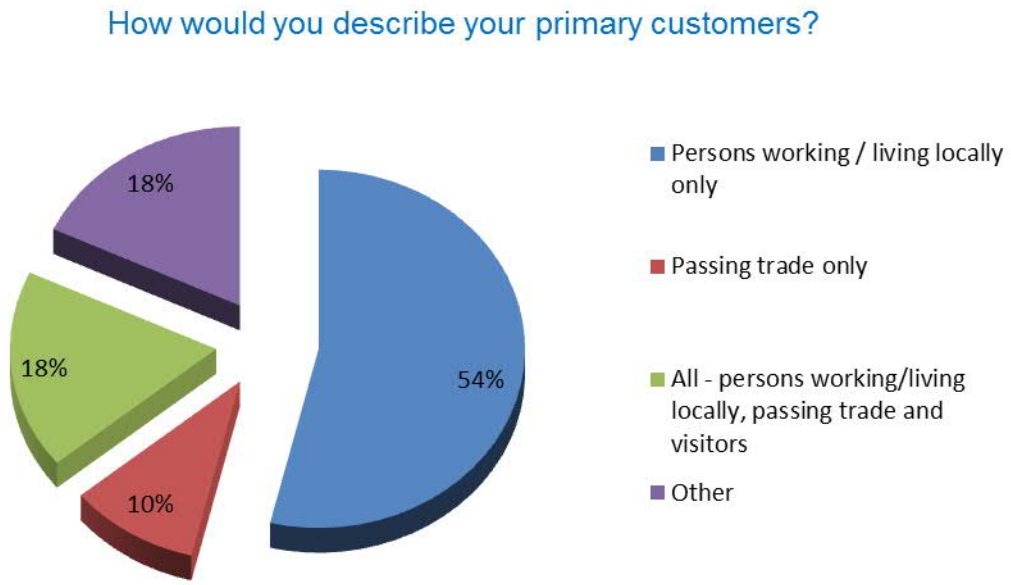
- Thirty-three businesses (85%) said their customers come from the local Singleton area
- Thirty-one businesses (79%) said their customers come from the Hunter region
- Seventeen businesses (44%) said their customers come from within NSW
- Thirteen businesses (13%) said their customers come from interstate
- Seven businesses (7%) said their customers come from overseas.



Primary customers

Businesses were asked to categorise their primary customers.

- Twenty-one businesses (54%) described their primary customers as persons working/ living locally only
- Seven businesses (18%) said their customers were made up of a combination of persons working / living locally, passing trade and visitors to Singleton
- Seven businesses (18%) described other customer types as their primary customers, including mine workers and corporate guests
- Four businesses (10%) said their primary customers consist of passing trade only
- No businesses said their primary customers are visitors to Singleton only.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses who said their primary customers consist of persons working/ living locally only included:

- Ten retail businesses (48%)
- Six food/beverage businesses (29%)
- Two recreational/tourism services (10%)
- One professional/finance service (5%)
- One wholesale business (5%)
- One other business (5%)
- Four service stations (19%).

Businesses who said their primary customers consist of passing trade only included:

- One retail business (25%)
- Two food/beverage businesses (50%)
- One service station (25%).

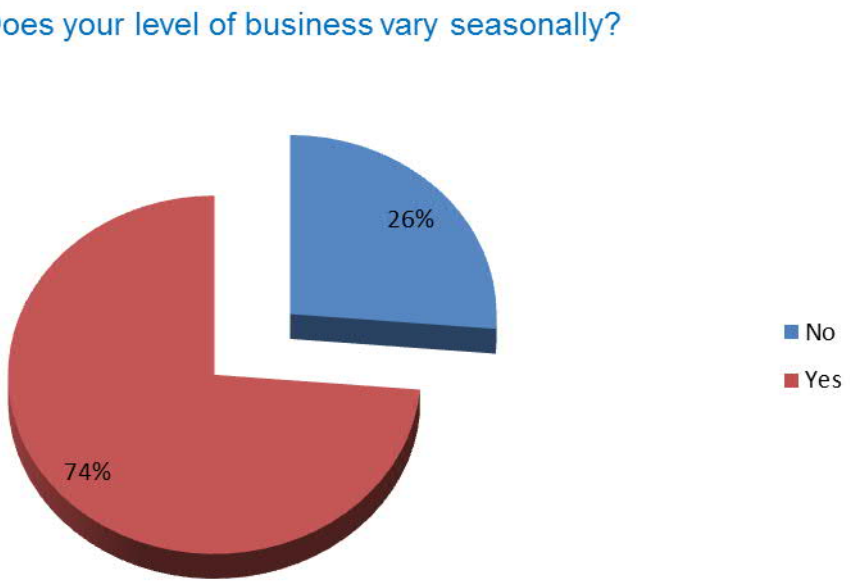
Seasonal variability

Businesses were asked whether their level of business varies seasonally.

- Twenty-eight businesses (74%) said their level of business varies seasonally
- Ten businesses (26%) said their level of business does not vary seasonally
- One business chose not to answer this question.

Businesses who answered yes were also given the opportunity to provide more detail about how their level of business varies seasonally. Twenty-seven businesses chose to elaborate on their answer. General trends included:

- Businesses being busier during holiday periods and major events
- Businesses being busier during the winter months
- Levels of business increasing as the amount of mining work around Singleton also increases.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Business who said their level of business varies seasonally included:

- Ten retail businesses (36%)
- Thirteen food/beverage businesses (46%)
- Six recreational/tourism services (21%)
- One wholesale business (4%)
- One other business (4%)
- Five service stations (18%).

Businesses who said their level of business does not vary seasonally included:

- Four retail businesses (40%)
- Three food/beverage businesses (30%)
- Two recreational/tourism services (20%)
- One professional/financial service (10%)
- One service station (10%).

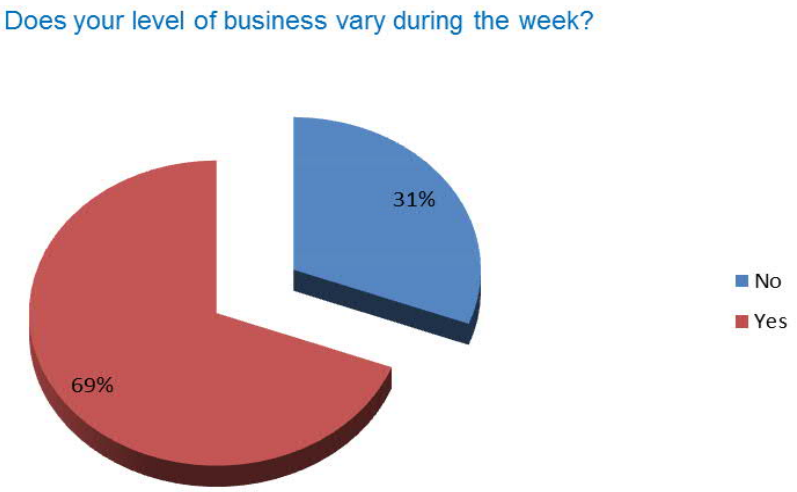
Variability during the week

Businesses were asked whether their level of business varies during the week.

- Twenty-seven businesses (69%) said their level of business varies during the week
- Twelve businesses (31%) said their level of business does not vary during the week.

Businesses who answered yes were also given the opportunity to provide more detail about how their level of business varies during the week. Twenty-seven businesses chose to elaborate on their answer. General trends included:

- Ten businesses (37%) being busier during week days
- Five businesses (19%) being busier just on the weekend
- Twelve businesses (44%) being busier on a mix of week days and weekend days.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses who said their level of business varies during the week included:

- Nine retail businesses (33%)
- Fourteen food/beverage businesses (52%)
- Six recreational/tourism services (22%)
- One wholesale business (4%)
- Three service stations (11%).

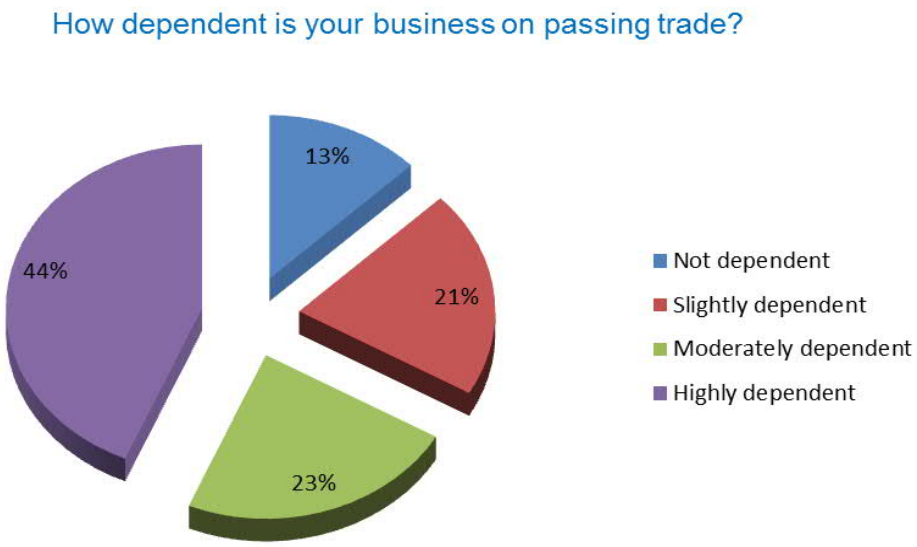
Businesses who said their level of business does not vary during the week included:

- Five retail businesses (42%)
- Three food/beverage businesses (25%)
- Two recreational/tourism services (17%)
- One professional/financial service (8%)
- Three service stations (25%).

Dependency on passing trade

Businesses were asked to consider the dependence of their business on passing trade.

- Seventeen businesses (44%) said they were highly dependent on passing trade
- Nine businesses (23%) said they were moderately dependent on passing trade
- Eight businesses (21%) said they were slightly dependent on passing trade
- Five businesses (13%) said they were not at all dependent on passing trade.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses who said they are highly dependent on passing trade included:

- Five retail business (29%)
- Ten food/beverage businesses (59%)
- Four recreational/tourism services (24%)
- One wholesale business (6%)
- Three service stations (18%).

