Appendix P

Socio-economic Assessment
Upgrade of Pacific Highway HW10, Ourimbah Street to Parsons Road, Lisarow

ROADS AND MARITIME SERVICES
Socio-economic Assessment | Final
8 September 2014
Upgrade of Pacific Highway HW10, Ourimbah Street to Parsons Road, Lisarow

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</table>
# Contents

**Executive Summary** .............................................................................................................................................. iv

1. **Introduction** .................................................................................................................................................... 1
   1.1 Background ................................................................................................................................................. 1
   1.2 Construction overview ............................................................................................................................ 1
   1.2.1 Standard construction hours .................................................................................................................. 3
   1.3 Proposal objectives ...................................................................................................................................... 3
   1.4 Purpose of this report ................................................................................................................................. 4
   1.5 Report structure .......................................................................................................................................... 4

2. **Method of assessment** ...................................................................................................................................... 8
   2.1 Study area .................................................................................................................................................... 8
   2.2 Assessment methodology ........................................................................................................................... 8
   2.3 Data sources ............................................................................................................................................... 9

3. **Policy setting** .................................................................................................................................................. 11
   3.1 State policies ............................................................................................................................................. 11
   3.1.1 NSW Plan 2021 .................................................................................................................................... 11
   3.1.2 NSW Government State Infrastructure Strategy ..................................................................................... 11
   3.1.3 Central Coast Regional Action Plan ...................................................................................................... 11
   3.1.4 NSW Long Term Transport Master Plan ............................................................................................. 11
   3.2 Local government strategies ....................................................................................................................... 12
   3.2.1 Gosford 2025 Community Strategic Plan ........................................................................................... 12

4. **Existing environment** ....................................................................................................................................... 13
   4.1 Social context .............................................................................................................................................. 13
   4.1.1 Regional context ..................................................................................................................................... 13
   4.1.2 Local context ......................................................................................................................................... 13
   4.2 Population and demography ....................................................................................................................... 13
   4.2.1 Population and growth .......................................................................................................................... 14
   4.2.2 Age profile ............................................................................................................................................ 14
   4.2.3 Cultural diversity ................................................................................................................................... 15
   4.2.4 Families and households ......................................................................................................................... 15
   4.2.5 Need for assistance ................................................................................................................................. 15
   4.2.6 Socio-economic Indices for Areas (SEIFA) .......................................................................................... 16
   4.3 Economic profile ......................................................................................................................................... 16
   4.3.1 Income .................................................................................................................................................. 16
   4.3.2 Labour force ......................................................................................................................................... 17
   4.3.3 Industry ................................................................................................................................................ 17
   4.3.4 Local business and industry .................................................................................................................. 18
   4.4 Transport and access ................................................................................................................................. 19
   4.4.1 Road ...................................................................................................................................................... 19
   4.4.2 Rail ......................................................................................................................................................... 19
   4.4.3 Bus ....................................................................................................................................................... 20
4.4.4 Walking and cycle paths ................................................................. 20
4.4.5 Journey to work ........................................................................... 20
4.5 Social infrastructure ....................................................................... 21
4.6 Community values .......................................................................... 21
4.7 Summary of the existing socio-economic environment ..................... 23
5. Potential impacts ............................................................................. 25
  5.1 Property acquisition ....................................................................... 25
  5.2 Local economy .............................................................................. 26
    5.2.1 Local business impacts .............................................................. 26
    5.2.2 Employment impacts ............................................................... 27
  5.3 Access and connectivity ................................................................. 27
  5.4 Social infrastructure ...................................................................... 28
    5.4.1 Construction ........................................................................... 28
    5.4.2 Operation ............................................................................... 30
  5.5 Local amenity ............................................................................... 30
  5.6 Community values ...................................................................... 31
    5.6.1 Operation ............................................................................... 31
6. Safeguards and management measures .............................................. 33
7. Conclusion ..................................................................................... 35
8. References ..................................................................................... 36
Executive Summary

Roads and Maritime Services (Roads and Maritime) propose to upgrade the Pacific Highway, Ourimbah Street to Parsons Road, Lisarow (the proposal). This socio-economic assessment has been prepared as part of the Review of Environmental Factors (REF) currently being completed for the proposal and aims to identify the strategies to manage impacts to the socio-economic environment during construction and operation.

The main features of the proposal include:

- Widening to include two additional 3.3 metre wide lanes (one northbound and one southbound).
- Widening of shoulders by up to two metres, for consistent widths along the length of the proposal.
- Maintaining a 60 kilometres per hour design and posted speed limit.
- A new rail over bridge replacing the existing bridge over the Main North Rail Line at Railway Crescent on the Pacific Highway.
- Intersection upgrades at:
  - Railway Crescent and Pacific Highway intersection: Providing a wider radius of the curve approaching the Pacific Highway, and traffic lights at the intersection.
  - Dora Street and Railway Crescent intersection: Adjusting the intersection to the south-west by about 30 metres, and enforcing a no right turn from Dora Street to Railway Crescent.
  - Macdonalds Road intersection: Installing new traffic lights at the intersection.
  - Rail maintenance access road: Relocating the access road about 100 metres to the east, with all vehicle movements permitted at the intersection.
  - Chamberlain Road intersection: Line work and relocation of traffic lights.
- Raised concrete median along the length of the proposal, and at the approaches to intersections at Railway Crescent, Macdonalds Road and Chamberlain Road.
- Eight retaining walls at:
  - Pacific Highway, south west of Taylor Road, next to the southbound lane.
  - Pacific Highway, south west of Macdonalds Road, next to the southbound lane.
  - Pacific Highway, south of the rail over bridge, on both sides of the road.
  - Corner Pacific Highway and Railway Crescent, directly north of the rail over bridge.
  - Pacific Highway, north of Railway Crescent, on both sides of the road.
  - Along the boundary of the rail corridor between the Lisarow train station access road and the rail overbridge.
- New pavement for the length of the proposal and tie-ins to existing road.
- Shared pedestrian cycleways and footpaths throughout the proposal area. Safety fencing will be provided for pedestrians in steep areas.
- Removal of unused bus stops immediately north of Railway Crescent on the northbound carriageway and on both sides of Macdonalds Road.
- Installation of one water quality basin adjacent the northbound carriageway, between the highway and the rail corridor.
- Use of ancillary construction facilities, including a site compound and stockpile sites.

Construction of the proposal is anticipated to be undertaken in four stages to minimise impacts to road and rail traffic and property owners located adjacent to the proposal. During construction of the proposal, there is potential for the works to:

- Impact on community values, local amenity and social infrastructure through noise and dust from construction activities
Result in temporary changes and delays to local access and connectivity, including for pedestrians and cyclists.

During operation, the proposal may also result in permanent changes to Lisarow Anglican Cemetery, including replacement of cemetery gates to a new suitable location and reduced distance between the graves and the Pacific Highway. Residential properties at the intersection of Railway Crescent and Dora Street will be located closer to road infrastructure. This may result in some minor changes to the visual environment and residential amenity of these properties.

In the long-term, the proposal is expected to provide a range of socio-economic benefits for the socio-economic environment study area, as well as the broader economy, including:

- Improved access, connectivity and reliability for local commercial vehicle movements
- A reduction in traffic congestion and improvement to traffic flow which would support improved connections for vehicles travelling between Gosford and Lisarow, and for communities in Lisarow and surrounding areas accessing Newcastle and Sydney.
- Improved safety conditions for pedestrians and cyclists due to the improvement in shared pathway facilities along the Pacific Highway.

The assessment deemed that mitigation measures for both construction and operation would be required. The implementation of mitigation measures identified in Section 6 would minimise potential impacts associated with the proposal.
1. Introduction

1.1 Background

The Pacific Highway north of Gosford is the urban arterial road providing access to Gosford's northern suburbs and the Pacific Motorway (M1) at Ourimbah. The highway is currently a single lane in each direction from Manns Road, Wyoming to Glen Road at Ourimbah, refer to Figure 1-1. This section of the Pacific Highway currently carries around 30,000 vehicles per day from regional and local areas. The study area is located between Ourimbah Street and Parsons Road within the Gosford local government area (LGA).

The NSW State Infrastructure Strategy outlines the progressive upgrading of the highway to four-lane urban arterial road standard between North Gosford and the motorway. The upgrade of the Pacific Highway between North Gosford and the motorway was broken down into three progressive stages by Roads and Maritime Services (Roads and Maritime). Stages 1 and 2 of the upgrade of the Pacific Highway between the M1 Pacific Motorway and Glen Road at Ourimbah are now complete. The first stage, which involved upgrading the Dog Trap Road intersection, was completed in July 2007. The second stage, which involved widening the highway between Glen Road and Burns Road at Ourimbah, was completed in January 2010. Stage 3 has been broken down into two sub-stages and includes stages 3a and 3b. The design for stage 3a between Glen Road and Ourimbah Street has been completed and is waiting for construction funding.

As part of the Stage 3b work, Roads and Maritime Services (Roads and Maritime) are proposing to upgrade 1.6 kilometres of the Pacific Highway, between Ourimbah Street and Parsons Road, Lisarow (the proposal), refer to Figure 1-2. Key features of the proposal are outlined in Table 1-1.

