Denmark Link Road | Review of Environmental Factors

SOCIO-ECONOMIC ASSESSMENT

Prepared for Hills Environmental | 9 November 2020


ROAD SUBJECT TO
FLOODING

Denmark Link Road

REVIEW OF ENVIRONMENTAL FACTORS | SOCIO-ECONOMIC ASSESSMENT

Prepared for Hills Environmental
9 November 2020

PR138

	Prepared by	Reviewed by
Name	Jamie Seaton	Neville Hattingh
Company	Element Environment	Element Environment
Position	SIA and Community Engagement Lead	Director
Project Role	Lead Author	Technical Reviewer
Signature		
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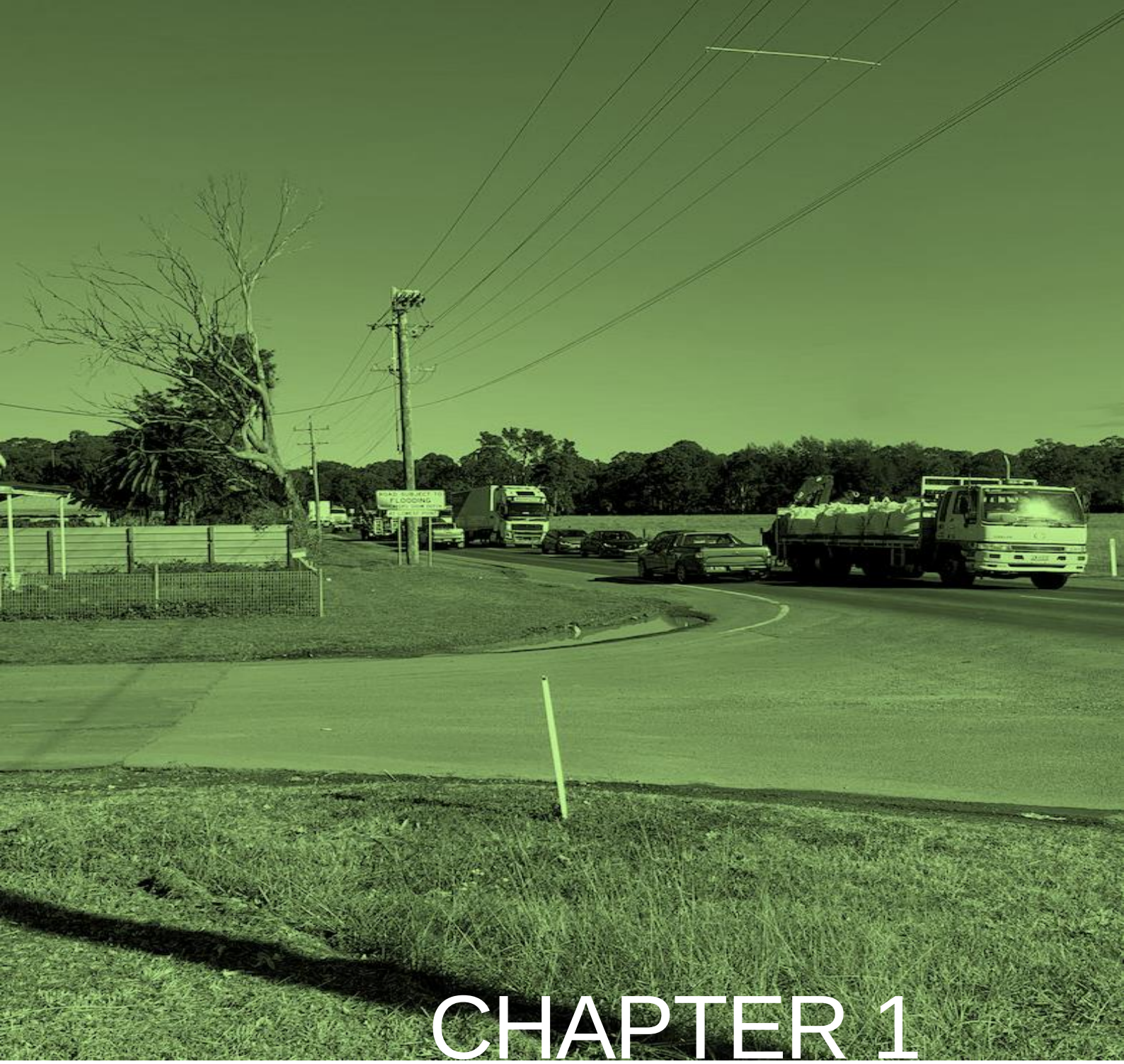

CHAPTER 1
INTRODUCTION

1 INTRODUCTION

Element Environment Pty Ltd (Element) has been engaged by Hills Environmental to conduct a socio-economic assessment (SEA) on behalf of Transport for NSW for the Denmark Link Road Review of Environmental Factors (REF). This report contains the results of the SEA.

1.1 Report purpose

Transport for NSW is planning to build a link road from the intersection of Garfield Road West and Denmark Road, Riverstone, to the Westminster Street bridge at Schofields (the proposal). The proposal would alleviate traffic congestion, provide an alternate local connection for light vehicles to cross the Richmond railway line, and support the North West Growth Centre Road Network Strategy.

Hills environmental is preparing a REF to assess the environmental impacts of the proposal, to fulfil the requirements of Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and to take into account all matters affecting or likely to affect the environment as a result of the proposal. This SEA is a specialist study developed to support the REF.

1.2 Assessment methodology

The SEA methodology has five parts:

1.2.1 Project inception meeting and briefing

A project inception meeting and briefing with Transport for NSW staff was held via teleconference to commence the SEA. The meeting was valuable to determine the:

- Key contacts in the project team
- Level of stakeholder consultation undertaken to date and the availability of consultation records beyond those contained in the project community consultation report (NSW Roads and Maritime, 2017)
- Availability of previous socio-economic studies conducted by Transport for NSW
- REF work program.

1.2.2 Literature review

Existing socio-economic literature and other SEA inputs relevant to the proposal were collected and reviewed. This material is cited throughout the report.

The review provided two benefits to the SEA. First, it enabled the development of knowledge about the proposal and its local and regional context. Second, it enabled the identification and collection of data pertinent to the socio-economic profile.

1.2.3 Socio-economic profile development and desktop research

An archive of socio-economic indicators relevant to the profile was collected and analysed. Consistent with the moderate level of assessment defined in the Transport for NSW Environmental Impact Assessment Practice Note Socio-economic assessment (the practice note) (Transport for NSW, 2020) secondary data was obtained, predominantly via desktop research. All relevant data sources are cited in this report.

1.2.4 Semi-structured interview with Council staff member

To explore potential socio-economic impacts (both positive and negative) of the proposal, a semi-structured interview was conducted with a Blacktown City Council (Council) staff member.

The work of Bradshaw and Stratford (Bradshaw & Stratford, 2010) with regard to qualitative research design and rigour, was helpful in designing the semi-structured interview methodology. Their work explains that in qualitative research, the number of people we interview, communities we observe, or texts we read, is less important than the quality of who or what we involve in our research, and how we conduct that research. The authors emphasise that 'purposive' sampling is typical in this type of research, and that the sample is not intended to be representative given the emphasis is usually on the analysis of meanings.

These principles were applied to the SEA semi-structured interview and the participant (i.e. Council representative) was invited to participate. A list of pre-determined questions was developed in advance of the interview to guide the conversation. The questions were not fixed but instead provided a flexible structure which allowed the interviewer to create and ask questions about situations as they emerged, and the interviewee to digress and express views freely (Vilela, 2018).

The implementation of the method involved:

1. Developing the pre-determined interview questions, designed to explore the socio-economic conditions in the study area and the proposal's potential influence on those conditions
2. Inviting the Council staff member to participate in the recorded interview
3. Obtaining participant consent
4. Arranging an interview date
5. Conducting and recording the interview
6. Drafting and conducting a qualitative analysis of the interview transcript
7. Extracting transcript content for use in the SEA report.

1.2.5 Analyse data and develop SEA report

Descriptive qualitative and quantitative analyses were applied to analyse the data archive compiled for the SEA. The analysis results including an identification and evaluation of impacts is presented in Chapter 4, and the suggested management and mitigation measures are in Chapter 5.

The structure of this report adheres to the Transport for NSW socio-economic assessment practice note (Transport for NSW, 2020).

1.3 Data sources used to inform the study

Specific data sources were relied upon for individual components of the SEA. These included the range of primary and secondary sources shown in **Table 1.1**.

Table 1.1: SEA data sources

SEA component	Data source	Description
Study area	Transport for NSW project webpage (TfNSW, 2020)	The proposal area defined by Transport for NSW
Regional profile	Social policy and community strategies	Secondary data from State or local government policies, or Council's community strategies (as cited)

SEA component	Data source	Description
Existing socio-economic profile (associated with the study area)	Australian Census of Population and Housing (Australian Bureau of Statistics, 2018) Semi-structured interview results *Our Blacktown 2036* (Blacktown City Council, 2017) *Blacktown City Council Social Profile* (Blacktown City Council, 2020)	Secondary demographic data and descriptive information about the local community
Socio-economic assessment	Kelleher Nightingale Consulting Pty Ltd (2020) Artefact (2020) Muller Acoustic Consultant (2020)	Secondary data from specialist studies (cited in adjacent cell) conducted specifically for the REF
	Semi-structured interview results	Primary data derived from the semi-structured interview with Council
	Socio-economic literature	Secondary data from existing socio-economic studies conducted by government or private organisations (as cited)
	Transport for NSW historic records	Secondary data in the form of Transport for NSW historic correspondence or community engagement records
Social infrastructure	*Spatial Services Digital Topographic Database* (NSW Department of Finance, Services and Innovation, 2018)	Secondary data from the database identified the location of features that people may want to see on a map, know about or visit (e.g. point of interest features)

1.4 The study area

In the City of Blacktown local government area (LGA), the study area (see Figure 1.1) is defined by Transport for NSW and illustrated on the project webpage (refer Transport for NSW, 2020). The proposal traverses the suburbs of Riverstone and Schofields.

Land use in the study area is predominantly residential. Figure 1.1 shows small suburban house lots in the east of the study area which are typical across western Sydney. Larger rural residential properties are in the centre of the study area between Denmark Road and Carlton Street. The area is also comprised of public and recreational spaces. For example, Riverstone Park and Basil

Andrews Park (including a skate park, and tennis and basketball courts) are situated between Creek Street and Carlton Street, and Riverstone Paceway is in the north-west.

Adjacent to the study area is agricultural land and the Collex Waste Management Facility to the south-west.

Riverstone town centre is the closest town centre to the study area and is comprised of a business and commercial precinct around the intersection of Garfield Road West and Railway Terrace. Its main feature is the Riverstone Village Shopping Centre which is surrounded by a variety of small businesses including café's, restaurants, and convenience stores. A chemist, bank, post office and car dealership are among other businesses in the area. All are in walking distance of the Riverstone Train Station. The station services the Richmond Railway Line which runs parallel with Railway Terrace.

1.5 Proposal overview

Background

Transport for NSW proposes to build a local link road from the intersection of Garfield Road West and Denmark Road, Riverstone to the Westminster Street bridge, Schofields. The proposal involves upgrading existing local roads and the building of new sections of road to complete the link which is about 1.5 kilometres (km) long.

Key features of the proposal would include:

- A new right-turn bay along Garfield Road West eastbound for traffic waiting to enter Denmark Road at Riverstone
- Improvements to the existing Denmark Road including new road pavement widening, resurfacing and kerbing at the northern extent, and a new section of road at the southern extent
- A new two-lane link road (one lane in each direction) about 320 metres long between Denmark Road and Carlton Street
- Improvements to Carlton Street between the new link to the south and Trevithick Street to the north, including new road pavement and kerbing
- Improvements to Trevithick Street between Carlton Street and West Parade, including new road pavement widening, resurfacing and kerbing
- Two new T-intersections for the new link at Denmark Road and Carlton Street, and modifications to three existing T-intersections
- Improvements to West Parade south of Trevithick Street, including new pavement widening, resurfacing and kerbing, and a new section of road to connect to Bridge Street (near the Westminster Street Bridge at Schofields)
- Drainage works including sections of kerb, open drainage and a new reinforced concrete box culvert at the crossing of the Eastern Creek tributary on West Parade
- Introduction of street lighting (single pole) at each intersection along the proposal works
- New line marking and signage.

Additional features of the proposal include:

- Utility adjustments (primarily minor power pole relocations)
- Minor property access adjustments such as reforming of driveway accesses
- Temporary ancillary facilities including a site compound on the south-east corner of the Garfield Road West / Denmark Road intersection
- Rehabilitation of disturbed areas following construction.

Figure 1.1
The study area

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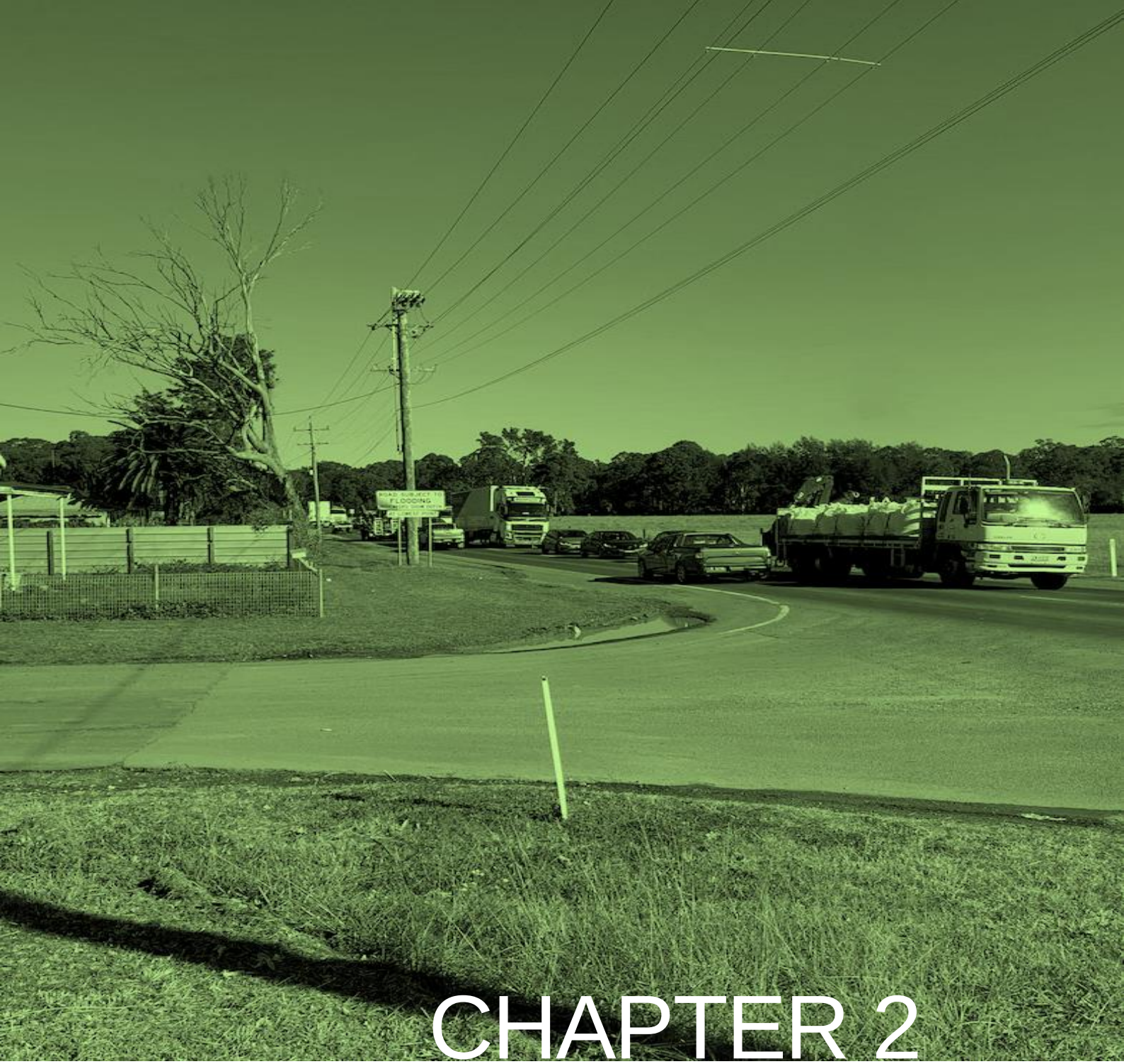


CHAPTER 2

SOCIAL POLICY FRAMEWORK

2 SOCIO-ECONOMIC POLICY, STRATEGY AND STUDIES

2.1 North West Growth Area

The *North West Growth Area Land Use and Infrastructure Plan* (NSW DPIE, 2017) outlines plans for the growing North West Growth Area (NWGA), and the infrastructure needed to support this growth. The plan is expected to dramatically influence socio-economic conditions in the study area as it is implemented between 2017 and 2028. The plan will guide changes across the area including planning and rezoning processes, land uses, street patterns, environmental and heritage protection, and infrastructure requirements.

