

CHAPTER 22

SOCIAL ENVIRONMENT



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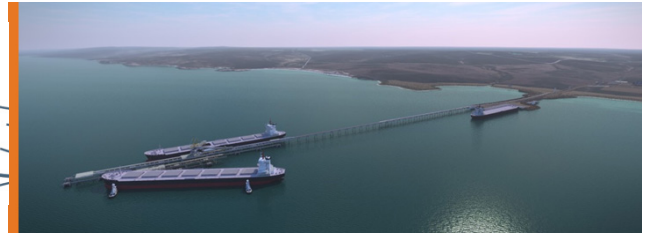
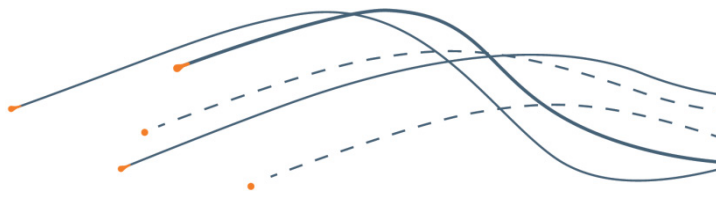
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22 Social Environment

The proposed CEIP Infrastructure 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 CEIP Infrastructure. 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.

Social risks associated with the project that are not planned or anticipated but could reasonably occur during the construction and operation of the CEIP Infrastructure are also considered. A detailed Social Impact Assessment Technical Report for the whole of the CEIP (including the proposed mine site) is provided in Appendix Y.

The economic effects of the project are addressed separately in Chapter 21 Economic Environment.

The District Council (DC) of Elliston has not been included in this chapter as no element of the CEIP Infrastructure falls within that jurisdiction. However, the Social Impact Assessment Technical Report (Appendix Y) gives full details about possible social implications for that area.

Residents from within the DC of Elliston area will be a possible resources pool for Iron Road to source staff, as towns located within that DC area are close enough to some elements of the CEIP to be drive in/drive out workers.

Full details about social impacts as a result of the proposed CEIP Mine are addressed in detail in the Mining Lease Proposal. This chapter does refer to the CEIP Mine and its workforce due to the proposal for much of its operational workforce to be housed in the long-term employee village adjacent to the town of Wudinna, which is an element of this EIS.

22.1 Applicable Legislation and Standards

This social impact assessment (SIA) is required to address the requirements of the EIS Guidelines for the CEIP Infrastructure issued by the Minister for Planning under the *Development Act 1993*. Outside of the Development Act there is no specific legislation or standards that are relevant to social impacts. However, the assessment method for the social impact assessment 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 Impact Assessment Method

The key elements of the SIA process are outlined in Figure 22-1. The process is informed by community and stakeholder consultation and engagement, which has been undertaken by Iron Road since 2011 (refer to Chapter 6 Stakeholder Engagement). The 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, landowners and other key stakeholder groups to identify potential issues and service implications from the CEIP Infrastructure.
- Other social research to identify potential impacts and benefits, mitigations and enhancements.

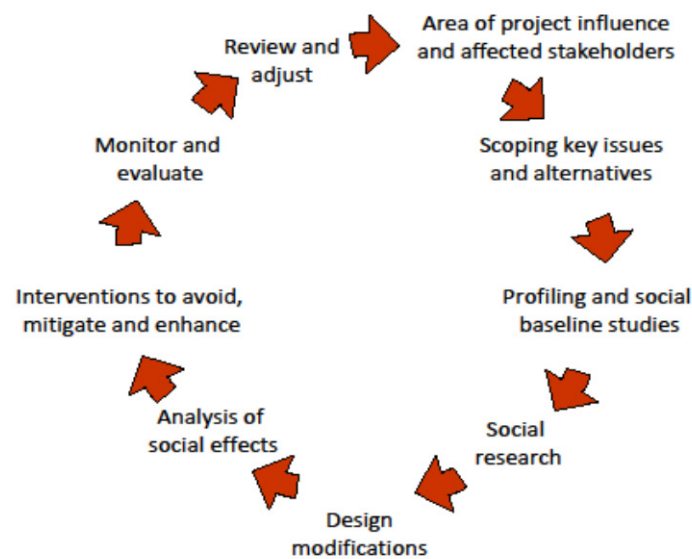


Figure 22-1 Social Impact Assessment Process (adapted from Franks 2012)

22.2.1 Study Areas

The SIA focuses on the communities that are most likely to be affected by the proposed CEIP Infrastructure. These communities comprise two distinct study areas being the local study area and regional study area.

The local study area comprises the local government areas (LGAs) that contain components of the proposed mine and CEIP Infrastructure and includes:

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

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 CEIP.

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 Kimba, 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 Tumby Bay)
- 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 CEIP Infrastructure, 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 CEIP Infrastructure. This included consultation with:

- Elected members and staff of the Wudinna DC, DC of Cleve, DC of Kimba and DC of Tumby Bay
- Members of the CEIP Community Consultative Committee, Port Neill Reference Group and Tumby Bay and Districts Community Consultative Group, including residents, landowners 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 the CEIP, including by an Iron Road full time staff member based in the local area (refer to Chapter 6 Stakeholder Engagement).

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 CEIP Infrastructure.

22.2.5 Impact Classification

The social impacts and benefits have been assessed in accordance with the methodology outlined in Chapter 9.

22.3 Existing Social Environment

This section provides an overview of the existing social environment in the region surrounding the CEIP. 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 Y.

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 DC on the 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 22-2, the DC has experienced population losses over the past three decades, a trend that 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

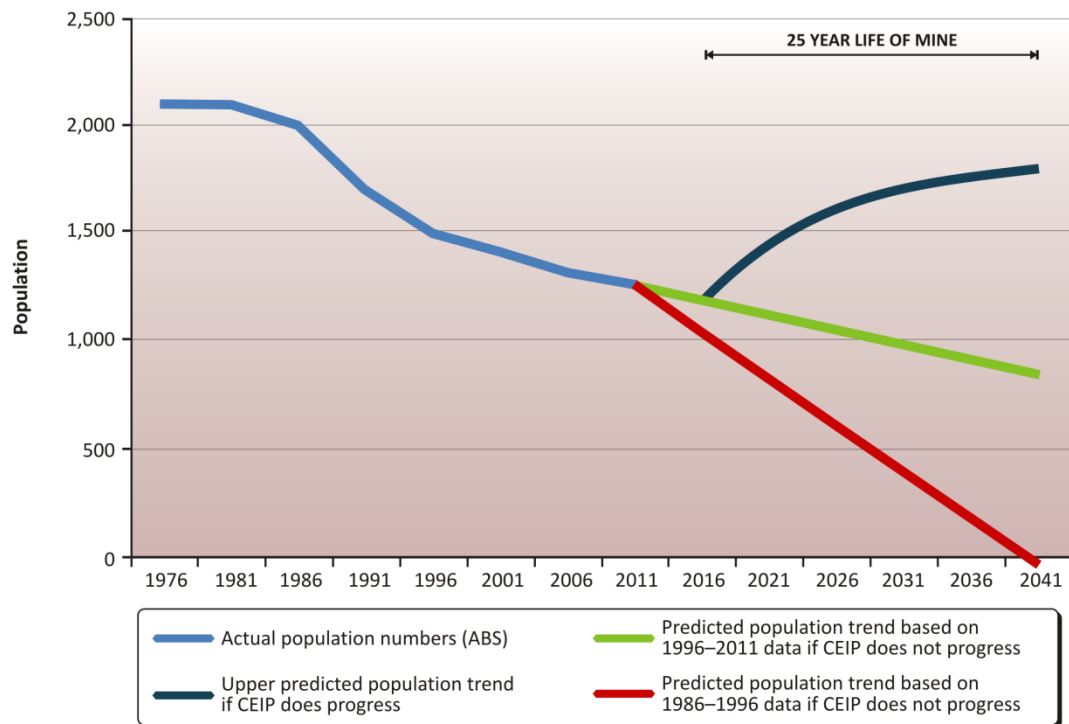


Figure 22-2 Historic and Predicted Population Change in Wudinna DC

The township of Wudinna is the main service centre for the district, and offers a range of retail, social and recreation services (refer to Plate 22-1). If the CEIP goes ahead, the proposed long-term employee village would be located adjacent to the town. 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

District Council of Kimba

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 Cleve

The DC of Cleve covers an area of approximately 4,505 km² and includes the major township of Cleve. The district will be 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 and the Townships of Tumby Bay and Port Neill

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 2012e). 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 population of retirees (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.

Port Neill is a small coastal town located approximately 40 km north of Tumby Bay and 5 km north of the proposed port site entrance (refer to Plate 22-2). At the 2011 census, it had a resident population of 136, whose median age was 60, and comprised a majority of women (ABS 2012e). Median housing costs are relatively high in Port Neill compared to the local study area and at the 2011 census, over 60% of private dwellings were unoccupied.



Plate 22-2 Houses in Port Neill

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 2012a). 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 Cleve.

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

Census Characteristics	Wudinna DC	DC Kimba	DC Cleve	DC Tumby Bay	Eyre region	South Australia
Number of usual residents	1,253	1,088	1,733	2,586	56,396	1,596,572
Number of visitors ¹	103	96	105	129	4,039	62,312
Population change 2006-2011 ² (as %)	-4.5	-2.5	-8.5	1.8	1.2	5.4
Ratio male: female	51:49	51:49	52:48	50:50	51:49	49:51
Population density ³ (person/km ²)	0.2	0.3	0.4	1.0	0.2	1.7
Aboriginal people ⁴ (persons)	19	11	10	20	3,225	30,431

Census Characteristics	Wudinna DC	DC Kimba	DC Cleve	DC Tumby Bay	Eyre region	South Australia
Aboriginal people ⁴ Proportion of all people (as %)	1.5	1.0	0.6	0.8	5.7	1.9
Born in Australia (as %)	93.9	91.3	93.5	91.4	82.9	73.3
English-speaking only (as %)	95.8	95.4	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	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	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, 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, 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 that contrast to South Australia as a whole, which can be summarised as follows:

- More men than women, particularly within the DC of Cleve
- A low proportion of Indigenous residents, particularly within 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 the other DCs and South Australia. This is illustrated further in Figure 22-3, 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).

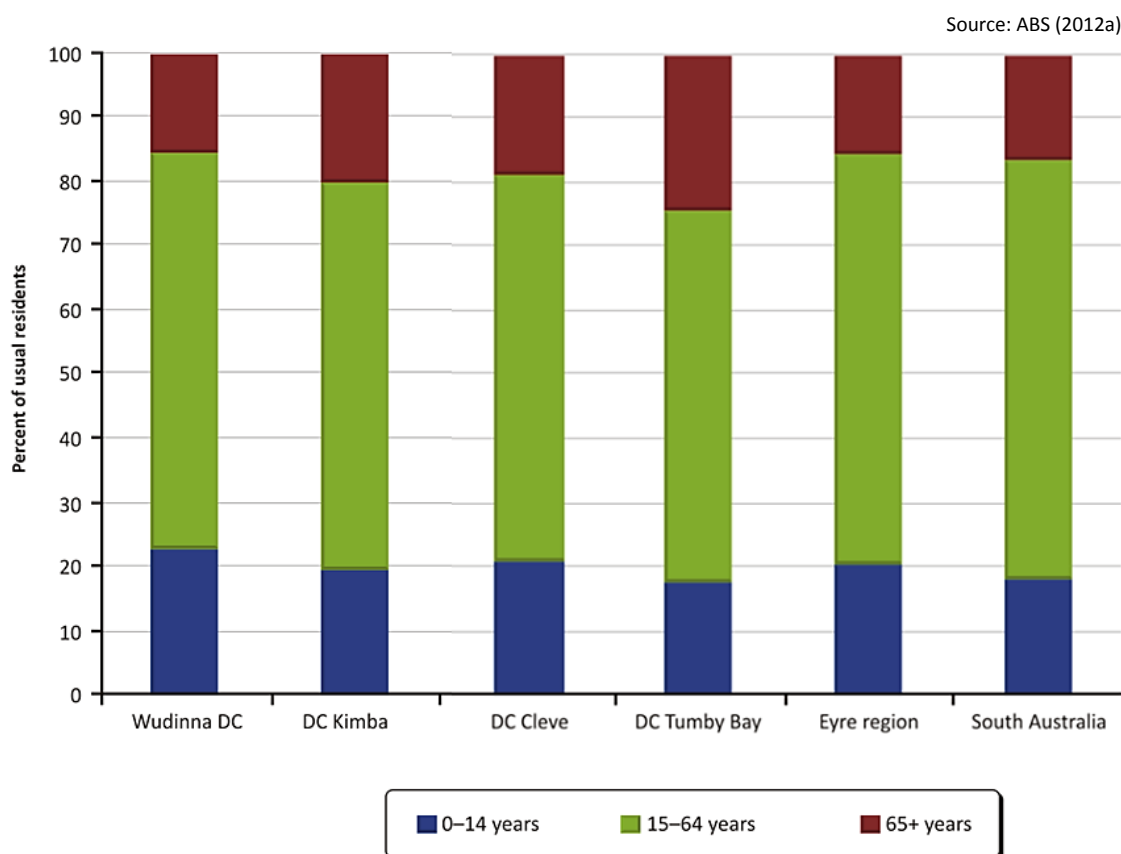


Figure 22-3 Age Profile for Local and Regional Study Areas and South Australia, 2011

The townships of Wudinna, Tumby Bay and Port Neill have different age profiles compared to the larger council areas, as shown in Figure 22-4. 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. In contrast, the suburb of Warramboo (SSC) had a younger age profile and more men than women compared to Wudinna.

