

**GUNNEDAH SECOND ROAD
OVER RAIL BRIDGE
DEVELOPMENT AND
ASSESSMENT OF CONCEPT
OPTIONS**

**DRAFT PRELIMINARY
CONCEPT OPTIONS REPORT**

**PRELIMINARY SOCIO-
ECONOMIC TECHNICAL
PAPER**

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Executive Summary

The Roads and Maritime Service (RMS) is undertaking investigations to identify a preferred option for a new road over the rail line bridge in the township of Gunnedah. The Oxley Highway is a main route which connects Tamworth and Coonabarabran via Gunnedah and is predicted to receive an increase in freight traffic due to major coal developments in the Gunnedah Basin (NSW Government 2012). The purpose of the project is to investigate options for a new road over the rail line bridge in the township of Gunnedah, which satisfies the requirements for Higher Mass Limit (HML) loadings and is in the vicinity of the existing New Street level crossing. A study area was determined in December 2012 which defines the area of investigation.

This technical paper provides a background profile and constraints analysis of the socio-economic environment of the proposed study area and the township of Gunnedah to assist in the development of preliminary concept options for the project. This forms stage one of a future full social impact assessment, which will occur in later stages of the project.

Gunnedah Shire is located in the New England region of New South Wales (NSW), in the Upper Namoi Valley. The population of Gunnedah Local Government Area (LGA) at the last census in 2011 was 12,066 and the median age was 40 years old. The population of Gunnedah has grown naturally since 2006 at an estimated rate of approximately 0.3% per year, however, has more recently stagnated as a large portion of the population is beginning to enter the later stages of life. The *Gunnedah Community Strategic Plan 2012 - 2022* highlights that retention of younger people within the shire is a key issue, with the job shortage contributing factors to their desire to leave the region and seek opportunities elsewhere (Gunnedah Shire Council 2011). Other issues within the shire include a shortage of affordable and accessible housing for all types of incomes and families. In particular, there is concern regarding attracting and accommodating new workers to Gunnedah which are required as a result of the mining boom, while also catering for the ageing population. Local traffic, road maintenance and pedestrian and cyclist safety are all issues raised by the community during stakeholder consultation as part of the project and during Council's strategic planning. Key strategic aims for Gunnedah Shire Council and the New England North West region include addressing the housing shortage and ensuring the required infrastructure, such as roads and rail, are in place to accommodate the growth in the region.

Within the township of Gunnedah, manufacturing, retail and service are the predominant business types. The key industries present in the LGA and region are agriculture, coal mining and coal seam gas exploration (Gunnedah Shire Council 2011). Agriculture generates the largest portion of income for the region, in excess of \$125 million per annum and mainly consists of corporate and family farming of crops such as barley, cotton, wheat and cattle, sheep and pig livestock (Economic Development 2012). Mining represents the largest growth sector, with an additional 500 million tonnes of coal per annum to be mined in the region near Gunnedah in the coming years.

Gunnedah Shire Council's Community Strategic Plan 2012 – 2022 aims to encourage local economic growth within the township, in particular in the areas which provide community services to assist with the ageing population and predicted growth due to the increased mining activity within the region. Local growth is also required to provide more diverse jobs for the labour force. In turn this will assist with the retention of younger people and will help to addressing the professional skills shortage (NSW Government 2012). Tourism is also an identified growth area, with the township promoting its status as the 'Koala Capital of the World'. Other tourist attractions include the Gunnedah Showground which is home to the Gunnedah Show and is considered amongst the best show rings in NSW.

A new bridge over the rail line within the study area has the potential to improve traffic flow and safety for the citizens of the shire, while also providing the designated HML route through the township. The potential social and economic benefits include:

- Improved traffic flow resulting in improved travel times for freight, public transport and local vehicle movement.
- A safer crossing for pedestrians, cyclists and motorists over the rail line when travelling from the South-West of Gunnedah and heading to the north.
- New access through Gunnedah and for business and industry requiring HML vehicle access.
- Improved business connectivity and a reduction in business costs, which in turns supports the local and regional economic development of Gunnedah and the New England North West region.

Consideration of these potential opportunities is important for the preliminary options assessment and for future assessment of the preferred options. In order to achieve the greatest potential benefits, future studies must also investigate the potential negative impacts of the project and consider the social and economic constraints of the area.

Future investigations and associated studies should consider the following social and economic issues and ensure the appropriate mitigation measures are developed to minimise potential impacts:

- Changes to access and passing trade to businesses within the local area, in particular the Gunnedah Maize Mill, Hope's Fuels and others nearby within the study area.
- Property values, including influences from aesthetics and visual impacts.
- Direct property impacts, such as loss of housing through acquisitions and changes to local hydrology.
- Amenity based impacts on community, residences and businesses relating to noise and air quality during both construction and operation.
- Changes to existing bus and cyclists routes which pass through the study area.

- Pedestrian movements, particularly the needs of the elderly and disabled.
- Journey to work movements, modes and routes through the study area.
- Indirect impacts on the local road network and community within Gunnedah township as a result of increased heavy vehicle traffic.
- Any clearing of vegetation within Koala Habitat and modification of waterways, in accordance with the principles of Ecologically Sustainability Development (Schedule 2, 4(d) of the *Environmental Planning and Assessment Regulation 2000*, namely improved valuation, pricing and incentive mechanisms and inter-generational equity which address the social and economic considerations for the project.

The likelihood and severity of these potential impacts will be dependent upon the preferred bridge option chosen; therefore it is vital they are considered during this process. Furthermore, the assessment of impacts will require collaboration with other studies, including the Traffic and Transport, Hydrology and Flooding, Visual and Urban Design and Ecology and Stream assessments. Provided these assessments aim to minimise the potential environmental and community impacts in assessing the preferred option, the anticipated negative impacts are unlikely to be significant and the project would result in an overall positive benefit to the township of Gunnedah.