The NWGA is approximately 10,200 hectares and located in north-western Sydney, approximately 30 km from Parramatta. Its boundary includes land bordering South Creek to the west and north, Rouse Hill Town Centre to the east, and the M7 Motorway to the south. A map of the area is shown in Figure 2.1

Riverstone is in the centre of the NWGA and it is specifically nominated as a suburb which will experience change. To manage this change and ensure that infrastructure planning aligns with growth, the NSW Department of Planning, Industry and Environment (DPIE) has nominated Riverstone as a standalone precinct in the NWGA (see NSW DPIE, 2020). Riverstone will emerge as a new community that will benefit from the development of infrastructure and services. This is an outcome pursued by the government to address the:

> "growing demand for more diverse housing types like terraces, apartments and studios. Land sizes and house sizes are decreasing as housing affordability becomes increasingly important. This is leading to more diverse communities and will help support public transport services, shops and local businesses. Higher densities also require planning for a larger population by ensuring that infrastructure has enough capacity to support new communities" (NSW DPIE, 2017, p.8).

According to the precinct plan, the new community at Riverstone will benefit from up to 9,000 new homes and the delivery of local amenities close to transport options, including:

- Three new primary schools and a new K-12 school
- The Vineyard and Schofields neighbourhood centres
- A new community services hub
- Upgrades to major roads
- Improved connections to encourage walking and cycling.

The proposal is in the West Schofields precinct which is another of the new precincts planned for NWGA. DPIE in collaboration with Council has prepared a draft masterplan that will guide development in the West Schofields Precinct. The precinct is forecast to create new jobs for local people and the proposal has the potential to assist this objective by providing supporting road infrastructure.

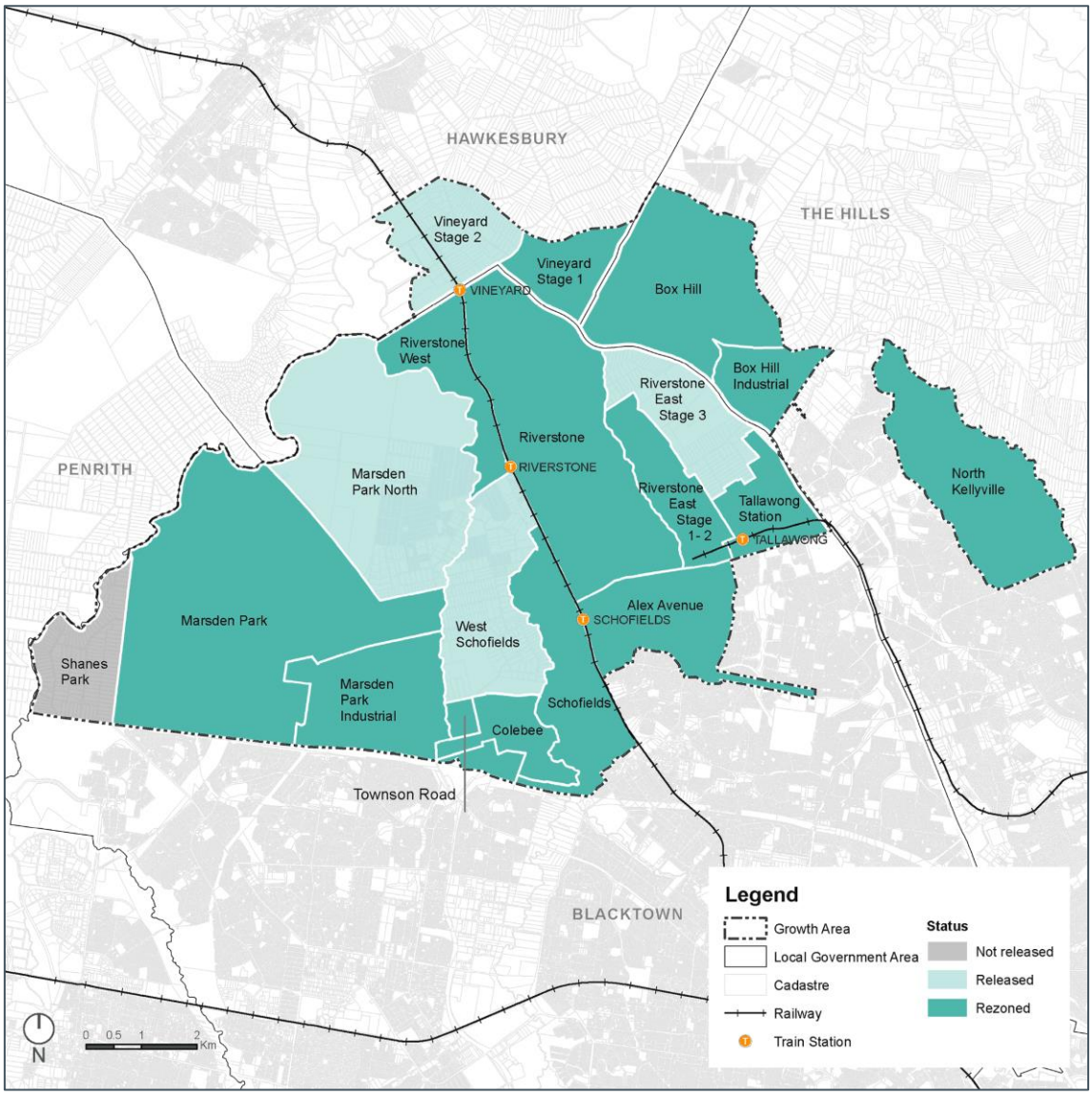


Figure 2.1: North West Growth Area

Source: NSW DPIE (2017)

2.2 Riverstone Town Centre Master Plan

The Riverstone Town Centre Master Plan (Elton Consulting, 2018) outlines Council's strategic direction for the Riverstone Town Centre over a 20-year period from 2018. The master plan provides an integrated land use planning and transport response to the anticipated growth the Riverstone Town Centre is expected to experience over the period.

The aims of the master plan are to:

- Provide sufficient capacity for growth in employment, business, housing, community and recreation facilities
- Develop precincts and places that attract people and investment
- Identify improvements to the public domain
- Connect places and spaces to and within the town centre.

The master plan responds to a range of socio-economic trends in Riverstone and the broader LGA. These trends include:

- A modest increase in employment in the Riverstone town centre between 2011 and 2016
- Steady population growth in the NWGA between 2001 and 2011 at an annual average increase of 1.2%, a rate expected to rise in the coming years
- Demand for retail and commercial development in the town centre, driven by the expected future population growth and the presence of the Riverstone Train Station
- Council's aspirations for the town centre and associated investment into community and recreational facilities, and efforts to improve the quality of the public domain
- Growth in the NWGA leading to the creation of a community hub in the town centre
- Existing retailers benefiting from increased patronage from beyond the local catchment (and conceivably attracting new retailers once a critical mass of patronage is established).

The master plan recognises a number of future transport upgrades in Riverstone. Elton Consulting (2018) considered the transport upgrades in Table 2.1 during its preparation, and a link between Westminster Street and Garfield Road West is nominated as short-term works. The link is proposed to provide an alternative route for local traffic away from the Garfield Road level crossing. This aspect of the master plan provides an explicit connection to the proposal.

The master plan will play a critical role in guiding decisions by Council, private sector developers and investors, and other stakeholders including state government agencies. It will inform the shape and nature of proposals for new development and for the redevelopment of key sites across the town centre.

Table 2.1: Master plan transport upgrades

Timeframe	Description of works
Short-term works	Work with Council to develop local strategies to improve traffic flow within Riverstone Town Centre to boost capacity and minimise delays, with the existing level crossing retained. The specific location and extent of these works are currently being developed. Link Westminster Street with Garfield Road West to provide an alternative route for local traffic away from the Garfield Road level crossing. Work with the DPIE and Council to reserve a road corridor along Garfield Road between Richmond Road and Windsor Road for future widening.
Medium-term works	Upgrade of Bandon Road to function as a transit boulevard (including an underpass of the Richmond railway line) which would provide a high-quality road connection between Windsor Road and Richmond Road. This upgrade would be completed by the time the NWGA reaches approximately 25% of its population and employment development. Based on current projections, this could occur by 2021. Works include the construction of an underpass and creation a new road connection between Richmond Road and Windsor Road. The existing level crossings at Bandon Road and Level Crossing Road would be closed at this time.
Long-term works	Construction of a grade separated crossing at Garfield Road, replacing the existing level crossing. This infrastructure would be delivered by the time the NWGA reaches approximately 75% of its population and employment development. Based on current projections, this could occur between 2031 and 2036. Works would also include an upgrade Garfield Road between Richmond Road and Windsor Road.

Source: Elton Consulting (2018)

2.3 North West Growth Centre and Riverstone Corridor Traffic Study

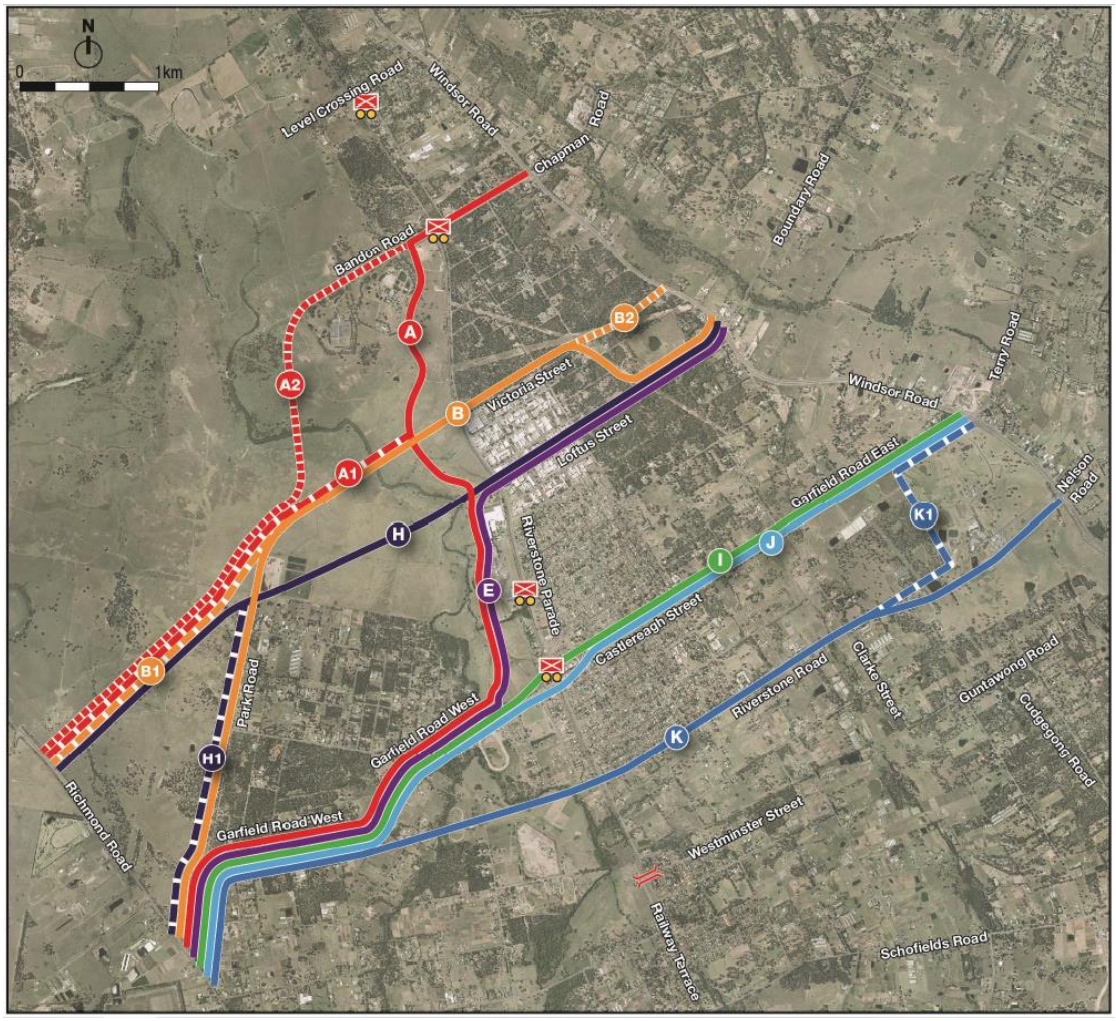
The *North West Growth Centre and Riverstone Corridor Traffic Study* (Parsons Brinckerhoff, 2014) was the initial strategic options investigation conducted by Transport for NSW and the forerunner to the proposal. The study acknowledged that the:

> "Richmond rail line, Garfield Road level crossing of the rail line and the Riverstone precinct are located in the centre of the NWGC [north-west growth centre] and are therefore strategically important to east-west transport movements.
>
> The Garfield Road level crossing contributes to traffic congestion resulting in long delays to traffic on either side of the rail line. These delays are forecast to increase with the expansion of development and traffic volume increases across the NWGC" (Parsons Brinckerhoff, 2014, p.i).

Noting the strategic importance of Riverstone and its traffic congestion to the traffic network, the purpose of the study was to identify and assess potential rail crossing alignments and corresponding road network options in the area between Richmond Road and Windsor Road (see Figure 2.2). Of the range of options considered, the majority involved Garfield Road West and two (I and J) traversed Railway Terrace in the study area (refer Figure 2.2).

The study involved some socio-economic observations pertinent to the proposal. It found that options outside the existing Garfield Road reservation would impact on properties not otherwise affected. On this basis, it was implied that an option which adopted Garfield Road West and Garfield Road East as the preferred route would reduce negative socio-economic impacts.

Parsons Brinckerhoff (2014) concluded that southern options (Option B to Option E) would provide better community and social outcomes than Option A , and it made traffic network upgrade recommendations for the short, moderate and long-term in the area. The short-term recommendations were most relevant to the proposal. Specifically, it was recommended that traffic works at Riverstone be implemented to boost capacity and minimise delays, with the existing level crossing retained. It was also recommended that Westminster Street be linked with Garfield Road West to provide an alternative route for local traffic.



CROSSING OPTIONS:

Northern Bypass Option

- **A** **Bandon Road:** linking to Garfield Road West via Riverstone West precinct 'Spine Road'
- **A1** **Bandon Road:** Spine Road to Victoria Street alignment, linking to Richmond Road south of Wianamatta Creek
- **A2** **Bandon Road:** new alignment north of sewage treatment plant and electricity substation, linking to Richmond Road south of Wianamatta Creek
- **B** **Victoria Street:** linking Richmond Road to Windsor Road via Park Road
- **B1** **Victoria Street:** straighter alignment linking Windsor Road to Richmond Road south of Wianamatta Creek
- **B2** **Victoria Street:** straight alignment linking Windsor Road to Richmond Road south of Wianamatta Creek with a new intersection on Windsor Road
- **E** **Loftus Street:** linking to Garfield Road West via Riverstone West precinct 'Spine Road'
- **H** **Loftus Street:** straight alignment through to Richmond Road south of Wianamatta Creek
- **H1** **Loftus Street:** alignment through to Richmond Road via Park Road

Riverstone Town Centre Option

- **I** **Garfield Road:** grade separation of Garfield Road above the Richmond rail line along the existing alignment of Garfield Road
- **J** **Castlereagh Street:** grade separation of Garfield Road above the Richmond rail line along the existing alignment of Castlereagh Street
- **K** **Riverstone Road:** linking from Windsor Road (at Nelson Road intersection) to Garfield Road West near Penprase Street intersection
- **K1** **Riverstone Road:** realignment to join Garfield Road East near Windsor Road

Level Crossing

Bridge

Figure 2.2: NWGC road network strategy shortlisted options

Source: Parsons Brinckerhoff (2014)

2.4 Blacktown City Council Local Strategic Planning Statement 2020

Council's Local Strategic Planning Statement (LSPS) (Blacktown City Council, 2020) is its primary strategic planning document. The LSPS gives local-level effect to state government regional plans by informing local statutory plan making and development controls, and it provides a link to Council's Community Strategic Plan (see Section 2.5). More specifically, the LSPS:

- Provides a 20-year land use vision for the Blacktown City
- Outlines the LGA's characteristics
- Directs how future growth and change will be managed
- Informs changes to the *Blacktown Local Environmental Plan 2015* (Blacktown LEP) and Blacktown development Control Plan 2015 (DCP)
- Informs changes to State Environmental Planning Policy (Sydney Region Growth Centres) 2006 in relation to land in Blacktown City and the Blacktown City Council Growth Centre Precincts Development Control Plan.