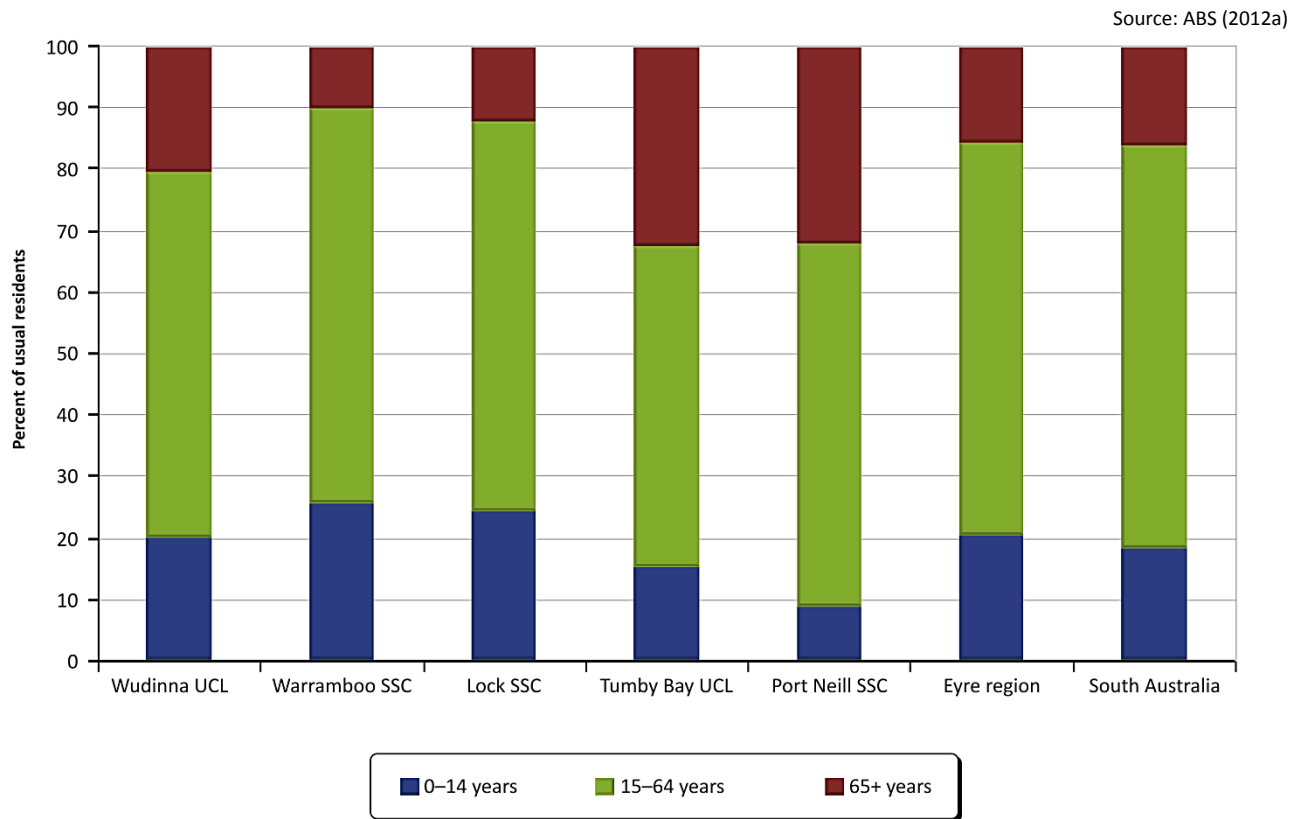


Figure 22-4 Age Profile in Local Townships and Suburbs and South Australia, 2011

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 greatest losses occurring in the DC of Cleve. In the case of Wudinna DC and the DC of Kimba, this compounds population losses between 2001 and 2006, as illustrated in Figure 22-5.

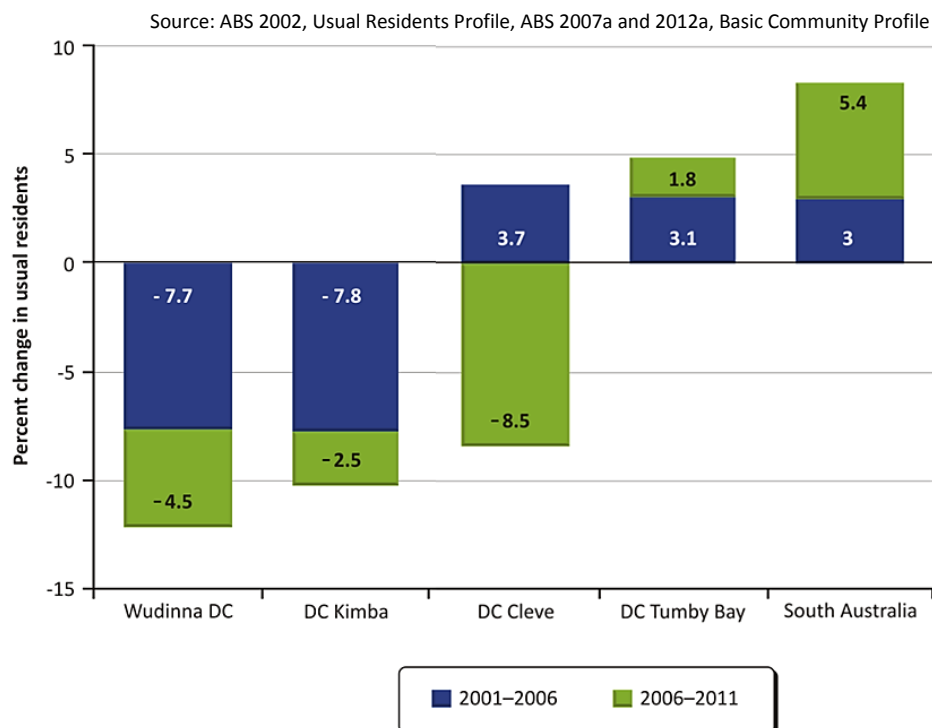


Figure 22-5 Population Change in Local Study Areas and South Australia, 2001-2011

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 Tumby Bay (DPLG 2011). 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 22-6 shows the proportion of different household types in the local study areas, the Eyre region and South Australia.

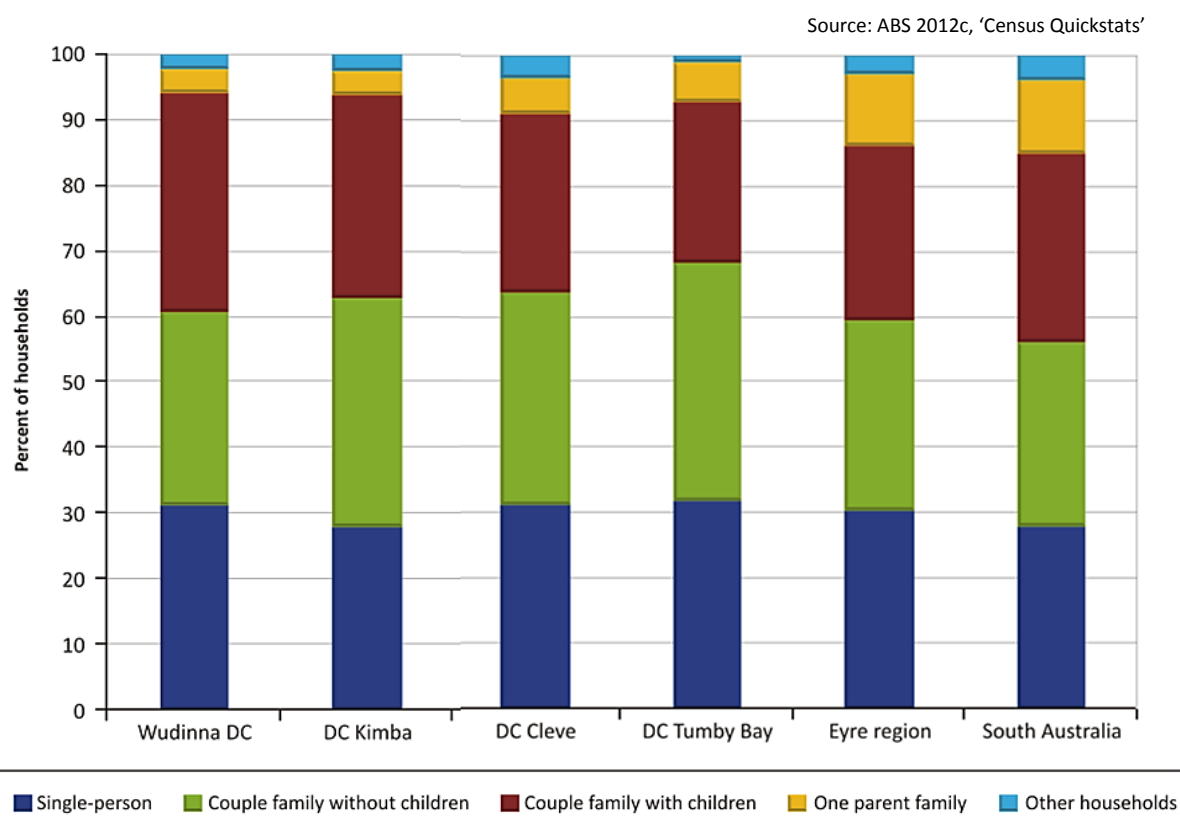


Figure 22-6 Household Types in Local Study Areas, Eyre Region and South Australia, 2011

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 the DC of Kimba.
- A relatively high proportion of families without children, particularly in the DC of Tumby Bay, and a lower proportion of single parent families.
- A relatively high average number of children per family.

The characteristics of families that distinguish the DCs are:

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

The townships of Wudinna, Tumby Bay and Port Neill differ in a number of characteristics from the DC areas at large, and have a higher proportion of single-person households and fewer family households.

Figure 22-7 shows the proportion of households by weekly income ranges in the local study areas, the Eyre region and South Australia.

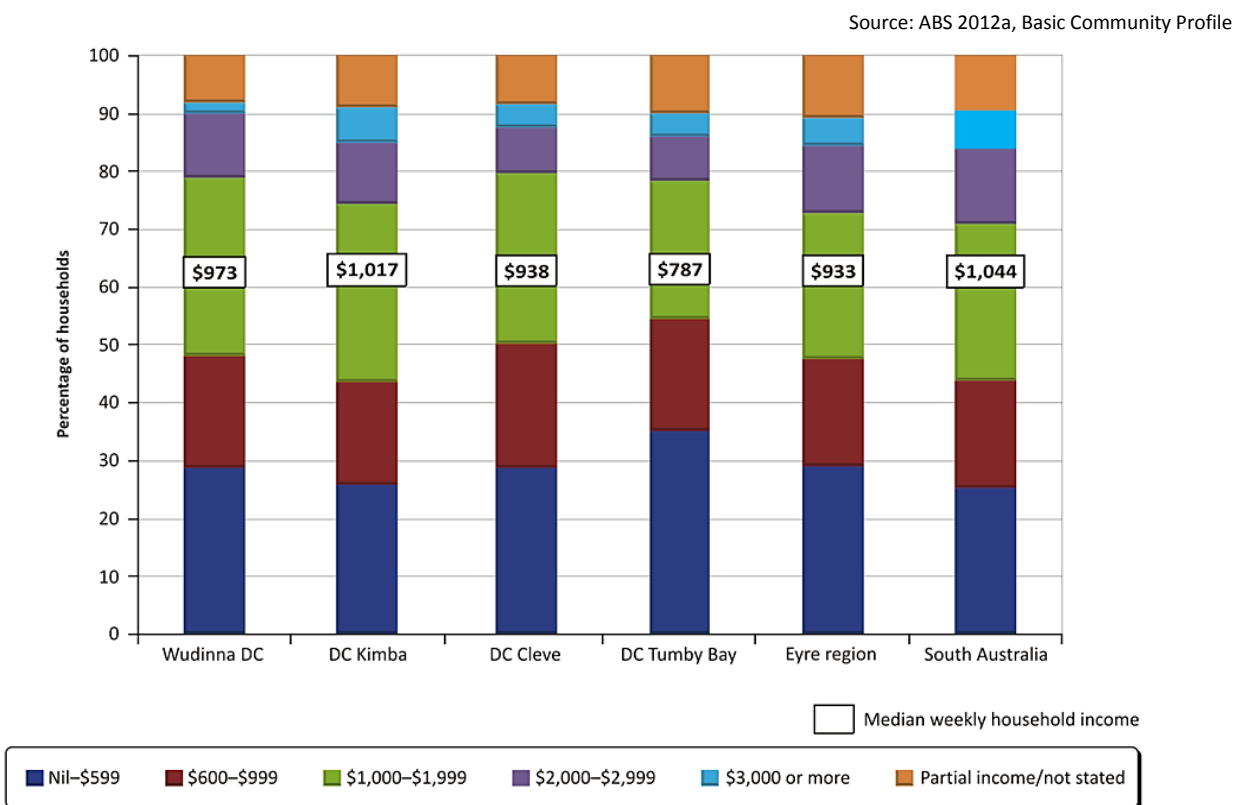


Figure 22-7 Weekly Household Incomes in Local Study Areas, Eyre Region and South Australia, 2011

This highlights the relatively low median weekly household incomes in all of the DCs in the study area, particularly in Tumby Bay where there is 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.

