

CHAPTER 22

SOCIAL ENVIRONMENT



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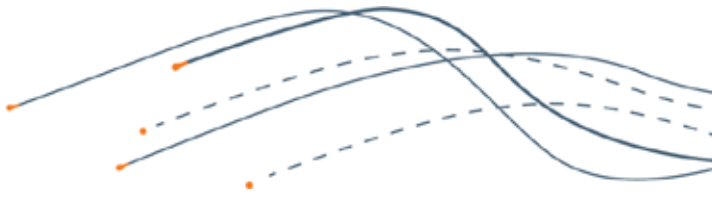
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22 Social Environment

The proposed mining lease is located within a rural area with several farming properties which are part of the local farming community. The proposed mine will result in some changes to the existing social environment on the Eyre Peninsula through increased employment, diversification of the economy, changes to social character as well as changes in local access and amenity. These changes have the potential to affect how people experience their environment in both positive and negative ways.

This chapter describes the existing social environment in terms of the local and regional communities and assesses the predicted social consequences of the proposed mine. Iron Road is committed to implementing design modifications and management strategies to reduce the negative social impacts of the project and maximise the positive impacts and these measures are also described in this chapter.

A detailed Social Impact Assessment Technical Report for the whole of the CEIP (including the proposed CEIP Infrastructure) is provided in Appendix Q.

The economic effects of the project are addressed separately in Chapter 23.

22.1 Applicable Legislation and Standards

The relevant legislation in relation to the social environment and the proposed mining lease is the *Mining Act 1971*. Further information regarding the requirements and relevance of the legislation is provided in Chapter 4.

Outside the Mining Act there is no specific legislation or standards that are relevant to social impacts. However, the assessment method for the social impact assessment (SIA) has been based on best practice principles and guidelines from the International Association for Impact Assessment (Vanclay 2003) and the International Finance Corporation (2003).

22.2 Assessment Method

The key elements of the SIA process are outlined in Figure 22-1. Specific community and stakeholder consultation and engagement was undertaken to inform the social impact assessment process, in addition to the ongoing community consultation that Iron Road has undertaken since 2011. An overview of the wider community consultation that has occurred for the project is provided in Chapter 5. The social impact assessment involved the following key activities which are discussed further below:

- Defining the study areas for the social impact assessment
- Profiling the existing social environment of potentially affected communities to establish baseline social conditions
- Consultation with local service providers, landholders and other key stakeholder groups to identify potential issues and service implications from the proposed mine
- Other social research to identify potential impacts and benefits, mitigations and enhancements



Process informed by ongoing community and stakeholder consultation and engagement

Figure 22-1 Social Impact Assessment Process (adapted from Franks 2012)

22.2.1 Study Areas

The SIA focuses on the communities that are most likely to be affected by the proposed mine. These communities, shown on Figure 22-2, comprise two distinct study areas being the local study area and regional study area.

Given the integration between the proposed mine and the CEIP Infrastructure, the local study area for the SIA comprises the local government areas (LGAs) that contain components of the proposed mine and CEIP Infrastructure, or are in close proximity to it and includes:

- Wudinna District Council (DC), including the township of Wudinna
- DC of Kimba
- DC of Elliston, including the township of Lock
- DC of Cleve
- DC of Tumby Bay, including the township of Port Neill

The regional study area comprises the wider regional area that may provide a source of workers, goods or services for the proposed mine and includes:

- The regional cities (LGAs) of Port Lincoln, Whyalla and Port Augusta
- The Eyre Peninsula and South West region (Eyre region), including coastal towns and settlements on the Eyre Peninsula that may provide a residential base for drive-in drive-out workers for the proposed mine

The study areas referred to in this chapter are generally based on geographical boundaries used by the Australian Bureau of Statistics (ABS) and, unless otherwise indicated, include:

- LGAs (including the DCs of Elliston, Cleve and Tumby Bay, Wudinna DC and the Cities of Port Lincoln, Whyalla and Port Augusta)
- Urban centres/localities (UCL) (including the townships of Wudinna and Lock)
- State Suburbs (SSC) (including the township of Port Neill)
- Statistical Area Level 3 (SA3) (i.e. the Eyre Peninsula and South West)
- Statistical Division

Where appropriate, the assessment also draws comparisons with regional South Australia and South Australia as a whole.

22.2.2 Profiling the Existing Social Environment

The profile of the existing social environment was prepared using data collected through desktop research and consultation with local service providers. This included:

- Analysis of quantitative data from the ABS, government departments and other sources
- Review of community reports, agency plans and planning documents relating to the socio-cultural and economic environment of the study areas
- Review of the social services and facilities available in local townships that may be affected by the proposed mine, based on publically available information and discussions with local service providers.

22.2.3 Stakeholder Consultation and Engagement

Consultation was undertaken with local and regional stakeholders to identify potential issues, impacts and opportunities arising from the proposed mine. This included consultation with:

- Elected members and staff of Wudinna DC
- Members of the Wudinna Community Consultative Committee, Port Neill Reference Group and Tumby Bay and Districts Community Consultative Group, including residents, landholders and business owners
- The Eyre Peninsula Local Government Association
- Regional Development Australia Whyalla and Eyre Peninsula
- Local service providers in Wudinna

The assessment was also informed by the extensive community and stakeholder consultation and engagement undertaken by Iron Road in relation to all components of the CEIP which has been ongoing since 2011. That consultation included holding public meetings and information sessions, presenting to stakeholder groups, having one-on-one meetings with landowners and publishing information in regional newsletters. Refer to Chapter 5 for an overview of the consultation and engagement that has occurred for the CEIP.

22.2.4 Social Research

Social research was undertaken to identify project-related issues and to inform the SIA. This included:

- Review and audit of existing social services in Wudinna
- Review of local and regional workforce skills and business capacity in the Eyre region
- Review of the social impacts and lessons learned from other mining projects in agricultural communities, including the Middleback Ranges (in South Australia), Bowen Basin (in Queensland), Hunter Valley (in New South Wales) and Boddington and Ravensthorpe (in Western Australia)
- Review of other developments in the Eyre region, including mining projects and other major developments
- Identifying social indicators that could be used to monitor and track potential impacts and benefits from the proposed mine.

22.2.5 Impact Classification

The social impacts and benefits have been assessed in accordance with the methodology outlined in Chapter 6 including the criteria for categorising residual project economic and social impacts and benefits.

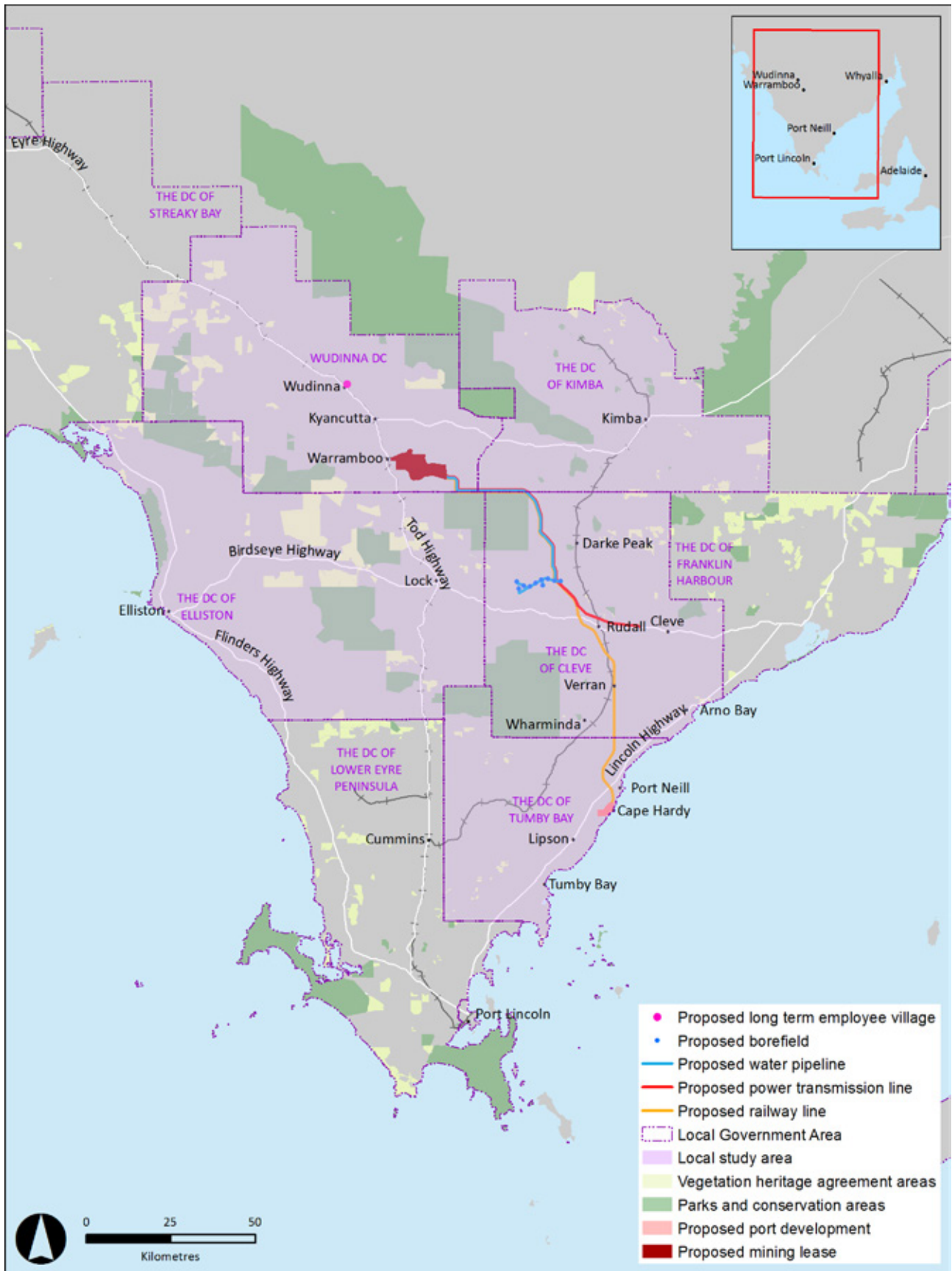


Figure 22-2 Local Study Area

22.3 Existing Environment

The following section provides an overview of the existing social environment in the region surrounding the proposed mine. A summary of the demographics of the region is provided, in addition to the range of social services available and an overview of socio-economic conditions. A detailed description of the existing social environment is provided in the Social Impact Assessment Technical Report in Appendix Q.

22.3.1 Local and Regional Communities

The local and regional study areas form part of the Eyre region. The region has a rural setting, is sparsely populated and its economy is predominantly based on agriculture and pastoral activities as well as fishing and aquaculture. Tourism, mining and renewable energy are becoming increasingly prominent industries.

Wudinna District Council and the Township of Wudinna

The Wudinna District Council (DC), in central Eyre Peninsula, is a rural area covering approximately 5,400 km². It encompasses the townships of Wudinna, Warrambo, Kyancutta, Pygery, Yaninee and Minnipa. The district's prime source of income is agriculture related industries, predominantly cereal cropping and livestock production, although tourism and mining are evolving as potential key industries. As shown in Figure 22-3, the Wudinna DC experienced population losses over the past three decades, with a population loss of around 40% from 1976 to 2011 and the trend of population decline is forecast to continue (Department of Planning and Local Government 2011). At the 2011 Census of Population and Housing, the Wudinna DC had a resident population of around 1,250 people (ABS 2012a).

Source: ABS Census 1976 to 2011

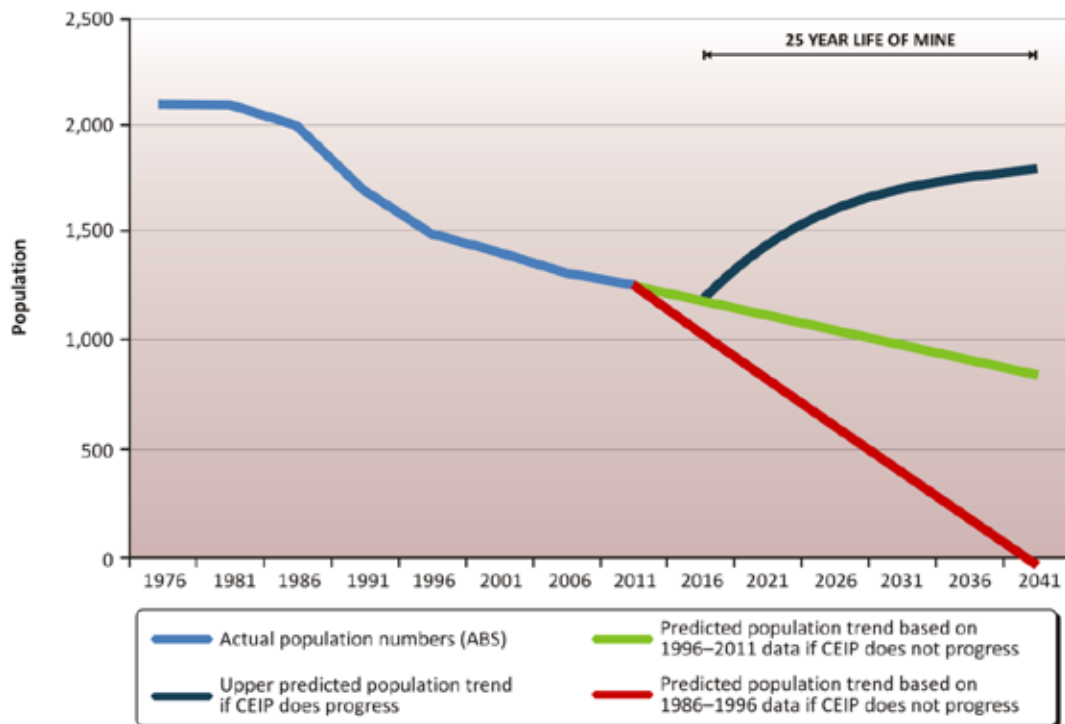


Figure 22-3 Historic and Predicted Population Change in Wudinna DC

The township of Wudinna is the main service centre for the district and offers a range of retail, recreation and social services (refer to Plate 22-1). It would accommodate the proposed long-term employee village if the CEIP goes ahead. Wudinna has a resident population of approximately 560 people (around 45% of the district's population), with the population older than the average for the DC area as a whole and with more women than men. The township also has more single-person households, relatively few unoccupied dwellings and higher rents compared to the DC as a whole.



Plate 22-1 Shops on the Main Street of Wudinna

Kimba District Council

The DC of Kimba is an agricultural community located in north-east Eyre Peninsula which covers an area of approximately 3,984 km². The proposed CEIP infrastructure corridor would pass through the district along part of its southern boundary.

The DC of Kimba had a resident population of almost 1,100 people at the 2011 Census and in 2008, ranked the highest regional LGA in South Australia in terms of BankWest's Quality of Life Index.

The township of Kimba is located approximately 100 km from the north-eastern corner of the proposed mining lease boundary and is the main township in the district. It has a resident population of almost 670 people, accommodating over 60% of the district's population.

District Council of Elliston

Located on the West Coast of the Eyre Peninsula, the DC of Elliston covers an area of approximately 6,740 km² and includes the major township of Elliston and the smaller township of Lock, which is located approximately 40 km south of the mine (by road). The population of the DC of Elliston at the 2011 Census was around 1,050 people (ABS 2012) and the township of Lock had 129 people (ABS 2012b).

The main focuses of agriculture are sheep and mixed cereal farming. Crayfish and abalone industries are thriving in the District. The DC generally has an older age profile than South Australia, has more men than women, low levels of educational attainment and high labour force participation rates.

Cleve District Council

The DC of Cleve covers an area of approximately 4,505 km² and includes the major township of Cleve. The district is traversed by the proposed infrastructure corridor, which would be located near to the small townships of Rudall and Verran. The district's economy is largely based on mixed farming activities including cereal/grains, oilseeds and pulses as well as livestock. Aquaculture is also an emerging industry.

The DC of Cleve had a resident population of over 1,730 residents at the 2011 Census and experienced the largest percentage population loss of any of the DCs in the local study area between the 2006 and 2011 Census. It has the lowest proportion of Aboriginal people of the local study areas, but shares many of the other common characteristics of the DCs.

The District Council of Tumby Bay

The DC of Tumby Bay is located on the southern Eyre Peninsula and includes the townships of Tumby Bay, Port Neill, Ungarra and Lipson. Around one-third of people working in the DC are employed in the agriculture, forestry and fishing industry sector, though the DC has a low labour force participation rate in comparison to South Australia and other DCs in the local study area. In the 2011 Census, it had a resident population of approximately 2,600 residents (ABS 2012). Unlike the other DCs in the local study area, it experienced small population gains over the preceding two Census periods. It is characterised by an older age profile, small average household size, low educational participation and attainment and low income levels. In comparison to the local study area, median housing costs are relatively high.

The coastal township of Tumby Bay is the main service centre for the DC and is located approximately 30 km south of the proposed port site at Cape Hardy. It has a resident population of approximately 1,470 (almost 60% of the council's population) and comprises a large retirement population (ABS 2012a). Like Wudinna, the township of Tumby Bay differs from the remainder of the DC in a number of characteristics and has a comparatively older age profile, more women than men and higher housing costs than the average for the DC as a whole.

Eyre Region

The Eyre Peninsula and South West region covers an area of approximately 232,780 km² and in 2011 it had a resident population of approximately 56,400 people (ABS 2012). The region is served by a number of regional centres, including the City of Port Lincoln on the Lower Eyre Peninsula, Whyalla and Port Augusta in the Upper Spencer Gulf and Ceduna on the far west coast. These regional centres and other towns and settlements on the Eyre Peninsula, may provide a source of workers, goods or services for the proposed CEIP.

22.3.2 Population and Demography

Table 22-1 summarises the socio-economic and demographic characteristics of the local study area councils, the Eyre region and South Australia. With the exception of the DC of Tumby Bay, the DCs in the local study area experienced population losses between the 2006 and 2011 Census, with the greatest losses occurring in the DC of Elliston.

Table 22-1 Demographic Profile of Local Study Areas, Eyre Region and South Australia, 2011 (ABS 2012a)

Census Characteristics	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumby Bay	Eyre region	South Australia
Number of usual residents	1,253	1,088	1,046	1,733	2,586	56,396	1,596,572
Number of visitors ¹	103	96	151	105	129	4,039	62,312
Population change 2006-2011 ² (as %)	-4.5	-2.5	-8.0	-8.5	1.8	1.2	5.4
Ratio male: female	51:49	51:49	53:47	52:48	50:50	51:49	49:51
Population density ³ (person/km ²)	0.2	0.3	0.2	0.4	1.0	0.2	1.7
Aboriginal people ⁴ (persons)	19	11	18	10	20	3,225	30,431
Aboriginal people ⁴ Proportion of all people (as %)	1.5	1.0	1.7	0.6	0.8	5.7	1.9
Born in Australia (as %)	93.9	91.3	91.2	93.5	91.4	82.9	73.3
English-speaking only (as %)	95.8	95.4	97.6	97.1	97.3	91.0	81.6
Lived in same statistical area ⁵ compared to one year ago (2011 compared to 2010 as %)	87.8	87.7	89.3	88.8	87.6	85.3	85.8
Lived in same statistical area ⁵ compared to five years ago (2011 compared to 2006 as %)	67.7	76.3	77.7	71.3	65.7	63.2	62.1

¹ Visitors from a different Statistical Area Level 2.

² Population change is based on place of usual residence at the 2011 Census (ABS 2012a) and 2006 Census of Population and Housing (ABS 2007a, Basic Community Profile), for LGAs of Wudinna, Kimba, Elliston, Cleve and South Australia. Population change in Eyre Peninsula and South West (SA3) is based on place of enumeration data (ABS 2012d Time Series Profile).

³ ABS 2013a, National Regional Profile, as at 30 June 2011.

⁴ Based on ABS 2012c, 'Census Quickstats' for LGAs of Wudinna, Kimba, Elliston, Cleve, Eyre Peninsula and South West (SA3) and South Australia.

⁵ Excludes persons less than one year of age in assessing residency one year ago, persons less than five years of age in assessing residency five years ago and not stated.

The local study area shares a number of characteristics in comparison to South Australia, which can be summarised as follows:

- More men than women, particularly in the DC of Cleve
- A low proportion of Indigenous residents, particularly in the DC of Cleve (in contrast to the Eyre region)
- Relatively low levels of cultural diversity
- Relatively 'stable' populations, with more people living in the same statistical area five years ago

A characteristic that distinguishes the DCs is their age profile, with Wudinna DC having a lower median age than other DCs and South Australia. This is illustrated further in Figure 22-4 which shows the age structure of the DCs in the local study area, in comparison to the Eyre region and South Australia. This highlights the relatively high proportion of children (14 years or less) in Wudinna DC (22.6%), while DC Tumby Bay has the highest proportion of seniors (24% aged 65 years or more) and the lowest proportions of children (17.9% aged 14 years or less) and people of working age (58.1% 15-65 years). DC Elliston has the highest proportion of working aged people aged between 15 – 65 years, at 66 per cent of the population.

Source: ABS (2012a)

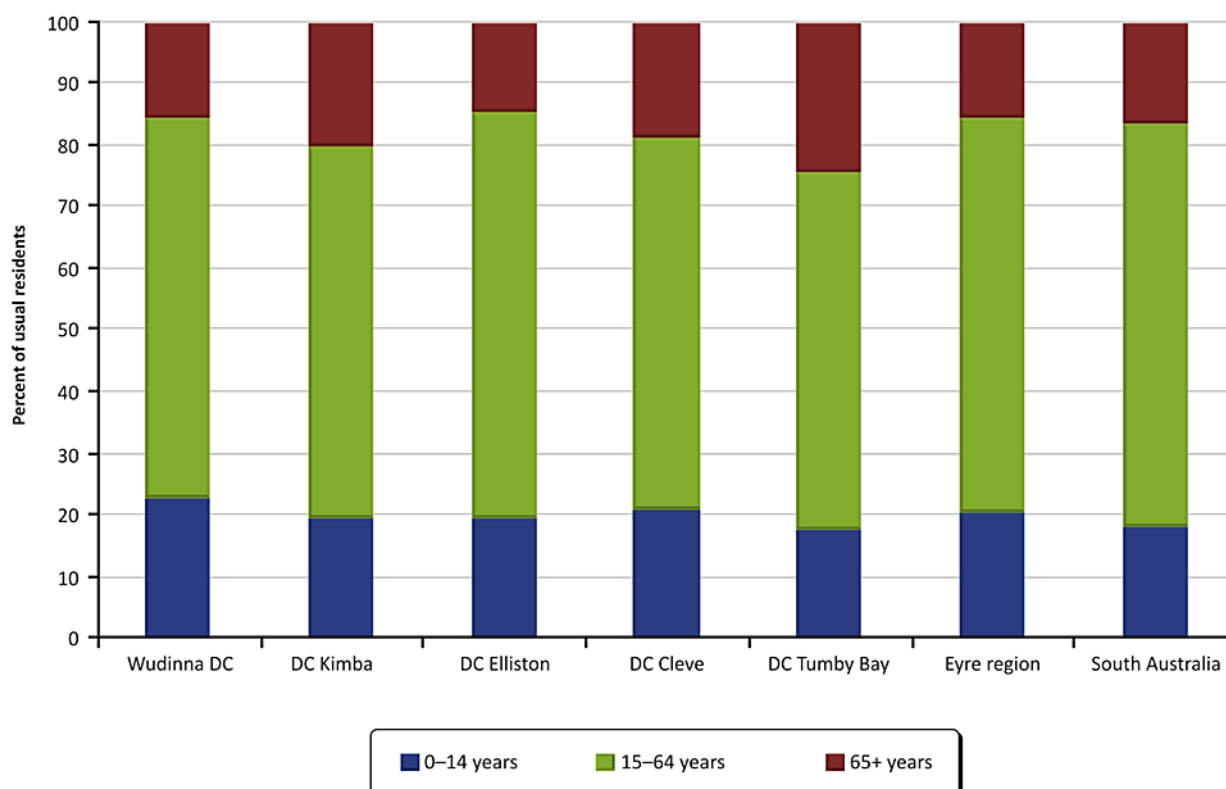


Figure 22-4 Age Profile for Local and Regional Study Areas and South Australia, 2011

The townships of Wudinna, Warrambo, Lock and Port Neill have different age profiles compared to the larger council areas, as shown in Figure 22-5. For Wudinna and Port Neill, the differences include an older age profile and a higher proportion of women to men. This may be a result of people choosing to move to townships to retire because of the availability of services, aged accommodation or the coastal location. However, Warrambo has a much younger age profile. The township of Lock also has a higher proportion of young people and a smaller proportion of older people, compared to the wider DC Elliston and other townships.

