16. Social environment

This section describes the existing social environment that may be affected by the Project and the potential impacts and mitigation measures. The social impact assessment addresses the following:

- Description of the community profile (eg population, age structure, gender composition, workforce characteristics)
- Description of potentially affected communities in the study area
- Description of community infrastructure and services
- Description of housing, accommodation and land availability
- Description of adverse and beneficial impacts (both immediate and cumulative) of the Project at the local and district level
- Nature and extent of the consultation programme
- Measures for protecting or enhancing social values
- Measures for monitoring, auditing and managing social impact associated with the construction and operation of the Project

Information on rural properties, croplands and grazing areas is covered in Section 3. The local and regional economy is assessed in Section 17.

16.1 Methodology

16.1.1 Project context

The proposed MLARP is expected to accommodate the continued expansion of the coal industry in Queensland by servicing the WICT and the RG Tanna Coal Terminal (RGTCT) projects. The capacity of these two projects is anticipated to make Gladstone one of the largest coal ports in the world.

In addition to these two projects, there is enhanced growth opportunity of the GSDA as the MLARP will provide infrastructure which may also benefit the long term growth of the GSDA.

However, with a significant number of major industrial projects occurring in the Gladstone region, the social aspects relating to development is an ongoing issue which needs to be considered and monitored. In 2001, the Queensland Government committed to undertaking the Gladstone Growth Management Initiative (GGMI). This initiative was aimed at planning for the potential impact of and opportunities arising from population growth and to address the cumulative impacts arising from the development of major industrial projects in the Gladstone/Calliope area.

At that time, projects under construction and in the planning stage included the raising of the Awoonga Dam, Queensland Alumina Ltd expansion, Comalco Alumina Refinery, Astral Calcining Corporation carbon calcination plant, Aldoga Aluminium Smelter, Southern Pacific Petroleum shale oil project and expansion of the Boyne Island Aluminium Smelter. Several independent EISs had been prepared for these major industrial proposals within the Gladstone area, which were prepared in relative isolation from each development. Since this time, the cumulative social impacts of projects are better understood.

The expected timing for construction of approved projects and the projected workforce will be considered as part of this EIS to address the potential cumulative impact on the community should approved projects run concurrently. Projects to be considered, as required by the final ToR for the Project, include the WICT, Gladstone Pacific Nickel (GPN), Rio Tinto Alumina Refinery Stage 2, Santos Gladstone LNG, Sunshine/Sojitz LNG, Arrow/LNG Ltd (Gladstone LNG Pty Ltd) and the LNG plant proposed by Queensland Gas Company and British Gas Group.

Social impact assessment (SIA) focuses on the social changes and community impacts that are likely to occur. The International Association for Impact Assessment defines social impact assessment as:

> "*the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programmes, plan, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment"* (International Association for Impact Assessment, May 2003).

Social impact is considered to be the effect of a public or private action that may alter the way in which people live, work, play, relate to one another, and organise to meet their needs.

It is therefore an important process to gather information on all aspects of the existing social environment (refer to the sources of information in Section 16.1.3). The social analysis for the MLARP primarily considers the potential impacts of the Project on the Gladstone and Calliope areas and is considered in context with the timing and expected workforce numbers of approved projects.

16.1.2 Defining the study area

The study area for the purposes of the social analysis is the former Gladstone City and Calliope Shire local government authorities (LGAs) (hereby referred to collectively as the "study area") which form part of the recently amalgamated Gladstone Regional Council (GRC). These former LGAs are considered to be the primary catchment in terms of workforce for the proposed development, and are likely to be the prime area subject to project impacts and potential social change. Separately, these former LGAs are referred to as the Gladstone area and Calliope area.

In addition to the Gladstone urban area, the study area contains the townships of Calliope, Boyne Island, Tannum Sands and Benaraby to the south and south east and Yarwun, Mount Larcom, Ambrose and Raglan to the north west of Gladstone (refer Figure 16.1). Figure 16.1 also shows the Calliope area separated into several state suburbs in accordance with ABS data. These state suburbs have been selected as the MLARP is located within or adjoins these state suburbs or they contain the majority of the study areas population.

For comparative purposes and to provide a "benchmark" for the statistical analysis, the data for the study area, compiled from the Australian Bureau of Statistics (ABS), has been compared to Queensland and the Fitzroy Statistical Division (SD). The Fitzroy SD consists of the former local government areas of:

- Gladstone City Council (GCC)
- Calliope Shire Council (CSC)
- Rockhampton City Council
- Livingstone, Fitzroy, Bauhinia, Emerald, Jericho, Mount Morgan, Banana, Duaringa, Woorabinda and Peak Downs Shires

The Queensland and the Fitzroy SD data has been used in some data tables for comparative purposes to identify distinct trends in the study area. The area of the Fitzroy SD in comparison to the study area is shown in Figure 16.2.

16.1.3 Sources of information

The analysis is based on both quantitative and qualitative social information from sources, including existing reports, data and studies, previous EISs, as well as field observation, and stakeholder and community consultation. As part of the assessment, consideration has been given to the information received through liaison with State Government agencies, the GRC (formerly Calliope Shire Council and Gladstone City Council), and key local agencies.

16.2 Description of the existing social environment

16.2.1 Community profile

The community profile outlines the characteristics of the study area in relation to:

- Population and age structure (including population projections)
- Gender composition
- Cultural diversity
- Family/household structure
- Labour force (including skills, occupations and unemployment)
- Housing

The data for the study area has been compared to Fitzroy SD and Queensland.

Population and age structure

General population characteristics

Detailed below is a summary of the population and age structure for the study area (refer Table 16.1), including historical growth (refer Table 16.3). This will be followed by an indication of the population projections and growth trends to 2026 (refer Table 16.5).

The age profile in the study area and median age is identified in Table 16.1.

Table 16.1 Age profile 2006

Local area or region	Age group							Median age
	0-4	5-14	15-24	25-54	55-64	65+	Total	
Region:								
Gladstone area	2,292	4,706	4,224	12,886	2,705	2,270	29,083	32
Calliope area	1,194	2,919	1,925	7,322	1,739	1,444	16,543	36
Study area	3,486	7,625	6,149	20,208	4,444	3,714	45,626	34
Fitzroy SD	13,538	29,857	26,099	79,265	19,131	20,513	188,403	35
Queensland	257,077	549,455	539,206	1,638,354	437,550	482,891	3,904,532	36
Local (state suburb)area:								
Gladstone (urban area)	2,274	4,656	4,201	12,753	2,678	2,244	28,808	32
*Tannum Sands	406	872	643	2,275	420	316	4,932	34
*Boyne Island	276	635	462	1,641	335	338	3,687	34
Wurdong Heights	20	108	75	250	65	33	551	38
*Calliope	128	288	176	687	151	122	1,550	33
*Benaraby	67	203	93	435	135	98	1,030	37
Beecher	43	132	80	326	81	124	784	40
Burua	44	131	84	309	58	57	683	36
River Ranch	29	91	45	204	91	59	519	41
West Stowe	27	60	42	164	56	24	373	40
Mount Alma	10	50	15	100	33	26	234	37
Bracewell	14	47	15	97	26	15	214	36
*Ambrose	32	67	36	150	49	55	388	39
*Yarwun	15	37	32	120	42	35	280	40

Local area or region	Age group							Median age
	0-4	5-14	15-24	25-54	55-64	65+	Total	
*Raglan	23	37	22	98	59	25	263	41
*Mount Larcom	17	32	31	108	32	31	253	42
Total (for local areas)	3,425	7,446	6,052	19,717	4,311	3,602	44,549	-
Proportion (study area)	7.6	16.7	13.5	44.3	9.7	8.1	100%	-
Proportion (Fitzroy SD)	7.2	15.8	13.9	42.1	10.2	10.9	100%	-
Proportion (Queensland)	6.6%	14.1%	13.8%	42.0%	11.2%	12.4%	100%	-

Table notes:
Data excludes overseas visitors.
The Calliope and Gladstone areas are the former Calliope Shire and Gladstone City Council LGAs. The local areas are based on data gathered for state suburbs with the exception of Gladstone which is based on the urban area to incorporate all Gladstone City suburbs.
* Suburbs containing townships within the Calliope area
Source: Australian Bureau of Statistics, 2006 Census

The key characteristics of the age profile in the study area in 2006 include:

- The study area contains a higher proportion of 25 to 54 year olds in comparison to both Fitzroy SD and Queensland (by 2.2% and 2.3%, respectively). The study area also contains a higher proportion of children (0 to 14 year olds) in comparison to both Fitzroy SD and Queensland.
- The study area contains a lower proportion of 55 to 64 year olds in comparison to both Fitzroy SD and Queensland (by 0.5% and 1.2%, respectively). The proportion was also lower among the 65+ year cohort by 2.8% and 4.3%, respectively.

Comparisons between Gladstone urban area and the Calliope area suburbs indicate the following characteristics:

- The majority of the study area population resides in the Gladstone urban area (63%), however other areas containing a higher proportion of the population is Tannum Sands (10.8%), Boyne Island (8.1%), Calliope township (3.4%) and Benaraby (2.6%).
- The other state suburbs within the Calliope area contain a significantly lower proportion of the study area population, including Beecher (1.7%), Wurdong Heights (1.2%), River Ranch (1.1%), West Stowe (0.8%), Mount Alma (0.5%) and Bracewell (0.5%). It should be noted that the state suburbs of West Stowe, Mount Alma and Bracewell (which the MLARP passes through) are significantly larger in size than the state suburbs of Beecher, Wurdong Heights, River Ranch and the populated area previously identified.
- Ambrose is the largest of the inland townships (with the exception of Calliope) with 388 people (or 0.9% of the study area population), followed by Yarwun (280 people), Raglan (263 people) and Mount Larcom (253 people) which all contain 0.6% of the study area population.
- Mount Larcom and Yarwun are the closest urban areas to the proposed MLARP works and as indicated above, contain a relatively small proportion of the study area's total population.
- Mount Larcom population primarily consists of the 25 to 54 year age group (42.7%), however there is a relatively even proportion of the 5 to 14 year, 15 to 24 year, 55 to 64 year and 65+ year age groups (ranging from 12.3% to 12.6%). In comparison to Queensland, the proportion of 5 to 24 year olds is lower in Mount Larcom and there is either a comparable or higher proportion of persons aged 55+ years in Mount Larcom.
- In comparison to Mount Larcom, Yarwun contains a higher proportion of 5 to 14 year and 55 to 64 year age groups (by 0.6% and 2.4%, respectively). In comparison to Queensland, Yarwun contains a much higher proportion of 55 to 64 year olds (by 3.8%).

- Areas such as Calliope and Tannum Sands generally contain a younger population with a higher proportion of 0 to 4 year olds (8.2% and 8.3%), in comparison to Queensland (6.6%) and areas such as Yarwun and Mount Larcom (5.4% and 6.7%, respectively). A similar trend was also observed in the 5 to 14 year age group.

Median age

The median age is lower in the Gladstone area (32 years) in comparison to the Calliope area (36 years). The median age for the study area is 34 years, which is lower than the median age for Queensland (36 years).

Within the study area, the median age is lower within the highly populated areas of Gladstone (32 years), Calliope (33 years), Tannum Sands and Boyne Island (both 34 years).

The median age is higher in the smaller inland townships and state suburbs. Those areas with a median age between 40 and 42 years include Beecher, River Ranch, West Stowe, Yarwun, Raglan and Mount Larcom. This median age is considerably higher in comparison to Queensland. The MLARP is primarily located in the Yarwun and West Stowe areas.

Gender composition

Table 16.2 indicates the gender composition in the study area in comparison to Fitzroy SD and Queensland.

Table 16.2 Gender composition 2006

Area	Total persons		Total persons in region (%)	
	Males	Females	Males	Females
Gladstone area	14,831	14,254	51%	49%
Calliope area	8,551	7,993	51.7%	48.3%
Study area	23,382	22,247	51.2%	48.8%
Fitzroy SD	96,123	92,280	51.0%	49.0%
Queensland	1,935,381	1,969,151	49.6%	50.4%

Source: Australian Bureau of Statistics, 2006 Census QuickStats

Within the study area there is a higher proportion of males than females, which is generally consistent with Fitzroy SD. It is noted that the proportion of males is also higher in the Calliope area (51.7%) than the Gladstone area (51%). In comparison, Queensland contains a marginally higher proportion of females (50.4%) than males (49.6%).

In Queensland the composition between male and female has a difference of 0.8% and in comparison the study area has a composition difference of 2.4% in 2006.

Generally there has been little change in the gender composition from the 2001 Census. In 2001, in the Calliope area the population comprised 51.4% males and 48.6% females and in the Gladstone area 50.9% males and 49.1% females.

Historical population change

Whilst significant industrial development has occurred since 2001, some analysis of historical growth in the area indicates that considerable growth occurred in the study area prior to the influx of many of the major industrial projects previously identified.

Table 16.3 demonstrates the growth that has occurred in the study area in comparison to Queensland and the Gladstone region. From the data presented, the Gladstone region includes the previous local authorities of Gladstone City, Calliope Shire, Miriam Vale Shire and the Banana Shire.

Table 16.3 Population change 1992 to 2006

Year (end 30 June)	Study area		Gladstone region	Queensland (to June quarter)
	Gladstone area	Calliope area		
1992	25,036	11,509	54,362	3,030,000
1995	26,209	13,108	56,974	3,265,100
1998	26,624	14,258	59,150	3,456,300
2001	26,831	15,054	60,817	3,628,946
% Growth 1992 – 2001	7.16%	30.8%	11.87%	19.77%
2004	28,548	16,235	64,192	3,888,077
2005 (preliminary)	28,807	16,467	65,051	3,963,077
2006 (preliminary)	31,028	17,538	na	4,091,546
% Growth 2001 – 2006*	15.6%	16.5%	6.96%*	12.7%
% Growth 1992 – 2006*	23.9%	52.4%	19.66%*	35.0%

Table notes:
Gladstone Region includes the local authorities of Gladstone City, Calliope, Miriam Vale and Banana Shires.
* The growth rates indicated for the Gladstone region are to 2005.

Source:
Data for 1993 to 2005 sourced from Gladstone Regional Overview – March Quarter 2006, Gladstone Area Promotion and Development Limited, 2006 (Note: Primary Source is Department of Local Government and Housing Fact Sheets, March 2006). ABS Census – Australian Demographic Statistics, June 1998.

Data for 2006 is taken from Department of Infrastructure and Planning, Planning and Forecasting Unit, Population and Housing Fact Sheet, February 2008.

Table 16.3 indicates the following historical growth trends:

- Overall, there has been considerable growth in the study area, in particular the former Calliope Shire between 1992 and 2006. Calliope Shire experienced a growth rate of 52.4% (or approximately 3.74% per annum). This rate is considerably greater in comparison to Queensland which experienced a growth rate of 35% (or approximately 2.5% per annum).
- The former Gladstone City area experienced a lower growth rate between 1992 and 2006 in comparison to both the former Calliope Shire and Queensland with a growth rate of 23.9% or approximately 1.7% per annum.
- Within the former Gladstone City area, the growth rate doubled between 2001 and 2006 (with a growth rate of 15.6%) in comparison to the growth experienced between 1992 and 2001.
- In comparison in both the former Calliope Shire and Queensland greatest growth occurred between 1992 and 2001 than between 2001 and 2006.