In the LSPS, the Blacktown LGA is comprised of four precincts which Council has nominated as its strategic centres. The Riverstone Precinct[1] shown in Figure 2.3 is one of these, which underscores its strategic importance to the Blacktown LGA. Both the Riverstone town centre upgrade (via the master plan implementation) and changes to Garfield Road are local planning priorities in the LSPS. The following LSPS extract highlights these priorities:

> "Riverstone town centre will be a vibrant, sustainable centre with opportunities for the growing residential and business communities in the NWGA [North West Growth Area]. The Riverstone town centre master plan sets a framework to shape, manage and revitalise commercial and residential growth in a precinct that could be home to up to 30,000 people over the longer term. A planned grade-separation of the rail line and Garfield Road will be a catalyst to regenerate the town centre. The master plan will be implemented progressively (Blacktown City Council, 2020, p.9).

Council's aspirations for the Riverstone Precinct extend beyond the town centre master plan and road network upgrade. There is a strong economic productivity focus for the precinct led by anticipated job growth in the Riverstone industrial areas and employment areas outside the town centre. One such employment area is the business park planned for Riverstone West (refer Figure 2.3). The business park is in the study area and therefore likely to be influenced by the proposal.

Finally, the LSPS recognises and responds to the forecast population growth and resulting housing demand in the Blacktown LGA and broader NWGA. In the NWGA, development densities are significantly exceeding the planned estimates, meaning that the efficient delivery of new housing is essential. Riverstone is again viewed as a strategic asset to cater for this housing need. In the LSPS, the Riverstone Precinct is earmarked to be the host of higher density development, more diverse housing stock, and entirely new communities. These urban developments would likely require supporting road infrastructure which is consistent with the intent of the proposal.

[1] Others are the Marsden Park Precinct, Mount Druitt Precinct and the Blacktown Precinct.

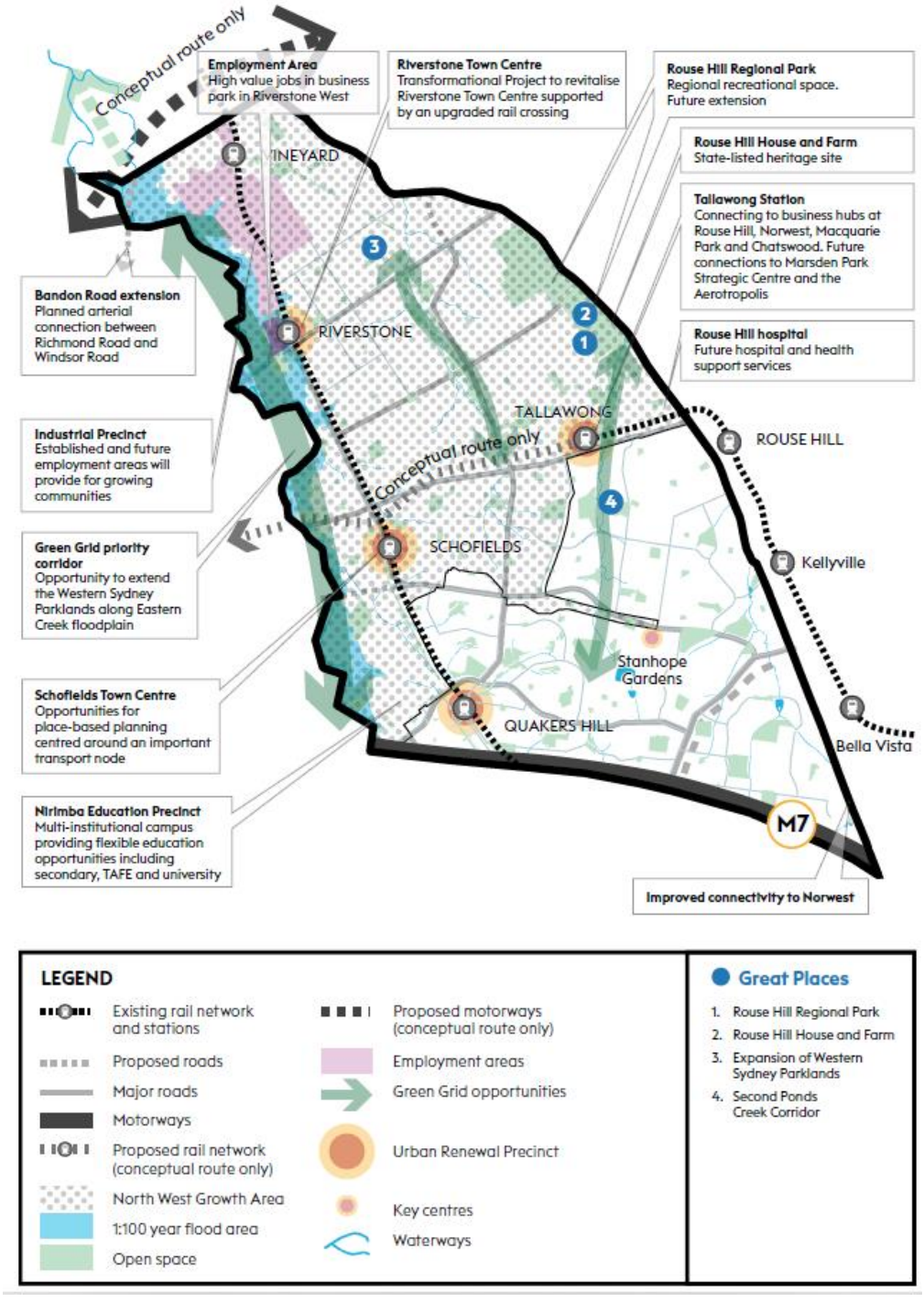


Figure 2.3: Riverstone Precinct

Source: Blacktown City Council (2020)

2.5 Our Blacktown 2036 – Council's community strategic plan

Our Blacktown 2036 (Blacktown City Council, 2017) is Council's community strategic plan. The purpose of the plan is to identify the Blacktown community's visions and aspirations which are to support a:

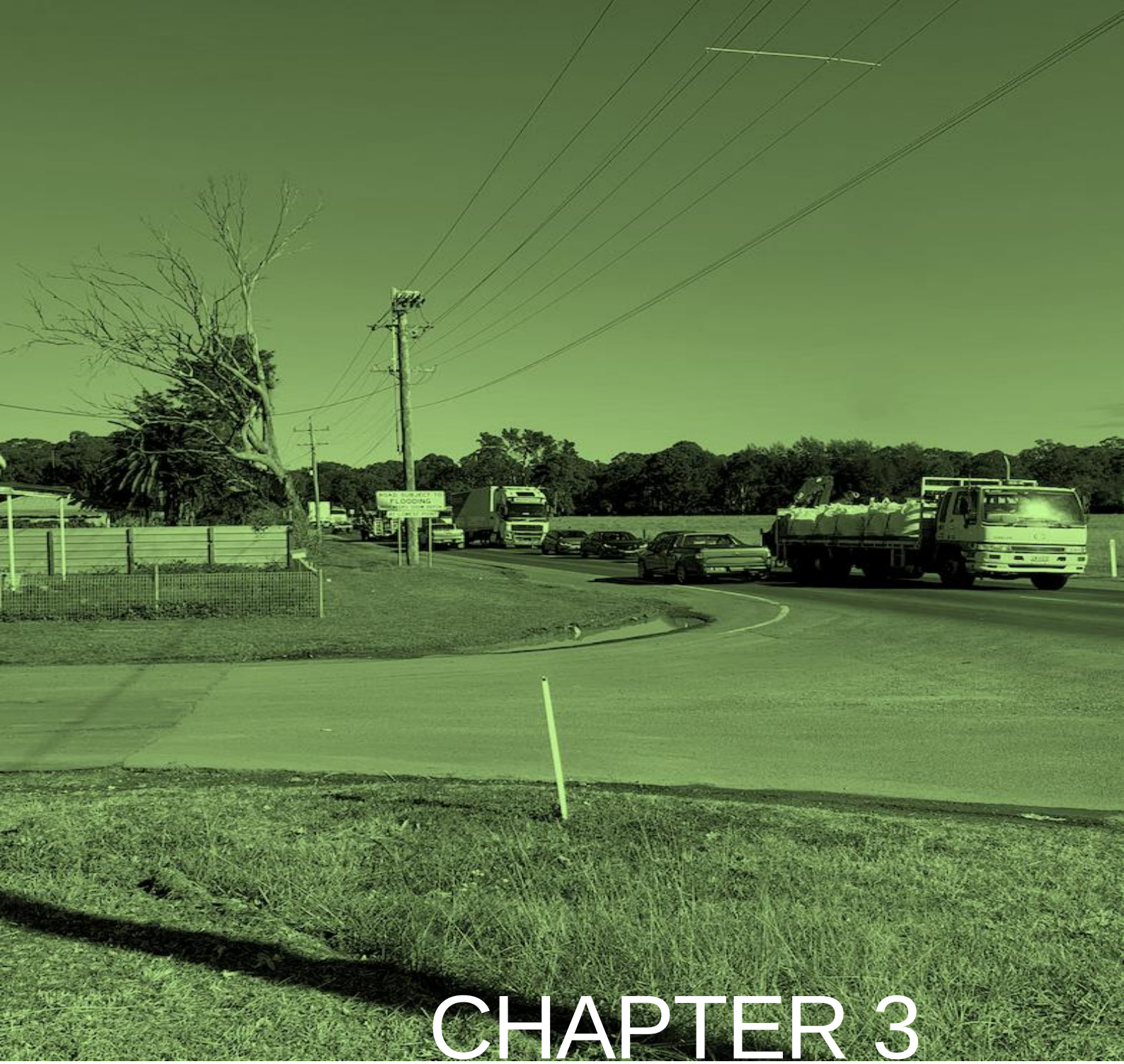
1. Vibrant and inclusive community
2. Clean, sustainable and healthy environment
3. Smart and prosperous economy

4. Growing city supported by accessible infrastructure
5. Sporting and active city
6. Leading city.

The community strategic plan has strong relevance to this SEA as it was developed with input from residents, community groups, business and government representatives. Council's Mayor emphasises that the "plan's vision and strategies reflect the issues and needs our residents and ratepayers told us are important to them" (Blacktown City Council, 2017, p.2). Council obtained community feedback via:

- Community feedback and satisfaction surveys
- Talking to members of the community
- Social media and monthly community forums.

Riverstone is prominent in the community strategic plan, primarily in terms of the town centre master plan. The master plan (and therefore Riverstone) is one of six 'transformational projects' that form the foundation of the strategy. In this context the redevelopment of Riverstone is a key priority for the community, and it is considered critical to advancing Councils long-term community objectives. The master plan is described as a means to build "a vibrant and sustainable future for this heritage town" (Blacktown City Council, 2017, p.30).



CHAPTER 3

EXISTING SOCIO-ECONOMIC PROFILE

3 EXISTING SOCIO-ECONOMIC PROFILE

An analysis of the existing socio-economic profile was undertaken to develop an understanding of the social and economic context of the proposal. Secondary data was obtained from the most reliable sources available, primarily being the 2016 Australian Census of Population and Housing (Australian Bureau of Statistics, 2018). The census data was supplemented with other information cited in this chapter.

The census geography adopted for the profile is the Riverstone - Vineyard Statistical Area Level 2 (SA2). This census geography was selected as the basis of the analysis because it represents a community that interacts together socially and economically, and it allows a more detailed analysis than other available statistical area or suburb datasets (Australian Bureau of Statistics, 2018). The socio-economic variables discussed below align with the community profile measures adopted by the Australian Bureau of Statistics (ABS). Where available and relevant, comparative data at the Greater Sydney or NSW state level was obtained and forms part of the profile.

3.1 Regional socio-economic overview

The proposal is in the Western Sydney region which is typically understood to cover 14 LGAs, from Auburn and Bankstown in the east, to Blue Mountains and Wollondilly in the west (see Figure 3.1). The region is serviced by strong transport infrastructure links at the M4 Motorway and M7 Motorway junction, and the planned Western Sydney Airport, Badgerys Creek Aerotropolis, and Sydney Metro project which will enhance its transport connectivity and economic development. The airport, aerotropolis, and health and education precincts will support knowledge-intensive jobs growth in the District (Greater Sydney Commission, 2018).

Regional population

The Western Sydney region has one of the fastest growing economies in Australia and a population that is expected to rise to 2.9 million in 2031 (NSW DPIE, 2014). With recent and ongoing delivery of essential infrastructure, urban development is underway in parts of Marsden Park, Riverstone, The Ponds, Schofields, Rouse Hill, Box Hill and Kellyville. (NSW DPIE, 2017). The scale of the forecast growth is significant considering the region is already home to a large population. For example, commentary by the Centre for Western Sydney (.id community, 2020) indicates the region contains about 9% of Australia's population and 44% of Sydney's population.

The regional population is very diverse compared to the national population (Western Sydney University, 2020). Residents come from more than 170 countries and speak over 100 different languages. The majority of new immigrants (60%) that come to Australia settle in the Western Sydney region and over the past decade 50% of these arrivals were from Iraq and Sudan. Around 12% of the region's residents do not speak English well. It also has more Indigenous residents than either South Australia or Victoria and is the largest single Indigenous community in the country.

In terms of comparative socio-economic opportunity, Western Sydney University (2020) explains that the region has:

- A high proportion of low-income families who are dependent on childcare as both parents work
- Staff shortages at early childhood centres
- Among the lowest high-school retention rates for years 7 to 12 in the Sydney metropolitan area.

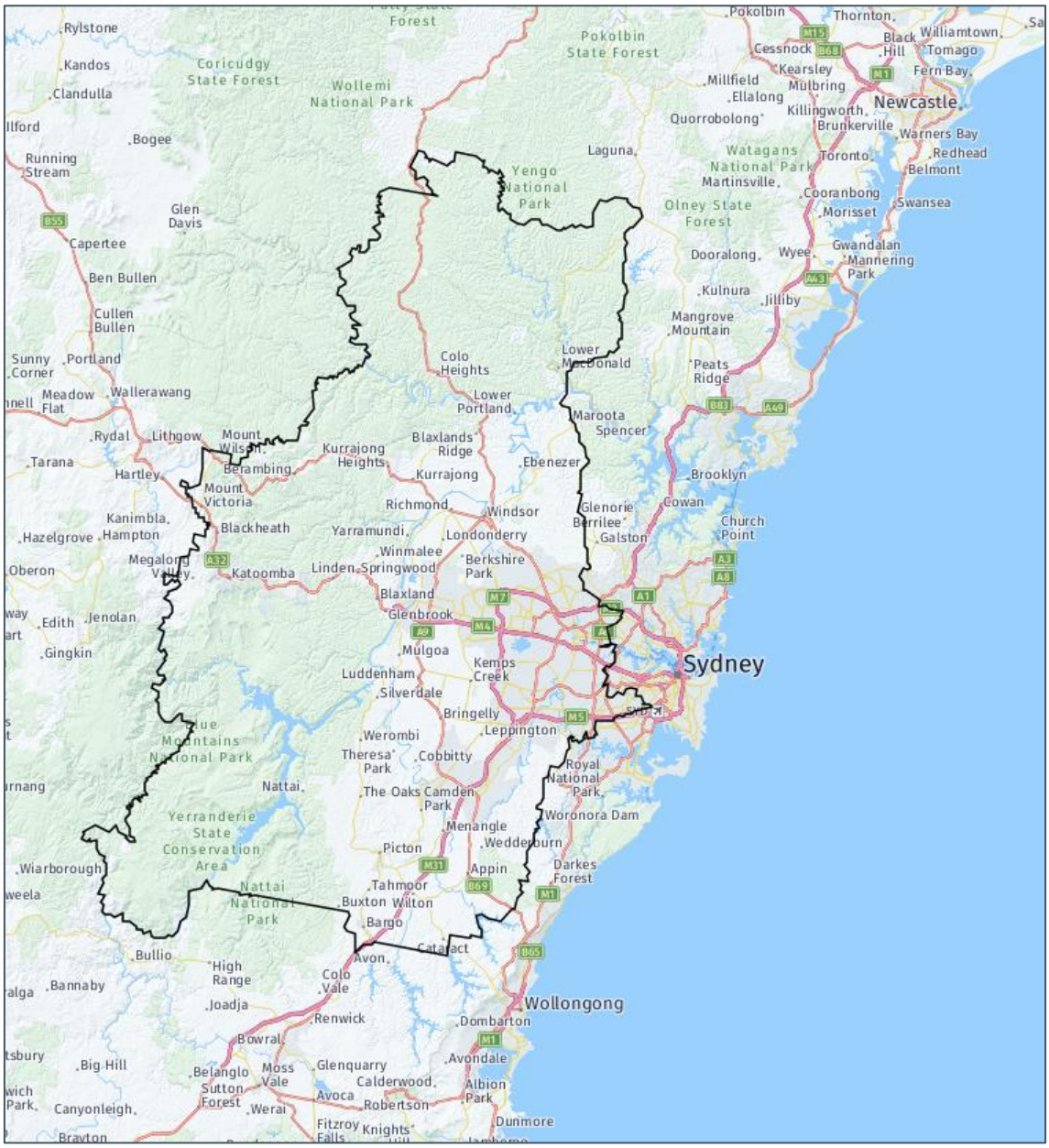


Figure 3.1: The Western Sydney region (black boundary)

Source: The Centre for Western Sydney Community Profile (2020)

Regional economy

The Western Sydney region is Australia's third largest economy. It covers 85% of Sydney, contains 47% of its population (2.12 million) and produces 31% of its Gross Regional Product ($104 billion) (NSW Parliamentary Research Service, 2015).

