Section 14

ECONOMIC ENVIRONMENT

14. Economic Environment

14.1 Methodology

This economic assessment was conducted as a desktop analysis of existing conditions reporting on the following matters:

- A description of the existing local economy including the economic contribution of existing enterprises and likely impacts of the Project;
- The existing housing market and likely impacts of the Project;
- Temporary and permanent workforce accommodation;
- The effect on local labour markets with regard to the numbers, occupation groupings and source of the construction and operational workforces;
- The potential mechanisms for local communities and businesses to meet contracts for services and supplies for the construction, rehabilitation and operation phases of the Project in accord with government policy;
- Strategies for local residents including members of indigenous communities interested in employment opportunities, which would identify skills required for the Project and initiate appropriate recruitment and training programs in accordance with indigenous and other government employment policies and guidelines; and
- The implications of the Project for future developments in the local area including constraints on surrounding land uses.

The existing economic environment is described, in terms of the demographic structure, community infrastructure and services and housing in the region, in Section 13. Data has been provided for the old councils since databases have yet to be established for the geographic areas in the new councils. This economic assessment builds on the social issues identified through the social impact assessment and should be read in conjunction with Section 13 of this EIS.

Beneficial and adverse economic impacts are identified and discussed, including changes to existing land use, impacts to local community and demographic profile, and impacts associated with construction or operation of the railway. Specifically, potential economic impacts on communities in the former shires of Banana and Taroom within the study area have been scoped to develop baseline information.

14.2 Description of Existing Economic Values

14.2.1 Major Towns

Biloela (Banana Shire)

Biloela is a town of 5,371 residents (2006 Census) and is also the dominant urban centre in Banana Shire which is the focal point of the transport system. It is the administrative centre of the Banana Shire Council. As such, it provides the largest range of public services, infrastructure and facilities. Primary industries are the basis for the Biloela economy. These include coal mining at Callide and Boundary Hill coal mines which supply Callide A, B and C Power Stations and agriculture, specifically sorghum, wheat, cotton, cattle grazing and meat processing (i.e. Teys Bros Meatworks). An energy park industrial area is currently being developed adjacent to the Callide C Power Station. Biloela provides the majority of the services and facilities for the region. As the largest town in the

shire, Biloela offers the largest range of shopping with representation from major food and clothing chains and motor vehicle sales. It provides significant levels of public health facilities, education (including state and private schools) and a variety of local government and public services including police and emergency services.

Moura (Banana Shire)

Moura, located approximately 66 km west of Biloela, is a town of 1,775 residents (2006 Census). The town was established to serve the local cattle and grain industries, although the town's significant economic boost arrived with the construction of the Moura coal mine. Its agriculture industry produces cotton, wheat, sorghum, sunflower and grain. The Queensland Cotton Gin, the second largest grain depot in Queensland, and Queensland Ammonium Nitrate Plant are also located in Moura. Services and facilities within Moura include public health (i.e. doctor, dentist {part-time}, hospital and pharmacy), education (i.e. state primary and high schools), and a range of public services including a library and community resource centre and police and emergency services.

Banana (Banana Shire)

Banana is a small town, 45 km west of Biloela, with a population of 629 residents (2006 Census). The beef industry remains a mainstay of the town with grazing, breeding and fattening activities. Coal and crops such as sorghum, wheat, cotton and grain also contribute to the local economy. Banana has a school which caters for prep to grade 10 students. There is a rural fire brigade and mobile branch of the shire library. However, residents seeking public health or other public services travel to Moura and Biloela.

Theodore (Banana Shire)

Theodore, a town of approximately 500 residents, is an important service centre for the irrigation and agricultural industries of the surrounding areas. Located on the Dawson River, the surrounding area is characterised by black fertile soils. The major crop is cotton along with smaller crops of wheat, sorghum and mung beans. A saw mill and cattle breeding studs are also located close to Theodore. It has a solid base of public health care facilities, a school catering for students from prep to grade 10 and a number of local government and public services.

Cracow (Banana Shire)

Cracow is a town of approximately 120 residents, a fraction of the size during its boom years when the gold mine, then run by the Golden Plateau Company, was operational. The mine was closed in 1976 but was reopened in 2003 by the Cracow Mining Joint Venture. The reopened mine has involved a $90 million capital development program and has given a much needed lift to the economic base of Cracow. The mine has a fly in/fly out workforce of around 150. The town has minimal services and/or facilities with no education facilities and only an outpatient clinic opened one afternoon per week. The rural fire brigade is the only other public service in Cracow.

Taroom (Banana Shire and formerly Taroom Shire)

Taroom was previously the administrative centre of Taroom Shire. It is a town of approximately 650 residents, situated on the Dawson River. Primary industries provide its economic basis, specifically beef cattle, wheat, other grains and forestry. The public health facilities include a doctor, hospital and pharmacy that service Taroom and Wandoan. A state school caters for student up to grade 10 with those wishing to complete senior school typically travelling to Miles State High School. Taroom also includes a police station, court house, fire and ambulance stations and other community services.

Wandoan (Dalby Regional Council and formerly Taroom Shire)

Wandoan is located approximately 40 km south of Taroom and has approximately 450 residents. It is primarily a small service centre for those working in the surrounding industries. These industries include cattle, wheat, sorghum and timber. Wandoan has only basic health care facilities, sharing a doctor with Taroom. Like Taroom, Wandoan's state school caters for grades 1 to 10 with those wishing to complete senior school typically travelling to Miles State High School. Wandoan has become part of the Dalby Regional Council. It is home to a Queensland Government agency office, police station and fire station.

14.2.2 Types and Numbers of Businesses

There are approximately 2,900 businesses in Banana Shire and approximately 1,000 businesses in the combined areas of Wandoan, Taroom and Theodore. Most of these businesses are small and medium size enterprises. Across all areas, most of the local businesses have less than 50 employees, around 90% are not employing or have less than five employees.

Between 55% and 78% of the businesses in the towns of Banana, Theodore, Taroom and Wandoan are in the agricultural, forestry and fishing industry. Most other industries across the study area record less than 10% participation in the local economy.