The proportion of natural increase and assumed net migration trends as a contributor to growth between 1996 and 2005 is shown in Figure 16.3.

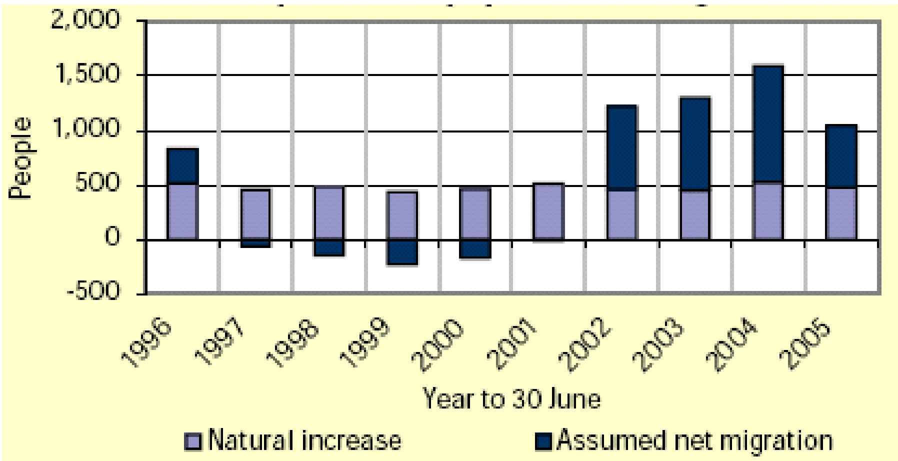

Figure 16.3 Components of population change 1996 to 2005

Figure note: Gladstone Development Region covers the area of the former Gladstone City Council and Calliope Shire
Source: Department of Infrastructure and Planning, Planning Information and Forecasting Unit (PIFU) Population and Housing Fact Sheet, February 2008 for Gladstone Development Region

Figure 16.3 indicates that assumed net migration has fluctuated in the Gladstone Development Region, with assumed net migration evident in 1996, declining between 1997 and 2000, and occurring again between 2000 and 2005, peaking in 2004 and contributing about 1,000 additional people. Natural increase (births minus deaths) appears to have been steady since 1996 with approximately an additional 500 persons per year.

It demonstrates that in recent years assumed net migration has been a more significant contributor to population growth than natural increase.

Household structure

The household structure within the study area in comparison to Fitzroy SD and Queensland is provided in Table 16.4. Household type indicates the type of households represented within the study area, providing an indication of the broad social fabric in the area.

Table 16.4 Household type 2006

Area	Total family household	Lone person household	Group household	Total
Calliope area	4,581	859	102	5,542
Gladstone area	7,555	2,122	373	10,050
Calliope area proportion %	82.3	15.5	1.9	na
Gladstone area proportion %	69.6	19.5	3.4	na
Fitzroy SD proportion %	67.8	20.4	3	na
Queensland proportion %	67.1	21	4.2	na

Source: Australian Bureau of Statistics, 2006 Census

The key household trends include:

- The predominant household type is the family household throughout the study area and in Fitzroy SD and Queensland. This household type is greatest within the Calliope area (82.3%) with the Gladstone area, Fitzroy SD and Queensland ranging between 67.1% and 69.6%.
- Of the family households, the Gladstone area contains the highest proportion of couples with children (47.7%) in comparison to the Calliope area (43.0%), Queensland (43.3%) and Fitzroy SD (45.7%).

- Within the study area, the Gladstone area contains the highest proportion of lone households and group households in comparison to the Calliope area (4.0% and 1.5%, respectively). However, the proportions in the Gladstone area are only slightly lower than those proportions for Fitzroy SD and Queensland.

Population projections

The population projection within the study area and Queensland to 2026 is shown in Table 16.5.

Table 16.5 Population projection to 2026 (medium series)

Area	Projected population (medium series)					Population change (%) 2006 to 2026
	2006	2011	2016	2021	2026	
Gladstone area	31,028	31,089	34,971	39,505	43,944	41.6%
Calliope area	17,538	18,432	20,701	23,337	25,709	49.5%
Study area	48,566	49,521	55,672	62,842	70,155	44.5%
Queensland	4,091,546	4,428,138	4,823,408	5,211,995	5,583,956	36.5%

Source: Department of Infrastructure and Planning, PIFU Population and Housing Fact Sheet, February, 2008

The data indicates the following trends:

- The greatest projected population growth is likely to occur within the former Calliope Shire area (49.5%) in comparison to the Gladstone area (41.6%)
- Population growth between 2006 and 2026 is projected to be 8% higher in the study area in comparison to Queensland.

The projected growth for the study area (also referred to as the Gladstone Development Region) is shown diagrammatically in Figure 16.4 which displays the potential variations between the low series and high series population projections.

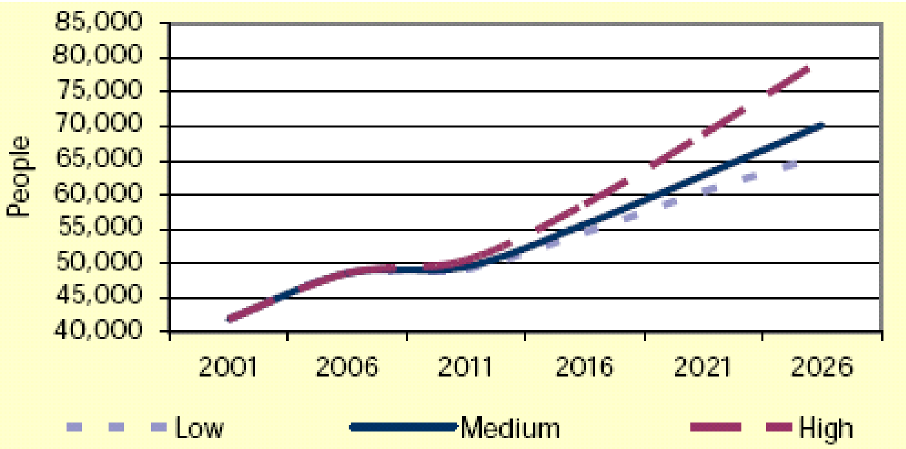

Figure 16.4 Population projection to 2026

Figure note: Gladstone Development Region covers the area of the former Gladstone City Council and Calliope Shire
Source: Department of Infrastructure and Planning, PIFU Population and Housing Fact Sheet, February, 2008 for Gladstone Development Region

Figure 16.4 demonstrates that projected growth will be relatively marginal (less than 1,000 persons) between 2006 and 2011, but will then steadily increase between 2011 and 2026 (by 20,634 persons). Over a 15 year period this equates to an annual increase of 1,375 persons.

The projected age distribution for the study area is shown in Figure 16.5.

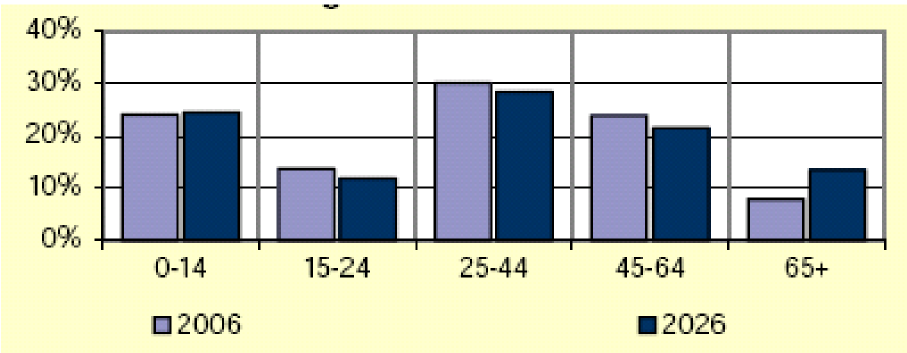

Figure 16.5 Projected age distribution 2006 to 2026

Figure note: Gladstone Development Region covers the area of the former Gladstone City Council and Calliope Shire
Source: Department of Infrastructure and Planning, PIFU Population and Housing Fact Sheet, February 2008 for Gladstone Development Region

The projected age distribution of the population by 2026 indicates the following population changes:

- Within the study area the greatest decline is expected to occur in the 45 to 64 year age group (by 2.4%), the 15 to 24 year age group (by 1.9%) and the 24 to 44 year age group (by 1.7%). In comparison to Queensland the same age cohorts are expected to decline, with the greatest decrease in the 25 to 44 year age group (by 2.5%).
- In the study area there is expected to be a minor increase in the 0 to 4 year age group (by 0.8%), however in Queensland this age group is expected to decline (by 3.2%).
- The largest increase is expected in the 65+ year age group, with the greatest growth expected for Queensland (7.7%) in comparison to the study area (5.5%).

The change in age distribution is shown in Table 16.6.

Table 16.6 Population projection change in age group to 2026 (medium series)

Area	Age group (years)					Median age
	0-14	15-24	25-44	45-64	65+	
Study area 2006	24.1	13.8	30.2	24.0	8.0	33
Study area 2026	24.9	11.9	28.5	21.6	13.5	34
Population change (%)	+ 0.8	(- 1.9)	(- 1.7)	(- 2.4)	+ 5.5	na
Queensland 2006	20.4	14.1	28.6	24.8	12.1	36
Queensland 2026	17.2	12.2	26.1	24.7	19.8	41
Population change (%)	(- 3.2)	(- 1.9)	(- 2.5)	(-0.1)	+ 7.7	na

Table note:
The data relates to the Gladstone Development Region which consists of the former Calliope Shire and Gladstone City Council LGAs.
Source: Department of Infrastructure and Planning, PIFU Population and Housing Fact Sheet, February, 2008 for Gladstone Development Region

The median age of the population in the study area is also expected to increase from 33 years to 34 years. In comparison, the median age in Queensland is expected to increase from 36 years to 41 years.

Workforce characteristics

Existing labour force

The labour force characteristics in terms of the size of the labour force and participation (full-time or part-time) is shown in Table 16.7.

Table 16.7 Labour force 2006

Labour force characteristics	Study area				Fitzroy SD proportion %	Queensland proportion %
	Calliope area	Calliope area proportion %	Gladstone area	Gladstone area proportion %		
Full-time	5,425	66.3	9,703	65	64.7	61.6
Part-time	1,902	23.3	3,477	23.3	24.5	27.7
Away from work	280	3.4	521	3.5	3.6	3.3
Hours not stated	218	2.7	411	2.8	2.7	2.6
Unemployed	355	4.3	813	5.4	4.5	4.7
Total labour force	8,180	49.4	14,925	51.3	48.7	49.1
Not in the labour force	3,587	21.7	5,698	19.6	22.7	24.9

Table note:
The proportions calculated for total labour force and persons not in the labour force are based on the total population for the respective area.
Source: Australian Bureau of Statistics, 2006 Census

The following trends have been identified:

- Both Calliope and Gladstone areas have a higher proportion of full-time employed persons (66.3% and 65%, respectively) in comparison to both Fitzroy SD and Queensland (64.7% and 61.6%, respectively).
- A lower proportion of people are employed part-time in both Calliope and Gladstone areas (both 23.3%) in comparison to Fitzroy SD (24.5%) and Queensland (27.7%).
- The Gladstone area contains the highest proportion of the population (51.3%) participating in the labour force. Labour force participation in the Calliope area (49.4%) is marginally higher in comparison to Queensland (by 0.3%) and higher than for Fitzroy SD (by 0.7%).
- The proportion of the population not in the labour force is considerably lower in both the Gladstone area and Calliope area in comparison to Queensland (by 5.3% and 3.2%, respectively). The proportion of the population not in the labour force is also lower in the Gladstone and Calliope areas in comparison to Fitzroy SD.

Unemployment

Table 16.7 demonstrates the following trends in relation to unemployment:

- Unemployment is higher in the Gladstone area in comparison to the Calliope area (by 1.1%), Fitzroy SD (by 0.9%) and Queensland (by 0.7%).
- Unemployment is lower in the Calliope area and Fitzroy SD in comparison to Queensland.

The unemployment rate has substantially declined in the study area since the 2001 Census. The unemployment rate in the Gladstone area was 9.5% and in the Calliope area 7.7%, resulting in a reduction of 4.1% and 3.4%, respectively between 2001 and 2006. Since 2001, there has been significant change in the regional economy, including major industrial projects in Gladstone and increased mining activity in the Bowen Basin.

Skills and occupation

The general skills of the workforce can be determined by the key areas of occupation. Table 16.8 shows the occupation of residents in the study area in comparison to Fitzroy SD and Queensland.

Table 16.8 Occupation 2006

Occupation	Study area proportion %		Fitzroy SD proportion %	Queensland proportion %
	Gladstone area	Calliope area		
Professionals	13.2	11.9	13.1	**17.1**
Technicians and trades workers	**22.6**	**21.7**	**18.5**	15.4
Clerical and administrative workers	12.3	11.3	12.7	14.8
Managers	8.2	10.8	11.9	12.4
Labourers	13.1	13.3	13.4	11.9
Sales workers	9.1	7.6	8.7	10.4
Community and personal services workers	7.3	6.5	7.9	9.1
Machinery operators and drivers	12.3	14.8	11.9	7.2

Table note:
Bold data indicates highest %
Source: Australian Bureau of Statistics Census, Quick Stats 2006

The occupation characteristics are as follows:

- Within the study area and Fitzroy SD, the highest proportion of the labour force is employed as technicians and trade workers (average proportion of 20.9%), followed by labourers (average proportion of 13.3%) and machinery operators and drivers (average proportion of 13.0%).
- Professionals in the study area and Fitzroy SD were also well represented (average 12.7%), however this is considerably lower in comparison to Queensland (17.1%).
- For comparative purposes, the highest proportion of the labour force in Queensland is employed as professionals, followed by technicians and trades (15.4%), clerical and administration workers (14.8%) and managers (12.4%).

Availability

The Gladstone and Calliope area has experienced significant industrial growth with many projects currently operating or in the early stages of development. These industrial operations provide significant local employment both directly and indirectly in the form of support industries.

The study area demonstrates a high labour force participation, particularly in the Gladstone area which may be attributed to the generally younger population present in the study area.

Whilst the Gladstone area had a slightly higher unemployment rate than Queensland, it is generally understood that obtaining skilled labour for the construction of projects is challenging. The higher unemployment rate is surprising as many of the required skills are indicated to be well represented in the labour force. This rate may be attributed to a portion of the labour force not having the required skills to work in major industry, or contracted labour being in between projects/jobs on Census night.