1 Introduction

1.1 Background

The RMS is undertaking investigations to identify a preferred option for a new road over the rail line bridge in the township of Gunnedah. The Oxley Highway is a main route which connects Tamworth and Coonabarabran via Gunnedah and is predicted to receive an increase in freight traffic due to major coal developments in the Gunnedah Basin (NSW Government 2012). The *Strategic Regional Land Use Plan – New England North West* has also identified that the entire region is expected to receive an increase in freight movements and infrastructure, including the associated population increases to undertake the work (NSW Government 2012). The plan also references Australian Rail Track Corporation (ARTC) *2011-2020 Hunter Valley Corridor Strategy* and the planned infrastructure upgrades. The *Strategic Regional Land Use Plan* highlights the need for improved transport infrastructure within the region to improve the carrying capacity of the regional road and rail network, to accommodate this economic growth, and to avoid impacts upon local communities, businesses and the agricultural industry.

At a local scale, the existing rail crossings within Gunnedah are experiencing significant delays due to an increasing number of trains and also the longer length of coal trains utilising the railway line. Ageing transport infrastructure, movement of heavy vehicles and traffic within the town, as well as pedestrian safety have been identified by the community of Gunnedah and the Gunnedah Shire council in the *Gunnedah Community Strategic Plan 2012-2022* as amongst some of the key challenges for the coming years. Gunnedah Council notes in the *Gunnedah Community Strategic Plan* that economic growth is important to the Local Government Area (LGA), thus it is integral that the road and rail network is maintained and improved to withstand it in the longer term. Upgrading the existing rail crossing at New Street will assist in alleviating traffic pressures, facilitate efficiency and improve safety for both vehicles and pedestrians and assist council in improving the local transport infrastructure.

Currently there is one bridge over the rail line within Gunnedah. The existing bridge, known as the Abbott Street bridge is unable to carry Higher Mass Limit (HML) vehicles. At present there is no HML access along the Oxley Highway through Gunnedah.

A study area was determined in December 2012 which defines the area of investigation. Two community information sessions were also conducted in December 2012, with approximately 50 members of the community attending. The outcomes of this initial consultation have been incorporated into this technical paper to facilitate understanding of the community and business constraints within the study area and identify community values in relation to the study area.

This technical paper and a number of other technical papers have been prepared to assist in the investigation of a number of preliminary concept bridge options for the new bridge over the rail line. Three options are to be presented in a preliminary options report to the community for discussion along with other technical papers regarding the study area following the investigation.

1.2 Purpose and objectives of the project

The purpose of the project is to investigate options for a new road over the rail line bridge in the township of Gunnedah, which satisfies the requirements for HML loadings and is in the vicinity of the existing New Street level crossing.

The Roads and Maritime Service (RMS) has set the following objectives for the crossing:

- Provide a grade separated HML route through Gunnedah.
- Improve local traffic efficiency.
- Improve road safety.
- Improve road transport productivity, efficiency and reliability of travel.
- Minimise the impact on the natural, cultural and built environment.
- Provide value for money.

1.3 Scope and objectives of this technical paper

The purpose of this technical paper is to provide background information regarding the socio-economic context of the study area (as refer to Figure 1.1) and the town of Gunnedah, in order to facilitate the options assessment. Each option will have differing socio-economic impacts, which may influence the suitability of the option in the longer term. Socio-economic impacts may be generated during both the construction and operational phases of the project and could be direct (such as to property) or indirect (to the greater community). Thus it is vital to consider both its negative and positive contributions to the community and businesses within the study area and to the Gunnedah township in relation to the project.