According to Western Sydney University (2020), the region:

- Has higher than average unemployment and lower than average salary levels
- Has high levels of mortgage stress as well as rental stress
- Is heavily car dependent with resulting impacts on air quality, health, quality of life and household budgets
- Has 75% of its working population also living in the region.

In contrast to the above observations which describe unfavourable conditions, there are some positive economic characteristics which illustrate socio-economic diversity. For example, while the region is a lower income area for Sydney, it does have some extremely high-income suburbs. In particular, the suburb of The Ponds in the Blacktown LGA is the most highly advantaged suburb in NSW on the SEIFA index of advantage-disadvantage, ahead of suburbs on the North Shore, such as St Ives and Avalon (.id community, 2020).

In 2013-14, manufacturing made the largest contribution to Western Sydney's Gross Regional Product ($12.7 million), down from $13.6 million in 2008-09. The next largest industries were financial and insurance services ($8.8 million) and health care and social assistance ($6.9 million). Manufacturing was the largest industry in seven Western Sydney LGAs and financial and insurance services was the largest in two LGAs (see Figure 3.2).

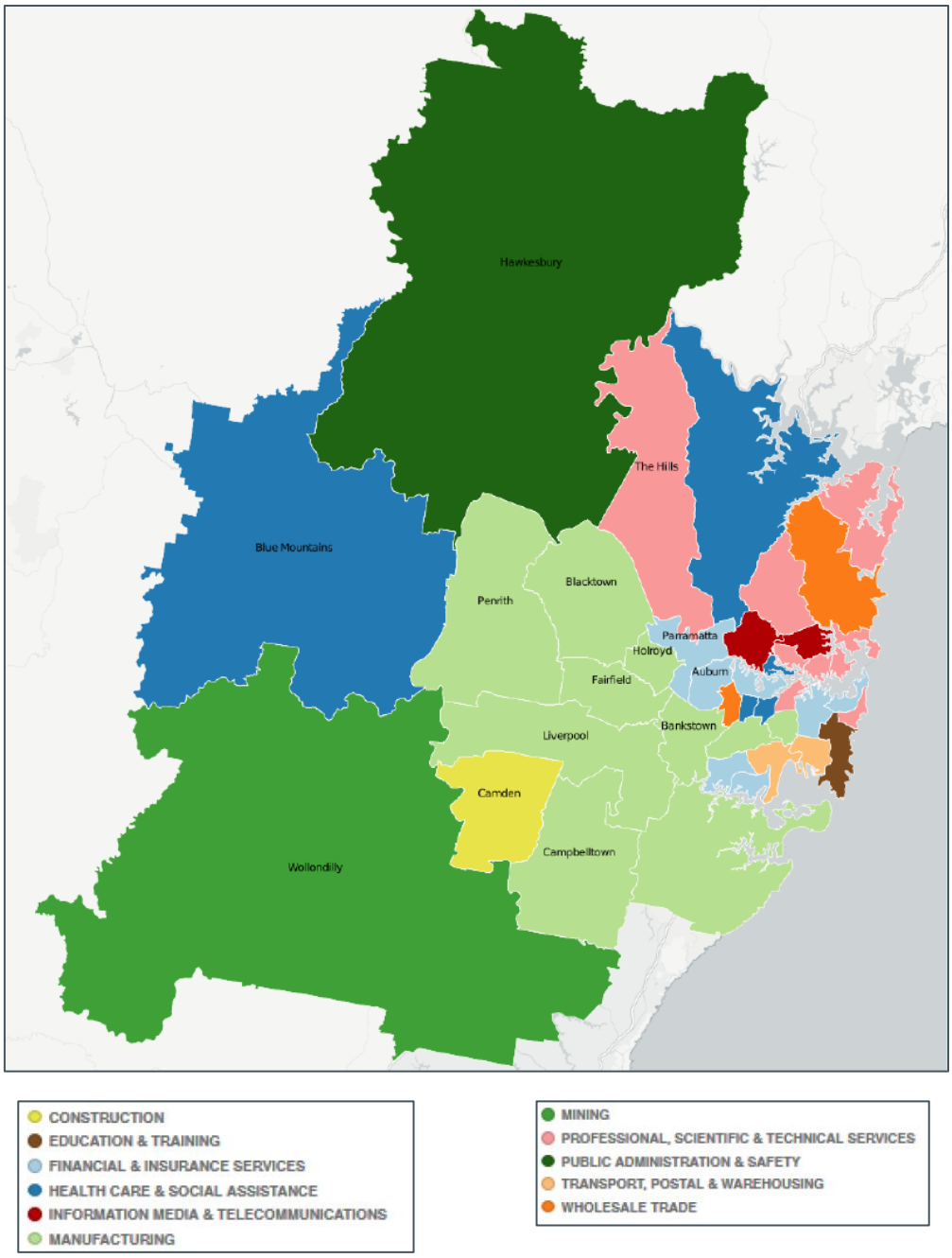


Figure 3.2: Largest industries by LGA Western Sydney (2013-14)

Source: NSW Parliamentary Research Service (2015)

Environment

Western Sydney is host to a number of National Parks (including the world-famous Blue Mountains National Park) and the Western Sydney Parklands which provide access to one of the State's largest open space corridors, featuring picnic areas, nature reserves, sport facilities and walking tracks.

Western Sydney University (2020) emphasises that the region features rural and agricultural lands, natural bushland and a range of recreational and sporting facilities. There are remnants of critically endangered native Cumberland Plain Bushland and World Heritage-listed areas of the Blue Mountains.

The Hawkesbury Nepean River system is Sydney's primary water source and the backbone of the region's agricultural and fishing industries. It is also a major recreational attraction for residents of the Western Sydney region. The demand for land development is threatening not only the natural bushland but the local food industry. There is an extensive body of Indigenous knowledge about the river that is held by the Indigenous community.

3.2 Local community profile and socio-economic characteristics

The local community profile applicable to the proposal is defined below. It adopts the range socio-economic characteristics for the moderate-level SEA specified in the practice note (Transport for NSW, 2020). All data used in the profile is sourced from the 2016 Australian Census of Population and Housing (Australian Bureau of Statistics, 2018) for the Riverstone - Vineyard SA2 unless otherwise cited.

3.2.1 Population and demography

Estimated resident population

The estimated resident population (ERP) for Riverstone - Vineyard as of end June 2019 was 10,082. Since the previous year, the population grew by 7.06%. The comparative figure for Greater Sydney was 1.67%. Figure 3.3 provides an ERP change comparison with the NSW population from 2013 to 2019.

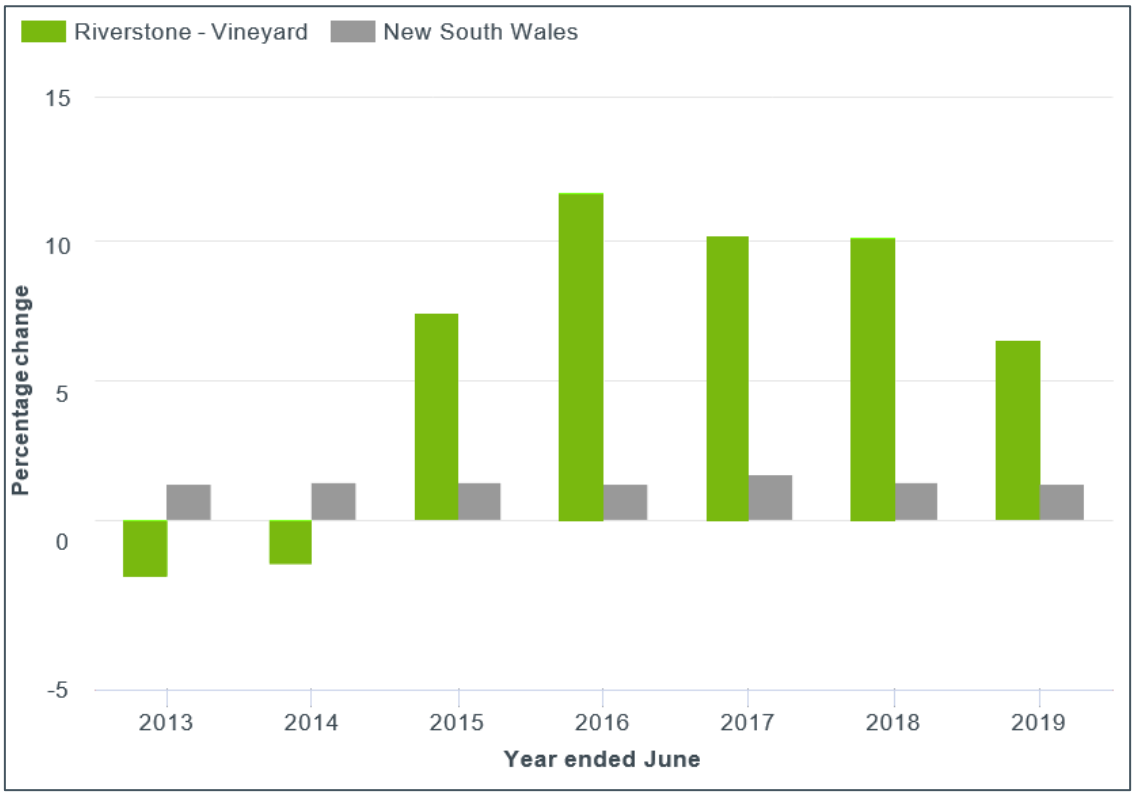


Figure 3.3: ERP comparison

Age

Analysis of the five year age groups of Riverstone - Vineyard in 2016 compared to NSW (Figure 3.4) shows that there was a higher proportion of people in the younger age groups (under 15) and a lower proportion of people in the older age groups (65+).

Overall, 21.1% of the population was aged between 0 and 15, and 11.4% were aged 65 years and over, compared with 18.5% and 16.3% respectively for NSW.

The largest changes in age structure in this area between 2011 and 2016 were in the age groups:

- 25 to 29 (+179 persons)
- 5 to 9 (+144 persons)
- 35 to 39 (+129 persons)
- 40 to 44 (+128 persons).

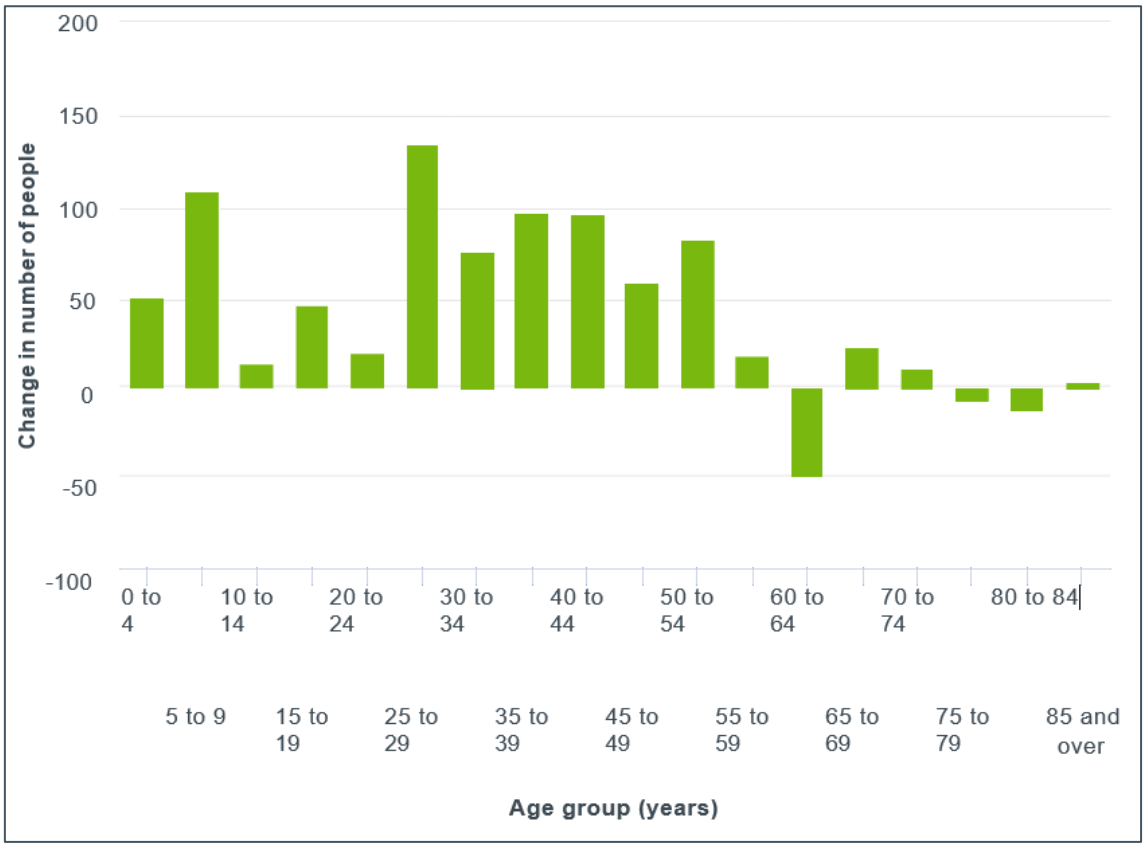


Figure 3.4: Change in age structure, five year age groups, 2011 to 2016

Aboriginal and Torres Strait Islander population

In the Riverstone – Vineyard 2016 population there was no significant change in the proportion of Aboriginal and Torres Strait Islander (ATSI) people since the previous census. The population was measured at 313 (or 4.2%) on 2016 census night, an increase of 47 from the 2011 census. These figures represented 4.2% of the total population in the catchment on both occasions.

A labour market analysis of the analysis of the ATSI population in the wider LGA population shows comparative disadvantage. For example, the labour force participation rate of the ATSI population in Blacktown City in 2016 shows that there was a lower proportion in the labour force (50.8%) compared with the ATSI population in NSW (54.4%).

Overseas born

Ancestry defines the cultural association and ethnic background of an individual going back three generations. Ancestry is a good measure of the total size of cultural groups in Riverstone - Vineyard regardless of where they were born or what language they speak.

Figure 3.5 displays 2016 ancestry data for the Riverstone – Vineyard population and indicates that people of Indian, Filipino and Chinese ancestry were the most common (excluding people with Anglo-Saxon ancestry).