The Department of Employment and Workplace Relations undertook the Gladstone Skills in Demand Survey in September 2006, which was conducted by the Labour Supply and Skills Branch. The findings of this survey are detailed in Appendix K1. The survey generally found that the local recruitment difficulties are in line with difficulties experienced across other areas of Australia. While 91% of vacancies reported by employers were filled, 61% of employers reported difficulty recruiting staff. The availability of staff in between other projects is discussed in Section 16.4.

Skills development and work placement initiatives

To assist in addressing labour shortages across the State, skills development is a key initiative of the Queensland Government's Department of Employment and Training through its Queensland Skills Plan.

This Plan provides a policy framework that will better match the supply of skilled labour to industry's needs and the economy's demands and sets out 24 actions the Queensland Government will take to implement these policies.

In conjunction with the State initiative, a number of regional/local groups are providing initiatives to enhance skills development and work placement. These include:

- Skills attraction and retention
- Support services for newcomers to the Gladstone region
- Different work placement options
- Programs to assist school students and disadvantaged people enter the workforce

The key initiatives relevant to Central Queensland are outlined in Appendix K1.

16.2.2 Housing and land availability

Context

Housing for the growing population is a key concern to local authorities. As part of the Gladstone Mayoral Taskforce, a joint presentation "Gladstone Region: Accommodating the Challenge of Industrial Growth" was undertaken on 18 July 2007 to the development industry by the following agencies:

- Gladstone Economic and Industry Development Board (GEIDB)
- Gladstone City Council
- Calliope Shire Council
- Urban Development Institute of Australia (UDIA), Gladstone branch

The aim of the presentation was to:

- Discuss the critical housing challenges facing the Gladstone region based on previous experiences and forecast industry development
- To introduce and connect major project proponents with the local development industry
- Explore options to deliver the mix of accommodation products allowed for in the Planning Schemes and sought by the market

Some of the key points from the 2007 presentation include:

- Historically Gladstone has experienced a “boom and bust” cycle, however it is believed that Gladstone is becoming self-sustaining since Comalco Alumina Refinery Stage 1 (2002-2004).
- Lead times for construction is becoming a critical issue, being approximately:
  - 2 years for the subdivision process (from acquiring the land to reselling the land ready for construction)
  - 6 to 8 months for housing construction (depending on availability of builders)
  - Minimum of 18 months to construct apartments
- Based on estimated workforce numbers in EISs for major industry projects within the Gladstone region (current at that time), it is estimated 1,300 permanent dwelling units are required by 2011, a rate of 450 dwellings per year. Furthermore, the construction workforce could peak at 4,750 between 2008 and 2011.
- In terms of development potential in Gladstone:
  - Kirkwood Road South Structure Plan sets the blueprint for 2,600 lots (to accommodate approximately 5,500 people)
  - Higher density development in the CBD
  - Glen Eden/O’Connell Structure Plan
  - Boyne Island/Tannum Sands – urban expansion is subject to significant augmentation of infrastructure.
  - Calliope township is a potential growth node and enquiries indicate a potential 1,000+ additional lots (this however would place pressure on infrastructure).
- Housing demand is expected to be caught short from 2008 to 2012 based on annual forecast demand for residential property in Gladstone.
- Gladstone land prices lag behind prices in Mackay based on sales history of vacant urban land.
- Gladstone house prices are increasing (in areas zoned Residential A) and reached $350,000 by Quarter 1 in 2007.
- It was acknowledged that numerous projects have been approved in the Gladstone area with conservative yields. It was suggested that developers could increase yields and product mix if there was better industry knowledge, resulting in more affordable and wider product mix and housing choice.

To obtain a better understanding of the local situation from a housing and land availability perspective (and to therefore understand the potential impact on the local community), this section will consider:

- Predominant housing structure
- Dwelling tenure
- Short-term accommodation availability (to accommodate the construction workforce)
- Recent development approvals
- Rental accommodation and housing costs
- Housing affordability
- Land availability (which may be capable of easing potential housing pressure)

It should be noted that the analysis of housing with the projected workforces from MLARP and other expected projects in the Gladstone area has been undertaken in Sections 16.3 and 16.4.

Dwelling structure

The predominant form of housing structure within the study area is detached dwellings. ABS data indicates that in 2006 more than 90% of housing within the former Calliope Shire is ‘separate housing’, accounting for nearly 5,000 of a total 5,462 homes (ABS 2006). The former Gladstone City Council also shows a high proportion of detached housing with more than 8,500 houses or 85% being “separate housing”.

Both Calliope and Gladstone areas are above the Queensland average for this housing type, highlighting the dominance of detached dwellings within the existing housing stock in the study area. This is further shown in the low figures for higher density housing types (eg semi-detached, townhouses, flats or apartments), with only 1 to 3% falling into this form of housing in both Calliope and Gladstone areas. This is well below the Queensland average of 7.6% for higher-density housing.

Other forms of housing make up about 5% in the Calliope area and 2.1% in the Gladstone area. This includes housing forms such as caravans, cabins and houseboats. These figures indicate a higher proportion of these housing types existing in the study area in comparison to Queensland (1.5%).

Dwelling tenure

The 2006 Census data provides an indication of the size of the rental market, and number of households residing in fully owned dwellings and the number of dwellings being purchased at the time. This data is provided in Table 16.9 for the study area and Queensland.

Table 16.9 Tenure type 2006

Tenure type	Calliope area	Calliope area proportion %	Gladstone area	Gladstone area proportion %	Queensland
Fully owned	1,731	31.7	2,426	24.1	31.6
Being purchased	2,413	44.2	3,977	39.6	33.8
Rented*	1,193	21.8	3,382	33.7	31.1
Other tenure types	18	0.3	32	0.3	0.8
Tenure types not stated	107	2.0	231	2.3	2.7
Total	**5,462**	**100**	**10,048**	**100**	**100**

Table notes:
* Rented accommodation includes:
a) Real Estate agent, State or territory housing authority, housing co-operative/community/church group
b) Person not in same household - eg dwellings being rented from a parent/other relative or other person
c) Other landlord type – eg dwellings being rented through a “Residential park (includes caravan parks and marinas)”, “Employer-Government” (includes Defence Housing Authority) and “Employer-other (private)
d) Landlord type not stated
Other tenure types includes dwellings “Being occupied under a life tenure scheme”
Source: Australian Bureau of Statistics, 2006 Census

The 2006 Census data indicates the following housing tenure characteristics for the study area:

- Within the Calliope area 75.9% of existing dwellings are either being purchased or are already fully owned. Compared to Queensland, this represents a higher rate of home ownership in the Calliope area than for Queensland. This figure is boosted by the 44.2% of residents in the Calliope area purchasing a home compared to an average 33.8% in Queensland.
- While home ownership in Calliope is above the Queensland average, homes being rented are below the Queensland average with only 21.8% of homes being rented. This indicates that the rental market in the Calliope area is not only small (with just 1,193 dwellings being rented) but also that the rental market may be more difficult to enter into than in other parts of the State.

- The Gladstone area shows a lower proportion of home ownership in comparison to Queensland, with only 24.1% of homes being fully owned and 39.6% being purchased.
- The proportion of rented dwellings in the Gladstone area is higher than in the Calliope area and Queensland with 3,382 (or 33.7%) of dwellings in the Gladstone area being rented. This is nearly triple the number of dwellings (2,189 additional dwellings) that are available in the Calliope area (1,193 dwellings).

The nearest townships to the project area are the smaller settlements of Mount Larcom and Yarwun. Within these towns, the following characteristics have been identified:

- Dwellings that are fully owned are proportionally higher in these townships than in the Calliope area and Queensland (representing 38.7% and 31.6% of all dwellings, respectively).
- There is a significantly lower proportion of homes being purchased (only 30.2% in Mount Larcom and 18.4% in Yarwun) in comparison to the study area and Queensland.
- Properties being rented in Mount Larcom represent 23.6% of all occupied dwellings (25 dwellings), whilst 41.8% of dwellings in Yarwun are rented (41 dwellings).

Short-term accommodation availability

Hotels, motels and other short-term accommodation

Hotels, motels and serviced apartments in the Gladstone and Calliope areas provide short-term accommodation options for tourists and temporary workers alike. According to the ABS data for tourist accommodation, there are currently 32 establishments (with five or more rooms) across the study area (September 2007).

The combined number of rooms from these establishments is 816 rooms. This information is shown in Table 16.10.

Table 16.10 Hotels, motels and serviced apartments with 5+ rooms, September 2007

Area	Establishments	Rooms	Room occupancy rate
Calliope area	9	227	62%
Gladstone area	23	589	71.1%
Total	**32**	**816**	**na**

Table note:
The Calliope and Gladstone areas are the former Calliope Shire and Gladstone City Council LGAs
Source: Australian Bureau of Statistics tourist accommodation, small area data, Queensland, September 2007

Room occupancy rates for September 2007 varied across the region, with the Gladstone area showing the higher occupancy rate at 71%. This equates to approximately 418 rooms of the available 589 being occupied on any single night. The average length of stay in Gladstone was nearly two (1.9) nights per stay (ABS 2007).

Rooms in the Calliope area on average had a lower occupancy rate than in the Gladstone area, showing a 62% occupancy rate. This equates to about 140 rooms being occupied on any single night with an average stay of 2.6 nights. Therefore, the figures suggest that while the Calliope area has a lower occupancy rate than Gladstone, the number of rooms available at any one time are also lower and tend to be occupied for longer periods.

Caravan parks

Caravan parks also present a short to medium term option for accommodation in the study area. The ABS September Quarter figures for 2007 show seven caravan park establishments in the area with a total combined capacity of 845 sites.

Tables 16.11 and 16.12 show the number of caravan parks in the study area and the breakdown of site types.

Table 16.11 Caravan parks, September 2007 (part A)

	Establishments	On site vans	Other powered sites	Unpowered sites	Cabins, flats, units and villas
Calliope area	4	36	380	122	58
Gladstone area	3	50	117	20	62
Total	**7**	**86**	**497**	**142**	**120**

Table note:
The Calliope and Gladstone areas are the former Calliope Shire and Gladstone City Council LGAs
Source: Australian Bureau of Statistics tourist accommodation, small area data, Queensland, September 2007

Table 16.12 Caravan parks, September 2007 (part B)

	Total capacity	Sites occupied long term	Other sites permanently reserved	Site occupancy rate
Calliope area	596	159	7	52.1%
Gladstone area	249	92	0	77.3%

Table note:
The Calliope and Gladstone areas are the former Calliope Shire and Gladstone City Council LGAs
Source: Australian Bureau of Statistics tourist accommodation, small area data, Queensland, September 2007

The Gladstone area has a total capacity of 249 sites and an occupancy rate of about 77.3%. This equates to approximately 191 sites being occupied on average with about 92 sites being occupied on a long term basis.

The Calliope area shows a significantly higher total capacity than the Gladstone area and also has a lower occupancy rate at 52.1%. However of the 596 sites, 159 sites are occupied long term, seven are permanently reserved and 122 are unpowered sites. Whilst the capacity may be greater than in the Gladstone area, these long-term reservations limit the number of available sites at any one time.

Caravan parks also are subject to seasonal fluctuations in demand throughout the year and this would also reduce the available capacity of the parks.

Dwelling approvals

The latest data on dwelling approvals within the Calliope and Gladstone areas reveal that more than 600 new dwellings were approved in 2007. About 60% of these approvals were in the former City of Gladstone with 365 new dwellings approved. This represents an increase of 73.8% in dwelling activity from the previous year and the highest number of approvals since 2003.

There were 237 new dwelling approvals in the Calliope area in 2007 which marked a slight drop from the 2006 figures, but remained significantly higher than the two previous years.

The new dwelling approvals are outlined in Table 16.13.

Table 16.13 New dwelling approvals

Year	Calliope area	Gladstone area
2003	222	344
2004	161	262
2005	128	233
2006	249	210
2007	237	365

Table note:
The Calliope and Gladstone areas are the former Calliope Shire and Gladstone City Council LGAs.
Source: Department of Infrastructure and Planning, PIFU Population and Housing Fact Sheet, December 2007

Of the 365 new dwelling approvals in the Gladstone area, about one third of these dwellings may be released onto the rental market, while another 20% of the 237 approvals in Calliope may also be available for rent (based on the proportion of rental dwellings in the ABS 2006 Census). This equates to approximately 170 dwellings being released to the rental market across the study area.

The Gladstone City Council Planning Scheme seeks to increase densities within the Gladstone CBD. There have been several development applications for development in the Goondoon Street locality.

Recently approved developments include:

- Approved application for 36 units in Gladstone CBD
- 96 rooms at The Grand (work is about to start) in Goondoon Street
- 30 two and three bedroom apartments for the Quest (work underway)
- 34 dual key units for Bluechip (work underway)

Current development proposals include:

- An application lodged by the Quarterback Group for a 9-storey accommodation tower, Goondoon Street, Gladstone. The development is a mixed use development which incorporates 19 residential units, 46 dual key motel units, restaurant, function room, office and retail.

Rental accommodation and housing costs

The size of the rental accommodation market has been identified in Table 16.10 for dwelling tenure, with the rental tenure comprising 21.8% and 33.7% of all occupied private dwellings in the Calliope area and Gladstone area, respectively.

As indicated previously, the proportion of rental dwellings in Mount Larcom is 23.6% and Yarwun 41.8% of all private accommodation. At the current time the main source of accommodation is in the larger centres of Gladstone City, Calliope, Tannum Sands and Boyne Island. However, it should be noted that a significant development is proposed for the Mount Larcom area and in future this may provide a significant source of accommodation.

The dwelling characteristics for the Calliope and Gladstone areas and associated local areas in terms of median rent and median housing loan repayments is detailed in Table 16.14.

Table 16.14 Median income, rent and housing loan repayments of occupied private dwellings, 2006

Local area or region	Median individual income ($/weekly)	Median household income ($/weekly)	Median rent ($/weekly)	Median housing loan repayment ($/monthly)	Average household size
Region:					
Gladstone area	534	1,189	170	1,192	2.7
Calliope area	510	1,278	190	1,300	2.9
Fitzroy SD	481	1,067	150	1,083	2.6
Queensland	476	1,033	200	1,300	2.6
Local (state suburb)area:					
Gladstone (urban area)	533	1,187	170	1,192	2.7
Tannum Sands	561	1,475	220	1,460	2.9
Boyne Island	544	1,333	220	1,300	2.8
Wurdong Heights	519	1,708	185	1,387	3.3
Calliope	500	1,195	190	1,136	3.0
Benaraby	463	1,293	112	1,499	3.0
Beecher	602	1,482	120	1,300	3.0
Burua	510	1,424	155	1,306	3.2
River Ranch	363	810	111	1,300	2.5
West Stowe	470	1,324	120	1,083	2.8
Mount Alma	458	1,033	0	1,042	2.9
Bracewell	487	1,075	105	951	3.0
Ambrose	365	928	85	900	2.8
Yarwun	416	972	150	867	2.7
Raglan	294	871	0	973	2.7
Mount Larcom	351	774	113	790	2.4

Source: Australian Bureau of Statistics, 2006 Census QuickStats

The following characteristics have been identified:

- The median individual and household weekly income in the Gladstone and Calliope areas are higher than both Fitzroy SD and Queensland, while housing costs (for both rent and loan repayments) are generally lower in the Gladstone and Calliope areas in comparison to Queensland. At the time of the Census, these costs are less than the 30% housing affordability measure for households.
- In the local areas the more expensive areas to rent are Tannum Sands, Boyne Island and Calliope which also have generally higher weekly household incomes.
- Beecher contains the highest median weekly individual and household income in the study area, but also contains the lowest median rental cost.
- Local areas such as Ambrose, Yarwun, Raglan and Mount Larcom contain the lowest median weekly individual and household income with relatively low median rental and loan repayment costs in comparison to the Gladstone and Calliope areas and Queensland.
- The average household sizes in the Gladstone and Calliope areas and local areas within the study area (excluding Mount Larcom) are higher than the average household size in Queensland and Fitzroy SD.