Table 1-1 Key elements of the proposal

<table>
<thead>
<tr>
<th>Key element</th>
<th>Description</th>
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<tbody>
<tr>
<td>Design speed</td>
<td>• 60 km/h design speed and posted speed limit along the length of the proposal.</td>
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<tr>
<td>Road width</td>
<td>• An additional 3.3 metres wide lane in both directions on the Pacific Highway.</td>
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<td></td>
<td>• Widened shoulders by up to 2.0 metres for consistent shoulder widths along the length of the proposal.</td>
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<td></td>
<td>• Raised concrete median along the length of the proposal and traffic islands at the approaches to the Pacific Highway at Railway Crescent, Macdonalds Road and Chamberlain Road.</td>
</tr>
<tr>
<td>Lisarow Rail Overbridge</td>
<td>• Demolition of the of the existing bridge and replacement with a new rail overbridge over the Main Northern Railway Line immediately south of Railway Crescent on the Pacific Highway.</td>
</tr>
<tr>
<td>Intersection upgrades</td>
<td>• Chamberlain Road and Pacific Highway intersection: Line work and relocation of traffic lights.</td>
</tr>
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<td></td>
<td>• Rail maintenance access road and Pacific Highway intersection: Relocating the access road around 100 metres to the north-east, with all vehicle movements permitted at the intersection.</td>
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<td></td>
<td>• Macdonalds Road and Pacific Highway intersection: Relocated around 25 metres to the south to align with Tuggerah Street and new traffic lights installed at the intersection.</td>
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<td></td>
<td>• Tuggerah Street and Macdonalds Road intersection: Relocation and realignment of the intersection so that priority would be given to traffic on Tuggerah Street and traffic on Macdonalds Road is required to give way.</td>
</tr>
<tr>
<td></td>
<td>• Railway Crescent and Pacific Highway intersection: Providing a wider radius of the curve approaching the Pacific Highway, and traffic lights at the intersection.</td>
</tr>
<tr>
<td></td>
<td>• Dora Street and Railway Crescent intersection: Adjusting the intersection to the south-west by around 30 metres and enforcing a no right turn from Dora</td>
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### Socio-economic Assessment

**Upgrade of the Pacific Highway HW10, Ourimbah Street to Parsons Road Lisarow**

<table>
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<th>Key element</th>
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<tr>
<td>Retaining walls</td>
<td>Eight retaining walls between 0.3 metres and 10 metres in height would be constructed to reduce environmental and property impacts at:</td>
</tr>
<tr>
<td></td>
<td>- Pacific Highway, south west of Chamberlain Road, next to the southbound lane.</td>
</tr>
<tr>
<td></td>
<td>- Pacific Highway, south west of Macdonalds Road, next to the southbound lane.</td>
</tr>
<tr>
<td></td>
<td>- Pacific Highway, south of the rail overbridge, on both sides of the road.</td>
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<tr>
<td></td>
<td>- Corner Pacific Highway and Railway Crescent, directly north of the rail overbridge.</td>
</tr>
<tr>
<td></td>
<td>- Pacific Highway, north of Railway Crescent, on both sides of the road.</td>
</tr>
<tr>
<td></td>
<td>- Along the eastern boundary of the rail corridor between the maintenance access road at Lisarow Train Station and the new rail overbridge.</td>
</tr>
<tr>
<td>Property adjustments and acquisition</td>
<td>About 13 properties would be partially acquired.</td>
</tr>
<tr>
<td></td>
<td>About 10 properties would be wholly acquired.</td>
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<tr>
<td></td>
<td>About 7 property accesses (residential and commercial) and the rail maintenance access road would be adjusted to fit in with the Pacific Highway. This would be determined during detail design.</td>
</tr>
<tr>
<td></td>
<td>All existing property accesses would be reinstated for retained properties.</td>
</tr>
<tr>
<td>Utility adjustments</td>
<td>Relocation/protection of any utilities impacted by the proposal in consultation with the utility authorities.</td>
</tr>
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<td>Compound and stockpile sites</td>
<td>Two sites are proposed including:</td>
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<td>- Site 1 at 980 Pacific Highway (Lot 1, DP 567438), Lisarow (compound site, storage of culverts, pipes and off-street parking only).</td>
</tr>
<tr>
<td></td>
<td>- Site 2 at 962 and 964 Pacific Highway, Lisarow (Lot 23 DP 580016 and Lot 1 DP 560299 respectively).</td>
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<tr>
<td></td>
<td>In addition hard stands and temporary access roads will be constructed.</td>
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<td>Water quality measures</td>
<td>Installation of two water quality basins:</td>
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<td>- Basin A - At the southern end of Lot 1 and DP 2417 between the rail maintenance access road and the Pacific Highway in areas of Swamp Sclerophyll Forest.</td>
</tr>
<tr>
<td></td>
<td>- Basin B - Around 130 metres south of the Pacific Highway and Macdonalds Road intersection next to the northbound carriageway in areas of Lot 10 DP 838947 and Lot 1 DP 2417. This area is currently cleared but is next to areas of Swamp Sclerophyll Forest to the south and Freshwater Wetlands to the north.</td>
</tr>
<tr>
<td></td>
<td>Kerb and guttering along the length of the proposal.</td>
</tr>
<tr>
<td>Pedestrian and cyclist facilities</td>
<td>Shared pedestrian cycleways and footpaths throughout the proposal area, with additional safety fencing for pedestrians in steep areas and along retaining walls.</td>
</tr>
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</table>

Construction of the proposal is anticipated to be undertaken in four stages to minimise impacts to road and rail traffic and property owners located adjacent to the proposal.

This Socio-economic Assessment has been prepared as part of the Review of Environmental Factors (REF) currently being completed for the proposal and aims to identify the strategies to manage impacts to the socio-economic environment during construction and operation.
1.2 Construction overview

The construction work methodology for the proposal would be refined during the detailed design phase. Construction activities would be guided by a Construction Environmental Management Plan (CEMP) that would be developed in accordance with the requirements of the RMS QA Specification G36 Environmental Protection (Management System).

Ancillary facilities would be required throughout construction of the proposal, and may include:

- Construction compound site.
- Access tracks.
- Stockpile site, potentially located on the western side of the Pacific Highway between Ourimbah Street and Teralba Street. This site is flagged for use in other road upgrade projects and would not require additional clearing.
- Sedimentation basins.

The ancillary facilities required would be determined during detailed design. Construction activities, staging and workforce requirements would be determined during detailed design planning. It is anticipated an average of 25 construction workers would be required for the proposal.

1.2.1 Standard construction hours

It is anticipated that construction of the proposal would take about 18 to 24 months. The construction start date would be confirmed following the completion of the detailed design and the allocation of relevant funding. The bulk of the construction works for the proposal would be undertaken during standard working hours which are based on the Interim Construction Noise Guidelines (ICNG) and are as follows:

- Monday to Friday: 7:00 am to 6:00 pm.
- Saturday: 7:00 am to 1:00 pm.
- Sundays and public holidays: no work.

Where practical, the removal and delivery of materials and plant would be timed to occur outside of peak traffic periods to minimise delays. However, traffic control measures would be used to manage general earthworks and the import and export of material.

Due to safety implications associated with the high traffic numbers that use the intersection, work would be required to be undertaken outside of the standard construction hours. As such there would be some periods of night works that are required during all the construction stages. The procedures contained in the Environmental Noise Management Manual (RTA 2001), “Practice Note vii – Roadworks Outside of Normal Working Hours”: The Interim Construction Noise Guidelines (DECCW 2010) and would be followed for work outside of the standard working hours.

1.3 Proposal objectives

The objectives for the proposal are as follows:

- Improve safety for motorists, cyclists and pedestrians by reducing the number of crashes.
- Increase traffic capacity and improves performance by reducing congestion.
- Improve accessibility for all road user groups by providing reasonable efficiency and acceptable levels of service. These include:
  - Minimise impact on the natural environment.
  - Be sensitive to surrounding land uses and the community.
  - Capitalise on opportunities in urban design.
- Provide the best value for money solution.
1.4 Purpose of this report

This report details a review of the potential impacts on the socio-economic environment as a result of the construction and operation of the proposal. It recommends mitigation measures to address these impacts. The purpose of this report is to provide a detailed analysis for input into the Review of Environmental Factors (REF).

1.5 Report structure

This report is structured as follows:

- Section 1: Introduction.
- Section 2: Method of assessment.
- Section 3: Policy setting.
- Section 4: Existing environment.
- Section 5: Potential impacts.
- Section 6: Mitigation measures.
- Section 7: Conclusion.
- Section 8: References.
Figure 1-2a | The proposal

Legend
- 80 percent concept design
- Retaining wall
- Water quality basin
- Watercourse
- Railway
- Cadastre
2. Method of assessment

2.1 Study area

The proposal is located between Ourimbah Street and Parsons Road at Lisarow, within the Gosford City Council local government area (LGA). The study area for the socio-economic assessment is shown in Figure 1-3. It has been identified based on those communities that have potential to experience changes to socio-economic conditions due to such things as the location of proposal works or construction activities, or changes to local movement patterns for residents, workers and visitors.

The primary study area for the socio-economic assessment comprises the Australian Bureau of Statistics (ABS) area of Niagara Park-Lisarow Statistical Area Level 2 (SA2). Construction and operation of the proposal may also change movement patterns for residents, workers, businesses and visitors in the broader region. As such, this assessment also considers the regional impacts to communities in the Gosford LGA.

2.2 Assessment methodology

The methodology for this socio-economic assessment is guided by the Roads and Maritime Environmental Impact Assessment Practice Note: Socio-economic assessment (EIA-N05) (2013).

Key steps for the assessment include:

- Scoping of the potential socio-economic issues for the proposal and communities likely to be most affected by the proposal. This included consideration of impacts of similar projects elsewhere, outcomes from consultation undertaken for the proposal to date and observations from a site inspection.
- Describing the existing socio-economic environment of the study area to provide a baseline from which impacts of the proposal were assessed. This involved:
  - Review of existing State and local government strategies relevant to the social and economic environment of the study area.
  - Analysis of key population and demographic indicators, including data from the ABS 2011 Census of Population and Housing.
  - Analysis of data and information on local business and industry, employment and income, and dwelling characteristics.
  - Review of existing social infrastructure and community features near to the proposal, including recreation uses, schools, places of worship, public transport and walking and cycling facilities.
- Identifying and assessing the potential socio-economic impacts of the proposal's construction and operation. This included consideration of:
  - Impacts on property.
  - Changes to local amenity.
  - Direct and indirect impacts on social infrastructure near to the proposal.
  - Impacts on local business and industry.
  - Changes to local access and connectivity, including for motorists, pedestrians and cyclists.
- Identifying measures to manage or mitigate potential impacts on the socio-economic environment and maximise potential benefits.
2.3 Data sources

The information presented is primarily based on data from the ABS 2011 Census for the Niagara Park-Lisarow SA2, Gosford City Council LGA, Greater Sydney and New South Wales (NSW). This is supplemented with information and data from:

- State government policies and strategies relevant to the study area.
- Gosford City Council reports, strategies and policies relevant to the socio-economic environment of the study area.
- Relevant literature reviews and internet searches.
Figure 2-1 | Socio-Economic study area

Legend

- 80 percent concept design
- Road
- Railway
- Watercourse
- Water body
- State forest
- NPWS Reserve
- Local Government Area
- Niagara Park- Lisarow Statistical Area Level 2
3. Policy setting

This section provides an overview of the broader social and economic policies and strategies relevant to the proposal and the study area.

