CrossRiverRail

# 20. Social Impact Assessment

# Cross River Rail

# CHAPTER 20
# SOCIAL IMPACT ASSESSMENT

JULY 2011

# Contents

# 20 Social impact assessment

## 20.1 Introduction

This chapter addresses Section 4 of the Terms of Reference (ToR). It provides an assessment of the potential benefits and impacts of the Project on the social values and characteristics of communities potentially affected by the Project. It includes an assessment of potential changes resulting from the construction and operation of the Project and identifies possible mitigation measures to maximise the benefits and minimise the impacts of the Project for local and regional communities.

Cross River Rail has the potential to provide long-term regional, city-wide and local benefits by facilitating improved public transport access to key destinations and areas of urban growth within Brisbane's inner city. However, Project infrastructure would be located in highly urbanised locations and would bring temporary and longer-term changes to the physical and social environment of local neighbourhoods and communities in Brisbane's central business district (CBD), and inner northern and southern suburbs.

### 20.1.1 Study area

The study area for the social impact assessment (SIA) is shown in **Figure 20-1**. It includes that area in which social values may change due to the Project's construction or operation. It incorporates a broader area than the study corridor identified for the EIS in recognition of the social networks and movement patterns of people living and working in the vicinity of the Project.

It comprises the suburbs of:

- Wooloowin, Albion and Bowen Hills in the north
- Spring Hill, Herston, and Brisbane City
- Kangaroo Point, Woolloongabba, Dutton Park, Annerley, Fairfield, Yeronga, Yeerongpilly (including Tennyson), Moorooka, Rocklea and Salisbury, in the south.

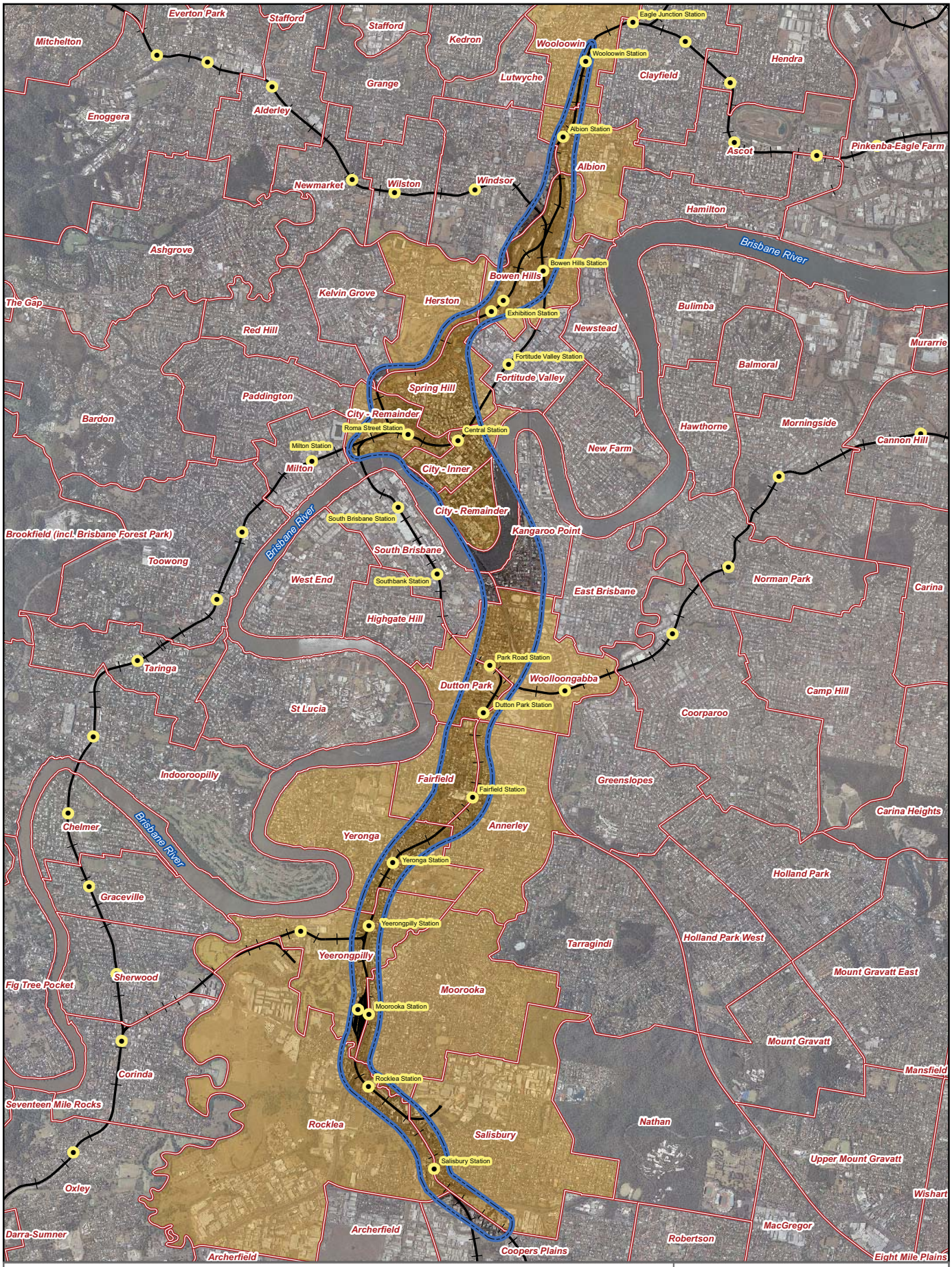
While the suburbs of Windsor, Fortitude Valley, South Brisbane and Coopers Plains are intersected by or are adjacent to the study corridor identified for the EIS, these have not been specifically included in the social baseline analysis as they are not directly affected by Project works. However, potential changes to communities in these suburbs from the Project have also been considered in this SIA, where relevant.

Changes may also be experienced in other areas of Brisbane and the South East Queensland region, such as through improved public transport access or potential changes to social conditions for communities along spoil haulage routes. These changes are also considered in this SIA.

### 20.1.2 Methodology

SIA includes "*the process of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions* [such as the Project] *and any social change processes invoked by those interventions. The primary purpose of SIA is to bring about a more sustainable and equitable biophysical and human environment"* (International Association for Impact Assessment, 2003).

The initial phase of the SIA process involved scoping the range of potential benefits and impacts of the Project's construction and operation for local and regional communities. This was informed by the ToR for the EIS, a review of SIA guidelines, SIAs undertaken previously for similar projects elsewhere, literature relating to the assessment of social impacts of transport projects, and initial consultation undertaken as part of the detailed feasibility phase.




**LEGEND**

- Study Corridor
- Statistical Local Area
- Study Area
- Station
- Track

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-1**

**Study Area - Statistical Local Areas**

0 0.5 1 1.5 2 2.5 3 3.5 4 km

N

1:70,000 at A4

CrossRiverRail

SKM aurecon CRR JOINT VENTURE

Map by: MJS K:\Cross River Rail\600 Environment\619 GIS\Aurecon\205555_CRR\G066_CCR_Social_LGA_SLA_A4_ver93.mxd 08/07/2011 13:48

The description of the existing social environment provides an overview of existing social conditions in the study area, including demography, social infrastructure and community values. The long-term nature of the Project's effects required consideration of both existing and likely future populations. This included consideration of urban growth areas identified by state and local government planning strategies, such as at Bowen Hills, Woolloongabba, Boggo Road and Yeerongpilly.

A targeted social baseline study was prepared of the people living in the study area and included an analysis of key indicators such as population size and growth, diversity, employment and income and housing. The social baseline study principally draws on information from the Australian Bureau of Statistics (ABS) Census of Population and Housing 2006, supplemented by data from:

- related ABS publications
- Queensland Government's Planning Information and Forecasting Unit (PIFU) on population projections
- Queensland Department of Communities, Housing and Homelessness Services, on housing affordability and public housing stock data
- relevant Brisbane City Council and Queensland Government publications, reports, plans, and guidelines
- Commonwealth Department of Employment and Workplace Relations, on unemployment rates
- Real Estate Institute of Queensland (REIQ), on property prices
- community consultation undertaken for the Project.

An inventory was also prepared of existing local and regionally significant social infrastructure in the study area, including community services, facilities and networks, as well as areas of local significance. This was based on review of existing information, eg documents and websites, and site visits.

Community values relating to factors such as amenity and sense of place, access and connectivity, and community health and safety were also identified. These were informed by local and state government publications, guidelines and community plans, outcomes of community consultation undertaken for the Project including input from community information sessions and local advisory groups, and observations of conditions in the study area.

Potential effects of the Project on the social environment of the study area and other areas were identified and evaluated. This included:

- an analysis of community consultation outcomes, including from community information sessions, local advisory group meetings, the 1800 project information line, and consultation with directly affected property owners
- consultation with Council and State Government agencies
- an analysis of the potential benefits and impacts of the Project on the social environment, including quality of life, community values, population size and characteristics, access and connectivity, and social infrastructure
- an assessment of the magnitude, duration and likelihood of identified benefits and impacts.

The effects of the Project may be experienced by individuals and communities as positive, neutral or negative, depending on individual circumstances, vulnerabilities and attitudes in relation to particular changes. Information from community consultation identified a range of views in response to the Project, including potential benefits and impacts of the design, construction and operation.

In accordance with the ToR, this assessment considers potential direct, indirect and cumulative impacts of the Project, during construction and operation. Measures to enhance the Project's benefits and avoid or reduce its impacts on the social environment were also identified.

### 20.1.3 Community consultation process

An extensive community and stakeholder consultation process was undertaken as part of the detailed feasibility phase for Cross River Rail. The purpose of this process was to:

- raise stakeholder and community awareness about the Project, including the project need, benefits and process for investigation and assessment
- provide stakeholders with opportunities to input into investigations being undertaken for the detailed feasibility phase, including the development of the reference design and preparation of the EIS
- provide information to government agencies, stakeholders and the community about the nature, scale and purpose of the Project to enable their review and comment on the reference design and EIS
- inform decision makers of stakeholder and community issues and comments about Cross River Rail
- understand stakeholder and community issues and where possible, address issues during the detailed feasibility phase of the Project.

Stakeholder and community feedback and comments received from the consultation process has informed the preparation of this SIA, including:

- identification of community values and social conditions in the study area
- identification of issues about the Project alignment, station location and entry points, key infrastructure and proposed construction worksites relevant to the social environment
- assessment of potential benefits and impacts of the Project's construction and operations on the social environment
- identification of strategies to minimise or avoid potential impacts on the social environment of the study area and maximise or enhance potential Project benefits.

A detailed consultation report outlining stakeholders, consultation strategies and program and consultation outcomes is provided in **Appendix C**.

In parallel to the broader community and stakeholder consultation undertaken for the Project, consultation was also undertaken specifically for this SIA with government agencies and key stakeholders.