- The average household size is particularly high (3.0 persons) in Calliope, Beecher and Benaraby in comparison to Queensland (2.6 persons). At Mount Larcom the average household size (2.4 persons) is noticeably low in comparison to all other local areas and to Queensland.
- West Stowe (where MLARP is primarily located) has a lower median weekly individual income but a higher median weekly household income in comparison to both the Gladstone and Calliope areas, and contains lower median rent and loan repayments.

Cost of living

The availability and prices of goods and service is discussed in Section 17.2.5 for the period December 2006 and December 2007. To provide an indication of the cost of living, the Index of Retail Prices in Queensland Regional Centres (May 2006) by the Office of Economic and Statistical Research indicates that the spatial price index for all items is 4.2% less expensive in Gladstone in comparison to Brisbane. Housing related costs, including rent, electricity and other household fuels, in particular was 17% lower than for Brisbane, while the spatial price index for food, alcohol and tobacco was 4.4% higher in Gladstone in comparison to Brisbane.

Median house price

Figure 16.6 shows that the median house price for detached dwellings has increased significantly across Queensland in both Brisbane and in regional centres between 2001 and 2006, including Gladstone.

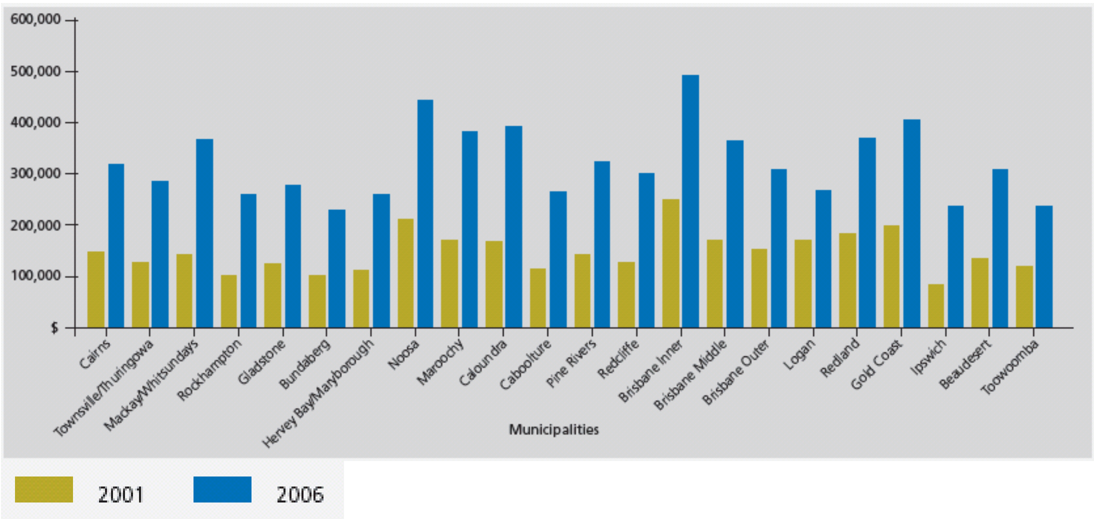

Figure 16.6 Median detached house prices in Queensland, 2001 to 2006

Source: UDIA/Matusik Affordability Measure, 2007

Figure 16.6 also shows that the median detached house price in Gladstone is lower than many other regional centres throughout Queensland, including Cairns, Townsville/Thuringowa and Mackay/Whitsundays. The regional centres with a lower median dwelling price than Gladstone include Rockhampton, Bundaberg, Hervey Bay/Maryborough and Toowoomba.

The capital growth in median prices and the median housing price is shown in Table 16.15.

Table 16.15 Median house price

Local area or region	Capital growth in median prices (%)					Median housing purchase 2007
	2004	2005	2006	2007	2008	
Local area:						
Gladstone	14.0	12.8	8.0	57.9	-6.1	350,500
Calliope	15.3	11.7	18.1	30.0	22.5	392,000
Tannum Sands	19.2	11.6	5.3	21.4	12.9	530,000
Boyne Island	21.1	3.3	14.2	24.6	17.1	427,500
Benaraby	4.7	23.3	1.2	20.2	13.8	548,500
Ambrose	63.6	1.4	23.3	73.3	-13.3	169,000
Mount Larcom	27.3	52.4	-15.6	69.6	na	237,500

Source: RP Data Ltd, 2007

The information contained in Table 16.15 is based on RP Data. The data indicates the following trends:

- There has been significant growth in the median price in 2007 across the Gladstone and Calliope areas.
- Significant growth in median price occurred in Gladstone, Mount Larcom and Ambrose which recorded the greatest increases ranging between 57.0% and 73.3%. These areas are also the most affordable areas in the Gladstone and Calliope area with a relatively low median housing cost in comparison to other areas. Gladstone and Ambrose however, have shown a decline in median price to date in 2008.
- The most expensive areas are Tannum Sands, Boyne Island and Benaraby which have demonstrated generally consistent growth in terms of the median housing price. Calliope has also demonstrated consistent capital growth and is considered to be one of the more affordable areas in the study area.

Housing affordability

Overview

Housing affordability is a key issue across Australia as owning one's home is a widely held aspiration in Australian society as to many it signify's security, economic stability, societal morale and pride. The importance of affordable housing has led the UDIA to undertake a national study, released in August 2007 and more recently a local study of land availability in Gladstone.

The realistic possibility of home ownership is often conceptually linked to a level of satisfaction with lifestyle and financial security and the hope of young generations that they can have a secure and prosperous future and live their personal version of the great Australian dream. The potential for younger generations to be 'priced out' of home ownership, poses some serious questions about the future of our society and the issue of intergenerational equity (UDIA, August 2007).

On this basis, regardless of whether or not people own their own home, the UDIA recognises that it is imperative that people have access to decent accommodation at a price they can afford. This accommodation should allow people to live near employment and, ideally, the opportunity to live in a community of their choice. Rental accommodation, whether for financial, personal choice or other reasons, is recognised as playing an important role in the delivery of appropriate and affordable housing.

As indicated in the UDIA report (August 2007) studies have previously been undertaken which have considered the benefits of high levels of home ownership and the availability of affordable housing can have on social issues, one such as homelessness, and the demand for government services. As well as social effects, housing affordability also plays a significant role in the economic prosperity of the nation.

It further identifies that declining housing affordability can have a double negative effect on the economy, for example it can reduce the activity of the development industry - a significant contributor to the economy and reduce the incentives for growth and investment more broadly.

The UDIA report states that:

> "*The present situation of declining housing affordability is contrary to the vision for Australia as a prosperous place where people can enjoy an enviable lifestyle and 'the great Australian dream*."

It is important to note that housing affordability is an Australia-wide issue. The UDIA report provides an overview of the issue:

> *"While there is often discussion of housing cycles and indeed evidence of such trends, there are also strong indicators that house prices are much higher in Australia now, compared to people's ability to pay, than over the previous decades. Between 1984 and 2006 house prices have risen by approximately 493%, while earnings have risen by approximately 183%. Over this time period (22 years) house prices have risen to almost six times their prices in 1984 while earnings have not even trebled."*

The affordability of housing is considered to have three dimensions:

- Affordability – as a measure of the ongoing cost of housing in relation to income, whether paying a mortgage or renting.
- Accessibility – relates to the cost of becoming a home purchaser or securing a rental tenancy.
- Adequacy and appropriateness – which suggests that affordable housing should be adequate and/or appropriate to meet a household's requirements.

Situation in Queensland

In Queensland the level of affordability of home purchase decreased markedly in the period from 2001 to 2006 in several centres, with many centres in SEQ indicating a move towards an affordability crisis. It is noted however, that the UDIA/Matusik Affordability Measure indicated that comparatively some regional centres in Central Queensland, notably Rockhampton, Gladstone and Bundaberg were considered to be affordable in 2006.

The UDIA/Matusik Affordability Measure provides a more focused view on housing affordability than other indices by comparing the proportion of the houses sold in a particular region with what the population of that region could actually afford to buy. By assuming the average household was willing to spend 30% of their income on repayments and had managed to save a 10% deposit, the UDIA/Matusik Affordability Measure compares house prices to the size of the loan the average household would be able to service at prevailing interest rates.

Therefore the UDIA/Matusik Affordability Measure is able to categorise the level of affordability based on what proportion of the houses in a region the average household would be able to purchase. The ratings of affordability are as follows:

- Where the average household can afford to buy 51% or more of residences actually sold the market is categorised as "affordable".

- Where the average household can afford to purchase 31% to 50% of residences this is defined as having “some constraints”.
- If the proportion is 16% to 30% this is categorised as “seriously constrained”.
- Below 15% is defined as “unaffordable”.

Figure 16.7 shows the affordability index rating for regional centres across Queensland. In comparison to other regional areas, Gladstone is considered affordable.

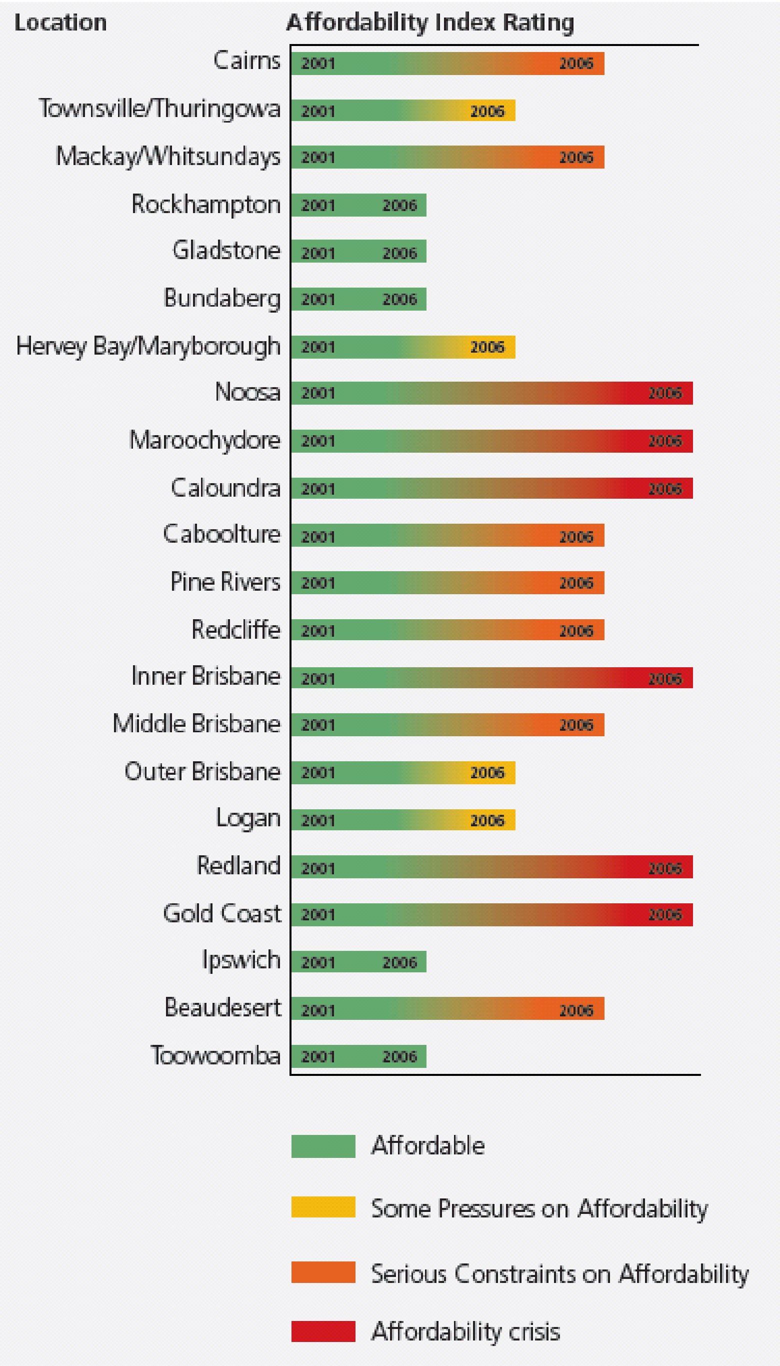

Figure 16.7 Affordability index rating for Queensland

Figure note:
Information is based on the UDIA/Matusik Affordability Measure, 2007 prepared by Matusik Property Insights. Primary source is RPData, Australian Tax Office and the Reserve Bank of Australia – June 2007.
Source: UDIA, August 2007

Land availability

The *Total Residential Land Activity Fact Sheet* (February 2008) produced by the Planning Information and Forecasting Unit (PIFU) of the Department of Infrastructure and Planning provides data available on residential land activity.

Key findings to the September quarter 2007 include:

Former Calliope Shire

- The former Calliope Shire approved 605 residential lots in the year to September quarter 2007, compared to the same period the previous year when 146 lots were approved (an increase of 314.4%).
- 141 residential lots were produced compared with the previous year when 243 lots were produced (a decrease of 42.0%).
- The number of lots registered decreased by 21.4% (ie 11 registrations in September quarter 2007 compared to 14 in the previous year).
- The number of lots consumed in Calliope Shire in the September quarter 2007 increased by 16.7% to 63 lots when compared with the same period last year. Lot consumption for the year ending September 2007 was up 11.2% over the previous year.
- In the September quarter of 2007, 46 vacant land sales were recorded with a median value of $161,315 (up from $125,571 in the June quarter 2007). This was a decrease of 2.1% in land sales volume and an increase of 14.9% in median value compared with the same quarter in the previous year.
- In the year ending September 2007, Calliope Shire recorded a 3.3% increase in new residential dwelling approvals over the previous year. A total of 254 approvals, 97.6% of which were for separate houses were sought compared to 246 approvals in 2006.