3.1 State policies

3.1.1 NSW Plan 2021

The *NSW 2021: A plan to make NSW number one* (NSW Department of Premier and Cabinet 2011) was released by the NSW Government in September 2011. The plan provides the NSW Government’s direction for the next 10 years to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability, and strengthen local environments and communities.

NSW 2021 identifies 32 goals to meet the five strategies identified in the plan. Goals relevant to the socio-economic environment and the proposal include:

- Improve the performance of the NSW economy.
- Increase the competitiveness of doing business in NSW.
- Reduce travel times.
- Improve road safety.
- Invest in critical infrastructure.
- Build liveable centres.

The proposal would also support NSW 2021 goals relating to travel time and safety and liveability, by improving traffic flow and reducing travel times on the Pacific Highway and improving safety for all road users.

3.1.2 NSW Government State Infrastructure Strategy

The NSW Government State Infrastructure Strategy is a strategy to plan and fund the infrastructure that the NSW Government delivers (Department of Premier and Cabinet, 2012). Within the strategy, undertaking major improvements on the road network linking Sydney with the Central Coast is identified as a strategic priority.

3.1.3 Central Coast Regional Action Plan

NSW 2021 is complemented by 19 Regional Action Plans, which identify immediate actions for the NSW Government to respond to priorities raised by communities and improve outcomes for regions across NSW. The two year plans complement the longer-term regional and State strategies.

The study area is covered by the Central Coast Regional Action Plan (NSW) Department of Premier and Cabinet 2012). The Action Plan seeks to protect the region's strong identity, while growing a prosperous and sustainable economy, supporting liveable communities and providing well-coordinated services and infrastructure with efficient and regular transport services.

Priority actions identified in the Action Plan relevant to the proposal include:

- Improve transport connectivity and regional roads.
- Grow the economy of the Central Coast and provide sustainable employment.

3.1.4 NSW Long Term Transport Master Plan

The *NSW Long Term Transport Master Plan* (Transport for NSW 2012) (LTTMP) was released by the NSW Government in December 2012. It is a 20 year plan which responds to key transport challenges and identifies the priorities needed to create a transport system that meets a range of needs and sets the framework for the NSW Government to deliver an integrated, modern transport system that puts the customer first.
The LTTPM recognises the Central Coast to be very constrained geographically, making the State road network critical. Investment in the road network will reduce congestion, improve travel time reliability and facilitate enhanced bus operations. A key investment area of the LTTPM is the upgrade of the Pacific Highway.

3.2 Local government strategies

3.2.1 Gosford 2025 Community Strategic Plan

The Gosford 2025 Community Strategic Plan (the Community Strategic Plan) was developed by Gosford City Council in 2011 and updated in July 2013. The Community Strategic Plan is a long-term plan that identifies the Gosford community’s main priorities and aspirations for the future. It identifies a vision for the city in 2025, and the key strategies to be implemented.

An important objective identified in the Community Strategic Plan is to have good links between homes, places of work, services and facilities. As the villages and localities in the Gosford LGA are dispersed, there is a need for appropriate transport and investment throughout the region. In particular, a key aspiration in the Community Strategic Plan is to improve the efficiency of the road network during peak times.

The proposal aligns with the Community Strategic Plan priorities as it seeks to improve the liveability of the region through improved road networks, improved connections between home, work and play, and increased safety for all road users and the community.
4. Existing environment

This section describes existing socio-economic characteristics and features of the study area to provide a baseline against which the proposal’s socio-economic impacts can be assessed. This includes information on population and housing, the economy, community values, social infrastructure and transport and access.

4.1 Social context

4.1.1 Regional context

The study area is situated in the Gosford LGA, about 87 kilometres north of Sydney and 83 kilometres south of Newcastle. The Gosford LGA shares a boundary with Wyong Shire to the north, the Tasman Sea to the east, Broken Bay, the Hawkesbury River and Hornsby Shire to the south, and the City of Hawkesbury to the west.

European settlement has occurred in Gosford since 1823. In the late 1830s and early 1840s, Kincumber, East Gosford and the government township of Gosford were established. Further residential growth followed after the construction of the main northern railway line in the 1880s.

The region is a mixed rural and residential area, with some commercial land uses. There are also large areas of State Forest, National Parks and nature reserves including beaches and waterways. The region consists of several settlements divided by hills, valleys and waterways. Most of the population of Gosford LGA live in settlements to the east of the Pacific Highway, along the coastline. Large population centres include Gosford City, Woy Woy, Terrigal and Erina (http://www.gosford.nsw.gov.au/about-council/our-council/our-community-profile).

4.1.2 Local context

The proposal is located in the suburb of Lisarow, about 8 kilometres north of the Gosford central business district (CBD). Lisarow was largely rural until urban encroachment occurred in recent decades. The suburb is now mainly a residential area, with a mix of low-density detached dwellings and medium-density housing, as well as rural residential properties on the fringes. There is also a substantial amount of industrial activity around the railway line and Lisarow station. The area around the proposal is generally comprised of low density residential development, vegetation and open space, general industrial uses and rural lots.

The Pacific Highway north of Gosford is the urban arterial road providing access to Gosford’s northern suburbs and the Pacific Motorway (M1) at Ourimbah. This section of the Pacific Highway currently carries around 30,000 vehicles per day from regional and local areas. The Central Coast and Newcastle passenger and freight rail line is generally located to the western side of the Pacific Highway, until the Pacific Highway crosses the rail line near Dora Street in Lisarow.

Local businesses, shops and commercial uses are generally located around Parsons Street, toward the southern extent of the proposal. This includes Lisarow Plaza and several shops servicing the local population.

A range of community facilities are also available in the local area, including schools and sporting facilities. Two heritage items including the Lisarow Anglican Cemetery and the Lisarow Store are located adjacent to the Pacific Highway toward the northern end of the proposal.

4.2 Population and demography

This section describes the key population, demographic and housing characteristics of the study area. Data is provided for the Niagara-Lisarow SA2 and the Gosford LGA, with data for Greater Sydney and NSW as a comparison.
4.2.1 Population and growth

In 2012, Niagara Park-Lisarow had a population of about 8,344 persons, comprising approximately five per cent of the Gosford LGA population (162,440 persons) (refer to Table 4-1).

Table 4-1 Population size, 2007-2012

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimated resident population</th>
<th>Population change (2007 – 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Niagara Park - Lisarow SA2</td>
<td>7,799</td>
<td>8,344</td>
</tr>
<tr>
<td>Gosford LGA</td>
<td>162,975</td>
<td>170,232</td>
</tr>
<tr>
<td>Greater Sydney</td>
<td>4,325,525</td>
<td>4,672,619</td>
</tr>
<tr>
<td>NSW</td>
<td>6,834,156</td>
<td>7,301,134</td>
</tr>
</tbody>
</table>


Information on population projections is only available at the Gosford LGA level. The population of Gosford LGA is expected to grow to 189,050 people in 2031, an average of about 0.6 per cent annually. This rate of growth is below the average annual growth projected for NSW as a whole, at 1.2 per cent. Refer to Figure 4-1 (NSW Department of Planning 2014).

Figure 4-1 Projected population growth rates - Gosford LGA and NSW


4.2.2 Age profile

Niagara Park-Lisarow had a relatively young population compared to the Gosford LGA, Greater Sydney and NSW as a whole. The study area had a median age of 36 years. Although this is significantly lower than the median age for the broader Gosford LGA (42 years), it is comparable to the Greater Sydney area.

In 2011, the study area had a higher proportion of children aged 14 years or younger, at 23.3 per cent, compared to 18.7 per cent in Gosford LGA and 19.2 per cent in Greater Sydney. The study area also had a greater proportion of people aged 15 years to 24 years, at 14.4 per cent of the population. This is compared to 12.1 per cent in Gosford LGA, and 13.3 per cent in Greater Sydney.

In 2011, around 9.6 per cent of the study area were aged 65 years or over, significantly lower than in Gosford LGA (19.2 per cent), and Greater Sydney (12.9 per cent).
4.2.3 Cultural diversity

The study area generally had a low level of cultural diversity. In 2011, about 81.7 per cent of residents in the study area were born in Australia. This study area had a relatively low proportion of people, who were born overseas, at 14.3 per cent of the population. This is compared to 15.8 per cent in Gosford LGA and 34.2 per cent in Greater Sydney. The main countries of birth for study area residents born overseas were countries in the United Kingdom, New Zealand, South Africa and the United States of America.

In 2011, the study area also had a significantly smaller proportion of people of who spoke a language other than English compared to Greater Sydney and NSW as a whole. Over 90 per cent of residents in the study area spoke English at home. Other than English, the main languages spoken at home were German, Italian, Greek and Mandarin.

There was a slightly higher proportion of Aboriginal residents in the study area in 2011 (1.9 per cent) compared to Greater Sydney (1.2 per cent). However, the proportion of Aboriginal residents in the study area was lower than in the Gosford LGA (2.2 per cent) and NSW as a whole (2.5 per cent). The study area is located in the Darkinjung Local Aboriginal Land Council area which has an estimated Aboriginal population of around 7,012 people (http://www.darkinjung.com.au/default.aspx?id=2).