The local area has a number of tourist attractions that appeal more to the touring market than the destination market. Its natural attractions include the Isla Gorge National Park, Mount Scoria Conservation Park, Kroombit Tops, Callide Dam, Glebe Weir and the Dawson River. Man made attractions include the Queensland Heritage Park, Kroombit Tourist Park, Callide Power Stations and the various coal mines.

The distribution of businesses across the region is shown in the Figure 14-1.

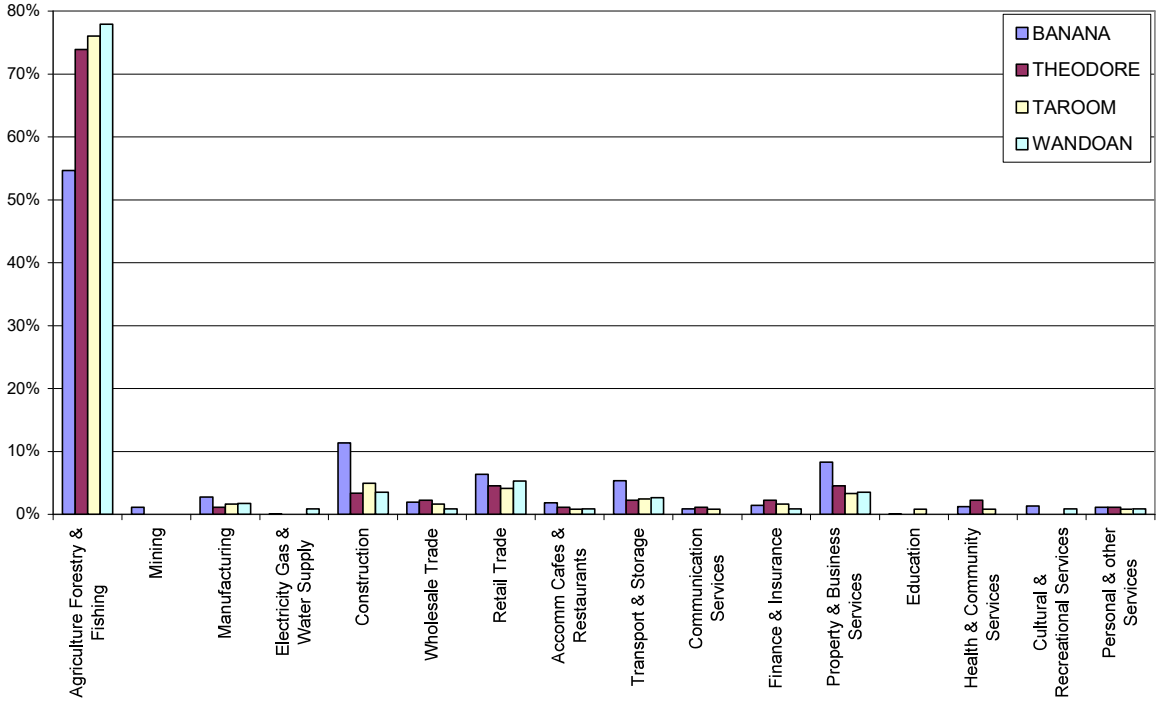

Figure 14-1: Business by Industry

Source: ABS, Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007. Businesses by Industry Division by Statistical Local Area by Employment Size Ranges, 2007.

Approximately 56% of businesses across the study area have a turnover of less than $150k per annum and 22% of all businesses in the study area have a turnover between $200k and $500k the balance has a turnover greater than $500k. The annual turnover of businesses by town is illustrated in Figure 14-2.

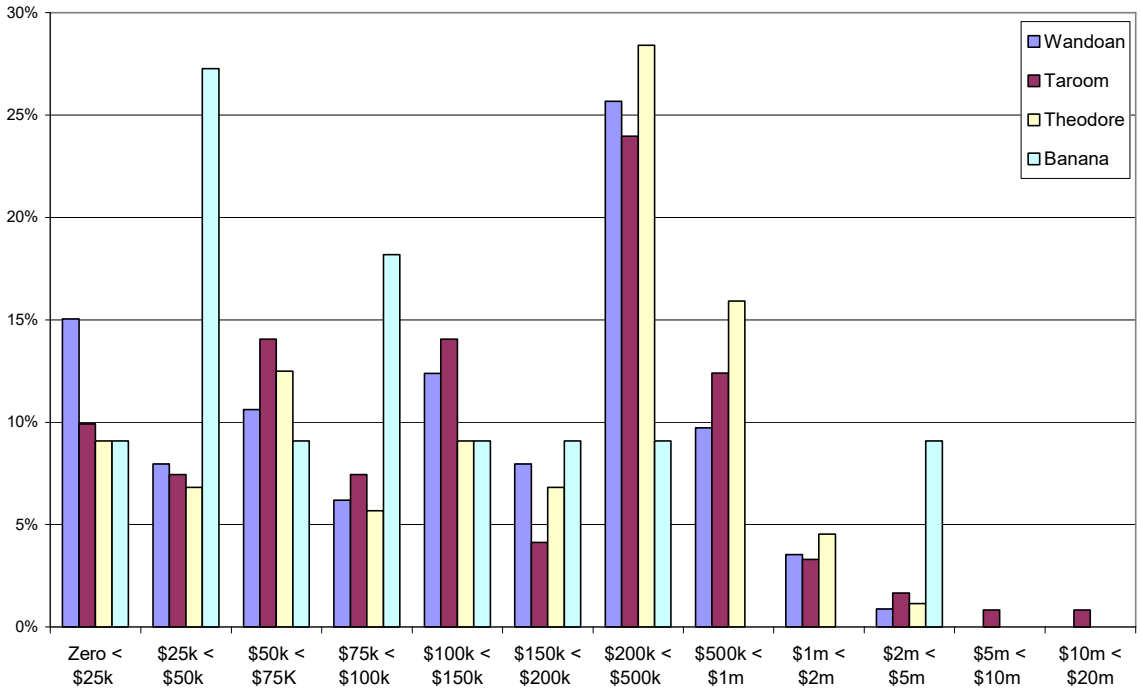

Figure 14-2: Annual Turnover – Businesses by Area

Source: ABS, Businesses by Industry Division by Statistical Local Area by Annual Turnover Size Ranges, 2007.