22.3.4 Housing and Accommodation

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

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

³ Of occupied private dwellings.

Housing Profile

The local study areas had a relatively high proportion of unoccupied private dwellings in comparison to South Australia, 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).

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)	Warramboo (SSC)	Lock (SSC)	Tumby Bay (UCL)	Port Neill (SSC)
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 (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 (for % of rented properties)					
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
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 Tumby Bay and State Suburb (SSC) of Port Neill.

¹ Excludes visitor only and other non-classifiable households.

² Warramboo 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 six quarters from March 2012 to March 2014. 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 2014). 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 of 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
DC of Kimba	3	3	4	0	1
DC of Cleve	5	5	5	2	4
DC of Tumby Bay	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 (the DC of Tumby Bay 2013c). The development options presented in the plan provide for allotment yields of up to 825m² – 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 ten-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
• Warramboo SSC	30	542
DC of Kimba	85	575
DC of Cleve	85	733
DC of Tumby Bay	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
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, 2013 and 2014, which shows some variability in sales prices over this period.

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 22-8 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 Port Lincoln, compared to other local and regional study areas.

Source: State Valuation Office 2013

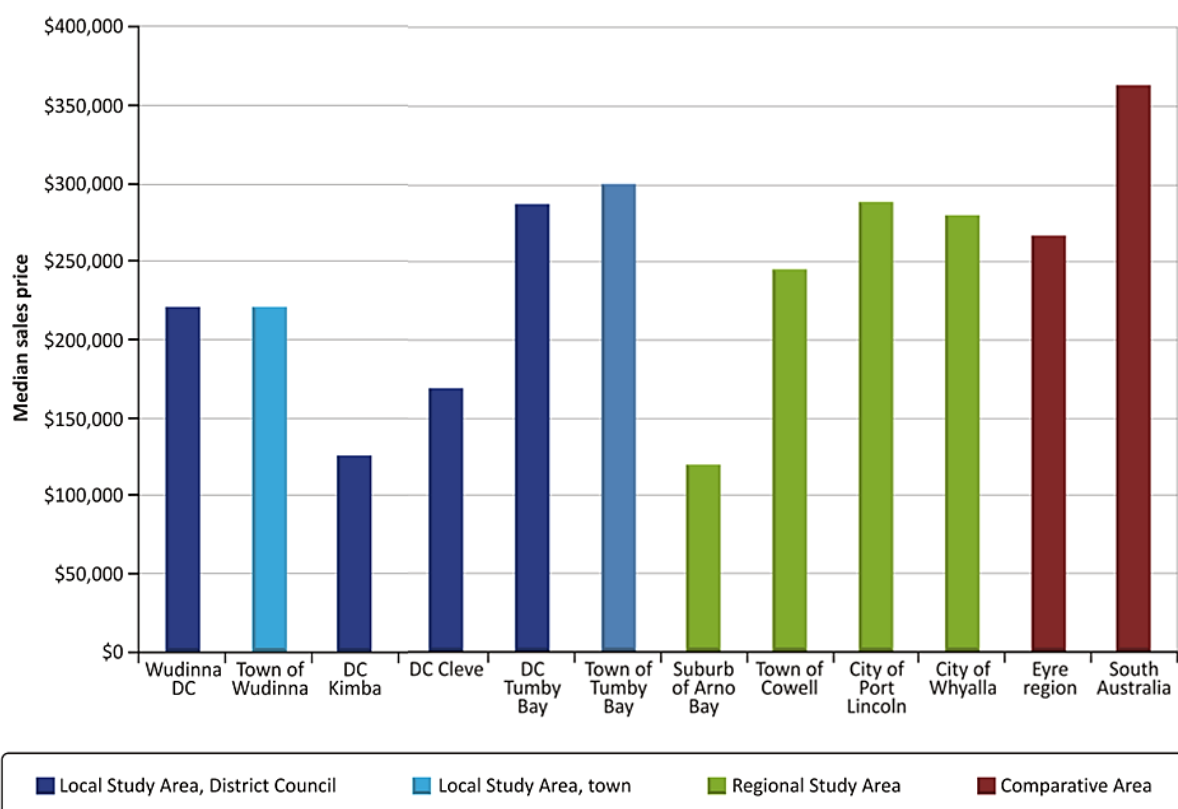


Figure 22-8 Median Residential House Sales Price in 2012

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 Tumby Bay than other local study areas), or on mortgage repayments (although this proportion is higher in the DC of Tumby Bay compared to the rest of the local study area). 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 Cleve	DC Tumby Bay	Eyre region	South Australia
Rent is 30% or greater of income	2.0%	1.0%	2.6%	7.3%	8.2%	9.3%
Mortgage payments is 30% or greater of income	1.9%	1.0%	4.2%	6.2%	6.1%	8.8%

Source: ABS 2012c, 'Census Quickstats', for LGAs of Wudinna, Kimba, 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 22-9 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.

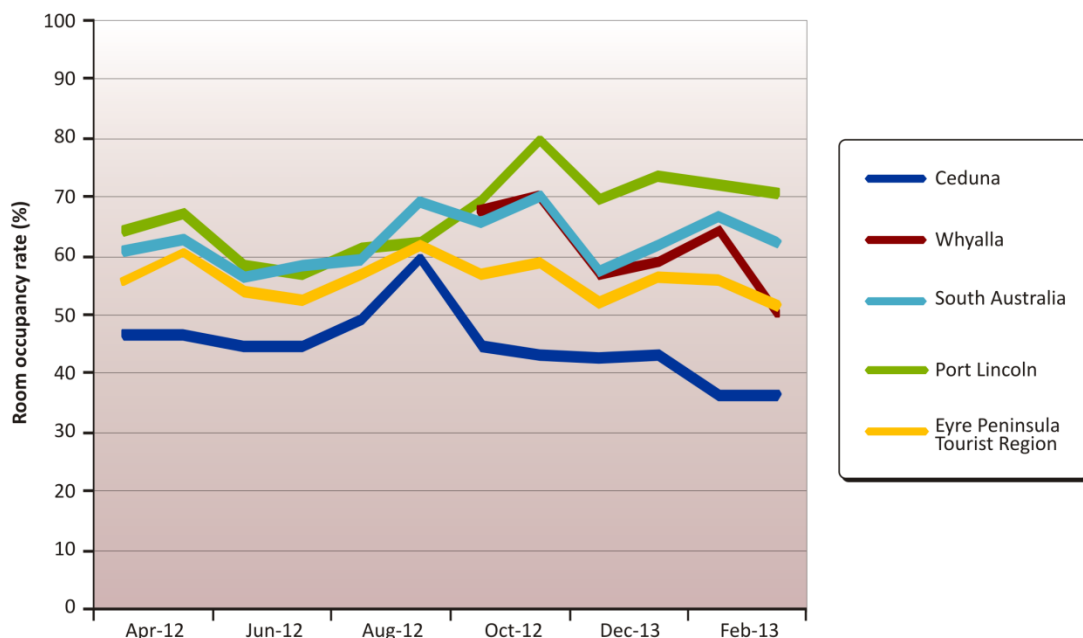


Figure 22-9 Monthly Room Occupancy Rates in Tourist Accommodation in Regional Centres, Eyre Peninsula Tourist Region and South Australia, April 2012 to March 2013

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, 2010h, 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

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.

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 the DC of Tumby Bay, which has an older age profile, the local study area has 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 across 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).

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

Source: ABS 2012a, Basic Community Profile, selected labour force statistics, for LGAs of Wudinna, Kimba, 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.

Figure 22-10 shows the unemployment rates in the local and regional study areas, Regional South Australia and South Australia in the September quarter, 2014. 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 (2014)

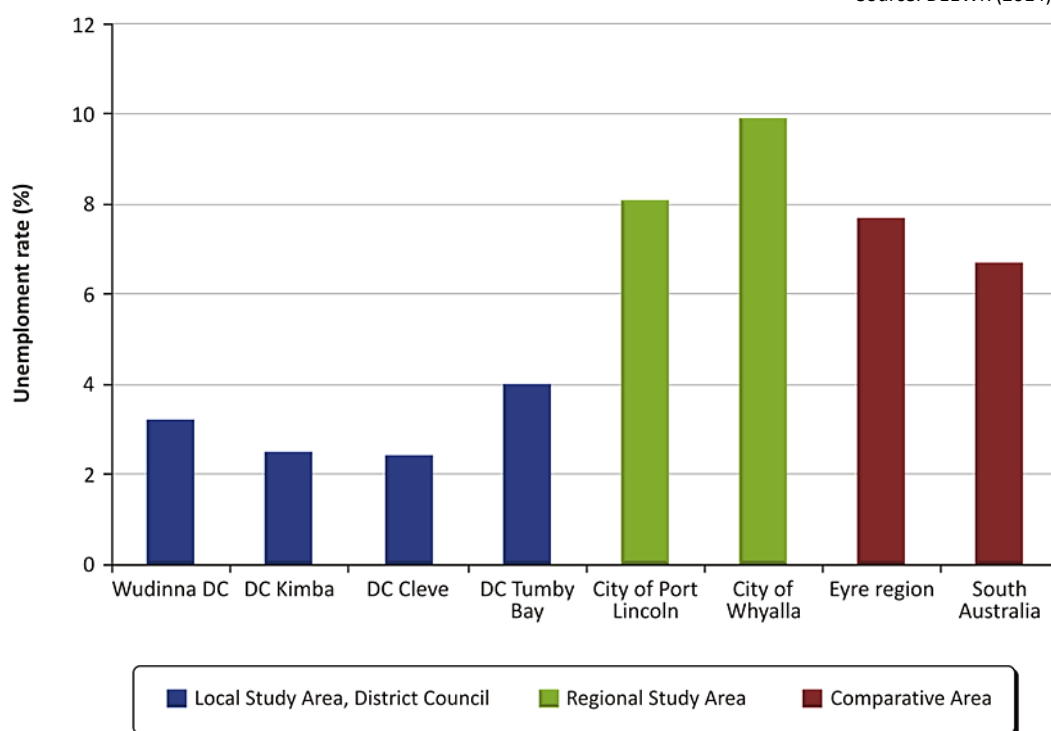


Figure 22-10 Unemployment Rate in Local Study Areas, Eyre Region, and South Australia, December Quarter 2014

Industry and Occupation

Figure 22-11 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.