Former Gladstone City

- Gladstone City approved 30 residential lots in the year to September quarter 2007. This was a decrease of 37.5% compared with the same period last year when 48 lots were approved.
- 128 residential lots were produced in Gladstone City in the year to September quarter 2007. Compared with the previous year when 209 lots were produced, this was a decrease of 38.8%.
- The number of lots registered in Gladstone City in the September quarter 2007 decreased by 45.3% (ie 47 registrations compared to 86 registrations recorded in the same period last year). Lot registrations in the year ending September 2007 were down 24.5% over the previous year.
- In the September quarter of 2007, 62 vacant land sales were recorded with a median value of $176,747 (up from $165,679 in June quarter 2007). This was a decrease of 34.0% in land sales volume and an increase of 48.8% in median value compared with the same quarter in the previous year.
- In the year ending September 2007, Gladstone City recorded a 66.4% increase in new residential dwelling approvals over the previous year. A total of 401 approvals, 84.3% of which were for separate houses were sought, compared to 241 approvals in 2006.

Discussions with GRC indicated the following development proposals have been lodged. The following proposals are subject to Council approval, dependent upon market take up and lead time for development:

- Quarterback Group – plans for a major subdivision at Glen Eden.
- Winten Property Group "The Meadows" project within the township of Mount Larcom containing a mixed lot subdivision to accommodate a population of up to 6,000 people and staged over a 10 to 15 year period. The development is understood to incorporate a light industrial area, small commercial area, 1,044 residential lots, 120 rural residential lots, a 2 ha retail centre, 10 ha for a mobile home site and workers accommodation site, recreation and camping area.
- Platinum Property Holdings – a 132 acre stand-alone lakeside housing estate (behind Mount Larcom School) to accommodate between 550 and 600 people. Allotments are proposed to range from larger rural residential lots suitable for family homes to tighter cluster-like residential lots. About 60% of the site will remain as open space and is to incorporate water recycling. Lodgement of an application is expected in mid 2008.
- Latitude Development Group – "Stoneybrook Estate" a $140 million residential development on a 50 ha site at Glen Eden to be released in four stages over the next 2 to 3 years.
- Tannum Waters – Stage 1 (115 lots) – operational works application currently being assessed.
- In Calliope, three 125 ha lots are under contract to one developer. A fourth 125 ha lot is under contract to a different buyer. Collectively it is estimated that these four lots could yield approximately 320 small acreage rural residential lots.

Table 16.16 indicates the current development applications or recently approved developments involving a Reconfiguration of a Lot in the Calliope area in the past couple years. These applications are generally those that involve the creation of 15 or more lots.

Table 16.16 Applications for the Reconfiguration of a Lot, Calliope area

Subdivision approval	Operational works approval	Proposed development	Development name and property description	No. of lots	Status
Wurdong Heights					
N/A	N/A	168 rural residential lots (9 stages)	Parksville – Bruce Highway	168	Application lodged
Calliope					
16/03/07	N/A	73 residential lots	Silverdale – 39 Drynan Drive and 2120 Dawson Highway	73	Operational works application lodged
5/10/07	N/A	14 rural residential lots	1833 Dawson Highway	14	
5/04/07	N/A	44 rural residential lots	2320 Dawson Highway	44	Currently under appeal
13/07/05	3/03/06	20 lots – Stage 2	Rangeview – 2 Don Cameron Drive	20	Currently under construction
N/A	N/A	Stage 1 – 18 rural residential lots	85 Morcom Street, Calliope	18	Application lodged

Subdivision approval	Operational works approval	Proposed development	Development name and property description	No. of lots	Status
1/09/06 13/04/07	27/10/06 27/06/07	Stage 3 – 19 residential lots Stages 8 (27 lots) and 9 (31 lots) – residential Stage 7 – 38 lots 122 residential and 6 rural residential lots	Hazelbrook – Lot 800 SP186468, Parish of East Stowe	243	Concept approved in 1994. Construction completed for Stage 3. Stage 8 complete Application lodged for Stage 7
9/02/05 23/02/07	4/07/06 N/A	Stage 3 – 14 rural residential lots Stages 4-7 – 88 rural residential lots	Country club – 95 Stowe Road	102	Stage 3 completed Operational works application lodged for Stages 4-7
8/07/03 31/08/07	23/02/07	Stage 2 – 38 residential lots Stages 3-4 – 62 residential lots	Northridge – 6 Bedford Street	100	Stage 2 completed Operational works application lodged for Stages 3-4
24/06/05		Mobile home park – 219 sites and 109 residential lots	2120 Dawson Highway	328	Status not stated
21/12/06	2/02/07	Stage 2 – 23 residential lots. Stage 3 – 25 residential lots and 150 residential lots	Calliope Vista – Lot 129, Parish of East Stowe	198	Stage 2 – construction completed Application lodged for stage 3
N/A	N/A	74 rural residential lots	Golf Club Estate – 105 and 131 Stowe Road	74	Application lodged
N/A	N/A	65 rural residential lots	Ginger Beer Creek Estate – Bruce Highway	65	Application lodged
N/A	N/A	Material Change of Use and Reconfiguration of a Lot – 1 into 66 rural residential lots	Calliope Countryside Estate – 2390 Dawson Highway	66	Application lodged
N/A	N/A	Reconfiguration of a Lot – 132 residential lots	The Ridge – 2120 Dawson Highway	132	Application lodged
N/A	N/A	Material Change of Use and Reconfiguration of a Lot – 25 rural residential lots	2416 Dawson Highway	25	Application lodged
N/A	N/A	Reconfiguration of a Lot – Stage 4 – 18 residential lots	Calliope Vista	18	Application lodged
Boyne Island/Tannum Sands					
21/12/06	27/03/07 (stage 3)	Stages 3-6 – 78 residential lots and 1 rural residential lot	Lilly Hills – Lot 37-39, Parish of South Trees	79	Stage 3 under construction
16/12/04	27/04/07	Stage 6 – 18 residential lots	The Oaks – Lot 8, Parish of Iveragh	18	Status not stated
10/03/06 29/06/06 21/07/06 11/08/06	3/08/06 3/08/06	Stages 2-3 – 15 residential lots Stage 4 – 6 residential lots Stage 5 – 22 residential lots Stage 6 – 20 residential lots	Island Park – Lot 159, Parish of South Trees and 27 Bauhinia Street and 8 McLeod Street, Boyne Island	63	Stages 2-4 under construction Stages 5 and 6 – operational works application lodged

Subdivision approval	Operational works approval	Proposed development	Development name and property description	No. of lots	Status
2/12/05 13/07/07		Residential community – 2,000 dwelling units in accordance with Tannum Waters Residential Community Development Plan Stage 1 – 109 residential lots	Tannum Waters – Lot 60, Parish of Iveragh	109 concept for 2,000 units	Preliminary approval for Material Change of Use of Premises Overriding the Planning Scheme
N/A	N/A	2 lots into 15 residential lots	25 Tarcoola Drive and 60 Malpas Street	15	Application lodged
N/A	N/A	1 lot into 16 residential lots	Pryde Street, Tannum Sands	16	Application lodged
N/A	N/A	Reconfiguration of a Lot – 1 into 54 residential lots	Pacific Rise – 70 Silverton Drive, Tannum Sands	54	Application lodged
Beecher/Burua					
5/04/07	7/09/07	18 rural residential lots	Lorna Crescent – Lot 1 and 2, Parish of East Stowe	18	Status not stated
N/A	N/A	Stage 7 - 29 rural residential lots Stage 8 – 1 into 4 rural residential lots Stage 6 – 1 into 9 rural residential lots	Beecher Estates – Jim Whyte Way	42	Application lodged
3/11/06	N/A	13 rural residential lots	5 Lagoon Road, Beecher	13	Operational works application lodged
N/A	N/A	1 into 34 rural residential lots	79 Williams Road, Burua	34	Application lodged
Benaraby					
N/A	N/A	Stage 6 – 15 rural residential lots Stages 7 and 8 – 21 lots	Riverdowns – 12 Barauby Boulevard	36	Application lodged
N/A	N/A	1 lot into 115 rural residential lots	Awoonga Country- 240 Awoonga Dam Road	115	Application lodged

Table note:
The number of lots column includes the allotment/s which are the subject of the development application
Source: Gladstone Regional Council, May 2008

As indicated above, the majority of additional allotments for residential purposes are being created in Calliope (a total of 1,301 lots including those currently being assessed by Council). These applications are for a mix of residential and rural residential lots and exclude the 219 site mobile home park.

A significant number of lots are also being created at Tannum Sands/Boyne Island (354 lots), Wurdong (168 lots), Benaraby (151 lots) and Beecher/Burua (107 lots).

In addition to the above data, is "The Meadows" development proposed at Mount Larcom for 1,044 residential lots and 120 rural residential lots which is currently being assessed by Council.

16.2.3 Community infrastructure and services

Community services and facilities located in the study area are detailed in Appendix K2. These services and facilities include:

- Education
- Health
- Emergency services
- Children's services and welfare
- Cultural, leisure and entertainment
- Shopping
- Public transport
- Open space, sport and recreation

The information indicates that Gladstone contains a wide range of services and facilities to cater for both the local and surrounding communities. The information on educational facilities provides an indication of current enrolment numbers and the capacity of the respective schools. The information indicates that many schools are not currently operating at capacity.

The size of shopping areas and types of retail facilities provided in Gladstone is described, as well as the findings from the Gladstone Retail Study undertaken by Economics Associates Pty Ltd and GHD Pty Ltd. Findings from a survey undertaken as part of this study include retail leakage to Brisbane and Rockhampton for clothing, apparel and homewares, and dissatisfaction with the City Centre shops and services, including leisure and entertainment retailing.

Open space, sport and recreation facilities provided in the Gladstone area have generally been described as well as the findings from the Open Space and Recreation Plan (June 2006) prepared for Gladstone City Council by ROSS Planning. Overall there is a good supply of sporting land but an undersupply of functional recreational parkland.

The information demonstrates that the vast majority of services and facilities are located within Gladstone. Consequently most residents living in the Calliope area would need to travel to access these services and facilities.

With the ongoing development of industrial projects, community services and facilities will need to keep pace with population growth and community need.

16.3 Community values

To understand the potential impact on the local community it is important to understand the local community values. This has been established from strategic planning documents, including the Central Queensland Regional Growth Management Framework (CQRGMF) 2002 and the Gladstone Plan 2005. These documents went through a consultation process and therefore have captured a representation of community values.

16.3.1 Central Queensland Regional Growth Management Framework

The CQRGMF 2002, which was prepared in consultation with the Central Queensland communities and endorsed by the Queensland government, identifies the regional values of the community. Future growth is to be underpinned by the desire of the community to maintain and enhance its quality of life.

The following values and attributes were identified by the people of the region as underpinning philosophies through which future growth should be achieved. Broadly, the key regional values identified include:

- Community vitality and safety
- Cultural diversity and acceptance

- Ecological sustainability
- Improved health and wellbeing
- Learning, knowledge and information
- Principles of social justice, namely equity, access, participation and equality
- Regional and rural communities
- Respect for the environment, the land, the climate
- Shared and committed vision for the region
- Thriving economy

16.3.2 Gladstone Plan 2005

The Strategic Framework underpins the Gladstone Plan 2005 and summarises the approach taken by the Planning Scheme to achieve the Desired Environmental Outcomes (DEOs). The strategies of relevance to the social aspects of Gladstone are detailed below.

> *"Strategy – Major Industry and Infrastructure*
> *To maintain and support major industry and infrastructure for their vital contribution to the social and economic well-being of Australia, Queensland, the region and the City and support the efficient operations of the major transport and infrastructure corridors through the City.*
>
> *(i) balance the potential economic and social benefits of major industrial projects against potential environmental impact;*
>
> *Strategy – Strategic Port Land*
> *Protect Strategic Port Land from potential adverse impacts which may effect operations to ensure ongoing contribution to the social and economic wellbeing of Queensland, the region and the City.*
>
> *Strategy – Open Space*
> *To create an integrated City-wide system of multi-purpose open space which meets the community's needs for recreation, landscape protection, conservation of valuable features and buffering from industry and transport and service corridors."*

The growth of industrial development is clearly encouraged and recognised for its contribution to Queensland and to the well-being of the general community, including local residents in the Gladstone Plan 2005. However, there is also an acknowledgement of the need to balance economic and social attributes.

The key DEOs of the Gladstone Plan 2005 as they relate to community development and social planning are summarised below.

> *"Part 3 – Desired Environmental Outcomes*
> *(c) Community Development*
> *Achieve a balance between maintaining Gladstone's role as an economic centre of National and State significance and providing a complete 'home' for its residents, characterised by:*
>
> *(i) a range of affordable housing choices suitable for the climate and the needs of the ever-changing demography of the City*
> *(ii) a range of satisfying and rewarding employment opportunities*
> *(iii) convenient access to a range of community facilities and services including health care, education, shopping and business services, cultural and entertainment facilities and recreation and sporting facilities*
> *(iv) the recognition and maintenance of cultural heritage values*
> *(v) a high level of mobility through an efficient and viable transport network*
> *(vi) a clean, safe and attractive living environment*

(vii) buffers of open space between the urban areas of the City and the major industries and port facilities

(viii) an attractive natural landscape comprised of regional landscapes and the harbour and its islands, the ridgelines and bushland and watercourses."

16.3.3 Calliope Planning Scheme

The DEOs for the former Calliope Shire, relevant to socio-economic matters include:

(b) Economic Development

The DEO being sought for economic development is to protect and broaden the economic base. In particular, the economic development DEO is to be achieved through:

(i) protection and enhancement of the productivity of the rural areas of the shire and good quality agricultural land

(ii) protection of major industries and infrastructure, extractive and mineral resources and key local industries from activities which may impact on their ongoing operations and expansion and infrastructure needs

(iii) consolidation and enhancement of commercial service centres and maximising their ongoing sustainability

(iv) provision and maintenance of a sustainable transport network, sea port, support industries and commercial services, in appropriate locations, for the GSDA, the Gladstone Port and other major industrial enterprises

(v) ensuring availability of a wide diversity of activities including primary, secondary and tertiary industries that are environmentally and socially sustainable within the local and wider community

(vi) the efficient use of existing transport and community infrastructure and the timely and equitable delivery of new infrastructure in step with the needs of continuing urban growth

(vii) consolidation of urban development which maximises the sustainability of commercial, educational, health and other community services and recreational and open space facilities

(viii) the facilitation of high standards for all development including design quality, infrastructure, resource efficiency, environment performance, landscape setting, amenity, access to social infrastructure and convenience services.

Clearly the DEOs supports both major industry and the infrastructure supporting major industry, including the provision and maintenance of a sustainable transport network. The Project will support Council's economic development DEO and is consistent with the existing and future GSDA industrial development. There will be some impacts on the utilisation and productivity of the rural areas to the south of the Bruce Highway. Discussion relating to land use is provided in Section 3.

Also of key relevance is the desire to maximise the sustainability of community services and recreation facilities. Specific DEOs relating to community development are provided below.