The purpose of this consultation was to identify specific issues and mitigation measures for consideration in the SIA. The consultation included:

- workshops with state and local government agencies with an interest in the social environment to confirm the SIA methodology and data sources, existing social values and potential issues and mitigation measures. Agencies involved in the workshops included
  - Department of Local Government and Planning (formerly Department of Infrastructure and Planning)
  - Department of Education and Training
  - Department of Communities
  - Queensland Health
  - Department of Community Safety
  - Brisbane City Council

- meetings with property owners and community organisations whose interests would likely be affected by the Project, such as St Fabian's Church at Yeerongpilly and Endeavour Resources
- presentations to the local advisory groups, to identify key community issues for consideration in the SIA and proposed mitigation measures to manage community impacts.

## 20.2 Description of existing environment

This section provides a description of the existing social environment and conditions in the study area suburbs, which provides the basis for predicting and managing potential changes that may affect the social environment as a result of the Project.

### 20.2.1 Social policy and planning framework

The Project is intended to improve rail access to key inner city destinations and promote a sustainable South East Queensland by reducing traffic congestion and helping the region to develop. The overarching social objectives of the Project are:

- The transport system contributes to making the region a better place and enhances amenity in South East Queensland communities.
- People can easily access goods, services, facilities and jobs, with many residents having these available locally or able to easily access them without using a car.
- People feel safe and secure using the transport system and there is a steady reduction in the occurrence of crashes on the road and rail network.

The Project has also been considered in the context of key planning Commonwealth, State and local government policies and strategies relevant to the social environment in South East Queensland and Brisbane.

**National policy framework**

At the Federal government level, the *Disability Discrimination Act 1992* provides protection against discrimination based on disability. Measures implemented in order to improve accessibility of public transport may focus on people with disabilities, but improvements may also increase the ease and attractiveness of public transport for all users.

New and upgraded stations included in the Project have been designed to comply with the Disability Discrimination Act.

**State policy framework**

At the state government level, the *South East Queensland Regional Plan 2009-2031* (SEQ Regional Plan) provides a framework for managing population growth and development in the region to 2031 and beyond. The SEQ Regional Plan identifies sufficient land to accommodate a projected population of 4.4 million people and their employment and economic development, in a more compact urban form.

The key aspect of the SEQ Regional Plan for the social environment is the desired regional outcome relating to strong communities. This seeks to achieve *"cohesive, inclusive and healthy communities with a strong sense of identity and place and access to a full range of services and facilities that meet diverse community needs".*

The Project would support the achievement of the transport and transit outcomes in the SEQ Regional Plan by fostering compact urban form and connecting communities. The Project also supports an increasing population and the on-going role and function of the Brisbane CBD as the primary centre for commerce and employment in Queensland.

The Project also provides improved access to a number of regionally significant employment services and community uses that form the planned network of regional centres identified by the SEQ Regional Plan. These areas include Bowen Hills, the Royal Brisbane and Women's Hospital (RBWH), the Brisbane CBD, Queensland University of Technology (QUT) Gardens Point, Woolloongabba, Princess Alexandra Hospital (PAH), Boggo Road Urban Village and Queensland Tennis Centre.

*Toward Q2: Tomorrow's Queensland* (Towards Q2) sets the Queensland Government's vision for the state in 2020. This vision is framed around five key ambitions to address future challenges, being a Queensland that is strong, green, smart, healthy, and fair. The ambitions relevant to the social environment include:

- "Green" – protecting our lifestyle and environment
- "Fair communities" – supporting safe and caring communities.

Cutting Queenslander's carbon footprint by one-third through reduced car and electricity use is identified in Toward Q2 as a target for a greener state. Community attitudes to public transport and demand and access to public transport are identified as key challenges to delivering this target. Continuing to fund more public transport services, to reduce dependence on cars, is a priority for the Queensland Government. Halving the proportion of Queensland children living in a household without a working parent is also identified as a key target in Toward Q2. The Project's construction phase would provide a range of employment and training opportunities that would assist in achieving this target.

**Local policy framework**

Brisbane City Council's vision for Brisbane is articulated through *Living in Brisbane 2026*. The document identifies eight themes, of which the following are relevant to Brisbane's social character, amenity and equity:

- Friendly, safe city
- Clean, green city
- Accessible connected city
- Active, healthy city
- Vibrant, creative city.

Council's Strategic Plan sets the broad planning policy for the Brisbane City Plan 2000, and describes the overall land use structure for the city. The Strategic Plan identifies a range of citywide desired environmental outcomes (DEOs), which set broad policy at a citywide level and form the basis from which other provisions of the City Plan flow. The Strategic Plan includes a DEO relating to "community life, health and safety", which identifies Brisbane as a *"safe, healthy and vibrant place to live, offering a wide range of local and regional services, facilities and activities and diverse housing, community, cultural and recreational choices"*.

The Brisbane City Plan 2000 also includes a number of Local Plans and Neighbourhood Plans that provide detailed planning for specific localities in the study area. The Project supports the local planning for the Bowen Hills and Woolloongabba urban development areas (UDA), the City Centre Neighbourhood Plan, the Boggo Road Urban Village and the Yeerongpilly transit oriented development (TOD). Future population and employment growth in these areas would require the frequent and efficient public transport connections that the Project is facilitating.

### 20.2.2 Demographic profile

This section provides an overview of the study area's key population, housing and demographic characteristics. This provides a baseline from which to assess changes to the social environment as a result of the Project.

Statistical local areas (SLAs) have been used for this assessment. These generally match the boundaries for each of the study area suburbs, apart from the suburb for Brisbane City, which comprises both the City Inner and City Remainder SLAs, and the suburb of Tennyson, which is incorporated in the Yeerongpilly SLA.

Demographic data to inform this baseline is provided in **Appendix I-1** and **Appendix I-2.** Demographic profiles for each of the study area suburbs are also presented in **Appendix I-3**.

**Social context**

The study area includes a mix of high density residential areas combined with low density character housing, offering a range of housing choice and good access to public transport. The study area is well serviced by a range of community facilities, including education, shopping, recreational, entertainment and open space areas. These include iconic places such as the RNA Showgrounds, Roma Street Parkland, the City Botanic Gardens and the Gabba Stadium.

Communities across the study area are diverse. The inner city SLAs generally comprise high proportions of people on high incomes, young professionals, and lone person or couple only households. Conversely, suburbs further from the Brisbane CBD generally comprise higher proportions of young families, including couple families with children and one parent families. Education and employment also varies across the study area.

The study area accommodates a diversity of land uses, including commercial and industrial precincts and suburban residential neighbourhoods. Several major community facilities that offer health, education, community support and recreation, are also situated in the study corridor.

Significant population growth is expected to occur within the study area. In particular, Woolloongabba, Bowen Hills, Boggo Road and Yeerongpilly have specific high level master planning and development processes relating to their future development. This growth would result in significant urban renewal and densification opportunities as well as changes to the existing social character of the study area. The precinct planning and urban design outcomes of the Project for each precinct reflect the projected growth. Without the Project, development in these areas would continue to occur, although possibly at a slower pace and lower density due to the increased competitiveness of greenfield and outlying land release areas in terms of comparable access and greater affordability.

The proximity to the Brisbane CBD influences the demographic profile of the study area suburbs as well as their social composition, with higher density living than outer suburbs, as well as a mix of local and regional services and businesses.

The study area also includes a number of large transport and urban development projects and proposals that are also likely to change the social environment of the study area. These are outlined in **Section 20.5**.

Further information on existing land uses in the study area, including areas of open space, residential, commercial and industrial uses is provided in **Chapter 9 Land Use and Tenure**.

**Population size and growth**

The study corridor had an estimated residential population of 79,074 people in 2009, representing 1.8% of the State's population. Annerley and Moorooka had the largest populations, at 9,928 people and 9,483 people respectively, while Dutton Park had the smallest population, at 1,448 people, reflecting its smaller geographic area and mixed use land pattern.

Between 2004 and 2009, all suburbs in the study area experienced growth in population, with particularly strong growth experienced in the inner city SLAs. Over the 12 months to 2009, Yeerongpilly experienced the highest population growth of all study area suburbs (at 7.1%), which coincides with the completion of sections of the Tennyson Reach residential development.

By 2031, the population of the study area is forecast to grow by approximately 34.9%, to more than 100,000 people. This is compared to forecast growth rates of 53.4% for Queensland and 23.1% for the Brisbane LGA. Predicted population growth varies across the study area. High growth is expected in the inner city suburbs of Bowen Hills (409.1%), Albion (154.8%), Dutton Park (87.2%) and Woolloongabba (81.9%), driven by redevelopment of urban renewal areas. Lower rates of growth are predicted in the southern suburbs of Moorooka, Salisbury and Rocklea, which generally have lower levels of higher density housing and comprise large areas of industrial land.

**Age profile**

Overall, the study area had a lower proportion of children aged 14 years or under, a higher proportion of working age people and a smaller proportion of people aged 65 years or over, compared to Brisbane and Queensland. The age profile of the study area suburbs vary. The CBD and inner city SLAs generally comprised higher proportions of working age residents, The southern study area suburbs of Moorooka, Salisbury, Yeerongpilly and Yeronga generally had higher proportions of young people (aged 14 years or under), while the highest proportions of people aged 65 years or over were in Salisbury, Rocklea, Dutton Park, and Moorooka.

**Cultural diversity**

In 2006, 812 people in the study area identified as being Aboriginal or Torres Strait Islander, representing approximately 1.1% of the study area population. This was lower than the proportion of Aboriginal and Torres Strait Islander people in both Brisbane and Queensland. Dutton Park and Woolloongabba had the highest proportions of Aboriginal and Torres Strait Islander people, at 2.0%, with this above the Brisbane average.

Compared to Brisbane and Queensland, the study area had high proportions of people who spoke other languages. In 2006, nearly 19% of people in the study area spoke a language other than English at home, with the most common languages being Mandarin, Cantonese and Italian.

The study area also had high proportions of people who spoke English not well or not at all compared to the Queensland average. In particular, Rocklea and Moorooka had the largest proportion of people who spoke English not well or not at all, followed by Woolloongabba and Dutton Park.

**Household and family types**

The study area as a whole generally contained lower proportions of families with children and higher proportions of lone person and group households compared to Brisbane and Queensland. The southern corridor suburbs of Fairfield, Yeerongpilly, Yeronga, Moorooka and Salisbury as well as Wooloowin in the north contain high proportions of ‘couple families with children’. The outer suburbs of Salisbury and Rocklea had higher proportions of one parent families compared to Brisbane, which is likely to reflect the availability of more affordable housing in these areas.

**Population mobility**

The study area generally had high levels of population mobility compared to Brisbane and Queensland, with lower proportions of people who lived at the same address either 12 months or five years prior to the 2006 Census.

The inner city suburbs particularly had high levels of population mobility, with less than 12% of people in the City Inner and City Remainder SLAs having the same address as five years prior to the 2006 Census. The southern study area suburbs of Salisbury, Moorooka, Yeronga and Dutton Park generally displayed higher levels of stable residency, with all having more than 48% of residents living in the same address five years prior to the 2006 Census.