14.2.3 Labour

The profile of the former Taroom and Banana local government areas is characterised by a small population base with unemployment levels well under Queensland averages. A summary of the current population and unemployment profiles of Taroom and Banana local government areas prior to the revision of shire boundaries is provided below.

Table 14-1: Community Profile Data (2006 Census)

	Taroom Shire	Banana Shire	Queensland
Population	2,389	13,361	3,904,532
Median age (2006 Census)	40	34	36
Unemployment	1.5%	2.4%	4.7%

Based on 2006 ABS Census data, the occupations that provided the most employment for persons living either in Taroom or Banana are shown in Figure 14-3:

- Managers;
- Labourers;
- Machinery operators and drivers; and
- Technicians and trades workers

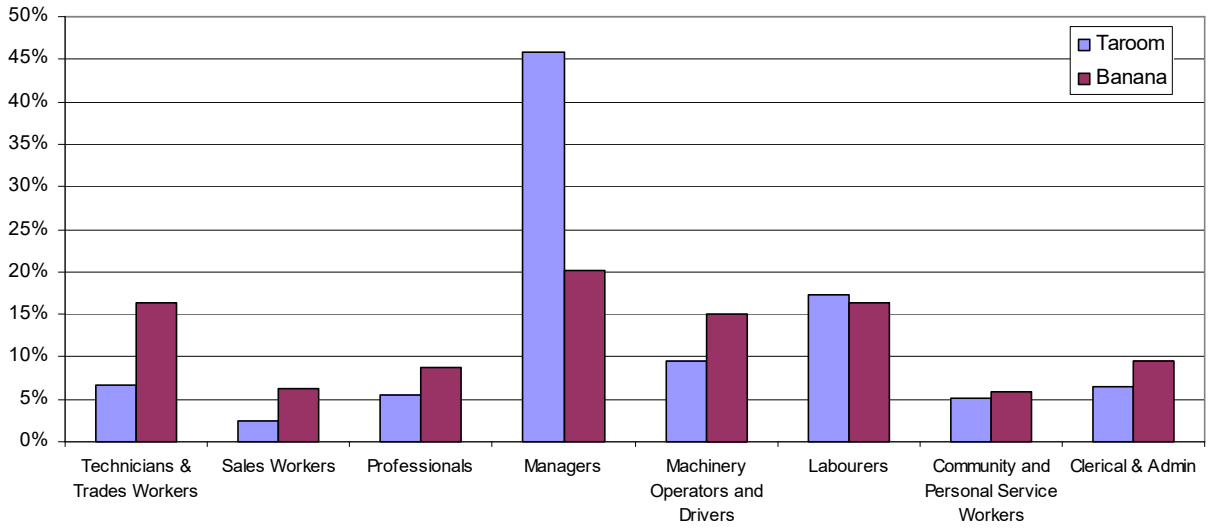

Figure 14-3: Occupation: Taroom and Banana LGA's (in percent total employed persons aged 15 years and over) 2006

Source: ABS 2006 Census Community Profile Series

The major industries that employ persons vary across the local area. Taroom's industry profile is strong in the agricultural industry and delivery of government services. The most dominant industries in Banana are coal mining, energy operations and the agricultural industry (see Figure 14-4).

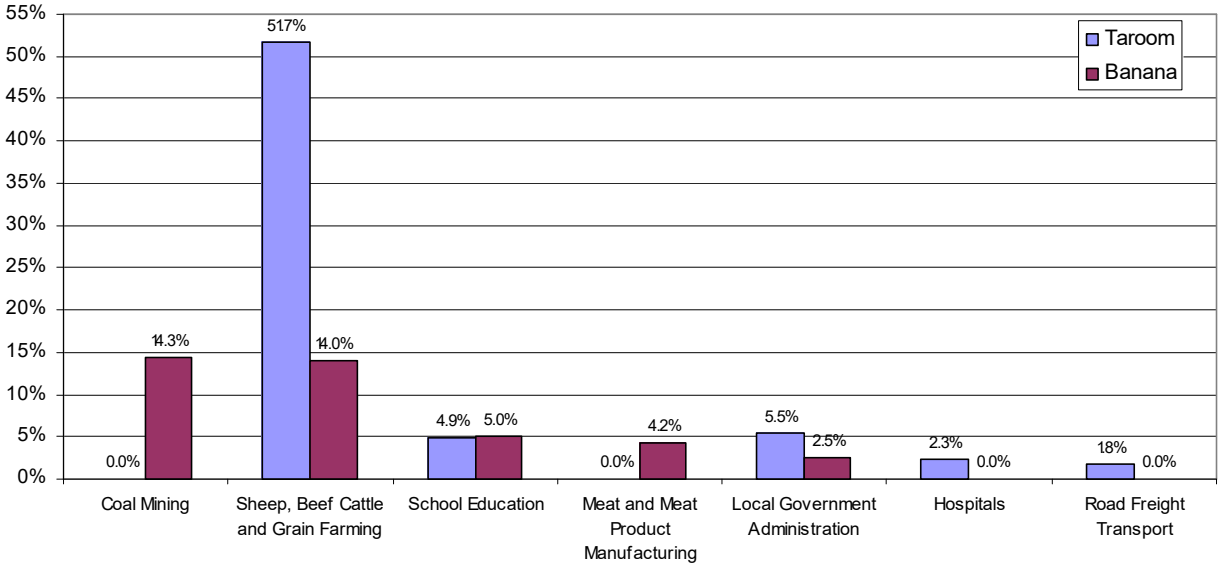

Figure 14-4: Industry of Occupation: Taroom and Banana (in percent of total employed persons aged 15 years and over), 2006

Source: ABS 2006 Census Community Profile Series

The very low unemployment rates in both Taroom (1.5%) and Banana (2.4%) in the 2006 Census indicates a very tight local labour market both in terms of volume and availability.