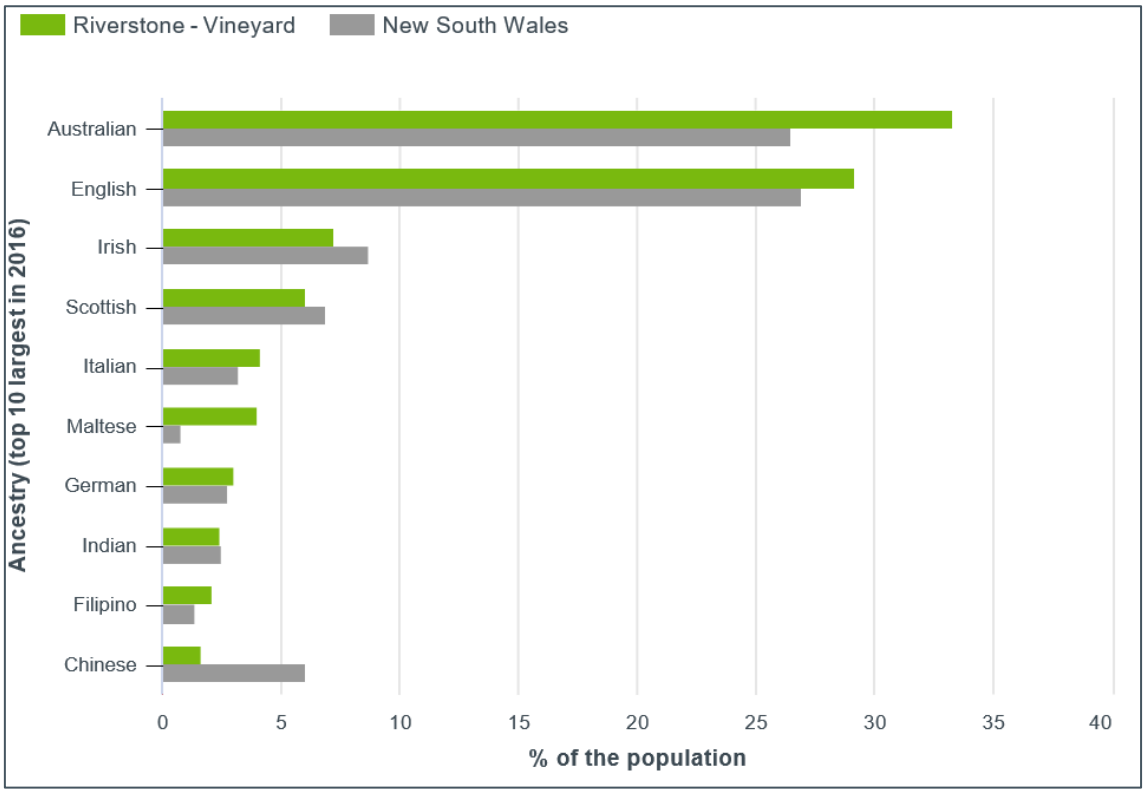


Figure 3.5: Ancestry data

Language other than English

Riverstone - Vineyard's language statistics show the proportion of the population who speak a language at home other than English.

Analysis of the language spoken at home by the population of Riverstone - Vineyard in 2016 compared to NSW shows that there was a larger proportion of people who spoke English only, and a smaller proportion of those speaking a non-English language (either exclusively, or in addition to English).

Overall, 78.4% of the population spoke English only, and 14.8% spoke a non-English language, compared with 68.5% and 25.1% respectively for NSW.

The dominant language spoken at home, other than English, in Riverstone - Vineyard was Filipino/Tagalog, with 1.3% of the population, or 100 people speaking this language at home. Figure 3.6 illustrates this data.

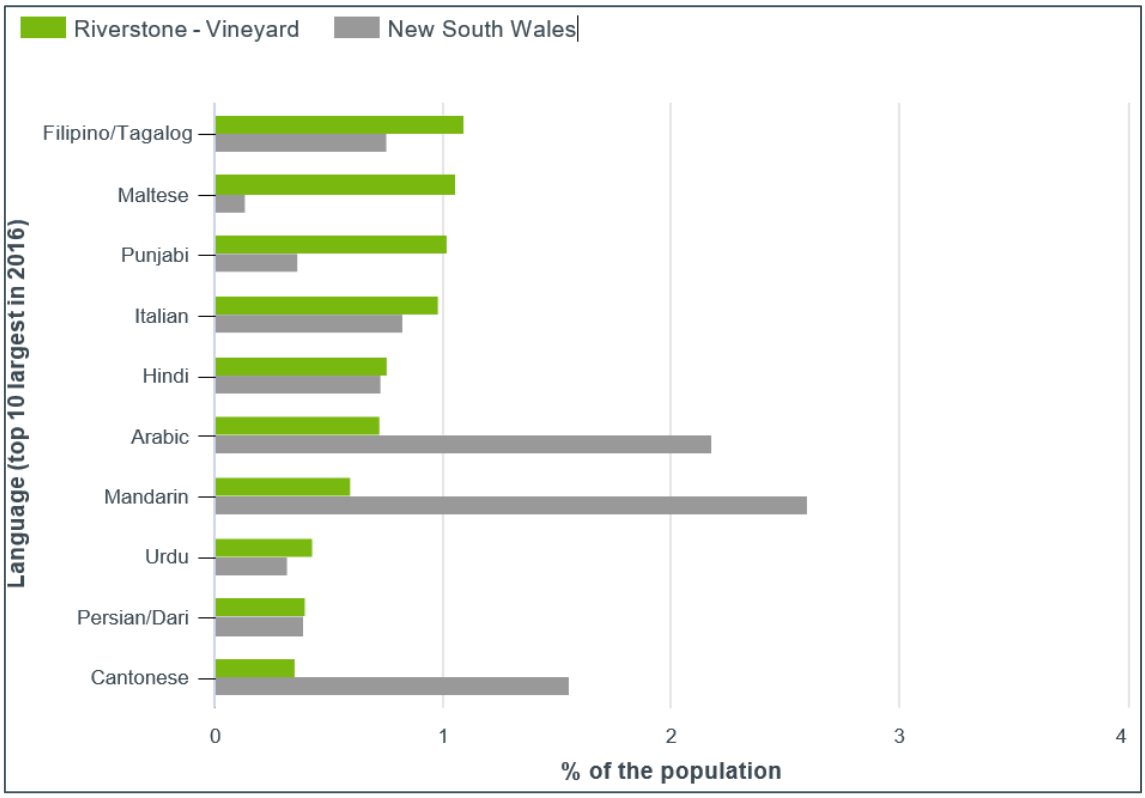


Figure 3.6: Language other than English spoken at home

3.2.2 Families and housing

Total dwellings and dwelling type

Analysis of the types of dwellings in Riverstone - Vineyard in 2016 shows that 92.9% of all dwellings were separate houses; 4.1% were medium density dwellings, and 0% were in high density dwellings, compared with 64.9%, 17.9%, and 15.3% in the NSW respectively.

These figures indicate that there is capacity to increase densities in the study area to be more consistent with Greater Sydney. This scenario is necessary to cater for the forecast population growth.

In 2016, a total of 92.0% of the dwellings in Riverstone - Vineyard were occupied on census night, compared to 90.5% in NSW (see Table 3.1). The proportion of unoccupied dwellings was 8.0%, which is smaller compared to that found in NSW (9.3%).

Table 3.1: Dwelling total and types

Riverstone Vineyard	2016			2011			Change
Dwelling type	Number	%	NSW %	Number	%	NSW %	2011 to 2016
Occupied private dwellings	2,515	92.0	90.5	2,263	94.6	90.5	+252
Unoccupied private dwellings	218	8.0	9.3	129	5.4	9.2	+89
Non private dwellings	0	--	0.2	0	--	0.2	0

Riverstone Vineyard	2016			2011			Change
Total dwellings	2,733	100.0	100.0	2,392	100.0	100.0	+341

Household size

Analysis of the number of bedrooms in dwellings in Riverstone - Vineyard in 2016 compared to NSW shows that there was a lower proportion of dwellings with two bedrooms or less, and a higher proportion of dwellings with four or more bedrooms.

Overall, 11.3% of households were in dwellings with two bedrooms or less, and 36.1% of four or more bedroom dwellings, compared with 27.7% and 29.6% for NSW respectively.

3.2.3 Socio-economic Indexes for areas (SEIFA)

SEIFA measure the relative level of socio-economic disadvantage and/or advantage based on a range of census characteristics. One of the two SEIFA indexes is the Index of Relative Socio-Economic Disadvantage (IRSD) which contains disadvantage indicators (e.g. unemployment, low incomes or education levels, lack of internet access). IRSD is useful to distinguish between disadvantaged areas. A higher score on the index means a lower level of disadvantage.

Table 3.2 indicates that Riverstone – Vineyard has a marginally higher measure of disadvantage than Blacktown city, and a moderately higher measure than Greater Sydney.

Table 3.2 – SEIFA scores

Area	2016 Index	Percentile
Riverstone - Vineyard	989.1	39
Blacktown City	986.0	37
Greater Sydney	1,018.0	56

3.2.4 Need for assistance

People with a disability

Riverstone - Vineyard's disability statistics relate directly to the need for assistance due to a severe or profound disability.

In the Riverstone - Vineyard population, there was a lower proportion (4.7%) of people who reported needing assistance with core activities compared to the NSW population (5.4%).

This is a positive statistic in terms of independent living for the Riverstone - Vineyard population, and it implies a degree of comparative well-being for the population.

3.2.5 Travel behaviour

Vehicle ownership

Figure 3.7 illustrates vehicle ownership data in Riverstone – Vineyard and NSW. In the smaller area, 85.0% of the households owned at least one car, while 5.3% did not, compared with 82.6% and 8.8% respectively NSW.

Of those that owned at least one vehicle, there was a smaller proportion who owned just one car; a larger proportion who owned two cars; and a larger proportion who owned three cars or more compared to data for NSW.

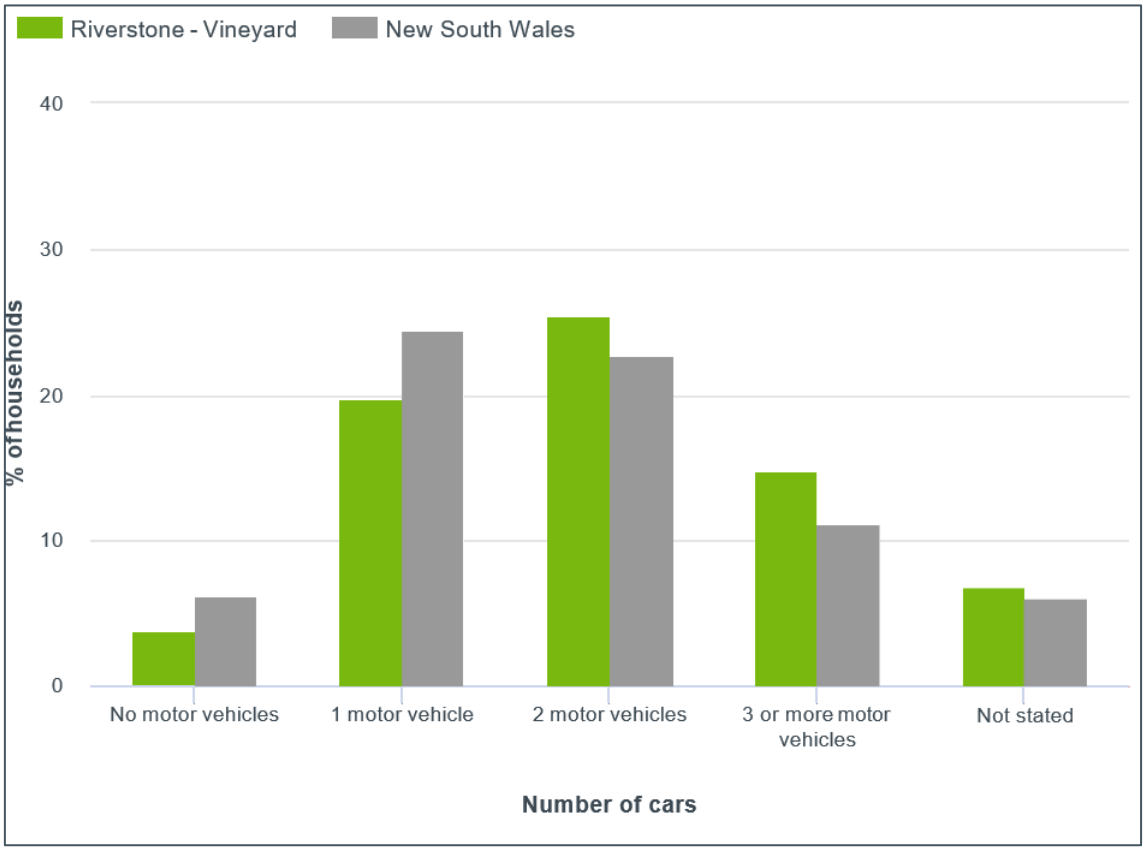


Figure 3.7: Vehicle ownership

Travel to work

In 2016, there were 390 people who caught public transport to work (train, bus, tram or ferry) in Riverstone - Vineyard, compared with 2,543 who drove in private vehicles (car – as driver, car – as passenger, motorbike, or truck).

Analysis of the method of travel to work of the residents in Riverstone - Vineyard in 2016, compared to NSW, shows that 11.4% used public transport, while 74.2% used a private vehicle, compared with 15.9% and 63.7% respectively in NSW. These statistics illustrate a high local population dependency on private vehicles for travelling to work.

3.2.6 Labour force, income and employment

Median household income

Comparing household income levels in Riverstone - Vineyard to NSW in 2016 shows that there was a similar proportion of high income households (those earning $2,500 per week or more) and a lower proportion of low income households (those earning less than $650 per week).

Overall, 23.5% of the households earned a high income and 13.0% were low income households, compared with 23.1% and 17.8% respectively for NSW.

This data does not show a major disadvantage for the Riverstone – Vineyard population. It suggests that the population is more advantaged than commentary about the broader region (refer Section 3.1) suggests.

Unemployment

Analysis of the employment status (as a percentage of the labour force) in Riverstone - Vineyard in 2016 compared to NSW shows that there was a similar proportion in employment, as well as a similar proportion unemployed. Overall, 93.9% of the labour force was employed and 6.1% unemployed, compared with 93.7% and 6.3% respectively for NSW. Figure 3.8 displays this data.

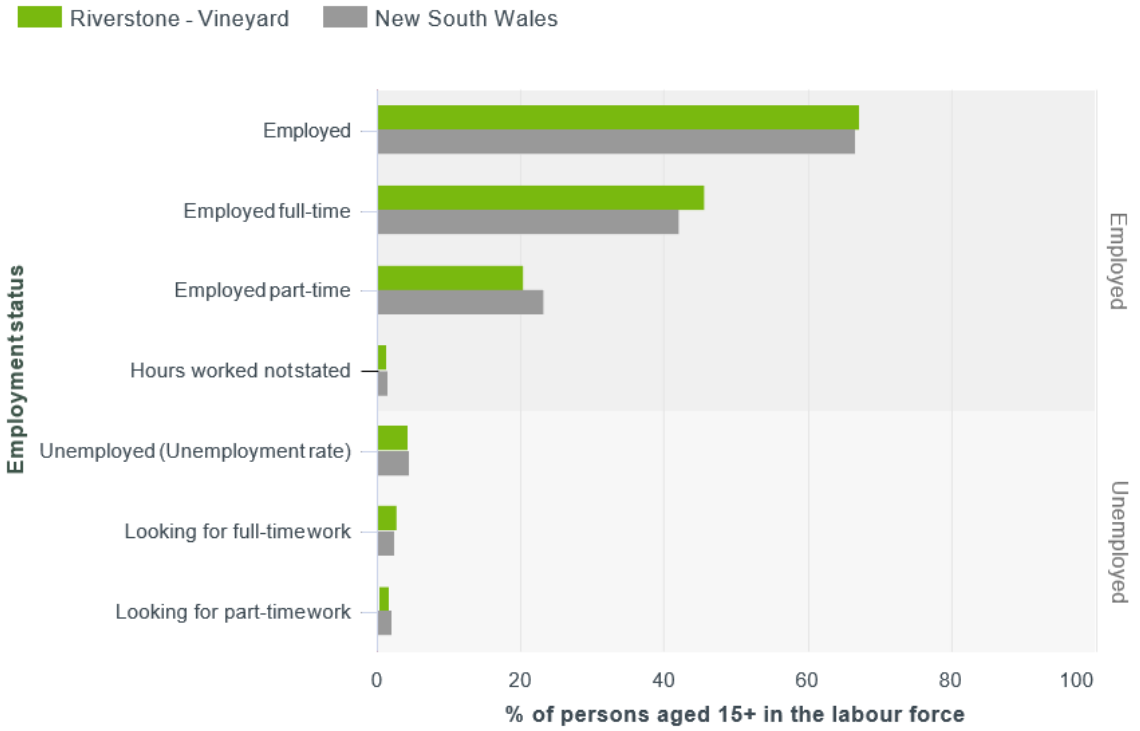


Figure 3.8: Employment status 2016

Industry of employment

In Riverstone - Vineyard in 2016 the three most popular industry sectors were:

- Construction (505 people or 14.9%)
- Retail trade (362 people or 10.7%)
- Health care and social assistance (300 people or 8.8%).

In combination, these three industries employed 1,167 people in total or 34.4% of the total employed resident population.

In comparison, NSW employed 8.4% in construction; 9.7% in retail trade; and 12.5% in health care and social assistance.