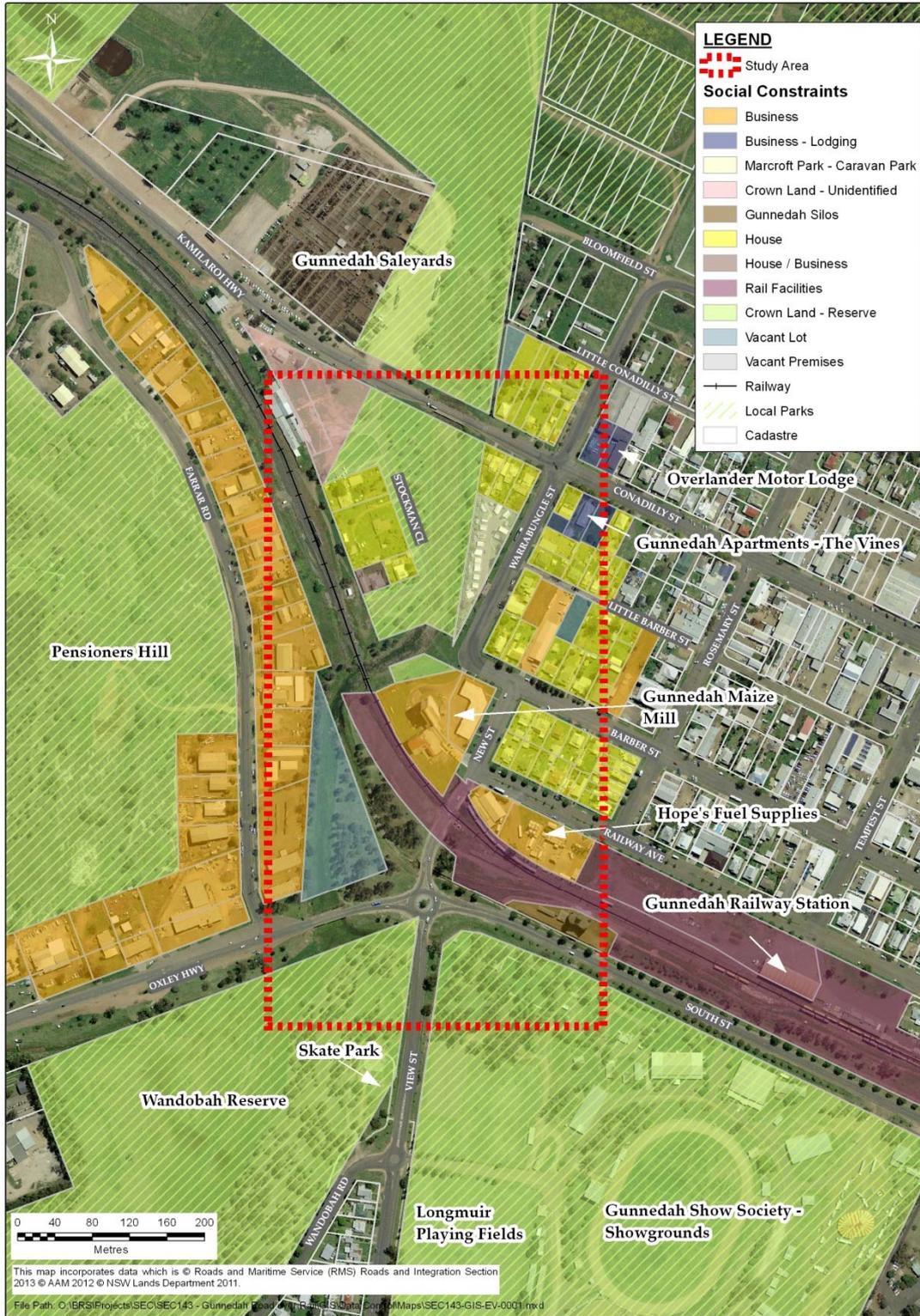


Figure 1.1 Study Area Overview

2 Methodology

2.1 Socio-Economic Impact Assessment (SIA) Context

In order to facilitate SIA of RMS projects, RMS has prepared an *Environmental Planning and Impact Assessment Practice Note for Socio-Economic Assessment* which is to be utilised for the preparation of environmental impact assessments under the *Environmental Planning and Assessment Act 1979*.

Within this guideline RMS defines socio-economic impact assessment (SIA) as:

Socio-economic impact assessment involves analysing, monitoring and managing the social and economic consequences of development. It involves identifying and evaluating changes to or impacts on, communities, business and industry that are likely to occur as a result of the proposed development, in order to mitigate or manage impacts and maximise benefits. (RMS 2012, p4)

Stage 1 of the guideline provides advice on the first stage of the RMS SIA process, which involves developing a profile or baseline of the existing environment and scoping the potential socio-economic issues, stakeholders and study area.

As this technical paper is being prepared to assist in the assessment of preliminary options, prior to a decision regarding a final option, a full SIA is not yet required. The Figure 2.1 describes the phases of an SIA. This technical paper documents the outcomes of the *scoping* and *existing conditions* phases in relation to the bridge project.



Figure 2.1 – Socio-economic impact assessment process (RMS 2012)

This technical paper is likely to form the basis for further research and more detailed assessments in the future during the approvals phase of the project and once a preferred option is selected.

2.2 Data Collection

In order to prepare the baseline condition assessment for this technical paper a number of sources were reviewed;

- Publically available Gunnedah Shire Council reports and website information.
- Desktop study of aerial photography, maps and other sources.
- Demographic data from the Australian Bureau of Statistics (ABS) 2011 Census.
- Feedback from the initial consultation with community and businesses in December 2012.
- Consultation with Gunnedah Shire Council.

The initial community consultation was undertaken in two sessions, held on 10 December 2012 (11am – 2pm and 5pm – 8pm) at the Gunnedah Town Hall. Where appropriate this information has been included in the preparation of this report. The stakeholder and community engagement strategy is being undertaken separately by the RMS during this preliminary concept phase and is planned following the determination of three bridge options, consultation will be ongoing throughout the project.

As studies which may influence potential socio-economic impacts are currently being undertaken in parallel to this technical paper, a brief summary of potential socio-economic impacts can only be provided. Further detail regarding constraints is discussed in other technical papers, such as hydrology, ecology, traffic movements, public transport patronage, and pedestrian movements as noted in section 4 of this paper.

2.3 Data Limitations

The following limitations to the development of this background study should be noted:

- The number of attendees at the initial consultation session does not represent a statistically relevant sample for the purposes of drawing conclusions regarding the potential socio-economic impacts of the final preferred option for the project. Thus there is limited consultation/stakeholder engagement regarding values.
- The outcomes of the consultation with the Australian Rail Track Corporation (ARTC) are yet to be finalised.
- This paper has been prepared based primarily on a desktop assessment which was deemed appropriate for this stage.

3 Existing Environment and Constraints

3.1 Gunnedah Overview

Gunnedah Shire is located in the New England region of New South Wales, in the Upper Namoi Valley. The LGA covers an area of approximately 4994 square kilometres and is bordered by the Shires of Liverpool Plains, Tamworth Regional Council, Warrumbungle and Narrabri (Gunnedah 2011). It is a connecting point for two major highways; the Kamilaroi highway, which runs north-south, connecting Muswellbrook to Narrabri; and the Oxley Highway, which runs east-west connecting Tamworth to Coonabarabran. Thus it is often traversed by through-traffic visiting these locations. The township of Gunnedah is serviced by the North-West Rail line, which is a regionally significant rail line due to its connection between the Hunter Valley and the region's mining areas near Narrabri. The nearest domestic airport to Gunnedah is located in Tamworth and is approximately 50mins by car via the Oxley Highway.