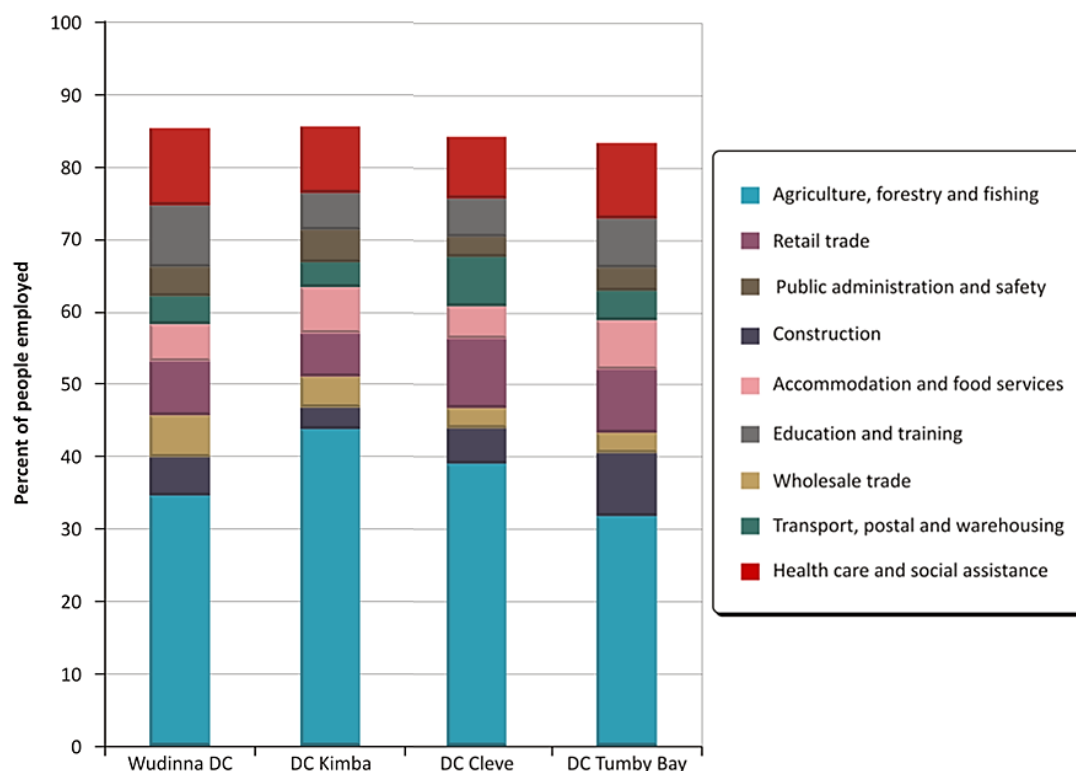


Figure 22-11 Top Employing Industries in Local Study Area, 2011

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

Source: ABS 2013a, National Regional Profile for LGAs of Wudinna, Kimba, 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.

Farming

The Eyre Peninsula relies on agriculture, fishing and tourism as the predominant industries, with the region's agriculture producing more than 38% of South Australia's wheat crop and 26% of the barley crop (RDAWEP 2011a).

Agriculture production is largely dependent on broadacre farming. According to ABARE (2006), broadacre farming accounted for 95% of farms in the region in 2004 and comprised over 2,240 farms, of which more than 86% relied mainly on grain growing or combined grain and livestock production. While around 48% of the region's farms are relatively small (with the value of agricultural production less than \$150,000), the majority of the region's agricultural production occurs on medium and large sized farms, with around 80% of the total value of the region's agricultural production occurring on farms with an output greater than \$300,000, and just over 55% occurring on farms that have an output of more than \$600,000 (ABARE 2006). The financial performance of broadacre farms is reliant on seasonal and market conditions which can vary from year to year.

Tourism

Tourist activities on the Eyre Peninsula are varied and include coastal and aquatic activities such as swimming, diving, boating, water skiing, whale watching, fishing and other marine activities. Outdoor and nature-based activities include camping, hiking / bush walking and wildlife watching. Other attractions include food and wine and Indigenous culture and heritage, such as the Indigenous Tourism Trail and Kuju Aboriginal Arts in Port Lincoln.

Among the specific attractions in the Eyre Peninsula region are:

- Gawler Ranges National Park
- Lincoln National Park
- Coffin Bay National Park
- Sir Joseph Banks Marine Conservation Park
- Port Lincoln's Tunarama (held annually over the Australia Day long weekend).

Data sourced from Tourism Research Australia's National and International Visitor Surveys (2011-2012) shows that of domestic overnight visitors to the Eyre Peninsula region, the top three areas visited were Port Lincoln (39%), Whyalla (24%) and the southern Eyre Peninsula (16%). Port Lincoln, the West Coast and Ceduna were the most popular locations for international visitors on the Eyre Peninsula. Visitors participated in experiences such as food and wine, nature-based activities, culture and heritage and Indigenous culture.

22.3.6 Social Services and Facilities

This section provides an indication of the range of social services and facilities available in townships that may provide a base for the construction and operational workforce for the CEIP Infrastructure. This includes the townships of Wudinna, Port Neill and Tumby Bay. 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 (current December 2013)

Town facilities	Wudinna	Port Neill	Tumby Bay
School	Yes	Yes	Yes
Kindergarten	Yes		Yes
Library	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
State Emergency Service	Yes		Yes
Ambulance	Yes	Yes	Yes
Banking / EFTPOS	Yes	Yes	Yes
Post office	Yes	Yes	Yes

Town facilities	Wudinna	Port Neill	Tumby Bay
General store / supermarket	Yes	Yes	Yes
Internet access	Yes	Yes	Yes
Vehicle repairs	Yes		Yes
Fuel	Yes	Yes	Yes
Motel / hotel	Yes	Yes	Yes
Caravan / camping	Yes	Yes	Yes
Café / restaurant	Yes	Yes	Yes
Liquor license	Yes	Yes	Yes
Swimming pool	Yes		
Recreation and sport facilities	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 22-12). 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.

The township of Port Neill offers a limited number of social services, including the Port Neill Primary School, community library, post office, town oval and accommodation.

The township of Tumby Bay is an important service centre for the district and surrounding communities. It offers a range of retail services including supermarkets, hairdressers, gift shops, bakery, accommodation and eating places, various recreation and sporting facilities as well as rural suppliers, insurance agencies, fuel outlets, RAA representative and mechanical suppliers (DC of Tumby Bay 2013b, 'Services').

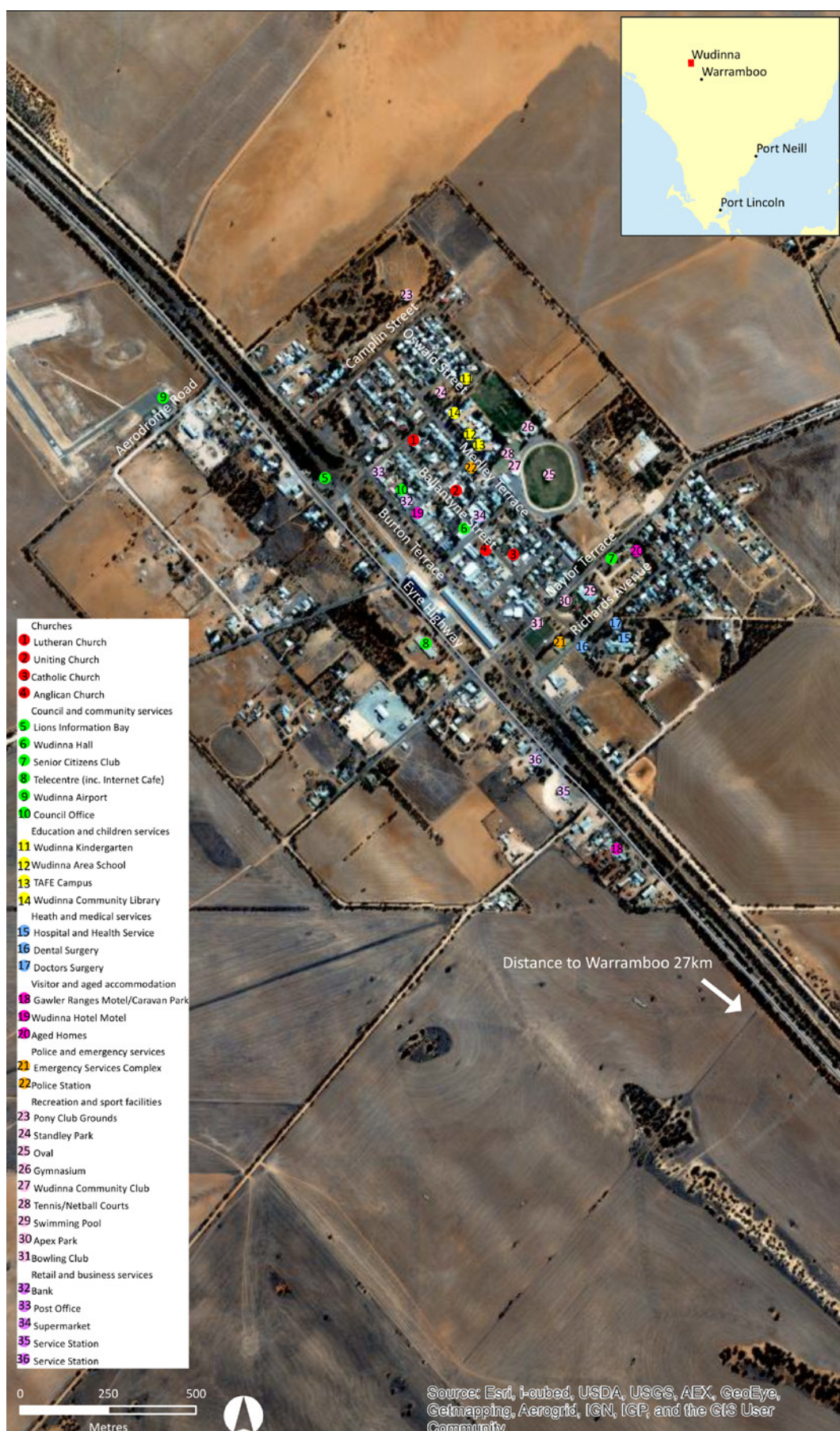


Figure 22-12 Existing Social Services in the Wudinna Township

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 CEIP Infrastructure. In particular, it focuses on the township of Wudinna (as the closest location to the proposed long-term employee village) and Tumby Bay (as the nearest district centre to the proposed port facility).

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 2013a and 2013b):

- 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, Warramboo, 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 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 Lock Community Health and Welfare Centre is part of the Eyre and Western Health Services. It provides primary health care and health information, assessments and referrals. There are no emergency facilities at this site.
- 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.

22.3.7 Social Character and Wellbeing

Consultation undertaken by Iron Road 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 Tumby Bay as part of the Centrex Sheep Hill Marine Port proposal (now known as Port Spencer) (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.

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, the DCs of Kimba and Cleve were among the top ranked LGAs in Australia (of 590 LGAs) in terms of the quality of life criteria. In South Australia, Kimba and Cleve ranked 4th and 7th respectively of 68 LGAs, with Kimba being the highest ranked regional LGA. 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

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.

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
Cleve	39.2
Eyre region	26.7
South Australia	19.8

Source: ABS 2012c, 'Census Quickstats', for LGAs of Wudinna, Kimba, 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 22-13 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 of 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 also scores above the Australian mean on three of four SEIFA indices and has smaller areas within the LGA that score highly. The DC of Cleve scores above the Australian mean on two of four indices, but both Wudinna DC and the DC of Cleve are in the top 80% to 90% of South Australian LGAs on all four indices.
- The DC of Tumby Bay 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.

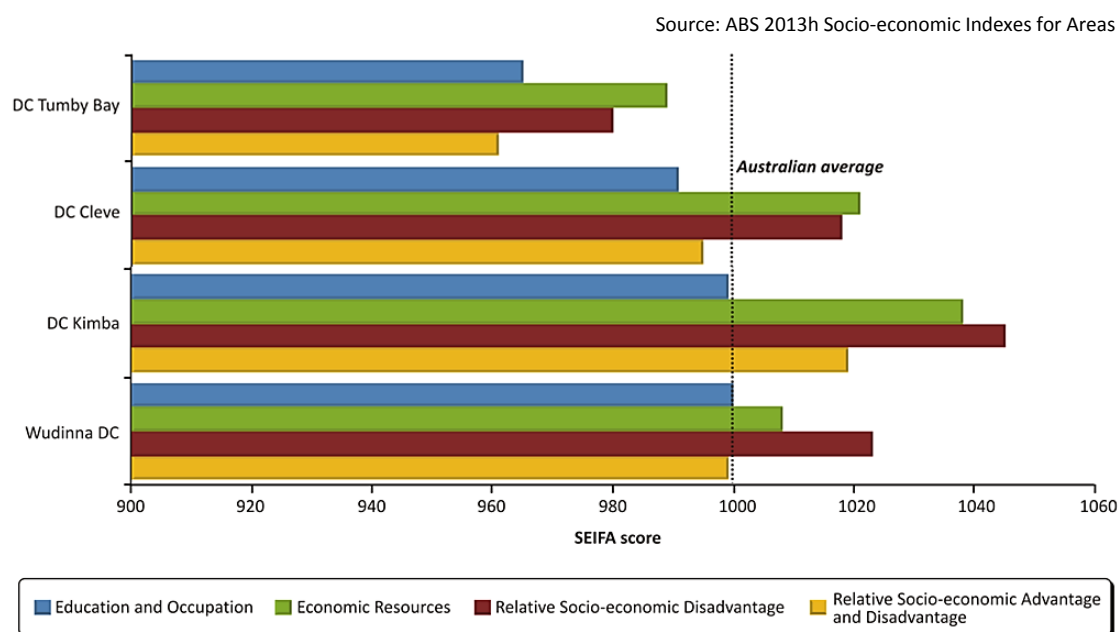


Figure 22-13 Score on SEIFA Indices in Local Study Areas, 2011

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 include:

- Relatively high rates of smoking in the DC of Tumby Bay (but lower than in the Eyre region or Regional South Australia).
- Relatively high rates of physical inactivity, particularly in the DC of Tumby Bay (but lower physical inactivity compared to the Eyre region or Regional South Australia).
- High levels of alcohol consumption at risky levels (the local study area has similar levels to the Eyre region but higher than in Regional South Australia as a whole).
- A higher proportion of people in the local study area who are overweight or obese, and fewer people in a 'normal' weight range compared to South Australia as a whole.
- 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 (except Kimba), 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 22-14 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
DC of Kimba	52.3
DC of Cleve	53.4
DC of Tumby Bay	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.