3.2.7 Business and industry

Tourism

In its study of Blacktown's visitor economy, .id planning (2020) found that Blacktown's primary tourism function is that of a visitation hub, attracting friends and relatives both domestically and internationally. There was an average of 476,000 visiting friends and relatives to Blacktown in the three years to 2015/16. This represents 51% of all visitation and an increase of 37% on 2007/08 levels.

The visitation rate is driven by migration. That is, net overseas migration to Blacktown, the overseas born population visiting friends and family, and domestic visitation from interstate relatives.

Local business and access

Although not in the study area, the Riverstone Village Shopping Centre is the business precinct closest to the proposal, and therefore stands to be potentially influenced by road network and traffic volume changes arising from the proposal. It is approximately 650 m from the Denmark Road and Garfield Road West intersection in a north-west direction.

The Riverstone Village Shopping Centre is surrounded by a variety of small businesses including café's, restaurants, and convenience stores. A chemist, bank, post office and car dealership are among other businesses in the area. All are in walking distance of the Riverstone Train Station.

The semi-structured interview (Element, 2020) was valuable in understanding local business and access in the Riverstone business precinct. The Council staff member gave the following opinions in relation to the proposal:

- Access in and around the Riverstone business precinct is poor
- The Railway Terrace and Garfield Road West intersection is very complex and complicated. A number of unsuccessful attempts have been made to resolve traffic flow there and access to the business precinct in the past
- Traffic around the centre will be much improved as a result of the proposal
- A traffic bypass in the area will improve traffic flow
- The proposal will reduce traffic flow through the town centre, so any people stopping to shop there would be potentially lost to business. But the bulk of the residential development is on the same side of the rail line. So, if they are accessing it now, they will be unaffected by the proposed link road.

3.2.8 Social infrastructure

The *Spatial Services NSW Point of Interest* web service (NSW Department of Finance, Services and Innovation, 2018) was searched to determine the existing social infrastructure relevant to the proposal. This infrastructure is in Table 3.3. The web service allows users to search for and identify the location of features that people may want to see on a map, know about or visit. Point of interest features are maintained within the Spatial Services Digital Topographic Database.

Table 3.3 – Social infrastructure

Category	Infrastructure item
Community facilities	**Sam Lane Community Complex** **Schofields community centre** **Riverstone Schofields Memorial Club**
Education	**Riverstone High School** **Richard Johnson Anglican School Marsden Park Campus** **St John's Primary School** **Riverstone Public School** **Schofields Public School** **Casuarina School** **Norwest Christian College**
Places of worship	**St. Clares Convent** **Uniting Church** **Presbyterian Church**
Emergency services	**Riverstone Fire Station**

Category	Infrastructure item
	Schofields Rural Fire Brigade **Riverstone Police Station**
Parks and reserves	**Ridgeview Park** **Grange Avenue Reserve** **Knudsen Reserve** **Mill Street Reserve** **Schofields Park** **Riverstone Park**
Culture and Recreation	**Blacktown City Museum** **Riverstone Swimming Centre** **Riverstone Paceway (horse riding)**
Other	**Riverstone Cemetery** **Riverstone Post Office** **Riverstone Village Shopping Centre**

The categories (and the associated features) most relevant to the SEA were selected for display in the existing social infrastructure figure (see Figure 3.9).

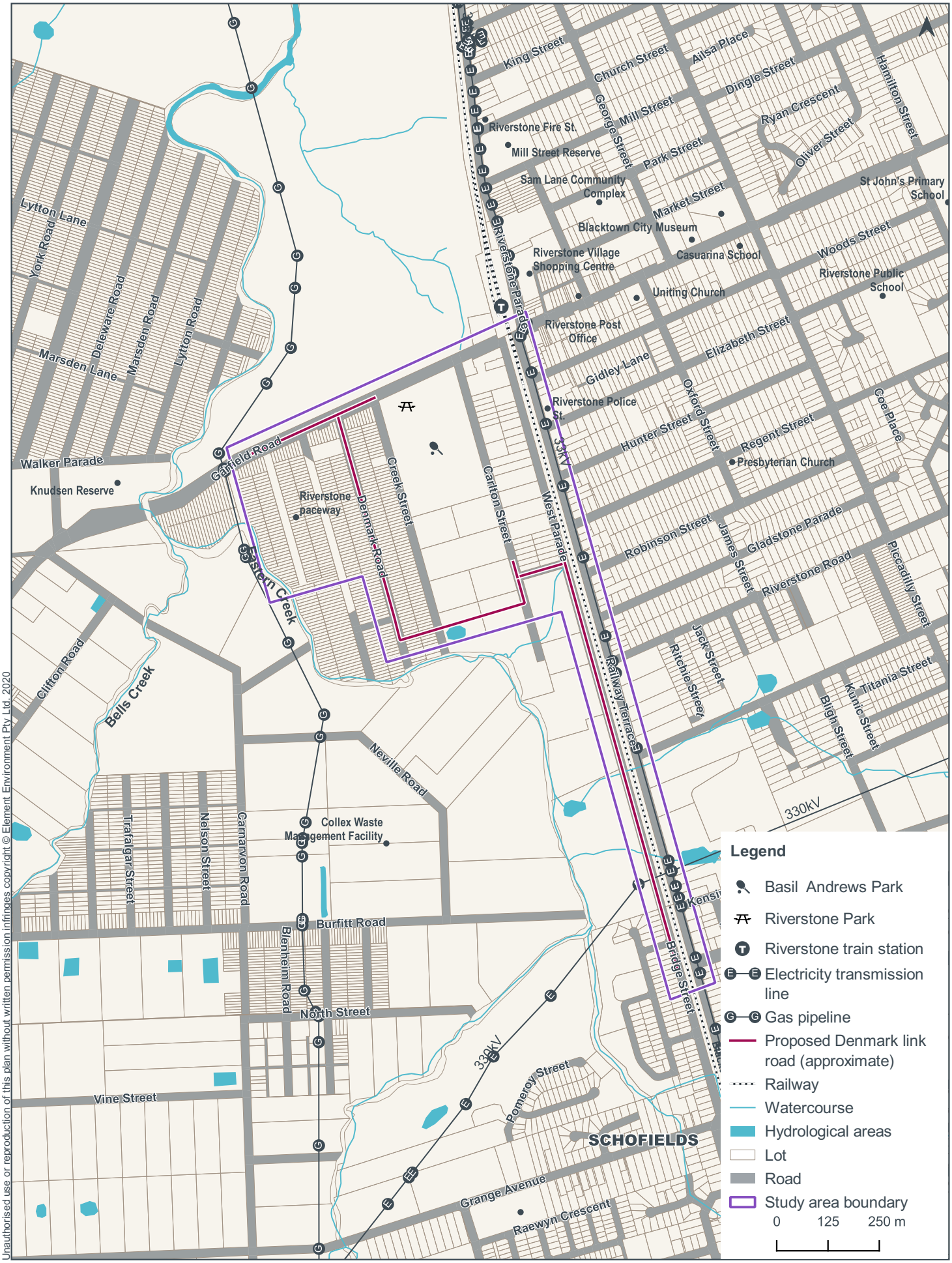
3.2.9 Access and connectivity

Elton Consulting (2018) provides the following insights into access and connectivity on the road network surrounding the proposal:

- Garfield Road east of the railway line currently carries approximately 530 vehicles per hour in each direction. West of the railway line, this increases to approximately 900 vehicles per hour
- Traffic congestion in the Riverstone town centre is common during commuter peak hours in and around the level crossing of the Richmond railway line at the Garfield Road / Riverstone Parade intersection. This location is currently controlled by traffic signals. During train arrivals and departures, boom gates on both sides of Garfield Road are lowered to prevent traffic from crossing the railway line. This typically results in significant queues of traffic through the town centre and along Riverstone Parade
- Bus stops are located along Riverstone Parade, next to the train station, and along Piccadilly Street. There are currently limited bus services within the vicinity of the Riverstone town centre. These typically run at low frequencies throughout the day which limit the uptake of travel by bus. The routes include: 661, 662, 757, T75 and T74
- Twelve per cent of traffic (approximately 1,100 vehicles per day) were identified as heavy vehicles along Garfield Road. This is a significant number and reflects the current function of Garfield Road as the predominant east-west link between Windsor Road and Richmond Road. The presence of these heavy vehicles detracts from the function of the Riverstone town centre as a pedestrian friendly environment.

Figure 3.9
Social infrastructure

Denmark Link Road
REVIEW OF ENVIRONMENTAL FACTORS - SOCIO-ECONOMIC ASSESSMENT



3.2.10 Community values

The semi-structured interview (Element, 2020) and the *Blacktown City Council Social Profile* (Blacktown City Council, 2020) are essential in determining community values associated with the proposal area in Figure 1.1 and its surrounds. Community values identified include transport and connectivity, amenity (e.g. acoustic conditions), semi-rural character, and access to nearby businesses. The following summary highlights these values:

- The Council staff member referred to comments from Riverstone community in the social profile. The comments emphasise traffic density, traffic flow, pedestrian crossings, and the upgrade of the town centre. The local community realise the area is growing and developing (Element, 2020)
- The Council staff member also explained that Riverstone Paceway is overgrown and mainly used a training track. It is still a semi-rural area but it is expected to be developed into residential land over the next 10 to 15 years (Element, 2020)
- It is a nice, quiet, family area (Blacktown City Council, 2020, p.35)
- It has gone from a quiet little town to a busy, noisy town (Blacktown City Council, 2020, p.35)
- There is a lack of transport connectivity (Blacktown City Council, 2020, p.35)
- There is a need for infrastructure to respond to the growing community need (e.g. footpaths, cycleways, roads and lighting) (Blacktown City Council, 2020, p.35).

3.3 Stakeholder analysis

The proposal has been the subject of a number of community consultation activities. As early as 2015, Transport for NSW identified and consulted key project stakeholders. The following organisations and individuals were nominated by Transport for NSW (2015):

- NSW DPIE
- Sydney Trains
- Council
- NSW Environment Protection Authority
- Bicycle NSW
- Greater Blacktown Business Chamber
- Deerubbin Local Aboriginal Land Council
- Emergency services
- Utility providers
- Landowners, residents and local businesses in the proposal area.

Aside from the above stakeholders, this SEA considered the potential for vulnerable groups to be affected by the proposal. Although not a confirmation that vulnerable people are absent in the study area, section 3.2.4 describes a degree of comparative well-being for the population in terms of the need for assistance (based on census data). However, SEIFA scores for Riverstone – Vineyard (refer Table 3.2) suggests there may be disadvantage in the study area as it has a marginally higher measure of disadvantage than Blacktown city, and a moderately higher measure than Greater Sydney.

In its 2017 (refer NSW Roads and Maritime, 2017) consultation program, Transport for NSW used a number of methods to consult with the project stakeholders including:

- A media release
- A community update
- A door knock
- The Transport for NSW webpage
- Stakeholder briefings
- Community information sessions

- Static community displays.

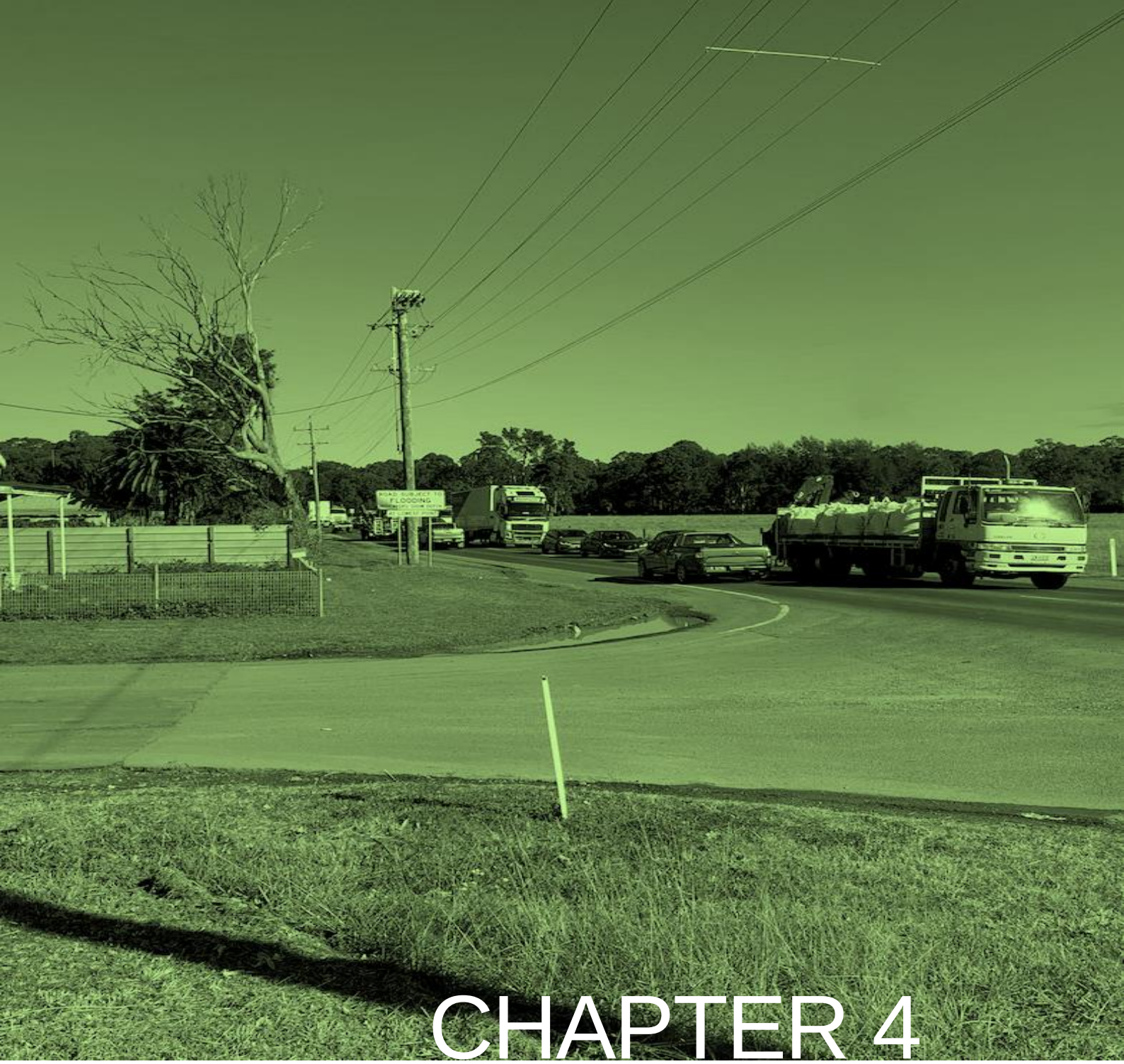
Qualitative data obtained from the semi-structured interview (refer Element, 2020) also provided an insight into the potential for vulnerable groups to be residing in the study area. The Council staff member advised that the study area is part of an older suburb that has been low on the SEIFA scales historically. The population residing on old farms in the area defy any SEIFA analysis because there is so much variety among it. The population contains residents of old local families who have farmlets, who own high-value land assets possibly with low-value cash reserves, or they are people who have bought into the area and have made a generous profit.

3.4 Summary of key findings relevant to the socio-economic impact assessment

The development strategies for Riverstone and the North West Growth area (Chapter 2) identified the need for diverse economic and residential opportunities alongside infrastructure networks able to support them. The proposed Denmark Link Road contributes to these objectives by providing an improved road network, alleviating congestion, and delivering an alternate local connection for light vehicles, crossing the Richmond railway line, between West Parade and Garfield Road.

Socio-economic impacts are assessed in Chapter 4, ensuring that while the proposal conforms to local and regional development strategies, the community is not adversely affected. The following issues will be considered in the construction and operational phases of the project:

- Current traffic congestion and delay times for motorists around Garfield Road railway level crossing
- Concern about potential impacts on property (up to 20, with the potential for two acquisitions) and the environment
- Concern about access to the Riverstone Paceway
- Impact to local businesses in Riverstone town centre
- Livestock (i.e. horses) disturbed by construction and or operational traffic
- Transportation (on foot) of horses from rural residential properties west of Carlton Street to the Riverstone Paceway
- Local amenity.



CHAPTER 4

SOCIO-ECONOMIC IMPACT ASSESSMENT

4 SOCIO-ECONOMIC IMPACT ASSESSMENT

This section is structured according to the socio-economic matters listed in the practice note. Each matter is assessed under a separate heading. Both potential positive and negative impacts are assessed under separate sub-headings. Where a heading or sub-heading is omitted, no relevant proposal details were identified.

An assessment of the potential negative social impacts associated with the proposal has been completed on the assumption there is no mitigation. Predicted positive impacts associated with the proposal are also presented below.