4.2.4 Families and households

The study area is characterised by traditional family households living in detached dwellings. At the 2011 Census, the key family and household characteristics of the study area were:

- Families with children were the most common family type. The study area had a higher proportion of families with children (53.7 per cent), compared to Gosford LGA (42.6 per cent) and Greater Sydney (32.5 per cent).
- Couple only families comprised about 29 per cent of families which was slightly lower than Greater Sydney at 33.5 per cent.
- There were a lower proportion of single and group households compared to Gosford LGA and Greater Sydney.
- The majority of study area residents lived in separate houses (81.4 per cent), although houses adjacent to the proposal comprise a mix of medium-density and low density housing.
- The study area also had higher rates of owner-occupiers and lower rates of renters compared to Gosford LGA and Greater Sydney. In 2011, about 49 per cent of the study area population had a mortgage on their property, and about 29 per cent of the population owned their home outright. This is compared to 34.6 per cent and 35.2 per cent, respectively, in the Gosford LGA.
- Although the study area had a smaller proportion of people who were renting (about 20.2 per cent), over a quarter of all renters were renting from the State housing authority.
- The housing market in the study area was constrained. In 2011, there was low level of unoccupied dwellings with less than five per cent of dwellings vacant on Census night. A total of 16 dwellings were advertised for sale and eight properties were listed for rent in Lisarow in July 2014 (3 July 2014, realestate.com.au). This included a mix of separate dwellings, townhouses and units.

4.2.5 Need for assistance

‘Need for assistance’ refers to people who need help or assistance in one or more of the three core activity areas of self-help, mobility or communication due to disability, a long term health condition or old age (ABS 2011). These groups may be more vulnerable to changes from the proposal, such as changes in local access, including to community services and facilities, effects associated with property acquisition, including loss of social and community networks, and changes in local amenity (i.e. increased noise and dust).

Overall, the study area had a relatively low rate of people needing assistance, with 3.3 per cent of people in the study area indicating they needed help or assistance in at least one of the three core activity areas, compared to about 4.4 per cent in NSW.
4.2.6 Socio-economic Indices for Areas (SEIFA)

The ABS produces a number of socio-economic indices for areas (SEIFA) that identify areas of relative advantage and disadvantage based on Census data.

The index of relative socio-economic advantage/disadvantage is a continuum of advantage to disadvantage. It considers indicators relating to family income, education, occupation type, wealth and living conditions to determine the relative level of advantage or disadvantage an area may experience relative to all other areas in Australia. A high decile\(^1\) score indicates a relative lack of disadvantage and greater advantage in general, reflecting many households with high incomes, or many people in skilled occupations and few households with low incomes or few people in unskilled occupations.

The index of economic resources reflects the economic resources of households in an area, based on indicators such as income, expenditure and assets including wages and rental costs for families, and variables that reflect wealth (e.g., dwelling size).

The 2011 ABS Census indicates that the study area comprises a relatively high possible score of socio-economic advantage (decile of 7) as well as a high score of economic advantage (decile of 8). This shows that study area residents experience a high level of access to employment, income and living conditions, although there were some pockets of disadvantage. Communities experiencing relative advantage or access to economic resources may positively influence the ability of that community to cope with or respond to changes from the proposal.

4.3 Economic profile

4.3.1 Income

In 2011, Niagara Park-Lisarow had a higher median weekly household income compared to the Gosford LGA, Greater Sydney and NSW, although the median weekly personal income was below Greater Sydney. This indicates there were a greater number of employed persons per household in Niagara Park-Lisarow compared to Greater Sydney (refer to Table 4-2).

In 2011, the Niagara Park-Lisarow had a higher proportion of higher income earning households (earning more than $2,000 per week), and a smaller proportion of low income earning households (less than $600 per week) compared to Gosford LGA and Greater Sydney.

Table 4-2 Median income

<table>
<thead>
<tr>
<th>Locality</th>
<th>Median household income (weekly)</th>
<th>Personal income (weekly)</th>
<th>High income earning households (per cent)</th>
<th>Low income earning households (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niagara Park - Lisarow SA2</td>
<td>$1,448</td>
<td>$581</td>
<td>29.6</td>
<td>15.8</td>
</tr>
<tr>
<td>Gosford LGA</td>
<td>$1,089</td>
<td>$534</td>
<td>21.5</td>
<td>24.3</td>
</tr>
<tr>
<td>Greater Sydney</td>
<td>$1,447</td>
<td>$619</td>
<td>32.1</td>
<td>18.2</td>
</tr>
<tr>
<td>NSW</td>
<td>$1,237</td>
<td>$561</td>
<td>26.7</td>
<td>21.7</td>
</tr>
</tbody>
</table>

Source: ABS 2011 Census

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\(^1\) Deciles divide a distribution into ten equal groups. The lowest scoring 10 per cent of areas are given a decile number of one, the second-lowest 10 per cent of areas are given a decile number of two, up to the highest 10 per cent of areas that are given a decile number of 10 (ABS, 2013b).
4.3.2 Labour force

Table 4-3 provides key labour force statistics, including the size of the labour force, the labour force participation rate, total employed persons and the unemployment rate. The total number of employed persons is provided for persons living in the area as well as persons working in the area to provide an indication of the ability for the local economy to support demand for employment.

The study area displayed high levels of labour force participation and low levels of unemployment. In 2011, the Niagara Park-Lisarow had the lowest unemployment rate and the highest labour force participation rate, indicating that there are more employment opportunities for residents compared to Gosford LGA and Greater Sydney. However, a review of the working population profile for the Niagara Park - Lisarow SA2 lists 2,584 employed persons in the Niagara Park-Lisarow, compared to 3,927 employed persons living in the area (ABS 2011). This indicates that many residents are employed outside of Niagara Park-Lisarow.

Table 4-3 Key labour force characteristics, by place of usual residence

<table>
<thead>
<tr>
<th>Locality</th>
<th>Total labour force</th>
<th>Labour force participation rate (per cent)</th>
<th>Unemployment rate (per cent)</th>
<th>Total employed persons (living in the area)</th>
<th>Total employed persons (working in the area)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niagara Park - Lisarow SA2</td>
<td>4,151</td>
<td>67.2</td>
<td>5.40</td>
<td>3,927</td>
<td>2,584</td>
</tr>
<tr>
<td>Gosford LGA</td>
<td>75,653</td>
<td>57.3</td>
<td>6.08</td>
<td>71,057</td>
<td>50,529</td>
</tr>
<tr>
<td>Greater Sydney</td>
<td>2,188,853</td>
<td>61.7</td>
<td>5.74</td>
<td>2,063,266</td>
<td>1,874,113</td>
</tr>
<tr>
<td>NSW</td>
<td>3,334,856</td>
<td>59.7</td>
<td>5.89</td>
<td>3,138,331</td>
<td>3,033,526</td>
</tr>
</tbody>
</table>

Source: ABS 2011 Census

In 2011, about 56 per cent of the study area's labour force was employed full-time and about 32 per cent were employed part-time. The most common occupations in the study area were professionals, clerical and administrative workers, technicians and trades workers, managers and sales workers.

4.3.3 Industry

A review of employment by industry indicates that the composition of the economy in the study area was very similar to Greater Sydney and NSW. In all regions, the health care and social assistance industry followed by the retail trade industry were the largest employing industries.

In 2011, manufacturing was the third largest employing industry in Niagara Park-Lisarow. Construction was the third largest employing industry in the Gosford LGA, but manufacturing was also important.

While the contribution to total employment in a region is a good indicator of the industry’s contribution to the overall economy, as well as the composition of the economy, an analysis of specialisation ratios (compared to NSW) also provides an important indicator of the relative importance of an industry. Specialisation ratios measure the extent to which observations in the study area are reflective of the NSW average. In this instance, employment specialisation ratios are calculated as the ratio of the proportion of employment by industry in the study area compared to the proportion by industry in NSW, with a specialisation ratio greater than one indicating importance in the study area in terms of overall contribution to employment.

Figure 4-2 provides the employment specialisation ratios for Niagara Park-Lisarow and Gosford LGA. In 2011, there were only a select few industries in the Niagara Park-Lisarow with a specialisation ratio greater than one. Specifically, health care and social assistance, other services, retail trade and information media and telecommunications were slightly more important as employers in the study area than to NSW as a whole. In the Gosford LGA, there were a few industries with a specialisation ratio higher than one, including those mentioned...
for the Niagara Park-Lisarow as well as construction, rental hiring and real estate services, administrative support services, public administration and safety and arts and recreation services.

**Figure 4-2 Employment specialisation ratios**

*Source: ABS 2011 Census*

### 4.3.4 Local business and industry

Businesses in the study area are mostly aimed at local residents, although some businesses cater for industrial markets. Local businesses located near to the proposal include:

- **Boats and mower shop** and **Coast and Hunter Coffee and Wholesale Food Shop** on Railway Crescent (located to the west of the proposal, and at the site of proposed works). Much of the boats and mower shop stock is located in a secure outdoor yard to display and sell boats, and it has an ample car parking area. It is expected that both businesses would be partially reliant on passing traffic for trade, particularly the boat and mower shop.

- **Two small light industrial workshops** are located north of the proposal at the corner of the Pacific Highway and Ourimbah Street, Morris Signs and Lisarow Auto Electrics. These specialty businesses would not be very reliant on passing traffic for trade. Lisarow Auto Electrics Car currently provides ample car parking space, including space along the front kerb for truck parking.

Lisarow Plaza shopping centre is located south of the proposal, adjacent to southbound carriageway at Parsons Road. It has a major supermarket (BI-LO), and financial and personal services such as bank, hairdresser, optometrist and other local services. Lisarow Plaza primarily serves a local catchment.

A number of light industrial businesses are located south of the proposal, situated between the Pacific Highway and the railway line. These businesses supply light industrial goods, landscaping and building supplies and
services. As specialist services and suppliers, these businesses would not be heavily reliant on passing traffic for trade, but require easy access and customer parking spaces.

A light industrial precinct is also located on the western side of the Pacific Highway, south of Lisarow Station on Railway Crescent (located south-west of the proposal). The businesses in this area generally comprise large warehouses, sheds and office buildings. Access is important to these businesses, and most currently feature well-marked driveways for despatch and loading.

There is no on-street parking for these businesses along the Pacific Highway. Off street parking is either provided by the business on their premises or available with shopping centre. There is limited on street parking available in the side streets.