Businesses who said they are moderately dependent on passing trade included:

- Three retail businesses (33%)
- Four food/beverage businesses (44%)
- One recreational/tourism service (11%)
- One service station (11%).

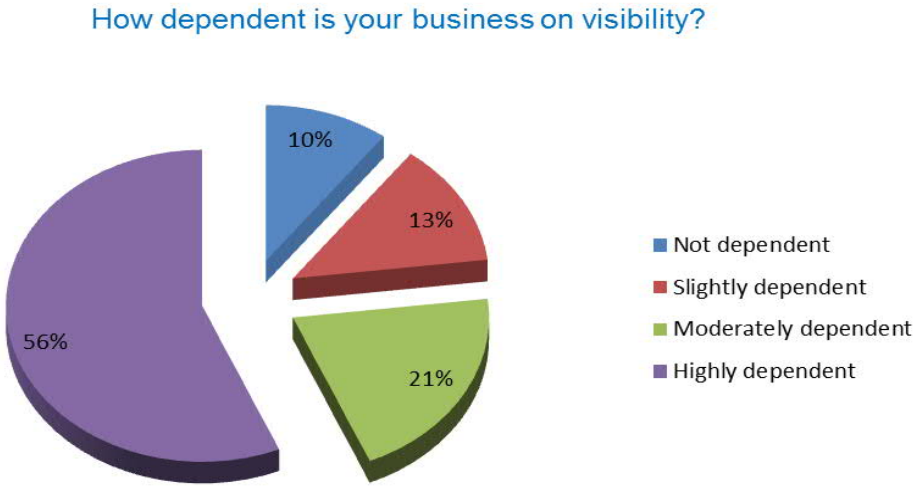
Businesses who said they are slightly dependent on passing trade included:

- Three retail businesses (38%)
- Three food/beverage businesses (38%)
- Two recreational/tourism services (25%)
- One service station (13%).
- Businesses who said they are not at all dependent on passing trade included:
- Three retail businesses (60%)
- One recreational/tourism service (20%)
- One professional/finance service (20%)
- One service station (20%).

Dependency on visibility

Businesses were asked to consider the dependence of their business on the visibility of their business to customers.

- Twenty-two businesses (56%) said they were highly dependent on visibility
- Eight businesses (21%) said they were moderately dependent on visibility
- Five businesses (13%) said they were slightly dependent on visibility
- Four businesses (10%) said they were not at all dependent on visibility.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses who said they are highly dependent on passing trade included:

- Five retail business (23%)
- Nine food/beverage businesses (41%)
- Four recreational/tourism services (18%)
- One wholesale business (5%)
- Three service stations (14%).

Businesses who said they are moderately dependent on passing trade included:

- Three retail businesses (38%)
- Four food/beverage businesses (50%)
- One recreational/tourism service (13%)
- One service station (13%).

Businesses who said they are slightly dependent on passing trade included:

- Three retail businesses (60%)
- Three food/beverage businesses (60%)
- Two recreational/tourism services (40%)
- One service station (20%).

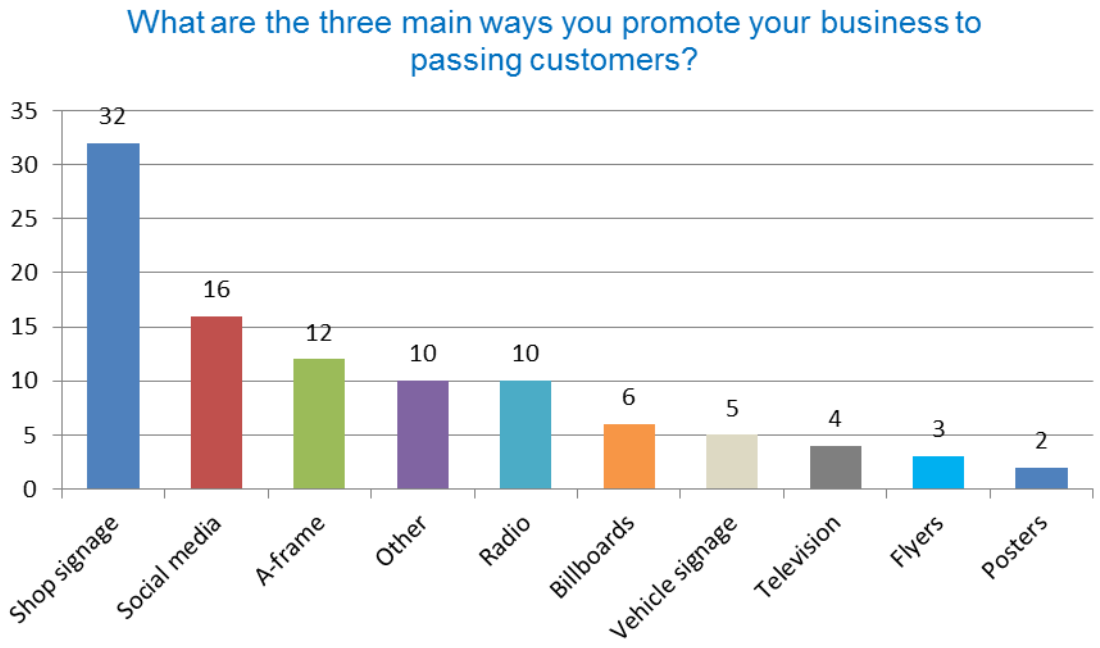
Businesses who said they are not at all dependent on passing trade included:

- Three retail businesses (75%)
- One recreational/tourism service (25%)
- One professional/finance service (25%)
- One service station (25%).

Business promotion

Businesses were asked to select the three main ways they promote their business to passing customers. Businesses were given the opportunity to select multiple answers to this question.

- Thirty-two businesses (82%) said they use shop signage
- Sixteen businesses (41%) said they use social media
- Twelve businesses (31%) said they use A-frames (pavement signs)
- Ten businesses (26%) said they use other methods (ie. word of mouth)
- Ten businesses (26%) said they use radio
- Six businesses (15%) said they use billboards
- Five businesses (13%) said they use vehicle signage
- Four businesses (10%) said they use television
- Three businesses (8%) said they use flyers
- Two businesses (5%) said they use posters.



Perceived construction impacts

Businesses were asked whether they believe road construction activities of the proposal could affect any part of their business.

- Twenty-seven businesses (71%) did not think their business would be affected
- Eleven businesses (29%) thought road construction activities could affect their business
- One business chose not to answer the question.

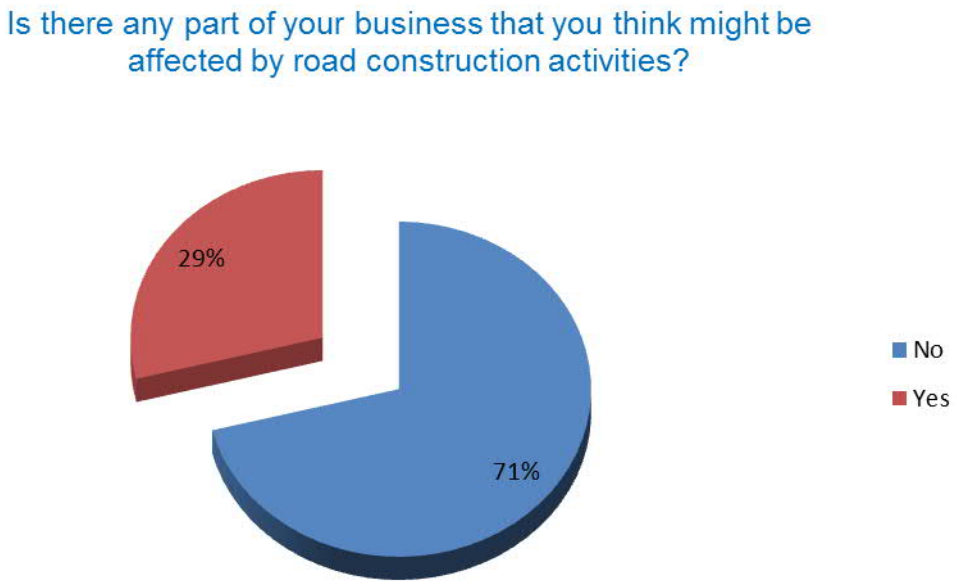
Businesses that believed they would be affected by road construction activities of the proposal were then asked to outline how they would be affected. Responses included:

- Concern about disturbance to customers from noise
- Concern about changes to parking due to construction activities
- Concern about additional traffic which may impact business accessibility.

An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses who thought road construction activities of the proposal could affect their business included:

- Four retail businesses (36%)
- Four food/beverage businesses (36%)
- Eight recreational/tourism services (73%)
- One professional/finance service (9%)
- One wholesale business (9%)
- Six service stations (55%).



Potential positive impacts during construction

Businesses were asked what positive aspects they think the proposal could bring to their business during construction. This was an open ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Eighteen businesses (47%) anticipated a potential increase in trade from construction workers visiting or staying in town while working on the proposal
- Fifteen businesses (39%) could see no positive aspects to their business during construction
- Five businesses (13%) were unsure about the positive aspects the proposal could deliver to their business during construction
- One business chose not to answer the question.

An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses that anticipated a potential increase in trade included:

- Eight recreational/tourism services (44%)
- Eight food/beverage businesses (44%)
- Six retail businesses (33%)
- One service station (6%).

Businesses that could see no positive impacts to their business during construction included:

- Six food/beverage businesses (40%)
- Six retail businesses (40%)
- Four service stations (27%)
- One wholesale business (7%)
- One professional/financial services (7%).

Businesses that were unsure about the positive impacts the proposal could deliver included:

- Two retail businesses (40%)
- Two food/beverage businesses (40%)
- One service station (20%).

Potential negative impacts during construction

Businesses were asked what negative aspects they think the proposal could bring to their business during construction. This was an open ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Sixteen businesses (43%) could see no negative aspects to their business during construction
- Fifteen businesses (41%) anticipated a potential decrease in trade from road closures, traffic and road construction activities
- Six businesses (16%) were unsure of the negative aspects the proposal could deliver to their business during construction
- Two businesses chose not to answer the question.