14.2.4 Housing

Within Banana Shire there are an estimated 6,453 occupied private dwellings with the largest proportion in Biloela. Table 14-2 provides details of the dwelling structure types by shire/town:

Table 14-2: Occupied Private Dwellings in Banana Shire (2006 Census)

Dwelling Structure	Banana Shire	Taroom Town	Wandoan Town	Total	% of total
Separate house	4,922	409	280	5,611	87%
Semi detached	96	78	-	174	2.7%
Flat, unit and apartment	265	9	16	290	4.6%
Other	363	12	3	378	6%
Total	**5,646**	**508**	**299**	**6,453**	**100%**

The separate house classification is the largest type of dwelling structure with 5,611 or 87% of total occupied dwellings. Semi detached housing, flats, units and apartments account for 464 dwellings or around 7.3%.

The median price of houses was relatively flat in the Banana Shire including Biloela at around $100,000 in the period leading up to 2003. Since that year, the median house price has increased to around $280,000 representing total increase of 180% or an average annual growth of 45% over the period 2003 to 2007 (as shown in Figure 14-5). The increase in house prices has paralleled the sustained growth in the mining sector over the same period.

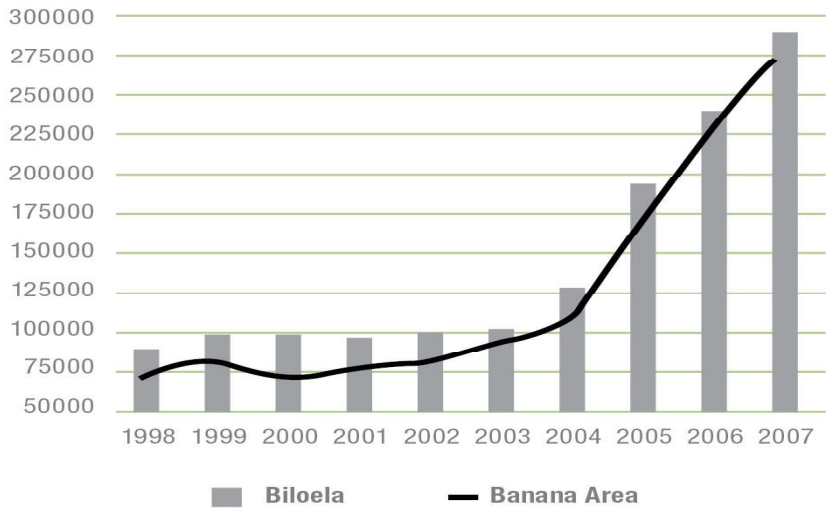

Figure 14-5: Median House Prices (past 10 years)

The tenure of occupied dwellings is spread across fully owned (37% of occupied dwellings), being purchased (25%) and rented (31%) account for around 93% of tenure of all occupied dwellings. The following figure provides a representation of this tenure segmentation.

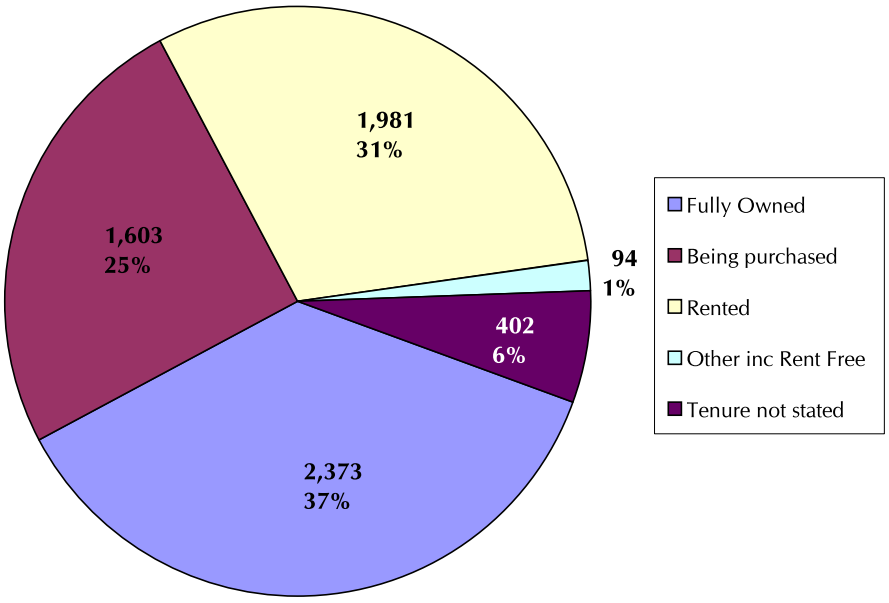

Figure 14-6: Tenure – Occupied Dwellings (2006 Census)

Over the past 5 years, residential building investment has been increasing in line with growth of the coal industry. In Banana Shire, the number of dwelling approvals has increased from 26 in 2002/03 to 53 in 2006/07. Notwithstanding, Banana Shire has been experiencing an increase in demand for housing with Council receiving an increase in the number of housing developments applications and approval. Reportedly Banana Shire Council has recently approved development applications for approximately 450 residential allotments in Biloela and 140 in Moura. Furthermore, Council is currently developing 17 residential allotments in Moura and 43 in Theodore from the purchase of unallocated state land.

14.2.5 Availability and Prices of Goods and Services

Consumer Price Index (CPI) for the period December 2006 to December 2007 shows an increase in prices particularly for housing, transport, financial and insurance services. The CPI rose over the period by 3%. The most significant contributors were automotive fuel (+7.3%), deposit and loan facilities (+2.7%), house purchase (+1.3%), rents (+1.6%) and other financial services (+1.9%). Brisbane's CPI was 3.9% higher than the weighted average of Australia's capital cities.

The Producer Price Index increased by 2.8% for final commodities (excluding exports), by 4.3% for intermediate commodities and by 4.7% for preliminary commodities in the period December quarter 2006 to December quarter 2007.