Within the township, manufacturing, retail and service industries dominate, supporting the key industries present in the LGA of agriculture and growing areas of coal mining and coal seam gas exploration (Gunnedah 2011). The regional climate is subject to warm to hot summers and cool to mild winters, which are optimal for the growth of crops all year round (Gunnedah 2011). Tourism is a growth area in the LGA's economy, with a number of rural shows hosted by the Gunnedah Show Society throughout the year, museums, a wildlife park and the promotion of the town as the 'Koala Capital of the World'. Gunnedah township provides a number of community and social services for the community living within the LGA, including schools, recreational facilities, health services and a TAFE. These services are summarised in section 3.4.1.

The study area for the preliminary concept bridge options assessment is located to the west of the main town centre, near Pensioners Hill as shown on Figure 1.1. Land within the study area is zoned under the *Gunnedah Local Environmental Plan 2012* as four main types; 'IN1 General Industrial' (generally to the west of the rail line, along Farrar Road), 'B5 Business Development' (generally to the east of the rail line starting from Warrabungle St), 'SP2 Special Activities' for rail facilities and stock and sale yards; and 'RE1 Public Recreation' for public recreation. The north-east corner of the study area also clips a parcel of land which is 'RU1 Primary Production' near the saleyards. The existing land use within the study area differs slightly to its LEP zoning, as shown on Figure 1.1, namely the area zoned as Business Development, near Warrabungle Street, Barber Street, Little Barber St and Railway Avenue, is predominately residential houses and other forms of lodging and tourist accommodation (including the Overlander Motor Lodge, Marcroft Park and Gunnedah Apartments – The Vines), as well as, a small number of businesses. The study area contains approximately 40 houses and 55 businesses.

3.2 Shire of Gunnedah's' Social Characteristics

The following is a demographic profile of the Shire of Gunnedah's social characteristics derived from the last ABS Census in 2011. Table 3.1 provides an overview of the population characteristics from the ABS 2011 community profiles. For regional context, the percentage breakdown of the data for the New England and North West Statistical Level Area (SLA) 4 and NSW is provided.

A number of trends derived from council's social investigations in recent years and the most recent census data can be observed in relation to Gunnedah's social characteristics. When assessed in conjunction with Table 3.1, the following is of note in relation to Gunnedah and the social characteristics which set the scene for the study area:

- Between 2005 and 2010, the population rose by 303 persons to an estimated 12,265, representing a rate of 0.3% per annum (Public Practice 2011) and appeared to have dropped at the last census from 2010 to 12,066. While the population in between census is estimated by the ABS (ABS Cat no. 3218.0), this variation could also be attributed to a difference in data reported (that is, data recorded at the place of enumeration instead of usual place of residence). Nevertheless, the 2011 population recorded is still representative of an increase of 5% from the 2006 ABS Census based on the Usual Place of residence data. The median age remains 40, since the previous census in 2006, which is slightly older than the state average.
- The majority of the population are in their later stages of life, with fewer younger people. However, the population age bracket which has increased in recent years during the last of their generation is Generation Z (1991 - 2006) years. This age bracket remains the largest within Gunnedah and is increasing as the oldest declines (Veterans pre 1931).
- 11% of the population is Indigenous or Torres Strait Islander, which is higher than the regional and state percentage.
- Average household income is significantly lower within the New England North West Region and in Gunnedah, than the rest of the state. However, average rents are approximately 5% lower within the region.
- Council has identified the need in its *Community Strategic Plan 2012-2022* for an increase in improved affordable housing to provide for the population growth, retention of younger generations and an improvement in accessibility to essential services and aged care for the older generations.
- 56 dwellings, including 39 houses and 6 other dwellings (such as flats and townhouses) were approved for construction in Gunnedah in the year to 30 June 2010 (Public Practice 2011).
- 9 registered tourist accommodation facilities were recorded in 2009 in the Public Practice (2011), however, this figure appears to not include apartments and bed

and breakfasts as a recent tourist brochure indicates closer to 25 facilities within the Shire (Newell highway Promotions Committee Inc. (NHPCI) 2011). Two accommodation facilities are located within the study area as noted previously.

- The unemployment rate at the 2011 ABS Census within Gunnedah was 6.0% and the potential labour force increased between 2009 to 2011 by 303 persons (Public Practice 2011).
- A shortage of local jobs (or a preference to work outside of the LGA) exists within the Shire, as there are 5226 working residents compared to 4635 local jobs reported in the Place of Work census reporting. Therefore around 11% of residents must work elsewhere.
- Between 2005 and 2009 the number of registered vehicles rose by a rate of 2.8% per year, most than double the rate of northern NSW. The most significant increase during this period was amongst motorbike ownership, followed by articulated trucks (Public Practice 2011).

Table 3.1 Socio-economic characteristics of Gunnedah LGA, New England and North West Statistical Local Area by Usual Place of Residence during the ABS 2011 Census.

	Gunnedah LGA		New England and North West SLA	NSW
	No.	%	%	%
<i>Population and Demography</i>				
Population				
Total Persons	12066	--	176,194	6,917,658
Age Groups				
0-4 yrs	888	7.4%	6.9%	6.6%
5-14 yrs	1,665	13.8%	13.8%	12.6%
15-19 yrs	828	6.9%	6.9%	6.4%
20-24 yrs	655	5.4%	5.8%	6.5%
25-34 yrs	1,288	10.7%	10.4%	13.6%
35-44yrs	1,411	11.7%	12.2%	14.0%
45-54	1,662	13.8%	13.8%	13.7%
55-64	1,484	12.3%	13.0%	11.7%
65+ years	2,185	18.1%	17.2%	14.7%
Median Age	40	--	40	38
Males	6033	50.0%	49.3%	49.3%
Females	6033	50.0%	50.7%	50.7%