### Housing

The study area comprises a mix of high density residential areas combined with areas of low density character housing. Overall, the predominant form of housing in the study area is detached dwellings. Rocklea and Salisbury had particularly high levels of detached houses, with more than 90% of dwellings in these suburbs comprising this dwelling type, compared to 73.7% in Brisbane. Fairfield and Moorooka also had a high proportion of detached dwellings. The inner city SLAs generally had high levels of multi-unit dwellings.

The study area generally had relatively low rates of owner occupiers and high rates of rental households compared to Brisbane, with almost half of the dwellings in the study area being rented. The inner city SLAs particularly had high levels of rental houses, with almost 60% of dwellings being rented. The high level of rental households reflects the relatively high levels of population mobility within the study area, particularly in the inner city areas.

Average housing costs were generally higher in those suburbs nearest to the city or adjacent to the Brisbane River.

### Housing affordability

Affordable housing generally refers to housing in which households spend no more than 30% of their gross household income on either rent or mortgage payments.

The Queensland State Government has outlined the significance of affordable housing in South East Queensland via a number of initiatives such as the Queensland Housing Affordability Strategy (2007), the establishment of the Urban Land Development Authority, which aims to facilitate “the provision of an on-going availability of affordable housing options for low to moderate income households”, and the identification of urban development areas, including at Woolloongabba and Bowen Hills.

Across the study area, housing for purchase is generally unaffordable for many households, while rental housing is generally more affordable, particularly in the study area’s southern suburbs.

At March 2010, median house prices across the study area ranged from $461,500 to $665,000, compared to an average of $535,000 in Brisbane.

**Table 20-1** provides an overview of affordable housing, both for purchase or rent, in the study area for the 12 months to June 2010. More detailed information is also provided in **Appendix I-4**.

Overall, housing is more affordable both for rent and purchase in the study area’s southern suburbs, such as Rocklea, Annerley, Salisbury and Yeerongpilly. The least affordable housing for purchase was located in Bowen Hills and Fairfield. Apart from Brisbane City, rental housing in the study area is relatively affordable.

**Table 20-1 Affordable purchase and rental housing, 2009-2010**

| Statistical Local Area | All dwelling types (includes houses, flats, units and townhouses) | | | | | |
|---|---|---|---|---|---|---|
| | Rental properties* (Based on new rental bonds for 1 July 2009 to 30 June 2010) | | | House sales (1 July 2009 to 30 June 2010) | | |
| | Affordable rental properties (number) | Total rental properties | Proportion of affordable rental properties (%) | Affordable properties sold** (number) | Total properties sold | Proportion of affordable properties sold (%) |
| Albion | 171 | 216 | 79.2 | 6 | 56 | 10.7 |
| Bowen Hills | 280 | 352 | 79.5 | 1 | 38 | 2.6 |
| Spring Hill | 765 | 1153 | 66.3 | 68 | 202 | 33.7 |
| Brisbane City (CBD)*** | 741 | 2022 | 36.6 | 173 | 648 | 26.7 |
| Woolloongabba | 386 | 497 | 77.7 | 18 | 115 | 15.7 |
| Dutton Park | 103 | 118 | 87.3 | 2 | 20 | 10.0 |
| Annerley | 840 | 911 | 92.2 | 40 | 222 | 18.0 |
| Fairfield | 185 | 221 | 83.7 | 2 | 66 | 3.0 |
| Moorooka | 530 | 550 | 96.4 | 45 | 285 | 15.8 |
| Rocklea | 87 | 87 | 100.0 | 12 | 49 | 24.5 |
| Salisbury | 249 | 268 | 92.9 | 11 | 109 | 10.1 |
| Yeronga | 351 | 395 | 88.9 | 11 | 160 | 6.9 |
| Yeerongpilly | 138 | 211 | 65.4 | 5 | 97 | 5.2 |
| Total for study area | 4,826 | 7,001 | 68.9 | 394 | 2067 | 19.1 |

Source: Housing and Homelessness Services, Department of Communities 2010

*Notes:*

* *Affordable rental properties have been calculated as those available for rent for less than $460 per week. The numbers of affordable properties and total rental properties are based on new private rental bonds lodged with the Rental Tenancy Authority for the specified period and exclude existing private rental bonds. The data also excludes private rental properties where bonds have not been lodged with the RTA.*

** *Affordable purchased housing properties have been calculated as those sold for less than $343,000. The Department of Communities has recommended that this data is used as a baseline for measuring subsequent movements in affordable housing purchase sales and proportions and shows trends in these SLAs over time.*

*** *Based on data available for City Remainder SLA to which all data within the CBD area has been attributed in the database.*

### Public housing and boarding houses

Around 4% of Brisbane's housing stock is owned by a housing authority such as the Department of Housing or Department of Defence Housing Division.

The overall rate of provision of social housing in Brisbane is 415 social housing dwellings per 10,000 occupied dwellings, which is similar to the Queensland average of 422 dwellings per 10,000 occupied dwellings. However, the rates of provision and types of social housing dwellings differ between the Brisbane CBD, and inner and outer suburbs. Annerley had the highest number of public housing units within the study area (333 units), followed by Spring Hill (refer to **Table 20-2**).

**Table 20-2 Public housing within the study area**

| SLA | Number of public housing units (includes apartments, detached houses, boarding houses) |
|---|---|
| Albion | 10 |
| Wooloowin | * |
| Bowen Hills | 18 |
| Herston | * |
| Spring Hill | 236 |
| City Inner | * |
| City Remainder | 1 |
| Kangaroo Point | * |
| Woolloongabba | 222 |
| Dutton Park | 150 |
| Annerley | 333 |
| Fairfield | 7 |
| Yeronga | 131 |
| Yeerongpilly | 127 |
| Total | 1,804 |

Source: Department of Communities, 2010

*Note: * Data not available for this SLA*

Boarding houses within the study area are predominantly located in Bowen Hills, Spring Hill, Woolloongabba, Yeronga and Moorooka. Many of these are centrally located within the suburbs, in close proximity to services and public transport.

New supported public housing developments are planned for South Brisbane. Construction has also started on a Brisbane Housing Company development at Bowen Hills, which includes 107 affordable housing units close to public transport and the Brisbane CBD. This is due to be completed in late 2011.

### Education, Employment and Economic Resources

*Education participation and achievement*

The study area generally had a low proportion of pre-school and primary school students compared to Brisbane and Queensland. However, across the study area, the southern suburbs of Moorooka, Salisbury, Yeronga and Yeerongpilly generally had higher proportions of pre-school and primary school students compared to the inner city suburbs.

Tertiary students comprised the largest student group in the study area with 24% of students undertaking study at a university or other tertiary institution and 6.9% of students undertaking study at a technical or further education institution. This reflects the proximity of the study area to a range of tertiary education facilities.

The study area generally had higher proportions of people with post-school qualifications compared to Brisbane. In 2006, approximately 63% of people aged 15 years or over in the study area had a post-school qualification. Suburbs with high proportions of people with post-school qualifications included Brisbane City and Spring Hill, while Moorooka, Salisbury and Rocklea had lower proportions of people with post-school qualifications.

*Employment*

In 2006, the rate of unemployment in the study area was 4.5%, slightly above the Brisbane average of 4.0%. Dutton Park had the highest rate of unemployment at 6.7%.

The study area generally had higher levels of people employed in professional and management positions compared to Brisbane and Queensland. In particular, people employed in professional positions comprised more than one third of workers in the SLAs of Dutton Park, Spring Hill, City Inner, Herston and Yeronga. These areas also had the highest proportions of part-time workers, perhaps correlating to greater employment flexibility in professional employment.

The study area had lower proportions of workers employed in machinery, technical/trades and labouring positions compared to Brisbane and Queensland. Rocklea had the highest proportion of people employed as labourers or in technical/trade positions, which also correlates with the lower proportion of people with post-school qualifications in this suburb.

The study area had slightly higher proportions of full-time workers compared to Brisbane and Queensland, while approximately one quarter of employed people worked part time, slightly lower than the Brisbane average.

*Household income*

Income levels varied across the study area. with incomes in the lowest earning suburbs approximately half of those in the highest earning suburbs (refer **Table 20-3**). In 2006, the median household income in the study area suburbs was $1,085 per week, which was higher than Queensland but lower than the Brisbane average. Households in Dutton Park, Woolloongabba and Rocklea had median household incomes ranging from $772 to $919 per week. The suburbs with the highest median household incomes included Brisbane City, Wooloowin and Yeronga.

*Advantage and disadvantage*

The ABS produces four socio-economic indices for areas (SEIFA) based on Census data, which identify areas of relative advantage and disadvantage. SEIFA values are calculated at Census Collector District (CCD) level. Two indices were examined for the study area, including the Index of Relative Socio-Economic Advantage/Disadvantage and the Index of Economic Resources.

The Index of Relative Socio-Economic Advantage/Disadvantage is a continuum of advantage to disadvantage. It considers indicators relating to income, education, occupation, wealth and living conditions. A high value on the index represents an area of relative advantage and occurs in areas with higher proportions of people on high incomes, qualified people and professionals.

The SEIFA values for the Index of Relative Socio-Economic Advantage/Disadvantage are shown in **Table 20-3**. Each of the suburbs in the study area ranks highly on this index, with value ranges above those for Brisbane. The suburb with the smallest variance in range on this index occurs is Rocklea (950-974), indicating a higher level of disadvantage compared to other study area suburbs. The City-Inner SLA had the highest value on this index, which reflects higher proportions of people with tertiary qualifications and higher household incomes in this area. Dutton Park had the lowest value on this index, which reflects the lower proportion of people within that suburb with post-school qualifications and lower household incomes.

The Index of Economic Resources reflects indicators such as income and expenditure including wages and rental costs for families, and variables such as dwelling size that may reflect wealth. Income variables are also specified by family structure, as this affects disposable income. A higher value on the index indicates an area has a higher proportion of high-income families, a lower proportion of low-income families and more households living in large houses.

Suburbs in the study area also ranked highly on this index compared to Brisbane, with all having values above those for Brisbane. This indicates that collectively, the study area ranked highly in terms of income and expenditure and other indicators relating to availability of economic resources compared to Brisbane. Those SLAs that recorded the lowest values included Woolloongabba, Dutton Park and City Inner, which indicates that these areas are likely to contain 'pockets' of disadvantage. Those suburbs that recorded the highest values on this index included Herston, Wooloowin and Yeronga.