Source: ABS (2011b) Census of Population and Housing, Basic Community Profile, Based on Place of Usual Residence, Catalogue Number 2001.0, Table B 01a

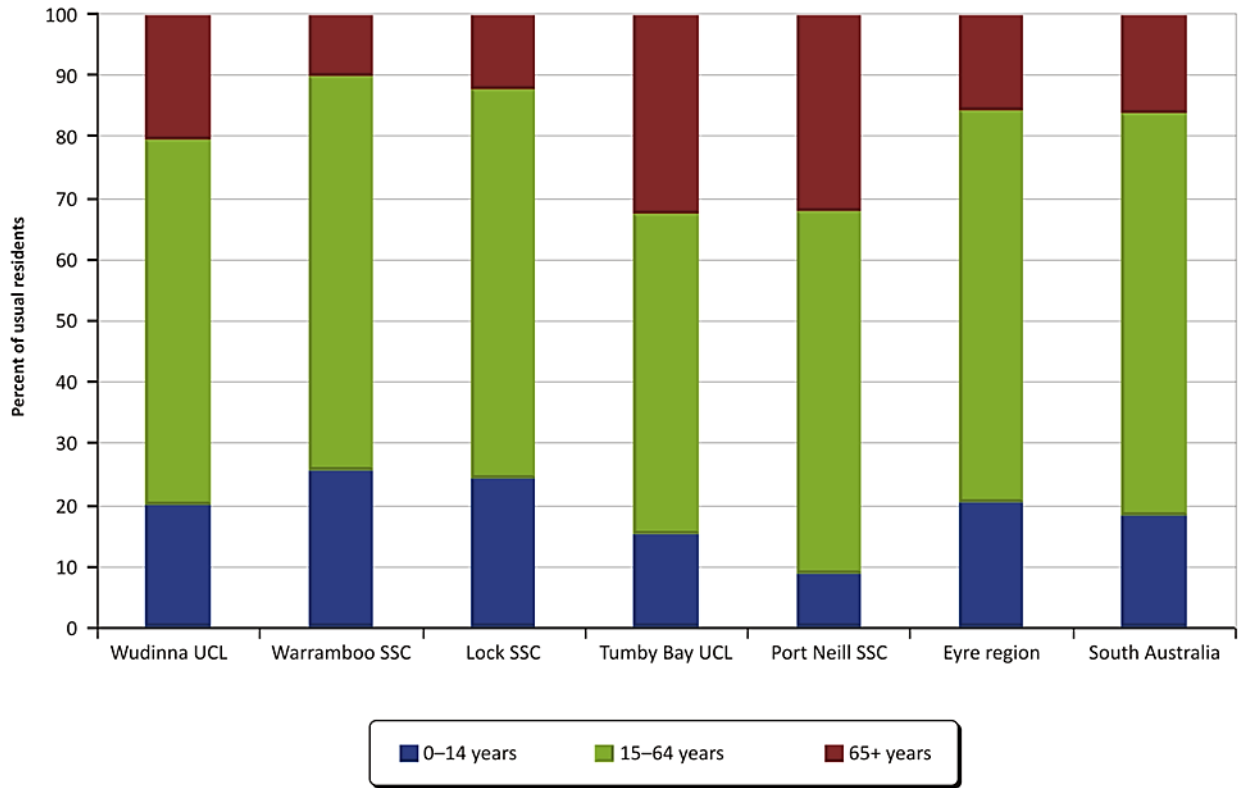


Figure 22-5 Age Profile in Local Townships and Suburbs and South Australia, 2011

With the exception of the DC of Tumby Bay, the DCs in the local study area experienced population losses between the 2006 and 2011 Census, with the fastest rate of decline occurring in Cleve DC, followed by DC Elliston. In the cases of Wudinna DC, DC Kimba and DC Elliston, this compounds population losses between 2001 and 2006, as illustrated in Figure 22-6.

Source: ABS 2002, Usual Residents Profile, ABS 2007a and 2012a, Basic Community Profile

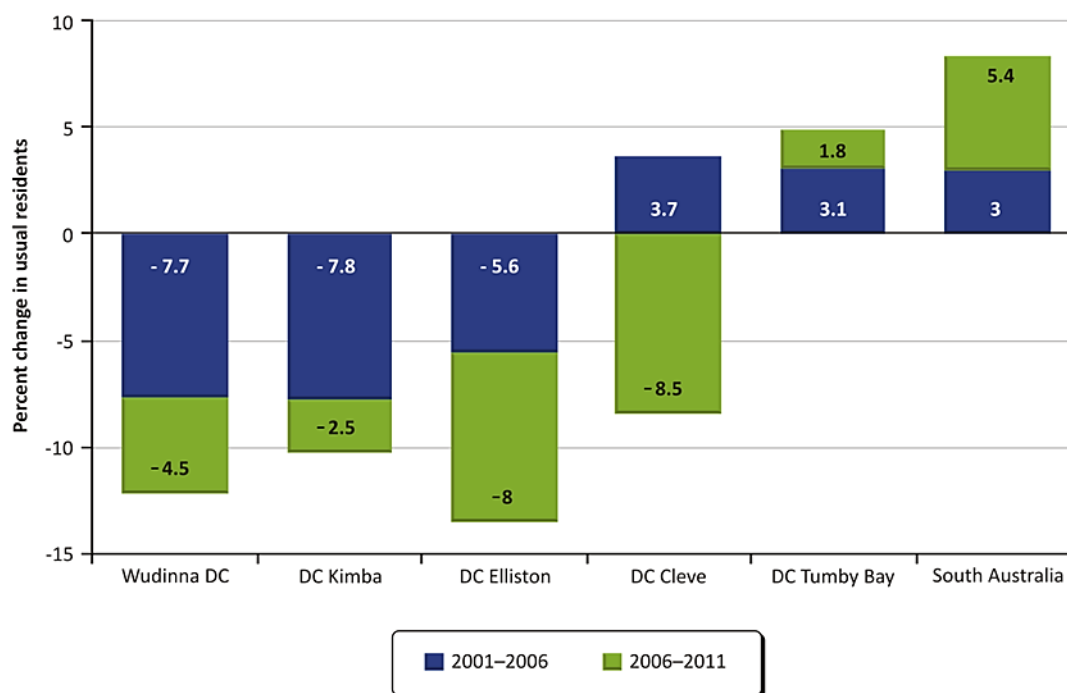


Figure 22-6 Population Change in Local Study Areas and South Australia, 2001-2011

The declining population in some inland centres and ongoing drift of young people away from regional towns to metropolitan areas has been identified as a challenge for the Eyre region by Regional Development Australia Whyalla and Eyre Peninsula (RDAWEP 2011a). The population of the local study area is predicted to continue to decline, except in DC Tumby Bay (DPLG 2011). This is important as the actual population losses in Wudinna DC and DC Elliston and Cleve over the last Census periods (2001 to 2011) were greater than predicated, while the actual population gain in DC Tumby Bay was less than predicated over the same period. The RDAWEP (2011a) has identified the capacity for population growth as one of the strengths and opportunities for the Eyre region.

22.3.3 Households and Families

Figure 22-7 shows the proportion of different household types in the local study areas, the Eyre region and South Australia.

Source: ABS 2012c, 'Census Quickstats'

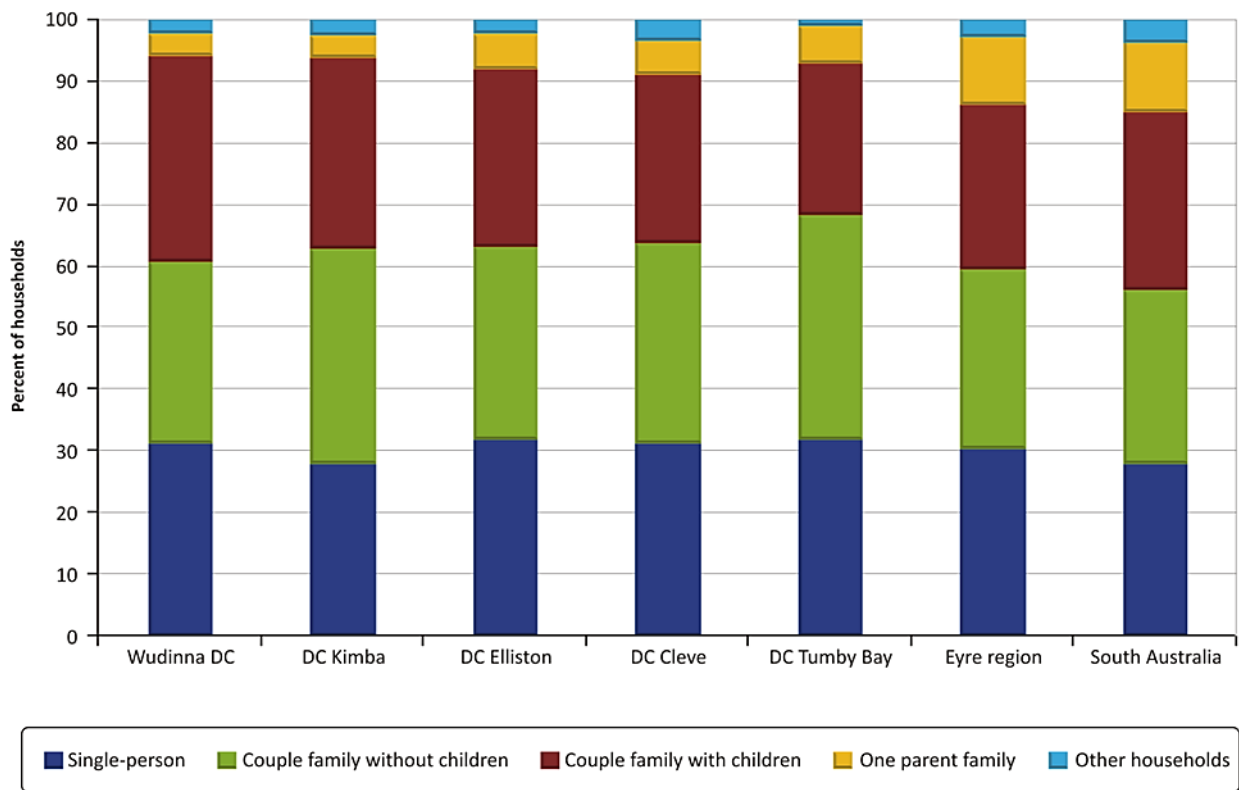


Figure 22-7 Household Types in Local Study Areas, Eyre Region and South Australia, 2011

The DCs share a number of household characteristics in comparison to South Australia including:

- A relatively high proportion of single-person households and fewer family households, except in DC Kimba
- A relatively high proportion of families without children, particularly in DC Tumby Bay and a lower proportion of single parent families.
- A relatively high average number of children per family (except in Elliston, which has the same average as South Australia).

The characteristics of families that distinguish the DCs are:

- The smaller than average household size, particularly in DC Tumby Bay and also in DC Elliston and Cleve
- The higher proportion of family households and lower proportion of single-person households in DC Kimba
- The higher proportion of families with children in Wudinna and the lower proportion in DC Tumby Bay.

Figure 22-8 shows the proportion of households by weekly income ranges in the local study areas, the Eyre region and South Australia.

Source: ABS 2012a, Basic Community Profile. Note: partial income or not stated not included in totals

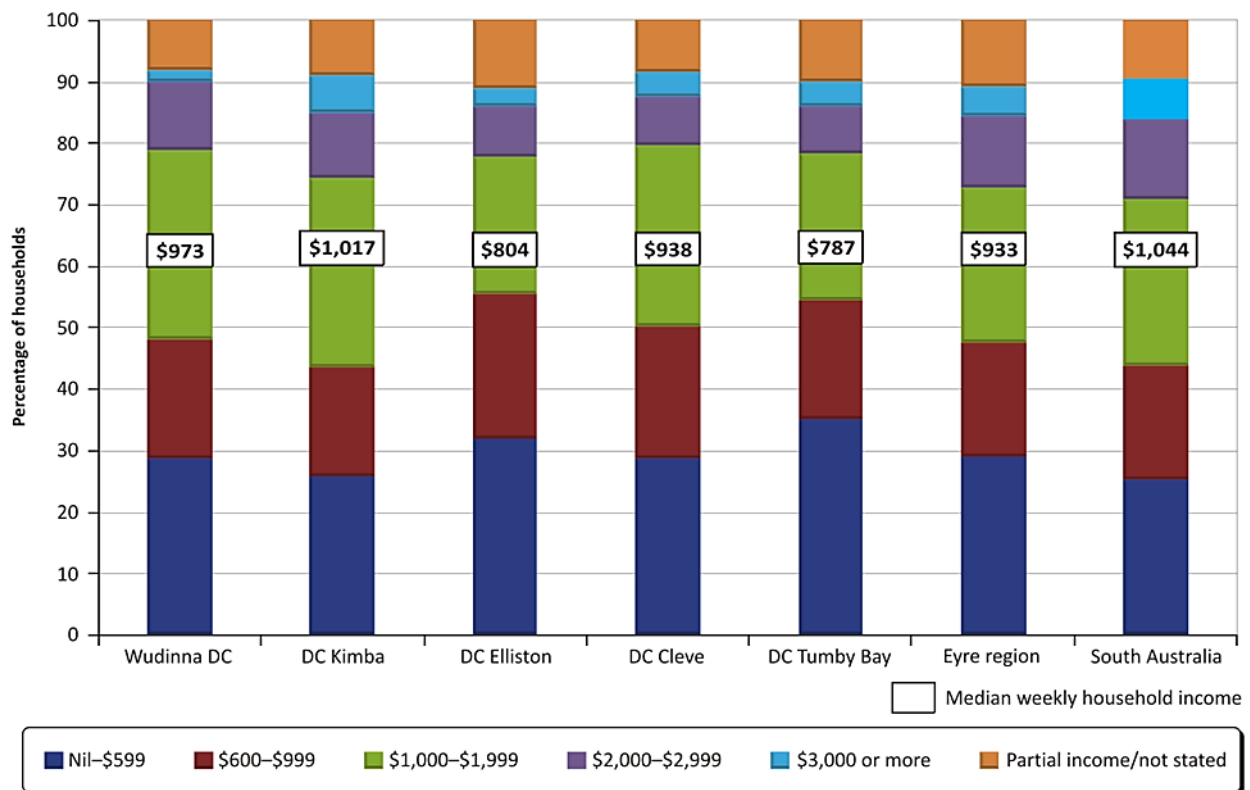


Figure 22-8 Weekly Household Incomes in Local Study Areas, Eyre Region and South Australia, 2011

This highlights the relatively low median weekly household incomes in all of the DCs in the study area, particularly in Tumby Bay and DC Elliston, where there are a relatively high proportion of households on low incomes (less than \$600 per week). However, comparatively, the DC of Kimba has fewer households on low incomes.

Weekly household income in the township of Wudinna (UCL) and the suburbs of Warrambo and Lock were higher than the district as a whole at the 2011 Census, in contrast to the township of Port Neill (SSC) where household income were considerably lower (ABS 2012a).

22.3.4 Housing and Accommodation

Housing Profile

Table 22-2 summarises the characteristics of private dwellings in the local study areas, the Eyre region and South Australia at the 2011 Census (ABS 2012a and 2012d). The DCs share a number of housing characteristics, in particular:

- A relatively high proportion of unoccupied private dwellings, particularly in the DC of Elliston
- A high proportion of separate dwellings
- The majority of houses were owned or being purchased
- Low rental costs
- A low proportion of households who were paying 30% or more of their weekly household income on housing costs

Table 22-2 Profile of Private Dwellings in Local Study Areas, Eyre Peninsula Region and South Australia, 2011

	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumbly Bay	Eyre region	South Australia
All private dwellings¹							
Total (number)	618	536	769	978	1,485	26,976	702,815
Occupied (as %)	78.3	76.7	55.5	70.2	70.5	81.3	88.1
Average number of bedrooms ²	3.1	3.0	3.0	3.1	2.9	3.0	3.0
Type of dwelling (as %)³							
Separate house	100.0	97.6	90.9	97.2	91.2	78.5	79.9
Semi-detached, flat, unit	0.0	1.2	1.2	0.6	3.2	15.6	10.7
Other dwelling type	0.0	0.0	5.4	1.6	1.4	1.2	0.5
Not stated	0.0	1.2	0.7	0.6	0.0	0.1	0.1
Tenure (as %)³							
Owned or purchasing	68.8	73.7	71.8	73.1	70.7	62.6	68.1
Rented	26.2	22.2	24.4	23.3	25.3	33.7	27.9
Other tenure	2.1	3.2	1.6	1.5	0.3	0.8	1.4
Not stated	2.9	2.0	2.1	2.2	3.7	2.9	2.5
Landlord type (breakdown of rented properties as a % of Tenure)							
Real estate agent	0.6	0	0.9	1.5	4.6	9.0	10.8
State housing authority	4.8	2.9	3.3	3.5	1.3	12.6	6.1
Person not in same household	14.0	11.5	13.4	11.1	13.2	7.6	7.8
Housing co-operative / community / church group	0.0	0.7	0.0	0.6	1.8	0.9	1.1
Other landlord type	4.3	3.7	3.8	4.4	2.3	2.5	1.4
Landlord type not stated	2.5	2.4	3.1	2.3	2.1	1.1	0.6

Source: ABS 2012a, Basic Community Profile for LGAs of Wudinna, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

¹ Excludes visitor only and other non-classifiable households.

² ABS 2012c, 'Census Quickstats' for LGAs of Wudinna, Elliston, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

³ Of occupied private dwellings.

The local study areas had a relatively high proportion of unoccupied private dwellings in comparison to South Australia (particularly in DC Elliston) and a high proportion of separate dwellings with the majority being owned or purchased. Of the local study areas, Wudinna DC had fewer unoccupied dwellings, more separate dwellings and more rented dwellings (of which around 50% were rented from a 'person not in same household', but only a small percentage (0.6%) were rented from a real estate agent). The DC of Elliston had a relatively high proportion of other dwelling types (which can comprise caravans, cabins, houseboats, or houses or flats attached to a shop or office) and other tenure types.

In contrast, the Eyre region had a lower percentage of unoccupied dwellings compared to the local study areas, a higher proportion of semi-detached housing and more rental dwellings, than either the local DCs or South Australia. Of the rental dwellings, almost 40% were rented from a state housing authority, followed by real estate agent and person not in the same household.

Table 22-3 presents information on private dwellings in local townships and suburbs that may be directly affected by the CEIP Infrastructure.

A large proportion (85%) of private dwellings in Port Neill were owned or being purchased at the 2011 Census and over 65% were unoccupied, possibly because they are holiday homes. In contrast, only around 10% of private dwellings were unoccupied in the township of Wudinna and a high percentage were rented. Comparatively, the township of Tumby Bay had a high proportion of semi-detached housing, which comprise some aged care accommodation and holiday rentals.

Table 22-3 Profile of Private Dwellings in Local Townships and Suburbs in the Local Study Area, 2011

	Wudinna (UCL)	Warrambooboo (SSC)	Lock (SSC)	Tumby Bay (UCL)	Port Neill (SSC)
All private dwellings¹					
Total (number)	246	145 ²	228 ³	832	177
Number of unoccupied dwellings (and as %)	24 (9.8%)	37 (25.5%)	64 (28.1%)	196 (23.6%)	118 (66.7%)
Average number of bedrooms	3.1	3.2	3.2	2.8	2.8
Type of dwelling (as %)⁴					
Separate house	100.0	100.0	95.7	86.0	89.8
Semi-detached, flat, unit	0.0	0	2.4	11.9	5.1
Other / not stated	0.0	0	1.8	2.1	5.1
Tenure (as %)⁴					
Owned or purchasing	64.1	70.3	69.3	66.8	85.0
Rented	32.3	24.3	28.8	28.0	15.0
Other tenure	2.2	2.7	1.8	0.5	0.0
Not stated	1.3	2.7	0.0	4.7	0.0
Landlord type (breakdown of rented properties as a % of Tenure)					
Real estate agent	2.2	0.0	1.8	6.0	5.0
State housing authority	9.4	0.0	4.3	2.0	0.0
Person not in same household	16.1	17.1	15.3	13.2	10.0

	Wudinna (UCL)	Warramboob (SSC)	Lock (SSC)	Tumby Bay (UCL)	Port Neill (SSC)
Housing co-operative / community / church group	0.0	0.0	0.0	3.0	0.0
Other landlord type	3.1	4.5	1.8	2.2	0.0
Landlord type not stated	1.3	2.7	5.5	1.6	0.0

Source: ABS 2012a, Basic Community Profile, for UCL of Wudinna and State Suburb (SSC) of Port Neill.

¹ Excludes visitor only and other non-classifiable households.

² Warramboob and the surrounding area had 30 dwellings at the 2011 Census, based on the Mesh Block count (ABS 2012b).

³ The township of Lock had 73 dwellings at the 2011 Census, based on Mesh Block counts (ABS 2012b).

⁴ Of occupied private dwellings.

Housing Supply

The vacancy rate provides an indication of the availability of rental housing and the capacity of the housing rental market to absorb increased demand, with a vacancy rate of three percent 'generally accepted as the market being in balance' (Housing Industry Prospects Forum 2013). Table 22-4 presents information on the rental vacancy rate in the Eyre region, Upper Spencer Gulf (including Whyalla, Port Augusta and Port Pirie) and Regional South Australia over five quarters from March 2012 to March 2013. Rental vacancy rates in the March Quarter 2013 in all regions were above 5%, an increase from the previous two quarters.

Table 22-4 Rental Vacancy Rate in the Eyre Region and Upper Spencer Gulf

	Eyre	Upper Spencer Gulf	Regional South Australia
March Quarter 2012	6.0%	3.2%	4.4%
June Quarter 2012	2.7%	2.9%	3.7%
September Quarter 2012	3.7%	2.2%	4.0%
December Quarter 2012	5.0%	3.6%	3.7%
March Quarter 2013	5.6%	6.7%	5.2%
March Quarter 2014	5.9%	8.7%	na

Source: Real Estate Institute of South Australia 2012a, 2012b, 2012c, 2013a, 2013b and 2014a, 'Market Update'.

Table 22-5 presents information on building approvals for residential dwellings (houses and other residential dwellings) in the local study area, regional cities, the Eyre region and South Australia from 2009-2010 to 2013-2014 (ABS 2012e, 2013b and 2014b). The Eyre region accounts for almost 4% of the State's total building approvals, with the highest number of approvals in the previous two years occurring in the City of Whyalla. In the local study area, the DC Tumby Bay had the most building approvals.

Table 22-5 Building Approvals in Local and Regional Study Areas and South Australia, 2009-2010 to 2012-2013

Houses and Other Residential Dwellings	2009-2010	2010-2011	2011-2012	2012-2013	2013 to end March 2014
Wudinna DC	0	4	1	5	4
Kimba DC	3	3	4	0	1
Elliston DC	3	9	8	7	2
Cleve DC	5	5	5	2	4

Houses and Other Residential Dwellings	2009-2010	2010-2011	2011-2012	2012-2013	2013 to end March 2014
Tumby Bay DC	24	26	16	14	17
City of Port Lincoln	100	54	47	45	55
City of Port Augusta	60	46	61	59	64
City of Whyalla	83	37	80	140	121
Eyre ¹	300	227	204	343	302
South Australia	12,560	11,387	6,740	8,777	6,217

Source: ABS 2012e, 2013b and 2014, Building approvals for 2009-2010, 2010-2011, 2011-2012, 2012-2013 and March 2014.

¹ Eyre and South West region in 2012-2013 and 2013-March 2014.

The RDAWEP (2013) has noted the growth in coastal sections of the Eyre region, accelerated by the 'sea change' phenomenon, which has resulted in new housing construction, particularly in the coastal towns of Ceduna, Coffin Bay, Port Lincoln, Streaky Bay, Tumby Bay and Whyalla.

The Eyre Peninsula Coastal Development Strategy outlines a vision for the development of the Eyre Peninsula coast and recognises the need to protect the coast and maintain the area's culture and character while supporting appropriate growth and economic development opportunities from tourism, aquaculture and mining (Eyre Peninsula Local Government Association 2007). This is reflected in the Port Neill Sustainable Future Structure Plan Consultation Report (DC of Tumby Bay 2013c). The development options presented in the plan provide for allotment yields of up to 825 – with the total number of allotments providing for a potential population increase in Port Neill in excess of 1,500 people, which represents more than a 10-fold increase on the current permanent population.