Mobility				
Other address 12 months previous	1,666	14.01%	14.9%	13.6%
Other address 5 yrs previous	3,916	35.0%	36.7%	36.9%
Cultural Diversity				
Indigenous persons	1,363	11.3%	9.0%	2.5%
Language spoken at home (Non-English)	141	3.6%	2.6%	31.0%
Overseas Born	2,043	11.8%	12.1%	31.4%
Education				
Education attendance	3,511	29.1%	30.5%	30.9%
Finished school (Year 12)	2,701	29.7%	34.4%	49.2%
Finished school (Year 10)	3,195	35.2%	32.3%	23.9%
Families and Housing				
Dwellings				
Total Dwellings (Occupied)	4,487	90.2%	87.1%	90.3%
Total Dwellings (Unoccupied)	488	9.8%	12.9%	9.7%
House (including semi-detached, townhouse etc)	4133	92.1%	92.1%	80.2%
Flat or other Dwelling	352	7.9%	7.9%	19.8%
Households				
Family households	3,135	69.9%	69.5%	71.9%
Lone person House	1,234	27.5%	27.2%	24.2%
Group Household	118	2.6%	2.8%	3.8%
Av Household Size	2.5	--	2.4	2.6
Families				
Couple family with children	1,318	40.3%	39.0%	45.5%
Couple family without children	1,282	41.5%	42.2%	36.6%
One parent family	532	16.7%	17.3%	16.3%
Other family	46	1.4%	1.5%	1.7%
Housing cost and tenure				
Fully owned	1701	37.9%	37.5%	33.2%
Median Rent (\$/week)	\$190	--	\$175	\$300
Rented (Total):	1338	29.8%	19,549	743,053
<i>Real estate Agent</i>	622	13.9%	13.5%	17.4%
<i>State Housing Authority</i>	167	3.7%	3.8	4.4%
Other Tenure Type				
Being purchased	1,273	28.4%	29.7%	33.4%
Not stated	126	2.8%	3.1%	2.6%

<i>Vehicle ownership and travel to work</i>				
Vehicle Ownership				
Households with no vehicles	344	7.6%	7.8%	10.4%
Households with vehicles	3,992	88.9%	88.5%	86.4%
Journey to Work				
Travel to work by car (as driver or passenger)	3,630	69.5%	68.9%	62.8%
Travel to work by public transport	19	0.4%	0.6%	13.8%
Travel to work by walking	274	5.2%	5.4%	4.1%
Other				
<i>Economic characteristics</i>				
Income				
Median Individual Income (\$/weekly)	\$485	--	\$479	\$561
Median Household income (\$/weekly)	\$937	--	\$902	\$1,237
Low income households <\$400/wk	691	15.4%	15.7%	12.3%
High income households >\$1,499/wk	1215	27.1%	24.2%	37.5%
Employment				
Workforce participation (Full-time)	3,324	59.8%	59.2%	60.2%
Workforce participation (Part-time)	1,598	28.8%	28.7%	28.2%
Unemployed persons	332	6.0%	6.2%	5.9%

3.3 Local and regional economy

The township of Gunnedah is where the majority of retail, commercial and manufacturing businesses are located within the Shire, with the key industry contributing to the local and regional economy being agriculture and growing increasing coal mining and coal seam gas exploration (Gunnedah Shire Council 2011). The majority of commercial business (namely professional and retail services) in the township is situated within a few blocks either side of Conadilly Street, which passes into the study area (Economic Development 2012). An established light industrial area is also located on Farrar Rd (refer to Figure 1.1), within the study area, consisting of a range of businesses including self-storage, gardening and maintenance, mining services, electrical services, manufacturing products, engineering services and furniture sales. A breakdown of the number of worker by industry is provided in Table 3.2, as well as figures regarding the trends in recent years in Table 3.3.

Table 3.2 Labour Force by Occupation and Industry (Source: ABS 2011)

	Occupation									Total	% of Total
	Managers	Professionals	Technicians and trades workers	Community and personal service workers	Clerical and administrative workers	Sales workers	Machinery operators and drivers	Labourers	Inadequately described/Not stated		
<i>Agriculture, forestry and fishing</i>	596	12	22	0	40	4	71	132	5	882	16.88
Mining	23	29	67	0	27	0	232	10	3	391	7.48
Manufacturing	41	7	96	3	30	14	59	110	6	366	7.00
Electricity, gas, water and waste services	4	0	27	0	10	0	12	10	5	68	1.30
Construction	24	6	115	5	22	0	46	49	3	270	5.17
Wholesale trade	20	15	10	0	12	49	17	15	3	141	2.70
Retail trade	75	13	48	3	31	272	15	55	3	515	9.86
Accommodation and food services	76	0	25	68	21	42	3	119	3	357	6.83
Transport, postal and warehousing	33	4	13	4	36	8	137	9	4	248	4.75
Information media and telecommunications	0	8	9	0	0	7	0	4	0	28	0.54
Financial and insurance services	7	9	3	0	38	7	0	3	0	67	1.28
Rental, hiring and real estate services	3	5	3	0	15	38	0	0	0	64	1.22
Professional, scientific and technical services	6	76	21	0	56	0	0	6	0	165	3.16
Administrative and support services	3	18	6	0	11	0	7	67	0	112	2.14
Public administration and safety	29	34	17	36	79	5	32	24	3	259	4.96

Education and training	23	245	5	84	35	0	0	14	•	•	•
• <i>Health care and social assistance</i>	•	•	•	•	•	•	•	•	•	•	•
• Arts and recreation services	•	•	•	•	•	•	•	•	•	•	•
• Other services	•	•	•	•	•	•	•	•	•	•	•
• Inadequately described/ Not stated	•	•	•	•	•	•	•	•	•	133	2.55
Total	1,006	662	665	468	540	460	650	693	81	5,225	100.00