(c) Community Development

The desired environmental outcome sought for community development is that Calliope Shire will be an equitable, sustainable and prosperous community characterised by a strong local community focus. In particular, the community development DEO is to be achieved through:

(i) a range of safe, secure, appropriate and affordable housing choices provided in accessible locations and suitable for the climate and the needs of the ever-changing demography of the Shire

(ii) a wide range of satisfying and rewarding employment opportunities

(iii) convenient access to a range of community facilities and services including health care, education, shopping and business services, cultural and entertainment facilities, and recreation and sporting facilities

(iv) the recognition and maintenance of cultural heritage values

(v) a high level of mobility through an efficient and viable transport network

(vi) a clean, safe environment where the risk of flood, bushfire and landslide is minimised

(vii) a landscape which maximises the natural attributes of the shire comprised of regional landscapes, the foreshores, the ridgelines and native bushland, and the waterways for the enjoyment of the residents and visitors.

These values/desires are considered in assessing the potential impacts of the Project on the local community. Cultural heritage values are discussed in Section 14, transport in Section 13, visual and lighting impacts in Section 15 and other environmental matters in Sections 4 to 11.

16.4 Potential impacts

16.4.1 Context

This section defines and describes the objectives and practical measures for protecting and enhancing social values and managing potential social impacts. It also describes how the achievement of the objectives will be monitored, audited and managed.

The analysis of the existing social environment described in Section 16.2 and information gathered from initial consultation forms the basis for the analysis of the potential impacts and mitigation measures. Consultation undertaken as part of Project is summarised below in Section 16.4.2.

Identifying the potential impacts of the Project involves a level of prediction and forecasting across different stages of the proposed development (ie planning, construction, operation and decommissioning). The prediction phase involves a reflection on some of the lessons learnt from previous industrial projects in the Gladstone region.

The assessment also involves assessing the differences between the profile projections with and without the development and determining whether the potential social impacts arising from the Project are significant given the priorities, policies and programmes of all levels of government, and the degree to which these potential impacts can be mitigated.

The social impact categories considered include:

- Affected and adjoining landowners/occupiers
- Demographic, social, cultural and economic profiles
- Local residents, current land uses, existing lifestyles, enterprises and values
- Local and State labour markets, with regard to the source of the workforce and competing projects (presented according to occupational groupings of the workforce)
- Housing (including the rental market)
- Community infrastructure and services and community cohesion (including health care services and education facilities)

The cumulative social impacts have been considered in terms of the timing and projected workforces of approved projects proposed in the Gladstone and Calliope areas. These projects have been identified in Section 16.1.1.

The potential impact (both beneficial and adverse impacts) on each of these categories during construction and operation is discussed below. This is followed by a discussion of potential mitigation measures that may be adopted to minimise negative impact.

16.4.2 Consultation overview

An appropriate level of consultation has been undertaken, particularly with key stakeholders, through methods including agency briefings, media releases, one on one meetings and distribution of community newsletters.

The first newsletter, released to the community in April 2008, provided information about the Project, an EIS process timeline and invited members of the public to contact the project team (by phone, mail or email) and to register interest.

Of relevance to the SIA, a number of meetings were held with key government agencies and service providers to discuss the Project and to obtain general comments and a greater appreciation of the local issues specifically relating to the social aspects. These agencies included:

- GRC (with representatives from both the former Calliope Shire and Gladstone City Council)
- Department of Infrastructure and Planning
- Department of Communities (Rockhampton)
- Department of Housing (Rockhampton)
- Gladstone Economic and Industry Development Board
- Department of Tourism, Regional Development and Industry (Gladstone)
- Community Advisory Service (CAS), part of the former Gladstone City Council

Many of the above agencies were also involved early in the EIS process to discuss the draft ToR requirements and to identify major issues. Additional agencies consulted include:

- Department of Natural Resources and Water
- Environmental Protection Agency
- Department of Main Roads
- Queensland Transport
- Department of Employment and Industrial Relations
- Department of Local Government, Sport and Recreation
- Office of Government Owned Corporations – Treasury

Consultation has also been undertaken with directly affected property owners to inform them of the Project and to identify their initial concerns. The outcome of this consultation is included in the assessment. Ongoing consultation is also being undertaken with Traditional Owners (refer Section 14).

Community and stakeholder consultation is to be a continuous process, particularly with key agencies and those land owners potentially affected by the Project. QR is committed to keeping the community informed of the Project through regular updates and encourages community involvement. The QR website is regularly updated with Project information and provides a mechanism for comment.

Identified concerns and local issues

The key outcomes and/or concerns identified from discussions with key agencies and directly affected landowners to date include are summarised in Table 16.17.

Table 16.17 Summary of key issues identified during consultation

Concern/Issue	Relevant Section of the EIS
Dust	Section 10
Noise	Section 11
Visual amenity and lifestyle values	Section 15
Severance of properties	Section 3
Restrictions to cattle movement and access	Sections 3 and 13
Weeds	Section 5
Fires	Sections 5 and 6
Level of compensation	Section 3

Concern/Issue	Relevant Section of the EIS
Housing and accommodation	Sections 2 and 16
Lead time for agencies such as CAS to obtain funding and strengthen existing services	Section 16
Increased financial stress on individuals	Section 16
Availability of staff for medical, police and emergency services	Section 16
Significant waiting lists for childcare and education	Section 16
Locating the Project away from Beecher is supported by the local community.	Sections 1 and 2
Labour and recruitment, including: • Unemployment is low but skilled labour is not readily available • Potential need to source overseas labour and the impact on the community (eg there is not sufficient cultural infrastructure to support migrants) • Need for skill initiatives for local labour and to assist people with on the job training as part of the recruitment policy, targeting programmes to particular groups (eg unemployed, those with a disability, Indigenous people)	Sections 16 and 17
An Infrastructure Taskforce group has been established and consists of key State agencies. A strategy for housing is currently being looked at by the group.	Section 16

These issues and concerns have been considered as part of the EIS and mitigation measures to address these concerns are discussed in Section 20. This includes ongoing consultation with directly affected landowners, key stakeholders, the local community and traditional owners to address potential issues.

16.4.3 Anticipated impacts and benefits of the Project

The two key stages of development are construction and operation. The potential impacts associated with these two stages are discussed below under each social category.

Properties directly affected by the Project

The number of directly affected properties has been identified and discussed in Section 3. The proposed rail corridor is located on land currently owned or leased by the State Government, QR, Gladstone Ports Corporation and private landowners. The precise number of properties directly affected will be confirmed during the detailed design phase of the Project.

Initial consultation has been undertaken with the directly affected property owners/households who raised a number of issues which relate to:

Affected local and regional groups

The groups potentially affected by the Project include:

- Landowners/occupiers adjoining MLARP (as discussed above)
- Landowners/occupiers living near MLARP (ie residents at Mount Larcom, Yarwun and nearby rural properties)
- Landowners/occupiers who may be affected by noise, dust and visual impact
- Individuals and groups who have an interest in the Project but do not live in proximity to the Project
- Individuals and groups who use the community and recreational facilities provided in the study area

- Local, State and Commonwealth government agencies responsible for provision and management of land, facilities and services proposed or existing within the study area (as discussed in Section 16.2.3).

Settlement patterns in the Gladstone and Calliope areas have residential development primarily contained within dedicated Residential, Rural Residential or Township Zones in accordance with the Gladstone City Council and Calliope Shire Council Planning Schemes.

Outside the Mount Larcom and Yarwun townships, the key areas where housing is concentrated near the project area which may be indirectly affected by the Project includes:

- Dwellings located within the GSDA along Flynn Road, west of Yarwun township. These properties include private residences and land owned by the Department of Infrastructure and Planning (DIP). Some of the land owned by DIP is leased.
- Dwellings in a rural setting along The Narrows Road north of the Mount Larcom Yarwun Road and to the east of the Mount Larcom township.
- Dwellings along Dawson Highway (between Daetz Road and Potter Road).
- Grazing properties to the north of the Dawson Highway along the proposed Moura Link options.
- Grazing properties along the western boundary of the Bruce Highway.

The location of these dwellings is shown in Figure 3.9.

Indirect impacts on these residential areas are likely to relate to:

- Construction vehicle traffic on surrounding road networks
- Disruption, general safety and access issues (ie temporary and permanent road closures during construction)
- Changes to lifestyle opportunities
- Perceived devaluation of property
- Noise and vibration
- Lighting
- Dust
- Visual and landscape amenity

The potential regional impacts in relation to aspects such as community services, lifestyle, and housing are discussed below.

Impacts on demographic, social, cultural and economic profiles

As identified in Section 16.2, Gladstone is an area that has experienced steady population growth. It has also experienced temporary influxes of population through assumed net migration from previous industrial projects.

The potential impacts of the Project on the demographic profile of the study area include the following:

- MLARP will contribute to a population increase in the Gladstone region, particularly by the operational workforce (an estimated 702 workers). It is estimated that during the Stage 1 construction phase, the workers required for MLARP may be drawn from other projects (dependent on the overlap within the projected construction timeframes).
- The construction and operational workforce will attract families to the area. Depending on the age cohort of these children, this may place a greater need on education and children's services.
- For construction workers, there may be a higher proportion of lone households or households with either nil or fewer children in comparison to the operational workforce.

- Greater population growth is likely to occur in urban areas in commuting distance to the Project.
- Greater employment opportunity may further reduce the unemployment rate.
- The income gap between low and higher income earners is unlikely to be reduced due to skill shortages. However, the Project will provide direct and indirect employment.
- Based on experience from previous projects, the predominant age group of the construction workforce is likely to increase the 25 to 34 and 35 to 44 year age groups.
- The predominant household structure in the region is likely to continue to be couples with children.

The construction workforce for the MLARP is not expected to have any substantial impact on the existing community as it is expected that this workforce may be primarily sourced locally from other projects when the peak workforces of these projects fall. The operational workforce however, may have an impact and will progressively increase from 2010 to 2019 and beyond. The source of this workforce is unknown at this stage and would depend on other QR activities and employment market conditions at that time.

Social and cultural

Increased population, either through the initiatives currently underway or through further industrial expansion or associated infrastructure development in the Gladstone and Calliope areas may impact on access to services, facilities and lifestyle if not appropriately managed.

A potentially rapid increase in population, particularly with several approved industrial projects occurring at the same time, the provision of services may not be able to keep pace with population growth. It is noted that with over 1,300 allotments either approved or currently being assessed by Council in the vicinity of the Calliope township, there will be demand for a greater range of community services and facilities to be provided in Calliope. However, as indicated below this can also be seen as positive for the existing community.

Potential social changes associated with the Project include:

- Potential increased demand on community services and facilities. Childcare facilities in particular have been noted as a service currently under pressure.
- Potential difficulty in attracting key occupations to service any increase in demand for key services and facilities (refer to the skilled labour discussion below).
- Increased demand for a greater range of retail, community services and facilities and sporting facilities in the Gladstone and Calliope areas for use by the local community.
- Existing services may expand and new enterprises may be attracted to the Gladstone and Calliope areas to service the growing population with a resultant reduction in products and services being purchased from outside the Gladstone and Calliope areas.
- With population growth and the implementation of Council initiatives, greater community pride and investment to improve the aesthetics of key urban centres with resulting lifestyle benefits.
- Greater cultural diversity should the workforce need to be sourced from overseas which can provide a cultural learning experience for the existing population.

The potential impacts from a cultural heritage perspective are discussed in Section 14.

Economic

The Project is likely to improve infrastructure in the region which would attract outside investment for further industrial development, particularly within the GSDA. More tangible and immediate benefits will be the increased employment opportunities directly related to construction and operation of the new rail yard and improved rail infrastructure.

The potential impacts and benefits of the Project from an economic perspective are discussed in Section 17.

Impacts on current land use, existing lifestyles, enterprises and values

Land use

The Project is primarily located within the GSDA. The Project also extends further south of the GSDA and Bruce Highway within the rural areas of the former Calliope Shire to Dawson Highway. The potential impacts associated with the Project from a land use perspective are discussed in Section 3 and 16, respectively.

The location of affected properties and surrounding land uses is visually represented in Figures 3.2 and 3.7.

Existing lifestyle, enterprises and values

Gladstone is a city that is evolving, which historically has experienced "boom and busts" with the influx of short-term workers associated with major industry. However, it is apparent that both State and Local Government are aware of the importance of industry to the Gladstone region and there is now a focus on attracting workers to Gladstone on a more permanent basis.

Gladstone City Council has adopted the Cultural and Quality of Life Policy, which is aimed to contribute to the maintenance of the balance between economic and industrial growth and the provision of human needs. As previously mentioned, the Central Queensland Regional Growth Management Framework (CQRGMF) 2002 identifies the regional values of the community which seeks to maintain and enhance quality of life. Broadly, the key regional values identified include:

- Community vitality and safety
- Cultural diversity and acceptance
- Ecological sustainability
- Improved health and wellbeing
- Learning, knowledge and information
- Principles of social justice, namely equity, access, participation and equality
- Regional and rural communities
- Respect for the environment, the land, the climate
- Shared and committed vision for the region
- Thriving economy

In addition to this, with the significant increases in property prices across Australia and the increased industrial activity within Gladstone that has placed more pressure on housing, it could be assumed that since 2002, access to affordable housing would also be a core community value. It is also assumed that all of these values contribute to the social well-being and quality of life to an individual and to an area's liveability.

Potential social changes associated with the Project on lifestyle, enterprises and values include:

- Accessibility to affordable housing for lower income earners and a consequent reduction in disposable income through increased demand for housing potentially by the operational workforce and any additional construction workers not already residing in the Gladstone and Calliope areas.
- A stretch on services and facilities, reducing convenience and accessibility.
- Potential difficulty in attracting key occupations to service any increase in demand for key services and facilities (refer to the skilled labour discussion below).
- Severance of properties impacting on current rural operations.
- Environmental amenity for those residences nearest to the project area during both construction and operation, including the potential for increased traffic and noise and visual impact.
- With suitable training, access to potential employment for the current unemployed and/or unskilled people, during both construction and operation resulting in greater disposable income for these lower income groups.
- Potential for greater individual economic stability with the prospects of permanent work associated with the operation of the rail yard, which in some instances may result in less financial pressure and less strain on personal relationships.
- Greater cultural diversity within the Gladstone and Calliope areas should the operational workforce need to be sourced from overseas and with suitable support services.
- Increased viability of sport and recreation clubs.
- Increased viability for developers to construct housing and other development, to attract business and establish a greater range of services and facilities in Gladstone and in the surrounding rural communities.
- Potentially more general investment in the community and in services and facilities which enhances community vitality.
- The Project's economic contribution to the coal industry, the efficiency of throughput to the Port of Gladstone, and the potential to open up the GSDA will contribute to the community value to achieve a "thriving economy".

Impacts on local and State labour markets

The timing and source of the workforce has the potential to significantly influence social impact in the Gladstone and Calliope area. The main impact is expected to be its influence on housing supply and demand.

To determine the actual likely impact, consideration needs to be given to the timing of the construction of the Project in comparison to other projects proposed in the Gladstone area, the source of the workforce, and staging of development. These aspects are discussed below.

The potential impacts relating to housing, community services and facilities, and sport and recreation are discussed separately under their respective sub-headings.

Workforce assumptions

To gain a greater appreciation of the potential impact of a workforce on the Gladstone region, a number of assumptions need to be made. These assumptions have been based on previous research undertaken by the Department of State Development, as part of the Gladstone Growth Management Initiative (GGMI).