Housing Costs

Table 22-6 outlines the median housing costs in local and regional study areas and townships, the Eyre region and South Australia, based on the 2011 Census (ABS 2012a). This highlights the higher rental costs in Port Lincoln, Port Neill and Tumby Bay compared to the Eyre region.

Table 22-6 Median Housing Costs in Local and Regional Study Area and Townships, Eyre Region and South Australia, 2011

Area	Median Weekly Rent (\$)	Median Monthly Housing Loan Repayment (\$)
Wudinna DC	84	758
Wudinna UCL	110	758
Warramboos SSC	30	542
Kimba DC	85	575
Elliston DC	45	1,083
Lock SSC	50	1,451
Cleve DC	85	733
Tumby Bay DC	150	1,200
Tumby Bay UCL	160	1,300
Port Neill SSC	175	1,517
Port Lincoln LGA	180	1,300
Whyalla LGA	150	1,300

Area	Median Weekly Rent (\$)	Median Monthly Housing Loan Repayment (\$)
Port Augusta LGA	150	1,200
Eyre region	130	1,300
South Australia	220	1,500

Source: ABS 2012c, 'Census Quickstats' for LGAs of Wudinna, Kimba, Cleve; UCLs of Wudinna and Tumby Bay; State Suburb (SSC) Port Neill; Eyre Peninsula and South West (SA3); and South Australia.

Table 22-7 provides information on the number of house sales and the median house sales price in regional cities in the March quarter (Q1) of 2012 and 2013 and highlights the strong growth in median sales price in Port Lincoln over this period (although the number of sales has decreased), while the reverse has occurred in Whyalla.

Table 22-7 House Sales and Median Sales Price in Regional Cities, Regional South Australia and South Australia

Regional Town	Sales Q1 2012	Median Price Q1 2012	Sales Q1 2013	Median Price Q1 2013	Sales Q1 2014	Median Price Q1 2014	Median Change in Price Q1 2013-2014
Port Augusta	35	\$246,750	19	\$250,000	35	\$195,000	-22.0%
Port Lincoln	53	\$283,000	39	\$320,000	62	\$300,500	-4.7%
Whyalla	44	\$280,000	50	\$267,950	40	\$310,000	15.7%
Regional SA	370	\$259,000	355	\$260,000	na	\$275,000	5.8%
South Australia	4,833	\$358,000	4,752	\$360,000	na	375,000	3.6%

Source: Real Estate Institute of South Australia 2013b and 2014b, 'Market Update: Sales Results March Quarter 2013 Edition'.

Figure 22-9 compares the median sales price of houses in the local and regional study areas in 2012, including local townships, regional cities and the Eyre region (defined by the State Valuation Office 2013 as including the local study area and LGAs of Streaky Bay, Ceduna, Lower Eyre Peninsula and Port Lincoln). This highlights the relatively high housing sales price in the LGAs of Tumby Bay (and the township of Port Neill) and Port Lincoln, compared to other local and regional study areas. However, houses in the Cleve DC and suburb of Lock in DC Elliston, had significantly lower median sales prices compared to South Australia and other areas in the regional study area.

Source: State Valuation Office 2013

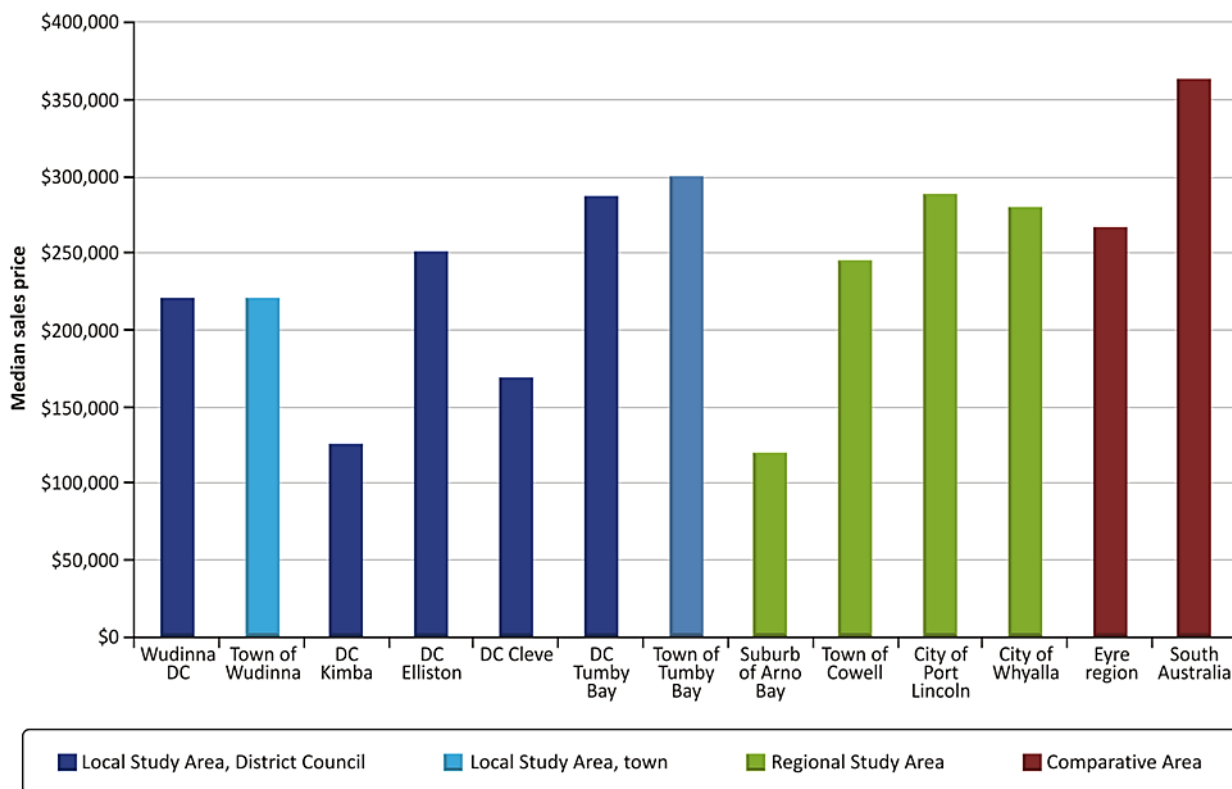


Figure 22-9 Median Residential House Sales Price in 2012

Table 22-8 provides an indication of housing stress in the local study area, the Eyre region and South Australia as measured by expenditure on housing as a proportion of household income at the 2011 Census (ABS 2012c). Households that spend more than 30% of their income on housing costs are considered to experience housing stress. This suggests a low proportion of households are paying 30% or greater of household income on rent (although this proportion is higher in the DC of Tumbay Bay than other local study areas), or on mortgage repayments (although this proportion is higher in the DC of Tumbay Bay than other local study areas). The Eyre Peninsula region also has lower levels of housing stress than South Australia, although this is closer to the South Australian average, particularly for rental housing.

Table 22-8 Household Expenditure on Housing in Local Study Areas, Eyre Region and South Australia, 2011

Household Expenditure ¹	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumbay Bay	Eyre Region	South Australia
Rent is 30% or greater of income (as %)	2.0	1.0	2.7	2.6	7.3	8.2	9.3
Mortgage payments is 30% or greater of income (as %)	1.9	1.0	6.4	4.2	6.2	6.1	8.8

Source: ABS 2012c, 'Census Quickstats', for LGAs of Wudinna, Kimba, Elliston, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

¹ ABS has advised that this method of calculation may overstate the true proportion.

Short Term Visitor Accommodation

A range of visitor accommodation is available across the Eyre Peninsula. Table 22-9 presents information on hotels, motels and serviced apartments (of 15 or more rooms) in the Eyre Peninsula Tourist Region, based on results from the March Quarter 2013 Survey of Tourist Accommodation (ABS 2013c). In total, there were 26 hotels, motels and serviced apartments with 15 or more rooms in the Eyre Peninsula Tourist Region, which had an average occupancy rate of approximately 50% in the March quarter 2013. Whyalla and Port Lincoln had the largest number of establishments and Port Lincoln had the highest occupancy rate (ABS 2013c).

Table 22-9 Tourist Accommodation in the Eyre Peninsula Tourist Region in the March Quarter 2013

	Ceduna	Kimba - Cleve - Franklin Harbour	Wudinna - Elliston ¹	Port Lincoln	West Coast	Whyalla	Total Eyre Peninsula Tourist Region
Establishments (number)	5	3	2	5	3	8	26
Rooms (number)	191	na	na	228	91	356	987
Persons employed (number)	116	na	na	257	62	226	732
Room occupancy rate (%)	38.5	na	na	71.9	43.2	57.4	54.6
Establishments (number)	1.2	na	na	1.7	1.6	2.1	1.7

Source: ABS 2013c, Tourist Accommodation, Small Area Data, South Australia, March 2013. Hotels, motels and serviced apartments with 15 rooms or more.

¹ Wudinna is reported as Le Hunte.

Figure 22-10 shows the seasonal variation in room occupancy rates (for hotels, motels and serviced apartments with 15 rooms or more) from April 2012 to March 2013 in the regional centres (LGAs) of Whyalla, Port Lincoln and Ceduna, Eyre Peninsula Tourist Region in comparison to South Australia. (Data is not available for Port Augusta).

Source: ABS 2012f, 2013c, 2013d and 2013e, Tourist Accommodation, Small Area Data, South Australia.

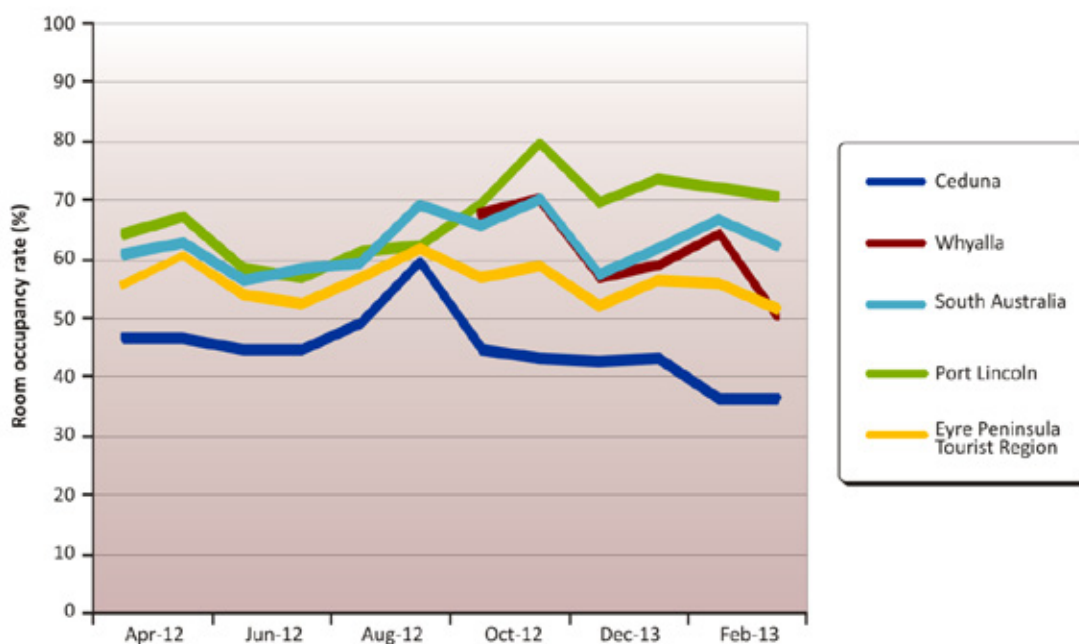


Figure 22-10 Monthly Room Occupancy Rates in Tourist Accommodation in Regional Centres, Eyre Peninsula Tourist Region and South Australia, April 2012 to March 2013

Table 22-10 compares tourist accommodation in the Eyre Peninsula Tourist Region in the March quarter from 2009 to 2013. This shows that despite a decrease in the number of establishments of 15 rooms or more over time, there has been an increase in the number of available rooms, employment, occupancy and length of stay.

Table 22-10 Tourist Accommodation in the Eyre Peninsula Tourist Region in the March Quarter

March Quarter	Number of Establishments	Number of Rooms	Number of People Employed	Room Occupancy (%)	Average Length of Stay (Days)
2013	26	987	732	54.6	1.7
2012	26	939	706	54.0	1.7
2011	26	931	690	57.7	1.7
2010	27	930	695	51.9	1.6
2009	28	933	671	53.7	1.6

Source: ABS 2009, 2010, 2011a, 2012g, 2013e, Tourist Accommodation, Small Area Data, South Australia, March Quarter for the Eyre Peninsula Tourist Region, 2009 to 2013. Hotels, motels and serviced apartments with 15 rooms or more.

22.3.5 Economy and Labour

This section provides an overview of labour force status and general business related activity in the study areas. Economic impacts associated with the proposed mine are discussed in Chapter 23.

Current major business-related activity in the Eyre region is centred on the agricultural, fishing and aquaculture industries. Agricultural activities are predominately cereal cropping and livestock production, whilst aquaculture is scattered throughout the region including Port Lincoln, Coffin Bay, Louth Bay, Smoky Bay, Denial Bay, Arno Bay, Franklin Harbour and Whyalla.

Outdoor, coastal / marine and nature based tourism is another key industry within the Eyre Region. Key destinations include Port Lincoln, Port Lincoln National Park, Coffin Bay National Park, Sir Joseph Banks Marine Conservation Park and the Gawler Ranges National Park.

Mining and renewable energy are emerging as growth sectors in the Eyre region, with mining and processing estimated to contribute approximately \$159 million to the gross state product (RDAWEP 2011b). Approved mines and developing projects in the Eyre region are shown on Figure 22-11 and include Arrium's (formerly One Steel) open-cut mines in the Middleback Ranges, Iluka Resources' mineral sands mines at Jacinth and Ambrosia in the state's Far West, Gypsum Resources Australia's gypsum production at Lake Macdonnell, IronClad Mining and Trafford Resources Wilcherry Hill Project and Centrex Metals Wilgerup Project which have both been approved by Government but have not commenced operation (DMITRE 2013a and 2013b).

Labour Force Status

Table 22-11 presents information on the labour force status of people in the local study area, the Eyre region and South Australia at the 2011 Census (ABS 2012a). Table 22-12 presents similar information on the labour force in the regional cities of Port Lincoln, Whyalla and Port Augusta.

Labour force participation rates are based on the number of people aged 15 years and over who are in the labour force (i.e. who are employed, looking for work or unemployed), expressed as a percentage of the total number of people aged 15 years and over. The age of the population can affect labour force participation rates, for example young people may be studying and older people may be retired. People who are not working, actively seeking work or available to start work are not counted in the labour force.

With the exception of Tumby Bay DC, which has an older age profile, the local study areas have high rates of labour force participation and high employment to population ratios compared to the Eyre region and South Australia as a whole, with the highest participation rates in Wudinna DC. Of those in the labour force, the majority are employed fulltime. Unemployment is relatively high in the DC of Elliston and the Eyre region generally, while the regional cities of Whyalla and Port Augusta have low labour participation rates and relatively high unemployment (particularly Whyalla which had an unemployment rate of 8.1% in 2011).

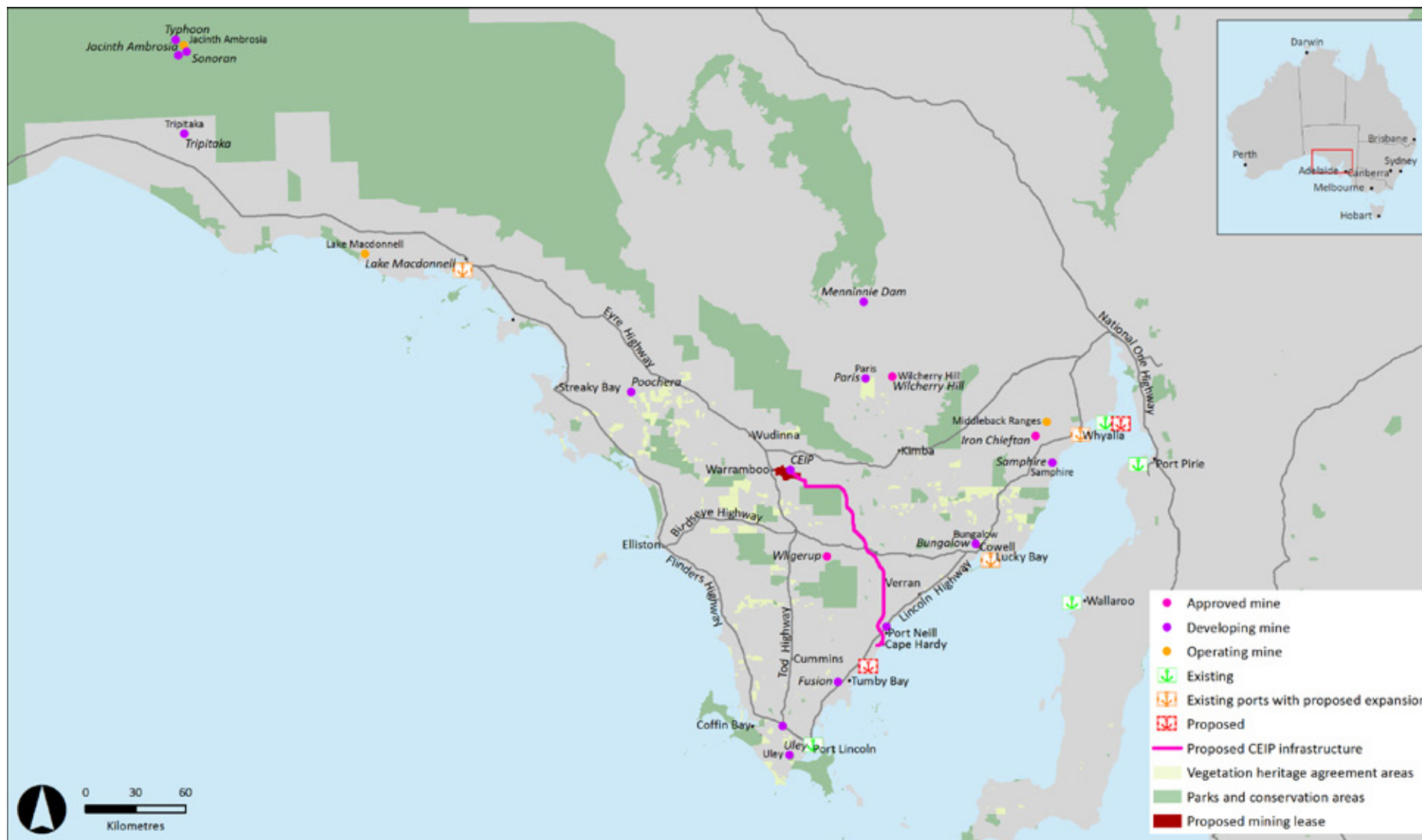


Figure 22-11 Approved Mines and Developing Projects in the Eyre Region

Table 22-11 Labour Force Status and Youth Engagement in Local Study Areas, Eyre Region and South Australia, 2011

Labour Force Status ¹	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumbby Bay	Eyre Region	South Australia
Labour force participation ²	72.0	66.8	66.3	66.0	57.9	59.9	59.9
Employed, working full-time (as % of labour force) ³	65.9	65.9	60.3	61.9	56.9	57.3	56.7
Employed, working part-time (as % of labour force)	26.2	27.1	27.4	30.2	32.4	29.8	31.6
Employed, away from work (as % of labour force) ⁴	7.9	6.3	6.4	6.5	7.1	7.1	6.0
Unemployed, looking for work (as % of labour force)	1.0	0.7	5.9	1.3	3.7	5.8	5.7
Employment to population (as %) ⁵	71.3	66.3	62.4	65.2	55.7	56.4	56.5
Not in the labour force (number of people 15 years or more)	248	232	257	434	837	15,612	466,429

Source: ABS 2012a, Basic Community Profile, selected labour force statistics, for LGAs of Wudinna, Kimba, Elliston, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

¹ People aged 15 years or more.

² The number of persons in the labour force expressed as a percentage of persons aged 15 years and over.

³ Employed, working full-time is defined as having worked 35 hours or more in all jobs during the week prior to Census night.

⁴ Includes employed persons who did not state their hours worked.

⁵ The number of employed persons expressed as a percentage of persons aged 15 years and over.

Table 22-12 Labour Force Status in Regional Cities, 2011

Labour Force Status ¹	City of Port Lincoln	City of Whyalla	City of Port Augusta	South Australia
Labour force participation ²	30.5	56.5	54.7	59.9
Employed, working full-time (as % of labour force) ³	54.1	57.6	59.6	56.7
Employed, working part-time (as % of labour force)	33.0	27.2	28.1	31.6
Employed, away from work (as % of labour force) ⁴	7.5	7.1	6.5	6.0
Unemployed, looking for work (as % of labour force)	5.5	8.1	5.8	5.7
Employment to population (as %) ⁵	57.2	51.9	51.5	56.5
Not in the labour force (number of people 15 years or more)	3,927	6,575	4,005	466,429

Source: ABS 2012a, Basic Community Profile, selected labour force statistics, for LGAs of Port Lincoln, Whyalla and Port Augusta.

¹ People aged 15 years or more.

² The number of persons in the labour force expressed as a percentage of persons aged 15 years and over.

³ Employed, worked full-time' is defined as having worked 35 hours or more in all jobs during the week prior to Census night.

⁴ Includes employed persons who did not state their hours worked.

⁵ The number of employed persons expressed as a percentage of persons aged 15 years and over.

Current labour force data on 'Small Area Labour Markets' is published by the Department of Employment. Figure 22-12 shows the unemployment rates in the local and regional study areas, Regional South Australia and South Australia in the September quarter, 2013. This highlights the relatively low rate of unemployed people in the local DCs, while unemployment is higher in the Eyre Peninsula region and the regional centres of Port Lincoln and Whyalla.

Source: Department of Employment 2014
 Source: DEEWR (2013) Data tables – Small Area Labour markets – December 2013

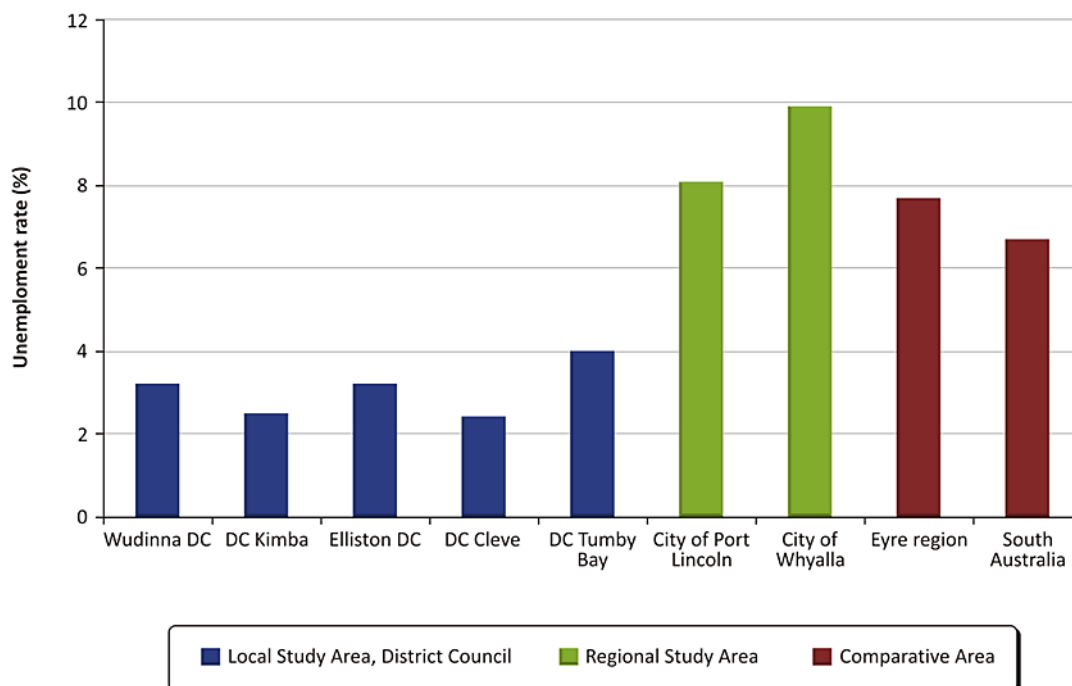


Figure 22-12 Unemployment Rate in Local Study Areas, Eyre Region and South Australia, December Quarter 2013

Industry and Occupation

Figure 22-13 shows the top employing industry in the local study areas, with agriculture, forestry and fishing accounting for over 30% of all employment. The seasonal nature of agricultural industries and their reliance on climatic conditions has been identified as one of the challenges facing communities on the Eyre region.