Table 3.3 Labour by Industry over the 10 year census period (Source: ABS 2011)

	2001 Census		2006 Census		2011 Census	
	Persons	%	Persons	%	Persons	%
Agriculture, forestry and fishing	981	21	833	18	870	16
Mining	43	1	113	2	417	8
Manufacturing	361	8	429	9	380	7
Electricity, gas, water and waste services	31	1	52	1	65	1
Construction	191	4	258	5	297	6
Wholesale trade	243	5	146	3	153	3
Retail trade	541	12	478	10	517	10
Accommodation and food services	270	6	300	6	362	7
Transport, postal and warehousing	207	4	•	•	•	•
• Information media and telecommunications	•	•	•	•	•	•
• Financial and insurance services	•	•	•	•	•	•
• Rental, hiring and real estate services	•	•	•	•	•	•
• Professional, scientific and technical services	•	•	•	•	•	•
• Administrative and support services	•	•	•	•	•	•
• Public administration and safety	•	•	•	•	•	•
• Education and training	•	•	•	•	•	•
• Health care and social assistance	•	•	•	•	•	•
• Arts and recreation services	•	•	•	•	•	•
• Other services	•	•	•	•	•	•

Inadequately stated	described/Not	134	3	158	3	143	3
Total		4,620	100	4,718	100	5,360	100

As noted above in Table 3.2 and 3.3, the predominate sectors of employment within the Shire include rural production (Sheep, Beef Cattle and Grain Farming) which represents the largest sector of employment, (employing 16.9% of the workforce at the 2011 census), followed by Retail Trade (9.9%) and the Health care and social assistance (9.4%). The percentage of workforce in the Agriculture sector has decreased by 5% and the mining sector has increased by 7% over the 10 year census period, while the remaining sectors remain relatively unchanged.

According to Gunnedah Shire Council reporting in January 2012, the Shire was reported as a key producer for exporting goods to overseas markets (Economic Development 2012). The area has a production base for metal manufacturing and farm machinery and with export industries in cotton processing, grain producing, brick and terracotta production, tannery and leather processing, timber milling, cotton processing and skilled mining. The article also states that some of the largest industries are the Gunnedah Leather Processors, Gunnedah Timbers, Prydes (stockfeeds), Wholegrain Milling, Paradise Farms, Manildra Flour Mills, Namoi Valley Brickworks and the Gunnedah Maize Mill, which is located within the study area as shown on Figure 1.1. An approximate annual turnover for manufacturing (which includes the processing of farmed materials) ranges between \$100 million to \$150 million (Economic Development 2012).

Agriculture, as the largest contributor to Gunnedah's economy (income as well as employment), provides approximately \$125 million of income annually, from family and corporate farms which produce wheat, barley, cotton, sunflowers, soybeans, sorghum and vegetables (Economic Development 2012). Also supported within the region is a large livestock industry, including pigs, cattle and sheep. The Gunnedah Saleyards, which are located in the north-west of the study area, are the second largest within NSW and in 2010-2011 reported a turnover \$98 million, approximately 132,800 beef cattle.

At present, there is one mining company, Whitehaven Coal Mining Pty Ltd. which operates in the area. Mines currently operated by the company are located to the north and west outside of Gunnedah (Economic Development 2012). Coal is transported by road to the Handling and Preparation train loading facility is situated within the Shire, near the north-west rail line. Expansion of coal mining is planned near Carroona and Watermark 40 km south east of Gunnedah by BHP Billiton and Shenua Energy to mine approximately 500 million tonnes each. Economic Development (2012) notes that the current capacity of the rail network (which passes through the study area) is at ten million tonnes per annum, as such the planned upgrade of the region's rail network by ARTC to 50 million tonnes per annum by 2020 is vital to support the region's economic growth. Coal Seam Gas is also under exploration by Santos within the Gunnedah Coal basin and could result in further growth for the region (Economic Development 2012).

Key economic trends for consideration and strategy for development at both the local and regional economy can be derived from the strategic plans of both the Gunnedah Shire Council and the Strategic Land use Plan for the New England North West Region. Additionally, when assessed with the recent ABS statistics above, the following trends are of note:

- Encouraging economic growth in the Shire of Gunnedah is a key aim of Council in order to create a diverse economic base and to support the growing and aging population.

- Growth is required in health and aged care services, retail and commercial is required to help plan for the future population. Growth is also planned in tourism.
- There is a regional skills shortage, particularly in professional areas (Public Practice 2011).
- At the same time, there is a labour surplus in areas such as drivers and operators, labourers and technicians which are jobs that are typically undertaken by younger people under the age of 25 (ABS 2011, Public Practice 2011).
- The Agricultural industry is experiencing a decline in labour force, while the mining industry is increasing.

3.4 The Gunnedah Shire Community

3.4.1 *Community, Education and Recreational Infrastructure*

The community, education and recreation services provided by the Shire of Gunnedah are centrally located within the urban centre and most services are accessible with a 5-10 km radius around the centre of the Gunnedah township. For the majority of the population of the Shire who live within Gunnedah (70%), the services in the Gunnedah township readily serve their needs (Gunnedah Shire Council 2011). The population in other villages and rural areas, however, have reported dissatisfaction with access to facilities, attributed in part to the aging population located within these areas (Gunnedah Shire Council 2011). Services which are not provided within the Gunnedah township are available in neighbouring Tamworth, approximately 1 hour's drive from town.

The study area is located within a few kilometres of the Gunnedah town hall (the main commercial centre). The following is a list of the community services provided by the Gunnedah Shire council, noting (*) where the services are located within the study area.