The GGMI was directed towards anticipating and planning for the potential impact of population growth arising from development of major industrial plants in the Gladstone/Calliope area. In 2002, the Department of State Development established a computer based input-output model to assess the total workforce impacts on the Gladstone/Calliope area from major projects. The model is Gladstone/Calliope specific and is based on economic, industry, household and demographic characteristics. The model takes into account the fact that existing services would expand and new enterprises would be attracted to the area to service the growing population.

An analysis in 1996 demonstrated that the common portrayal of the construction workforce as being young, single, unattached and highly mobile individuals is not accurate. The most significant finding is that a high proportion of non-married workers do not live alone and the mobility of the workforce is spread across all age ranges. Therefore the workers recruited to the construction industry are no younger on average than workers in other industries.

Whilst the above assumptions could be considered to be out of date, particularly with the general Australian trend towards having less children and a generally higher occurrence of marital breakdown, the assumptions provide a reasonable basis to determine potential population increases and subsequent impacts of the Project. Using these assumptions is also likely to present a worst case scenario.

Staging of Project

The estimated construction timeframe is approximately 10 years. Current indications are that construction timing is subject to industry endorsement, commercial contracts and the results of capacity modelling for the Blackwater and Moura/Surat systems, and are likely to be as follows:

- Stage 1 – Early 2010 to Early 2012
- Stage 2 – Early 2012 to Mid 2013
- Stage 3 – Mid 2014 to Late 2015
- Stage 4 – Early 2019 to unknown at this stage

The workforce numbers required during the construction and operational phases of the Project are detailed below.

Construction workforce

The Project can be divided into two key components – development of the Moura Link and development of the Aldoga Rail Yard (including quadruplication of NCL). For the purposes of the social impact assessment for the Project, the peak construction workforce number for a calendar year is provided in Table 16.18. It is important to note that the construction workforce numbers and timing will be confirmed during the detailed design phase of the Project.

Table 16.18 Peak Project construction workforce numbers

Stage	Year	Average per month over year	Total Peak for calendar year
1	2010	185	225
	2011	190	235
	2012	190	235
2	2012	115	145
	2013	115	145
3	2014	150	185
	2015	150	185
4	2019	20	25

The timing of these projected workforces with other committed projects in the Gladstone region is discussed and assessed under *Cumulative impact* below.

Operational workforce

The estimated occupational workforce is expected to progressively rise over a 10 year period. Table 16.19 summarises the anticipated operational workforce for the Project, reaching to 702 permanent workers by 2019 and beyond.

Table 16.19 Anticipated operational workforce numbers

Stage	Period/year	Total
1	Late 2010	252
2	Early 2012 to Mid 2013	400
3	Mid 2014 to Late 2015	561
4	Late 2019 and beyond	702

Maximum workforce at any one time is likely to be a third of the total anticipated workforce. Operational workforce is based on a 3-shift 24 hour work rotation, with the yard operating 24 hours day seven days a week. The workforce will include QR train operators, administration staff and skilled trades, including fitters and electricians.

Timeframes of planned projects

A review of planned projects within the Gladstone region was undertaken. The aim of the review was to identify major industrial projects within the Gladstone region which will be developed concurrently with the MLARP.

The project information is based on updated information since the project EISs were produced, which has been sourced from the GEIDB Gladstone Region Development Review report (April 2008) and from personal discussions with human resource staff, project or construction managers or community liaison officers from each project company.

This information includes all of the projects identified in the EIS ToR as well as projects managed by Boyne Smelters Ltd, Queensland Energy Resources and other smaller organisations.

Based on the peak construction workforce for MLARP occurring during Stage 1, it would appear that some resources may be available from other projects. For example, resources may be available from the Rio Tinto project (if the peak workforces begin to decline in the latter half of 2009).

The timeframes of projects are frequently revised and can only be used as a guide. This is evident from the timeframes estimated in the EISs, the Department of State Development, Projects Queensland 2007, the latest GEIDB report and discussions with proponents.

Cumulative impact

The most appropriate method to assess the cumulative impacts of various projects is to understand the timeframes and workforce requirements of each project. Figures 16.8 and 16.9 demonstrates the cumulative impact in terms of the total construction labour force and operational employment resulting from all proposed projects in the Gladstone region to 2014. Limited information is available on proposed projects post-2014.

This information is based on updated information from GEIDB and the project proponents as previously discussed. In deriving these cumulative impact diagrams, assumptions have been made on the workforce pattern with 75% of the total workforce indicated as being employed for the first third of the project duration, 100% for the second third of the project and 50% employed for the final third of the project. Therefore this information should be used as a general guide only.

It should be noted that the timing of construction can depend on many factors, including timing of project approvals, project funding, international market fluctuations and seeking favourable market conditions.

Figure 16.8 shows the construction workforce, for all planned projects, fluctuates considerably between late 2009 (approximate workforce of 8,800 workers) and early 2011 (to approximately 9,700 workers).

As previously identified, the peak construction workforce for MLARP is likely to occur during Stage 1. With the MLARP having a relatively small workforce and likely to be able to occur between the identified peaks, resource sharing from other projects may be a possibility. Some of this workforce may be available from the Arrow Energy Ltd, Boyne Smelters Ltd and Rio Tinto Aluminium Ltd projects.

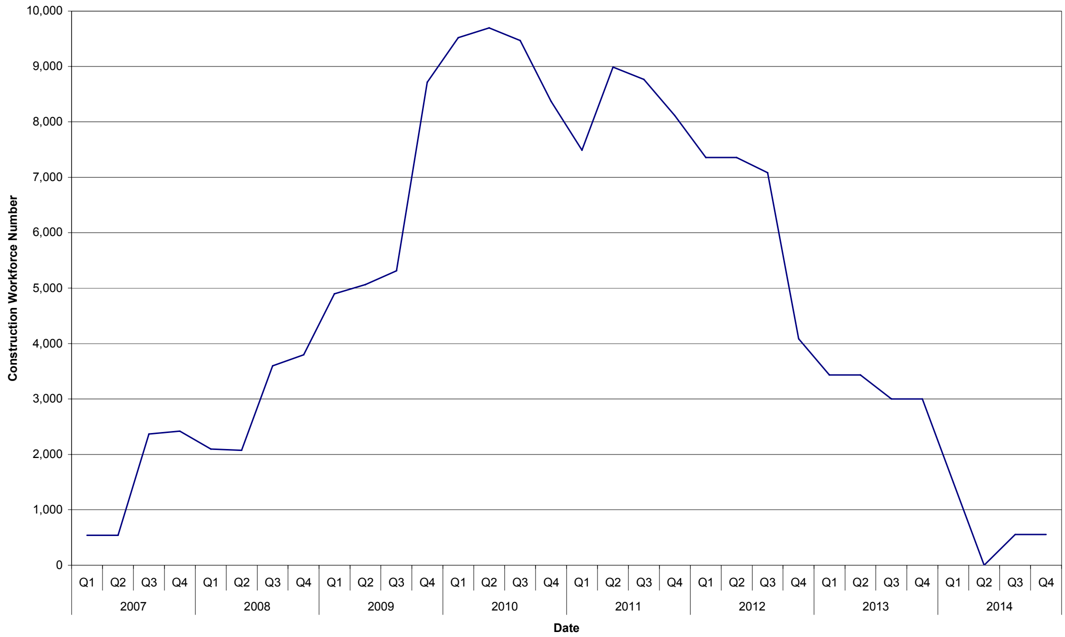

Figure 16.8 Total expected construction labour force from known planned projects (Gladstone region)
Source: GEIDB 2008

As identified, project construction timings tend to vary due to a number of external factors and hence the Department of Infrastructure and Planning may need to assist in monitoring and coordinating any potential overlap to minimise potential impact.

It could be assumed that construction of these projects simultaneously, would place considerable demand on the employment market which already experiences general skill shortages. Hence resource sharing between projects would be the preferred option. It is assumed that if workforces can be shared between projects, that the construction workers will already be settled in the Gladstone or Calliope areas.

For the purposes of this EIS, the potential peak construction workforce of 235 people for MLARP (assumes Moura Link and Aldoga Rail Yard peak calendar year construction workforce numbers coincide) is considerably smaller in comparison to the Rio Tinto and GPN Projects, which are expected to have a construction workforce in the order of 2,200 and 2,300 people, respectively. Providing there is no overlap in the construction periods of approved projects as currently seems to be the case, it is expected that the MLARP will have a minimal contribution to the cumulative impact in comparison to these other projects.

The total operational workforce from all planned projects has gradual increases which remain relatively stagnant, however, from late 2011 the operational workforce is expected to increase sharply from just over 400 operational workers to over 1,200 workers by early 2012 (refer Figure 16.9). The figure illustrates the potential cumulative impact in isolation to current operational workforces.

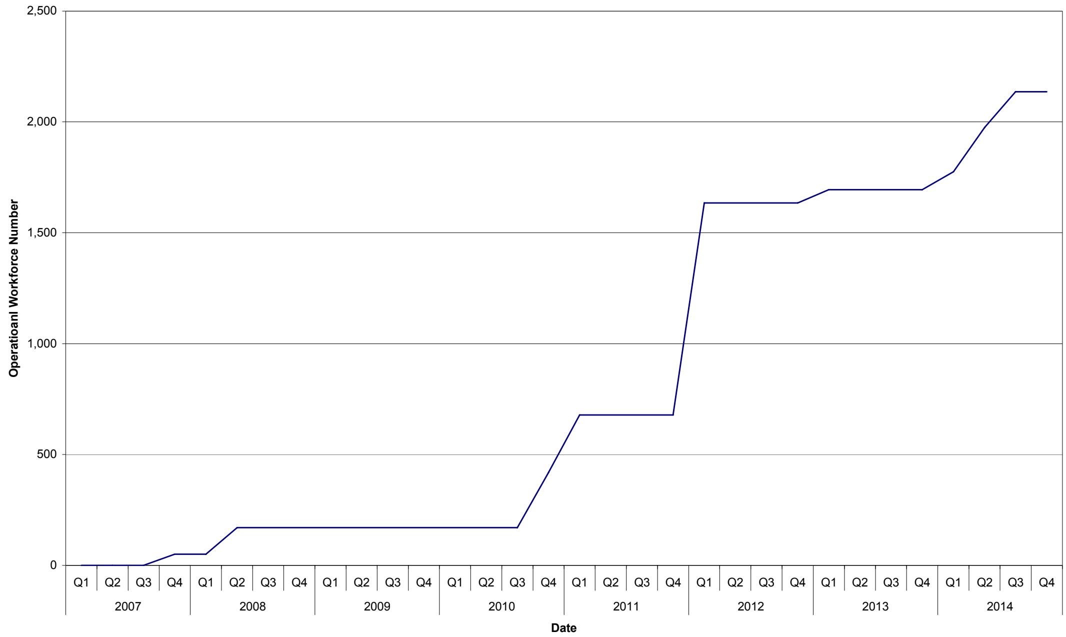

Figure 16.9 Total expected operational employment from known planned projects (Gladstone region)
Source: GEIDB 2008

The operational workforce associated with the MLARP is larger than the proposed construction workforce. As previously identified, the estimated occupational workforce is expected to progressively rise over a 10 year period, peaking to 702 workers by 2019 and beyond (refers Table 16.19). The actual number of employees at any one time is likely to a third of the total anticipated workforce number (ie peak operational workforce (total persons) is based on a 3-shift 24 hour work rotation).

Types of skills required

The Project would require a workforce with a broad range of skills with the demand on specific skills depending upon the stage of the works. The Project works can be divided into five broad groups:

- Earthworks (eg operators of plant and general labourers)
- Structures (eg form workers, steel fixers, labourers, crane drivers and excavator operators)
- Building works (form workers, steel fixers, labourers, operators, riggers, roofers, building trades, trades people such as electricians, mechanical (a/c, piping, hydraulic and systems))
- Management and administration (eg project manager, construction manager, engineers, foreman, quality assurance, human resources, administration, surveyors)
- Rail works (eg train operation, signalling and track works)

The precise breakdown of the number of workers in each occupational group is unknown at this stage.

General skill shortages

A number of professional occupations and trades have been identified as being in demand in Australia. These occupations are indicated on the Migration Occupations in Demand List (MODL) and are summarised in Table 16.20.

Table 16.20 Occupations in demand

Professional	
Business	Accountant
Building and Engineering	Electrical, Mechanical, Chemical, Mining and Civil Engineer, Petroleum Engineer, Architect
Medical/Health	Anaesthetist, Dentist, Dermatologist, General Medical Practitioner, Emergency Medicine Specialist, Medical Diagnostic Radiographer, Obstetrician and Gynaecologist, Occupational Therapist, Paediatrician, Pathologist, Physiotherapist, Podiatrist, Psychiatrist, Radiologist, Nursing, Hospital and Retail Pharmacist, Specialist Medical Practitioners, Speech Pathologist, Surgeon, Sonographer
Specialist	Child-care Coordinator, Computing professional, External Auditor, Quantity Surveyor, Surveyor
Associate Professionals	Chef
Trades Persons	
Automotive	Motor Mechanic, Auto Electrician, Panel Beater, Vehicle Painter
Construction	Bricklayer, Cabinetmaker, Carpenter, Joiner, Plumber, Gasfitter, Fibrous Plasterer, Floor finisher, Painter and Decorator, Wall and Floor Tiler
Mechanical and Fabrication Engineering	Fitter, Metal Machinist, Sheetmetal Worker, Toolmaker, Metal Fabricator, Metal Machinist, Pressure Welder, Welder, Lift Mechanic, Mechanical Services and Airconditioning Plumber,
Electrical/Electronics	Refrigeration and Air-conditioning Mechanic, Electronic Equipment and Electrical Powerline Tradesperson, Electrician
Service	Cook, Hairdresser, Baker, Furniture Finisher and Upholsterer
Other	Aircraft Maintenance Engineer, Boat Builder and Repairer, Drainer, Locksmith, Stonemason

Source: Department of Immigration and Citizenship (2007)

The potential impact of these skill shortages is that any additional pressure placed on service industries in the Gladstone and Calliope areas, which is most likely to occur from the cumulative impacts of various industrial projects, may result in a potential difficulty to resource these industries resulting in a decline in the quality of service and in some circumstances longer waiting periods for services.

The MLARP construction workforce will have a minimal impact on this existing situation if existing workforces from other projects are used. However, the operational workforce may have some impact in terms of requiring staff on the MODL list or having a greater demand on services requiring skills that are in short supply.

Housing availability (during the construction phase)

Summary of the current housing situation

The description of the existing environment identified the key forms of housing stock available, the anticipated trends and land availability for new housing, and provided comparisons of cost of living, median house prices and rents.

From the analysis of the existing environment, the key characteristics of the housing situation, relevant to construction and availability of housing, are summarised below.