As shown in Table 22-13 health care and social assistance and retail services were among the top three employing industries in the cities of Port Lincoln, Whyalla and Port Augusta, along with manufacturing in Whyalla, construction in Port Lincoln and public administration and safety in Port Augusta. Mining was the fifth largest employer in Whyalla. Together, mining, manufacturing, construction and transport, postal and warehousing accounted for around 39% of all employment in Whyalla, 23% in Port Lincoln and 21% in Port Augusta

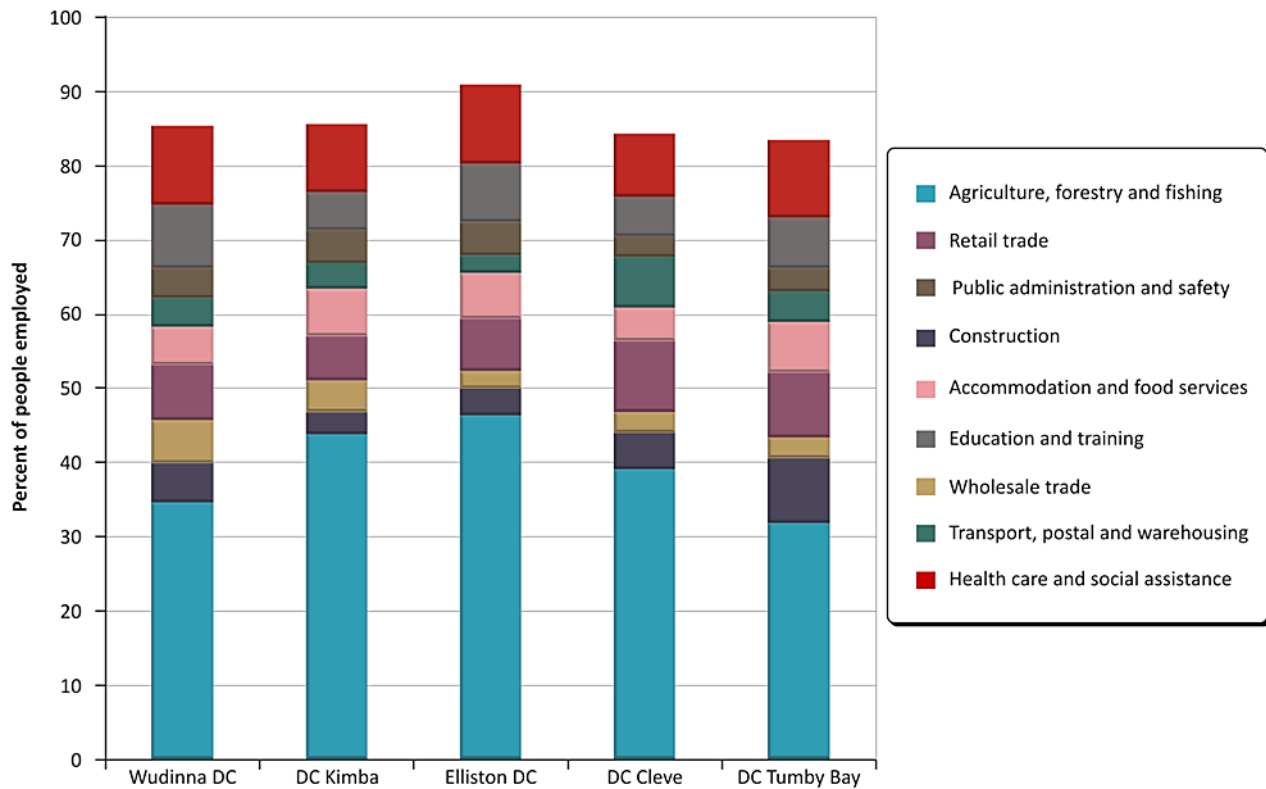


Figure 22-13 Top Employing Industries in Local Study Area, 2011

Table 22-13 Employment by Industry in Regional Cities, 2011

Industry (as a % of Total Employed)	City of Port Lincoln	City of Whyalla	City of Port Augusta	South Australia
Agriculture, forestry and fishing	8.9	0.4	0.7	3.9
Mining	1.4	6.7	3.7	1.3
Manufacturing	7.4	22.3	4.1	10.5
Electricity, gas, water and waste services	1.4	0.8	4.6	1.3
Construction	9.3	5.5	7.5	7.5
Wholesale trade	4.1	1.8	1.3	3.5
Retail trade	13.1	11.1	11.7	11.2
Accommodation and food services	6.6	6.2	9.0	6.3
Transport, postal and warehousing	5.1	4.5	6.1	4.2
Information media and telecommunications	0.7	0.8	0.9	1.4
Financial and insurance services	2.2	1.3	1.6	3.0
Rental, hiring and real estate services	1.3	1.1	1.1	1.3

Industry (as a % of Total Employed)	City of Port Lincoln	City of Whyalla	City of Port Augusta	South Australia
Professional, scientific and technical services	3.2	2.7	2.0	5.5
Administrative and support services	3.0	4.3	3.0	3.4
Public administration and safety	5.2	4.1	13.1	7.1
Education and training	8.0	8.1	8.2	7.9
Health care and social assistance	12.3	12.6	15.5	13.6
Arts and recreation services	0.7	0.5	0.5	1.3
Other services	4.2	3.4	3.5	3.9
Total employed (number)	6,416	9,159	5,742	739,358

Source: ABS 2013a, *National Regional Profile*, for LGAs of Port Lincoln, Whyalla and Port Augusta.

Businesses

Table 22-14 shows the number of businesses by employment size and the number of business entries and exits in 2011 in the local study area, the Eyre region and South Australia (ABS 2013a). Table 22-15 presents similar information on businesses in the regional cities of Port Lincoln, Whyalla and Port Augusta. This shows that in all areas, the majority of businesses are non-employing (ie sole traders), although there are more businesses that have employees in the local study area, Whyalla and Port Augusta than South Australia. All areas had more business exits than entries in 2011.

Table 22-14 Registered Businesses in Local Study Areas, Eyre Region and South Australia, 2011

Employment Size	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumby Bay	Eyre Region	South Australia
Non-employing (as %)	51.4	56.3	51.2	56.3	54.1	56.8	64.9
1-4 employees (as %)	25.1	24.7	25.1	24.7	23.8	22.5	19.9
5 or more employees (as %)	23.5	18.9	23.7	19.1	22.1	20.6	15.2
Total number of businesses	251	190	211	304	340	5,421	148,277
Number of business entries	20	12	16	23	26	528	17,718
Number of business exits	21	16	19	27	26	541	18,067

Source: ABS 2013a, *National Regional Profile* for LGAs of Wudinna, Kimba, Elliston, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

Table 22-15 Registered Businesses in Regional Cities, 2011

Employment Size	City of Port Lincoln	City of Whyalla	City of Port Augusta
Non-employing (as %)	61.3	56.2	53.5
1-4 employees (as %)	19.4	24.1	23.5
5 or more employees (as %)	19.2	19.7	23.0
Total number of businesses	1,630	852	673
Number of business entries	169	109	82
Number of business exits	174	131	87

Source: ABS 2013a, National Regional Profile, for LGAs of Port Lincoln, Whyalla and Port Augusta.

22.3.6 Social Services and Facilities

This section provides an indication of the range of social services and facilities available in the local study area that may provide a base for the construction and operational workforce for the proposed mine. This includes the townships of Lock, Warrambo, Wudinna and Port Neill. A summary of the services and facilities available in these townships is provided in Table 22-16.

Table 22-16 Services and Facilities in Selected Local Townships

Town Facilities	Wudinna	Warrambo	Lock	Port Neill	Tumby Bay
School	Yes		Yes	Yes	Yes
Kindergarten	Yes		Yes		Yes
Library	Yes		Yes	Yes	Yes
Childcare	Yes				Yes
Hospital	Yes				Yes
General practice / medical centre	Yes				Yes
Family / welfare / counselling	Yes				Yes
Dentist	Yes				Yes
Police	Yes				Yes
Country Fire Service	Yes	Yes	Yes	Yes	Yes
State Emergency Service	Yes				Yes
Ambulance	Yes		Yes	Yes	Yes
Banking / EFTPOS	Yes		Yes	Yes	Yes
Post office	Yes	Yes	Yes	Yes	Yes
General store / supermarket	Yes		Yes	Yes	Yes
Internet access	Yes	Yes	Yes	Yes	Yes
Vehicle repairs	Yes		Yes		Yes
Fuel	Yes		Yes	Yes	Yes

Town Facilities	Wudinna	Warrambo	Lock	Port Neill	Tumby Bay
Motel / hotel	Yes		Yes	Yes	Yes
Caravan / camping	Yes		Yes	Yes	Yes
Café / restaurant	Yes		Yes	Yes	Yes
Liquor license	Yes		Yes	Yes	Yes
Swimming pool	Yes		Yes		
Recreation and sport facilities	Yes	Yes	Yes	Yes	Yes

The township of Wudinna is the main service centre for the Wudinna DC and provides a range of social and recreational services (refer to Figure 22-14). It offers a variety of retail and business services including a post office, bank/ electronic banking (EFTPOS/ATM) facilities, supermarket, bakery, butcher, pharmacy, laundromat, hairdressers, hardware and building trades, financial and insurance services, mechanical suppliers, real estate agent, rural suppliers, accommodation and eateries.

Warrambo is the nearest township to the proposed mine and construction accommodation. It has limited services; these include a local post office, an oval and sports/community club to the north of the township and a Country Fire Service (CFS). The township of Lock offers a range of social services including the Lock Area School, Lock School Community Library, police station, Lock Sports Centre and Lock Community Health and Welfare Centre.

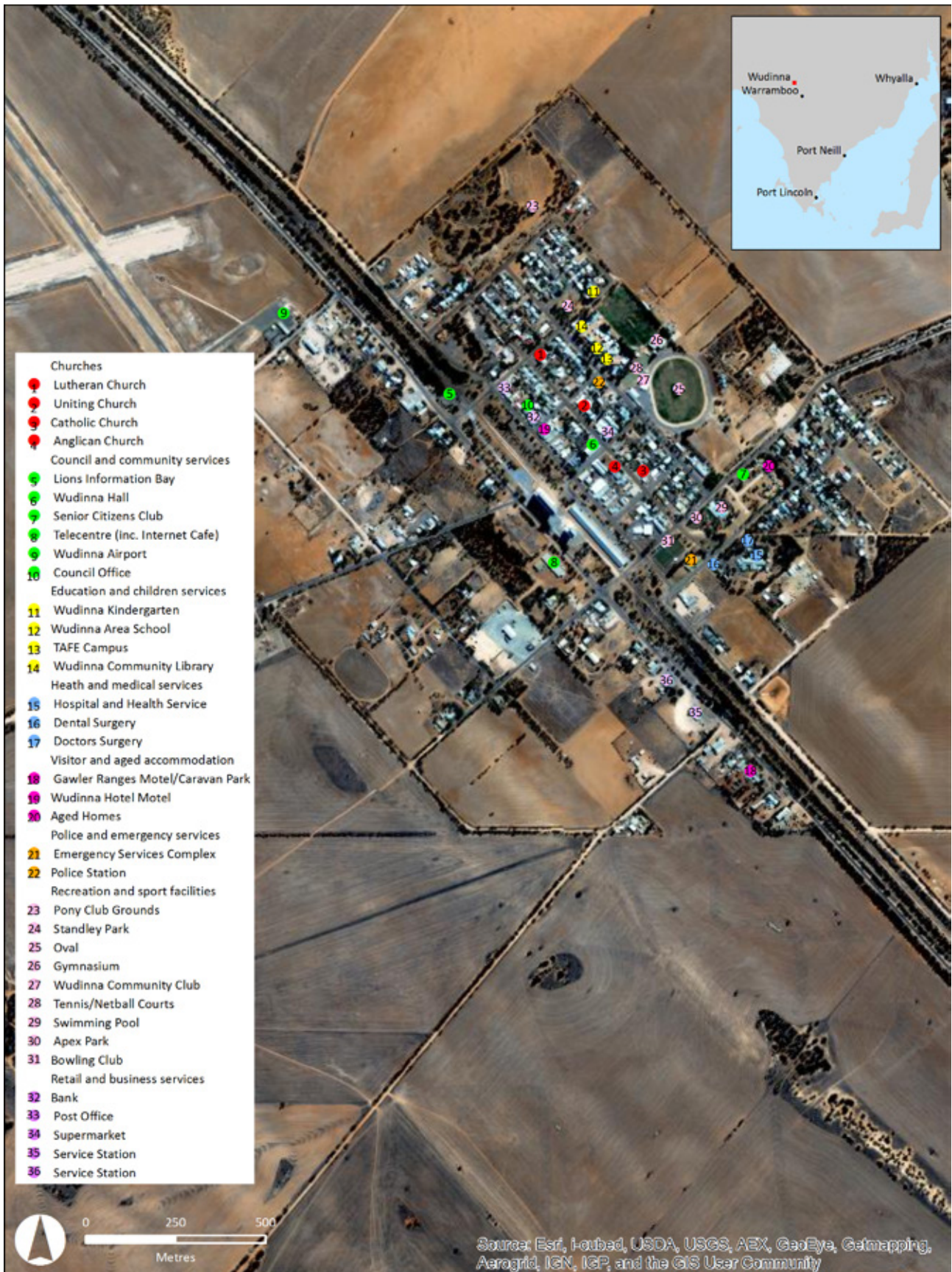


Figure 22-14 Existing Social Services in the Wudinna Township

22.3.7 Health Services

The following information provides an outline of the major health services available on the Eyre Peninsula of relevance to the construction and operation of the proposed mine.

Residents of the Eyre Peninsula and western parts of the state have access to a number of health care services. The Port Lincoln and Whyalla hospitals are major health hubs for the region. The Port Lincoln Hospital and Health Service includes a modern 50 bed complex complete with high dependency unit, renal dialysis and operating facilities and a 24 hour accident and emergency service. The Whyalla Hospital and Health Service is the major regional health provider for Whyalla Eastern Eyre and Far North Health Services. It comprises 73 inpatient beds and a 20 bed day surgery unit and provides a 24 hour accident and emergency service, operating facilities, renal dialysis, mental health, domiciliary care, palliative care and allied health

These hospitals are supported by services in other locations including Ceduna, Cleve, Cowell, Cummins, Kimba, Lock, Streaky Bay, Tumby Bay and Wudinna as follows (SA Health 2013):

- The Wudinna Hospital is part of the Eyre and Western Health Services. It includes a 23 bed facility that provides medical and health care services to Wudinna, the smaller townships and settlements of Minnipa, Kyancutta, Warrambo, Pygery, Yaninee and Lock and surrounding districts in Central Eyre Peninsula. It includes a 24 hour accident and emergency service, with a local General Practitioner (GP) on call.
- The Lock Community Health and Welfare Centre is also part of the Eyre and Western Health Services. The Centre is open during business hours (Monday to Friday, 9am – 5pm), staffed by a full time registered nurse and part time enrolled nurse. Medical consultations are held at the Centre weekly. Services provided including child and youth health services, physiotherapy, social work/counselling, primary health care and other allied health services on a visiting basis. The Centre does not have emergency facilities on site. The nearest emergency facility is located at Wudinna Hospital.
- The Tumby Bay Hospital and Lower Eyre Health Services includes a 24 bed facility. It provides a 24 hour accident and emergency service, general medicine, diagnostic radiology, outpatients and aged and disability care to Tumby Bay and surrounding districts including Port Neill, Lipson and Koppio.
- The Kimba Campus is part of the Whyalla Eastern Eyre and Far North Health Services. It includes a 20 bed health unit serving Kimba and the surrounding rural community (12 beds are for patients receiving active medical treatment and eight are aged care beds). It also provides a 24 hour emergency service.
- The Cleve Community Health and Eastern Eyre Health and Aged Care are part of the Whyalla Eastern Eyre and Far North Health Services. It includes a 20 bed hospital that provides acute and aged care services to Cleve, Arno Bay and the surrounding rural community and includes a 24 hour accident and emergency service.

The SA Ambulance Service operates ambulance services across the Eyre region, including career (paid) services in Whyalla and Port Lincoln and volunteer services in Wudinna, Kimba, Cleve, Port Neill and Tumby Bay (SA Ambulance Service 2013). The Red Cross and some community-based health services may also assist patients with transport services if they have no access to other means of transport for medical appointments.

22.3.8 Social Character and Wellbeing

Consultation undertaken in Wudinna for the CEIP (Iron Road 2011) and the RDAWEP Regional Profile (2011a) identified aspects of community life that were valued by residents. Among the positive attributes were:

- A quality lifestyle, good amenity and relatively low living costs.
- Social fabric in the small, tight-knit and friendly communities, the strong sense of community and community spirit, with its shared history, high levels of volunteering and a willingness to help each other.
- A sense of safety and security and few problems with drugs, alcohol or crime.
- Good infrastructure, including health services and support, school and sport and recreational facilities.
- Housing and housing affordability.
- Natural environment, with large areas of native vegetation and access to a vast, unspoilt coastline.

Similar characteristics and qualities were identified in DC Tumby Bay as part of the Centex Port Spencer proposal (Golder Associates 2009, Socio-Economic Baseline Study). These included the small town lifestyle, familiarity with community members, the quietness and visual amenity of the area, the low levels of crime and high levels of safety and the clean, relaxed and stress free environment.

These positive attributes are explored further in the following sections.

22.3.9 Quality of Life

The Bank West's Quality of Life Index (2008) ranks LGAs in Australia across 10 key criteria including employment levels, crime rates, internet access, health, education levels, earnings, home ownership rate, house size, proportion of empty homes and community involvement, using data from the ABS, the Australian Tax Office and the Public Health Information Development Unit (PHIDU).

As shown in Table 22-17, DC Cleve was among the top ranked LGAs in Australia (of 590 LGAs) in terms of the quality of life criteria. In South Australia, Cleve ranked 7th respectively of 68 LGAs. The high quality of life was also identified in the RDAWEP Regional Profile (2011a) as a key strength and opportunity for the Eyre region.

Table 22-17 Quality of Life in Local Study Areas, 2008

LGA	Ranking (out of 590 LGAs) ¹
Kimba	40
Cleve	58
Wudinna ²	205
Tumby Bay	230
Elliston	327

Source: Bank West 2008 'Quality of Life Index'.

¹ Ranking of 590 LGAs in Australia, where 1 has the highest quality of life and 590 the lowest.

² Reported as Le Hunte.

22.3.10 Community Support

Table 22-18 shows people aged 15 years or over who reported undertaking voluntary work in the local study areas, Eyre region and South Australia at the 2011 Census (ABS 2012c). This highlights the high levels of volunteering in the local study areas, with around 40% or more of residents reporting they did unpaid or voluntary work for an organisation or group – more than double that for South Australia as a whole.

Table 22-18 Unpaid Work in Local Study Areas, Eyre Region and South Australia, 2011

Area	Voluntary Work (as %) ¹
Kimba	47.4
Tumby Bay	46.3
Wudinna	45.7
Elliston	43.6
Cleve	39.2
Eyre region	26.7
South Australia	19.8

Source: ABS 2012c, 'Census Quickstats', for LGAs of Wudinna, Kimba, Elliston, Cleve; Eyre Peninsula and South West (SA3); and South Australia.

¹ People aged 15 years and over.

Advantage and Disadvantage

The ABS Socio-Economic Indexes for Areas (SEIFA) comprises four indexes that summarise different aspects of the socio-economic conditions and relative advantage or disadvantage of people living in an area, as follows:

- Index of Relative Socio-economic Advantage and Disadvantage is derived from Census variables related to both advantage and disadvantage
- Index of Relative Socio-economic Disadvantage focuses primarily on disadvantage and is derived from Census variables such as low income, low educational attainment, unemployment and dwellings without motor vehicles
- Index of Economic Resources: focuses on financial aspects of advantage and disadvantage and is derived from Census variables relating to residents' incomes, housing expenditure and assets
- Index of Education and Occupation includes Census variables relating to the educational attainment, employment and vocational skills.

A lower score indicates that an area is relatively disadvantaged compared to an area with a higher score. To enable easy recognition of high and low scores, scores have been standardised to have an Australia mean of 1,000. Figure 22-15 indicates the relative advantage/disadvantage of the local study areas, based on their score on the SEIFA at the 2011 Census (ABS 2013h). Analysis of SEIFA scores suggests that:

- DC Kimba scores above the Australian mean, is placed in the top 90% of South Australian LGAs and is the most advantaged of the local study area on three of four SEIFA indices (the exception being the Index of Education and Occupation). It also has smaller areas within the LGA that score highly.
- Wudinna DC scores above the Australian mean on three of four SEIFA indices and has smaller areas within the LGA that score highly. Cleve DC scores above the Australian mean on two of four indices, but both Wudinna and Cleve DCs are in the top 80% to 90% of South Australian LGA's on all four indices.

- Elliston DC scores below the Australian mean on three of four indices. It has the lowest score of the local study areas on the Index of Economic Resources and the highest score on the Index of Education and Occupation.
- Tumby Bay DC scores below the Australian mean on all four indices and is in the lowest 50% to 60% of South Australian LGAs. It is the most disadvantaged of the local study areas on three of four SEIFA and has smaller areas within the LGA that are significantly disadvantaged (i.e. where scores fall below 900) on all indices.

Source: ABS 2013h Socio-economic Indexes for Areas

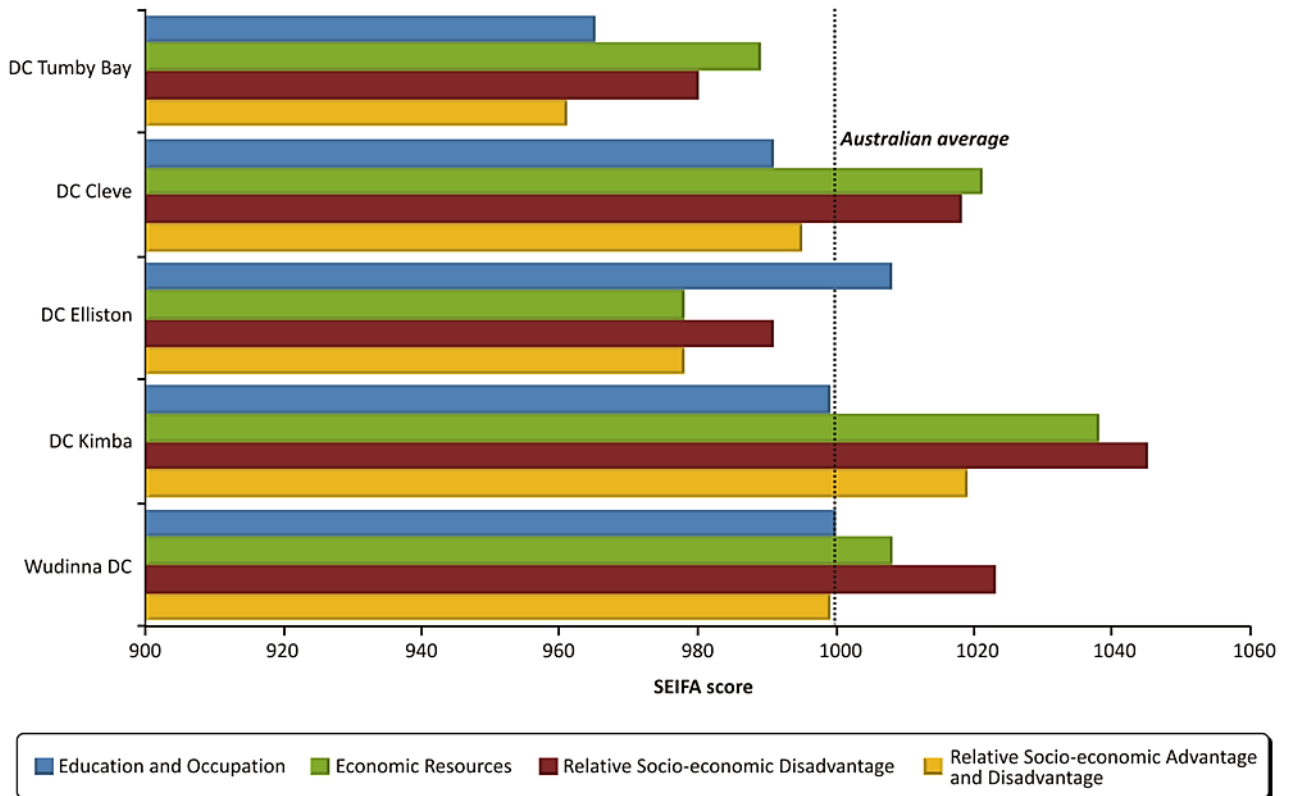


Figure 22-15 Score on SEIFA Indices in Local Study Areas, 2011

Health Status

A review of health risk factors prepared by the Public Health Information Development Unit (PHIUD 2013) identifies a number of health risks in the local study area, which includes:

- relatively high rates of smoking in Elliston and Tumby Bay (but lower than in the Eyre region or Regional South Australia)
- relatively high rates of physical inactivity, particularly in Elliston and Tumby Bay (but lower physical inactivity compared to the Eyre region or Regional South Australia)
- high levels of alcohol consumption at risky levels (at similar levels to the Eyre region but higher than in Regional South Australia)
- a higher proportion of people who are overweight or obese and fewer people in a 'normal' weight range
- a lower consumption of fruit in the local study areas (except Kimba) but at similar levels to the Eyre region and Regional South Australia
- a higher proportion of people with at least one of four health risk factors in all study areas but less than in the Eyre region and Regional South Australia.