**Table 20-3 Education, employment and economic resources**

| SLA | Median weekly household income ($) | People aged 15 years or over with a post-school qualification | | SEIFA Index – Advantage/ Disadvantage | SEIFA Index – Economic Resources |
|---|---|---|---|---|---|
| | | Number | % | | |
| Albion | 1,091 | 1,245 | 59.3 | 998-1115 | 940-1071 |
| Wooloowin | 1,193 | 2,697 | 60.6 | 978-1157 | 924-1149 |
| Bowen Hills | 1,142 | 990 | 65.7 | 981-1109 | 835-1002 |
| Herston | 1,178 | 1,074 | 68.1 | 1122-1132 | 1137-1197 |
| Spring Hill | 1,111 | 3,482 | 71.7 | 1052-1137 | 915-1113 |
| City – Inner | 1,461 | 1,913 | 73.3 | 990-1194 | 796-1073 |
| City – Remainder | 1,161 | 3,001 | 70.7 | 1064-1189 | 896-1077 |
| Kangaroo Point | 1,264 | 4,429 | 68.6 | 1007-1189 | 878-1108 |
| Woolloongabba | 901 | 1,998 | 58.1 | 869-1083 | 762-1029 |
| Dutton Park | 772 | 719 | 62.0 | 941-1115 | 766-1041 |
| Fairfield | 1,097 | 5,002 | 60.9 | 1005-1099 | 907-1041 |
| Annerley | 1,017 | 1,315 | 62.5 | 950-1106 | 828-1063 |
| Yeronga | 1,193 | 2,761 | 63.0 | 1021-1151 | 905-1138 |
| Yeerongpilly | 1,175 | 1,232 | 62.7 | 1005-1114 | 885-1076 |
| Moorooka | 1,039 | 668 | 53.7 | 942-1099 | 856-1081 |
| Rocklea | 919 | 4,200 | 56.2 | 950-974 | 936-978 |
| Salisbury | 1,003 | 2,450 | 54.7 | 989-1029 | 948-1019 |
| Study area | 1,085 | 39,176 | 62.9 | 941-1194 | 766-1197 |
| Brisbane LGA | 1,157 | 447,449 | 57.1 | 718-1250 | 663-1257 |

Source: ABS Census, 2006, ABS, 2008b

### Voluntary work

The level of participation in volunteering, reflects people's willingness to be involved in their local community, and is commonly used as a measure of an area's social capital. Suburbs in the study area generally demonstrated a high rate of participation in volunteering, with approximately 17.1% of people indicating that they had volunteered for a community group or organisation in the previous 12 months. The data shows the strength of community networks across the study area, particularly in southern suburbs such as Yeronga, where almost one in four residents volunteered their time.

### Need for assistance

'Need for assistance' refers to people who need help or assistance in one or more of the three core activity areas of self-help, mobility or communication due to disability, a long term health condition, or old age (ABS Basic Community Profile, Concepts and Definitions 2007).

In 2006, the proportion of people needing assistance within the study area was comparable to Brisbane and Queensland, at around 4%. Across the study area, Rocklea had the highest proportion of people in need of assistance (at 6.6%), followed by Wooloowin (at 6%) and Dutton Park (at 5.2%). The City Inner SLA had the lowest level of people in need of assistance, with this group comprising less than one per cent of the area's total population.

**Transport use**

The travel patterns of residents in the study area reflects the area's proximity to the Brisbane CBD and major employment centres, and access to a high level of public transport and pedestrian and cycle networks. While private vehicle was the most predominant mode of travel to work, compared to Brisbane as a whole, residents in the study area were more likely to use public transport, walk or ride to work, In particular, the proportion of residents in the study area who walked to work was almost three times higher than the Brisbane and Queensland averages.

In 2006, over 43% of households in the study area had one motor vehicle, while close to 18% of households had access to no motor vehicle. This is likely to reflect the study area's access to a range of public transport options and proximity to the CBD. The availability of employment and education opportunities either within or close to the study area, are also likely to be contribute to the relatively low level of private vehicle ownership compared with Brisbane and Queensland.

### 20.2.3 Social infrastructure within the study area

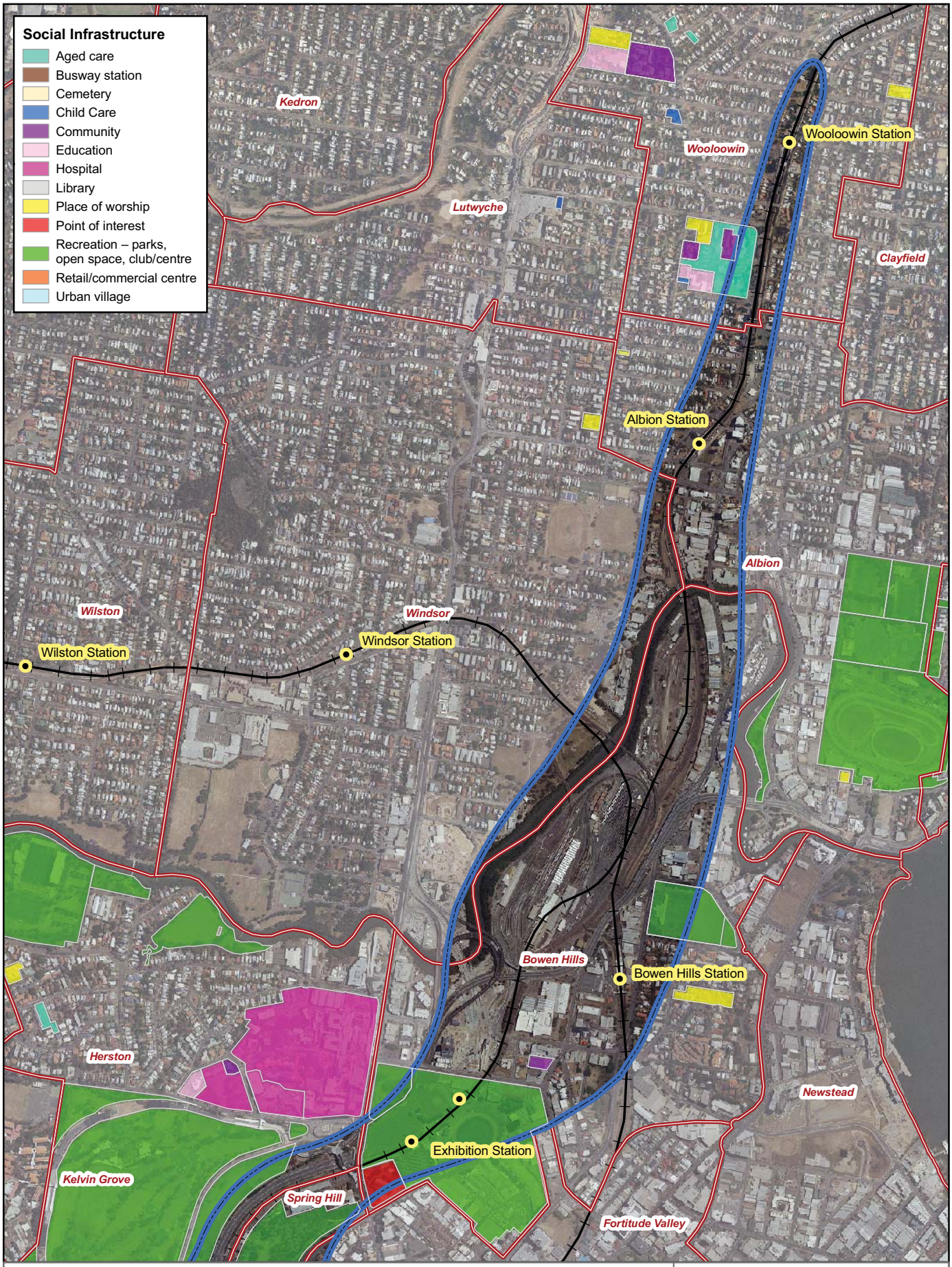
Social infrastructure refers to community facilities, services and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community well-being (DIP 2007). They include:

- universal facilities and services such as education, training, health, safety and emergency services, arts and cultural facilities, and community meeting places
- lifecycle-targeted facilities and services, such as those for children, young people and older people
- targeted facilities and services for groups with special needs, such as families, people with a disability and Indigenous and culturally diverse people.

Social facilities provide a 'home base' for services and networks, and play an important role in helping communities develop skills and resilience. Access to facilities reduces social costs, including health and support costs, associated with social isolation, family stress and unemployment.

The study area includes a wide range of local community services and facilities to service the needs of local communities, including community support, education and training, sport and recreation, cultural, health, and emergency facilities and services. In addition, there is also a range of district and regional level social infrastructure, servicing the needs of communities in the Brisbane LGA, the South East Queensland region, interstate and internationally. These include health and medical, open space, sport and recreation, and education facilities. The study area also includes a range of commercial and retail centres that cater for both local and regional communities.

The following describes the key social infrastructure in the study area. These are shown on **Figure 20-2** to **Figure 20-5**. A full listing of social infrastructure is also provided in **Appendix I-5**.