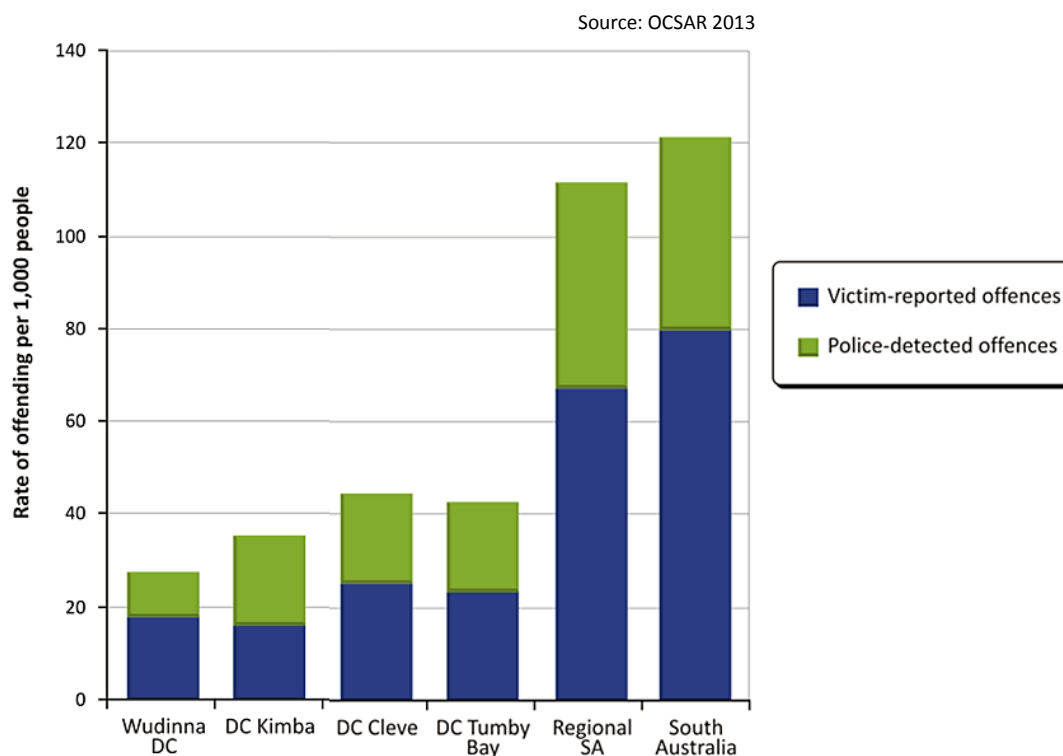


Figure 22-14 Rates of Offending in Local Study Areas, Regional South Australia and South Australia by Victim-Reported and Police-Detected Offences, 2011

22.3.8 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 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 Cleve	DC Tumby Bay	Eyre region	South Australia
Remoteness classification ¹ (2006)	Very remote	Remote	Remote	Remote	Remote	N/A
Access to the internet ² (as %) (2011)	62.1	68.8	65.2	64.7	63.9	71.1
Average motor vehicles per dwelling ³ (2011)	2.0	2.4	2.3	2.4	1.7	1.7
Dwelling without a motor vehicle ³ (as %) (2011)	4.8	3.2	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	2.6	2.9	2.7	3.0
People who had difficulty accessing services ⁴ (as %) (2010)	N/A	42.3	42.0	42.0	41.9	28.5

¹ Australian Department of Health 'Accessibility/Remoteness Areas (2006)', for suburbs of Wudinna, Kimba, 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.

The existing transport network on the Eyre Peninsula, including road safety, is discussed in further detail in Chapter 18 Traffic and Transport.

22.4 Design Modifications to Protect Social Values

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 port and infrastructure disturbance footprint wherever possible.
- The design and siting of infrastructure including:
 - Locating the temporary construction camp within the proposed port site to minimise disruption to local communities.
 - Locating the 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.
 - Locating the proposed port development site outside of existing urban areas and away from marine parks or conservation areas.
 - Locating the railway line, water pipeline and power transmission line within a single infrastructure corridor to minimise the overall impact footprint and access impacts.
 - Locating the infrastructure corridor away from townships to reduce amenity impacts associated with 24-hour operations.
 - Locating the power transmission line spur (from Yadnarie substation to the infrastructure corridor) parallel to the existing ElectraNet transmission line to minimise the area of clearance required for structures and amenity disruptions to farming operations.
 - Locating the infrastructure corridor on property or paddock boundaries to the extent practical to minimise the division of land and separation of farming activities.
 - Locating the borefield and pump stations within road reserves to minimise land disturbance and access issues.

22.5 Impact Assessment

This section assesses the expected social impacts and benefits of the CEIP Infrastructure on the local and regional community. The social impacts and benefits have been identified from a review of mining projects and related developments in rural Australia, feedback from consultation with 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 22.5.1)
- Population and social services (refer to Section 22.5.2)
- Housing and accommodation (refer to Section 22.5.3)
- Social character and wellbeing (refer to Section 22.5.4)
- Amenity, access and disturbance (refer to Section 22.5.5)

Identified impacts and benefits are categorised as being negligible, low, medium or high, as outlined in Chapter 9, Risk and Impact Definition. The categorisation of impacts considered the design modifications described in Section 22.4 and the control and management strategies outlined in Section 22.6. The SIA has focused on the major issues associated with the project, being those impacts identified as either medium or high. The impacts identified as low or negligible have been addressed only to the extent necessary to demonstrate that they have been considered.

22.5.1 Employment and Business

The CEIP Infrastructure will provide increased opportunity for local and regional employment and business development. These benefits are discussed below and the economic benefits and impacts are discussed in more detail in Chapter 21. An associated social risk is that increased employment opportunity leads to increased competition for skilled workers, discussed further in Section 22.7.1.

Local and Regional Job Creation

The CEIP will provide significant benefits by creating new long-term employment opportunities at the state, regional and local levels. The labour and skills requirements are outlined in Chapter 4, Project Description. Approximately 100 staff will be employed at the proposed port development and approximately 40 staff will be employed in the operation of the proposed railway line. The peak construction workforce is expected to comprise 500 people for the proposed infrastructure corridor and 400 people for the proposed port development. Additionally, the proposed mine will employ approximately 560 people during operations and 1050 people during construction, with a further 540 people employed at Iron Road's head office in Adelaide during construction and 60 Adelaide based staff during operation. The flow-on economic benefits from local and regional job creation are discussed further in Chapter 21 Economic Environment. Given that the CEIP Infrastructure will create long-term employment at the local, regional and State level, this is considered to be a **high benefit**.

Increased Business Development Opportunities

The CEIP will 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 both the CEIP 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 being sole traders and a quarter having between one and four 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 land (see Chapter 8 Land Use and Tenure), 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.

22.5.2 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 mine given the difficulty in separating impacts between mine site workers who are long-term residents of the long-term employee village and workers who relocate to live in the Wudinna area. No assessment has been made of impact on social services and facilities as the provision of government and non-government services is outside of the control of Iron Road.

Effects from the Construction Workforce

The presence of a temporary construction workforce near Warramboo and at Cape Hardy may increase the demand for government and community services in the nearby townships of Wudinna, Tumby Bay and Port Neill.

A total peak construction workforce of 900 people is anticipated for the proposed CEIP Infrastructure (with an additional 1050 people for the proposed CEIP Mine and 540 people at head office in Adelaide). The construction workforce will be accommodated in two construction camps, one at the proposed port site and one within the boundary of the proposed mining lease. The construction camp at the proposed port site will accommodate a peak construction workforce of 650 and the camp on the mine site near Warramboo would accommodate 1,300 construction workers (made up of approximately 1050 mine site construction workers and 250 infrastructure corridor construction workers). Construction would occur over a three year period.

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 camps 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 camps while working on the CEIP Infrastructure construction.

Some additional demands may be placed on medical and emergency services in Wudinna and Tumby Bay in the event of a serious injury, illness or workplace accident. Both Wudinna and Tumby Bay have well-equipped hospitals that provide a 24-hour accident and emergency service for the district, and are supported by local GPs, 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 one hour's drive from the proposed port facility and two hours from the mine. A career SA Ambulance service and SES also operate in Port Lincoln.

The presence of the construction workforce may also place demands on local police. Both the Wudinna and Tumby Bay police stations are staffed by one officer with additional police support available to Wudinna 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 CEIP Infrastructure construction workforce is assessed as **negligible**.

Effects from the Port Operational Workforce

It is anticipated that the operational workforce for the proposed port development of approximately 100 people will be drawn from existing residents and people who choose to relocate or return to the lower Eyre Peninsula from elsewhere.

The nearest towns to Cape Hardy are Port Neill, Tumby Bay, Arno Bay and Cummins, all of which can be reached within 45 minutes by car, and Cleve, Cowell and Port Lincoln, which can be reached within an hour (refer to Figure 22-15). The largest of these is the regional city of Port Lincoln, and except for Arno Bay and Port Neill, all serve as major centres for the surrounding district and offer a range of services. It would be feasible for operational staff to live in these towns, or in the surrounding rural area, and commute to work on a daily basis. The availability of housing in these localities, and the potential effects on housing supply and affordability is discussed in Section 22.5.3.

As discussed in Section 22.3.5, there may be limited capacity in the local labour market to meet operational workforce requirements for the port and other proposed CEIP Infrastructure in the very short term. Iron Road's preference is not to have a FIFO workforce for the proposed port and will encourage workers and their families to relocate to the Eyre Peninsula to live and work.

Population change as a result of the operation of the port could affect the demography of the local population with flow-on effects on the provision of services.

In order to understand potential population effects arising from the operation of the proposed port development, it is assumed that 50% of the operational workforce may come from existing residents, and 50% may be new residents. Based on 50 new workers choosing to live in local townships or rural communities in the Lower Eyre Peninsula and an average household size of 2.4 people (the average household size for South Australia, which is larger than the Eyre region or the DC of Tumby Bay), this would equate to approximately 120 new residents. Taken as a percentage of the existing population of the DC of Tumby Bay (of almost 2,600 residents), this would represent a population increase of around 4.6%.

According to Burdge (2004), if a population increase or decrease is greater than 5% (where the existing population is less than 10,000 people), the area is likely to experience detectable changes that may require active management. Based on Burdge's criteria (2004), the area would be unlikely to experience detectable changes that require active management, as the population change would be less than five percent.

In summary, the population and demographic change as a result of the operational workforce of the proposed port development has been assessed as having a **negligible impact** on the demand for services as any change in demand is unlikely to be detectable.