An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses that could see no negative impacts to their business during construction included:

- Five retail businesses (31%)
- Five food/beverage businesses (31%)
- Six recreational/tourism services (38%)
- One professional/financial services (6%)
- Four service stations (25%).

Businesses that anticipated a potential decrease in trade from road closures, traffic and road construction activities include:

- Seven retail businesses (47%)
- Seven food/beverage businesses (47%)
- Two recreational/tourism businesses (13%)
- Two service stations (13%).

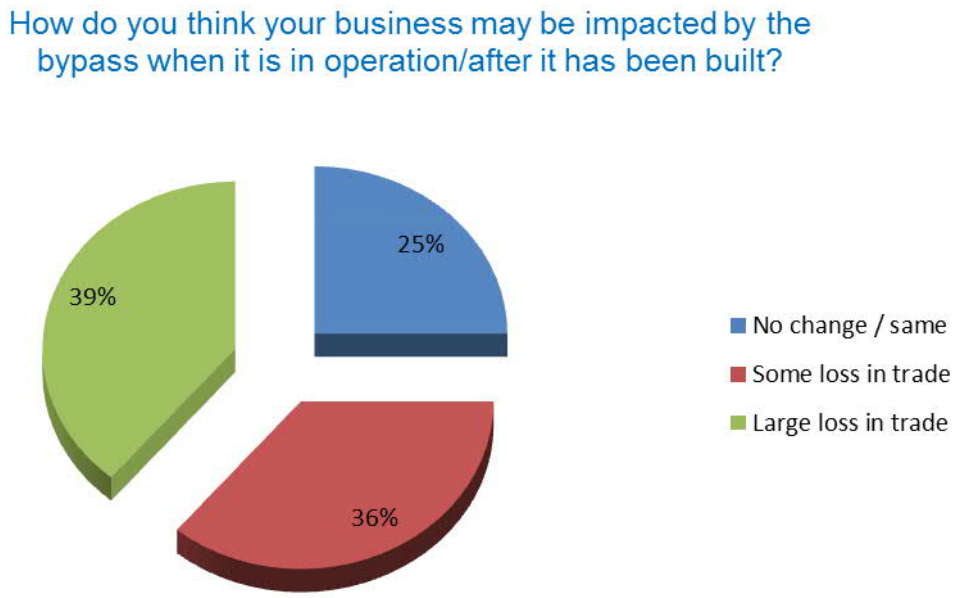
Businesses that were unsure about the negative impacts the proposal could deliver included:

- Two retail businesses (33%)
- Three food/beverage businesses (50%)
- One wholesale business (17%).

Perceived operational impacts

Businesses were asked how their trade might be impacted by the Singleton bypass after it has been built and is operational.

- Fourteen businesses (40%) said they would experience a large loss in trade as a result of the bypass operating
- Thirteen businesses (37%) said they would experience some loss in trade
- Eight businesses (23%) said there would be no change to trade
- No businesses said they would experience an increase in trade after they bypass has been built and is operational.



An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses that said they would experience a large loss in trade as a result of the bypass operating included:

- Six retail businesses (43%)
- Nine food/beverage businesses (64%)
- Two recreational/tourism businesses (14%)
- One wholesale business (7%)
- Two service station (14%).

Business that said they would experience some loss in trade included:

- Five retail businesses (38%)
- Three food/beverage businesses (23%)
- Five recreational/tourism services (38%)
- Two service stations (15%).

Businesses that said there would be no change to trade included:

- Three retail businesses (38%)
- Three food/beverage businesses (38%)
- One recreational/tourism services (13%)
- One professional/finance services (13%)
- One service station (13%).

Perceived positive impacts during operation

Businesses were asked what positive aspects they think the proposal could bring to their business during operation. This was an open ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Twenty businesses (51%) said they could see no positive aspects to their business during operation
- Fifteen business (38%) said a positive impact could be a potential decrease in traffic in Singleton, making the town quieter and less congested
- Three businesses (8%) also mentioned that the streets would be safer for customers entering or leaving their business due to reduced traffic
- One business (3%) said they were unsure about the potential positive impacts of the proposal during operation.

An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses that said they could see no positive aspects to their business during operation included:

- Seven retail businesses (35%)
- Nine food/beverage businesses (45%)
- Two recreational/tourism services (10%)
- One professional/finance services (5%)
- One wholesale business (5%)
- Five service stations (25%).

Businesses that said a potential positive impact could be a decrease in traffic in Singleton, making the town quieter and less congested included:

- Four retail businesses (27%)
- Five food/beverage businesses (33%)
- Five recreational/tourism services (33%)
- One service station (7%).

Businesses that said streets would be safer for customers entering or leaving their business due to reduced traffic included:

- Two retail businesses (67%)
- Two food/beverage businesses (67%).

Perceived negative impacts during operation

Businesses were asked what negative aspects they think the proposal could bring to their business during operation. This was an open ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Twenty-nine businesses (74%) said they would experience a loss in trade from a reduction in passing traffic
- Ten businesses (26%) could see no negative aspects to their business during operation.

An analysis of data according to business type, where several businesses represented more than one business type, revealed that:

Businesses that said they would experience a loss in trade from a reduction in passing traffic included:

- Eleven retail businesses (38%)
- Thirteen food/beverage businesses (45%)
- Five recreational/tourism services (17%)
- One a wholesale business (3%)
- Four service stations (14%).

Businesses that said they could see no negative aspects to their business during operation included:

- Three retail businesses (30%)
- Four food/beverage businesses (40%)
- Two recreational/tourism services (20%)
- One professional/finance services (10%)
- One service station (10%).

Suggested strategies to mitigate potential business impacts

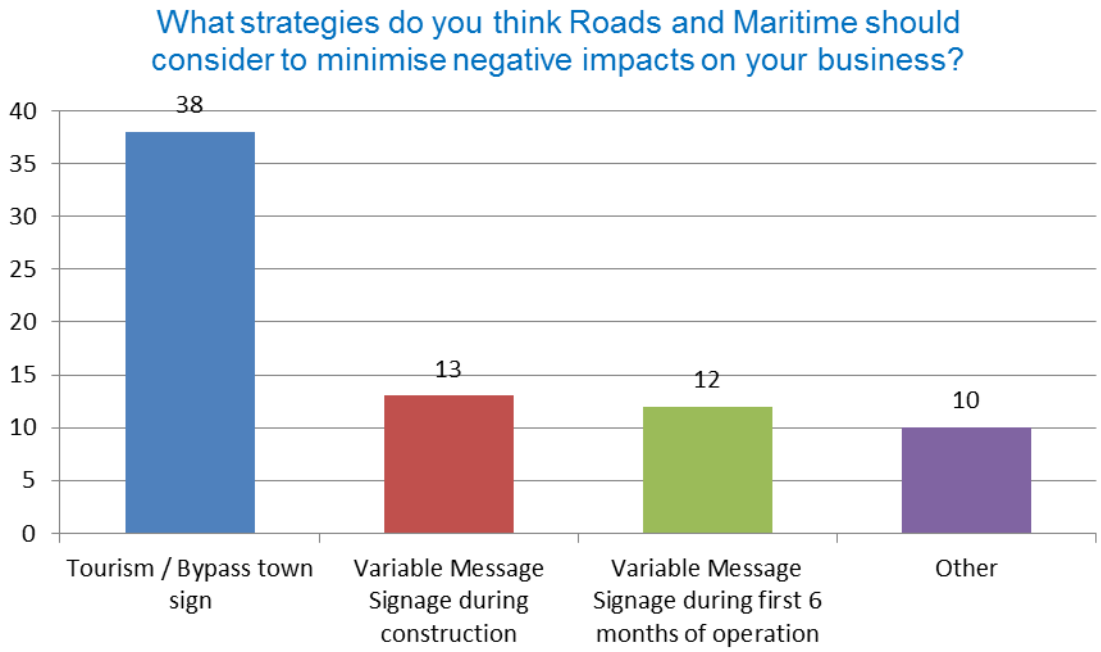
Businesses were asked what strategies could be considered to minimise negative impacts to their business. Businesses were given the opportunity to select multiple answers to this question. Businesses were also provided the opportunity to suggest a strategy to mitigate potential business impacts.

- Thirty-eight businesses (97%) said tourism signage or bypass town signs should be considered
- Thirteen businesses (33%) said variable message signage should be considered for use during construction
- Twelve businesses (31%) said variable message signage should be considered for use during the first six months of operation
- Ten businesses (26%) suggested other strategies.

All businesses were able to suggest a strategy, and 16 of the businesses responded with other strategies, including:

- Eight businesses (50%) suggesting further ideas for using signage ie billboards and variable message signs

- Two businesses (13%) suggesting making Singleton highly accessible for motorists and passing trade during all stages of the proposal
- Three businesses (19%) believing nothing could be done to minimise negative impacts from the bypass
- One business (6%) suggesting avoiding construction during busy periods
- One business (6%) suggesting the bypass should start further east
- One business (6%) expressing that anything would help.



Other matters relating to potential business impacts

Business representatives were able to provide other comments for consideration. This was an open-ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Twenty-four businesses (63%) said they did not have any additional feedback to provide
- Six businesses (16%) said the proposal would negatively impact on their trade
- Four businesses (11%) made comments about supporting the proposal going ahead
- Three businesses (8%) provided suggestions about the route and design of connections, including:
    - Consider the interchange from both directions at the Main North Line rail bridge over the highway (Gowrie Gates)
    - Start the bypass further east as it can be congested further out
    - Include a road turn off into the service station.
- One business (3%) said they understand both the positives and the negatives of the proposal
- One business did not choose to answer this question.

Appendix C

Stopper surveys

Stopper survey form

Stopper survey

1. Introduction and purpose

We are undertaking an investigation into the potential social and economic impact of the proposal and are seeking input from the community to help inform the impact assessment. In particular we are looking to collect data on the behaviour of commuters and those who access and use services and businesses in Singleton.