**LEGEND**

- Study Corridor
- Statistical Local Area
- Station
- Track

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-2**

**Existing Social Infrastructure**
**Sheet 1 of 4 (Northern Section)**

0 0.25 0.5 0.75 1 km

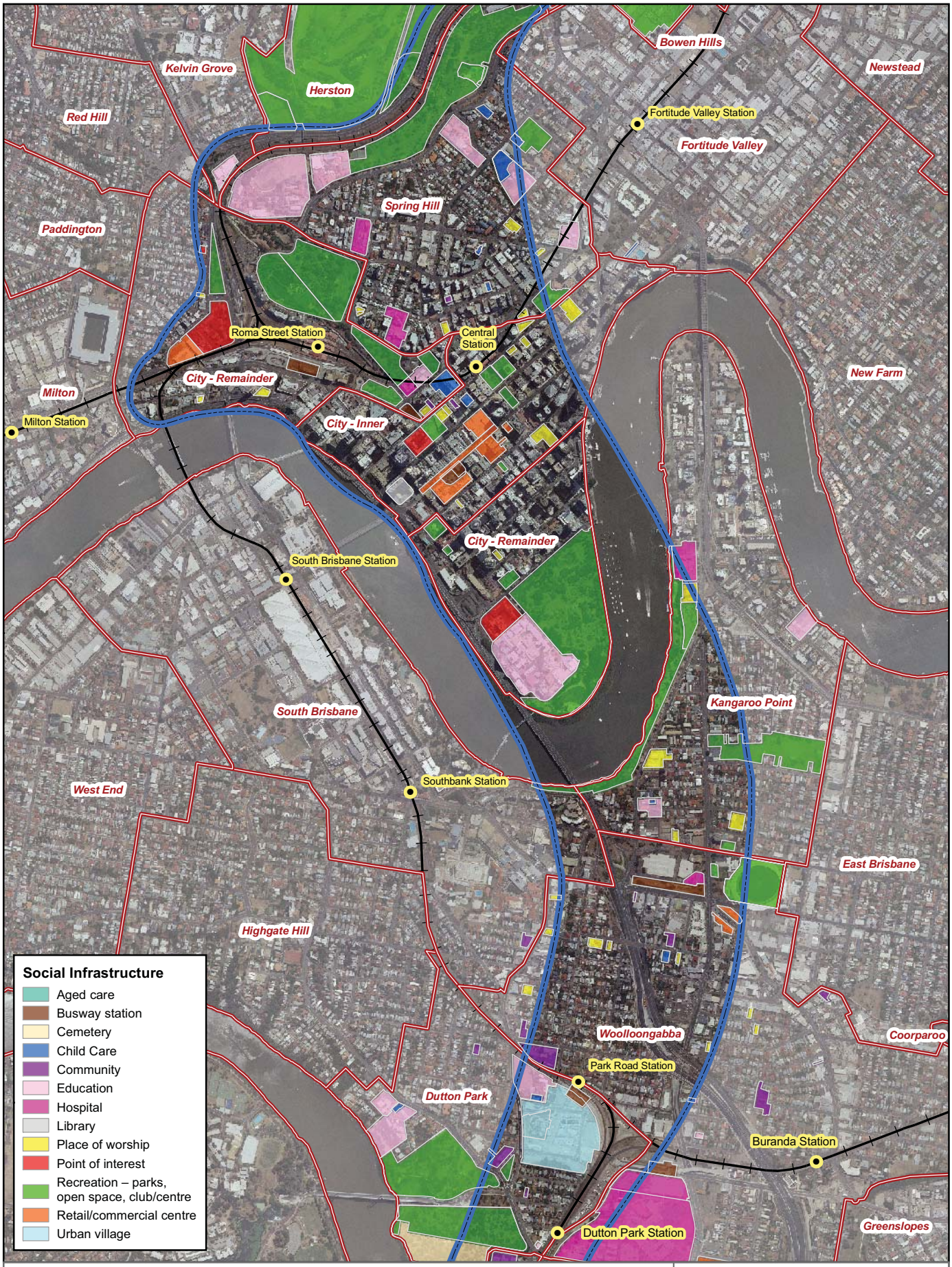
1:17,500 at A4

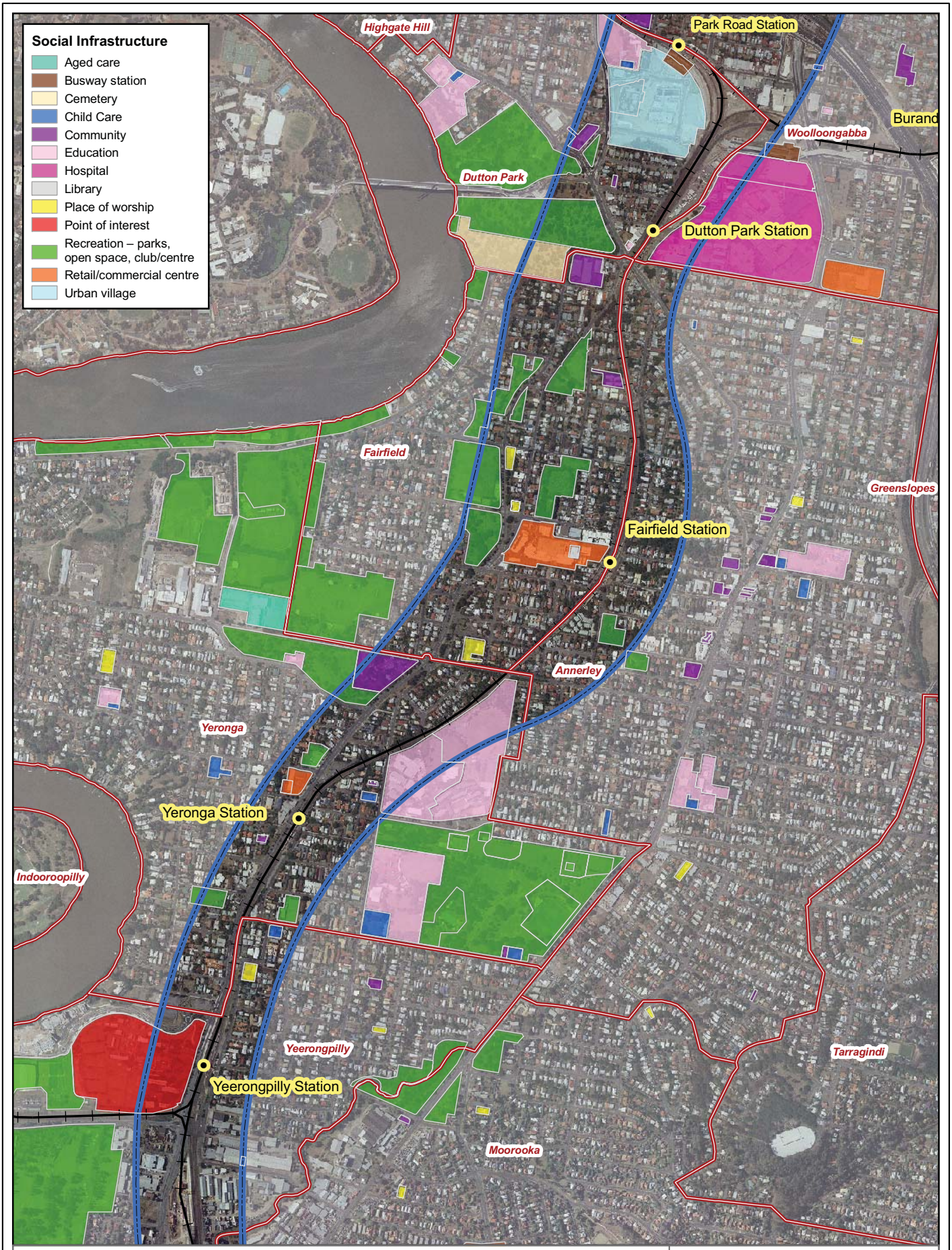
N

CrossRiverRail

SKM aurecon CRR JOINT VENTURE

Map by: MJS K:\Cross River Rail\600 Environment\619 GIS\Aurecon\205555_CRR\G063_CCR_Social_Land_Use_Sheet_1of4_ver93.mxd 08/07/2011 13:56


Bowen Hills
Newstead
Kelvin Grove
Herston
Red Hill
Fortitude Valley Station
Fortitude Valley
Spring Hill
Paddington
Roma Street Station
Central Station
New Farm
City - Remainder
Milton
Milton Station
City - Inner
City - Remainder
South Brisbane Station
Kangaroo Point
South Brisbane
Southbank Station
West End
East Brisbane
Highgate Hill
Woolloongabba
Coorparoo
Park Road Station
Dutton Park
Buranda Station
Dutton Park Station
Greenslopes
Social Infrastructure
Aged care
Busway station
Cemetery
Child Care
Community
Education
Hospital
Library
Place of worship
Point of interest
Recreation – parks, open space, club/centre
Retail/commercial centre
Urban village
LEGEND
Study Corridor
Statistical Local Area
Station
Track
CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT
Figure 20-3
Existing Social Infrastructure
Sheet 2 of 4 (Central Section)
0 0.25 0.5 0.75 1 1.25 km
N
1:22,000 at A4
CrossRiverRail
SKM aurecon
CRR JOINT VENTURE
Map by: MJS
K:\Cross River Rail\600 Environment\619 GIS\Aurecon\205555_CRR\G063_CCR_Social_Land_Use_Sheet_2of4_ver93.mxd 08/07/2011 13:57




**LEGEND**

- Study Corridor
- Statistical Local Area
- Station
- Track

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-4**

**Existing Social Infrastructure**
**Sheet 3 of 4 (Southern Section)**

0 0.25 0.5 0.75 1 km

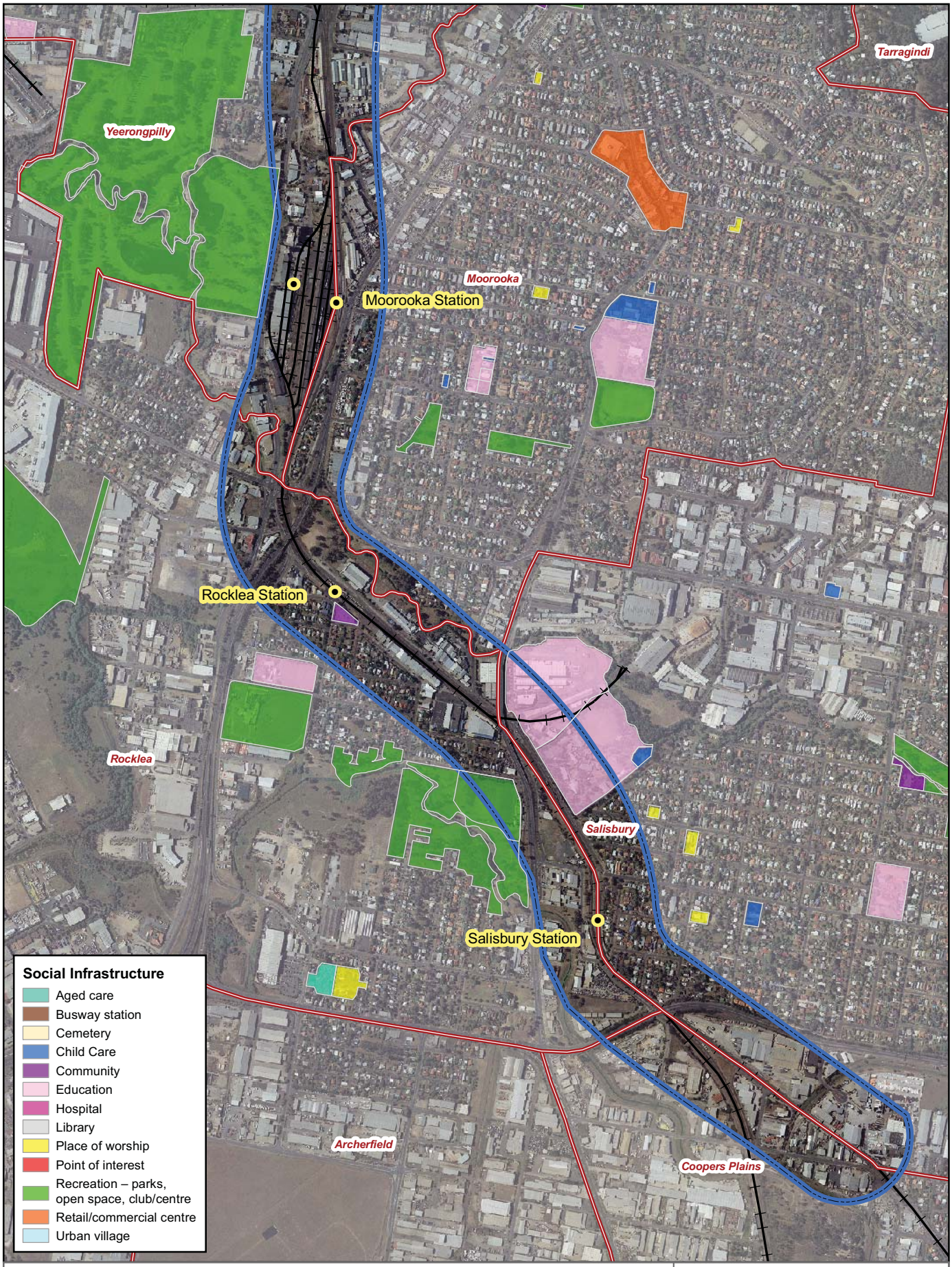
1:17,500 at A4

N

CrossRiverRail

SKM aurecon CRR JOINT VENTURE

Map by: MJS K:\Cross River Rail\600 Environment\619 GIS\Aurecon\205555_CRR\G063_CCR_Social_Land_Use_Sheet_3of4_ver93.mxd 08/07/2011 13:58




LEGEND

- Study Corridor
- Statistical Local Area
- Station
- Track

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-5**

**Existing Social Infrastructure**
**Sheet 4 of 4 (Southern Section)**

0 0.25 0.5 0.75 1 km

1:17,500 at A4

N

CrossRiverRail

SKM aurecon CRR JOINT VENTURE

Map by: MJS K:\Cross River Rail\600 Environment\619 GIS\Aurecon\205555_CRR\G063_CCR_Social_Land_Use_Sheet_4of4_ver93.mxd 08/07/2011 13:59

**Health and emergency services within the study area**

The study corridor includes a high level of health care and medical facilities, which cater for the needs of residents at local levels, as well as broader catchments. These include public and private hospitals, day surgeries and medical clinics, where the full range of medical services are provided by surgeons, general practitioners and specialists.