Materials used in house construction rose by 2.9%, mainly driven by increased timber prices, board and joinery as well as metal products. The Output Price Index in the construction industry has increased by 5.2%. The Transport (freight) and Storage Industries Index has increased by 1.4%.

The positive conditions of the labour market effect the labour price index and wages have increased over the past 12 months (December quarter 2006 to December quarter 2007) by 4.3% in private industries and 4.1% in the public sector. In particular, in the mining industry wages have increased above average by 5.1%.

14.3 Potential Impacts and Mitigation Measures

14.3.1 State and National Economic Impacts

The Project will provide rail facilities and increased rail capacity to transport coal from mines located in the Surat Basin to export loading facilities at Gladstone. The Project will significantly increase the capacity of central Queensland's coal export infrastructure, providing the missing link between the existing railway at Wandoan and the Moura railway at Banana. The Project will provide a transport link for approximately four billion tonnes of thermal coal in the Surat Basin for development and export. Global demand for thermal and coking coal has been very strong over the last five years and is forecast to enjoy strong export demand for the foreseeable future. Such demand has meant that the expansion of coal transport infrastructure is very important to the economic future of Queensland. Associated with the construction of the Surat Basin Rail is the expansion of the total export capacity out of Gladstone, in particular the development of the Wiggins Island coal terminal, so as to create a coal export system to service reserves in the Surat Basin.

The coal industry, the Surat Basin region and the state of Queensland will be the main economic beneficiaries of the Project. Deposits currently recognised by the Queensland Department of Mines and Energy in the northern Surat Basin that would potentially directly benefit from the completion of the Project and subsequent access to an export port, include Taroom, Two Up, Orazabah, Summer Hill, Elimatta, Pony Plains, Glen Arden, Woleebee, Culgowie, Collingwood, Guluguba, Glen Laurel and the Wandoan Group.

The coal industry and the coal logistics transport chain have played a significant role in the growth of the State and central Queensland regions over the last 25 years. This growth has been more pronounced over the last six years due primarily to average coal prices rising to over US$100 per tonne. Queensland's coal tonnage has increased from 96 Mtpa in 1997/98 to approximately 176 Mtpa in 2006/07 and is the state's largest export providing an estimated $20 billion in export earnings.

The Moura Rail System is located at the southern end of the Bowen Basin in central Queensland. The Moura System services the industrial and rural communities of the Dawson and Callide Valleys in Central Queensland. The system's coal is transported to Gladstone Power Station, Comalco Aluminium Refinery, Queensland Alumina Limited (QAL) and the Port of Gladstone. The SBR Project will link with the Moura system to provide an export outlet for the vast coal reserves of the Surat Basin, generating export earnings of state and national significance.

The Project is expected to enable the additional export of 42 Mtpa of coal out of Gladstone (Wiggins Island). In Queensland, coal royalties are assessed according to a two tier coal royalty system which results in an increasing variable rate of royalty once the price of coal exceeds $100 per tonne per quarter. Specifically, coal companies pay 7% of value up to A$100 per tonne and 10% of the value thereafter. For example, a price of A$100 per tonne attracts a rate of 7% of coal value, A$150 per tonne attracts 8% and A$200 per tonne attracts 8.5%.

Adopting a rate of US$100 per tonne (at the time of preparation of this document prices as well as the AUD was fluctuating significantly), the Queensland Government would receive $294 million in royalties per year as a result an additional 42 Mtpa being exported out of Gladstone. The precise economic flow-on effects such as employment and population generation, increased spending and wealth creation resulting from this large direct injection of funds into the Queensland Treasury have not attempted to be predicted in this Economic Assessment, however are certainly recognised as an overwhelming positive economic impact of state and national significance.

14.3.2 Local/Regional Economic Impacts

Whilst it is anticipated that a majority of positive economic impacts flowing from the Surat Basin Rail Project are at the state wide and national level, there are also many regional and local economic impacts which flow from a project of this size which has an estimated construction cost of approximately $1billion. These potential economic impacts are addressed under the following categories:

- Directly affected landowners and property management;
- Materials and labour; and
- Population and housing.

Directly Affected Landowners

In order for the Project to proceed, a land corridor will be acquired from private and public landholders. There are 84 parcels of land (lots) directly impacted by the proposed alignment. Of these, there are 7 government owned lots and 77 privately owned lots, with a total of 56 distinct private property owners. The impact on these properties varies depending on their size, location of existing infrastructure and specifically where the railway is proposed to run through the property. In the alignment selection process every effort has been made to limit the impact on existing properties by running close to existing property boundaries or away from known homestead locations. The associated direct economic impacts on all landowners will be addressed through the property acquisition process where independent and fair processes will be negotiated with individual landowners.

In estimating the quantity of land required for the project, two categories are identified:

- Construction corridor – total estimated area required is 1,600 Ha based on a minimum construction corridor, excluding construction camps, quarries and other associated works
- Small sub-divided areas – total estimated area required is 1,050 Ha consisting of narrow or small remnant areas which are assumed will also need to be acquired.

Additional lands may also need to be acquired as a result of the proposed corridor reconfiguring lots to the extent that the economic viability of properties is significantly diminished. This issue will be addressed through compensation negotiations with individual landowners during the upcoming month leading up to Project implementation.

There is the potential for there to be some impact on property management (particularly livestock operations) within the immediate vicinity of the proposed rail corridor. The Project will require the acquisition of approximately 670 Ha of Good Quality Agricultural Land (GQAL) most of which is currently utilised for broad acre cropping or beef cattle production (see Map 9 of the Map Folio). The proposed corridor will also transect a number of important stock routes (see Map 16 of the Map Folio) The stock routes and associated reserves of the stock route network continue to provide pastoralists with a means to move stock (by droving) around the regions main pastoral districts, as an alternative to trucking and other contemporary methods. So as to minimise any disruption to the operation of regional stock routes, all affected routes will remain open throughout construction and specific grade separated stock crossings provided. Route diversions may be possible to either eliminate the need for crossings or improve crossing locations.