- Separate house is the dominant form of accommodation in the study area (90% in the Calliope area and 85% in Gladstone area). The greatest increase in dwelling stock occurred with separate housing. In comparison, Queensland experienced greater growth in townhouses/semi-detached and flat, unit or apartment structures.
- The study area demonstrates a considerably higher rate of home ownership in comparison to Queensland. The majority of dwellings are being purchased in both Calliope area and Gladstone area.
- In the Calliope area 21.8% of all dwellings are rented and in Gladstone area 33.7% are rented.
- Over the year to September quarter 2007, 605 residential lots were approved, 141 lots were produced, 11 registered, 63 lots consumed and 254 dwellings approved in the Calliope area.
- In the Gladstone area, over the year to September quarter 2007, 30 residential lots were approved, 128 residential lots were produced, 47 lots registered and 401 dwellings approved.
- Based on the dwellings approved in the September quarter 2007 and the proportion of dwellings rented in the 2006 Census (33.7% in Gladstone and 21.8% in Calliope), 135 dwellings would be available in the Gladstone area and 55 dwellings would be available in the Calliope area for rent.
- Public housing is limited, and is restricted to emergency housing assistance. There are also long waiting periods for emergency housing.

Short-term accommodation availability

Regional accommodation in the form of a hotel, motel, and serviced apartments totals some 816 rooms, with 589 rooms provided in Gladstone. ABS data indicated that at September 2007, the room occupancy rate was 71.1% in Gladstone and 62% in Calliope, equating to a total of 258 rooms being potentially available on any given night.

Additional short-term accommodation has recently been approved by the former Gladstone City Council, with construction work underway for 96 rooms at The Grand and 30 apartments for the Quest. A further application is being assessed by Council for a development incorporating 19 residential apartments and 46 motel units. Collectively these developments could provide 172 short-term accommodation units in the Gladstone city centre.

In addition to this, caravan parks in the Calliope area have a total capacity of 596 sites and an occupancy rate of 52.1%, providing a possible 285 sites on any given night. The caravan parks in the Gladstone area have a total capacity of 249 sites and an occupancy rate of 77.3%, providing a possible 56 sites. Of all caravan parks in the study area 341 sites would be potentially available.

Furthermore, temporary workers accommodation facilities are also proposed in the Calliope area and are currently being assessed by Council. These facilities include:

- Maroon Group proposal for 2,265 rooms/units, River Road (stage 1 lodged for 96 rooms). This option is the preferred for the needs of this Project.

- Rio Tinto Alumina Ltd – 300 person construction camp, Stowe Road
- "The Meadows" master planned community project at the township of Mount Larcom incorporates a 10 ha site for a mobile home and workers accommodation site, recreation and camping.

The Project has also identified two construction accommodation village locations suitable for the Project needs (refer Section 2.8.3):

- Lot 8 on RP620660 near Mount Larcom township (alternative option)
- Lot 200 on SP116496 (Euroa Homestead) within the GSDA (alternative option)

It is noted that due to the very large construction workforces required for the Rio Tinto and GPN projects, temporary workers accommodation are proposed to be developed specifically for these workforces. It is expected that the majority of the construction workforce for the MLARP could be sourced from other projects as peak workforces decline, and therefore these workers would already be residing in the Gladstone or Calliope area. This, together with the fact that the MLARP construction workforce is relatively small compared to other major projects, it is expected that the existing short-term accommodation would be sufficient should any of the construction workforce require short-term accommodation (eg for works needing to be commenced prior to peak workforces from other projects being available).

The following construction accommodation village locations will be investigated during detailed design:

- Maroon Group proposal for 2,265 room/units on Calliope River Road (preferred option)
- The development of a portion of Lot 8 on RP620660 near Mount Larcom township (alternative option)
- The development of a portion of Lot 200 on SP116496 (Euroa Homestead) within the GSDA (alternative option)

The maximum construction workforce to be accommodated within a dedicated workforce accommodation village is estimated to be between 250 and 300 at peak capacity.

Housing affordability

Key findings from the description of the existing environment of relevance to housing affordability is summarised below.

- Median house and residential land prices have increased in Gladstone and Calliope. However, as indicated by UDIA on an affordability index rating, Gladstone is one of five centres considered "affordable" in comparison to other locations throughout Queensland.
- ABS data indicates that the median individual and household income in Gladstone and Calliope areas are higher than Queensland.
- Office of Economic and Statistical Research (OESR) data indicated that overall the cost of living is lower in Gladstone compared to Brisbane (by 4.2%) and in particular the spatial price index for housing was 17% lower than for Brisbane.
- ABS data also indicates that median housing costs (for both rent and loan repayments) were generally lower in Gladstone and Calliope areas in comparison to Queensland.

However, local agencies have indicated that rents and housing costs have generally risen, which has placed some local residents into financial stress.

It has also been identified that there is an income gap between high and low income earners. Therefore housing affordability is most likely to affect the lower income earners within the local community, as demand for housing and therefore rents and purchase costs increase.

However, it needs to be recognised that other factors affect housing costs and affordability. These include:

- The level of investment activity in housing
- Interest rates
- Supply of housing
- Preference and availability for more lifestyle living such as by the coast or on a rural land holding, potentially reducing the demand for housing in urban areas
- Capacity for development and release of land to occur in a timely manner
- Capacity of the building industry to meet construction demand
- Origin of the non-local construction workers, with commuting from further distances generally more acceptable in regional areas. For example, commuting from Rockhampton which is located 110 km from Gladstone (approximately a 1 hour drive) may not require a worker to relocate to Gladstone.

All of these factors affect demand and supply and therefore housing affordability. Whilst these factors may diffuse potential adverse impact on housing in Gladstone, it potentially may cause adverse impact in smaller townships or areas that are not prepared or capable to accommodate greater growth.

Land availability

Prior to Council amalgamations in March 2008, Gladstone City Council (GCC) and Calliope Shire Council (CSC) prepared new Planning Schemes under the *Integrated Planning Act 1997*. Both Planning Schemes have recognised the need to accommodate the current and future population growth.

GCC identified a number of 'Urban Expansion' areas located both on the fringe of the city and as in-fill development within the existing urban area. These areas are to be developed sequentially through the extension of existing urban areas. A Structure Plan of the Urban Expansion area to the south of Kirkwood Road, was undertaken in 2004 and caters for a population increase of more than 5,000 people.

There are also a number of areas identified in the Gladstone City Planning Scheme as Residential (Higher Density) in the City and Suburban Locality Plan, to accommodate a higher density urban form. To date, this has resulted in several applications being lodged for higher density development in the Gladstone city centre.

The major urban growth area identified in Calliope Shire centres around Boyne Island and Tannum Sands. The Strategic Plan for the Shire identifies three major sites in Tannum Sands as Urban Expansion areas, encompassing at least 1,500 ha. These tracts of land are to be preserved in large lots for master planned urban development to be undertaken as an extension to the existing urban areas.

The Calliope Shire Planning Scheme also allows for future urban growth in the Shire through the designation of large areas of Rural zoned land for more intensive Rural Residential purposes, particularly along the Dawson Highway between Calliope and Gladstone.

These identified parcels of land will assist in providing for future population growth in the study area.

Prior to these Planning Schemes being drafted, it is also noted that the GGMI Residential Land Study (SKM 2002) concluded that:

- On the basis of existing urban residential zonings and residential densities there is sufficient land for a fully developed population of 44,540 to 45,460 persons in Gladstone City.

- On the basis of existing urban residential zonings a population of 21,360 to 25,050 persons may be accommodated within Calliope Shire at full development.

The 2006 Census indicated that the current population in the study area is 45,626 people and PIFU data has indicated that the projected population to 2026 is 70,155 (based on the medium series), which suggests there is sufficient growth opportunity within the study area. It is assumed that PIFU have considered the committed industrial projects in their projected growth. Furthermore a study undertaken by SKM as part of the GGMI identified there is no major infrastructure to restrict ongoing residential development.

However, as identified in Section 16.2.2, in a presentation as part of the Gladstone Mayoral Taskforce, lead times for construction is becoming a critical issue and housing demand is expected to be caught short from 2008 to 2012 based on annual forecast demand for a requirement of 1,300 permanent dwelling units needing to be required by 2011 at a rate of 450 dwellings per year. By 2012, the MLARP operational workforce will require 252 dwellings (if each worker requires a dwelling), however it is anticipated that the majority of the operational workforce will be local residents.

Potential impact on housing availability

In summary for housing availability, the potential social changes may include:

- Increases in house prices as the population and therefore demand for housing increases.
- Low-income earners may have difficulty finding affordable accommodation, however longer-term pressure may be alleviated if the available land is opened up for residential development.
- Greater pressure for housing in smaller centres surrounding Gladstone, with residents in rural areas generally more willing to commute further distances. This could have an adverse impact if development occurs in an ad hoc manner. However, some rezoning of land for residential purposes has occurred in the Calliope Shire Planning Scheme.
- Capacity of the building industry to meet demand, availability of skilled labour and capacity to secure building approvals in a timely manner.
- Enhancement of the viability for developers to build alternative forms of residential accommodation which may include smaller, multi-unit dwellings enabling the provision of more housing choice for the local community.
- The Gladstone City Planning Scheme encourages higher density development in areas near the Gladstone CBD, which may have benefit in assisting to revitalise the city centre.
- Greater housing choice may provide the opportunity for a better match of accommodation (ie lone person households being able to reside in smaller units and therefore making a separate house available for a family).

As previously discussed, it is expected that the construction workforce will primarily be sourced from other projects and hence workers will already reside in the study area. However, the operational workforce is expected to be larger than the construction workforce and will be a permanent workforce and is therefore more likely to impact on access to housing.

Community services and recreational activities

Community services and recreational activities are an important part of local social values relating to health and well-being.

The Open Space and Recreation Plan undertaken by ROSS (Recreation, Open Space and Sports) Planning Pty Ltd, on behalf of GCC recognised that it will be:

> "*a significant challenge for Gladstone City Council to accommodate an extra 17,000 people in the next 20 years and that whilst the rate of growth is manageable it will require careful planning to ensure that the quality of life the City is striving to achieve and maintain is realised*."

Whilst some of the projected population growth will be attributed to migration from industrial development, population growth would also occur through natural increase and from the current push to attract people and skilled labour to Gladstone for lifestyle purposes.

It was identified that there is a substantial amount of open space and an adequate supply of facilities in Gladstone, however there is also an identified need to improve the low standard and condition of some facilities. A further issue, outside the scope of this EIS, is that a high portion of the 127.5 ha of sport and recreation open space is privately owned land, with the potential threat that this land could be developed for other purposes such as housing.

It has been estimated that 54 ha of sport and recreation open space will need to be acquired or developed to service expected growth in the area over the next 20 years. It is expected to be adequately met through the upgrade, enhancement and development of existing open space.

Whilst it is well recognised the importance of sport and recreation to a regional community, it is also a mechanism to potentially develop social cohesion between the existing community, particularly for newcomers and more temporary workers in the region.

Potential impacts/additional facilities required may include:

- Requirement for greater flexibility in sport and recreation to cater for shift work and/or individual pursuits (although this is a general requirement due to general changes in recreation trends).
- Need for greater access to open space and walking and cycle networks with increasing desire to participate in individual pursuits.

It should be noted that these requirements/needs are of a more general nature and are not specific to the MLARP. Generally, recreation and leisure desires of the population have changed from competitive and/or team sport to more individual pursuits.

Potential benefits may include:

- Increased participation in some sporting groups/facilities which may enhance the operational viability of some clubs/facilities and/or enhance the viability to improve and expand club facilities, particularly with some sporting groups introducing activities such as social tennis nights, corporate and night bowls.
- Increased viability for general community recreational facilities to be improved/provided (ie the redevelopment of the Gladstone Aquatic Centre and greater provision of facilities to meet the needs of children, youth and young adults and support a balanced lifestyle of work and family with the latter assuming the operational workforce will have families).

It is noted that 67% of sporting organisations responding to a survey (as part of the Open Space and Recreation Plan) believed that their current facilities to be inadequate for future membership needs.

16.5 Mitigation measures

Part of the social impact assessment is to consider how the potential impacts identified can be managed to either avoid impact or to minimise the degree of social disruption to those potentially affected. It has been identified that the key impact is likely to be housing provision to cater for increased workforces (if workers can not be sourced locally or from other projects) and the potential impact on housing affordability for the local community. Other potential key impacts may include impact on the existing labour force and community services and facilities.

Some mitigation measures have been provided in Section 20. However, it is apparent that the cumulative impacts of industrial development in the region and other initiatives will require a whole of Government level of social impact management, which is beyond the capability of any one agency or proponent. Initiatives such as the Infrastructure Taskforce, which comprises representation from several State Government agencies, will assist in greater coordination and the ability to monitor and manage change.

It is acknowledged that actual cumulative impacts of major industrial projects will be dependent on the timing of construction. As indicated in the discussion in Section 16.4, the timeframes of approved projects are often revised. Timing of construction can depend on many factors, including timing of project approvals, project funding, international market fluctuations and favourable market conditions for construction contracting.

From the information available to date, whilst the expected construction timing of some projects may overlap, the expected peak workforces are not anticipated to substantially conflict.

Furthermore, to address the potential social impacts identified, in particular housing availability and affordability, will depend on the ability of local people, business, industry and government to work together, to communicate and anticipate change, and to make informed decisions. This approach has been recognised as necessary in achieving the outcomes of the Cultural and Quality of Life Policy prepared by GCC, with further acknowledgement that only a collaborative and strategic partnering approach will achieve the greatest outcomes. Once again, initiatives such as the Infrastructure Taskforce can provide a vehicle for this to be achieved.

The measures proposed to mitigate potential social impacts of the Project are discussed in Section 20.

16.6 Conclusion

In comparison to the workforce numbers of other projects proposed in the Gladstone region and the anticipated timing of construction workforce peaks of the Project, it is expected the Project will have a minimal adverse social impact.

The following construction accommodation village locations have been identified:

- Maroon Group proposal for 2,265 room/units on Calliope River Road (preferred option)
- The development of a portion of Lot 8 on RP620660 near Mount Larcom township (alternative option)
- The development of a portion of Lot 200 on SP116496 (Euroa Homestead) within the GSDA (alternative option)

These locations will be further investigated during detailed design.

Other conclusions from the social impact assessment include:

- The Project has the potential to generate some demand for additional social infrastructure and general community services and facilities, particularly by the operational workforce. This may provide benefit in terms of providing greater viability to develop new services and facilities, providing greater choice and potentially reducing leakage from the Gladstone-Calliope area.

- The cost of living and housing is lower in Gladstone and median wages are generally higher in comparison to Brisbane and Queensland. However, the income gap between low and high income earners is not expected to be reduced directly by this Project. The Project will provide the opportunity to reduce the unemployment rate and provide indirect employment opportunities.
- Accommodation for the operational workforce may be able to be accommodated in the study area if some of the proposed residential developments identified within the region are developed.

16.7 Commitment

The relevant social commitment for the Project includes:

- Pursue a construction accommodation strategy to cater for the proposed construction workforce.