Seven major hospitals are located in the study area including the:

- RBWH and Royal Children's Hospital (RCH) at Herston
- St Andrews War Memorial Hospital and Brisbane Private Hospital at Spring Hill
- Mater Hospital and Mater Private Hospital at South Brisbane
- PAH at Buranda.

A new Queensland Children's Hospital is also under construction adjacent to the Mater Hospital at South Brisbane, with completion expected in 2014.

Other major health care facilities in the study area include:

- South Brisbane Dental Hospital at Main Street, Woolloongabba
- Aboriginal and Torres Strait Islander Community Health Service at Annerley Road, Woolloongabba.

The study area also has good access to emergency services. Ambulance stations are located at Spring Hill and Woolloongabba and a combined ambulance and fire station is located at Roma Street. Fire stations are also located at Annerley and Rocklea. Six police stations are within the study area including at Gregory Terrace at Bowen Hills, Roma Street and Charlotte Street in Brisbane City, Dutton Park, Annerley and Moorooka.

**Education and childcare**

Residents in the study area have good access to a range of education facilities, either within the study area or nearby.

Seventeen primary schools are located in the study area. Those located in the vicinity of the tunnel alignment and/or surface infrastructure include:

- St Joseph's Primary School at Kangaroo Point
- Moorooka State School at Moorooka
- Dutton Park State School at Dutton Park
- Rocklea State School at Rocklea
- Yeronga State School at Yeronga.

The study area also includes eight State and private secondary school facilities. Those located in the vicinity of the Project include:

- Brisbane Grammar School, Brisbane Girls Grammar School and St Joseph's College at Gregory Terrace, Spring Hill
- Yeronga State High School at Yeronga
- Nyanda State High School at Fairlie Road, Salisbury.

Tertiary education facilities located within the study area include QUT Gardens Point Campus and University of Queensland (UQ) Dental School in the Brisbane CBD. However, a number of tertiary education facilities are also located near to the study area, including UQ at St Lucia, which is connected to Fairfield by the Eleanor Schonell Bridge, and QUT Kelvin Grove Campus.

Childcare facilities are also provided throughout the study area. Those located in the vicinity of the Project include Grosvenor Hall at Yeronga.

**Sport, recreation, leisure and cultural facilities**

The study corridor offers a diverse range of sport, recreation, leisure and cultural facilities and clubs. These cater for local and regional communities, and include facilities catering for organised sporting activities, as well as informal recreation and leisure pursuits.

District and regional level sport, recreation and leisure facilities include:

- formal gardens and open space areas such as Roma Street Parkland and the City Botanic Gardens
- parkland and recreation areas, including Victoria Park, Kangaroo Point Cliffs and Robinson Park
- major sporting venues such as the Gabba Stadium at Woolloongabba and the Queensland Tennis Centre at Tennyson
- entertainment facilities such as the RNA Showgrounds at Bowen Hills and Brisbane Riverstage, located within the City Botanic Gardens
- public meeting places, such as Emma Miller Place at Roma Street, in the Brisbane CBD, which is used for annual events such as the Queensland Council of Unions 2010 Memorial Day
- cultural facilities such as Boggo Road Gaol Museum and South Brisbane Cemetery, which also has important social values with many local people's ancestors/families buried within the cemetery.

The study corridor also includes a number of sport, recreation and leisure facilities and clubs that cater for the needs of local residents and that foster important community networks. These include facilities such as the Splash Leisure Centenary Fitness Centre at Spring Hill, Yeronga Bowls Club at Yeronga and Brothers-St Brendans Rugby League Club at Rocklea. A number of religious places of worship are also located across the study area. Those located in the vicinity of the tunnel alignment or surface infrastructure include:

- Russian Orthodox Cathedral of St Nicolas at Vulture Street, Woolloongabba
- Evangelicalo Life Community Centre at Fairfield Road, Fairfield
- Fairfield Christian Family Church at Cross Street, Fairfield
- St Fabians Church at Wilkie Street, Yeerongpilly.

**Community support services**

The study area includes a range of local and regional community and cultural support services. In particular, a number of services are located at Annerley and Fairfield that provide support for African communities. The location of these services is likely to have influenced people's decision to settle in the study area, with the study area experiencing an increase in the population of the African community residents since 2006.

Other services have also established in response to particular communities. For example, Deaf Service Queensland at Moorooka is likely to have established to meet the higher population of deaf people residing in Brisbane's inner southern suburbs.

Services in the study area providing support to cultural communities include:

- Sudanese Community Association of Brisbane at Annerley
- Hazara Ethnic Society in Australia Inc at Woolloongabba
- Eritrean Refugee Support Group at Annerley
- Queensland Liberian Refugee Support Group at Yeerongpilly
- Queensland Aboriginal and Torres Strait Islander College of Health Education and Training at Dutton Park
- Queensland Program of Assistance to Survivors of Torture and Trauma at Yeronga.

State wide disability support agencies located in the study area include:

- Queensland Blind Association Incorporation at Annerley
- Queensland Disability Housing Coalition at Annerley
- Deaf Services Queensland at Moorooka.

A number of emergency and crisis housing services for men, women and young people are located in Spring Hill. A blind hostel is also located at Fairfield, Aboriginal and Torres Strait Islander community housing is based at Woolloongabba, and refugee and asylum supported housing is located throughout Annerley and Fairfield.

**Commercial centres**

Residents in the study corridor have good access to a diverse range of commercial and business, retail and entertainment facilities. The study corridor suburbs include a network of neighbourhood, local and regional centres serving the needs of local and regional residents. Key commercial, business and retail centres in the study corridor include:

- Brisbane CBD, including Queen Street Mall, which is the primary retail and commercial centre for Brisbane and the South East Queensland region
- Albert Street in Brisbane City and Stanley Street at Woolloongabba, which both offer a range of speciality shops, cafes and restaurants
- Fairfield Gardens Shopping Centre at Fairfield Road, which is an important hub for the local community, providing access to a range of shopping, community, medical and administrative services and facilities.

**Access and connectivity**

The study area includes several major transport corridors, which provide good access to other areas of Brisbane and South East Queensland. These include roads, bus and rail corridors, and pedestrian and cycle networks.

The study area is well serviced by public transport, including rail, bus and City Cat services.

The Queensland Rail passenger rail network comprises more than 300 kilometres of track and includes 144 stations. The network extends from the centre of Brisbane, south to Beenleigh and Robina on the Gold Coast, north to Ferny Grove, Shorncliffe, Caboolture and Gympie, east to Cleveland and west to Ipswich and Rosewood. Within the study area, stations include Exhibition, Bowen Hills, Albion, and Wooloowin in the north, Roma Street and Central in the Brisbane CBD and South Brisbane, South Bank, Park Road, Dutton Park, Fairfield, Yeronga, Yeerongpilly, Moorooka, Rocklea and Salisbury in the south.

The southern suburbs are well serviced by bus. Fairfield Road and Ipswich Road are key bus routes connecting the southern suburbs to the Brisbane CBD with both regular and high frequency services.

The South East Busway and Boggo Road Busway are also located in the study area and include busway stations at the Cultural Centre, South Bank, Mater Hill, Woolloongabba, PAH and Boggo Road. The Boggo Road Busway connects to UQ at St Lucia via the Eleanor Schonell Bridge. In the north, the Inner Northern Busway provides good public transport access between the northern suburbs and the CBD, with busway stations at the Roma Street, Normanby, QUT Kelvin Grove and the RBWH complex.

The study area includes several main arterial roads, such as:

- the South East Freeway and Pacific Motorway, Clem Jones Tunnel, Annerley Road, Ipswich Road, Ipswich Motorway and Fairfield Road connecting to the south
- Riverside Expressway near to the Brisbane City
- the Inner City Bypass (ICB), Lutwyche Road and Abbotsford Road connecting to the north.

While the rail network, busways and major roads provide good access, both locally and regionally, they also form barriers to local movement and connectivity, particularly for pedestrians and cyclists, impacting on connectivity between local neighbourhoods and community facilities. Consultation for the Project identified community concerns about existing barriers to local access and connectivity within the study area's southern suburbs of Yeerongpilly, Dutton Park, Woolloongabba and Salisbury.

The study area includes a range of off-road and on-road bikeways including:

- the Victoria Park bikeway, which extends from Herston Road to Kelvin Grove Road, adjacent to the northern side of the ICB, and from the landbridge over the ICB to Spring Hill and the CBD via the Roma Street Parkland
- the South East Bikeway, which provides connections to Woolloongabba and Dutton Park
- the Brisbane Corso alongside the Brisbane River, connecting Leyshon Park, Yeronga Park and Moorooka
- Eleanor Schonell Bridge, connecting Fairfield and Dutton Park to UQ at St Lucia
- on-road bikeway along Venner Road at Fairfield
- on-road and off-road bikeways that commence in Rocklea and connect to an off-road bikeway that extends along Riawena Road at Salisbury.

### 20.2.4 Community values

This section describes the community values held as important to residents in the study area for quality of life and well-being. They include tangible (physical) elements such as parks, landscape and pedestrian connectivity, and intangible qualities such as sense of place and community cohesion. Social infrastructure, such as churches, schools, public places and community centres are highly valued in local communities, as are demographic characteristics and local features. These values have been informed by consultation undertaken for the Project.

**Sense of place**

Sense of place refers to the relationship between people and their environment, and denotes the existence of special characteristics which defines the character and identity of a place. Sense of place may include physical aspects such as environmental and landscape features, buildings, paths and topographical features with cultural and community significance, aesthetic or character qualities, and social aspects such as territoriality (community 'ownership'), legibility (being easily understood), and feelings of safety and comfort deriving from a familiar place.

Sense of place for residents in the study area's southern suburbs, is established by traditional Queenslander housing, mature street trees, and neighbourhoods interspersed with increasing medium density housing options. Within the CBD, sense of place is established by the higher intensity built environment, important landmark and heritage buildings, active streetscapes and views to the Brisbane River, Story Bridge, City Botanic Gardens and major public spaces.