4.1 Property impacts

4.1.1 Construction

Positive impacts

Semi-structured interview results (see Element, 2020) and discussion about Council's LSPS suggested the proposal has potential to create positive impacts. Councils LSPS (2020, p. 5) states that the "Riverstone community, especially businesses, have been in limbo for many years due to delays in finalising the location of a grade-separated crossing. Implementation of this first stage of the master plan will provide much-needed certainty and support to businesses, landowners and the local community".

In relation to the LSPS statement, the Council staff member agreed that the residents to the west of West Parade do feel in limbo. The livestock owners own high-value properties that are attractive to developers. The Council staff member suggested that it won't necessarily be a negative situation if properties are acquired.

Negative impacts

Four partial private property acquisitions would likely be required for the proposal. Of the four, two are under the same ownership. No dwellings would be affected.

Despite the potentially negative property acquisition impacts, the demographics for Riverstone – Vineyard (Chapter 3) and interview excerpts suggest that vulnerability of the population may not be substantial and its ability to cope with the impacts may be relatively strong. For example, in comparison to NSW figures:

- There is a higher proportion of people in the younger age groups (under 15) and a lower proportion of people in the older age groups (65+)
- There was a lower proportion (4.7%) of people who reported needing assistance with core activities (5.4%)
- A similar proportion of high-income households (i.e. those earning $2,500 per week or more).

However, feedback received during 2017 Transport for NSW community consultation activities (sourced from the Transport for NSW consultation records) suggests there is some community uncertainty in relation to acquisitions. For example:

- Some residents noticed an investigation marker on their land, but they had not been consulted prior to discovering it
- A resident requested a discussion regarding boundary changes and the potential for acquisition
- Another resident requested a meeting about his property.

4.1.2 Operation

Positive impacts

There is potential for positive property impacts for those properties with a frontage to the upgraded road network. Minor property access adjustments and the reforming of driveway accesses would provide improved conditions for property owners and road users.

Negative impacts

The results of the predictive noise modelling Muller Acoustic Consulting (2020) indicate that up to 20 potentially sensitive receivers along the length of the proposed road alignment qualify for consideration of acoustic treatment as part of the proposal.

4.2 Changes to population and demography

Chapter 3 identifies substantial ERP growth for Riverstone-Vineyard in comparison to Greater Sydney, and extensive population growth forecast for the Western Sydney region. The workforce required for the proposal is not expected to influence this forecast. During the operational phase, impacts to the local population structure is also predicted to be negligible.

4.3 Economy

4.3.1 Construction

Positive impacts

The expected number of employees required for construction of the proposal was not available at the time of assessment. It is likely, however, that the proposal will contribute positively to the local economy by creating a demand for local contractors (e.g. truck and dog operators, waste removal companies) and goods and services. Groceries and other incidentals would likely be purchased by the workforce from retailers in the Riverstone business precinct.

In the case that construction workforce is sourced from outside the Riverstone area, other sources of economic input could come from short-term accommodation such as rentals, motels and hotels.

4.4 Business and industry

4.4.1 Construction

Positive or neutral impacts

From a business and industry perspective, it is predicted that both positive and neutral impacts would arise from the proposal during construction.

No commercial property acquisitions are required by the proposal and construction noise emissions are predicted to be meet the applicable noise levels for all commercial receivers according to Muller Acoustic Consulting (2020). These are considered to be neutral impacts of the proposal.

Riverstone Village Shopping Centre (and other retail stores identified in section 1.4) will logically be the recipients of increased custom during construction, however temporary. This is considered to be a positive impact of the proposal.

4.4.2 Operation

Positive or neutral impacts

During operation, positive business impacts are also anticipated to be created by the proposal. The semi-structured interview (Element, 2020) with a Council staff member predicted improvements to traffic congestion, and subsequent business access, to be created by the proposal.

Congestion in the business precinct would be reduced by the proposal, therefore becoming more appealing to customers. Riverstone Village Shopping Centre (and other retail stores identified in section 1.4) would be the beneficiaries of long-term access improvements.

The potential for the proposal to cause a bypass of businesses was considered. It is not expected that the diversion of traffic away from the Riverstone Village Shopping Centre would result in a revenue decrease for businesses at the centre or in its vicinity. As described by the Council staff member, this is because those customers intending to travel to the shopping precinct would still have a direct route to it. It was suggested the proposal would reduce traffic flow through the town centre, so any people stopping to shop there would be potentially lost to business. But the bulk of the residential development is on the same side of the rail line. It was suggested that if people are accessing it now, they will be unaffected by the proposed link road.

Lastly, the Riverstone Town Centre Master Plan (refer Elton, 2018) prioritises a link between Westminster Street and Garfield Road West. It emphasises taking local traffic away from the Garfield Road level crossing to enhance businesses in the precinct. The proposal would support this outcome.

4.5 Social infrastructure

4.5.1 Construction

Neutral impacts

Social infrastructure near the proposal is displayed in Figure 3.9. It is unlikely that the infrastructure would be significantly impacted by the proposal, principally due to the separation distances but also because the moderate volume of workers required by the proposal is not anticipated to place excessive demand on it.

Negative

The local road network is an obvious component of infrastructure that would be temporarily impacted by road closures and/or diversions during construction. During construction local residents may experience delays on the local road network and property access modifications which would typically be irritating for road users.

4.5.2 Operation

Positive impacts

During operation, a lower traffic volume adjacent to Riverstone Park (which hosts the skate park and basketball court) would be a positive impact of the proposal in terms of safety and access to the social infrastructure. This impact was identified by the Council staff member who suggested access to the skate park via the town centre is difficult for pedestrians. For example, at present a pedestrian arriving by train must exit the station, navigate the crossing, and cross the main road

to reach the park. As a result of the proposal, a reduction in traffic is expected to improve pedestrian safety and accessibility in the area.

4.6 Community values

4.6.1 Construction

Negative

Aboriginal cultural heritage would potentially be impacted during construction according to Kelleher Nightingale Consulting Pty Ltd (2020). One Aboriginal archaeological site is partially located within the proposed impact area. The heritage consultant recommended an application for an Aboriginal Heritage Impact Permit be made for the land and associated objects within the boundaries of the proposal's study area. Even with the appropriate precautions in place, there is potential for community values (particularly those of the local Aboriginal community) to be negatively affected by the proposal.

Additionally, potential non-Aboriginal heritage impacts identified by Artefact (2020) are applicable to this SEA. The proposal's statement of heritage impact found that:

- The proposed works would directly impact some of the heritage values of Hebe Farm, located in the southern portion of the study area. Within the development footprint portion of Hebe Farm, all extant features, the tree lined avenue and former entrance to Hebe Farm, the vegetation along the railway corridor, as well as any surviving archaeological resource would be removed
- Mitigation measures are available to offset the heritage impacts.

4.6.2 Operation

Positive

The proposal would support community values including traffic and connectivity, and access to local businesses.

The proposal is expected to ease congestion near the intersection of Railway Terrace and Garfield Road (see Figure 1.1) as well as improve pedestrian safety and access to the Riverstone shopping precinct.

Negative

Anecdotal reports of horses being transported on foot from rural residential properties west of Carlton Street to the Riverstone Paceway could present a safety issue after the link road is in operation. This would need to be addressed through consultation between Transport for NSW and paceway users.

The proposal would introduce a larger volume of vehicles to this area and may detract from the rural value and character of the area.

There is potential for the proposal to stimulate anxiety or uncertainty for residents in relation to private property impacts, particularly traffic noise (see Muller Acoustic Consulting, 2020).

4.7 Local amenity

4.7.1 Construction

Negative

During construction of the proposal local residents may experience delays on the local road network and property access modifications which would typically cause stress for the affected people. Traffic flow impacts would likely be experienced at the intersection of Garfield Road and Denmark Road, and between Carlton Street, West Parade and Bridge Street. The proposal would potentially cause amenity impacts (e.g. visual and air-quality) and introduce a larger volume of construction vehicles to the area west of West Parade which may detract from the current rural value and character of this area.

Aside from potential negative traffic impacts, Muller Acoustic Consulting (2020) identified noise impacts to be a negative feature of the proposal. For example:

- Following implementation of standard mitigation measures during standard hours, it is predicted that up to 55 residential receivers would experience noise levels above the trigger levels for the implementation of additional mitigation measures
- Following implementation of standard mitigation measures during out of hours work, up to 28 residential receivers would experience noise levels above the trigger levels for the implementation of additional mitigation measures.

The above impacts have the potential to interfere with the quiet enjoyment of residents and disturb the rural character of the area.

4.7.2 Operation

Positive

During operation, the proposal would be likely to ease congestion near the intersection of Railway Terrace and Garfield Road (see Figure 1.1). This outcome would increase amenity in the Riverstone shopping precinct and Riverstone Park which hosts social infrastructure such as the skate park and basketball court.

Negative

The change from a semi-formed road to a ‘proper’ link road would negatively affect local amenity through the study area. A formalised through-road would be introduced into an area which previously did not experience much traffic.

The results of the predictive noise modelling (refer Muller Acoustic Consulting, 2020) indicate that up to 20 potentially sensitive receivers along the length of the proposed link road alignment qualify for consideration of acoustic treatment as part of the proposal.

These operational impacts would potentially decrease amenity for the local population.

4.8 Access and connectivity

4.8.1 Construction

Negative

During construction some residents may experience changes to property access or parking, however access to their properties would be provided at all times.

There is also potential for traffic detours or delays on Garfield Road East/West. The community would be kept informed of any traffic changes and detours prior to their implementation.

4.8.2 Operation

Positive or neutral

Positive traffic impacts are predicted to arise from the proposal during operation. It would reduce traffic volumes and alleviate congestion in the Riverstone business precinct.

No school bus or cycle routes were identified as being adversely affected by the proposal. This is considered to be a neutral operational impact.

Negative

Transportation of horses and access to the Riverstone Paceway (from residential properties west of Carlton Street) would be impacted if a larger volume of vehicles used the subject roads as a result of the proposal.

4.9 Summary of impact significance

The potential negative proposal impacts identified above have been evaluated by using the methodology in Section 5.5 of the practice note. Significance has been assigned exclusively for the negative impacts considered to be material, by considering sensitivity (see Table 4.1) of the receptor and the magnitude (see Table 4.2) of the proposed work.

Table 4.1 Levels of sensitivity

Sensitivity	Definition
Negligible	No vulnerability and able to absorb or adapt to change
Low	Minimal areas of vulnerabilities and a high ability to absorb or adapt to change
Moderate	A number of vulnerabilities but retains some ability to absorb or adapt to change
High	Multiple vulnerabilities and/or very little capacity to absorb or adapt to change

Table 4.2 levels of magnitude

Magnitude	Definition
Negligible	No discernible positive or negative changes caused by the impact. Change from the baseline remains within the range commonly experienced by receptors
Low	A discernible change from baseline conditions. Tendency is that the impact is to a small proportion of receptors over a limited geographical area and mainly in the vicinity of the proposal. The impact may be short-term or some impacts may extend over the life of the proposal
Moderate	A clearly noticeable difference from baseline conditions. Tendency is that the impact is to a small to large proportion of receptors and may be over an area beyond the vicinity of the proposal. Duration may be short term to medium or some impacts may extend over the life of the proposal
High	A change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent

The matrix used to establish the ultimate level of significance for each impact is in Figure 4.1.

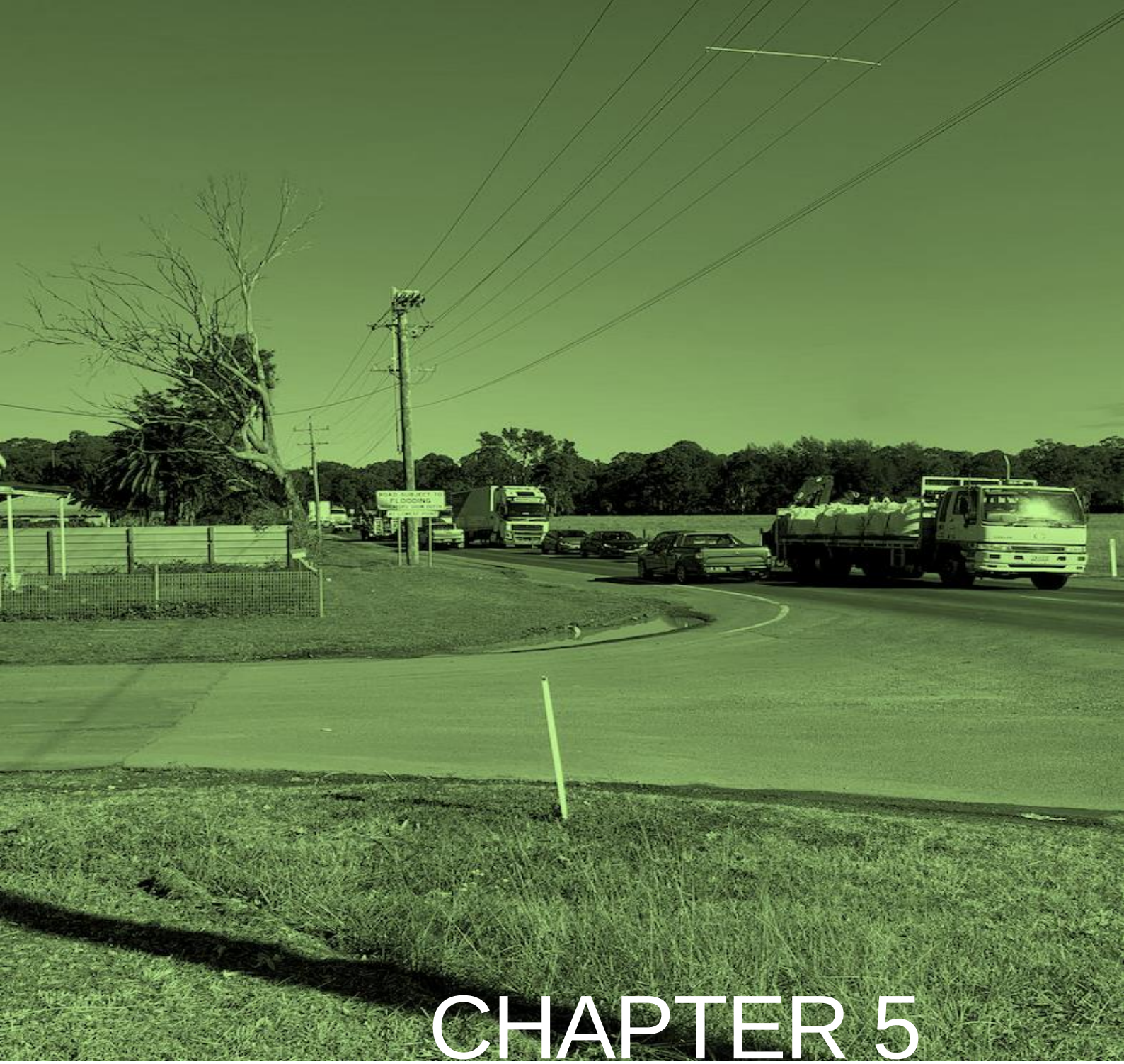
		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High Impact	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Figure 4.1 Level of significance matrix

The level of significance of each negative impact (aggregated for construction and operation) has been established in Table 4.3, and appropriate mitigation and management measures for each aspect have been proposed in Table 5.1.

Table 4.3 Summary of impact significance

Issue	Sub category	Impact (with magnitude / comment)	Sensitivity	Magnitude	Level of significance
Property impacts	Impacts on property amenity	Based on operational road traffic noise predictions, several sensitive receivers along the length of the proposed road alignment qualify for consideration of acoustic treatment as part of the proposal.	High	Moderate	High-moderate
Property impacts	Impacts of property acquisition	Four private properties (two of which are in the same ownership) would be partially acquired to accommodate the construction of the proposal. This change would be permanent for the impacted property owners. It is feasible that the socio-economic impact would be positive depending on the circumstances of the property owner, and therefore any negative impact is expected to be low.	Low	Low	Low
Local amenity	Local amenity	The proposal would introduce a larger volume of vehicles to the area south of West Parade and may detract from the character of this area, albeit for a small number of people.	Low	Low	Low
Community values	Local character and identity, community cohesion, community safety, environmental values, sense of place, heritage	Predicted negative impacts of the proposal are: ▪ Potential impacts on the character of the area west of Carlton Street during operation, and interference with access to and livestock movements to/from Riverstone Paceway ▪ Impacts to non-Aboriginal heritage at Hebe Farm during construction ▪ Impact to one Aboriginal archaeological site partially located within the proposed impact area during construction.	Moderate	Low	Moderate-low



CHAPTER 5

IMPACT MITIGATION AND MANAGEMENT

5 IMPACT MANAGEMENT AND MITIGATION

5.1 Overview of proposal commitments

The proposed measures to manage and mitigate the potential socio-economic impacts identified as part of this assessment are in Table 5.1.