The survey should only take about 10 minutes to complete. All of the information you provide will be strictly confidential and will only be used to assist in understanding the socio-economic impacts of the proposal.

□ Date of survey:
□ Day of the week:
□ Time:
□ Location:

2. Gender

□ Male	□ Female	□ Other

3. Age

□ <18	□ 18-25	□ 26-30	□ 31-35
□ 36-40	□ 41-45	□ 46-50	□ 51-55
□ 56-60	□ 61-65	□ 66-70	□ 71-75
□ >75			

4. Where do you normally live?

□ Singleton local area	□ Hunter Valley	□ Within NSW	□ Interstate
□ Overseas			

5. Residential postcode?

6. Where did you start your journey today?

7. Where are you heading to today?

8. How did you travel to Singleton today?

□ Car/motorbike	□ Truck / semi-trailer	□ Public transport	□ Walk / cycle

9. How often do you visit Singleton?

□ Every day	□ Week days only	□ 2 – 3 times per week	□ Weekly
□ Fortnight	□ Monthly	□ Every 2- 3 months	□ Every 3- 6 months

□ Every 6-12 months	□ Rarely / first time

10. How many people are travelling with you?

□ Travelling alone	□ 1-2 people	□ 3-4 people	□ 5-6 people
□ >6 people			

11. What made you decide to stop in Singleton? (can choose more than one)

□ I saw the sign that a town was approaching and decided to stop	□ It is a good stopover location for my journey
□ I always stop here for goods and services	□ Other:

12. How much time do you plan to spend in Singleton?

□ < 1 hour	□ 1- 3 hours	□ 3 - 6 hours	□ 6 – 12 hours
□ 12 – 24 hours	□ > 24 hours		

13. What types of business/services will you visit today? (can choose more than one)

□ Retail	□ Food/beverage	□ Recreational / tourism	□ Professional / finance
□ Construction	□ Health care	□ Education	□ Wholesale
□ Fuel	□ Other	□	

14. Approximately, how much money did/will you spend during your visit?

□ Nil	□ <$10	□ $10 - $50	□ $50 - $100
□ $100 - $150	□ $150 - $200	□ $200 - $250	□ $250 - $300
□ > $300			

15. Are you aware of the proposed Singleton Bypass project?

□ Yes	□ No	□ Unsure

16. If Singleton was bypassed would you still stop in Singleton?

□ Yes	□ No	□ Unsure

17. Once in bypass is in place, how often would you visit Singleton?

□ Every day	□ Week days only	□ 2 – 3 times per week	□ Weekly
□ Fortnight	□ Monthly	□ Every 2- 3 months	□ Every 3- 6 months
□ Every 6-12 months	□ Rarely	□ Unsure	□ Never

Why?

18. **What would you recommend should be considered to attract shoppers like yourself to continue to stop in Singleton once the bypass is operational?**

Stopper survey results

To supplement the findings of the business survey, a stopper survey was undertaken to gain a better understanding of the demographics, travel patterns and spending habits of people currently stopping in Singleton. The survey also sought to capture information about if, or how, stoppers might change their behaviour once the Singleton bypass is in operation.

The stopper surveys were undertaken in November and December 2018, during which time 257 stoppers were surveyed.

This appendix provides an overview of the core themes and responses to the stopper survey and a summary if provided in Section 5.2 of the report.

Survey approach

The survey sought to capture information from stoppers such as:

- Demographic and geographic information on the stopper (eg age, gender, residential address)
- Origin and destination of stoppers
- Method of travel to Singleton and number of passengers
- Level of knowledge about the Singleton bypass proposal
- Reasons for stopping in Singleton
- Approximate duration of their stop in Singleton
- Activities carried out during the stop
- Approximate amount of money spent in Singleton during the stop
- How often they currently visit Singleton and likelihood of returning to visit Singleton once the bypass is operational.

The locations for the survey were determined through desktop analysis of rest areas and major businesses in Singleton that were anticipated to have high numbers of stoppers along the current route for traffic that would be transferred to the bypass. Stoppers were approached by the proposal team and volunteered to complete the survey. Specifically, the survey was undertaken at the following locations in Singleton:

- Rest area in Townhead Park, near the Singleton Visitor and Information Centre
- McDonald's, Maitland Road
- KFC, William Street
- Coles Express service station, George Street
- BP service station, George Street
- Caltex, New England Highway, McDougalls Hill.

The surveys were carried out from 29 November 2018 to 4 December 2018 by a team consisting of a community engagement consultant and an environmental engineer. Table 11-11 below provides a summary of the number and locations of the surveys received over the six day period.

Table 11-11 Survey locations and schedules

Date	Time	Location	Number of surveys completed	Total number of surveys
Thursday 29 November 2018	11am – 4pm	Rest area, Townhead Park	8	20
		Coles Express service station, George Street	2	
		McDonald's, Maitland Road	10	
Friday 30 November 2018	9am – 6.00pm	Caltex, McDougalls Hill, New England Highway	11	50
		Rest area, Townhead Park	22	
		Caltex, McDougalls Hill, New England Highway	17	
Saturday 1 December 2018	8am – 4.30pm	Rest area, Townhead Park	14	51
		BP service station, George Street	4	
		McDonald's, Maitland Road	18	
		Rest area, Townhead Park	15	
Sunday 2 December 2018	8am – 5pm	Rest area, Townhead Park	32	65
		McDonald's, Maitland Road	20	
		Rest area, Townhead Park	13	
Monday 3 December 2018	8am – 5pm	Rest area, Townhead Park	18	38
		KFC, William Street	9	
		Rest area, Townhead Park	11	
Tuesday 4 December 2018	9pm – 2pm	Rest area, Townhead Park	33	33

More stoppers were surveyed on Friday, Saturday and Sunday, compared to other weekdays. In addition to the face to face stopper surveys, printed community updates (New England Highway – Singleton bypass, August 2018) were distributed to stoppers. Community updates were distributed to both those who participated in the survey and those who did not.

Findings from the stopper surveys have been analysed and summarised below.

Survey results

Gender

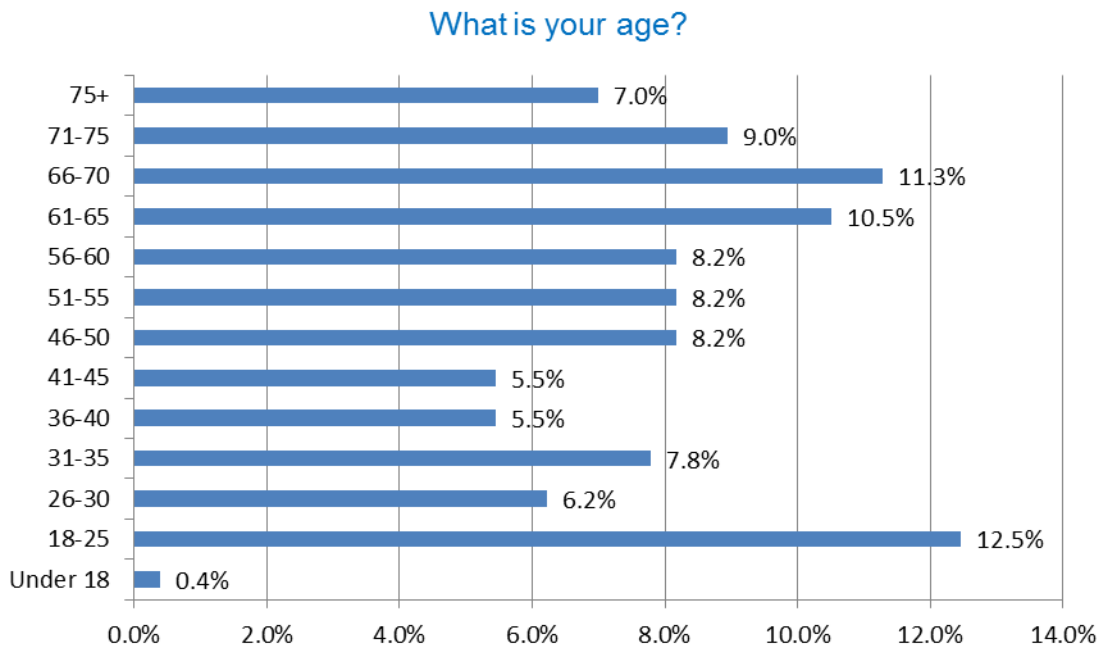
Stoppers were asked about their gender.

- One hundred and forty-two stoppers (57%) said they identified as male
- One hundred and five stoppers (43%) said they identified as female
- No stoppers identified as other
- Ten stoppers chose not to answer the question.

Age

Stoppers were asked to choose an age bracket that was indicative of their age.

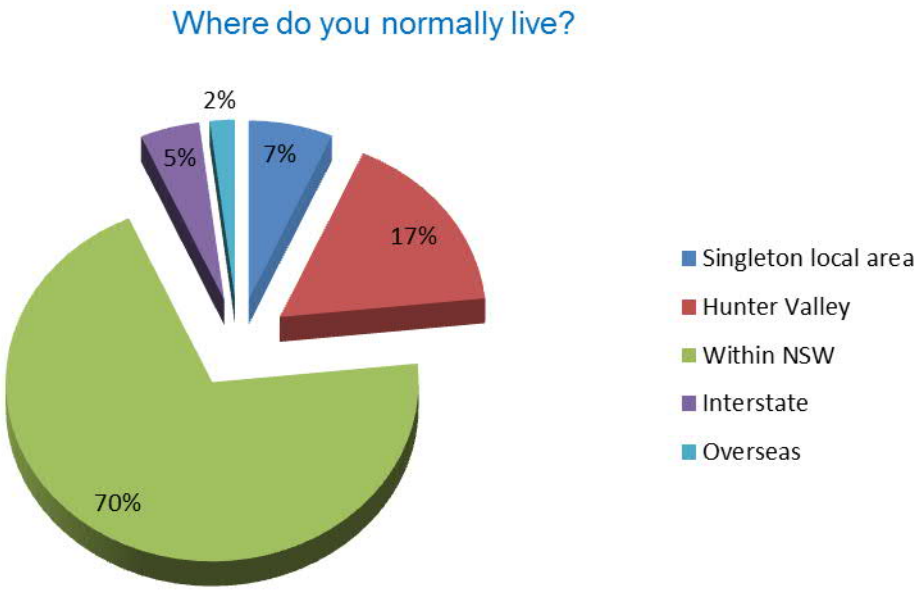
- One stopper (0.4%) said they were under 18 years old
- Thirty-two stoppers (12.5%) said they were 18 to 25 years old
- Sixteen stoppers (6.2%) said they were 26 to 30 years old
- Twenty stoppers (7.8%) said they were 31 to 35 years old
- Fourteen stoppers (5.5%) said they were 36 to 40 years old
- Fourteen stoppers (5.5%) said they were 41 to 45 years old
- Twenty-one stoppers (8.2%) said they were 46 to 50 years old
- Twenty-one stoppers (8.2%) said they were 51 to 55 years old
- Twenty-one stoppers (8.2%) said they were 56 to 60 years old
- Twenty-seven stoppers (10.5%) said they were 61 to 65 years old
- Twenty-nine stoppers (11.3%) said they were 66 to 70 years old
- Twenty-three stoppers (9%) said they were 71 to 75 years old
- Eighteen stoppers (7%) said they were over 75 years old.