4.4 Transport and access

4.4.1 Road

The main highway accessing the study area is the Pacific Highway, the site of the proposal. The existing Pacific Highway between Parsons Road and Ourimbah Street at Lisarow NSW consists predominantly of a single lane in each direction with provision for turning movements at intersections. This section of the highway currently carries approximately 30,000 vehicles per day (VPD) from regional and local areas and has a posted speed limit of 60 kilometres per hour. The Pacific Highway also plays an important role as a tourist route, forming part of a tourist drive along the east coast of New South Wales and Queensland. The tourist drive takes in a range of natural attractions, coastal areas and county towns.

The Pacific Highway north of Gosford is an urban arterial road providing access to Gosford’s northern suburbs and to the Pacific Motorway (M1) at Ourimbah, providing access to the NSW Central Coast, Northern NSW and Queensland to the north, and Sydney and Regional NSW to the South. The highway is currently a single lane in each direction from Manns Road, Wyoming to the Glen Road at Ourimbah and experiences congestion during peak times.

The Pacific Highway intersects a number of local roads; namely:

- Chamberlain Road – signalised intersection providing for right in / right out turning movements with a left in slip lane
- Macdonalds Road – unsignalised intersection providing for right in / right out turning movements
- Railway Crescent – unsignalised intersection providing for right in / right out turning movements
- Dora Street – unsignalised intersection with Railway Crescent providing for right in / right out turning movements.

4.4.2 Rail

The local area where the proposal is located is serviced by two major rail stations, the Niagara Park Station and Lisarow Station (located adjacent to the northbound carriageway of the Pacific Motorway) on the Central Coast and Newcastle Line which provides access to Gosford and Sydney. Neither station is wheelchair accessible.

The Lisarow Station is accessible via Pacific Highway approximately 60m west of the Chamberlain Road/Pacific Highway intersection as well as via Railway Crescent. This access road via Chamberlain Road acts as an informal carpark. Although there is no linemarking, this access road caters for approximately 32 vehicles. Lighting is provided along this access road but no CCTV is implemented.

The Niagara Park Station is accessible via Kathleen Moreau Road off the Pacific Highway and via an entry at the corner of Railway Terrace and Washington Avenue. There is parking close by to the station and bike racks and bike locks are also available.
4.4.3 Bus

Lisarow and Niagara Park are serviced by bus by the operator ‘busways’. The main bus route is Number 36 (Gosford – Narara – Niagara Park – Ourimbah – Tuggerah) and Number 37 (Gosford – Lisarow – Settlers Park – Ourimbah – Tuggerah). There are a number of bus stops adjacent to the Pacific Highway including on Railway Crescent, and both routes service Niagara Train Station and Lisarow Train Station.

There is also an occasional service on Number 37 running between Macdonalds Road and Fagans Road to Taylors Road, providing increased connections for residents in this area. Within Gosford Centre, there are at least 40 different bus services.

4.4.4 Walking and cycle paths

At the proposal site, shared paths of 3.0m width are provided adjacent to the southbound carriageway from the southern end of the work to Chamberlain Road. From Chamberlain Road north, shared paths are provided adjacent to the northbound carriageway. Chamberlain Road has a shared path along the southern side, while Railway Crescent has a shared path on the eastern side. A footpath is provided adjacent to the northbound carriageway from the southern end of the work to Chamberlain Road. A 1.5 metre wide footpath is also located on the northern side of Chamberlain Road and Macdonalds Road and the western side of Railway Crescent and Dora Street. Where bus stops are provided, the path widens to 3.0 metres. A footpath is located between Chamberlain Road and Macdonalds Road on the eastern side of the Pacific Highway.

4.4.5 Journey to work

Private vehicle was the dominant mode of travel to work for residents in the study area. Table 4-4 provides information on the method of travel to work for Niagara Park-Lisarow and Gosford LGA.

In 2011, about 84.8 per cent of residents in the study area travelled to work by car, either as driver or as passenger. This may be due to the lack of transport alternatives in accessing employment that is not near to the rail line. This is compared to 58.2 per cent in Greater Sydney. People working in the study area were even more reliant on private vehicles, with 93.3 per cent of workers in Niagara Park-Lisarow travelling to work by car.

A considerable proportion of the residential population in the study area commute to work via train. This suggests that local residents are travelling to another region, such as Newcastle or Sydney, for work. In terms of active transport opportunities, walking was more attractive to residents and workers in Niagara Park-Lisarow and Gosford LGA than cycling.

Table 4-4 Mode of travel to work – one method

<table>
<thead>
<tr>
<th>Mode of travel</th>
<th>Niagara Park – Lisarow SA2</th>
<th></th>
<th>Gosford LGA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Based on Place of Usual Residence (%)</td>
<td>Based on Place of Work (%)</td>
<td>Based on Place of Usual Residence (%)</td>
<td>Based on Place of Work (%)</td>
</tr>
<tr>
<td>Train</td>
<td>9.3</td>
<td>1.1</td>
<td>7.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Bus</td>
<td>0.5</td>
<td>0.1</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Car, as driver</td>
<td>78.6</td>
<td>86.6</td>
<td>78.7</td>
<td>84.4</td>
</tr>
<tr>
<td>Car, as passenger</td>
<td>6.2</td>
<td>6.7</td>
<td>6.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Truck</td>
<td>1.8</td>
<td>1.4</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Bicycle</td>
<td>0.3</td>
<td>0.6</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Walked only</td>
<td>2.3</td>
<td>2.4</td>
<td>2.8</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Source: ABS 2011 Census
4.5 Social infrastructure

The study area accommodates a wide range of community services and facilities that cater for the needs of both local and regional communities, including education facilities; health, medical and emergency services; sport, recreation and leisure facilities; and community and cultural facilities.

A number of social infrastructure facilities are located near to the proposal that may experience impacts from the construction and/or operation of the proposal, either directly or indirectly. These are listed in Table 4-5 and shown in Figure 4-3.

Table 4-5 Social infrastructure near the proposal works

<table>
<thead>
<tr>
<th>Location</th>
<th>Facility</th>
<th>Address</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>West of the proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lisarow Railway Station</td>
<td>Old Pacific Highway, Lisarow</td>
<td>Public transport</td>
</tr>
<tr>
<td></td>
<td>Church of Christ</td>
<td>52 Railway Crescent, Lisarow</td>
<td>Place of worship</td>
</tr>
<tr>
<td></td>
<td>Park</td>
<td>Winter Close, Lisarow</td>
<td>Park</td>
</tr>
<tr>
<td></td>
<td>Pearson Park</td>
<td>Eagle Close, Lisarow</td>
<td>Park</td>
</tr>
<tr>
<td></td>
<td>Lisarow Cemetery</td>
<td>Corner of Pacific Highway and Eagle Close, Lisarow</td>
<td>Cemetery</td>
</tr>
<tr>
<td></td>
<td>Seventh Day Adventist Church</td>
<td>Corner of Lisarow Street and Ourimbah Street, Lisarow</td>
<td>Place of worship</td>
</tr>
<tr>
<td></td>
<td>East of the proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lisarow High School</td>
<td>Chamberlain Road, Lisarow</td>
<td>School</td>
</tr>
<tr>
<td></td>
<td>The Orchards Aged Care</td>
<td>25 Taylor Road, Lisarow</td>
<td>Aged Care</td>
</tr>
<tr>
<td></td>
<td>Lisarow Public School</td>
<td>17 Macdonalds Road</td>
<td>School</td>
</tr>
<tr>
<td></td>
<td>Central Coast Soccer Association</td>
<td>Pluim Park, Tuggerah Street, Lisarow</td>
<td>Sporting</td>
</tr>
<tr>
<td></td>
<td>Pluim Park</td>
<td>Tuggerah Street, Lisarow</td>
<td>Park</td>
</tr>
<tr>
<td></td>
<td>Cut Rock Park</td>
<td>Baileys Road, Ourimbah</td>
<td>Park</td>
</tr>
</tbody>
</table>

4.6 Community values

Community values are values held as important to residents for quality of life and well-being. They include physical elements such as parks, landscapes and pedestrian connectivity, and intangible qualities such as sense of place and community cohesion.

Residents in the study area value the relaxed lifestyle, safe, family-friendly and ‘village-like’ atmosphere of the study area. The relaxed lifestyle of the study area and broader Gosford LGA is one of the key features of the area and contributes to the region’s liveability (Gosford City Council 2014).

The rural and residential amenity of the study area is also highly valued. Access to the environment and proximity to natural assets such as beaches, waterways, nature reserves and open space also contributed to the lifestyle and amenity of the study area. The vegetation around the study area comprises a mix of remnant vegetation, riparian zones and roadside plantings. Existing vegetation provides a visual buffer between the existing road and rail corridor and nearby residential and community uses in the study area. The Lisarow Wetland is located to the south-east of the intersection of the Pacific Highway and Chamberlain Road. A bush regeneration program is currently in place for the wetland and is being managed jointly by Gosford City Council and Lisarow High School. The wetland is located in an area of Alluvial Paperbark Sedge Forest that is recognised as the Endangered Ecological Community (EEC) under the Threatened Species Conservation 1995 Act (TSC Act). The EEC is recognised as Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Swamp Sclerophyll Forest). This community is dominated by Swamp Mahogany (*Eucalyptus robusta*).
Figure 4-3 | Social infrastructure near the proposal

Legend

- 80 percent concept design
- Retaining wall
- Water quality basin
- Railway
- Watercourse
- Cadastre

- LEP heritage item
- Point of interest type
  - Community facility
  - Community home
  - School
  - Place of worship
  - Sports and recreation
  - Retirement village
  - Railway Station

SOCIO-ECONOMIC TECHNICAL REPORT
Upgrade of the Pacific Highway, Ourimbah Street to Parsons Road, Lisarow
In addition Biconvex Paperback (*Melaleuca biconvexa*) is prevalent and is a threatened flora species listed as vulnerable under the TSC Act and the *Environmental Protection and Biodiversity Conservation 1999 Act* (EPBC Act). Another couple of wetlands are located to the north-west of the proposal to the south of the existing rail overbridge between the Pacific Highway and the railway corridor. These wetlands are recognised as Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Freshwater Wetlands) which is an EEC under the TSC Act.