Crime and Anti-social Behaviour

Consultation undertaken by Iron Road across the Eyre Peninsula identified the sense of safety, security and trust and minimal problems with drugs, alcohol or crime, as valued attributes of the local study area.

Data on recorded offences in 2011 for LGAs, Regional South Australia and South Australia was sourced from the Office of Crime Statistics and Research (OCSAR 2013). Crime can be reported by a victim or by the police. Victim-reported offences include offences against the person, sexual offences, robbery and extortion and offences against property. The identification and detection of 'police detected crime' (such as offences against good order, drug offences and driving offences) rests predominantly with police and is influenced by policing practice and specialist operations. As such, the comparison of police detected offences across areas should be treated with some caution.

Table 22-19 compares perceptions of safety in the local study areas (except Wudinna DC, where data is not available), the Eyre region, Regional South Australia and South Australia, based on modelled estimates prepared by the Public Health Information Development Unit (2013). This suggests greater perceived safety, with more than 50% of people aged 18 years or over in the local study areas who feel safe walking alone in the local area after dark, compared to around 45% in South Australia as a whole.

Figure 22-16 compares the rate of offending (per 1,000 people) in the local study areas with Regional South Australia and South Australia for victim-reported and police-detected offences during 2013 which highlights the low crime rates in each of the local study areas (OCSAR 2013).

Table 22-19 Perception of Safety in Local Study Areas, Eyre Peninsula, Regional South Australia and South Australia¹, 2010

Area	'Feel safe' (as a rate per 100 people) ¹
Kimba DC	52.3
Cleve DC	53.4
Elliston DC	52.0
Tumby Bay DC	52.1
Eyre Peninsula	51.6
Regional SA	51.0
South Australia	45.4

Source: PHIDU 2013, 'Social Health Atlas: South Australia'.

¹ People aged 18 years or over who feel safe or very safe walking alone in the local area after dark as a rate per 100 people. Data is not available for Wudinna DC.

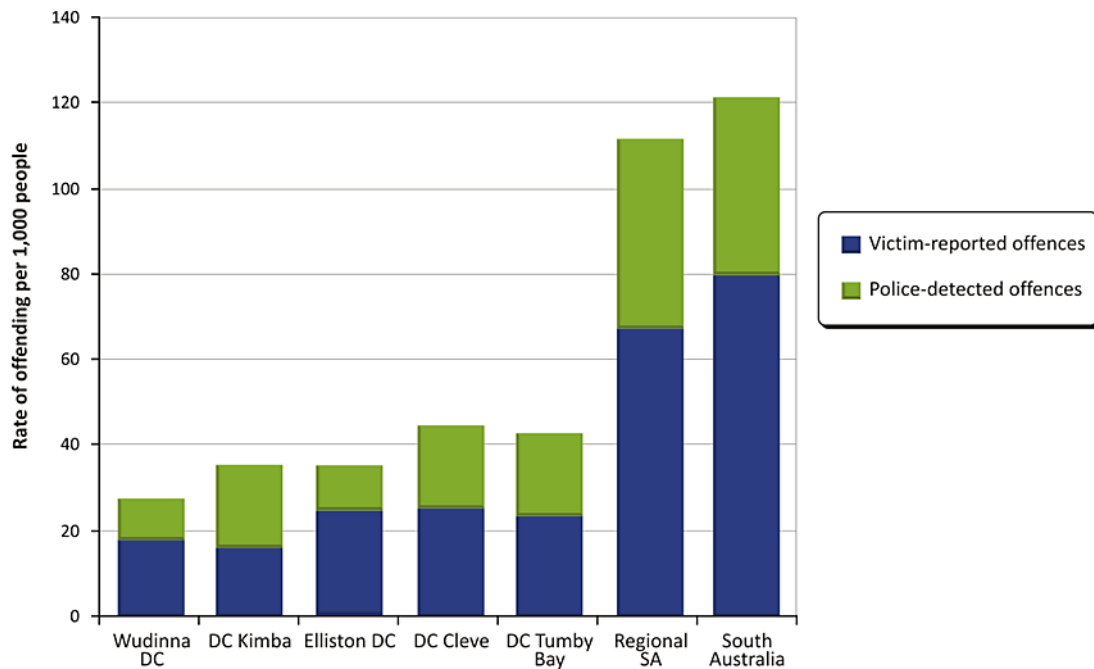


Figure 22-16 Rates of Offending in Local Study Areas, Regional South Australia and South Australia by Victim-Reported and Police-Detected Offences, 2011

22.3.11 Transport Access and Mobility

Most townships on the Eyre Peninsula are relatively isolated from other major towns and regional centres and are rated as remote or very remote in terms of their physical distance from goods and services (Australian Department of Health and Ageing, 2006, Accessibility/Remoteness Index of Australia).

Table 22-20 presents information on a range of indicators of access in the local study areas, Eyre region and South Australia from several sources, including ABS 2011 Census of Population and Housing (ABS 2013a and 2013b) and modelled estimates from the Public Health Information Development Unit (2013).

This suggests that, in comparison to South Australia:

- A lower proportion of dwellings in the local study areas were connected to the internet, particularly in Wudinna DC
- Households in the local study areas had a higher than average number of vehicles per dwelling and fewer dwellings with no vehicles, reflecting the limited alternative transport options; as a result, fewer people had difficulties getting to places needed with transport
- Despite the high level of vehicle ownership, more people in the local study areas had difficulty accessing services (most likely due to their remoteness).

Table 22-20 Access Indicators in Local Study Areas, Eyre Peninsula, Regional South Australia and South Australia

	Wudinna DC	DC Kimba	DC Elliston	DC Cleve	DC Tumby Bay	Eyre region	South Australia
Remoteness classification ¹ (2006)	Very remote	Remote	Very remote	Remote	Remote	Remote	N/A
Access to the internet ² (as %) (2011)	62.1	68.8	68.2	65.2	64.7	63.9	71.1
Average motor vehicles per dwelling ³ (2011)	2.0	2.4	2.1	2.3	2.4	1.7	1.7
Dwelling without a motor vehicle ³ (as %) (2011)	4.8	3.2	3.8	3.9	2.1	9.2	8.7
People who often had difficulty getting to places needed with transport ⁴ (as %) (2010)	N/A	2.5	2.7	2.6	2.9	2.7	3.0
People who had difficulty accessing services ⁴ (as %) (2010)	N/A	42.3	42.1	42.0	42.0	41.9	28.5

1 Australian Department of Health and Ageing 2006, 'Accessibility/Remoteness Index', for suburbs of Wudinna, Kimba, Elliston, Cleve, Tumby Bay and Eyre Peninsula. Not relevant for Regional South Australia or South Australia.

2 ABS 2013a, National Regional Profile.

3 Source: ABS 2012c, 'Census Quickstats'.

4 PHIDU 2013, 'Social Health Atlas: South Australia'. Modelled estimates of people aged 18 years and over as a rate per 100 people. Data is not available for Wudinna DC.

22.3.12 Summary of Social Values

The local study area that could potentially be affected by the proposed mine and associated infrastructure include the DCs of Wudinna, Kimba, Elliston, Cleve and Tumby Bay on the Eyre Peninsula in South Australia. The economy of these rural communities, like others on the Eyre Peninsula, is largely dependent on agriculture/pastoral activities and fishing/aquaculture, although tourism, mining and renewable energy are becoming increasingly important industry sectors.

The DCs in the local study area share a number of characteristics when compared to South Australia as a whole. At the 2011 Census the DCs had:

- Low population densities, with a large proportion of residents residing in local townships.
- Population losses over the 2006-2011 intercensal period (except in Tumby Bay, which experienced small population gains), with these population trends forecast to continue; population growth in some coastal areas, hastened by the 'sea change' phenomenon and drift of young people away from regional communities has resulted in declining population in some inland centres.
- An older age profile (except in Wudinna, where the median age is below that of South Australia), more men than women (except in Tumby Bay, which had a similar 1:1 ratio) and low levels of cultural diversity, demonstrated by a large majority of residents who were born in Australia and speaking only English and few Aboriginal people.

- Relatively 'stable' populations with low residential 'turnover' and high levels of home ownership.
- Relatively high proportion of single person households and low proportion of family households (although family households were the major household types), mainly separate housing and relatively low housing costs (although costs were higher in Tumby Bay).
- Low median household incomes, particularly in Elliston and Tumby Bay.
- Low levels of educational participation and attainment.
- High labour force participation rates (except in Tumby Bay, due to its older age profile and large retirement population) and high levels of youth engagement (in work or study) and low unemployment (with the highest unemployment rates in Elliston). Between 30% to 50% of employment is in the agriculture, forestry and fishing industry.
- High rates of volunteering and community support, low crime rates and high perceived safety.
- A higher than average number of vehicles per dwelling and few dwellings with no vehicles, although people reported some difficulties in accessing services.

The DCs are relatively remote, with the district centres of Wudinna, Cleve, Elliston and Tumby Bay providing a range of services to the surrounding districts. In addition, the Eyre Peninsula is served by the regional centres of Port Lincoln in the south, Whyalla and Port Augusta in the upper east and Ceduna in the west. These centres and other coastal towns and settlements on the Eyre Peninsula, may provide a source of workers, goods or services for the proposed mine. The district centres are well connected to regional centres and to Adelaide via the road network and regular air and bus services.

22.4 Context and Views of Affected Parties

The stakeholders relevant to the social environment include the local and regional community, land holders within the proposed mining lease, land holders whose properties neighbour the proposed mining lease, local and regional industry and business and Wudinna DC. During consultation, stakeholders raised potential benefits and concerns in regards to the proposed mine. The potential benefits raised by some members of the community included:

- Stemming of population decline through attracting young people to the region for employment.
- Creation of local employment and training opportunities.
- Improvement of existing services and facilities, including air services, roads, water supply, sport and recreation facilities and health services.
- Potential increases in household income in local communities improving standard of living.
- Increased population numbers leading to a greater number of volunteers and pool of people to participate in local sporting, community and other organisations.

Concerns raised by some members of the community during consultation with stakeholders relevant to the social environment included:

- Community severance from the mine splitting the Warrambo community.
- Changes to the culture, character, fabric, identity and lifestyle of the local community through the introduction of mining and the associated workforce and the potential loss of farming families.
- Negative amenity impacts on local communities as a result of dust, noise, light spill, blasting and increased traffic from mining construction and operations.
- Impact on sense of security and safety in communities within and surrounding the proposed mining lease.
- Loss of long-term families from the community due to displacement resulting from the footprint of the proposed mine.

- Reduction in capacity of local and regional community members to volunteer given long working hours associated with FIFO and shift work.
- Increased travel times for local communities as a result of road closures around the mine (increased travel times would be for daily activities such as checking sheep and machinery, getting kids to school, accessing sports clubs, transporting grain and during emergencies such as fires).
- Concern regarding impact of increased population on local and regional health, mental health, police, community, emergency and other services.
- Population increases impact capacity of emergency response services, particularly ambulance and CFS services, which are solely operated by volunteers.
- Loss of property and livelihood for local farmers as a result of the proposed mine footprint.
- Loss of time and stress caused to local farmers if they need to retrieve stock that may have strayed on to the proposed mining lease.
- Impact of increasing population on housing availability and affordability in local community, particularly given limited additional supply capacity in Wudinna.
- Impact of increased cost of living (particularly housing affordability) on retirement affordability in local and regional communities.
- Impacts on availability of short-term holiday/seasonal accommodation in local and regional communities due to accommodation requirements of Iron Road workforce.
- Social and economic impacts that may occur when the mine closes.

Impacts and risks relating to the key existing environmental values and the issues identified by relevant stakeholders are discussed in Section 22.7 below.

All issue raised by stakeholders across the entire project are presented in Chapter 5 and summarised in Table 5-8. Impacts and risks relevant to each of the existing social values associated with traffic and transport and potential issues identified by stakeholders are discussed below and summarised in Table 22-22, with all impact events across the entire project presented in the Impact and Risk Register in Appendix C.

22.5 Potentially Impacting Events

Considering the views and contexts of affected parties and the issues raised during technical studies, an assessment of Source Pathway Receptor (SPR) has been undertaken, as per the methodology outlined in Chapter 6, to determine which potential impact events are considered applicable to this project. Potential impact events associated with the construction, operation and closure of the proposed mining lease that have a confirmed SPR linkage which effects the social environment include:

- Direct employment opportunities during construction for local residents (IM_22_01)
- Direct employment opportunities during construction for regional residents (IM_22_02)
- Direct employment opportunities during operation for local community (IM_22_03)
- Direct employment opportunities during operation for regional residents (IM_22_04)
- Indirect employment opportunities during construction for local residents (IM_22_05)
- Indirect employment opportunities during construction for regional residents (IM_22_06)
- Indirect employment opportunities during operation for local community (IM_22_07)
- Indirect employment opportunities during operation for regional residents (IM_22_08)
- Direct business opportunities for local businesses (IM_22_09)
- Indirect business opportunities for local businesses (IM_22_10)

- Permanent displacement of some farming families and loss of productive agricultural land (IM_22_11)
- Increased demand for government and community services in Wudinna from construction workforce (IM_22_12)
- Increased demand for government and community services in Wudinna from operational workforce (IM_22_13)
- Competition for local housing drives up house prices in Wudinna (IM_22_14, 15)
- Decreased community cohesion and well-being (IM_22_16)
- Increased community concerns about safety and security (IM_22_17)
- Mine employment results in labour shortages in other regional and local industries (IM_22_18)
- Positive changes from the increased population as a result of the operational workforce of the proposed mine including reversing population declines, providing expanded membership base for volunteer organisations and a critical population mass to support opportunities and services in the long term (IM_22_19)
- Wage and price inflation from the operation of the proposed mine places cost of living pressures on critical population groups such as women, the elderly and people on low or fixed incomes (IM_22_20)
- Permanent road closures on and adjoining the proposed mining lease result in additional travel time for local landholders and road users with impacts on amenity and lifestyle (IM_22_21)
- A greater diversity of lifestyles and opportunities in a larger township and local employment and business opportunities leading to high household incomes in the long term (IM_22_22)
- Closure of the mine causes social and economic disruption in the local area due to the loss of employment opportunities and economic and social benefits (IM_22_23).

The impact and risk register presented in Appendix C provides confirmation of a source pathway and receptor for each of the PIMs considered above and therefore follows each through as actual impact events (IMs) with a complete impact and risk assessment.

22.6 Control Measures to Protect Environmental Values

This section identifies design and control measures implemented to mitigate the level of impact and risk associated with the social environment such that it is considered as low as reasonably practicable.

22.6.1 Design Measures

Design measures to maintain and protect the social character, wellbeing and amenity of potentially affected communities in the project area and to reduce social impacts include:

- Providing workers' accommodation to reduce potential impacts on the existing housing stock or short-term accommodation on the Eyre Peninsula.
- Encouraging the operational workforce to reside locally rather than on a long distance commute (LDC) basis. LDC refers to both fly-in fly-out (FIFO) and drive-in drive-out (DIDO) workers.
- Minimising the mine, port and infrastructure disturbance footprint wherever possible.
- The design and siting of infrastructure including:
 - Locating temporary construction camps within the proposed project foot print to minimise disruption to local communities.
 - Locating the proposed long-term employee village adjacent to the township of Wudinna, in consultation with the Wudinna DC, to encourage integration within the community and boost local spending.

- Designing the long-term employee village to be aesthetically pleasing, locally appropriate and enhance perceptions of the town.

22.6.2 Management Strategies and Commitments

To minimise and mitigate impacts to the social environment during construction, operation and closure activities, control and management strategies would be incorporated into the Program For Environment Protection and Rehabilitation (PEPR) and implemented for relevant project phases. Key control and management strategies are outlined below in Table 22-21.

Table 22-21 Control and Management Strategies: Social Environment

Control and Management Strategies	Project Phase ¹
Develop employment programs and strategies to increase labour force participation and facilitate the participation of local and regional employment in the CEIP: <ul style="list-style-type: none"> • Actively work with local and regional employment services and businesses to enhance opportunities and give preference to suitably qualified local and regional workers • Develop flexible work practices to accommodate farm work as best as practicable, including peak agricultural periods such as harvesting and other seasonal business activities • Provide family friendly work environments to facilitate women's entry into the mining workforce • Maintain the existing online data base/register of prospective employees 	CO OP CL
Work collaboratively with government, education and training providers and other relevant organisations to expand the pool of available labour across the Eyre Peninsula, train and up skill local and regional people to work on the project and enhance business capacity among local and regional suppliers: <ul style="list-style-type: none"> • Consult with Wudinna TAFE about vocational and pre-vocational training programs to enhance local skills and support local entry to the mining workforce • Consider supporting vocational education and training programs at Port Lincoln and Wudinna to address skills requirements of relevance to the project • Implement a trainee and apprenticeship program as part of the project • Take part in programs targeting skills development and job placement for local Aboriginal people (as per the Indigenous Land Use Agreement) 	CO OP CL
Develop an Australian Industry Participation Plan to maximise opportunities for Australian businesses to participate in the CEIP.	CO OP
Work with business groups to identify local business opportunities; provide information on the CEIP businesses opportunities, tendering and procurement processes and standards to facilitate the pre-qualification of local and regional businesses.	CO OP
Maintain the existing register of businesses with an interest in supplying goods and services to the project.	CO OP
Collaborate with the Eyre Peninsula Mining Alliance, the SA Chamber of Mines and Energy and other mining companies to provide information on careers in the Eyre Peninsula mining industry.	CO OP
Identify contract packages that could potentially be let locally or regionally.	CO OP
Liaise with the South Australian Government's Resources Infrastructure Taskforce and the Eyre Peninsula Mining, Oil and Gas Community Development Taskforce to provide information on the CEIP, facilitate strategic planning and promote sustainable regional growth.	CO OP CL
Establish a collaborative body comprising local government, relevant state government agencies and the community to develop, review and oversee implementation of a social management plan.	CO OP CL

Control and Management Strategies	Project Phase ¹
Continue to liaise with local councils and Government agencies as the project develops and provide regular information on expected workforce numbers and arrangements to allow them to plan appropriately.	CO OP CL
Develop policies and/or offer incentives to encourage the mine's operational workforce to reside locally.	OP
Develop corporate volunteering programs to bolster the membership base of volunteer organisations and to provide opportunities for workers to engage with the local community.	CO OP
Participate in planning initiated by the South Australian Government, Wudinna DC and other service providers to plan for future social services and facilities requirements.	CO OP CL
Collaborate with key agencies, including local government, to support the provision of appropriate and sustainable services and amenities that benefit existing and incoming residents and LDC workers in Wudinna.	CO OP CL
Maintain an on-site mine rescue team and suitably trained medical personnel and equip the mine site with appropriate firefighting and emergency response equipment.	CO OP CL
Liaise with health and emergency services in Wudinna about emergency response procedures.	CO OP CL
Support the preparation of a Structure Plan at Wudinna to integrate the long-term employee village within the existing township (process to be led by local Council).	CO OP CL
Collaborate with the Wudinna DC and South Australian Government in planning for new residential development, including the provision of strategic infrastructure, to ensure housing demand does not out-strip supply.	CO OP CL
Work with the Wudinna DC to develop strategies to strengthen social cohesion and social interactions between non-residents, incoming residents and existing residents. The development of these strategies would be informed through regular surveys of workers and residents attitudes and perceptions.	CO OP
Continue to provide support to local community groups and community-based activities, including volunteer programs.	CO OP
Develop induction procedures and information that includes an orientation into the values and expectations of the local community.	CO OP
Develop and implement visitor management policies and procedures at construction camps.	CO
Require workers (including contractors) to sign a 'Code of Conduct', linked to their employment contract, outlining behavioural expectations applicable to accommodation and local towns.	CO OP
Implement workforce inductions to communicate safety and security expectations.	CO OP
Undertake regular drug and alcohol testing of all workers to monitor alcohol and drugs and ensure workplace safety.	CO OP
Liaise with police and provide regular updates of workforce schedules to ensure adequate police resources would be available.	CO OP
Work with police, local councils, residents and other stakeholders to develop and implement community-based safety awareness programs and strategies to reduce the potential for crime and fear of crime.	CO OP

Control and Management Strategies	Project Phase ¹
Continue the program of active engagement and consultation with the local community. Provide regular and timely information to local residents and the community about the project and planned works to assist in reducing disruptions and complaints. Continue to operate a toll free phone hotline and complaints management system with targets for the time taken to respond to / take action on complaints and grievances.	CO OP
Provide advance notice of the movement of modules on the road network, with alternative routes clearly sign posted and accredited traffic controllers engaged to manage intersections.	CO OP
Avoid wherever possible the movement of modules during peak traffic or agricultural periods, eg harvesting and during daytime.	CO
Liaise with local schools to discuss any impacts to bus routes due to road closures or traffic movements.	CO OP
Work with councils and the community on planning for road upgrades and undertake road works in a manner that minimises disruption to local traffic movements.	CO
Provide a daily bus service to transport employees to work at the mine.	OP
Establish real-time dust monitors at government approved locations	CO OP
Provide real-time information to local landholders and the Warrambo community on dust monitoring at the mine site via the internet.	CO OP
Discuss and negotiate land acquisition with those landowners that are adjacent to the proposed mining lease if those landowners wish to move because mining operations are impacting negatively on the use and enjoyment of their land.	CO OP
Continue to deliver a community development program to enhance amenity and deliver positive social outcomes in the district.	CO OP
Maintain effective, regular and transparent communication with affected landholders and provide accurate and comprehensive information about the project and its potential impact on their property.	CO OP
Negotiate agreements and provide fair compensation with directly affected landholders for the loss of land.	CO
Deal with landholders with respect and in accordance with the law.	CO OP
Provide support by means of voluntary and confidential professional counselling to directly affected landholders.	CO
Work cooperatively with local and state government on closure planning and adjustment programs for the transition of local and regional communities to a post mining economy. Proposed measures will be outlined in the social management plan and developed further over the mine life.	CL

¹CO = Construction, OP = Operation, CL = Closure

22.7 Impact and Risk Assessment

The following section identifies and assesses impacts, benefits and risks associated with the social environment as a result of the construction, operation and closure of the proposed mine. Impact events (confirmed by presence of a source, pathway and receptor) are those considered certain to occur as a result of the development, whilst risks would not be expected as part of the normal operation of the project, but could occur as a result of uncertainty in the impact assessment process. Although the risks may or may not eventuate, the purpose of the risk assessment process is to identify management and mitigation measures required to reduce the identified risks to a level that is as low as reasonably practicable. The risk assessment process focused on the potential negative impacts and did not assess uncertainty of the identified project benefits. This assessment has been undertaken in accordance with the methodology outlined in Chapter 6, with impacts classified in accordance with the criteria for categorising residual project economic and social impacts and the consequences of identified risks classified in accordance with the social criteria.