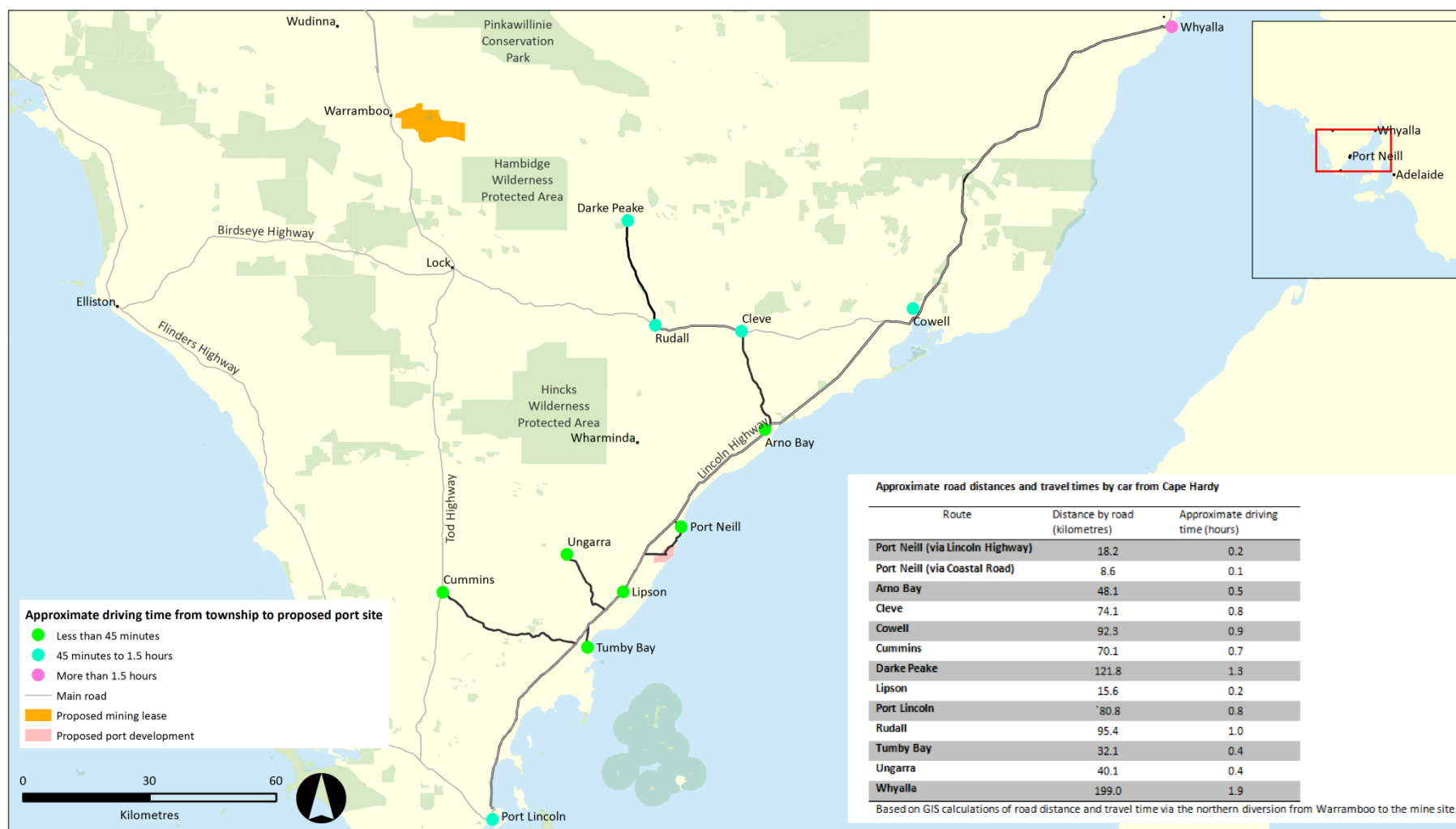


Figure 22-15 Travel Times to the Proposed Port Site

Effects from the Mine and Infrastructure Corridor 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. In addition, the presence of workers at the long-term employee village adjacent to Wudinna and the construction camp near Warramboos would affect demand for social services, facilities and infrastructure.

The long-term employee village will provide accommodation for up to 300 employees who will work either on the proposed mine or in rail operations. A further 300 contractors would be accommodated at the mine construction camp. Over half of the employees would work on rosters of five days on and two days off, whereas the majority of contractors and employees engaged in operations at the mine would work on rosters of two weeks on and one week off, while the majority of maintenance workers and staff engaged in the operation of the rail service would work on rosters of seven days on, seven days off, seven nights on and seven nights off.

The operational workforce could be drawn from existing residents, people who choose to relocate or return to the lower Eyre Peninsula to live and work, as well as LDC workers.

Based on an analysis of people employed in mining Australia-wide (ABS 2013f) and the resident population of Roxby Downs at the 2011 census (ABS 2012a and 2012c) (see the Social Impact Assessment Technical Report in Appendix Y for more information), 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.

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.

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 has indicated it 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 five days on and two 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.

Four population scenarios have been modelled in order to understand the potential population and demographic affects 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 (see the Social Impact Assessment Technical Report in Appendix Y 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 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 to comprise 20%, 40% and 60% of the total operational workforce. These scenarios reflect low, moderate and high population growth, with the high growth scenario based on the existing residential/LDC workforce ratio at Olympic Dam; the 40% residential workforce scenario reflecting the situation in the relatively remote northern Bowen Basin region; and the 20% residential workforce reflecting the early developmental stages of the project.

Indirect population effects were modelled on the assumption that 50% of flow-on jobs within the Wudinna DC area (i.e. 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). 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.

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.

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 do not directly contribute to local government rates and thus the costs of local infrastructure (Haslam McKenzie 2009, 2012).

To understand the impact of the potential population increases and LDC workforce in Wudinna, consultation was undertaken with key services providers. 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) and 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 Appendix Y.

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 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 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 Warramboo
- 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

The impact of the proposed mine on volunteer and emergency services has been raised in consultation with residents of Wudinna, 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 the Wudinna DC area compared to the Eyre region or South Australia in 2011 was noted in Section 22.3.7. 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 programme 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 programmes.

The CEIP also provides an opportunity to leverage infrastructure improvements that would benefit local communities. For example, the presence of an LDC workforce in Wudinna and Warramboo during both construction and operations would play a direct role in stimulating investment in the Wudinna airport and local aviation services and subsequently benefit local residents through the provision of a new airline service, potentially at a lower price as a result of economies of scale. While not part of the approvals being sought by Iron Road for the CEIP, Wudinna DC 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 and Cleve, have experienced population losses and these are predicted to continue. The CEIP Infrastructure may assist in reversing population losses that have been experienced in many rural communities on the Eyre Peninsula in several ways. The CEIP Infrastructure 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.

In summary, the operational workforce of the proposed CEIP Mine and CEIP Infrastructure are likely to have a **medium impact** on the population and demography of Wudinna as a result of the long-term and localised nature of the changes which will generate increased demand for services.

Population increases as a result of workers relocating to the local area would also benefit the local area through reversing population declines, providing expanded membership base for volunteer organisations and a critical population mass to support opportunities and services in the long term. This has been assessed as a **medium benefit**.

22.5.3 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 majority of the construction workforce would be FIFO, who would arrive at regional airports such as Port Lincoln and Wudinna and be transported by bus to the construction camps. 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 construction camps while on work rosters.

As the construction workforce would be housed in the construction camps provided by Iron Road, impacts on local housing arising from the construction workforce would be **negligible**.

Housing Impacts in Wudinna

Consultation with residents has 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 provide 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 Y for more information on the population analysis). Although most of these residentially-based workers would be associated with the mine, not the CEIP Infrastructure, they may include railway workers or support workers for the long-term employee village and are therefore relevant to the discussion of impacts from the CEIP Infrastructure.

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.

The impact on housing supply in Wudinna as a result of the CEIP workforce relocating to live in Wudinna has been assessed as **low**, given the potential for demand to outstrip supply in the short term as a result of a lag in housing construction.

Housing Impacts in Tumby Bay and Other Areas

As discussed in Section 22.5.2, the majority of the 100 operational workers for the proposed port development are expected to live locally, within a commutable distance to the port site. An assessment of the housing market in the DC of Tumby Bay suggests a relatively high proportion of dwellings (around 30%) were unoccupied at the 2011 census (ABS 2012a), including close to 200 dwellings in the township of Tumby Bay and over 100 dwellings in Port Neill. Almost 90% of dwellings in Port Neill and 70% of dwellings in Tumby Bay are owned or being purchased. This includes a number of shacks and holiday homes, with a 'significant proportion of dwellings in the township occupied predominantly on a seasonal basis' (DC of Tumby Bay 2013c, Port Neill Sustainable Future Structure Plan). The Port Neill Structure Plan further notes that the unoccupied nature of two thirds of the existing dwellings within the township means that the township could theoretically accommodate a tripling of the population without requiring the construction of any additional dwellings.

Demand for housing in these areas remains strong as reflected in the relatively high housing costs (both rental and house sales). The RDAWEP (2103) has noted the growth in coastal sections of the Eyre region, accelerated by the 'sea change' phenomenon, which has resulted in new housing construction in coastal towns, including Tumby Bay. This is reflected in the relatively high level of building approvals in the DC of Tumby Bay in recent years, compared to the remainder of the local study area, although approvals have declined from 24 in 2009-2010 to 14 in 2012-2013 (ABS 2013i).

Although Iron Road do not intend to have a FIFO workforce for the operation of the proposed port, some operational workers may choose to work on a FIFO basis, at least in the short term, and would need to be accommodated in local visitor accommodation. Both Tumby Bay and Port Neill are known coastal holiday towns, with established holiday accommodation located along the coast. Short-term visitor accommodation includes three small hotel/motels of between 5 and 14 rooms (ABS 2011e), two caravan parks, as well as holiday rentals (houses and apartments). A hotel/motel and a caravan park are also located in Arno Bay. Information is not available on room occupancy in the DC of Tumby Bay, but data for the Eyre Peninsula Tourist Region suggests an average occupancy rate of 50% and around 70% in Port Lincoln (in tourist accommodation of 15 or more rooms). This suggests some short-term accommodation would be available locally to accommodate a small number of FIFO workers if required, but could have flow-on effects on the availability of tourist accommodation, particularly during the high season (in summer and holiday periods).

The effect on local short-term visitor accommodation from the operational workforce of the proposed port development is anticipated to be a **low impact** as the workforce may only include a small number of FIFO staff in the short term. The impact on local housing from the operational workforce is expected to be **negligible** given the number of towns, including the regional centre of Port Lincoln, that are within a commutable distance to the port site.

22.5.4 Social Character and Wellbeing

Issues identified during community and stakeholder 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.
- Safety and security, including the misuse of alcohol and drugs, crime and anti-social behaviour and perceptions of safety.

These impacts are discussed below. The potential increase in the cost of living and the development of a two tiered economy in Wudinna is an associated risk which is discussed in Section 22.7.2. Additionally, the job opportunities created by the CEIP may have positive social effects through encouraging young people to stay in the region and attracting back people who have previously left the region to find work. This is discussed as a positive social risk in Section 22.7.1.

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

The presence of a large LDC workforce residing in the long-term employee village adjacent to 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.

Some Eyre Peninsula residents have expressed concern about changes to the existing social fabric and sense of community that may result due to a LDC workforce, the loss of farming land to local families and the impacts on local townships such as Wudinna, Port Neill and Tumby Bay.

A review of mining projects in other rural communities throughout Australia 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 CEIP would be accommodated in two self-contained accommodation camps, one within the proposed Mining Lease boundary near Warrambo and the other at the proposed port site at Cape Hardy. While workers may choose to visit nearby townships, either 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. Of these workers, over a half would be Iron Road employees who would (at least initially) be accommodated in the long-term employee village adjacent to 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 to be based in the long-term employee village, whether arriving as residents or part of a LDC workforce, would represent a large increase in the population of the Wudinna DC and would 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 the long-term employee village will provide an opportunity to integrate the village and town communities, with its proposed location providing a logical extension to the township that will enable employees to walk into the town centre and capitalise on available existing infrastructure and services and utilise local businesses. The exact location of the village will be determined in consultation with the Wudinna DC to maximise local opportunities and support its integration within the existing Wudinna township. This would occur through a structured planning process to be undertaken by the Wudinna DC, in conjunction with Iron Road. The long-term employee village will also be designed to be of high quality, aesthetically pleasing and locally appropriate to enhance perceptions of the town.

Opportunities could also be provided for employees to build networks with Wudinna residents and to have a more 'normal' work experience through interaction and participation with the local community (for example, in sports clubs, socialising, volunteering and community projects). The use of local services and facilities by the 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, a population increase in the Wudinna area 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.

Social Change in the DC of Tumby Bay (Community Cohesion, Identity and Lifestyle)

Approximately 100 workers would be required to operate the port and off-site infrastructure such as power and water, and Iron Road anticipates that these workers would be made up of existing residents, new residents (who would relocate to work at live and work living in nearby townships) or LDC workers (who would stay in short-term accommodation during work rosters). As noted in Section 22.5.2, a number of towns are within daily commuting distance of the port. While there may be some minor changes to the population and demography in these townships, the operation of the port is not expected to affect the sense of community or impact people's way of life in the long term, and residents, workers and visitors would be able to continue to live and use the local area in the same way they currently do. As such, the operation of the port has been assessed as having a **negligible impact** on community cohesion, identity and lifestyle.

Safety and Security

Some residents in the community have expressed concerns about potential social problems, crime and anti-social behaviour that may occur 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 in Australia (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 to 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 Cape Hardy will be enclosed, with a gatehouse and security systems established at the entrances to monitor and control site access and all vehicles entering via these checkpoints. Iron Road will 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 Cape Hardy to visit local towns and tourist attractions for social and recreational purposes. However, these opportunities would be limited given the distance of the construction camp 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 Tumby Bay 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 programmes 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.