The Lisarow Anglican Cemetery at the corner of the Pacific Highway and Eagle Close, Lisarow, has rare local historic and social significance as a mid-19th century cemetery associated with the early settlement of the district. Set above the Pacific Highway, the cemetery is an important feature of the landscape. The Lisarow Anglican Cemetery is listed as a heritage item in the Gosford Local Environment Plan has local historic and social significance to residents in the study area. A community facebook page has been developed to document the Lisarow Cemetery and notes the site is:

“highly significant at a local level because it was the first burial grounds in the area, established soon after the first land grants were made. The cemetery is a rare capsule containing a cross section of the population…”

There are a number of stone and marble headstones existing within the cemetery. There are also some mature trees and plantings. A wide variety of funeral monuments indicative of periodic styles, including examples of majolica are present within the cemetery. The stone gateposts from the cemetery to the Pacific Highway are part of the original entrance to the cemetery. The graves are in very close proximity to the current Pacific Highway; the closest being about 10 metres from the current edge of the bitumen seal. The most recent burial of the cemetery occurred in 2009, and is located about 20 metres from the current edge of the bitumen seal of the Pacific Highway. Refer to Chapter 5 of the *Non-Aboriginal Heritage Assessment* for further information.

The Pryor Brothers post office, store and outbuilding are also heritage listed in the Gosford Local Environment Plan. These buildings, built in 1927, are valued locally as one of the early businesses in the area. A development application is currently in place at this site.

The study area is geographically well-placed, with good access to Sydney CBD, the Hunter Valley, and Newcastle. Having access to a good network of transport infrastructure, including roads and public transport, to maintain and improve local and regional connections, was important to the community. Many residents in the broader Central Coast region commute to Sydney, Newcastle and other regional areas for work and recreation. The study area has good access to the Pacific Highway and Pacific Motorway. The Pacific Motorway is an important link connecting Sydney and Newcastle. However, the relaxed lifestyle of the study area is currently compromised by increased travel times and traffic congestion on the Pacific Highway, and high levels of road traffic noise and rail noise. Safety is also an issue for the study area, with the high traffic volumes on the Pacific Highway impacting on safety for motorists, pedestrians and cyclists.

4.7 Summary of the existing socio-economic environment

Key characteristics of the study area include:

- A residential population of about 8,344 people.
- A high level of young families with children, and lower proportions of older people and people in need of assistance.
- A predominance of full-time workers and a median weekly household income higher than that of Greater Sydney, indicating the community has relatively high levels of advantage and good access to economic resources.
- The majority of Niagara Park-Lisarow residents rely on private vehicles to travel to work, however a large proportion also use the train reflecting the location of the Lisarow train station.
- A range of community facilities and local businesses are located near to the proposal, including schools, sporting and recreation, open space and places of heritage value.
- The study area is well-connected to Gosford, Sydney, Newcastle and the Hunter Valley through State road networks and rail infrastructure.
The study area community values the quality the village feel of Lisarow, the relaxed lifestyle of the region, and access to the natural environment. Access to commercial and employment centres is also valued, as is safety for motorists, pedestrians and cyclists using the major road corridors that run through the study area.
5. Potential impacts

The proposal has the potential for both wider regional and local benefits in the medium to longer term through reduced traffic congestion, improved safety for all road users and improved access and connectivity. However, the proposal would also result in some temporary impacts and changes to the existing socio-economic environment for communities and businesses within the study area and the wider region.

This section describes the potential benefits and impacts of the proposal’s design, construction and operation for local and regional communities.

5.1 Property acquisition

Much of the proposal would occur within existing road corridor. However, it is anticipated that nine full property acquisitions and 11 partial property acquisitions would be required to accommodate the road corridor and associated infrastructure.

The locations and requirements of the property acquisitions would be confirmed during detailed property resumptions, and are likely to include a mix of property types including:

- Commercial, including Coast and Hunter Wholesale Coffee and Food and Lisarow Boat and Mower Shop at the corner of Dora Street and Railway Crescent.
- Residential, around Dora Street and Railway Crescent intersection and north of the Lisarow Cemetery on the Pacific Highway.
- Open space / vegetation, located east of the railway line.

Residents and businesses of these properties would need to relocate prior to commencement of construction. Residents, business owners and employees facing changes such as relocation may experience anxiety and stress about these changes, potentially impacting on health and well-being. Impacts for local businesses are discussed in Section 5.2.1.

The study area has a generally constrained property market, with a low dwelling vacancy rate and low numbers of properties available to rent or buy (see Section 4.2.4). Households that need to relocate as a result of property acquisition may experience difficulty finding appropriate housing in the study area. Housing is generally more widely available in the surrounding region, including at Wyoming (about six kilometres from the study area) and Gosford (about eight kilometres from the study area).

The relocation of households due to property acquisition may disrupt social networks and community relationships if residents are required to move away from the local area and from existing social and support networks. The study area generally has high levels of access to social and economic resources, demonstrated through relatively high household incomes, a low unemployment rate and low levels of socio-economic disadvantage. This may mean households are more adaptable and better equipped to relocate. Impacts associated with property resumptions are likely to be significant for the particular individual families and would need to be managed carefully. However given the small number of residential properties potentially affected, the impacts are not expected to be significant in the context of the proposal. Early and on-going consultation with potentially affected property owners and residents would help to manage potential impacts. It is not anticipated that residents would need to be relocated as a result of anticipate partial property acquisitions.

Property acquisition requirements would be confirmed through detailed design and consultation with property owners would be undertaken by Roads and Maritime. All property valuations and acquisitions would be carried out in accordance with the Land Acquisition Information Guide (Roads and Maritime, 2012) and the (NSW) Land Acquisition (Just Terms Compensation) Act 1991 (where applicable).

Where possible, properties affected by the proposal would be purchased under voluntary agreements between Roads and Maritime and property owners. This would help to provide affected property owners and businesses with certainty about future decisions and financial security.
5.2 Local economy

This section provides an assessment of impacts on local and regional employment, business and industry associated with the construction and operation of the proposal.

5.2.1 Local business impacts

Impacts are anticipated for the two businesses located on Railway Crescent, near Dora Street (food wholesaler and boat and mower shop). The proposal is expected to impact these businesses through:

- Partial or full resumption, requiring the businesses to relocate or reduce their shop size. Potential resumption requirements would be confirmed during detailed design.
- Construction works, resulting in increased noise and dust and impacting amenity. Impacts on amenity may be experienced due to increased dust, construction noise and construction traffic. This may create a difficult environment for outdoor sales at the boat and mower shop. Construction dust may also result in the need for more frequent cleaning of the boats and mowers for sale at this business. Construction impacts may affect employee productivity at both businesses.

The boat and mower shop and food wholesale would likely be required to relocate prior to the start of construction. These businesses generally cater for broader customer catchments and have specific location and siting requirements, which may cause difficulties in finding alternative premises locally. If suitable alternative premises are not able to be found, these businesses may need to cease operations. Roads and Maritime would engage with affected businesses early to minimise the impacts of potential acquisition.

The acquisition of the two commercial properties may cause a small loss of local employment in Lisarow, particularly if alternative premises are not able to be found locally. While this would be a concern for employees of affected businesses, this is not expected to be significant in the context of the diversity of employment options available in the study area.

More broadly, impacts on business and industry in the study area during the construction phase of the proposal include:

- Increased expenditure on local goods and services, resulting in beneficial impacts for local businesses.
- Increased expenditure on local goods and services, resulting in beneficial impacts for local businesses.

The construction phase is likely to have a positive effect for some local businesses through increased demand for local goods and services. This includes local shops and food outlets at Lisarow Plaza that are likely to benefit from increased business in response to the day-to-day needs of construction workers.

Around 30,000 vehicles use the Pacific Highway at Lisarow each day. Where possible, traffic flow on the Pacific Highway and the surrounding road network will be maintained. However, there is a potential for travel delays during construction which may impact on commuter, bus and heavy vehicle traffic. This may disrupt movement of freight and commercial traffic, resulting in potential delays, increased travel times and increased transport costs for some business. This may be of particular concern to businesses operating from the industrial areas located adjacent to the Lisarow Station on Railway Crescent, as well as south of Lisarow Station, between Railway Crescent and the Pacific Highway.

Delays and disruptions may also be experienced by workers and customers due to construction works in the motorway corridor, resulting in longer travel times and potential for increased stress levels for some workers. In particular, customers wishing to access businesses on Railway Crescent and Lisarow Plaza may experience some delays. Increases in travel times for customers caused by traffic disruptions during proposal construction may deter some customers from visiting these businesses. This is likely to be of concern for business owners, including businesses at Lisarow Plaza which generally services a local customer base.

Construction is anticipated to be implemented in stages in order to minimise impacts to traffic, businesses and residents. Some construction works are expected outside of normal construction works to maintain traffic flow...
and minimise traffic disruptions. Any restrictions of property access would include consultation with the affected business owners prior to works occurring.

In the long term, the proposal is expected to improve access and connectivity for business and industry by improving the safety and performance of the Pacific Highway at Lisarow. This is expected to improve access to local businesses and industry, including the industrial and commercial properties on Railway Crescent.

5.2.2 Employment impacts

Workforce size during construction of the proposal would be confirmed during the detailed design phase. However, it is anticipated that the workforce would comprise around 30 workers and would generally include labourers, plant operators, tradesmen, technicians and supervisors. The actual size of the construction workforce would vary over time, depending on the nature of construction activities.

The proposal would impact positively on employment through the creation of direct construction-related employment on the proposal and indirect employment in businesses and industries that support the construction works. Although the study area had a relatively low rate of unemployment, the construction industry was an important employer in the region (see Section 4.3.2). The proposal could provide ongoing employment for local people working in the construction industry. This would impact positively on employment in the study area, allowing local residents to continue to work in the construction industry in the local area.