Community values relating to sense of place in the study area identified in community consultation for the Project include:

- pre-1946, "tin and timber" character housing, particularly in the study area's southern suburbs
- areas of mature trees, leafy green streets and native flora and fauna
- peaceful, quiet suburbs, close to the city
- access and connectivity to local shops, restaurants, cafes and community facilities
- open space areas, parkland and parks, which provide both formal and informal recreation opportunities.

**Local amenity**

Community values relating to local amenity can refer to natural or physical qualities and characteristics of an area that contribute to a person's appreciation of the surroundings. The amenity of the study area is generally high, with good access to public transport, community facilities of state and regional significance, and residential neighbourhoods within easy reach of local services, employment and the Brisbane CBD. Consultation for the Project indicates that over time local amenity has been compromised by increased travel times and traffic congestion on major roads, road traffic and freight rail noise and increasing residential development.

The study area accommodates a diversity of land uses including inner city and suburban residential neighbourhoods, major community facilities, and areas of commercial and industrial uses. Community values identified during community consultation for the Project relating to the amenity of the study area include:

- the quality of the urban environment, where people feel they are living sustainably by using public transport
- access to good air quality and neighbourly precincts
- large street trees, which attract a range of native fauna such as birds, possums, and scrub turkeys
- availability of facilities, parks and green corridors such as the parks in Yeronga and Fairfield, Victoria Park at Herston, City Botanic Gardens and Roma Street Parkland that provide visual relief within an inner city environment and which are available for sport and leisure activities, contributing to the recreational values of the area.

The value that local businesses provide to a community was also identified as being important to the vitality and amenity of the study area. In particular, community members valued the employment opportunities provided for local people and the economic benefits of local business.

Some community members also identified the need to maximise development opportunities adjacent to transport infrastructure through the use of good urban design and sustainability elements.

**Community cohesion**

Community cohesion refers to the connections and relationships between individuals, groups, and neighbourhoods, and is encouraged by the existence of local community facilities, a sense of local identity and belonging, population stability and opportunities for community participation.

Residents in the study area have good access to a diverse range of local community facilities, such as education, sport and recreation and open space. The study area also has a number of important community networks related to school communities, local churches, sporting clubs and resident groups, which foster relationships, trust and joint effort.

Some suburbs in the study area have mobile residential populations. This is likely to reflect the proximity of these suburbs to major tertiary education institutions such as QUT and UQ, and the Brisbane CBD, which makes the study area attractive to students and young professionals who often reside in shared accommodation and are highly transient. However, amongst longer term residents, there is a strong sense of belonging and shared networks which enhance community cohesion.

Volunteering for community organisations is another indicator of community cohesion. Compared to Brisbane, the majority of suburbs in the study area have high proportions of people who volunteer for organisations or groups, indicating a high level of participation in community life.

Feedback received from the community during consultation for the Project indicated a high level of community cohesion, particularly in the study area's southern suburbs, with many community members valuing the close-knit nature of the community and the socially rich and ethnically diverse communities. The strength of community cohesion was demonstrated following the 2011 Brisbane River flood. During the flood, many of the study area's southern suburbs, including Fairfield, Yeronga, Yeerongpilly, Moorooka, Rocklea and Salisbury, experienced severe flooding impacts to homes, businesses, parks and community services.

Following the flood, many local community members volunteered their time to support those affected by the flood and assist with the clean up activities.

During consultation for the Project, those things that were identified by the community as contributing to community cohesion in the study area included:

- the close-knit nature of the community, which includes young families with children
- active community support for the health and well-being of disadvantage community members
- established, diverse, ethnically and socially rich communities
- the importance of connectivity between neighbourhoods, including across the railway corridor, to ensure social networks are maintained.

**Community safety**

Preserving a sense of community safety and ensuring Brisbane is a place where people feel safe is important for many residents. The need to maintain or improve safety and security was frequently identified in community consultation for the Project. In particular, community consultation for the Project identified:

- the need to ensure safe access is provided to stations, including for cyclists, pedestrians, people with prams and people with mobility difficulties
- community concerns about safety and security at residential properties near train stations, particularly Yeerongpilly Station, due to increased exposure to the rail station and increased number of commuters
- the need to ensure safety for the local community during construction, particularly for children and school students and people with mobility difficulties or who are vision impaired
- community concerns about existing levels of safety at some stations and the need to ensure that stations provide a safe environment for all users.

**Places of community value**

The study area includes a range of places that are important to residents, workers and visitors in the study area, Brisbane and the wider South East Queensland region due to their social, heritage, ecological, scenic amenity, landscape or recreational values. These include:

- natural features such as the Brisbane River and Kangaroo Point Cliffs
- major facilities such as RNA Showgrounds and Gabba Stadium
- formal open space areas such as Victoria Park, Roma Street Parkland and the City Botanic Gardens
- heritage places, such as the South Brisbane Cemetery, Boggo Road Gaol, and numerous buildings within the Brisbane CBD that represent Brisbane's early development.

Impacts on these places, either actual or perceived, are likely to be of concern for local and regional communities.

### 20.2.5 Study area social summary

The study area accommodates a rich mix of residential, commercial and community uses along with major transport infrastructure corridors. The study area contains numerous open green spaces and many of its streets are lined with well-established trees that provide an environment that is typically representative of Brisbane's older suburbs. The open spaces accommodate both organised and passive recreation and are reasonably well connected. The study area has good access to major health and educational institutions and is well serviced by major roads and public transport.

The study area includes a mix of high density residential areas combined with low density character housing, with higher than average housing costs in those suburbs nearest to the city and also those along the Brisbane River. The study area generally had relatively lower rates of owner occupiers and higher rates of households renting compared to the Brisbane average, with almost half of the dwellings in the study area being rented.

In June 2009, approximately 79,000 people lived in the study area, representing 1.8% of the State's population. Annerley and Moorooka had the largest number of residents and Dutton Park had the smallest population, reflecting its small geographic area and mixed use land pattern. The population of the study area is diverse, with high proportions of people who speak languages other than English.

All suburbs in the study area experienced annual population growth between 2004 and 2009. Since 2008 Yeerongpilly experienced the highest growth in population of the study area suburbs. The Tennyson Reach residential development and the proposed Yeerongpilly transit oriented development have resulted in the beginning of a period of increasing density for this suburb.

High growth in the inner city suburbs is also expected to continue to 2031, particularly in the suburbs of Bowen Hills (409.1%), Albion (154.8%), Dutton Park (87.2%) and Woolloongabba (81.9%) by 2031.

Overall, the main characteristics of the study area are:

- a young population, with significant proportions of smaller household sizes (eg lone person households)
- high cultural and socio-economic diversity
- convenient access to a wide range of community facilities of local and State significance
- a large proportion of suburbs in the southern section of the study area have predominantly separate houses, while suburbs close to the inner city have large proportions of flats, units and apartments
- high use of public transport, walking and cycling by local residents.

Residents in the study area place a high value on access and connectivity, community cohesion, parks, open space, and recreation, character housing and the household and community security of their suburbs.

## 20.3 Potential impacts and mitigation

This section provides an assessment of the potential impacts, both beneficial and adverse, to the social environment of the study area as a result of the Project's construction and operation. It includes an assessment of both direct and indirect impacts, along with cumulative impacts with other projects in the study area.

The Project benefits would extend well beyond the study area to the Brisbane metropolitan area and the South East Queensland region. The Project benefits would be of long-term duration and would bring about inter-generational change to land use, transport of people, particularly commuters, and would support more sustainable population growth and economic development in South East Queensland. Locally, areas near stations would benefit from greatly enhanced transport services and improved access to metropolitan and regional facilities and services.

### 20.3.1 Equity

Social equity includes fair treatment and a just sharing of resources. The Project is an opportunity to provide more affordable and equitable transport access to local communities and commuters and improve connections to where people live, work and play.

Cross River Rail trains will operate under the existing TransLink integrated ticketing system, which comprises 23 zones across South East Queensland. Fares are calculated at either an adult or concession rate and based on the number of zones travelled. Concessional fares for students, unemployed people and elderly rail users would maintain equitable access to transport.

While property acquisition and construction impacts may be experienced most in areas closest to the construction sites, city-wide benefits such as improved public transport access, reduced traffic congestion due to increased use of public transport, and integrated land use and transport, are likely to be shared at local, city wide and regional levels.

Project stations have been designed to comply with *Disability Discrimination Act 1992* (DD Act) access standards. This includes Rocklea and Moorooka stations which are proposed to be upgraded as part of the Project. This would improve public transport services to people with disabilities as well as the wider community, by ensuring people with mobility difficulties, eg young children, elderly, and parents with prams, can easily and safely access rail services.

There are opportunities, particularly at stations, to stimulate the local economy in retail and commercial precincts. Co-locating public transport infrastructure adjacent to retail and commercial precincts provides opportunities for rail users to easily access retail and commercial premises without the need to make a car trip. The provision of new stations in the Project design allows for a greater level of integration of stations with surrounding land uses, such as commercial, retail and green open space areas.

Protection of the places, artefacts and items of historical significance along the study corridor would need to occur to ensure that these items are preserved for current and future generations. The Cultural Heritage chapters (**Chapter 18 Indigenous Cultural Heritage** and **Chapter 19 Non-Indigenous Cultural Heritage**) provide details of all listings and proposed mitigation for impacts on heritage sites.

### 20.3.2 Project workforce

This section provides an overview of the estimated workforce requirements of the Project's construction. During construction, the Project would generate a large demand for skilled workers as well as general civil construction labour. The Project would directly generate jobs for an average of approximately 1,600 workers, including construction workers, project managers and design staff. During the peak construction period, it is expected that up to about 2,200 workers would be required, with a peak shift of about 1,325 workers. In addition, the Project would generate a range of indirect jobs, such as in the construction, financial and business services, Government services and road transport sectors.

A breakdown of the estimated average and peak workforce required at each of the major worksites during the construction phase is provided in **Chapter 4 Project Description**.

It is expected that construction workers would generally be sourced from across Brisbane and the wider South East Queensland region. However, some specialist technical services or consultants are also likely to be sourced from interstate or internationally who would work on the Project as and when required. This would not result in an influx of workers at a scale that would impact on the population and demography of the study area.

In 2006, there were approximately 120,000 people working in the construction industry who lived within commuting distance of the Project. Since this time, this number is anticipated to have grown due to substantial growth in recent construction activity in the South East Queensland region. As such, it is anticipated that there would be sufficient capacity in the workforce for the Project. Further information on the availability of workers for the Project is provided in **Chapter 21 Economic Assessment**.

During operation, it is estimated that approximately 110 workers would be required to operate new train services and to staff new stations. In addition, maintenance workers would also be required to maintain project infrastructure. Further information on operational workforce is provided in **Chapter 4 Project Description.**

**Strategies for local participation**

The Queensland Government has developed a number of policies relating to the procurement, employment and training for major public construction projects, aimed at simulating the local economy and job growth opportunities. The following provides an overview of these policies relevant to the Project. Further discussion on these policies is also provided in **Chapter 21 Economic Assessment**.