Place of residence

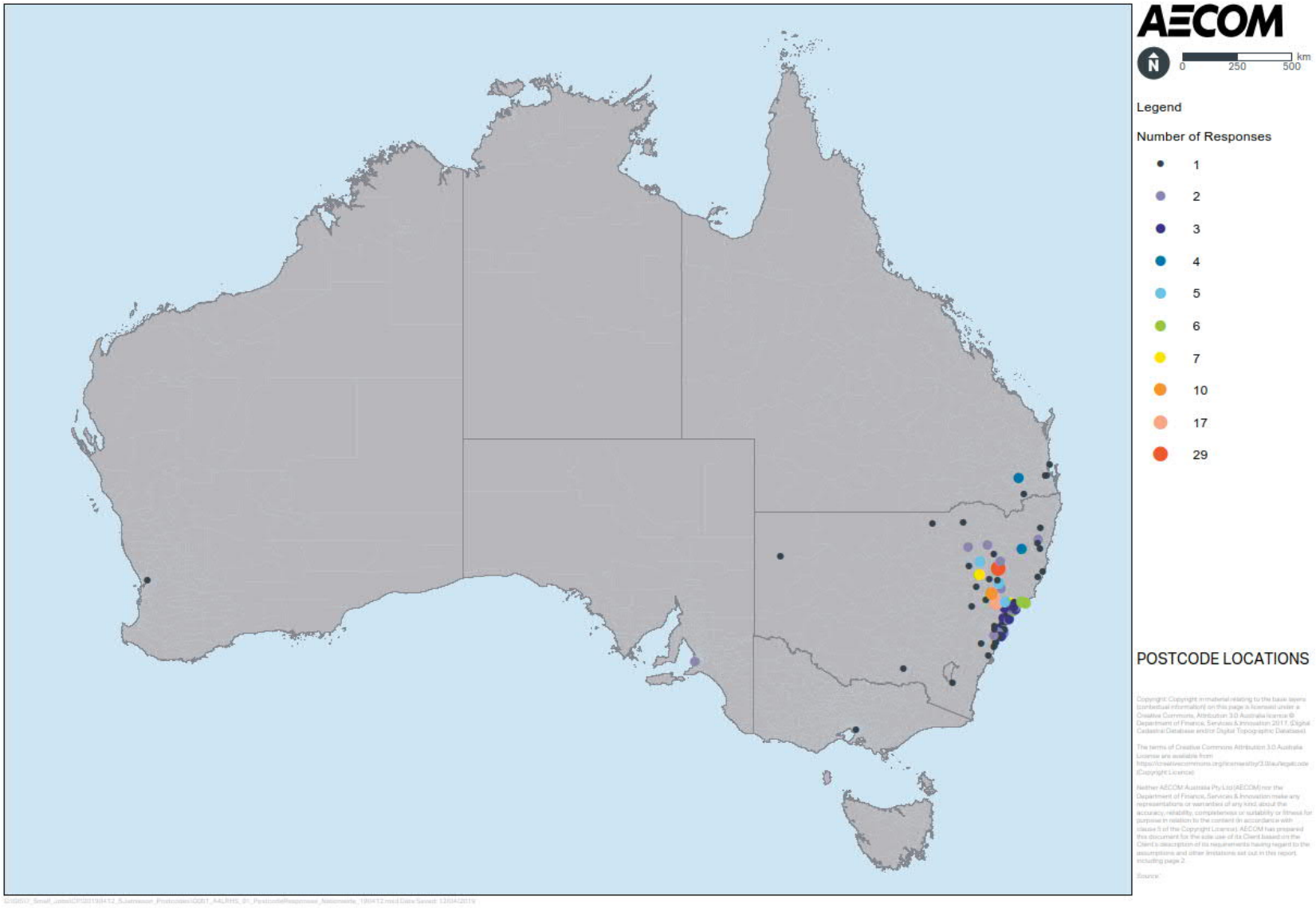
Stoppers were asked if they normally live in the Singleton local area, Hunter Valley, within NSW (areas outside of the Hunter Valley), interstate or overseas.

- Seventeen stoppers (7%) said they normally live in the Singleton local area
- Forty-three stoppers (17%) said they normally live in the Hunter Valley region
- One hundred and eighty stoppers (70%) said they normally live within NSW
- Twelve stoppers (5%) said they normally live interstate
- Five stoppers (2%) said they normally live overseas.



Residential postcode

The cluster map below shows the large scale distribution of postcodes received during the survey.


AECOM
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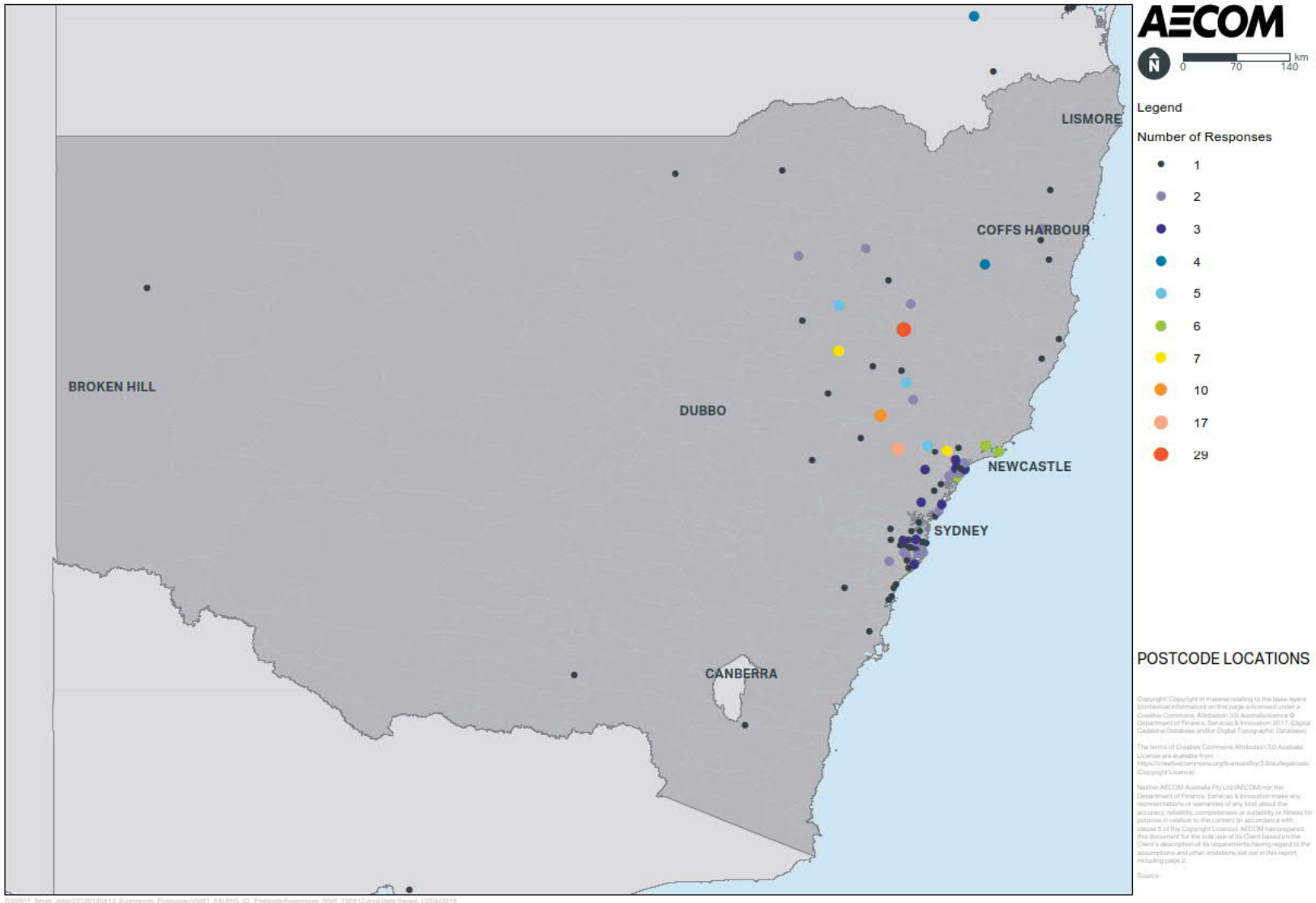
6
7
10
17
29
POSTCODE LOCATIONS

A more detailed distribution of postcodes received during the survey correlating to suburbs in the New South Wales region is shown on the cluster map below.