22.5.5 Amenity, Access and Disturbance from the Proposed Port Development

Consultation with stakeholders has identified a number of potential social impacts associated with the proposed port development at Cape Hardy, including altered access to coastal areas, changes to land- and marine-based activities, and altered land and seascape affecting local land values and amenity. These social issues are discussed below. In addition, the potential air quality, noise and vibration, traffic and transport and visual amenity impacts have been assessed and are reported in Chapters 10, 12, 18 and 23 respectively. Figure 10-1 in Chapter 10 shows sensitive receivers within a 2 km radius of the proposed port development and adjacent infrastructure corridor.

Access

Access to nearby properties would remain largely unchanged, with the exception of one property located to the north of the port site boundary, on the western side of the proposed railway line (see Figure 10-1 in Chapter 10). As a result of the railway line, access to this property would be limited to the Lincoln Highway, with no access via North Coast Road, as is currently the case. This would result in a small increase in travel time, and cause some inconvenience and nuisance. Iron Road will continue discussions with the affected landowner regarding property access.

As shown in Figure 10-1 in Chapter 10, Cowleys Beach is located near to the south-eastern boundary of the proposed port site, approximately 2 km from the port's wharf and jetty, and can be accessed via Kiandra Road which is located alongside the port site boundary. Access along Kiandra Road would be unaltered by the proposed CEIP Infrastructure. Access to Cowleys Beach would also not be impacted by the proposed port development as recreational vehicles and campers would still be able to access the informal camping grounds and beach.

In order to meet maritime security requirements and to ensure its secure use by Iron Road, public access to, and use of, the port facility will not be permitted. As outlined in the Project Description, security at the port site will be governed by a maritime security plan in accordance with the *Maritime Transport and Offshore Facilities Security Regulations 2003*.

Increased travel times for local people due to changes in local access as a result of the proposed port development has been assessed as having a **negligible impact**.

Amenity

Local residents and visitors may experience some disturbance, inconvenience and loss of amenity associated with the construction and operation of the proposed port development.

The air quality, noise and vibration, traffic and transport and visual amenity impacts of the proposed port have been assessed and are reported in Chapters 10, 12, 18 and 23 respectively.

Iron Road will develop and implement construction and operation environmental management plans to control amenity related impacts and risks for the project. In summary, people's experience of the local environment around Cape Hardy may be impacted by the construction of the port as a result of noise, dust and increased traffic/traffic delays, however minimal changes are anticipated on the amenity, lifestyle or enjoyment of local residents and visitors during operations.

The proposed port development is expected to have a **low impact** on the rural and coastal amenity of the local area.

22.5.6 Amenity, Access and Disturbance from the Proposed Infrastructure Corridor

Consultation with landowners along the infrastructure corridor and a review of linear infrastructure projects in other rural communities has identified a number of potential social impacts for landowners near the infrastructure corridor in regards to the division of land and access issues, and the potential loss of amenity, inconvenience, nuisance and delays in constructing, operating and maintaining infrastructure. 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 infrastructure corridor have been assessed and are reported in Chapters 10, 12, 18 and 23 respectively.

Impacts to property access

As the proposed infrastructure corridor will result in the division of some agricultural land there will be both temporary and permanent changes to property access and farm management practices. It could also affect crossing points for agricultural and pastoral purposes in some locations due to the proposed railway line and above ground water pipeline.

There are 89 land parcels, held by 56 landowners that would be affected by the proposed infrastructure corridor, including the land between Yadnarie and the corridor which the proposed power line would traverse. To ensure continued road access to land and properties, Iron Road will establish appropriate crossing points along the length of the infrastructure corridor in consultation with landowners. In some locations, the rail maintenance track will be able to be used by landowners to move between paddocks, and crossing points will also enable stock to cross the railway line to provide connectivity between pastures and ensure continuity of land use. The location of these crossings within private properties is the subject of ongoing one-on-one consultation and negotiation with directly affected landowners.

Iron Road recognises that the acquisition of land, either portions or whole sections, is likely to cause anxiety or uncertainty for some of the impacted landowners. Iron Road is committed to negotiating consistently and sensitively with directly affected landowners to achieve agreements with all parties.

The effect on property connectivity as a result of changes in property access due to the proposed infrastructure corridor has been assessed as a **low impact** due to the localised and short-term nature of the impact as following construction property connectivity will be maintained where practicable through crossing points negotiated with landowners.

Changes to Local Access

As a consequence of the construction of the infrastructure corridor, local road users and landowners may experience some temporary nuisance, inconvenience and delays as a result of changes to local access, including temporary and permanent road closures, and an increase in road traffic (e.g. worker vehicles, heavy access vehicles and materials transport).

Permanent changes to the existing road network would include new level crossings along the railway line resulting in local traffic delays. Further detail on the loss of service resulting from changed traffic conditions can be found in the assessment of traffic and transport in Chapter 18. The effect of increased travel times for local people as a result of changes in local access from the proposed infrastructure corridor has been assessed as a **medium impact**, as it will be a long-term change to the local study area.

Amenity

People's experience of the local environment may be impacted by the construction and operation of the infrastructure corridor.

Residential areas and townships have been avoided where possible in selecting the route for the infrastructure corridor to reduce potential amenity impacts. As shown in Table 22-21, there are four townships within 5 km of the infrastructure corridor, including Port Neill, and the small towns of Rudall, Verran and Kielpa. Sensitive receivers within close proximity of the proposed infrastructure corridor are shown in Figure 12-3 and Figure 12-4 in Chapter 12. In total, there are 66 sensitive receivers located within 2 km of the proposed infrastructure corridor. Of these, 26 are located within 1 km of the infrastructure corridor and 40 are located within 2 km of the infrastructure corridor.

Table 22-21 Proximity of Townships to the Infrastructure Corridor

Suburb (SSC)	Township(s)	Distance to Infrastructure Corridor	Estimated Resident Population ¹
Cleve	Cleve	9.0 km	972
Port Neill	Port Neill	2.9 km	136
Rudall	Rudall Verran ² Wharminda	3.3 km 0.0 km 8.6 km	260
Darke Peak	Darke Peak Kielpa	7.4 km 4.1 km	271

Source: ABS 2012a, Basic Community Profile.

¹ Population of entire suburb (SSC) as defined by Census boundaries, which includes multiple small towns.

² The proposed railway line passes through Verran, approximately 140 m west of the church

Iron Road will continue to consult and negotiate with landowners potentially affected by the infrastructure corridor and will also provide regular and timely information to local residents and the community about the planned works to assist in reducing disruptions and complaints. The proposed infrastructure corridor has been assessed as having a **low impact** on rural amenity.

22.5.7 Amenity, Access and Disturbance in Wudinna

Potential social impacts are associated with the loss of amenity and nuisance for residents in, and visitors to, Wudinna as a result of the construction and operation of the nearby long-term employee village. 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 long-term employee village have been assessed and are reported in Chapters 10, 12, 18 and 23 respectively.

In the short-term, construction activities 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 programme 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 are expected to have a **low impact** on the social environment due to short-term nuisance from construction activities.

22.5.8 Loss of Agricultural Land

The construction and operation of the CEIP Infrastructure will result in changes to the existing agricultural land uses along the proposed infrastructure corridor at the port site and the location of the proposed long-term employee village.

The area proposed to be developed at the port site (land within the security fence) comprises 461 ha, or 42% of the total land balance of Iron Road's land holdings. The balance of the Iron Road land holdings will continue to be leased for agricultural purposes. This will minimise the loss of agricultural land in this location.

At the location of the proposed long-term employee village, the loss of agricultural land will be up to 5 ha. However, as discussed in Chapter 5.4.2, Wudinna DC is undertaking a structure planning process for the Wudinna township to support the establishment of the village. As a result of this process, the long-term employee village is expected to form a logical extension to the urban area at Wudinna and will not impact on the viability of agriculture in the region.

The proposed infrastructure corridor could potentially lead to the fragmentation of agricultural land if properties are divided by the proposed railway line and water pipeline. As discussed in Section 22.4, the proposed infrastructure corridor has been located on property or paddock boundaries to the extent practical to limit the potential impact to farming practices.

The total area of the infrastructure corridor, power transmission line and borefield is approximately 828 ha (see Chapter 8 Land Use and Tenure for further details) and includes the:

- Railway line, rail maintenance track, water pipeline and construction buffer – 743 ha
- Power poles footprint – 43 ha
- Borefield (boreholes and the borefield water pipeline to the infrastructure corridor) – 42 ha

The CEIP as a whole (incorporating the proposed CEIP Mine and proposed CEIP Infrastructure) will result in the reduction of 7,050 ha of productive agricultural land, which is approximately 0.2% of the total available agricultural land on the Eyre Peninsula (DWLBC 2003). As such, the overall loss of productive agricultural land and subsequent reduction of supply in agricultural products is considered to represent a **negligible** impact to the overall agricultural industry, and is not considered to adversely affect the sustainability of the agricultural industry on the Eyre Peninsula.

22.5.9 Changes to Tourism and Recreation Land Uses and Marine Based Activities

During construction activities at the port site, appropriate exclusion zones will be established to ensure public safety for people on land, and on or in the water. Boating, swimming, diving, skiing, mooring or anchoring activities will also be restricted within the proposed port operating limits during operation of the port.

Iron Road will continue to consult with local residents, maritime users and other stakeholders about the port facility and restricted areas, and providing regular updates as detailed planning progresses. Regular communication will also be undertaken to inform local residents and other stakeholders about the operation of the port.

None of the CEIP Infrastructure components are within close proximity to the key tourist attractions of Gawler Ranges National Park, Lincoln National Park or Coffin Bay National Park and are not expected to have an impact on tourist activities in these areas.

The effect on recreation and marine-based activities as a result of restrictions from the proposed port development has been assessed as having a **negligible impact**.

The effect on tourism activities on the Eyre Peninsula as a result of the operation of the CEIP Infrastructure has also been assessed as having a **negligible impact**.

22.5.10 Summary of Impacts

A summary of the social impact assessment outcomes is provided in Table 22-22.

Table 22-22 Summary of Social Impact Assessment

Impact Description	Impact Rating
Creating long-term employment at the local, regional and state level.	High benefit
Providing direct and indirect business development opportunities at the local, regional and state level.	High benefit
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
Changes in population and demography of local areas and associated demand for government and community services in nearby townships from the operational workforce of the proposed port development.	Negligible impact
Changes in population and demography of Wudinna DC and associated demand for government and community services from the operational workforce of the proposed infrastructure corridor and the proposed mine.	Medium impact
Positive changes from the increased population as a result the operational workforce for the proposed infrastructure corridor and 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
Reduced affordability of housing due to demand from the construction workforce.	Negligible impact
Reduced affordability of housing in Wudinna due to housing demand from CEIP workers and their families relocating to live in Wudinna (with the potential for demand to outstrip supply in Wudinna in the short term).	Low impact
Reduced affordability of housing due to demand from the operational workforce at the proposed port development.	Negligible impact
The effect on local short-term visitor accommodation from the operational workforce of the proposed port development.	Low impact
Changes to the nature, character and lifestyle of the Wudinna community as a result of the presence of a large LDC workforce and population increase (decreased community cohesion as experienced by existing residents).	Medium impact
Changes to the nature, character and lifestyle of the community in the DC of Tumby Bay as a result of the operational workforce at the proposed port development (decreased community cohesion as experienced by existing residents).	Negligible impact
Adverse impacts on local residents experiencing a heightened sense of concern for safety and security due to the presence of the construction and operational workforce.	Medium impact
Increased travel times for local people due to changes in local access as a result of the proposed port development.	Negligible impact
Reduced rural and coastal amenity as a result of the proposed port development.	Low impact
Reduction in property connectivity as a result of changes in property access due to the proposed infrastructure corridor.	Low impact
Increased travel times for local people due to changes in local access as a result of the proposed infrastructure corridor.	Medium impact
Reduced rural amenity as a result of the proposed infrastructure corridor.	Low impact
Changes to amenity as a result of the proposed long-term employee village in Wudinna.	Low impact
Loss of agricultural land as a result of the CEIP footprint.	Negligible impact

Impact Description	Impact Rating
Restrictions to recreation and marine-based activities as a result of the proposed port development.	Negligible impact
Effect on tourism activities on the Eyre Peninsula as a result of the operation of the CEIP Infrastructure.	Negligible impact

22.6 Control and Management Strategies

Iron Road will implement control measures and management strategies to mitigate and reduce the potential negative social impacts on the community and to maximise the potential benefits. These strategies were taken into account in the assessment and categorisation of impacts and benefits discussed in Section 22.5. The management strategies for each of the social impact areas (employment and business, population and social services, housing and accommodation, social character and wellbeing and amenity, access and disturbance) are outlined in Table 22-23. The strategies reflect Iron Road's commitment to maintaining and protecting the social character, wellbeing and amenity of potentially affected communities.