5.3 Access and connectivity

In the long-term, the operation of the proposal is expected to improve an important local connection to Lisarow and surrounding areas, improve safety for motorists, cyclists and pedestrians by reducing the number of crashes in the study area, increase traffic capacity and improve travel time by reducing congestion. The proposal would also improve shared and pedestrian paths in the study area. In particular, new pathways would be provided to provide safe pedestrian connections to Lisarow train station and nearby housing, Lisarow Public School and Lisarow High School. Fencing would be provided in steep areas for pedestrian safety. This is expected to provide improved access and a safe walking route for local students to access these facilities.

The proposal would generally retain the existing location of bus stops, with exception of the bus stop located near the Lisarow Anglican Cemetery. This bus stop would be replaced at a safe location nearby. The northbound bus stop adjacent to the Lisarow Anglican Cemetery is not in use, and would be removed. As a result, no long-term impacts to bus users are expected.

The operation of the proposal would also result in minor changes to car parking around Lisarow Station. Kerb and guttering would be constructed on Railway Crescent, removing the ability for commuters to park informally on the kerbside area. Ad-hoc kerbide parking is a safety issue and formalising the car parking around the station is expected to improve pedestrian and motorist safety. The existing commuter car park would be retained and enhanced. It is the intention of the proposal that there will be no loss of formal car parking spaces at Lisarow Station.

Without management, construction works would result in the following temporary access and connectivity related impacts:

- Disruption to local access for motorists and public transport users.
- Disruption to the operation of bus stops near the proposed works.
- Disruption to the operation of the existing pedestrian pathway on the eastern side of the Pacific Highway, between Chamberlain Road and Macdonalds Road.
- Potential changes to private property access.

During construction temporary changes would be required to local access while potential delays and disruptions may occur near to construction works for motorists and public transport users. Delays are likely at the Dora Street and Railway Crescent intersection construction works, the Northern Railway Overbridge and construction works on Chamberlain Road. Where possible, bi-directional traffic flow will be maintained on the Pacific Highway to minimise traffic disruptions.
Commuters currently use the grassed area adjacent to the Pacific Highway as informal car parking area. Unmarked kerbside parking would be unavailable during construction. As a result, residents and train commuters may be required to walk further to Lisarow Station. Marked car parking at the train station would remain open throughout construction, where possible.

Some changes to access to Lisarow Station may be implemented due to construction works. This may result in confusion for some station users, if detours or alternative access is provided. Some station users may also perceive there to be safety concerns associated with detours, construction works or alternative access points. Ongoing communication with local residents and train users about upcoming changes will help to minimise the impacts of these changes. Clear signage and implementation of the traffic management plan will also assist.

During construction, changes may occur to access arrangements for properties at the northern end of the proposal, particularly on Railway Crescent and Dora Street. This is due to the potential for temporary closure or restrictions in access to the Dora Street and Railway Crescent intersection and widening works to the Pacific Highway north of Dora Street. This may result in temporary restrictions to access to a small number of properties. These impacts would be short-term in nature and would be communicated with affected residents in line with the traffic management plan.

Construction activities on the Pacific Highway may cause delays for bus route 36 which travels between Ourimbah and Gosford. Notification of public transport users about potential temporary changes to bus services during construction would assist in managing potential impacts. The upgrade to the Pacific Highway has an unavoidable interface with the rail network. The existing bridge over the railway will be demolished and upgraded to accommodate the requirements for traffic. This work is not expected to result in delays to the rail network. However, some temporary track closures would need to occur to accommodate some of the construction work and rail maintenance. Temporary track closures would likely occur during the night or on weekends to avoid impacts to peak hour commuter times. Upcoming closures would be advertised at the station and through standard notification avenues. Potential impacts to local residents due to night time works are discussed in Section 5.5.

Construction works may require changes to access for pedestrian and cyclists near to construction works. In particular, this includes changes to the existing pedestrian pathway between Chamberlain Road and Macdonalds Road on the eastern side of the Pacific Highway. This may result in confusion or inconvenience to pedestrians and cyclists using the pathway. Ongoing communication with the study area about changes to pedestrian and cycle facilities, as well as clear signage around construction works, will help to minimise these impacts.

### 5.4 Social infrastructure

Overall, the proposal would improve access to local and regional level social infrastructure in the study area for local communities by reducing traffic congestion. However, community services and facilities located closest to the proposal may experience impacts during construction and operation which are described below.

#### 5.4.1 Construction

During construction, the proposal has the potential to impact directly and indirectly on the Lisarow Cemetery through:

- Removal and relocation of the gates.
- Increased noise, dust and construction traffic, impacting on amenity for visitors.
- Changes in local access and traffic disruptions and delays due to widening works, reconfiguration of road and increased construction traffic on local roads.

The Lisarow Cemetery at the northern end of the proposal may experience some vibration impacts due to construction works. This is not expected to affect the structures and items located within the cemetery. Additional information on Lisarow Cemetery is provided in Chapter 5 of the Statement of Heritage Impact completed for the proposal.
Construction impacts such as noise and dust also have potential to reduce amenity. The Lisarow Cemetery is located adjacent to the construction works site. Noise and dust from the construction works may temporarily diminish visitor’s experience of the cemetery.

It is understood the most recent burial at the cemetery was in 2009. Construction works would impact on funeral services or burials through construction noise, dust and visual impacts if these were held at the cemetery during the construction period. Consultation with the Anglican Church regarding would help to manage potential impacts on users of the cemetery by planning construction works around upcoming events where possible.

Community facilities along roads used to access construction sites and haulage routes may be impacted by construction traffic. An increase in construction traffic, including heavy vehicles, may diminish amenity and change perceptions about road safety for users at:

- Lisarow High School at Chamberlain Road.
- The Orchards Aged Care at Timber Drive.
- Lisarow Public School at Macdonalds Road.
- Central Coast Soccer Association at Tuggerah Street.
- Lisarow Railway Station.
- Lisarow Cemetery.

It is expected that construction vehicles will travel along the existing Pacific Highway corridor to minimise traffic impacts on the surrounding road network. However, an increase in heavy vehicles may be experienced on Chamberlain Drive, Macdonalds Road and Tuggerah Street to access the work sites. This may potentially impact on perceptions of safety for children at Lisarow Public School and Lisarow High School, Central Coast Soccer Association and Pluim Park. Limiting construction traffic on these roads during school drop off/pick up times, from about 7.00am – 9.00am and 2.00pm – 4.00pm on weekday would help to reduce potential concerns.

During construction, changes in local access and increases in construction traffic, including heavy vehicles, may impact on access to social infrastructure in the study area. In particular, work on the new Northern Railway Overbridge would result in detours around Railway Crescent to avoid proposal works. This would result in slightly longer travel times for road users. Some road users may also feel confused or frustrated at temporary road changes. Traffic management planning and signage will help to minimise impacts on residents through detours.

Emergency vehicles would be maintained through the proposal. Roads and Maritime would consult with local emergency services to advise them of upcoming to road works, road closures and delays to help inform their route selection and response times.

The distance between Lisarow High School, Lisarow Public School, Central Coast Soccer Association and the Orchards Aged Care to the construction work areas is likely to minimise impacts associated with noise and dust from construction activities. Existing areas of open space and vegetation adjacent to the construction work areas will also buffer construction impacts to nearby uses.

Construction of the proposal would also impact on pedestrian and cycle networks in the study area, including changes to pedestrian access near work areas along the Pacific Highway. These impacts are discussed in Section 5.3.

The location of the proposed construction compound is not expected to impact social infrastructure in the study area.

The implementation of environmental and traffic management measures at work areas and early and on-going consultation with managers of social infrastructure, including emergency services, in the vicinity of construction works would assist in managing potential impacts for users of these facilities. North and south-bound traffic flow on the Pacific Highway would be maintained at all times, reducing traffic impacts.
5.4.2 Operation

The proposal would result in the Pacific Highway relocating nearer to the Lisarow Cemetery, located on the Pacific Highway between Dora Street and Ourimbah Street. The cemetery is not often used for burials, with the most recent burial at the cemetery occurring in 2009. As such, the proposal is not expected to impact on funeral services. Access to the cemetery is provided via Lisarow Street and would not be affected by the proposal. A line of mature vegetation currently provides a visual barrier between the cemetery and the Pacific Highway. The removal of this vegetation and placement of the Pacific Highway nearer to the cemetery boundary may impact on the amenity of the cemetery through increased traffic noise and reduced visual screening. This may reduce visitor’s enjoyment of the area or disrupt people visiting grave sites.

The proposal would impact on the cemetery boundary. However, the current location of the cemetery gates is within the construction area of the proposal. For the works to be completed, the gates will need to be removed from their current location. The cemetery gates are an important component of the cemetery which contributes to its heritage significance. The cemetery gates will be removed and relocated to minimise impacts to their heritage value. Refer to the Statement of Heritage Impact completed for the proposal for further detail. Roads and Maritime are consulting with the Anglican Church regarding to identify appropriate management measures. Where possible, vegetation would be retained or replanted to maintain the existing amenity at the cemetery. Access to the cemetery from Lisarow Street would be maintained at all times.

In the longer term, the proposal would improve access and connectivity to community services and facilities within the study area for local residents, through travel time savings and improved travel time reliability. This would have a positive impact for these facilities. Improved access to Gosford, Newcastle and Sydney CBD would also provide benefits for communities in the study area in relation to access to community services and facilities in these locations.

5.5 Local amenity

The amenity of the study area is currently characterised as a relaxed village with a mix of residential, commercial and industrial uses. However, amenity in the study area is currently impacted by the existence of transport infrastructure such as major road and rail corridors.

During construction, there may be demand for on-street parking by construction workers near to the proposed construction compound between Ourimbah Street and Teralba Street and other work areas. This may impact on visual and residential amenity for properties fronting the Pacific Highway at this location.

Residents on Railway Crescent may experience some noise impacts and loss of amenity during construction works. While works would generally be undertaken during day-time hours, some works may be required at night and weekends. This may impact on the sleeping patterns of some residents close to the construction works, particularly those residences located on Railway Crescent near the Dora Street intersection and north of the Lisarow Cemetery. Weekend work may also impact on resident’s enjoyment of their home or interrupt their general activities. Nearby residents will be notified of all upcoming works and expected impacts. Large construction works and machinery will temporarily diminish the visual amenity for residents on Railway Crescent and Dora Street. This will be particularly evident during the construction of the Northern Railway Overbridge, and road infrastructure west of the railway line, as this will occur in close proximity to residences. Refer to the Visual Impact, Landscape Character and Urban Design Assessment for further information.