Throughout the construction phase there is the potential to negatively impact upon the economic viability of adjacent properties through the alteration of access points. Necessary realignment of existing property boundaries has the potential to impact upon property management by altering access, watering and cattle crossing points along with mustering corridors. Where the proposed alignment cuts off an existing property access from the road network, a crossing or alternative treatment will be required to enable legal access. It is important to note that a farming property is commonly made up of a number of separate blocks of land and that a legal access will need to be provided for each.

In finalisation of the proposed corridor, every effort must be made to ensure that existing homestead access points are maintained and appropriate private crossings provided. In addition to the crossings provided to maintain legal access to property, crossings will need to be provided to ensure owners can still operate and maintain their property. This requires the provision of occupation crossings for large machinery and/or stock. Educated judgment and consultation with landowners will need to be applied to refine the size, length and optimum location of such crossings. Indicative locations are shown in the strip maps (see Aerial Photos in the Map Folio), however individual consultation is currently in process to better understand specific operational constraints and further refine these occupation crossings. A further mitigating factor is adequate recognition of landowner access issues when scheduling construction works so that provision of access points and fencing of the corridor is an initial priority thereby reducing operational impacts on adjacent properties.

An issue typically associated with rail projects of this nature is the potential for some devaluation of properties adjacent to the corridor due to operational noise and other environmental amenity issues. With respect to the Project, such impacts would predominantly occur in the vicinity of Wandoan and Banana. However, this is likely to be offset by the increased demand for housing due to the economic benefits associated with the opening of the Surat Basin, especially the population centres (see Population and Housing below). Throughout most of the remaining corridor, it is considered that such issues will be minimal as the alignment primarily avoids populated areas.

A further issue is the transfer of weeds and seeds by contractors entering properties to conduct works. The introduction of weeds and undesirable plant species can require expensive control methods which can be avoided through the implementation of a Weed Management Plan which outlines potential risks and provides measures for mitigation such as the wash down of vehicles before entering properties.

Required Materials

Construction of the Project will create economic benefits and opportunities for Queensland enterprises located both within and beyond the region. The Project will require a large quantity of construction materials some of which may be procured from within the region. Such materials include quarry items such as aggregate, road base and ballast along with railway sleepers and materials for bridge construction such as girders, concrete piers and headstocks. The sourcing and purchase of such materials will provide income and employment benefits both within and beyond the region.

In order to provide a general estimate of the economic benefits of the Project, a summary of the materials required for construction of the Project is provided below. It must be noted that this represents a general summary of the quantity of construction materials only and focuses primarily on those which may be able to be supplied by local contractors. A detailed description of the construction materials required for the Project is presented in the Feasibility Quantities Schedule attached to the Feasibility Report (Connell Hatch, 2008d).

Cost estimates have been based on information provided in Rawlinsons Australian Construction Handbook 2008, with regional indices taken into account. It must be noted that the proponents of this analysis have no control over the cost of labour, materials, equipment or services provided by other entities, or over contractor's methods of determining prices, or over competitive bidding or market conditions. Subsequently all indication of costs are made on the basis of experience and represent a best judgement.

Bulk earthworks form a major component of the works associated with the construction of a project of this nature and include:

- Bulk excavation haul and deposit;
- Spreading and compacting bulk fill materials (embankments, etc.); and
- Spreading and compacting the top 600 mm capping layer.

Assessment has been made as to the possibility of obtaining materials required for earthworks from within the region to complement that won through cuts. Table 14-3 below summarizes construction materials available in proximity to the proposed alignment.

Table 14-3: Summary of Identified Potential Material Sources for the Project

Location	Distance to Alignment	Potential Material Source
Southern Section (Ch 0 to 99 km)		
Required excavation for cuttings	NA	All material won from cuttings should be suitable for use as bulk fill. Verge material complying with QDMR specification available with careful selection. J2 material may possibly be crushed, screened and blended to produce SBCL.
Twin Peaks	12 km to Ch 0	Gravel pit on private property, has been used for pavement materials for Taroom Shire Council. Material is Sandy Clayey Gravel (Sandstone). Anticipated CBR of 15% to 20%. Potential for use as SBCL material, blending may be required.
Weringa/Old Chinchilla Rd (W1/W2)	19 km to Ch 0	Disused basalt quarry on private property. Potential for use as SBCL. Crushing, screening and blending will be required.
Stiller Brothers Road	20 km to Ch 0	Borrow pit of blocky sandstone, appears friable when ripped and worked by machinery. Anticipated to have low CBR and gravel fraction likely to have low durability. No supply for project.
Pea Gravel Pit	30 km to Ch 0	Quarry previously operated by Murilla Shire. Limited resources available. No supply for project.
Bungil Quarry	124 km from Ch 0	Olivine Basalt quarry operated by Bungil Shire. Supply of Ballast and SBCL material.
Warrians Quarry	126 km from Ch 0	Olivine Basalt quarry operated by Boral Construction Materials. Supply of Ballast and SBCL material.