Impacts and potential risks were identified through technical studies and stakeholder consultation. Impact events can include multiple sources, pathways or receptors and where practical have been grouped together to minimise duplication of information. Risks are events that would not be expected as part of the normal operation of the project, but could occur as a result of either uncertainties with the impact assessment, or as a result of faults, failures and unplanned events. A summary of impact and risk events relating to the social environment is presented in Table 22-22 at the end of this section (with Impact IDs) and a complete register of impact and risk events by source, pathway and receptor is provided in Appendix C.

Impacts and risks are assessed following the application of the design and control measures outlined in Section 22.6. Where required, management measures are proposed (Section 22.6) to reduce the impact to a level that is considered as low as reasonably practicable. Through the adoption of design modification or specific mitigation measures, all identified impacts and risks were considered ALARP. The key social environment risks would be monitored through the PEPR.

The social impacts and benefits and social risks of the proposed mine have been identified from a review of mining projects and related developments in rural Australia, feedback from consultation with project stakeholders and an understanding of the existing social environment.

The social impacts and benefits can be classified into the following areas:

- Employment and business (refer to Section 22.7.1)
- Population and social services (refer to Section 22.7.2)
- Housing and accommodation (refer to Section 22.7.3)
- Social character and wellbeing (refer to Section 22.7.4)
- Amenity, access and disturbance (refer to Section 22.7.5)

22.7.1 Employment and Business

The economic impact assessment of the CEIP (including the proposed mine and CEIP Infrastructure) estimated that over the 25 years of the project's operation, the CEIP would generate an average annual increase to South Australia's Gross State Product of around \$2.7 billion and create around 1,985 full-time jobs (both direct and indirect) in South Australia and 1,040 jobs in the Eyre and Western region during operations. Local and regional job creation and business development opportunities are discussed below and the economic benefits and impacts are discussed in more detail in Chapter 23.

Local and Regional Job Creation

The CEIP would offer significant benefits by creating new long-term employment opportunities at the state, regional and local levels. The labour and skills requirements for the CEIP are outlined in Chapter 3, Proposed Mining Operations. The proposed mine will employ approximately 560 people during operations and 1050 people during construction. Additionally, approximately 140 people will be employed for the operation of the CEIP Infrastructure and 900 people during construction, with a further 540 people employed at Iron Road's head office in Adelaide during construction of the CEIP with 60 Adelaide based staff during operation. The flow on economic benefits from local and regional job creation are discussed further in Chapter 23.

The skills required for the CEIP would range from semi-skilled roles to professionals and management. The construction workforce is likely to be made up largely of young men employed as technicians and tradespeople, machinery operators and drivers and labour and related occupations.

The majority of the construction workforce would be in contract positions and construction activities would occur nominally 7 days per week and up to 12 hours per day. It is anticipated that the majority of the construction workforce would work 12-hour shifts. Because of the number, skill sets and relatively short duration of construction activities, most of the workforce required during construction of the proposed mine is expected to be fly-in fly-out (FIFO) or drive-in drive-out (DIDO) workers, who would be accommodated in the construction camp located on the proposed mine site. Of the anticipated 560 person operational workforce, approximate 260 people would be Iron Road employees and 300 would be contractors.

Given that the proposed mine will create long-term employment at the local, regional and State level, this is considered to be a **high benefit**.

Increased Competition for Workers

During consultation with residents and service providers, some members of the community have raised concerns about potential labour drawdown from the proposed mine, with farming and community services sectors already experiencing difficulties in attracting and retaining workers. The higher wages offered by the mining company could exacerbate this existing problem.

Potentially, the proposed mine could also impact on local and regional businesses as resources (human, plant and equipment and other inputs) are attracted away from existing ventures, such as agriculture and fishing. Others see major opportunities and benefits from the proposed mine as a result of new employment, training and business opportunities, which would help retain young people and others within the local community, bring back people who have left the area to find work elsewhere and attract new people to live and work in local communities.

Experiences in other rural areas suggests the mining industry can compete with other industries for employees and drive up wages that other industries may find difficult to match (Haslam McKenzie 2002, 2009; Lockie et al 2009; Brasier et al 2011; House of Representatives Standing Committee on Regional Australia 2013). This can generate competition for workers, particularly during peak demand times (such as harvest), as well as competition between industries for products and supplies.

The RDAWEP (2011 and 2013), (former) federal Department of Education, Employment and Workplace Relations (DEEWR 2013a) and Deloittes (2013) have noted that the emergence of the mining and resources sector has the potential to create considerable workforce challenges as well as opportunities across the region.

As noted in Section 22.3.5, current mining operations in the Eyre region include Arrium's mines in the Middleback Ranges and Iluka's Jacinth and Ambrosia heavy mineral sands deposits in the Far West; Iron Clad Mining's Wilcherry Hill Project (near Kimba) and Centrex's Wilgerup mine (near Lock) have also been approved, but are yet to be constructed. In addition, Deloitte (2013) has identified a further eight developing projects and five mining prospects in the Eyre region. The RDAWEP anticipates that demand for workers will escalate as a result of mining developments, with 4,500 new jobs likely to be created in the mining sector by 2016 and a further 2,200 workers required in the next ten years (Regional Plan 2013). This will increase demand for skilled tradespersons by around 9% per annum over the next five years, labourers and related worker by 7% per annum and production and transport workers by 8% (RDAWEP Regional Profile 2011).

More conservative estimates by the (former) DEEWR suggest employment growth of 4,500 positions (or 6%) in the Northern and Western region of South Australia in all industry sectors from November 2012 to 2017, including 600 jobs in the agriculture, forestry and fishing sector, 400 jobs in the mining sector and 900 jobs in the construction sector. Across South Australia, it projects relatively weak employment growth of 40,200 positions (4.9%) over the five year period, with a loss of some 600 jobs in the agriculture, forestry and fishing sector and gains of 1,300 in the mining sector and 8,000 in the construction sector (DEEWR 2013b). At the national level, DEEWR forecasts growth of 7.0% for machinery operators and drivers, 5.0% for technicians and trades and 4.2% for labourers over the five year period (DEEWR 2013c).

The RDAWEP (Regional Plan 2013) has argued that the Eyre region does not have a large enough population to provide the necessary workforce for proposed mining and industrial growth. The older age profile of the region and relatively low levels of educational participation and attainment exacerbate these workforce challenges, with the ageing of the population likely to 'shrink the pool of skilled and experienced workers in future years'.

Consultation with local and regional stakeholders has also indicated a desire for the proposed mine to offer local employment opportunities, rather than jobs being allocated to a FIFO workforce. It is Iron Road's intention to recruit the workforce required for the proposed mine through local and regional recruitment and FIFO workers, who would be encouraged to relocate and live locally.

As highlighted in Section 22.3.5, labour force participation is high in the council areas surrounding the proposed mine with the highest participation rate in the Wudinna DC, where 72% of people aged 15 years or over were in the labour force at the 2011 Census (ABS BCP 2012a). Of those in the labour force in the Wudinna DC, 65% were employed fulltime and 26% were employed part-time. Local DCs also have low rates and numbers of unemployed people, ranging from 0.7% (or 5 people) in Kimba; 1.1% (12 people) in Cleve; 2.0% (17 people) in Wudinna; 2.7% (36 people) in Tumby Bay and 3.9% (26 people) in Elliston in the September quarter 2013 (Department of Employment 2013). As such, there is unlikely to be a sufficient large pool of locally based people to meet the proposed mine workforce requirements. However, in regional cities and across the Eyre Peninsula and South West region, labour force participation rates are lower and unemployment is higher, with greater capacity to supply labour for the proposed mine (for example, in Port Lincoln).

While the employment of people who are already working would have no net benefit in terms of creating new job opportunities (and may result in negative impacts), there is the potential to train and up-skill people who are not currently employed or in the labour force or who are working on a part-time basis (for example, women and young people). This could be facilitated by providing family friendly work environments, rosters and childcare to enable women to enter the mining workforce (should they wish to do so) and supporting training facilities and programs at Port Lincoln and Wudinna. Iron Road is committed to hiring locally wherever appropriately skilled people are available and would work with government, education and training providers and other relevant organisations to enable people to gain the necessary skills to work at the proposed mine. This would include consultation with Wudinna TAFE about job readiness programs and pre-vocational training to enhance local skills and support local entry into the mining industry.

The proposed mine may encourage young people to stay in the region and take up training and employment opportunities or attract them back to the region after completing secondary or tertiary studies elsewhere because of local job opportunities. It could also bring back people who have left the region to find work - for example, the Olympic Dam Expansion Draft Environmental Impact Statement (EIS) indicated there were approximately 200 permanent employees who live in the Upper Spencer Gulf region and work at Olympic Dam on a long distance commute (LDC) basis (Arup/ENSR 2009), some of whom may reside in the Eyre region. In addition, the proposed mine could potentially provide a source of employment to supplement often variable farming incomes with off-farm earnings (either through working on the mine or with businesses providing ancillary services) and assist in maintaining some family farming enterprises, if mine rosters could be arranged to accommodate farm work, or peak agricultural periods, such as harvesting (see Haslam McKenzie et al 2013).

As noted in Section 22.3.1, many rural communities on the Eyre Peninsula, including the DCs of Wudinna, Cleve and Elliston, have experienced population losses and are predicted to continue to do so. Among the factors that have contributed to this decline are changing seasonal conditions and agricultural practices, the migration of young people to cities and larger regional centres for work or study, the ageing of the population and the ongoing centralisation of services (RDAWEP Regional Profile 2011). The economic wellbeing of businesses and industries and the availability of local employment opportunities are also likely to be major factors in attracting and retaining the population of rural communities.

Among the key issues identified in the 2001 Wudinna District Council Community Plan were ongoing population loss (from continuing declines in farm family numbers, the migration of families, 'youth drain' and ageing of the population), the reliance on primary production/agriculture and lack of local employment opportunities, with little capacity for the district to 'hedge' against crises in the agricultural industry (Wudinna DC 2012). Among the goals of the 2012 Community Plan are to establish the Wudinna District Council area as the focus for excellence in agriculture, local tourism and mining and to actively promote an environment that fosters and supports local business and commercial opportunities and activities (Wudinna DC 2012). This will be undertaken by working collaboratively with the RDAWEP and others to create new jobs, provide assistance and incentives for business development and promote and support youth employment and training schemes (Wudinna DC 2012).

The labour drawdown effects from increased competition for workers as a result of proposed mine has been assessed as **medium** due to the long-term impact on the local study area.

The potential for the employment opportunities created by the proposed mine to result in labour shortages in other industries at a regional level has been identified as a project risk given the difficulty in predicting the likely extent of impact. A consequence rating of **major** has been assigned given the wide spread social impact that labour shortages could cause, however given the management strategies proposed such as consulting with Wudinna TAFE about job readiness programs and the unemployment rates in regional cities across the Eyre Peninsula, this is considered **unlikely** to occur. As such the risk of labour shortages in other industries is considered to be **high**.

Increased Business Development Opportunities

The CEIP would provide substantial direct and indirect business opportunities for local, regional and State-wide businesses. Direct business opportunities would relate to the provision of goods and services to Iron Road staff and Iron Road contractors and indirect flow-on effects generated in other sectors of the economy as a result of higher incomes levels and consumer spending in the region, including the provision of goods and services to LDC workers or incoming residents in local townships. This could benefit a range of business types from small to large, stimulate growth in the local and regional economy and contribute to the overall well-being of communities.

Business opportunities would change over the construction and operation phases of the project and are likely to include fuel supplies, communications, transport and logistics (including workforce transport), engineering and construction services (such as light earthworks, road maintenance), the supply of services, goods or consumables to camp and village accommodation, catering, training and the provision of materials.

The economic impact assessment estimated that around 24% of direct construction expenditure on the CEIP (approximately \$286 million per annum for the mine and CEIP Infrastructure) and 18% of direct operational expenditure (approximately \$201 million per annum) would be spent in the Eyre and Western region, with the greatest expenditure occurring in the Wudinna DC. The economic impact assessment also identified that the greatest flow-on employment effects for industries in the local and regional study areas would be in wholesale trade, accommodation, food services and retail trade.

The location of the long-term employee village immediately adjacent to Wudinna would provide opportunities for local businesses through increased patronage and local spend, although much of the income paid to LDC workers would be spent outside the 'host' community, where LDC workers normally reside (referred to as 'fly-over' effects by researchers such as Rolfe et al. 2003, Rolfe et al. 2007, Storey 2010, Haslam McKenzie 2012 and the South Australian Centre for Economic Studies 2013). As noted previously, Iron Road would encourage its operational workforce to live locally, in order to maximise local business benefits.

While the direct business opportunities arising from the CEIP are significant, the goods and services required may extend beyond the capacity of some local and regional companies. As noted in Section 22.3.5, the majority of enterprises in the local study areas and the Eyre region were in the agriculture, forestry and fishing industry sector at the 2011 Census, followed by construction and retail trade. These businesses were also relatively small, with around 50% of local businesses sole traders and a quarter having between 1 and 4 employees (ABS 2013a and 2013f).

As noted by the Federal House of Representatives Standing Committee on Regional Australia (2013), with some capacity development, businesses may be able to take advantage of resource projects. Examples of business development initiatives include the Small Business Incubation Strategy developed by BHP Billiton Iron Ore in Port Hedland to assist small businesses to plan for future growth and identify potential commercial opportunities.

Whilst the CEIP would result in some loss of agricultural/pastoral land (see Chapter 21 Land Use), the project represents an opportunity to diversify the economic base on the Eyre Peninsula, at the same time as maintaining the agricultural viability of the local economy.

The assessment of business opportunities shows the project would have a **high benefit**, given the long-term opportunities for local, regional and state businesses.

22.7.2 Population and Social Services

A change in population size or demography of local areas can affect delivery of community services, with flow-on effects for individuals, families and communities. In addition, the presence of a LDC workforce (whether FIFO or DIDO) during construction and operations could affect demand for social services, facilities and infrastructure.

The impacts and benefits that could arise from an increase in population in local townships as a result of the CEIP construction and operational workforces are discussed in the following sections. The impacts and benefits have been considered holistically for the CEIP, including the proposed infrastructure, given the difficulty in separating impacts between mine site workers who are long-term residents of the long-term employee village and workers on the infrastructure corridor who relocate to live in the Wudinna area. No assessment has been made of the extent to which government and non-government organisations will address impacts on social services and facilities as the provision of these services is outside of the control of Iron Road.

Effects from the Construction Workforce

Over the three year construction period, a total peak construction workforce of 1050 people is anticipated for the proposed mine (with an additional 900 people for the proposed CEIP Infrastructure and 540 people at head office in Adelaide).

The mine site construction workforce will be accommodated in a construction camp on the proposed mining lease along with approximately 250 of the CEIP Infrastructure construction workers. The balance of the CEIP Infrastructure construction workforce would be based at a second construction camp at the proposed port site.

The construction workforce would typically comprise young men, who would be made up largely of FIFO and DIDO workers. As a consequence, no long-term change in the population or demography of local areas is anticipated during construction.

The on-site construction camp would provide for the day-to-day needs of the construction workforce, including dining, on-site first aid / medical resources, laundry and recreational facilities, to reduce the demand on services and facilities in nearby townships. While some workers may choose to visit nearby townships to purchase goods or for recreation and leisure activities, given the location of the accommodation, work rosters, FIFO arrangements and limited transport options, it is likely that most workers would spend their free time at the camp while working on construction of the proposed mine.

Some additional demands may be placed on medical and emergency services in Wudinna in the event of a serious injury, illness or workplace accident at the mine site. Wudinna has a well-equipped hospital that provides a 24 hour accident and emergency service for the district and is supported by local general practitioners, volunteer ambulance services and State Emergency Service crews. In addition, the Port Lincoln Hospital is a designated general hospital that serves the Eyre region and is located approximately two hours drive from the mine. A career SA Ambulance service and SES also operate in Port Lincoln.

The presence of the construction workforce near Warramboos may also place demands on local police. The Wudinna police station is staffed by one officer with additional police support from the Lock and Elliston police stations. Police resources are also available from the Port Lincoln Police Complex, which is the headquarters of the Eyre and Western Local Service Area and provides criminal justice, crime scene, crime prevention and intelligence services (SAPOL 2011).

With a DIDO and FIFO workforce, no additional demands are anticipated on education, childcare or family services from the construction workforce. As such, the impact on the population and demography of local areas and associated demand for government and community services in nearby townships from the construction workforce is assessed as **negligible**.

Although the impact on the population and demography of local areas is not expected to be greater than predicted, it is possible that some workers may, for their own reasons, move to the local area. The consequence is considered to be **minor** as it would be short term during the construction phase and the likelihood has been assessed as **possible** as it may occur. As such the overall risk of the construction workforce placing increased demand on social services is considered to be **low**.

Effects from the Operational Workforce

The proposed mine has the potential to attract new residents to live in townships near to the proposed mine, which could influence population dynamics and have flow-on effects in terms of the use and availability of social services and facilities as well as volunteer and emergency services. In addition, the presence of workers at the long-term employee village in Wudinna and the mine site village near Warramboos would affect demand for social services, facilities and infrastructure.

The long-term employee village at Wudinna will provide accommodation for up to 300 Iron Road employees who will work on the proposed mine (approximately 260 people) or in rail operations (approximately 40 people). A further 300 contractors would be accommodated at the mine site camp. Over half of Iron Road employees would work on rosters of 5 days on and 2 days off, whereas the majority of contractors and employees engaged in operations at the mine would work on rosters of 2 weeks on and 1 week off, while the majority of maintenance workers and staff engaged in the operation of the rail service would work on rosters of 7 days on, 7 days off, 7 nights on and 7 nights off.

In addition to the mine's operational workforce, the Economic Impact Assessment has estimated that an additional 196 flow-on jobs could be created in support industries in Wudinna DC, which could have flow-on population effects.

The operational workforce could be drawn from existing residents, people who choose to relocate or return to the central Eyre Peninsula to live and work, as well as LDC workers. While it is Iron Road's preference to employ suitably qualified local and regional workers wherever possible, there is unlikely to be sufficient capacity in the labour market to meet operational workforce requirements without causing adverse impacts such as labour drawdown. Iron Road will develop policies and/or offer incentives to encourage the operational workforce to relocate to Wudinna, or other nearby townships, which may occur over time. The 5 days on and 2 days off roster for approximately half of the operational employees is also likely to encourage a residential workforce. Nonetheless, regardless of the community or company's preferences, individual employees would decide what living and lifestyle arrangements would best suit them and their families.

As illustrated in Figure 22-17, the nearest towns to the proposed mine are Warrambo, Wudinna, Lock and Yaninee (which can be reached within 45 minutes by car) and Kimba and Rudall (located within around an hour's drive by car). Other operational workers may choose to drive from coastal or other inland locations on the Eyre Peninsula or broader region and be accommodated in the long-term employee village during their work rosters. Place of residence and journey to work data contained in the South Australian Centre for Economic Studies report on the *Impact of Mining and Resource Development: A Case Study for Eyre Peninsula Councils* (2013) suggests that in 2011, the large majority of people who worked in Wudinna DC were residents of Wudinna, with a small number of people travelling from the DCs of Streaky Bay and Elliston to work in Wudinna.

Research by the Chamber of Minerals and Energy (2005, 2008), Rolfe and Ivanova (2007a) and Rolfe et al (2007b) point to a range of factors that can affect workers' locational choices, including partner and family commitments (such as job opportunities), existing social networks, access to education, health and recreational services, the availability and cost of housing, a preference for living in larger centres and other lifestyle factors and suggest that a LDC work style is a matter of lifestyle choice (refer to the Social Impact Assessment Technical Report in Appendix Q).

As noted in the RDAWEP Regional Plan (2013), a proactive marketing strategy may be required to promote the area's attributes in order to encourage workforce families to relocate. Attracting a workforce and their families to relocate to the region may also require social services and community infrastructure to be upgraded 'to provide the quality of life and liveability expected by contemporary communities'.

This would benefit existing local residents, as well as incoming residents and the LDC workforce, but may place additional pressure on local government resources, operations and service provision (South Australian Centre for Economic Studies 2013). Evidence from Queensland suggests other strategies may also be required to attract the mining workforce to live in Wudinna (refer to the Social Impact Assessment Technical Report in Appendix Q for more information).

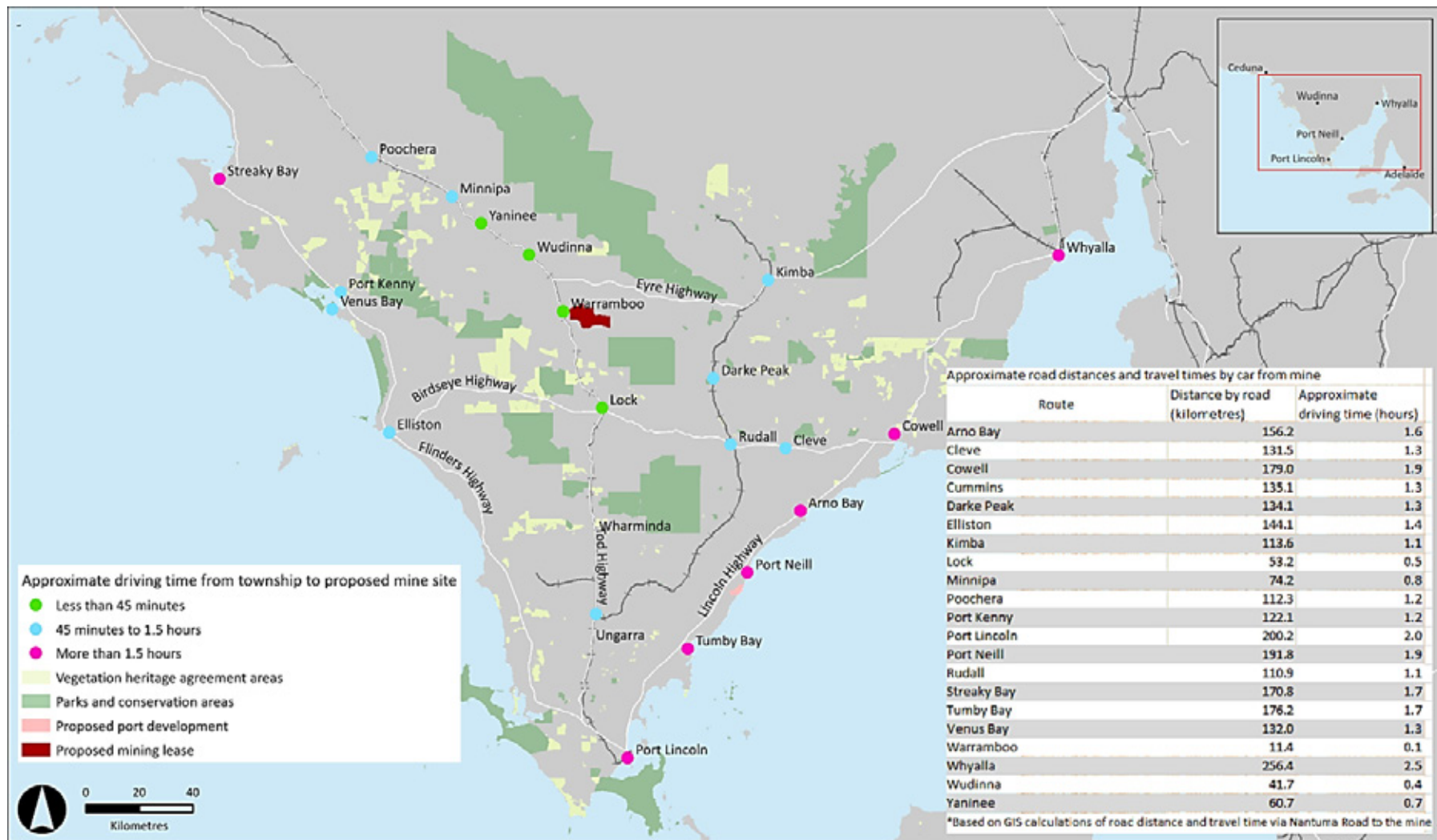


Figure 22-17 Travel Times to the Proposed Mine Site

In order to understand the potential population and demographic effects from the operation of the proposed mine, if some workers and their families chose to relocate to Wudinna to live and work and the implications of this for service delivery, four population scenarios have been modelled (see the Social Impact Assessment Technical Report in Appendix Q for details). The modelling also examined the potential indirect population effects from the CEIP as a result of flow-on employment in Wudinna DC. The population modelling focused on Wudinna, as it was assumed that even if workers relocate to live in surrounding towns, they would access social services and community facilities in Wudinna.