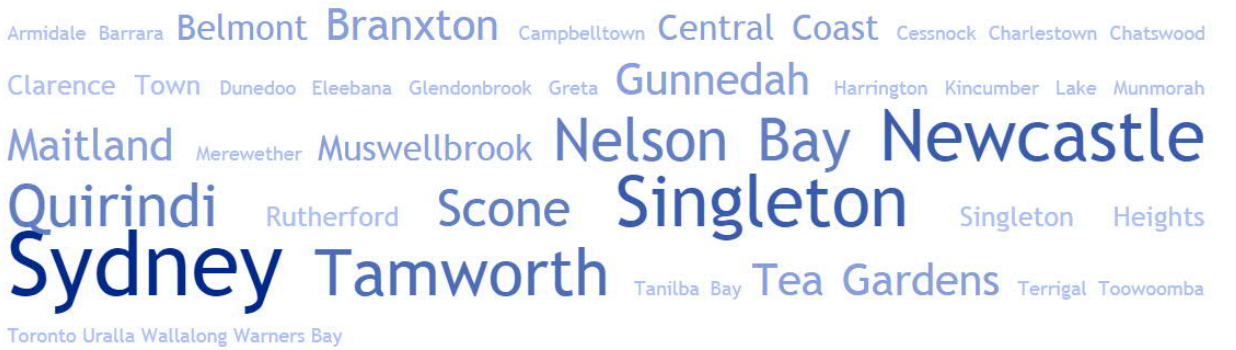


Origin

Stoppers were asked where they started their journey. Several locations were answered with high frequency.

- Thirty-eight stoppers (14%) said they started their journey in Sydney
- Twenty stoppers (7.7%) said they started their journey in Singleton
- Twelve stoppers (4.6%) said they started their journey in Newcastle
- Twelve stoppers (4.6%) said they started their journey in Tamworth
- Ten stoppers (3.8%) said they started their journey in Nelson Bay
- Nine stoppers (3.5%) said they started their journey in Quirindi.

These results are represented in the word map below, where the size of the word increases with frequency. Locations that received only one mention have been omitted from the word map.



Destination

Stoppers were asked where they were journeying to. Several locations were answered with high frequency.

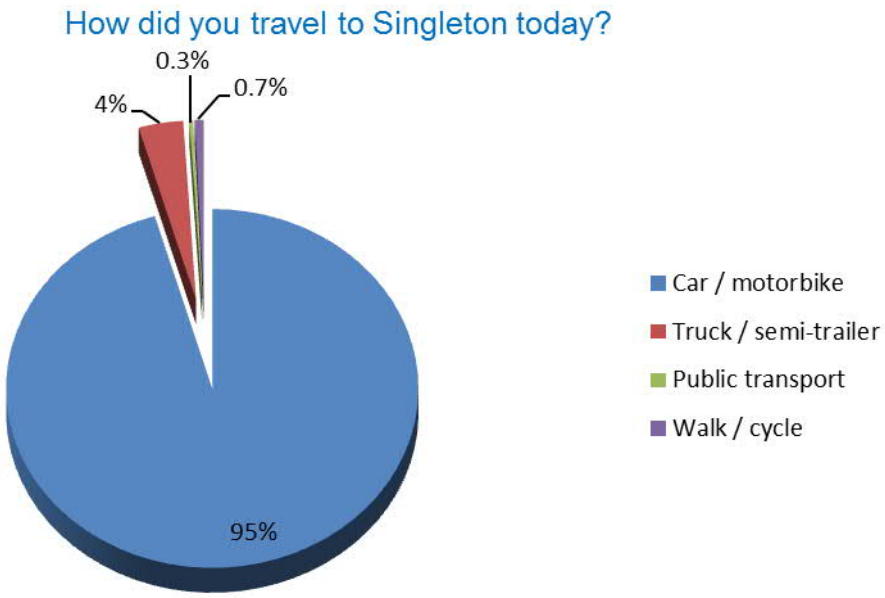
- Fifty-three stoppers (20.6%) said their destination was Singleton
- Thirty-eight stoppers (14.7%) said their destination was Tamworth
- Twenty-four stoppers (9.3%) said their destination was Sydney
- Twenty stoppers (7.7%) said their destination was Muswellbrook
- Eleven stoppers (4.2%) said their destination was Newcastle
- Nine stoppers (3.5%) said their destination was Armidale.

These results are represented in the word map below, where the size of the word increases with frequency. Locations that received only one mention have been omitted from the word map.

Travel mode

Stoppers were asked how they travelled to Singleton for their current journey.

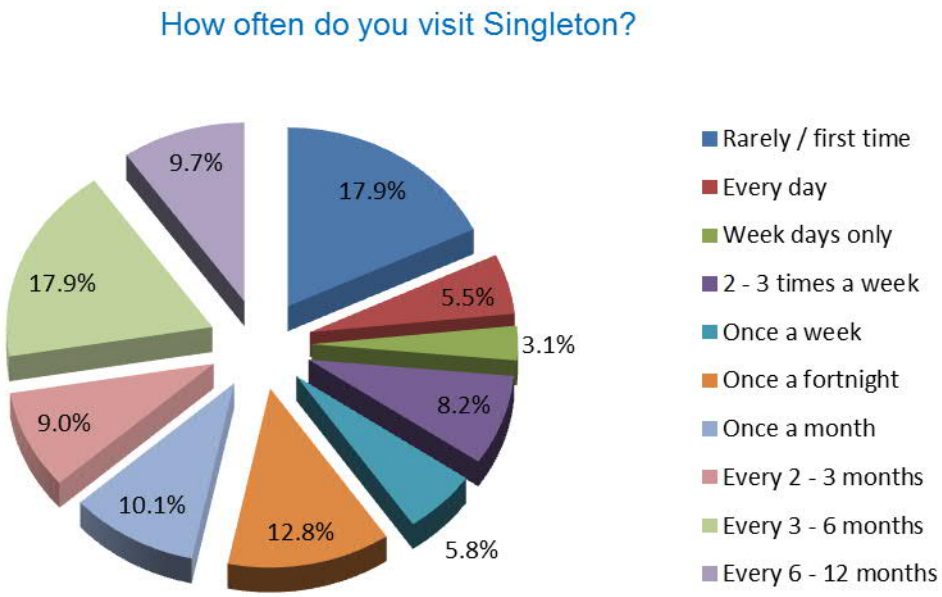
- Two hundred and forty-five stoppers (95%) said they were travelling by car or motorbike
- Nine stoppers (4%) said they were travelling in a truck or semi-trailer
- Two stoppers (0.7%) said they had walked or cycled
- One stopper (0.3%) said they had used public transport.



Frequency of visits to Singleton

Stoppers were asked how often they visit Singleton. Stoppers were provided with several categories of frequency of visitation.

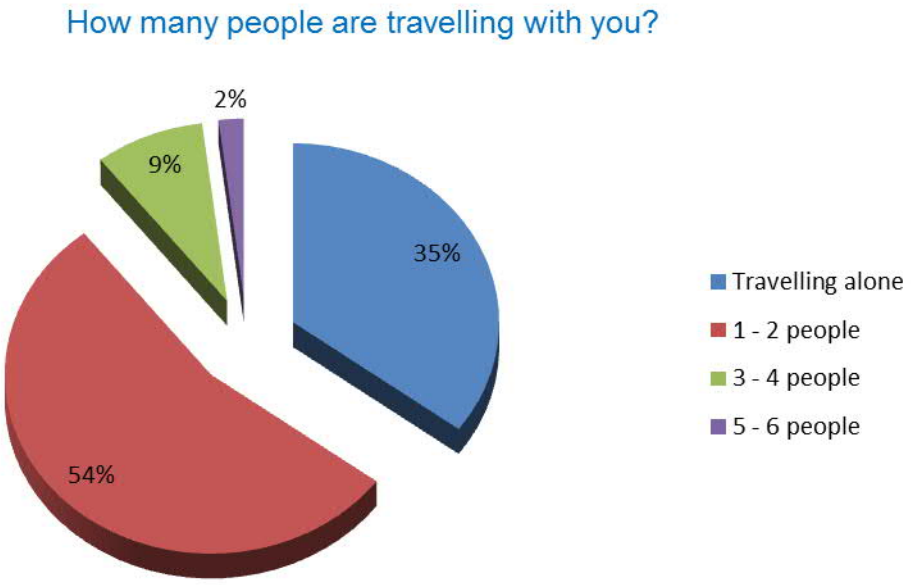
- Forty-six stoppers (17.9%) said they rarely stop in Singleton or it was their first time stopping in Singleton
- Forty-six stoppers (17.9%) said they stop in Singleton every three to six months
- Thirty-three stoppers (12.8%) said they stop in Singleton once a fortnight
- Twenty-six stoppers (10.1%) said they stop in Singleton once a month
- Twenty-five stoppers (9.7%) said they stop in Singleton every six to 12 months
- Twenty-three stoppers (9%) said they stop in Singleton every two to three months
- Twenty-one stoppers (8.2%) said they stop in Singleton two to three times a week
- Fifteen stoppers (5.8%) said they stop in Singleton once a week
- Fourteen stoppers (5.5%) said they stop in Singleton every day
- Eight stoppers (3.1%) said they stop in Singleton on weekdays only.



Number of people travelling

Stoppers were asked how many people were travelling with the stopper.