Traffic through the area is generally heavy and the existing background noise levels for residences located immediately adjacent to the Pacific Highway would already be high and dominated by road traffic during the day and night time periods. Trains are also a dominant noise source for local residents, although train noise is less frequent than traffic noise. Any further increase in noise levels may be of concern for some residents. Further information about noise impacts are outlined in the Noise and Vibration Assessment.

During operation, the widening and small realignment of the Pacific Highway in the study area may impact on residential amenity for some properties. In particular, the widening of the Pacific Highway would move the road corridor closer to residential properties located on Railway Crescent between Dora Street and Ourimbah Street.
Changes to the Dora Street and Railway Crescent intersection would also place road infrastructure closer to residents near the intersection. This may result in a higher level of traffic noise for those properties, resulting in reduced residential amenity, disruptions to sleep and higher levels of stress for residents. This may also result in changes to the visual environment for residences located near to the road infrastructure. Refer to and the Visual Impact, Landscape Character and Urban Design Assessment for further information.

During operation, the proposal would result in a no right-turn from Dora Street onto Railway Crescent. This would require Dora Street residents to travel an additional kilometre via Excelsior Street to access Railway Crescent, impacting on residential amenity and lifestyle for these residents. The loss of the right hand turn from Dora Street onto Railway Crescent in expected to be of concern to Dora Street residents. These impacts are discussed in Section 5.3.

5.6 Community values

During construction, impacts on community values may be experienced due to:

- Noise and dust from construction activities for residents and businesses near to construction compounds and surface works, impacting on local amenity.
- Temporary changes to local access and connectivity, including for pedestrians and cyclists.
- Disturbance to the natural environment.

The proposal would result in some loss of vegetation around the road verges, on either side of the highway corridor. This includes loss of vegetation of sections of the Lisarow Wetland located to the south-east of the intersection of the Pacific Highway and Chamberlain Road. As discussed in Section 4.6, residents in the study area value the natural environment. The proposal would also require the removal of some mature vegetation on the western side of the Pacific Highway, near Dora Street. This vegetation would likely be valued by residents for providing a visual buffer to the highway traffic. The removal of vegetation is likely to be of concern to the community, particularly if it removes visual or noise buffers or results in environmental impacts. An assessment of ecological impacts is outlined in Biodiversity Assessment.

Some community members may be concerned about potential impacts to areas of local heritage value, such as the Lisarow Cemetery and the Pryor Brothers post office, store and outbuilding, during the construction and operation of the proposal. These impacts are discussed in Section 5.4.

Concerns were raised during consultation for the proposal about the potential for noise levels and air pollution to increase for communities nearest to the proposal, further impacting on amenity in the study area. These impacts are discussed in the relevant air quality and noise technical reports.

Increased noise, dust and traffic from construction activities is also likely to impact on the local amenity and rural lifestyle of the study area, particularly for residential uses located near to construction works. These impacts are discussed in Section 5.5. Changes to local access and connectivity are discussed in Section 5.3.

The widening and configuration of the motorway would be designed to minimise impacts on the environment where possible. Rehabilitation of natural areas impacted by construction activities would be undertaken following construction.

5.6.1 Operation

Overall, the proposal would improve liveability and amenity for residents and businesses within the study area and region, by improving travel and accessibility to work, business and leisure. In the long term, the proposal would also improve pedestrian, cyclist and motorist safety in the study area with a wider road corridor, safer intersections and improved pathways. This is expected to be highly valued by the community.

The proposal has the potential to change noise levels at nearby receiver locations by changing the existing road configuration. Potential impacts to residential dwellings and other receivers and relevant safeguard measures are outlined in Section 6 and Noise and Vibration Assessment.
The proposal would require the removal of a small amount of existing established vegetation adjacent to the Pacific Highway. This would likely occur on the western side of the Pacific Highway, near the Lisarow Cemetery, and on the eastern side of the Pacific Highway between Chamberlain Road and the intersection near Dora Street, including areas of the Lisarow Wetland. Where possible, the new road alignment will use the existing road corridor to minimise impacts to vegetation. The proposal is not located near residential dwellings or other uses at these locations and the removal of vegetation is not expected to impact on residential amenity. However, the vegetation is valued for providing wildlife habitat as well and contributing to the inland coastal environment of the study area. The unnecessary removal of vegetation is likely to be of concern for the community. Vegetation removal for the proposal would only occur where necessary and would be replanted where possible to minimise impacts to existing vegetation and the landscape.
### 6. Safeguards and management measures

Table 6-1 outlines the safeguards and management measures for potential socio-economic impacts resulting from the proposal.

#### Table 6-1 Safeguards and management measures

<table>
<thead>
<tr>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
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</thead>
<tbody>
<tr>
<td>Property acquisition</td>
<td>• All acquisition will be undertaken in accordance with the RMS Land Acquisition Policy and the Land Acquisition (Just Terms) Compensation) Act 1981.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
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<tr>
<td>Access and connectivity</td>
<td>• The community will be kept informed about upcoming road construction activities, including through advertisements in the local media and by prominently placed advisory notices and/or variable message signs.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
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<td></td>
<td>• Where necessary, construction works will occur at night to minimise traffic disruptions.</td>
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<td></td>
<td>• Where possible, pedestrian and cyclist access will be maintained throughout construction.</td>
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<td></td>
<td>• Provision of signage outlining the pedestrian and cyclist diversion routes would be displayed during construction.</td>
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<td></td>
<td>• There will be advance notification of any construction works that affect pedestrians and cyclists.</td>
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<td></td>
<td>• Property access will be maintained at all times where feasible.</td>
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<td></td>
<td>• Where temporary access impacts are necessary, owners and tenants would be consulted regarding alternate access arrangements.</td>
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<tr>
<td>Local economy</td>
<td>• The traffic management plan will include measures to minimise heavy vehicle usage and parking on local roads. Where practicable, deliveries of construction plant and materials will be undertaken outside of peak traffic periods.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
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<td></td>
<td>• Access to appropriate bus stop locations would be maintained during construction in consultation with bus operators.</td>
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<td></td>
<td>• Ongoing updates on locations and access to bus stops would be provided to the community during construction period to ensure that disruption is minimised.</td>
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<td></td>
<td>• Access to Lisarow Station would be maintained at all times.</td>
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<td></td>
<td>• Where temporary access impacts are necessary, owners and tenants would be consulted regarding alternate access arrangements.</td>
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## Socio-economic Assessment

### Upgrade of the Pacific Highway HW10, Ourimbah Street to Parsons Road Lisarow

<table>
<thead>
<tr>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Where necessary, construction works will occur at night to minimise traffic disruptions.</td>
<td>Roads and Maritime and construction contractor</td>
<td>During construction</td>
</tr>
<tr>
<td></td>
<td>• On-going communication and consultation, with local business owners located close to construction works about the timing, duration and likely impact of construction activities and to identify appropriate measures to manage potential impacts.</td>
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<tr>
<td>Community values and amenity</td>
<td>• Local residents would be notified at least five days prior to works commencing and as part of the wider Pacific Highway Upgrade consultation program, and would be kept regularly informed of construction activities during the construction process.</td>
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<td>• Implement a complaints-handling procedure and register.</td>
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<td>• Where possible, minimise impacts to existing vegetation at construction sites and construction compounds. Reinstall disturbed areas as soon as possible following construction.</td>
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</table>
7. Conclusion

This report provided an assessment of potential socio-economic impacts associated with the design, construction and operation of the Pacific Highway - Ourimbah Street to Parsons Road upgrade at Lisarow. The assessment of socio-economic impacts involved:

- Scoping the range of issues relevant to the socio-economic environment of the Niagara-Lisarow Statistical Area Level 2, as defined by the Australian Bureau of Statistics.
- Describing the existing socio-economic environment of the study area to provide a baseline from which impacts of the proposal can be assessed.
- Identifying and assessing potential socio-economic impacts of the proposal’s design, construction and operation on local communities.
- Identifying measures to manage or mitigate potential impacts on the socio-economic environment and maximise potential benefits.

During construction of the proposal, there is potential for the works to:

- Impact on community values, local amenity and social infrastructure through noise and dust from construction activities
- Result in temporary changes and delays to local access and connectivity, including for pedestrians and cyclists.

During operation, the proposal may also result in permanent changes to Lisarow Anglican Cemetery, including replacement of cemetery gates to a new suitable location and reduced distance between the graves and the Pacific Highway. Residential properties at the intersection of Railway Crescent and Dora Street will be located closer to road infrastructure. This may result in some minor changes to the visual environment and residential amenity of these properties.

In the long-term, the proposal is expected to provide a range of socio-economic benefits for the socio-economic environment study area, as well as the broader economy, including:

- Improved access, connectivity and reliability for local commercial vehicle movements
- A reduction in traffic congestion and improvement to traffic flow which would support improved connections for vehicles travelling between Gosford and Lisarow, and for communities in Lisarow and surrounding areas accessing Newcastle and Sydney.
- Improved safety conditions for pedestrians and cyclists due to the improvement in shared pathway facilities along the Pacific Highway.

The assessment deemed that mitigation measures for both construction and operation would be required. The implement of mitigation measures identified in Section 6 would minimise potential impacts associated with the proposal.
8. References


Central Coast Regional Action Plan ((NSW) Department of Premier and Cabinet 2012)


Department of Premier and Cabinet (2011) *NSW 2021: A plan to make NSW number one.*

Department of Premier and Cabinet (2012) *NSW Government State Infrastructure Strategy.*

DPI (2013) *Draft Metropolitan Strategy for Sydney to 2031*, Department of Planning and Infrastructure, New South Wales, Australia.


Roads and Maritime Services (2013) *Environmental Impact Assessment Practice Note: Socio-economic assessment (EIA-N05).*