Location	Distance to Alignment	Potential Material Source
Jimbour Quarry	150 km to Ch 0	Basalt quarry operated by Wambo Shire resources. Full range of materials and aggregates complying with QDMR and QR Ltd specifications. Supply of Ballast and SBCL material.
Wagner's Basalt	TBC	Personnel from Wagner's Quarries indicate they are in negotiations for access and exploration of a basalt resource approximately 30 km north of Wandoan. Insufficient information available.
Yeouvil Road	30 km to Ch 33 km	According to landowner this gravel deposit has been worked in the past by Taroom Shire Council. Appears to be clayey gravel similar to Twin Peaks. Insufficient information available.
Road Quarry (CC2)	12 km to Ch 40 km	Sand quarry. May be suitable for blending if fine silty fines are required.
Mt Misery	25 km to Ch 48 km	Rock outcrops on the slopes of Mt Misery, of granitic/granodioritic composition. Abundant free quartz in rock. Potential source for ballast.
Road Quarry (CC1)	13 km to Ch 59 km	Weathered Sandstone, used for sealed and unsealed roads. Suitable for bulk fill or sub base in sealed roads.
Road Quarry (CC3)	17 km to Ch 59 km	Weathered Sandstone, used for sealed and unsealed roads. Suitable for bulk fill or sub base in sealed roads.
Price Hill	20 km to Ch 63 km	Andesitic flow and agglomeratic rocks at the toe of the hill. Weathered agglomerate is considered not suitable for raw feed for crushing due to low durability. Potential source of SBCL, ballast and concrete aggregate if fresh to slightly weathered deposits of andesite rock are found.
Red Range	23 km to Ch 64 km	Rock Outcrops of acid tuff. No supply for project.
Adjacent to Road	4 km to Ch 64 km	Siltstone No supply for project.
Red Range Road Microgranite	23 km to Ch 64 km	Microgranite outcrops with abundant quartz in the rock. Potential for ballast.
Bradshaw Property 4FT800	~25 km to Ch 64 km	Owner advised there is a source of basalt on her property. More information to be obtained.
Outcrops on Hill	<1 km to Ch 72 km	Quartzitic sandstone. Potential for SBCL with crushing, screening and blending.
Northern Section (Ch 99 to 214 km)		
Required excavation for cuttings	NA	Supply of bulk fill materials. Crushing and blending anticipated producing SBCL material. Ballast unlikely to be won from cuttings due to difficulties with construction schedule.

Location	Distance to Alignment	Potential Material Source
Ross Creek	~1 km to Ch 102 km	Outcrop of Andesite, on private property (Fairyland Station). Potential Source of SBCL Material or Ballast.
Gabbro Quarry	~2 km to Ch 123 km	Potential Gabbro Quarry. Supply of Ballast, concrete aggregate and SBCL material.
Northern Crushed Gravel	25 km to Ch 124 km	Crushed "ridge gravel" used for a road widening project on Leichardt Highway. Material was sourced from nearby property (according to Otswald bros contractors). Believed to be similar to Twin Peaks gravel. Potential for use as SBCL.
Mt Ox	8 km to Ch 147 km	Potential source of volcanic rock. Insufficient information.
Castle Creek Quarry	7 km from Ch 180 km	Operated by Moura Sand and Gravel. Owner advised can supply all types of quarry products, and resources are large. Supply of Ballast, concrete aggregate and SBCL material
Kianga Quarry	6 km to Ch 188 km	Operating quarry with olivine basalt rock. Supply of Ballast, concrete aggregate and SBCL material.

* Distances are approximate

In addition to earthworks related materials, the Projects requires a variety of construction materials and undertakings as outlined in Table 14-4 below. An approximate value of such materials is also provided.

Table 14-4: Additional Construction Materials/Activities

Item	Estimated Quantity	Approximate Value
Clear and grub low density vegetation	1,441 ha	$1,332,925
Stripping and removal of 150 mm of topsoil	873,500 m^2	$1,747,000
Blasting earthworks	920,000 m^3	$35,080,000
Box culverts (road and rail)	202 (various sizes)	NA
Structures (rail bridges)	30 rail bridges with a total length of approximately 5715 m	NA
Structures (road bridges)	9 road bridges with a total length of approximately 495 m	NA
Fencing – four strand barb wire	470,800 m	$7,344,480

As is evident from the basic breakdown outlined above, the Project is very large in scale and requires large amounts of construction materials and will consequently generate income and employment over the construction phase in central Queensland and elsewhere in the state. In accordance with the State Government Department of State Development, Trade and Innovation (DSDTI) Local Industry Policy, effort should be made to source as much construction material as possible from within the region. Opportunities for local industries may be promoted through early identification of required

construction materials and encouraging local industries to tender for the supply of such materials by advertising in local media and contacting local suppliers directly. Under the DSDTI Local Industry Policy, project proponents are required to develop Local Industry Participation Plans which provide ways in which local business and industries may improve their capability to service and supply major projects such as the Surat Basin Rail Project.

Labour

In addition to the positive economic impacts flowing from the demand for construction materials, the Project will also create direct employment opportunities. Preliminary estimation of the construction workforce for the Project is approximately 1,000 although construction camps will be designed for a capacity of approximately 1,350 employees for a 24 month construction phase (excluding six months early work and three months commissioning). The project will require a workforce with a broad range of skills with the demands for specific skills depending on the stage of construction. The Project construction workforce can be divided into four broad groups with worker numbers for each fluctuating depending upon project demand:

- Earthworks;
- Track works;
- Structures; and
- Management and administration.

Earthworks

Considering the scale of the earthworks required to be completed for the Project, a large proportion of the total workforce will be committed to this function. The earthworks workforce is expected to peak in the early stages of the construction schedule and remain at peak levels for approximately one year. It is anticipated that initial components of works such as the clearing of vegetation and stripping of top soil will provide employment opportunities for local contractors more so than more specialised works such as blasting earthworks.

Of the overall earthworks workforce, it is expected that there will be a 60:40 split between operators of plant and general labourers. Required plant will include a fleet of large dozers, rear dump trucks, scrapers and large excavators. Other plant is expected to include graders, loaders and smaller excavators, backhoes and smaller dozers and tip trucks. Experienced operators of such machinery will be in high demand throughout the construction phase of the project.

Track Works

There will be a number of specialised work gangs involved with the laying of tracks, including;

- Signalmen and train controllers;
- Track laying machine operators;
- Tamping gang;
- Grinding gang;
- Crane and other heavy machinery operators; and
- Electricians and other tradespeople.

These workers are expected to take over from the structures trades later in construction phase of the project.

Structures

Structures associated with the Project such as road and rail bridges and culverts will require a specialised workforce including:

- Formworkers;
- Steelfixers;
- Labourers;
- Crane drivers and excavator operators;
- Riggers;
- Tradesmen (electricians, mechanical (a/c, piping, hydraulic and systems)); and
- Building trades.

Management and Administration

In addition to field work numbers, there will also be supervision/administration staff including:

- Project manager;
- Construction managers;
- Engineers;
- Foremen;
- Quality assurance;
- Human resources (OHS);
- Administration;
- Surveyors; and
- Miscellaneous/others.