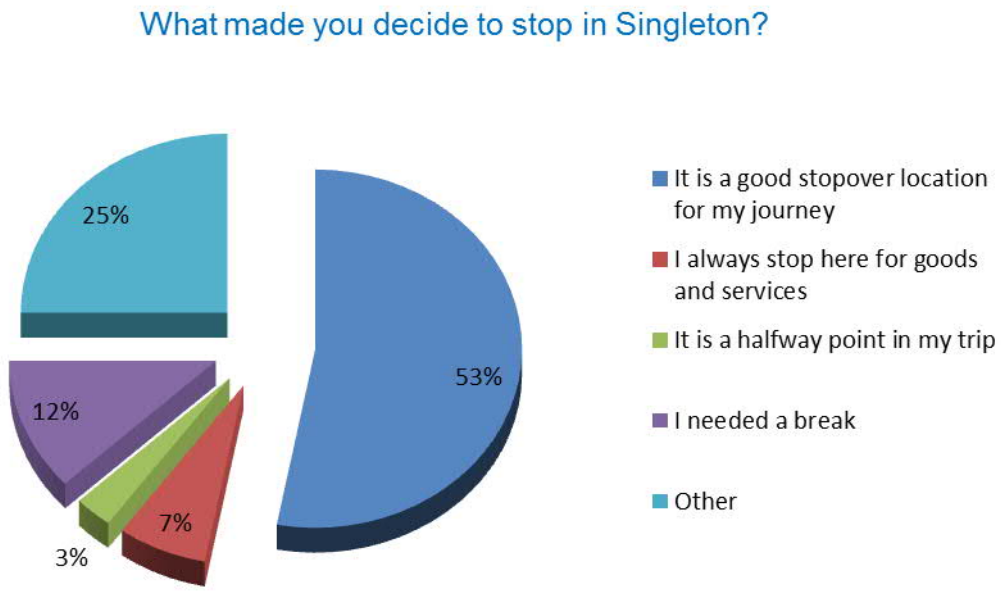
- One hundred and thirty-nine stoppers (54%) were travelling with one or two people
- Ninety stoppers (35%) were travelling alone
- Twenty-two stoppers (9%) were travelling with three or four people
- Five stoppers (2%) were travelling with five or six people
- One stopper chose not to answer the question.



Purpose to stop in Singleton

Stoppers were asked why they decided to stop in Singleton. Stoppers were provided the opportunity to choose answers that best suited their situation, but were also able to provide an individual response, categorised as other responses.

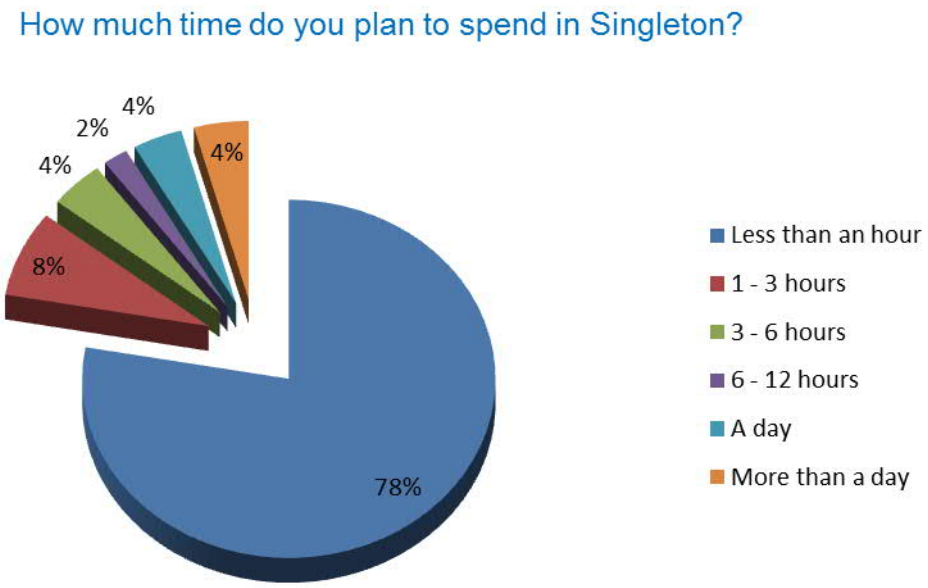
- One hundred and forty-eight stoppers (53%) said they decided to stop in Singleton because it was a good stopover location for their journey
- Thirty-five stoppers (12%) said they decided to stop in Singleton because they needed a break
- Twenty stoppers (7%) said they always stop in Singleton for goods and services
- Seven stoppers (3%) said they stopped in Singleton because it is a good halfway point in their trip
- Seventy-one stoppers (25%) provided individual responses for stopping in Singleton, categorised as other responses. Common answers included working near or in town and meetings with friends, family or colleagues living in Singleton.



Amount of time spent in Singleton

Stoppers were asked how much time they plan to spend in Singleton.

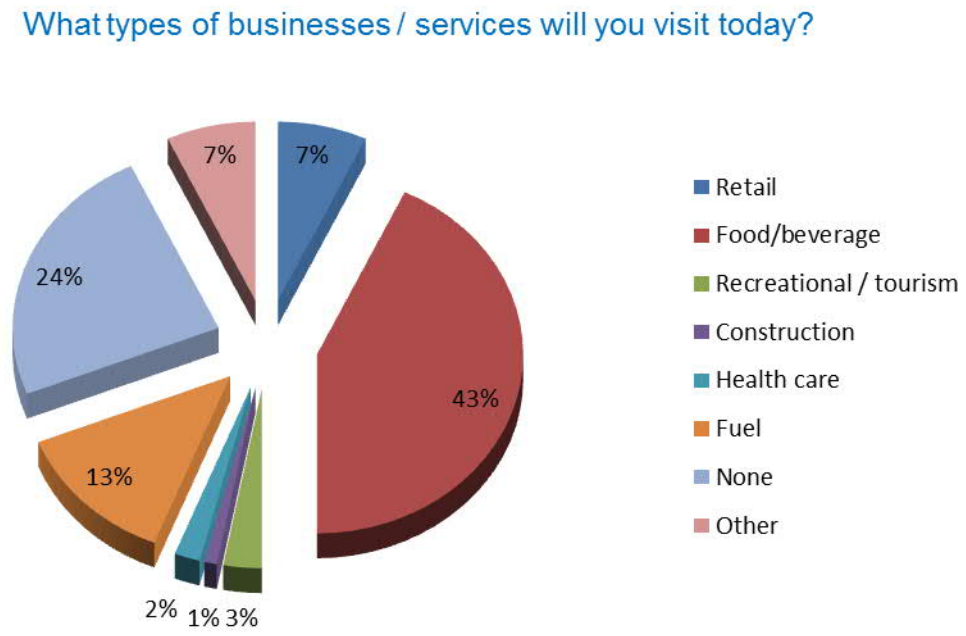
- Two hundred stoppers (78%) said they would spend less than an hour in Singleton;
- Twenty stoppers (8%) said they would spend between one and three hours in Singleton
- Eleven stoppers (4%) said they would spend between three and six hours in Singleton
- Eleven stoppers (4%) said they would spend a day in Singleton
- Eleven stoppers (4%) said they would spend more than a day in Singleton
- Four stoppers (2%) said they would spend six to 12 hours in Singleton.



Types of businesses/services visited during the stop in Singleton

Stoppers were asked about the types of businesses and services they were planning to visit during the stop in Singleton. Stoppers were able to select multiple answers to this question.

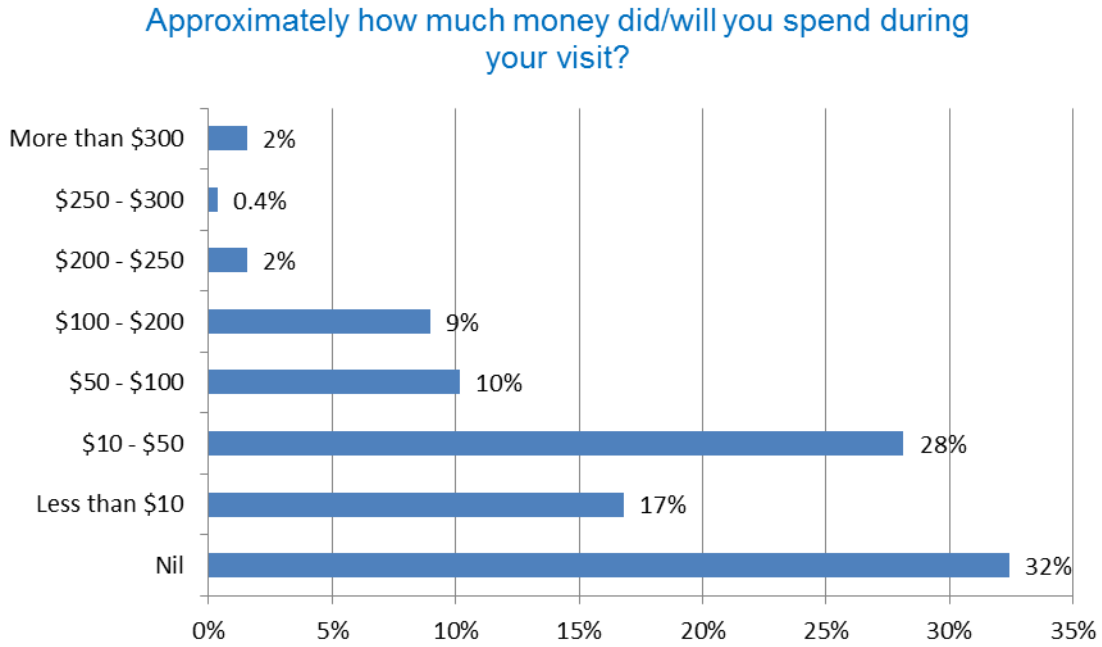
- One hundred and thirty-eight stoppers (43%) said they would visit food/beverage businesses
- Seventy-eight stoppers (24%) said they would not be visiting any businesses or services
- Forty-one stoppers (13%) said they would buy fuel at a petrol station
- Twenty-two stoppers (7%) said they would visit retail businesses
- Twenty-three stoppers (7%) said they would visit other businesses/services not listed (including the Singleton Craft Fair and Singleton Council)
- Eleven stoppers (3%) said they would visit recreational/tourism services or businesses
- Three stoppers (2%) said they would visit health care services
- Two stoppers (1%) said they would visit construction businesses/services
- No stoppers said they would be visiting either education, professional or financial services, or wholesale businesses.



Amount of money spent in Singleton

Stoppers were asked to estimate the total amount of money they think they would spend or had spent during the visit in Singleton.