Table 5.1 Management and mitigation measures

Impact	Management measure	Timing	Responsibility
Anxiety and uncertainty associated with the proposal	Preparation of a Community and Stakeholder Engagement Plan (CSEP): ▪ Procedures and mechanisms that would be implemented in response to the key social impacts identified for the proposal ▪ Procedures and mechanisms that would be used to engage with affected landowners, business owners, and the wider community to identify potential access, parking, business visibility, and other impacts and develop appropriate management measures ▪ Procedures to keep the community informed about construction and any associated changes to conditions (e.g. detours or lane closures) such as through advertisements in local media and advisory notices or variable message signs ▪ Procedure for the management of complaints and enquiries, including a contact name and number for complaints.	Detailed design, Pre-construction	Contractor
Property acquisition	Property acquisition would be carried out in accordance with the Land Acquisition Information Guide (Roads and Maritime, 2014) and the *Land Acquisition (Just Terms Compensation) Act 1991*. In addition, any vulnerable property owners who may be the subject of property acquisition proceedings would be considered under the Exceptional Hardship Land Purchase Guideline.	Detailed design, Pre-construction	Transport for NSW
Community values	Horse owners will be engaged to identify suitable management measures for horse riders near the construction areas. Management measures would be adopted in the traffic management plan and noise management plan to mitigate against livestock disturbance.	Pre-construction	Contractor

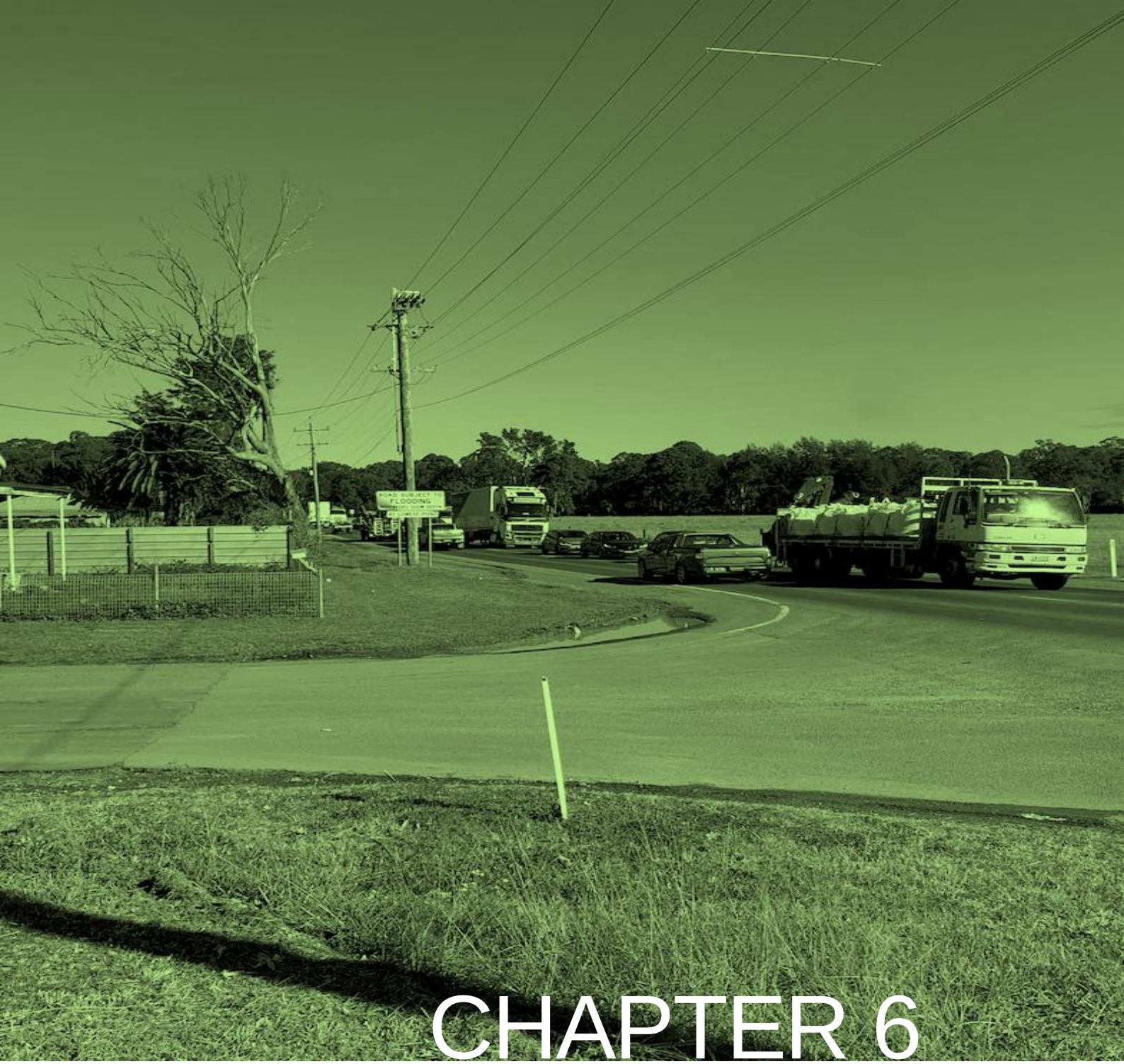
5.2 Monitoring framework

A range of management plans would be developed or updated as part of the proposal's construction and would provide a socio-economic impact management and monitoring framework. The management plans may include the:

- Environmental management plan
- Air quality management plan
- Safety management plan
- CSEP.

The monitoring results would be disclosed via the submission of the regular contractual project reports to Transport for NSW.

A project complaints management procedure would be an additional monitoring opportunity. A complaints register would be valuable in both the proposal's construction and operation phases.



CHAPTER 6

CONCLUSION

6 CONCLUSION

This report provides a socio-economic impact assessment of the Transport for NSW proposal to build a link road from the intersection of Garfield Road West and Denmark Road, Riverstone, to the Westminster Street bridge at Schofields. The assessment involves analysing, monitoring and suggesting management measures for the predicted social and economic consequences of the proposal. This report is a specialist study developed to support the REF. The following positive and negative impacts were identified by the SEA.

6.1 Positive impacts

The SEA has identified a number of positive impacts that would be potentially delivered by the proposal. These are listed below.

Business

During the proposal's operation, congestion in the business precinct would be reduced, therefore becoming more appealing to customers. It is not expected that the diversion of traffic away from the Riverstone Village Shopping Centre would result in a revenue decrease for businesses at the centre or in its vicinity, as those customers intending to travel to the shopping precinct would still have a direct route to it.

A temporary positive revenue impact is expected during construction.

Local business enhancement is a potential positive impact of the proposal, considering the Riverstone Town Centre Master Plan (refer Elton, 2018) prioritises a link between Westminster Street and Garfield Road West and emphasises taking local traffic away from the Garfield Road level crossing.

Social infrastructure

It is unlikely that social infrastructure would be significantly impacted by the proposal, however, the local road network is an obvious component of infrastructure that would be temporary impacted by road closures and/or diversions during construction.

The above negative impact is balanced by the proposal's ability to:

- Lower traffic volumes adjacent Riverstone Park which would improve safety and access to its social infrastructure
- Improve the local road network over the long-term operational period.

In this scenario, the net impact arising from the proposal would be positive.

Access and connectivity

Although the proposal would potentially produce negative access impacts (e.g. to parking and access to Riverstone Paceway) for residents at properties west of Carlton Street, the scale of this impact is comparatively minor compared to the positive proposal impacts. The major positive impact is predicted to be the alleviation of congestion along Garfield Road and into the Riverstone business precinct. This positive benefit would be significant for the population.

Economy

During construction, the influx of construction staff to the Riverstone area will result in positive economic impacts (for example the purchase of groceries or accommodation). The economic benefits will be temporary and reduce significantly when the proposal is operational.

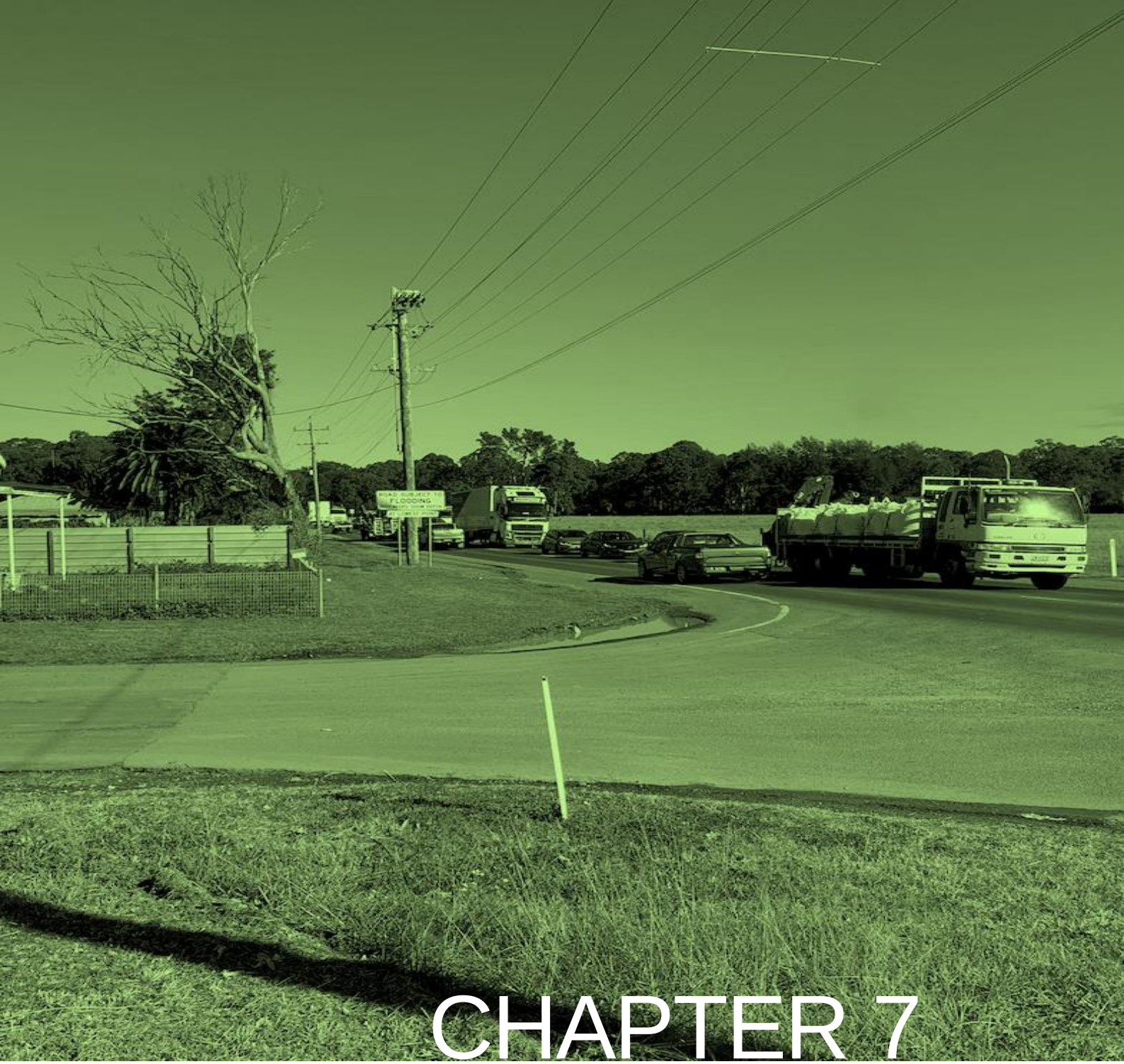
6.2 Negative impacts

Negative impacts that would potentially arise from the proposal are outlined in Table 4.4, and the management and mitigation measures recommended to offset these impacts are listed in Table 5.1.

Table 6.1 summarises the negative impacts and the recommended management and mitigation measures. These management and mitigation measures should be read in conjunction with the measures and recommendations outlined in the other specialist reports prepared for the REF.

Table 6.1 – Negative impacts and recommended management and mitigation measures

Negative impact	Level of significance	Recommended management or mitigation measure
Property amenity (directly affected)	High-moderate	Develop and implement CSEP. Include engagement program catering for owners of property affected by acoustic treatments
Partial property acquisitions	Low	Consider the Exceptional Hardship Land Purchase Guideline for any relevant cases
Local amenity	Low	Develop and implement CSEP
Community values	Moderate-low	Develop and implement traffic management plan and noise management plan to mitigate against livestock disturbance.



CHAPTER 7
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7 REFERENCES

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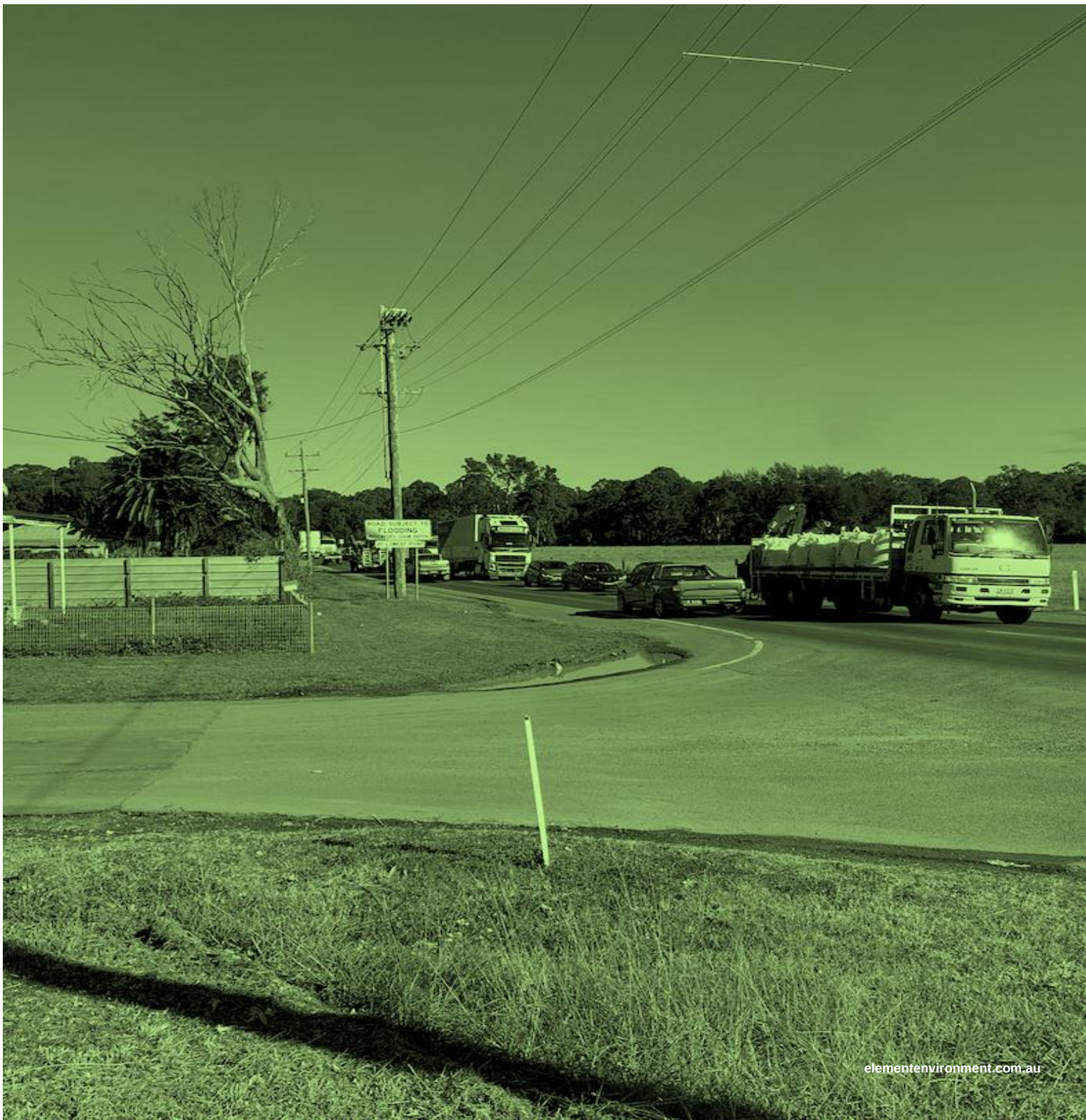

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