Because of the wide range of employment opportunities generated by the Project it is likely that suitable skills will be able to be sourced within the region in spite of the current skills shortage and low unemployment rate. Already a range of local business opportunities have been created by the Project with local backhoe operators being employed to assist with geotechnical investigations. Local valuers and solicitors are being employed by affected landowners to assist with their compensation claims. Also, the field visits which are currently being undertaken utilise local accommodation and a range of associated services.

The Project will be an equal opportunity employer and tenders received from potential contractors will be assessed against a number of evaluation criteria, one of which will relate specifically to the creation of local employment opportunities. Every effort will be made to source labour locally where possible in accordance with the relevant Government policies including:

- The State Government Building and Construction Contracts Structured Training Policy;

- Indigenous Employment Policy for Queensland Government Building and Civil Construction Projects; and
- Department of State Development, Local Industry Policy.

It is recognised that both locally and nationally there is currently an acute skills shortage. For this reason it is estimated that at least 90% of the workforce may need to be sourced from outside of the region. To maximize the opportunity, the proponent will liaise with local employment agencies and training providers regarding the provision of suitable training opportunities. Where possible, this will specifically target opportunities for unemployed people.

To assist this outcome, the following strategies are proposed:

- Adoption of a tender evaluation criteria for potential contractors relating specifically to the creation of local employment opportunities;
- Communicate to the broader community, relevant organisations and businesses on the types of workforce positions available during the construction period;
- Liaison with educational institutions in relation to the provision of training programmes for staff with an emphasis on specific construction and safety programmes. The operational workforce may require other programmes tailored to their respective role; and
- Due consideration will be given to the Central Queensland Training and Employment Strategy (CQTES) which outlines training initiatives for manufacturing and trade professions. The initiatives outlined in the CQTES could be adapted to this Project's workforce strategy through:
  - Industry-based training initiatives, with contributions from industry
  - An industry competitive apprenticeship and/or traineeship programme, which will also act as a way of attracting staff
  - Providing avenues to "up-skill" existing workers.

In addition, the Project proponent will undertake consultation with the Department of Employment and Training, Councils and construction groups, such as the local chambers of commerce, to advise on potential future skills strategies that are relevant to the construction and operation of the Project. It is anticipated that these discussions will occur in early 2009 following Expression of Interest review of the proposed construction programme and construction staff requirements from each of the short-listed contractors.

Population and Housing

The catalytic nature of the Project is recognised in that it will open up the coal reserves of the northern Surat Basin and consequently will be the catalyst for a significant expansion in economic activity in the region. Also, direct investment in the construction and operation of the Project is expected to generate significant economic benefits to the region in the form of increased economic activity and employment opportunities. These benefits would in turn lead to a steady growth in the regions population and subsequent demands for goods and services.

As outlined in Section 13, the Project is predicted to result in some regional population impacts. The greatest construction workforce impact will likely occur between 2009 and 2011. Whilst this workforce will be accommodated in a construction camp which will be largely self-sufficient, it is expected that there will be a flow of wealth into the region throughout the construction phase of the Project. Proposed construction camp locations are in proximity to a number of existing townships

(Wandoan, Theodore, Taroom and Cracow) so it is assumed that residents of the camp will access goods and services for sale in these townships. So as to maximise the positive economic impact of the construction workforce, employees and contractors should be encouraged to support local organisations, businesses, clubs and events. A simple means is to install a notice board at the camps which publicises local businesses and events and helps to raise awareness and interest.

In addition to a temporary population increase associated with the construction workforce, it is predicted that expanding regional economic opportunities will result in people moving permanently to the area. As outlined in Section 13, the total predicted permanent population increase resulting from the project is between 221 and 437 persons. Associated with such population growth is demand for permanent housing. It is estimated in Section 13 that demand for between 92 and 183 permanent houses may indirectly result from the Project. It would seem that there is sufficient regional supply of housing to meet this demand both through currently unoccupied housing and private sector responses to increased demand (there are a number of proposed developments for Wandoan currently being assessed by Council).

Whilst the demand for permanent housing attributed directly to the Project is not considered significant, it is important to appreciate the influence even a minimal escalation in demand can have upon housing costs and affordability, particularly in areas with a small population base. There is currently a high level of property ownership in the region which may buffer some of the effects on property pricing and accommodation availability. However, changes in the rental costs and impacts on those wanting to enter the housing market may be significant. It needs to be recognised that many factors affect housing affordability including:

- General 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; and
- Capacity of the building industry to meet construction demand.

These factors primarily are outside of the influence of the Project proponents. The most effective means by which the Project can contribute to alleviating any potential regional housing affordability issues is to supply the best possible information and analysis to the public and private entities driving local and regional planning and development. The Project is committed to working in partnership with such entities in order to allow the necessary planning to occur so that optimum housing solutions may be realised. This includes making information available to initiatives such as the Surat Basin Regional Plan or a Regional Housing Program (if developed), in accordance with the Sustainable Resource Communities Policy recently released by the Queensland Government.

Table 14-5: Potential Impact and Mitigation Measures for Economic Environment

Potential Impact	Mitigation Measure
Adequate compensation for diminished economic viability of properties	• Implementation of fair and transparent compensation process
Altering access points, mustering corridors and stock watering points	• Detailed consultation on relevant issues with all affected landowners • Adequate fencing of corridor resolution of access issues adopted as an initial works priority
Weed and seed transfer	• Implementation of weed control via a Weed Management Sub-Plan as part of the EMP
Sourcing construction materials from within the region	• Development of a Local Industry Participation Plan • Advertising in local media and contracting potential supplies directly
Creation of local employment opportunities	• Implementation of Local Industry Participation Plan • Application of equal opportunities principles • Advertising vacancies in local media • Liaising with local employment service providers
Fostering relevant education and training	• Liaising with local TAFE college
Flow on wealth from the construction workforce into the local economy	• Publicise and encourage patronage of local businesses, clubs and events by construction camp residents
Housing availability and affordability	• **Provision of accommodation to all construction personnel (there is no predicted impact relating to operational employees)**