Community Facilities and Services (Gunnedah Shire Council 2013)

- Education services
 - Two pre-schools, four primary schools and two secondary schools
 - New England Institute of TAFE (with affiliations with the University of New England, located in Armidale)
 - Community College
 - Two libraries
- Health Services
 - Gunnedah Rural Health Centre and GP Super Clinic
 - District Hospital, including day surgery, physiotherapy and dental clinic
 - NSW Ambulance
 - Baby and Community Healthy Centres, X-Ray facilities and pathology services
 - Home and Community Care for the elderly, including Gunnedah Nursing Home (Lundie House), Alkira Hostel, McAuley Hostel, and Yallambee Home for the Aged.
 - Special Purpose Housing and Group homes for the disabled
 - North West Regional Community Care
 - Home and Community Care Multi-Service outlet
- Recreational/Other services
 - 11 churches and groups
 - Youth and Aboriginal services
 - Community Halls
 - Sports fields, Wolseley and Kitchener Park,
 - Gunnedah Showground and Longmuir Playing Fields* (situated within the study area)
 - Gunnedah Memorial Swimming Pool Complex

- A total of 236 ha within 45 areas of publically accessible open space and parks including Wandobah Reserve and Pensioners Hill* (situated within the study area).

Community Facilities in the study area

The Gunnedah Showground area is managed by the Gunnedah show society and Gunnedah Shire Council and includes a number of facilities including the Longmuir Fields, Kennel Club and the showgrounds. The Gunnedah show has been at its present location since 1888 and is celebrating 125 years in 2013 (Gunnedah Show Society 2011). Events are held regularly at the showground and 28 user groups from the Gunnedah community utilise the facilities (Gunnedah Show Society 2011).

Wandobah Reserve is a publically accessible park located in the south-eastern corner of the study area and is home to Gunnedah's Skate Park. Recent investigations for the Blackjack Creek Channel Reconstruction identified that the Reserve, which is by Blackjack Creek, forms part of the wildlife corridor which is important habitat for the Koala (Gunnedah Shire Council 2013).

Community Values

Stakeholder consultation undertaken as part of this project and undertaken by council in preparing their *Community Strategic Plan 2012-2022*, highlighted a number of key values and issues for the Gunnedah Shire. Stakeholder consultation, in particular with the community, is an important part of identifying the community values, that is, the places and features that are important to the local and regional communities. Key community values which have been discussed for this project and the region include (Gunnedah Shire Council 2011);

- A strong sense of belonging within local neighbourhoods
- Concern regarding the adequacy of existing infrastructure to support development
- Desire for progress and development and the management and maintenance of infrastructure
- Improved traffic flows and safe access for pedestrians and cyclists using local roads
- Access to community facilities, including childcare, preschool, aged care and health services
- A high level of satisfaction with trees in neighbourhoods in the Gunnedah township, however, noting the desire for more trees and more methods to improve waterway quality.
- The highest use of sporting facilities, neighbourhood parks and recreational areas are for those located within the Gunnedah township

3.5 Key socio-economic issues

3.5.1 Population growth, property and amenity

The provision of affordable housing is a priority issue in the Gunnedah *Community Strategic Plan 2012 – 2022*. It is recognised by Council and the community that affordable and accessible housing is needed to encourage young people to remain in Gunnedah to assist in strengthening the workforce. The loss of the younger population

has also been attributed to many young people feeling that the job opportunities were lacking within Gunnedah (Gunnedah Shire Council 2005). Economic and population growth are both aims of Gunnedah Shire Council and the desire to attract new residents (and not only young people) is strong, particularly with the predicted growth in mining. Sufficient housing will be required for all incomes and types of families (Gunnedah Shire Council 2011). Accessible housing is also required to provide for the elderly population. However, these issues are not unique to Gunnedah, with the *New England North West Strategic Regional Land Use Plan*, also noting that land and housing supply are particular issues with the growth of the mining area, with new and more varied (such as temporary and short-term) housing required to accommodate the growing population (NSW Government 2012). Thus minimising the impacts to the existing housing stock and other types of accommodation is a key issue for consideration for the project.

The project, through its construction and operation, has the potential to result in a change in local amenity and to directly impact upon public land and private property. As noted earlier in this paper, there are a number of residences and lodging within the study area which may be impacted either directly or indirectly depending on the chosen option. Direct impacts may as a result of acquisition, changes in local hydrology or amenity based impacts such as noise, air quality, traffic and access, and aesthetics/visual landscape.

The visual impact of the project is also an important amenity consideration given the presence of prominent and aesthetically significant features in the landscape, such as the Gunnedah Local Environmental Plan (LEP) heritage-listed Gunnedah Maize Mill, Pensioners Hill and the areas of public reserve, which form important wildlife habitat. These features shape the local character of the area and any changes to the landscape through the construction of the project may result a change in the quality of life and could influence property values. Furthermore, any concept options which have a visual impact or direct land impact upon Wandobah Reserve and the Gunnedah Showgrounds need to be assessed in relation to community values. Pensioners Hill, which provides a view from the west towards Gunnedah overlooking the study area (refer to Figure 1.1), was promoted in a recent tourist brochure as one of the Top 5 'things to see' in Gunnedah, for its panoramic vista of the town and the Liverpool plains (NHPCI 2013).

As noted previously, Wandobah Reserve has been identified as Koala Habitat in recent reports commissioned by Gunnedah Council for the reconstruction of Blackjack Creek and it is likely that the vegetated areas within the study area form part of a connecting wildlife corridor (Gunnedah Shire Council 2013). Configurations in this location must carefully consider the impact upon the operations of the showground and its facilities, as well as, the landscape character within the study area, particularly as the Oxley Highway is the gateway from the south-west and is the main route to the Tourist Information bureau. It is also vital that these issues are considered during the assessment of the final concept in relation to the principles of Ecologically Sustainable Development as per Schedule 2 4(d) of the *Environmental Planning and Assessment Regulation 2000*, to ensure that the needs of future generations are considered and any environmental and social impacts are suitably quantified and ameliorated.