Table 22-23 Control and Management Strategies: Social Environment

Control and Management Strategies	EM ID
Construction	
Develop an Australian Industry Participation Plan to maximise opportunities for Australian businesses to participate in the CEIP, with particular emphasis on South Australian business participation.	EBS_C1
<p>Work collaboratively with government, education and training providers, and other relevant organisations to train and up skill local and regional people to work on the project and to enhance business capacity among local and regional suppliers:</p> <ul style="list-style-type: none"> Consult with Wudinna TAFE about vocational and pre-vocational training programmes to enhance local skills and support local entry to the mining workforce. Consider supporting vocational education and training programmes at Port Lincoln and Wudinna to address skill requirements of relevance to the project. Implement a trainee and apprenticeship programme as part of the project. Take part in programmes targeting skills development and job placement for local Aboriginal people (as per the Indigenous Land Use Agreement). 	EBS_C2
Work with business groups to identify local business opportunities; provide information on CEIP business opportunities, tendering and procurement processes and standards to facilitate the pre-qualification of local and regional businesses.	EBS_C3
Maintain the existing register of businesses with an interest in supplying goods and services to the project.	EBS_C4
Identify contract packages that could potentially be let locally or regionally.	EBS_C5
Develop and implement visitor management policies and procedures at construction camps.	AEC_C1
Undertake regular drug and alcohol testing of all workers to monitor alcohol and drugs and ensure workplace safety during construction.	AEC_C2
Require construction workers (including contractors) to sign a 'Code of Conduct', linked to their employment contract, outlining behavioural expectations applicable to accommodation villages and in local towns.	AEC_C3
Implement construction workforce inductions to communicate safety and security expectations.	AEC_C4
Develop induction procedures and information that includes an orientation into the values and expectations of the local community.	AEC_C5
Continue to provide support to local community groups and community-based activities, including volunteer programmes and sponsorships.	AEC_C6

Control and Management Strategies	EM ID
Liaise with police and provide regular updates of construction workforce schedules to ensure adequate police resources would be available.	AEC_C7
Work with police, local councils, residents and other stakeholders to develop and implement community-based safety awareness programmes and strategies to reduce the potential for crime and fear of crime.	AEC_C8
Continue the programme of active engagement and consultation with the local community: <ul style="list-style-type: none"> • 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 and ideas management system with targets for the time taken to respond /take action on complaints and ideas. 	LA_C1
Liaise with local schools to discuss any impacts to bus routes due to road closures or traffic movements during construction.	LA_C2
Avoid wherever possible the movement of over-dimensional loads during peak traffic or agricultural periods, e.g. harvesting during daytime.	LA_C3
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.	LA_C4
Maintain effective, regular and transparent communication with affected landowners and provide accurate and comprehensive information about the project and its potential impact on their property.	LA_C5
Always engage with landowners with respect and in accordance with the law.	LA_C6
Negotiate agreements and provide fair compensation with directly affected landowners for the loss of land.	LA_C7
Continue discussions with directly affected landowners in relation to construction and operational activities, including land access, crossing points, fencing and strategies for dealing with potential impacts and opportunities during construction and operation phases.	LA_C8
In consultation with landowners, install appropriate access/crossing points, culverts and internal roads to enable continuity of land use on either side of the railway line and water supply pipeline.	LA_C10
Provide support by means of voluntary and confidential professional counselling to directly affected landowners.	LA_C11
Operation	
Develop employment programmes and strategies to increase labour force participation and facilitate the participation of local and regional employment in 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. • Provide family friendly work environments. • Develop flexible work practices to accommodate farm work as best as practicable, including peak agricultural periods such as harvesting, and other seasonal business activities. • Maintain the existing online data base/register of prospective employees. 	EBS_O1
Continue to work collaboratively with government, education and training providers, and other relevant organisations to train and up skill local and regional people to work on the project and to enhance business capacity among local and regional suppliers: <ul style="list-style-type: none"> • Consult with Wudinna TAFE about vocational and pre-vocational training programmes to enhance local skills and support local entry to the mining workforce. • Consider supporting vocational education and training programmes at Port Lincoln and Wudinna to address skills requirements of relevance to the project. • Implement a trainee and apprenticeship programme as part of the project. • Take part in programmes targeting skills development and job placement for local Aboriginal people (as per the Indigenous Land Use Agreement). 	EBS_O2
Continue to implement the Australian Industry Participation Plan developed for the CEIP to maximise opportunities for Australian and South Australian businesses to participate in the CEIP.	EBS_O3

Control and Management Strategies	EM ID
Work with the Industry Capability Network (ICN) South Australia, Regional Development Australia Whyalla and Eyre Peninsula (RDAWEP) and other regional development organisations to promote the participation of local, regional and South Australian businesses in the CEIP.	EBS_04
Continue to work with business groups to identify local business opportunities, provide information on CEIP business opportunities, tendering and procurement processes and standards to facilitate the pre-qualification of local and regional businesses.	EBS_05
Continue to maintain the existing register of businesses with an interest in supplying goods and services to the project.	EBS_06
Continue to identify contract packages that could potentially be let locally or regionally.	EBS_08
Work with other members of the Eyre Peninsula Mining Alliance to create long-term business benefits to Eyre Peninsula communities.	EBS_09
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.	EBS_010
Continue to liaise with local council and Government agencies as the CEIP develops and provide regular information on expected workforce numbers and arrangements to allow them to plan appropriately.	AEC_01
Develop policies and/or offer incentives to encourage the CEIP Infrastructure's operational workforce to reside locally.	AEC_02
Develop corporate volunteering programmes to bolster the membership base of volunteer organisations and to provide opportunities for workers to engage with the local community.	AEC_03
Participate in planning initiated by the South Australian Government, local Councils and other service providers to plan for future social services and facilities requirements.	AEC_04
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.	AEC_05
Design the long-term employee village adjacent to Wudinna to be aesthetically pleasing, locally appropriate and enhance perceptions of the town.	AEC_06
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 Wudinna DC).	AEC_07
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.	AEC_08
Liaise with tourist accommodation providers to manage the potential effect of accommodation demand arising from the operation of the port on the availability of short-term accommodation in Tumby Bay and Port Neill.	AEC_09
Work with the Wudinna DC and community members 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.	AEC_010
Continue to provide support to local community groups and community-based activities, including volunteer programmes and sponsorships.	AEC_011
Develop induction procedures and information that includes an orientation into the values and expectations of the local community.	AEC_012
Require workers (including contractors) to sign a 'Code of Conduct', linked to their employment contract, outlining behavioural expectations applicable to the accommodation village and in local towns.	AEC_013
Implement workforce inductions to communicate safety and security expectations.	AEC_014
Undertake regular drug and alcohol testing of all workers to monitor alcohol and drugs and ensure workplace safety.	AEC_015

Control and Management Strategies	EM ID
Liaise with police and provide regular updates of workforce schedules to ensure adequate police resources would be available.	AEC_O16
Work with police, local councils, residents and other stakeholders to develop and implement community-based safety awareness programmes and strategies to reduce the potential for crime and fear of crime.	AEC_O17
Continue the programme of active engagement and consultation with local communities: <ul style="list-style-type: none"> • Provide regular and timely information to local residents and communities about the CEIP and planned works to assist in reducing disruptions and complaints. • Continue to operate a toll free phone hotline and complaints and ideas management system with targets for the time taken to respond to/take action on complaints and ideas. 	LA_O1
Provide advance notice of the movement of over-dimensional loads on the road network.	LA_O2
Avoid wherever possible the movement of over-dimensional loads during peak traffic or agricultural periods, e.g. harvesting during daytime.	LA_O3
Liaise with local schools to discuss any impacts to bus routes due to operation of the proposed railway line.	LA_O4
Provide a regular bus service to transport employees to work at the mine	LA_O5
Establish real-time dust monitors at government-approved locations and provide information to local landowners on the results of the monitoring.	PE_O4
Continue to deliver a community development programme to enhance amenity and deliver positive social outcomes in the districts.	LA_O6
Maintain effective, regular and transparent communication with affected landowners and provide accurate and comprehensive information about the CEIP and its potential impact on their property.	LA_O7
Always engage with landowners with respect and in accordance with the law.	LA_O8

22.7 Residual Risk Assessment

This section identifies and assesses social risks to local and regional communities that are not expected as part of the normal operation of the CEIP Infrastructure, but could occur as a result of faults, failures and unplanned events. The risk assessment methodology is outlined in Chapter 9 Risk and Impact Definition. Although the risks may or may not eventuate, the purpose of the risk assessment process was to identify management and mitigation measures required to reduce the identified risks to a level that is considered to be as low as reasonably practicable and therefore acceptable. The management and mitigation measures identified are presented in Section 22.6 and form the basis of the social management measures included in the Environmental Management Framework presented in Chapter 24.

22.7.1 Increased Competition for Skilled Workers and Resources

The CEIP Infrastructure has the potential to increase competition for workers, attracting them from other sectors such as agriculture and fishing. Experiences in other rural areas suggest 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 also generate competition between industries for products and supplies. This risk is considered to have a **minor** consequence for the CEIP Infrastructure as the total operational workforce of 140 people is relatively small compared to the Eyre region workforce as a whole and the port site is within computable distance of the regional centre of Port Lincoln. However, it is considered **possible** that competition for workers will occur, resulting in a risk rating of **medium**.

22.7.2 Cost of Living

Consultation with residents and a desktop review of available literature has identified potential issues associated with increased housing and living costs as a result of wage and price inflation, and the potential 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). 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, the elderly and people on low or fixed incomes.

A reduction in the ability for critical population groups (such as the elderly and people on low or fixed incomes) in the local study area to meet the cost of living as a result of wage and price inflation is considered to be a **medium risk** as it would have a **moderate** consequence and it is considered **possible** that it will occur.

22.7.3 Summary of Residential Risk

The key social risks associated with project are presented in Table 22-24. Through the adoption of design modification or specific mitigation measures, all identified risks were reduced to levels of medium or lower, are considered to be as low as reasonably practicable and therefore acceptable. The key social risks would be monitored through the CEIP environmental management framework.

Table 22-24 Residual Risk Assessment Outcomes: Social

Risk Event	Pathway	Receptor	Project Phase	Likelihood	Consequence	Residual Risk
Labour shortages in other industries.	Skilled workers are attracted to the CEIP Infrastructure from other industries due to higher wages.	Local community	Construction Operation	Possible	Minor	Medium
Reduction in the ability for critical population groups in the local study area to meet the cost of living.	Wage and price inflation as a result of higher mining wages.	Local community	Construction Operation	Possible	Moderate	Medium

22.8 Findings and Conclusion

The SIA has identified a range of social effects, both positive and negative, which are anticipated if the proposed CEIP is developed and operated. Design measures included in the proposed CEIP Infrastructure aim to reduce the negative social impacts where practicable. A number of additional social effects are identified which may arise from development and operation of the CEIP Infrastructure (and mine). Iron Road has developed a range of control strategies and management measures to minimise potential adverse impacts and risks and maximise potential benefits.

The key findings and conclusions from the SIA of the CEIP Infrastructure are as follows:

- The assessment of employment and business found that the CEIP Infrastructure 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 income levels and increased consumer spending.
- The development of the long-term employee village on the north-east perimeter of Wudinna will provide a logical extension to the township, support its integration and facilitate the patronage of local businesses. It will be designed to be of high quality, visually appealing, and enhance perceptions of the town.
- While the construction of the long-term employee village could cause some short-term inconvenience and disturbance to residents, workers and visitors, the 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 the town through reduced community cohesion and income inequality. However, in the medium to long term, population increase within the Wudinna DC area due to 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.
- It is anticipated that the majority of the operational workforce for the proposed port would live locally in nearby towns, including Port Neill and Tumby Bay. Local townships would be unlikely to experience a detectable change in the population or demography as a result of the construction or operation of the proposed port with limited impacts on demand for services and housing or changes in the social fabric anticipated.
- The infrastructure corridor will result in the loss and division of agricultural land and permanent changes to property access in some locations due to the proposed railway line and above ground water pipeline. Where possible, and in consultation with impacted landowners and relevant Government authorities, Iron Road will establish appropriate crossing points along the length of the infrastructure corridor, facilitate access via the rail maintenance track and establish access points to properties to improve movement between paddocks impacted by the infrastructure corridor and enable continuity of land use on either side. The acquisition of land, location of crossings points within private property, fencing and other access issues are the subject of ongoing discussion and negotiation with directly affected landowners.
- Landowners near the infrastructure corridor may experience a loss of amenity, inconvenience and disturbance during both construction and operational activities which will require a number of modifications to existing transport routes. These are likely to include the introduction of new road and rail crossings, temporary and permanent road closures and road realignments, and would result in some short-term and localised inconvenience, nuisance and delays for local landowners and the general public.