The baseline for the population modelling scenarios assumed that 5% of the mine's operational workforce (or 30 people) would be drawn from existing local residents initially and that over time, there would be an increase in the local residential workforce with a low growth (20% of the operational workforce as residential), medium growth (40% of the operational workforce as residential) and high growth (60% residential workforce) scenarios considered. The high growth scenario is based on the existing residential / LDC workforce ratio at Olympic Dam, the 40% residential workforce scenario reflects the situation in the relatively remote northern Bowen Basin region and the 20% residential workforce reflects the early developmental stages of the project.

No distinction was drawn between operational employees of Iron Road or contractors in terms of their likelihood of relocating to Wudinna, for the purposes of the modelling; this reflects the findings of background research that suggests a proportion of the operational contractors may also be residentially based.

Indirect population effects were modelled on the assumption that 50% of flow-on jobs in Wudinna DC (ie approximately 100 jobs) would be filled by existing local residents and 50% would be filled by incoming residents. This is likely to represent a high growth population scenario as jobs may also be taken up by people who live or relocate to areas outside of Wudinna and commute to work.

The modelling also assumed that the characteristics of incoming residents and households would be the same as the mining community of Roxby Downs, in the far north of South Australia, as suggested by the SA Centre for Economic Studies (2013) (see the Social Impact Assessment Technical Report in Appendix Q for more information). Based on this data, the mine's operational workforce would be likely to comprise:

- A high proportion of men to women, particularly in the LDC workforce
- A relatively young population
- A high proportion of people employed as machinery operators and drivers, technicians and trades workers and professionals
- People on relatively high income levels
- People with relatively high levels of schooling

This is in contrast to the demography of Wudinna DC and points to substantial differences between existing residents (particularly in the township) and the operational workforce in terms of age, level of schooling, cultural diversity, income, occupation and employment status.

Based on the modelling, the proposed mine could potentially result in an increase in the residential workforce in Wudinna of between 90 and 330 people (out of 600 operational workers) and population growth of between 260 and 960 people (assuming an average household size of 2.9 as in Roxby Downs LGA at the 2011 census). Further population increases of around 290 people could occur from growth in support industries, in addition to the mining workforce and their families. This could result in an increase in the district's population of between 25% and 100% from the 2011 census. As shown in Figure 22-18, the moderate population growth scenario (40% residential workforce) would equate to a population only slightly higher than the district's population in 1981 (shown as Le Hunte).

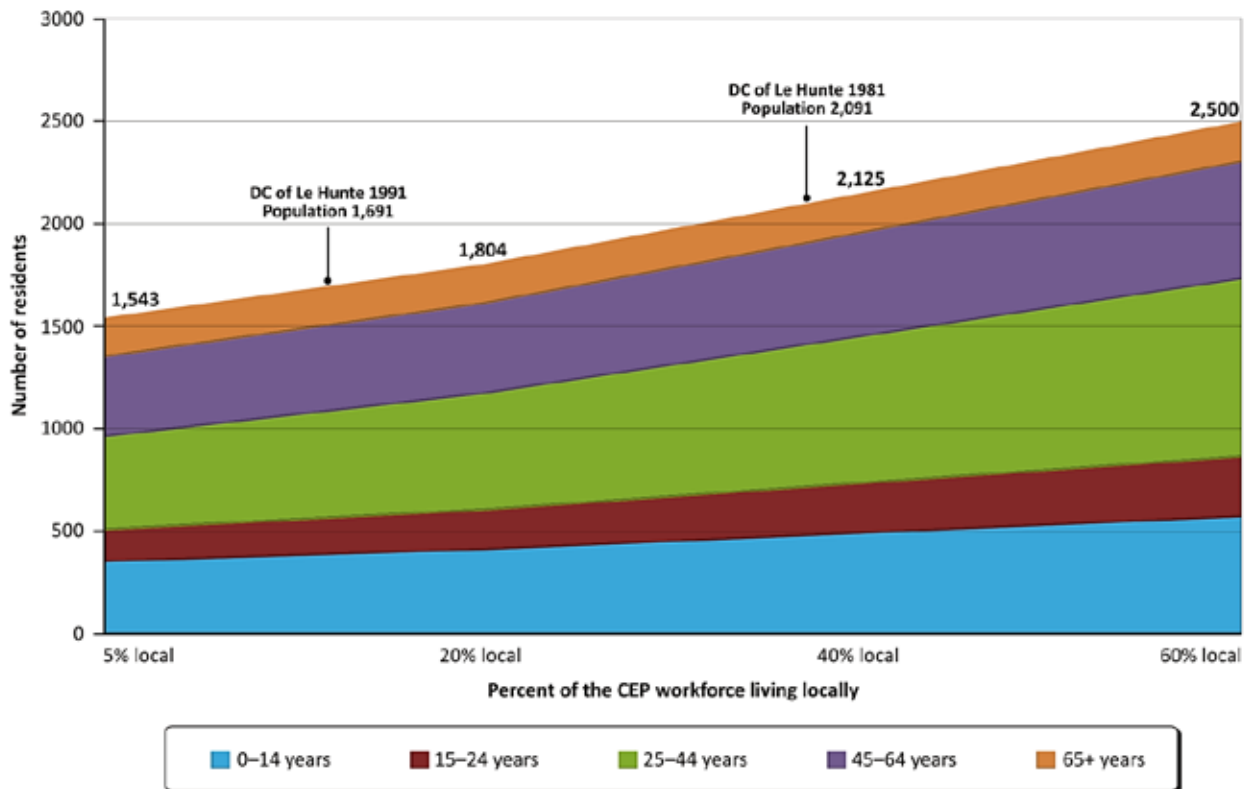


Figure 22-18 Potential Changes in the Population of Wudinna DC as a Result of the CEIP and Flow-on Jobs

Assuming the age of the incoming population would be similar to Roxby Downs, the greatest increase would be among people of working age (25-64 years), particularly the 25-44 year age bracket, followed by children aged 0-14 years, with little increase in the older population (aged 65 years or more).

Potentially, a change in population dynamics and demography and presence of a LDC workforce in Wudinna could affect the use and availability of services and facilities. In addition, LDC workers may use local services, but not directly contribute to local government (council) rates and thus the costs of local infrastructure (Haslam McKenzie 2009, 2012).

To understand the impact of the potential population increases and LDC workforce, consultation was undertaken with key services providers in Wudinna. Most of those service providers indicated they had the physical capacity to deal with increased demand (the exceptions being the police, kindergarten and childcare all of which would likely require new facilities) but would likely require additional staff and/or volunteers, depending on the size of the population increases and LDC workforce. Further information on the discussion with local services providers is included in the Social Impact Assessment Technical Report in Appendix Q.

Responsibility for the provision of social services and facilities rests largely with government agencies (federal, state and local), although some services (e.g. Centacare) are also provided by the non-government sector. In order to plan for the LDC workforce and population increases in Wudinna, Iron Road would continue to liaise with Wudinna DC and relevant Government agencies as the project develops and provide regular information on expected workforce numbers and arrangements to allow them to plan appropriately to support anticipated population changes. It would also participate in planning initiated by the South Australian Government, Wudinna DC and other service providers to plan for future social services and facilities requirements. Iron Road would also collaborate with key agencies, including local government, to support the provision of appropriate and sustainable services and amenities that benefit residents and LDC workers in Wudinna.

Planning by the government agencies and service providers, in collaboration with Iron Road, would be based on demographic and household projections prepared to reflect increasingly refined workforce planning and take account of:

- The presence of operational contractors near Warrambo
- A long-term operational LDC workforce in Wudinna
- Potential increases in the residential population of Wudinna
- Needs of critical population groups in Wudinna, including older people and women, who may be more susceptible to adverse impacts from the expansion
- Potential population growth in other nearby townships, such as Lock
- Potential contributions to community services and facilities by Iron Road.

In summary, the presence of a LDC workforce and population increases in Wudinna associated with the operation of the proposed mine and growth in support industries would be likely to generate additional demand for social and recreational services and require some increase in the level of services in Wudinna. The type and level of services would depend on the size, characteristics and timing of population increases and would be determined by responsible agencies in consultation with iron Road.

Like the construction workforce, operational contractors based at the proposed mine site in Warrambo may choose to visit nearby townships to purchase goods or for recreation and leisure activities, but would be likely to spend most of their free time at the mine site camp while working on the CEIP. While evidence was presented to the Federal House of Representatives Standing Committee on Regional Australia Inquiry (2013) that suggests FIFO workers can impact on the provision of medical services, resulting in long waiting times and additional workloads on doctors, it is anticipated that other than serious injuries or emergencies, the LDC workforce would most likely be treated by the individual's own health practitioner, while on rostered leave. Health providers in Wudinna similarly noted that the mining workforce is likely to be relatively young and fit and so less frequent users of medical services (refer to the Social Impact Assessment Technical Report in Appendix Q for more information).

The impact of the proposed mine on volunteer and emergency services has been raised in consultation with some members of the Wudinna community, including the potential decline in volunteers as a result of 12 hour work rosters, a large FIFO workforce and increased demands on emergency services.

The high rates of volunteering in Wudinna DC compared to the Eyre region or South Australia in 2011 was noted in Section 22.3.10. A range of factors may lead to a decline in volunteering, including population losses, the ageing of the population, changing family dynamics, work pressures, shifting social and cultural values as well as the increasing demands, responsibilities and workloads placed on volunteers. In the medium to long-term, it is expected that population increases in Wudinna would have a positive impact by providing an expanded membership base for volunteer organisations. To support volunteer organisations, Iron Road would develop a corporate volunteering program to bolster the membership base of volunteer organisations. For example, this could include providing time-off for employees to participate in volunteer services or other incentives to volunteer. Iron Road would also continue to provide support to local community groups and community-based activities, including volunteer programs.

The project also provides an opportunity to leverage infrastructure improvements that would benefit local communities. For example, the presence of an LDC workforce in Wudinna and Warramboob during both construction and operations would play a direct role in stimulating investments in the Wudinna airport and local aviation services and benefit local residents through the provision of a new airline services, potentially at a lower price as a result of economies of scale. While not part of the CEIP, Wudinna Council has indicated its intention to upgrade the Wudinna airport. Investments in regional aviation and enhanced transport connections as a result of FIFO demand have also been reported by the House of Representatives Standing Committee on Regional Australia (2013), with flow-on benefits for local residents and tourism operators.

As noted in Section 22.3.2, many rural communities on the Eyre Peninsula, including the DCs of Wudinna, Kimba, Cleve and Elliston, have experienced population losses and are predicted to continue to do so. The proposed mine may assist in reversing population losses that have been experienced in many rural communities on the Eyre Peninsula in several ways. The proposed mine may encourage young people to stay in the region and take up training and employment opportunities or attract them back to the region after completing secondary or tertiary studies elsewhere because of local job opportunities. It could also bring back people who have left the region to find work.

The assessment of the expected changes in population and demography of DC Wudinna and the associated demand for government and community services from the operational workforce of the proposed mine shows the project would have a **medium impact** given the long-term change for the local area. Conversely, the opportunity for positive change as a result of the operational workforce of the proposed mine including reversing population declines, providing expanded membership base for volunteer organisations and a critical population mass to support opportunities and services in the long term has been assessed as a **medium benefit**.

Although the assessment of population and demographic changes as a result of the operational workforce considered a low, medium and high growth scenario, it is possible that changes could be greater than predicted with more people moving to Wudinna or other towns in the region resulting in an additional increase in demand for government and community services. This risk is considered to have a **moderate** consequence, as it would cause ongoing social issues. Given the broad range of factors that can influence population growth it is considered **possible** that a higher growth rate could occur. As such an overall risk rating of **Medium** has been assigned.

22.7.3 Housing and Accommodation

This section considers the effects from the construction and operational workforce on housing supply and affordability in the region as a result of increased housing demand.

Construction Workforce Accommodation

The commencement of construction of mining projects can result in increased demand for housing, including through speculative investment and increased housing costs. The majority of the construction workforce for the CEIP would be FIFO, who would be transported by bus from the airport to the construction camp at the minesite. Some construction workers may also be local residents, who would live locally and commute to work daily, or DIDO from across the region, who would be accommodated at the construction camp while on work rosters. Consequently, the construction workforce will not require additional housing in Wudinna or other towns and the impact on the affordability of housing has been assessed as **low**.

As discussed in Section 22.7.2, it is possible that some construction workers may, for their own reasons, move to the local area. It is also possible speculative investment may occur. This has the potential to cause increased demand for housing and therefore impact housing affordability. This is considered to have a **minor** consequence as it would be short term during the construction phase and is **unlikely** to occur given that construction workers would stay at the construction camp during their work roster. As such the overall risk of the construction workforce placing increased demand on housing and affecting housing affordability is considered to be **low**.

Housing Impacts in Wudinna

During consultation some residents raised a number of potential issues associated with the capacity of the local housing market to support an increase in the residential population and potential flow-on effects on housing affordability.

Iron Road will encourage the operational workforce for the CEIP to reside locally however this may not be a viable or attractive option for some employees, at least in the first instance. Catering for the LDC option by providing accommodation at the long-term employee village on the outskirts of Wudinna is important, as inadequate provision for the operational workforce would place considerable pressure on short-term visitor accommodation, as well as on the supply and cost of housing for local residents and workers employed in other industries in Wudinna.

It is anticipated that over time between 20% and 60% of the mine site workforce and approximately 50% of support workers employed in flow-on jobs may choose to relocate to live in the local area, which would give a residential workforce of between 100 and 430 people. Assuming the household composition of incoming residents is similar to Roxby Downs, this might result in an additional 17 to 72 single person households, 78 to 337 family households and 5 and 22 group households in Wudinna DC (refer to the Social Impact Assessment Technical Report in Appendix Q for more information on the population analysis).

As discussed in Section 22.7.2, towns within daily commuting distance of the mine include Warrambo, Wudinna and Lock. Kimba and Rudall can also be reached within an hour or so by car. Given the limited services that are available in Warrambo, it is unlikely to be the preferred choice for incoming workers and their families, although some young single workers may choose to live there, given its proximity to the mine site. As noted previously, operational workers may also choose to drive from coastal or other inland locations on the Eyre Peninsula or the broader region and stay in the long-term employee village during their work rosters.

An analysis of the housing market suggests there is minimal capacity in the township of Wudinna to accommodate a large increase in demand, with 24 dwellings in Wudinna (UCL) recorded as being unoccupied at the 2011 Census (2012a) and few building approvals in the district in 2012-2013 (ABS 2013i). While any unplanned increase in housing demand would lead to rising housing costs, the availability of company accommodation in the long-term employee village would provide a mitigation to meet underlying demand and avoid accommodation shortages in the short to medium term.

The Federal House of Representatives Standing Committee on Regional Australia (2013) has pointed to the importance of making land available for housing development in resource communities, which requires the support and involvement of local and state government in planning and development processes. Case studies by AHURI (Haslam McKenzie et al 2009) similarly highlight the importance of effective and co-ordinated growth management during periods of boom in the resources sector.

In this regard, Iron Road will support the preparation of a Structure Plan by the Wudinna DC and will collaborate with both the Wudinna DC and South Australian Government to facilitate planning for new residential development, including the provision of strategic infrastructure, to ensure housing demand would not out-strip supply. With forward planning, there may also be opportunities to support township growth/resource management issues on a more sustainable and cost effective basis and create new investment benefits.

Reduced affordability of housing in Wudinna due to housing demand from CEIP workers and their families relocating to live in Wudinna has been assessed as a **low impact**, acknowledging that there is potential for housing demand to outstrip supply in Wudinna in the short term as a result of a lag in housing construction.

The potential for competition for local housing to drive up house prices in Wudinna over the longer term has been identified as a risk as it could occur if the management controls such as the structure planning process or the supply of workforce housing in the long-term employee village or mine site camp are not effective. The consequence of increased house prices is considered to be **moderate** reflecting that it would be an ongoing social issue and the likelihood has been assessed as **possible**, as it could occur within the lifetime of the proposed mine. As such the overall risk is considered to be **medium**.

22.7.4 Social Character and Wellbeing

Issues identified in community consultation and a review of mining projects and developments in other rural communities highlight potential impacts on social character and wellbeing associated with:

- Changes to the nature, character and lifestyle of the community as result of population growth, demographic change and the influx of a large LDC workforce.
- Increases in the cost of living and development of a two tiered economy in Wudinna.
- Safety and security, including the misuse of alcohol and drugs, crime and anti-social behaviour and perceptions of safety.

These impacts are discussed below.

Social Change in Wudinna (Community Cohesion, Identity and Lifestyle)

The presence of a large LDC workforce residing in the long-term employee village on the outskirts of Wudinna has the potential to impact on community cohesion, identity and lifestyle, particularly when the characteristics of the incoming population differ significantly from the existing population.

Residents in Wudinna have expressed concerns about changes to the existing social fabric and sense of community as a result of the LDC workforce and the displacement of farming families. Lifestyle impacts on the townships of Port Neill and Tumbly Bay as a result of the proposed port facility at Cape Hardy have also been raised by local residents.

A review of mining projects in other rural communities highlights the potential impacts on community identity and cohesion, culture and lifestyle as a result of population increases and the presence of a large transient workforce, including the development of an 'us versus them' mentality (Rolfe et al. 2003; Petkova et al. 2009; Jacquet 2009; Storey 2010; Carrington and Pereira 2011; Haslam McKenzie 2009 and 2012, Federal House of Representatives Standing Committee on Regional Australia 2013).

As noted earlier, the construction workforce for the proposed mine would be accommodated in a self-contained accommodation camp within the proposed mining lease. While workers may visit nearby townships to purchase goods or for social and recreational purposes, it is envisaged that most workers would spend their free time at the self-contained camps, with minimal short-term impacts on the social fabric of nearby townships.

Approximately 600 workers would be required for the operation of the proposed mine and infrastructure corridor. Approximately half of these workers would be Iron Road employees and accommodated (at least initially) in the long-term employee village in Wudinna, with the remainder of the contract workforce accommodated at the mine site. This has the potential to affect the social, cultural and economic fabric of Wudinna, both positively and negatively.

The size of the operational workforce based in Wudinna, whether arriving as residents or part of a LDC workforce, would represent a large increase in the township's population and comprise people with a different demographic profile, values and background to existing residents. At the 2011 Census, the township of Wudinna had a resident population of 560 people and comprised an older profile than the surrounding district, with more women than men and low levels of cultural diversity. This is in contrast to the likely makeup of the operational workforce and their families. In addition, the development of the long-term employee village on the perimeter of town could potentially lead to perceptions of an 'enclave' of highly paid workers, living in separate facilities 'outside' of the residential community, who support the town's economy but have a limited sense of connection to it and do not participate in, or contribute to the functioning of the community.

The location and design of long-term employee village provides an opportunity to integrate the village and town communities. Opportunities could also be provided for employees to build networks with the community and to have a more 'normal' work experience through interaction and participation with the local community (for example, in sports clubs, socializing, volunteering and community projects). The use of local services and facilities by LDC workforce would also increase opportunities for interaction between non-resident workers and local residents and promote a greater sense of familiarity and belonging. Directing resources and efforts to building relationships and investing in benefits for the community and employees would enhance integration and social cohesion between residents and non-resident workers.

As noted by a number of researchers including Brown et al. (2005) and Brasier et al. (2011), community perceptions of impacts vary over the stage of development, with negative impacts highest during the initial stages of growth and development. In the medium to long term, population increase in Wudinna as a result of the CEIP residential workforce could also have a positive effect on the social fabric of the community as a result of families and young people returning to the community, improvements in the level and type of services, an expanded membership base for local recreational and volunteer organisations and a greater diversity of lifestyles and opportunities that would be afforded in a larger township. Iron Road will work with the Wudinna DC to develop strategies to strengthen social cohesion and social interactions between non-residents, incoming residents and existing residents in Wudinna.

The decreased community cohesion as experienced by existing residents as a result of the presence of a large LDC workforce in Wudinna has been assessed as a **medium impact** as it will be a long-term change experienced by the local community.

The long-term positive change experienced by the local community from a greater diversity of lifestyles and opportunities in a larger township and local employment and business opportunities leading to higher household incomes has been assessed as a **medium benefit**.

The potential for decreased community cohesion in Wudinna to be worse than predicted has been identified as a risk as it could occur if the strategies to increase community interaction between existing and incoming residents are not effective. As this would be an ongoing social issue it has been assigned a consequence of **moderate** and the likelihood has been assessed as **possible**, as it could occur within the lifetime of the proposed mine. As such the overall risk of decreased community cohesion and well-being is considered to be **medium**.

Cost of Living

Consultation with residents and a desktop review of the literature has identified potential issues associated with increased housing and living cost as a result of wage and price inflation and the development of a two tiered economy based on the mining and non-mining sectors (Brereton and Forbes 2004; Storey 2010; Reeson et al 2012; Haslam McKenzie et al 2013, South Australian Centre for Economic Studies 2013).

As noted previously, income levels are relatively low in the Wudinna DC, with personal median income in the order of \$550 per week in 2011 (ABS 2012a). This is in contrast to the likely income of a mining workforce, where personal incomes could be in the order of \$2,000 a week or more, based on the average income of people employed in mining Australia wide (ABS 2013f, refer to the Social Impact Assessment Technical Report in Appendix Q for more information). This highlights the potential socio-economic divide when a large number of people involved in the mining industry and associated sectors, who have high disposable incomes, reside alongside a population not involved in mining, on substantially lower incomes.

These effects may be more noticeable among particular population groups, for example women, the elderly and people on low or fixed incomes. Research by Reeson et al (2012) examined income equality and mining employment in 781 Statistical Local Areas in regional Australia and found that while income inequality initially increases with mining activity, it decreases at intermediate and high levels of mining activity (ie once mining employment passes 10%). However, there were major differences between men and women; among females, they found income inequality increases throughout the range of mining employment levels, most likely due to the tendency towards male dominated workforces in the mining sector. Lozeva and Marinova (2010) have similarly reported on the male dominance of the mining sector and barriers to women's employment. Jacquet (2009) found that elderly persons are often the most at risk as they face a double impact of a largely fixed income among high inflation as well as more ridged resistance to social changes in the community. Schelton and Morris (2006), Haslam McKenzie and others (2012 and 2013) and Storey (2010) have also pointed to the potential marginalisation of people employed outside the mining sector or in low income jobs as a result of high living costs.

Numerous studies have also identified positive economic and social benefits from mining as a result of economic diversification, increased employment, household income and expenditure, reduced welfare dependence, expansion of business opportunities, improved services and infrastructure, such as roads and communication, town development and improvements to buildings and housing, financial and other support for local community groups, increased land and property values and improvements in other quality of life indicators (Brereton and Forbes 2004; Lawrie et al 2011; Rolfe et al 2003 and 2007c; House of Representatives Standing Committee on Regional Australia 2013).

The management measures outlined in Section 22.6.2 include a number of mitigations that provide a means to address potential income differentials between existing residents and incoming mine workers and cost of living pressures. These include strategies to enhance local employment and business opportunities, to facilitate the employment of women in the proposed mine and to maintain housing supplies and affordability.

The effect of income inequality and cost of living pressures on critical population groups such as women, the elderly and people on low or fixed incomes has been assessed as a **medium impact** as it would occur in the local community over an extended period.

Although it is not anticipated that the effect of cost of living pressures on critical population groups, as a result of wage and price inflation from the operation of the proposed mine, will be higher than predicted, this has been identified as a risk given that broad range of factors that can affect cost of living, which are largely beyond the control of Iron Road. As this would be an ongoing social issue it has been assigned a consequence of **moderate** and the likelihood has been assessed as **possible**, as it could occur within the lifetime of the proposed mine. As such the overall risk of decreased community cohesion and well-being is considered to be **medium**.

Safety and Security

Some residents in the community have expressed concerns about safety and security as a result of the CEIP, particularly during the construction stage. The concerns include the potential misuse of alcohol and drugs, workforce behaviour, increasing crime rates and decreasing levels of trust and perceived safety associated with the FIFO workforce and changes in the size and characteristics of the population in Wudinna.