Amenity impacts may also impact upon businesses within the local area, as changes to the local road configuration could influence accessibility and patronage. Direct

property and amenity impacts to properties identified in the study area (refer Figure 1.1) will need to be considered further during the assessment of the preferred option.

3.5.2 *Economic Growth, Social and Transport Linkages*

A major driver for the project in its current location is the predicted economic growth within the New England North West Region. The township of Gunnedah is a connecting point for a number of roads the New England North West Region, particularly into the areas which are to be supporting the growing mining industry in the future. As such in the future Gunnedah will have an important role to play in providing the connecting infrastructure, but also as noted in Section 3.5.1, to provide social and housing services to support this industry. The capability of the existing road infrastructure within the Shire of Gunnedah to support the future growth predicted, has also been questioned by the community and is acknowledged as requiring attention in council's Community Strategic plan. The current traffic situation and safety issues for pedestrians and cyclists associated with the crossing at New Street is already a community concern and investigations as part of this project are required to ameliorate these concerns.

The shortage of skilled labour (such as managers and professionals) and shortage of jobs (in particular for younger generations) are also key economic issues for consideration within the Shire and the region as a whole given the predicted mining boom (NSW Government 2012, Public Practice 2011). Workforce planning is required to ensure there are incentives to attract skilled labour and incentives to encourage young people to attain the skills required where there are a shortage of jobs. It is important, therefore, that a diverse economy is developed, to cater for the differing interests of the labour force, but also so that the labour force is able to support each industry individually as required.

A short combination HML route exists along the Kamilaroi Highway in the town centre. While a route through the study area may provide a suitable option to alleviate existing traffic and safety issues and provide for future economic growth, it is pertinent to ensure that the existing businesses are not compromised as a result. Depending on the concept option chosen, there is the potential for some businesses to lose passing trade, such as Hope's Fuels, should the existing crossing at New Street be relocated or closed. There is also the potential for some businesses, such as the Gunnedah Maize Mill, to lose access or have access obstructed by the construction of a new road alignment. The consequences of the loss of access and trade would need to be considered further when assessing a particular option and in developing the required mitigation measures.

The existing level crossing at New Street also provides access from the south of the rail line for pedestrians and cyclists into the township. As the majority of the population resides to the south of the Oxley Highway and the majority of businesses located in the north, it is important to consider the consequences of relocating these access routes in terms of journey to work for residents. Retaining access to health services, education and other community facilities for pedestrians and cyclists is also another factor to consider when changing the existing crossing configuration given the ageing population (Gunnedah Shire Council 2011). Furthermore, accessibility for mobility scooters and prams was raised as an issue through the stakeholder consultation.

A public bus route also utilises the existing level crossing at New Street and the location of bus stops and patronage will also need to be considered in the assessment to minimise any potential community impacts to bus users.

4 Future Investigation of Socio-Economic Opportunities and Constraints in the Study Area

The construction of a new bridge over the rail line within the Gunnedah township has the potential to generate opportunities for improvement for the shire and the region resulting in a number of social and economic benefits. As noted earlier in this paper, Gunnedah Shire Council's strategic planning has identified the need for improvements in traffic flow and road safety in the Shire. A new bridge over the rail line within the study area has the potential to improve traffic flow and safety for the citizens of the shire, while also providing the designated HML route through the township. The potential social and economic benefits include:

- Improved traffic flow resulting in improved travel times for freight, public transport and local vehicle movement.
- A safer crossing for pedestrians, cyclists and motorists over the rail line when travelling from the South-West of Gunnedah and heading to the north.
- New access into Gunnedah and for business and industry requiring HML vehicle access.
- Improved business connectivity and a reduction in business costs, which in turns supports the local and regional economic development of Gunnedah and the New England North West region.

The consideration of these opportunities is important for the preliminary options assessment and for future assessment of the preferred options. In order to achieve the greatest potential benefits, future studies must also investigate the potential negative impacts of the project and consider the social and economic constraints of the area.

Future investigations should consider the following social and economic issues and ensure the appropriate mitigation measures are developed to minimise potential impacts:

- Changes to access and passing trade to businesses within the local area, in particular the Gunnedah Maize Mill, Hope's Fuels and others nearby within the study area.
- Property values, including influences from aesthetics and visual impacts.
- Direct property impacts, such as loss of housing through acquisitions and changes to local hydrology.
- Amenity based impacts on community, residences and businesses relating to noise and air quality during both construction and operation.

- Changes to existing bus and cyclists routes which pass through the study area.
- Pedestrian movements, particularly the needs of the elderly and disabled.
- Journey to work movements, modes and routes through the study area.
- Indirect impacts on the local road network and community within Gunnedah township as a result of increased heavy vehicle traffic.
- Any clearing of vegetation within Koala Habitat and modification of waterways, in accordance with the principles of Ecologically Sustainability Development (Schedule 2, 4(d) of the *Environmental Planning and Assessment Regulation 2000*), namely improved valuation, pricing and incentive mechanisms and inter-generational equity which address the social and economic considerations for the project.

The likelihood and severity of these issues will be dependent upon the concept option chosen and it may be possible that some impacts can be avoided entirely (such as property acquisition) therefore it is vital they are considered during this process. Furthermore, the assessment of impacts will require collaboration with other studies, including the Traffic and Transport, Hydrology and Flooding, Visual and Urban Design and Ecology assessments. Provided these assessments aim to minimise the potential environmental and community impacts in assessing the preferred option, the anticipated negative impacts are unlikely to be significant and would result in an overall positive benefit to the township of Gunnedah.

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