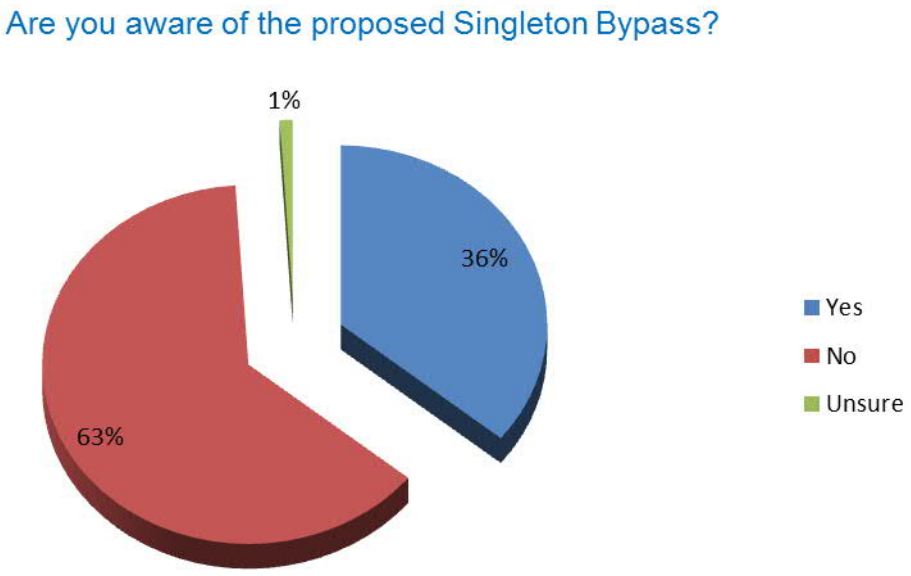
- Eighty-three stoppers (32%) said they would spend no money during the stop
- Seventy-two stoppers (28%) said they would spend between $10 and $50
- Forty-three stoppers (17%) said they would spend less than $10
- Twenty-six stoppers (10%) said they would spend between $50 and $100
- Twenty-three stoppers (9%) said they would spend between $100 and $200
- Four stoppers (2%) said they would spend between $200 and $250
- Four stoppers (2%) said they would spend more than $300
- One stoppers (0.4%) said they would spend between $250 and $300
- One stopper chose not to answer the question.



Awareness of the proposed Singleton Bypass

Stoppers were asked whether they were aware of the proposed Singleton Bypass.

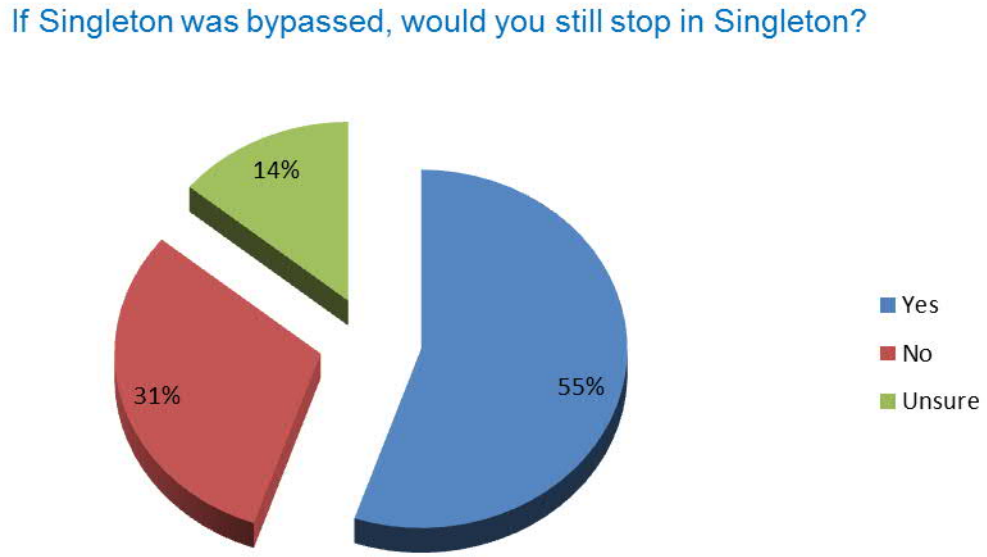
- One hundred and sixty stoppers (63%) said they were not aware
- Ninety-one stoppers (36%) said they were aware
- Five stoppers (1%) said they were unsure.



Likelihood of visiting Singleton once bypass is operational

Stoppers were asked if they would still stop in Singleton if it was bypassed.

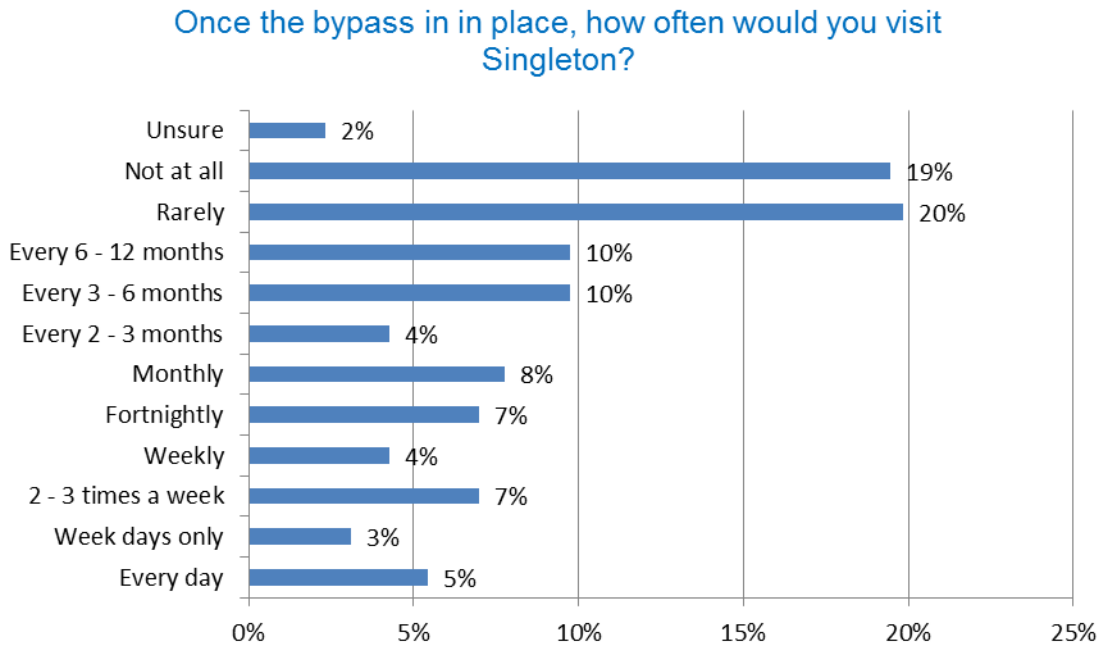
- One hundred and forty-two stoppers (55%) said they would still stop in Singleton once the bypass was operational
- Seventy-nine stoppers (31%) said they would not stop in Singleton once the bypass was operational
- Thirty-six stoppers (14%) said they were unsure if they would stop in Singleton once the bypass was operational.



Frequency of stops in Singleton once bypass is operational

Stoppers were asked how often they would visit Singleton once the bypass is operational.

- Fifty-one stoppers (20%) said they would rarely stop
- Fifty stoppers (19%) said they would never stop in Singleton
- Twenty-five stoppers (10%) said they would stop in Singleton every six to 12 months
- Twenty-five stoppers (10%) said they would stop every three to six months
- Twenty stoppers (8%) said they would stop monthly
- Eighteen stoppers (7%) said they would stop fortnightly
- Eighteen stoppers (7%) said they would stop two to three times a week
- Fourteen stoppers (5%) said they would visit Singleton every day
- Eleven stoppers (4%) said they would stop every two to three months
- Eleven stoppers (4%) said they would stop weekly
- Eight stoppers (3%) said they would stop on week days only
- Six stoppers (2%) said they were unsure how often they would stop in Singleton.



When comparing frequency and likelihood of stopping before and after the bypass has been built, the following changes were observed:

- One hundred and one stoppers (39%) said they would rarely stop or not stop at all in Singleton once the bypass is operational. This is an increase from the 46 stoppers (17.9%) who said currently they rarely stop in Singleton or it was their first time stopping in Singleton
- Twenty-five stoppers (10%) said they would stop three to six months once the bypass is operational. This is a decrease from the 46 stoppers (17.9%) who said they currently stop in Singleton every three to six months
- Eighteen stoppers (7%) said they would stop in Singleton fortnightly once the bypass is operational. This is a decrease from the 33 stoppers (12.8%) who said they currently stop in Singleton fortnightly
- Eleven stoppers (4%) said they would stop every two to three months once the bypass is operational. This is a decrease from the 23 stoppers (9%) who said they currently stop in Singleton every two to three months.

Reason for frequency of stops in Singleton once bypass is operational

Stoppers were asked to provide a reason for their frequency of stops in Singleton once the bypass is operational. This was an open ended question for respondents to complete. A range of responses were received. General trends have been captured in the statements below.

- Eighty-seven stoppers (34%) they would not stop because they believe there would be no need to stop or it would no longer be on the route
- Eighty-five stoppers (33%) said they would stop because they still require a rest break, or it is a good halfway point on their journey
- Sixty-five stoppers (25%) they would continue to visit Singleton for work, because they live locally or to visit friends and family
- Twenty stoppers (8%) chose not to elaborate on their answer and did not provide a response to this question.

Suggestions to promote Singleton once bypass is operational

Stoppers were asked what should be considered to attract people to continue to stop in Singleton once the bypass is operational. This was an open ended question for respondents to complete, and stoppers could make multiple suggestions. A range of responses were received. Responses, in order of frequency, were aligned with the following sentiments:

- Forty-nine stoppers (19%) suggested the use of signage and advertising to increase the number of people turning off the highway
- Forty-seven stoppers (18%) suggested increasing the number of food and beverage options to attract tourists to the town
- Fifteen stoppers (6%) suggested making Singleton easily accessible off the highway, with plenty of parking
- Thirty-three stoppers (13%) chose not to provide a response for this question.

Responses also included improving rest area facilities, playgrounds and caravan parks, increasing trees in the town, beautification works, hosting tourist events and using social media to promote the town.

rms.nsw.gov.au

contactus@rms.nsw.gov.au

Customer feedback
Roads and Maritime
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North Sydney NSW 2059

Transport
Roads & Maritime
Services