Concerns about increasing levels of crime and fear of crime have been identified in other mining developments (Rolfe et al. 2003; Carrington and Pereira 2011; Petkova et al. 2009; Federal House of Representatives Standing Committee on Regional Australia 2013). Among the factors that may potentially contribute to the community's concerns about safety and security from the CEIP are:

- The age and gender of the incoming workforce, comprising a large number of young, generally single male workers who may be perceived as less accountable to the local community, or who have different views about acceptable behaviour.
- Alcohol and substance misuse, with high levels and tolerance of alcohol consumption within particular industries, locations, occupations and population groups, including mining and construction (Australian Institute of Health and Welfare 2008; Iverson and Maguire 2000; Carrington et al. 2010; Lozeva and Marinova 2010; Federal House of Representatives Standing Committee on Regional Australia 2013).
- Disruption to existing social networks as a result of a large increase in the resident and non-resident population.
- The presence of 'strangers' who are unfamiliar to local people leading to greater suspicion and distrust.
- Behaviours that are more prominent or visible in smaller rural communities than in larger cities (such as substance abuse and gambling).
- An older population with a higher proportion of women and lower income levels in the existing community, which may increase the fear of crime (Grabowsky 1995; Tulloch et al. 1998; ABS 2010b).

As noted by Haslam McKenzie (2012), a LDC workforce provides companies with considerable control over the labour force as accommodation and work sites are usually 'closed', the supply of alcohol is regulated and worker behaviour is closely monitored, with minimal opportunities for negative interactions with the broader community.

In addition, most mining companies have strict policies about the use of alcohol and other drugs affecting fitness for work and use random testing of breath or body fluids to monitor for presence of alcohol and drugs and ensure workplace safety. Iron Road would implement these policies for the CEIP, as well as workforce inductions to communicate safety and security expectations, among other matters.

The construction camp at the mine site would be enclosed, with a gatehouse and security systems established at the entrance to sites to monitor and control site access and all vehicles entering sites via these checkpoints. Iron Road would also install security systems, including an Electronic Access Control System (EACS) and Closed Circuit Television (CCTV) at all accommodation sites and would develop and implement appropriate visitor management policies and procedures. In addition, workers would be required to sign a 'Code of Conduct', linked to their employment contract, outlining behavioural expectations applicable to workforce accommodation and in local towns. Contractors as well as employees would be required to adhere to the code of conduct and Iron Road's policies regarding drugs and alcohol.

There is potential for the construction workforce at the mine site to visit local towns and tourist attractions for social and recreational purposes. However, these opportunities would be limited given the distance of the construction camps away from major townships and the FIFO and bus-in/bus-out workforce arrangements. While on work rosters, workers would have limited free time and would be likely to spend their leisure time at the camp. During their rostered time off-site, they would be at their usual residence elsewhere.

As noted earlier, the police station in Wudinna is currently staffed by one officer during business hours from Monday to Friday and after hours as required, with additional police support also available from Port Lincoln.

Iron Road will liaise with police and provide regular updates of workforce schedules so that the South Australian Police can ensure adequate police resources would be available. It will also work with police, local councils, residents and other stakeholders to develop and implement community-based safety awareness programs and strategies to reduce the potential for crime and fear of crime.

The induction process, implementation of 'fitness for work' policies, community feedback/complaints mechanisms and police presence in nearby townships would minimise the potential for negative interactions between the workforce and local communities.

Adverse impacts on the safety and security of the community from the construction workforce and the operational workforce of the CEIP Infrastructure has been assessed as a **medium impact**, as some residents in Warrambo and Wudinna are likely to experience a heightened sense of concern during construction and the early stages of operation of the CEIP.

The potential for the security controls or the employee code of conduct to be ineffective in controlling workforce behaviour has been identified as a project risk with a **moderate** consequence as it would be an ongoing social issue. It is considered **possible** that this could occur, giving an overall risk rating of **medium**.

22.7.5 Amenity, Access and Disturbance

Consultation with stakeholders has identified a number of potential social impacts associated with the proposed mine that were raised by some members of the community, including the displacement of farming families, altered local access due to road closures and the loss of amenity. These social issues are discussed below. In addition, the potential air quality, noise and vibration, traffic and transport and visual amenity impacts of the proposed mine have been assessed and are reported in Chapters 15, 16, 8 and 20 respectively. Figure 15-1 in Chapter 15 shows sensitive receivers within the vicinity of the proposed mining lease.

Displacement of Farming Families

A number of concerns have been raised by some landholders in Warrambo about the displacement of farming families as a result of the mine, including the lack of choice and emotional challenges for directly affected landholders and the effects on the community from the loss of landholders and farming families.

The land contained within the proposed mining lease is currently held by six families. Of these, one family would be required to relocate for mining and processing to occur due to the location of the home. One other family may choose to reside on the land as their home would not be directly impacted by the mining and processing infrastructure. One family is an absentee landlord and therefore is not directly affected by any requirement to relocate. The other three families do not live within the proposed mining lease boundary and may choose to move if their remaining land is insufficient to provide a viable business or they are unable to purchase nearby additional land. The decision to stay in the local area or to relocate outside of the district would be made by individual landholders.

For some landholders, negotiations about the acquisition of land and property are viewed positively while other landholders may feel stress and are concerned over the loss of land and/or property, which in some cases has been held within the family for generations. Many farmers have a strong attachment to the land and the surrounding district and are worried by the proposed changes and lack of choice. The uncertainty and emotional stress this can create and the link to mental health has been raised in discussions with stakeholders. To assist landowners deal with these challenges, Iron Road has had a voluntary and confidential professional counselling service available for landholders and their families since August 2013. In addition, Iron Road will work with directly affected landholders to provide practical and appropriate support and assistance where sought.

Potential changes to the social fabric and sense of community as a result of the proposed mine are discussed in Section 22.7.4. As noted in Section 22.3.1, the Wudinna DC has experienced population losses of around 40% from 1976 to 2011. Potentially, the mine's operation may attract new people to live and work in the area and reverse this population decline. There is also a process of ongoing change within rural communities as farming families move in and out of the area. This is evidenced by data from the State Valuation Office (2015) which shows that since 2010, there have been 102 sales of primary production sections in Wudinna DC, including 44 properties with a house.

The permanent displacement of some farming families and loss of productive agricultural land as a result of the mine has been assessed as a **medium impact** as it will be a long-term change affecting the local community.

There is a risk that the loss of land within the proposed mining lease will have a greater impact than predicted to individuals or the wider community as it is difficult to accurately predict how individuals and communities will cope with change. This has been assigned a consequence of **moderate** reflecting that it will be a long-term change and a likelihood of **possible** as it could occur during the lifetime of the proposed mine. This gives an overall risk rating of **medium**.

Effects on Landholders around Warrambo

During consultation with local landholders and residents in Warrambo, some members of the community raised concerns about amenity impacts associated with dust, noise and vibration, increased traffic, changes to visual amenity and road closures.

At the 2011 Census Warrambo (which is located approximately 5 km west of the mine pit) and surrounding area had a resident population of 47 people (ABS 2012b, Mesh Block Counts). Other towns include Kyancutta, Wudinna and Lock, which are located approximately 12 km, 25 km and 40 km from mine site respectively.

The air quality assessment concluded that dust emissions from the proposed mine site would comply with air quality standards at all sensitive receptors outside the proposed Mining Lease boundaries for the construction phase and the peak mining phase. It also predicted nuisance dust impacts at the sensitive receptors would be within the criteria set by the NSW Environment Protection Authority for the protection of amenity from nuisance dust.

While Iron Road would comply with legislative air quality limits, local landholders may be concerned about amenity and nuisance impacts from the mine. To reduce potential amenity impacts from dust, Iron Road would adopt the following best practice management measures (see also Chapter 15 Air Quality):

- Establish real-time dust monitors at government approved locations.
- Provide real-time information to local landholders and the Warrambo community on dust monitoring via the internet.
- Continue to operate a toll free phone hotline and a complaints management system with targets for the time taken to respond to / take action on complaints and grievances; this may require the investigation and implementation of additional controls and adaptive management measures as required.

- Prepare information and education programs and hold regular forums with residents and stakeholders to discuss air quality issues.

The assessment of noise and vibration for the CEIP Mine found that noise criteria, based on the Environment Protection (Noise) Policy 2007 (Noise Policy), would be met at all of the nearest sensitive receivers during the construction and operation of the proposed mine.

Iron Road is willing to discuss and negotiate land acquisition with those landowners that are adjacent to the proposed mining lease if those landowners wish to move because mining operations are impacting negatively on the use and enjoyment of their land.

Community members in Warramboos have raised concerns about the increased travel times as a result of road closures and the impact of the mine on the supply of utilities.

Every effort has been made to minimise the increases to travel times, but by the very nature of a mine, roads must go around the facility. Sections of existing public roads that fall within the proposed mining lease and would be closed include:

- Dolphin Road
- Murphy Road
- Kimba Road
- Lock Road

There would be no road closures on Schulze Road (on the north-west boundary of the proposed mining lease), on Nantuma Road (on the southern boundary) and on Mays Road (on the eastern boundary) to maintain public access around the proposed mine site.

The Traffic Impact Assessment (refer to Chapter 8) noted that these roads provide access to a small number of farming properties and have very low traffic volumes. Access to the township of Warramboos from outlying areas around the proposed mine site would be maintained via Nantuma and Schultz Roads. The closure of public roads within the mine site would increase travel times and cause some inconvenience for local residents, landholders and other road users. For example, a motorist travelling east from Warramboos could use Nantuma Road as a replacement for the closed section of Kimba Road, which would increase travel time by approximately seven to eight minutes. In the context of the large distances and travelling times experienced by people living in remote rural areas, this increase, while unfortunate, is unavoidable.

Iron Road would work with councils and the community on planning for the closure of public roads. It would also liaise with local schools to discuss any impacts on bus routes due to road closures or increased traffic during the construction and operation of the CEIP, including the transport of modules. Local residents and road users would also be regularly informed of planned changes to traffic and access conditions.

Existing mains water, electricity supply and telecommunications are not the ownership of Iron Road. Iron Road would work with the owners of these utilities eg SA Water, Electranet and Telstra, to provide plans and timely updates on project progress. Iron Road, the Council and the utility owners would work closely with the specific aim to eliminate or minimise any disruption to services as a result of the mine development.

The long-term changes to amenity and lifestyle of local residents in Warramboos as a result of permanent road closures and consequent additional travel time for local landholders and road users around the mine site has been assessed as a **medium impact**.

Risks associated with amenity impacts in regards to air quality, noise and vibration, traffic and transport and visual amenity impacts of the proposed mine are reported in Chapters 15, 16, 8 and 20 respectively.

Effects on Landholders at Wudinna

Potential social impacts are associated with the loss of amenity and nuisance for landholders and visitors in Wudinna as a result of construction and operation of the long-term employee village. In the short term, construction activities associated with the long-term employee village in Wudinna could cause some inconvenience and disturbance to residents and visitors (for example, as a result of building activity, construction noise, untidiness and increased traffic). Iron Road will develop and implement construction and operation environmental management plans to control amenity related impacts and risks for the project. This will include a complaints management system to receive, document and respond to community concerns and complaints. Iron Road will also continue the program of active engagement and consultation with the local community to provide timely information about the project and planned works to assist in reducing disruptions and complaints.

The operation of the long-term employee village is not expected to substantially impact on people's experience or enjoyment of the local area and residents, workers and visitors would be able to continue to live, work and recreate in the township in the same way as they currently do.

Changes to amenity as a result of the proposed long-term employee village in Wudinna are expected to have a **low impact** on the social environment due to short term nuisance from construction activities.

Risks associated with amenity impacts in regards to air quality, noise and vibration, traffic and transport and visual amenity impacts of the proposed mine are reported in Chapters 15, 16, 8 and 20 respectively.

22.7.6 Closure and post closure social impacts

The proposed mine is expected to operate for 25 years. During this time, significant changes will occur within the local community, as discussed above, including establishment of a number of new businesses. A generation will have grown up having only experienced a local economy and environment where the mine was an important component. Consequently, mine closure will have significant social and economic impacts.

Iron Road has committed to working cooperatively with local government and the South Australian Government on closure planning and adjustment programs. These will be outlined in the social management plan and developed further over the mine life as the social and economic changes and potential post-mining opportunities become more apparent. Measures could include:

- Collaborative process with the community and government to determine post mining land uses on the proposed mining lease area that will maximise local economic benefits
- Ongoing consultation with the community and service providers and provision of updates on closure planning and employment implications
- Collaborative programs with the community and government during mine life to diversify the local economic based and reduce dependence on the CEIP.
- Support for retraining programs
- Investigation of opportunities for redeployment of workers within Iron Road
- Support for business planning and marketing that will assist businesses to diversify their income, or for business relocation
- Agreement with the Wudinna District Council on the post mining land use for the employee village and facilitation of transition to this use including, if required, removal of any components and reinstatement of the land.

Despite these measures, it is unlikely that the region will be able to sustain the level of economic activity and employment numbers that occurred while the mine was in operation. Consequently, mine closure is expected to have a long term negative impact on the regional study area and, consequently, is rated as a **high** impact.

Poorly managed closure, including unplanned early closure, could result in serious wide spread social impacts. Given the measures above, this is considered to be **unlikely** but is rated as a **major** consequence and hence is a **high** risk.

22.7.7 Summary of Impacts and Risk

All impacts and risks were considered to be as low as reasonably practicable and not warrant specific control measures, other than standard environmental management controls and measures outlined in this Chapter. A summary of each of the identified impacts and risks associated with traffic at the proposed mining lease is presented in Table 22-22.

Table 22-22 Impact and Risk Summary: Social Environment

Impact ID	Impact Event	Level of Impact ^{1,2}	Level of Risk ³
IM_22_01, 02, 03, 04, 05, 06, 07, 08	Creating long-term employment at the local, regional and state level.	High benefit	-
IM_22_09, 10	Providing direct and indirect business development opportunities at the local, regional and state level.	High benefit	
IM_22_11	Permanent displacement of some farming families and loss of productive agricultural land as a result of the mine.	Medium impact	Medium
IM_22_12	Changes in population and demography of local areas and associated demand for government and community services in nearby townships from the construction workforce.	Negligible impact	Low
IM_22_13	Changes in population and demography of DC Wudinna and associated demand for government and community services from the operational workforce of the proposed mine.	Medium impact	Medium
IM_22_14	Competition for local housing during construction drives up house prices in Wudinna.	Low impact	Low
IM_22_15	Competition for local housing during operation and closure drives up house prices in Wudinna.	Low impact	Medium
IM_22_16	Changes to the nature, character and lifestyle of the Wudinna community as a result of the presence of a large LDC workforce and population increases (decreased community cohesion as experienced by existing residents).	Medium impact	Medium
IM_22_17	Adverse impacts on local residents experiencing a heightened sense of concern for safety and security during construction and in the early stages of the mine's operation due to the presence of the construction and operational workforce.	Medium impact	Medium
IM_22_18	Mine employment results in labour shortages in other regional and local industries.	Medium impact	High
IM_22_19	Positive changes from the increased population as a result of the operational workforce of the proposed mine including reversing population declines, providing expanded membership base for volunteer organisations and a critical population mass to support opportunities and services in the long term.	Medium benefit	-

Impact ID	Impact Event	Level of Impact ^{1,2}	Level of Risk ³
IM_22_20	Wage and price inflation from the operation of the proposed mine places cost of living pressures on critical population groups such as women, the elderly and people on low or fixed incomes.	Medium impact	Medium
IM_22_21	Permanent road closures on and adjoining the proposed mining lease result in additional travel time for local landholders and road users with impacts on amenity and lifestyle.	Medium impact	Low
IM_22_22	A greater diversity of lifestyles and opportunities in a larger township and local employment and business opportunities leading to high household incomes in the long term.	Medium benefit	-
IM_22_23	Closure of the mine causes social and economic disruption in the local area due to the loss of employment opportunities and economic and social benefits.	High impact	High

22.8 Justification and Acceptance of Residual Impact and Risk

With the implementation of design and management measures, all residual impacts and risks have been categorised as medium or lower, with the exception of the risk of increased competition for workers and resources and the risk from mine closure of social and economic disruption, which are both classified as a **high** risk. As discussed in Section 22.7.1 a consequence rating of **major** has been assigned to the risk of labour drawdown given the wide spread social impact that labour shortages could cause, although this is considered **unlikely** to occur. Iron Road are committed to working collaboratively with government, education and training providers and other relevant organisations to expand the pool of available labour across the Eyre Peninsula, train and up skill local and regional people to work on the project and enhance business capacity among local and regional suppliers. These management strategies are considered to be appropriate to manage the risk.

A number of measures have been proposed to manage the socioeconomic impacts of mine closure. These will be further developed over the mine life. As such the social impacts and risks are considered to be as low as reasonably practicable.

22.9 Proposed Outcome(s) and Criteria

In accordance with the methodology presented in Chapter 6, outcomes have been developed for all impact events with a confirmed linkage between source, pathway and receptor. Each outcome is supported by measurable assessment criteria that will be used to assess compliance against the proposed outcomes during the relevant phases (construction, operation, closure) of the project. Whilst outcomes may be the same for multiple impact events, separate measurement criteria and leading indicators are proposed to demonstrate compliance. Proposed outcomes and measurement criteria have been developed for each of the impact events identified with a confirmed linkage and these are presented in Table 22-23. Outcomes for the entire project are presented along with all impact events in Appendix C.

Table 22-23 Outcomes and Assessment Criteria: Social Environment

Proposed Outcome	Impact ID	Impact Event	Draft Outcome Measurement Criteria	Draft Leading Indicator Criteria
Landowners directly affected by the proposed mine are regularly consulted in a transparent and respectful way and fair compensation is paid for acquisition of land	IM_22_11	Permanent displacement of some farming families and loss of productive agricultural land as a result of the mine	<p>Evidence that communication has occurred at agreed timeframes.</p> <p>Any complaints about Iron Road's conduct during negotiations are addressed within 30 days to the satisfaction of the affected parties or the Director of Mines.</p> <p>Annual review of land use on the proposed mining lease during construction, operation and closure demonstrates it is not reasonably practicable (e.g. for security or safety reasons) to allow more land to be leased for agricultural purposes.</p>	Not required
No reduction in community satisfaction with government and community services that can be attributed to Iron Road's operations	IM_22_12	Increased demand for government and community services in Wudinna from construction workforce	<p>Annual survey of community satisfaction with government and community services shows:</p> <ul style="list-style-type: none"> - no sustained reduction in community satisfaction against a range of indicators to be specified in the social management plan, or - if there is a sustained decline in community satisfaction, independent investigation confirms this is due to reasons beyond Iron Road's control. <p>The social management plan will define what represents a 'sustained reduction' for each indicator.</p>	<p>To be developed through social management plan. Example indicators are:</p> <ul style="list-style-type: none"> - Range of services provided - Median times to access services - Waiting times for health services - Number of teachers, police officers, doctors and other healthcare professionals per head of population.
	IM_22_13	Increased demand for government and community services in Wudinna from operational workforce		

Proposed Outcome	Impact ID	Impact Event	Draft Outcome Measurement Criteria	Draft Leading Indicator Criteria
To the extent of Iron Road's influence, housing affordability is maintained in Wudinna DC	IM_22_14, 15	Competition for local housing drives up house prices in Wudinna	<p>Audit confirms Iron Road has built employee and contractor accommodation to the design capacity specified in the PEPR.</p> <p>Annual review confirms Iron Road has maintained accommodation availability within the range and in the timeframe specified in the social management plan.</p>	<p>Criteria to be further developed through social management plan based on monitoring of:</p> <ul style="list-style-type: none"> - Median house price - Median residential rents - Number of vacant houses and new residential builds - Per cent of households paying greater than 30% of their income on housing costs.
No compromise to community cohesion and well-being as a result of Iron Road's operations	IM_22_16	Decreased community cohesion and well-being	<p>No sustained decrease across a range of community cohesion and well-being indicators such as:</p> <ul style="list-style-type: none"> - range of services provided - percentage of Iron Road workers living locally - contribution of Iron Road workers to the community through volunteer work - corporate support for community programs - social integration of Iron Road workers into the community - community health. <p>below overall levels to be specified in the social management plan.</p> <p>The social management plan will define what represents a 'sustained reduction' for each indicator.</p>	<p>Regular survey of local residents indicates most residents consider Iron Road has had a positive impact on the community.</p>

Proposed Outcome	Impact ID	Impact Event	Draft Outcome Measurement Criteria	Draft Leading Indicator Criteria
No compromise to community safety and security as a result of Iron Road's operations	IM_22_17	Increased community concerns about safety and security	Investigation of breaches of the Code of Conduct for Iron Road workers are completed within 14 days, or as agreed by the Director of Mines and action taken as specified in Iron Road's disciplinary procedures.	<p>No increase on a per capita basis in the number of callouts or complaints to police.</p> <p>No increase on a per capita basis in the number of breaches of the Iron Road Code of Conduct by employees.</p> <p>Regular community survey demonstrates no sustained increase in community fear of crime.</p>
No compromise to the viability of other local and regional industries as a result of labour shortages caused by Iron Road.	IM_22_18	Mine employment results in labour shortages in other regional and local industries	Iron Road's commitments to support education and training programs are included in the social management plan and met within the specified timeframes.	To be developed through social management plan, if required.
To the extent of Iron Road's influence, the cost of living in the Wudinna DC is maintained at an affordable level.	IM_22_20	Wage and price inflation from the operation of the proposed mine places cost of living pressures on critical population groups such as women, the elderly and people on low or fixed incomes	Evidence that Iron Road has contributed collaboratively with business and government on actions in the social management plan to control cost of living increases in the Wudinna DC	<p>Criteria to be developed in social management plan based on:</p> <ul style="list-style-type: none"> - monitoring of CPI increases - number of people on income support by age and gender.
Disruption to local traffic is as low as reasonably practicable	IM_22_21	Permanent road closures on and adjoining the proposed mining lease result in additional travel time for local landholders and road users with impacts on amenity and lifestyle	Review undertaken in consultation with Wudinna Council confirms all road closures are necessary for mine safety and security	None proposed

Proposed Outcome	Impact ID	Impact Event	Draft Outcome Measurement Criteria	Draft Leading Indicator Criteria
The Central Eyre Iron Project results in a positive social and economic legacy for the local community	IM_22_23	Closure of the mine causes social and economic disruption in the local area due to the loss of employment opportunities and economic and social benefits	Improvement in a range of social and economic indicators (to be developed in the social management plan) from the pre-mining to post mining situation.	None proposed

22.10 Findings and Conclusion

The SIA has identified a range of social effects, both positive and negative, which are anticipated if the proposed mine is developed and operated. A number of additional social effects which may arise from development and operation of the proposed mine have also been identified as project risks. Iron Road has developed a range of design measures and management strategies to minimise potential adverse impacts and risks and maximise potential benefits.

The key findings and conclusions from the SIA of the proposed mine are as follows:

- The assessment of employment and business found that the proposed mine would generate new direct and indirect employment opportunities at the state, regional and local levels, in the short and long term. It would also generate new business opportunities in the short and long term at the local, regional and state level through the direct provision of goods and services to Iron Road and its contractors and flow-on effects in other sectors of the economy as a result of higher incomes levels and increased consumer spending. However the proposed mine could also draw labour and resources from existing local and regional businesses leading to increased competition for workers and resources. Iron Road will implement a range of management measures designed to maximise the benefits and minimise the impacts on employment and business.
- While the construction of the long-term employee village in Wudinna could cause some short-term inconvenience and disturbance to residents, workers and visitors, the long-term employee village is not expected to have a long-term impact to amenity in Wudinna.
- The size, demography and income of the operational workforce in Wudinna, whether arriving as residents or residing in the long-term employee village, could affect the social, cultural and economic fabric of Wudinna through reduced community cohesion and income inequality. However, in the medium to long term, population increase in Wudinna as a result of the CEIP residential workforce could also have a positive effect as a result of families and young people returning to the community, improvements in the level and type of services and a greater diversity of lifestyles and opportunities that would be afforded in a larger township. Iron Road will work with the Wudinna DC to develop strategies to strengthen social cohesion and social interactions between non-residents, incoming residents and existing residents in Wudinna.
- For some landholders, negotiations about the acquisition of properties are viewed positively while other landholders are concerned about the loss of land and/or property, a lack of choice and the impact of proposed changes on their families and the community. To assist landowners deal with these challenges, Iron Road has already provided support for voluntary and confidential professional counselling. Nonetheless, these negotiations may result in emotional stress and uncertainty for some landholders over the long term.

- Population modelling indicates that the mine's operation could potentially result in growth of between 260 and 960 people in the Wudinna DC, if 20% to 60% of workers and their families chose to relocate there. Further population increases of around 290 people could also occur from growth in support industries. This would lead to an increase in the district's population of between 20% and 100% from 2011. This would reverse current population losses in Wudinna, provide a larger membership base for local organisations and potentially bring a critical mass to support different lifestyles, opportunities and services in Wudinna.



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