*10% Training Policy*

The 10% Training Policy seeks to ensure 10% of all labour hours worked on an eligible project come from individuals engaged in structured training, culminating in an accredited qualification. The policy aims to improve the levels of workforce skills development within the construction sector and create additional employment opportunities for Indigenous workers, apprentices, trainees or cadets (www. http://training.qld.gov.au/industry/10percent-policy.html).

Within the study area, Rocklea had the highest proportions of labourers and people working in technical/trades. Overall 6.9% of the study area population was undertaking study at a technical or further education institution.

Potential training opportunities associated with the Project, would allow disadvantaged groups, such as young people, recently arrived refugees or Indigenous people, to gain skills in the construction industry. Consideration would be given to maximising training opportunities through the Project, including in consultation with local schools (ie Yeronga High School and Nyanda State High School) and Yeronga TAFE.

*20% Indigenous Employment Opportunity policy*

The 20% Indigenous Employment Opportunity Policy (IEP 20% Policy) promotes, encourages and creates skills development, employment and business opportunities for Aboriginal people and Torres Strait Islanders in relation to Queensland Government building and civil construction projects in specified Aboriginal and Torres Strait Island communities.

While the Project is located outside of a specified Aboriginal and Torres Strait Island community identified by the Policy, the State Government encourages government agencies and industry to apply the principles of IEP 20% Policy in all areas where there are large Indigenous populations (http://www.employment.qld.gov.au/programs/sqw/indigenous/policy/index.htm).

Within the study corridor, the southern suburbs of West End, Woolloongabba, and Dutton Park have a higher proportion of people identified as Indigenous. As such, consideration would be given to identifying training and employment opportunities for local Indigenous people as part of the construction phase.

*Local Industry Policy*

The Local Industry Policy aims to create local jobs and foster private sector investment across a range of key industries, to assist local businesses to become internationally competitive through the use and consumption of local products and services (State of Queensland, Department of Employment, Economic Development and Innovation, 2010). The Local Industry Participation Plan for the Project would need to ensure that local participation is possible to the highest extent, therefore satisfying the overall aim of the local Industry plan.

**Worker parking and transport**

Parking for workers and visitors would be provided at each major worksite, ie Yeerongpilly, Woolloongabba, Roma Street and Victoria Park. However, at the Albert Street worksites, on-site parking would generally be limited to visitor parking, with workers required to use commercial parking or public transport.

Overall the level of worker car parking provided for the Project is expected to be sufficient to cater for overall workforce parking demands across the construction program. Mitigation measures such as provision of a dedicated bus service from the Yeerongpilly worksite for workers at Woolloongabba, Boggo Road and Fairfield and encouraging workers to car pool or public transport, particularly to the CBD worksites, would provide additional certainty that this issue could be managed. Further discussion on potential impacts of worker car parking and recommended mitigation measures is provided in **Chapter 5 Transport**.

### 20.3.3 Property impacts

The Project would require the whole or partial acquisition of properties for surface works (e.g. new stations, surface tracks, construction worksites, etc) as well as volumetric acquisition of properties above the tunnel alignment.

A total of 108 properties would be acquired, either wholly or in part, for the Project's surface works, including 16 properties owned by either the Queensland Government or Brisbane City Council. The majority of these properties (82 properties) are located south of the southern portal at Yeerongpilly, Rocklea, Moorooka and Salisbury.

Of the 108 properties to be acquired, either wholly or in part, for surface works:

- 39 properties comprise residential uses, including houses, flats and residential apartments
- 64 properties comprise commercial, industrial or mixed use developments
- five properties contain community uses such as parks and a church.

In addition to those properties affected by surface works, approximately 303 properties located along the tunnel alignment would require an acquisition of volumetric tenure. Volumetric acquisitions would not impact on the use of land at the surface.

The majority of properties affected by volumetric tenure comprise residential uses with these generally located along the tunnel alignment south of Gabba Station. Approximately 54 properties affected by volumetric tenure comprise commercial, industrial and mixed use developments, with these generally located along that section of the tunnel alignment within the Brisbane CBD, while approximately 19 properties comprise community uses.

**Table 20-4** provides a breakdown of properties directly affected by the Project.

**Table 20-4 Directly affected properties**

| Location | Surface acquisition | Volumetric acquisition | Ownership | | |
|---|---|---|---|---|---|
| | | | Private | State | Council |
| Breakfast Creek to Exhibition | 7 | 0 | 2 | 2 | 3 |
| Exhibition Station | 1 | 0 | 1 | 0 | 0 |
| Bowen Bridge Road to Roma Street Station | 2 | 24 | 22 | 2 | 2 |
| Roma Street Station | 2 | 2 | 2 | 2 | 0 |
| Roma Street Station to Albert Street Station | 0 | 27 | 25 | 0 | 2 |
| Albert Street Station | 10 | 12 | 21 | 1 | 0 |
| Albert Street Station to Woolloongabba Station | 0 | 34 | 30 | 3 | 1 |
| Woolloongabba Station | 1 | 6 | 6 | 1 | 0 |
| Woolloongabba Station to Boggo Road Station | 0 | 53 | 53 | 0 | 0 |
| Boggo Road Station | 1 | 0 | 0 | 1 | 0 |
| Boggo Road Station to Yeerongpilly Portal | 2 | 137 | 129 | 1 | 9 |
| Yeerongpilly Portal to Salisbury | 82 | 8 | 86 | 3 | 1 |
| Total | 108 | 303 | 377 | 16 | 18 |

A number of issues were raised by community members during consultation for the Project in relation to property impacts. These included:

- uncertainty in relation to the property acquisition process, including level of compensation payable, if any (ie market value, inclusion of other costs) and timing of resumption process
- timing of the project approval, including uncertainty about decisions relating to property investments such as renovating, buying, selling and renting
- potential limitations on the redevelopment of properties over or near the tunnel alignment and stations (ie restrictions on foundations or basement depths)
- concerns from property investors about the ability to maintain current leases or secure new leases prior to the resumption of properties and about potential loss of rental income.

The Queensland Government has informed property owners whose properties may be directly affected by the Project. At the request of property owners, discussions have also commenced with some property owners potentially directly affected by the Project about the early purchase of their property in accordance with the Queensland Government's hardship policy. This aims to provide certainty and flexibility for these property owners in relation to property decisions.

Uncertainty about proposed changes and potential adverse impacts on property values in those areas near surface works or above the tunnel alignment were raised by community members during consultation for the Project. These included community concerns about the ability to sell nearby properties and the lack of compensation available to property owners whose properties are not required for the Project but who would experience disruption due to their proximity to surface works, tunnelling or construction activities.

Compensation to property owners would be provided in accordance with the *Acquisition of Land Act 1967.* The Act allows compensation for those properties in which a direct requirement of the Project is required.

Based on experience from other public transport projects in Brisbane and elsewhere, the improved accessibility provided by the Project is likely to support property values in the longer term, particularly for properties near to the new stations. A number of community members also identified this as a benefit during consultation for the Project. On-going consultation and communication with property owners and the community would also assist in reducing potential uncertainty about the Project.

Potential impacts on local businesses and the economy due to property acquisition are discussed in **Chapter 21 Economic Assessment**.

*Affordable Housing*

During consultation for the Project, concerns were raised by some directly affected residents about the ability to find alternate housing within the study area. While the study area generally has a good supply of affordable rental housing, some suburbs, such as Fairfield, Yeerongpilly and Yeronga have limited available affordable housing properties for purchase. This may impact on some property owners who may wish to relocate within the study area. On-going consultation and communication with property owners about the property acquisition and compensation process and support available to potential affected property owners, may assist in reducing potential impacts in sourcing alternate accommodation.

The Project would directly impact on Queensland Government housing at Yeerongpilly and Bowen Hills. This includes:

- three properties containing residential units at Wilkie Street, Yeerongpilly, with these fully required for the Project
- a portion of a property containing residential units at Tufton Street, Bowen Hills.

In addition, surface works would directly impact on a vacant property at O'Connell Terrace and Tufton Street, Bowen Hills owned by the Department of Communities. A Queensland Government property containing residential units located at School Road, Yeerongpilly would also have a volumetric impact.

The Department of Communities would provide support to tenants who are required to relocate due to the Project through their usual relocation and support processes. This includes assistance in relocating tenants to another departmental property, where required. On-going consultation and communication with the Department of Communities would assist in managing potential impacts for public housing tenants.

Concerns about impacts for properties above or near the tunnel alignment were also raised by some community members during consultation for the Project. This included concerns about vibration from construction and operation and potential for building damage caused by construction, and the long term operational impacts of having a tunnel under residential properties. During construction, some residents above the tunnel alignment may experience perceptible levels of vibration for a short period as each tunnel boring machine passes. This is addressed in **Chapter 16 Noise and Vibration** along with recommended measures to mitigate potential impacts of vibration on people and properties.

These include early and on-going notification of residents and businesses above the tunnel alignment about the timing and duration of tunnelling works. During operation, vibration from train pass-bys is unlikely to be perceptible within nearby buildings.

*Community health and well-being*

Uncertainty about the property acquisition process may result in stress and anxiety for some residents, business owners and employees facing changes such as relocation. In particular, Yeerongpilly and Moorooka include a number of residents who have lived in the same neighbourhood for many years. The acquisition of properties may require some residents to relocate away from the local area. Low levels of mobility in suburbs such as Salisbury, Moorooka, Yeronga and Dutton Park suggest that property acquisitions may result in the displacement from some long term neighbours, familiar routines and social networks. This may impact on their health and well-being if they are not appropriately supported to do so. This is particularly important for long-term residents, elderly people and people with a disability, who have a strong connection to the local area or who may find it more difficult to adapt to new surroundings.

On balance it is unlikely that such anxiety would affect community health given the range of support facilities generally evident in the study corridor. However, further stages of the project planning and delivery will need to be sensitive to the potential for anxiety and stress and ensure that on-going consultation and communication with residents and local businesses reduces uncertainty through the timely provision of information about construction activities, likely impacts, and possible mitigation measures.

The Queensland Government has informed property owners whose properties may be directly affected by the Project and discussions have also commenced with some property owners about the property acquisitions. This consultation is on-going.

Potential impacts of property acquisition on community cohesion are discussed in **Section 20.3.4**.

### 20.3.4 Operational impacts

During operation, communities near stations would benefit from greatly enhanced transport service and accessibility to metropolitan and regional facilities and services and employment. However, potential impacts on local amenity, community cohesion and community safety may be experienced, particularly for those communities closest to the Project.

This section provides an overview of the key potential impacts of Project operations. Impacts relating to specific areas of the study area are described in **Section 20.4**.

*Amenity of local areas*

The Project would provide greatly improved inner city rail capacity and allow increased frequency of trains, including both passenger and freight. Overall, the Project would have a positive impact on the local amenity of those areas near the new stations through enhanced public transport access and improvements to the urban environment provided by the station plazas, streetscape improvements and enhanced pedestrian access. However, some neighbourhoods close to new stations and new tracks may experience changes in local amenity due to:

- increased noise from the stations operation
- changes to the visual environment and views from new surface infrastructure
- changes to local road access and through routes
- potential increased traffic and parking in local streets around station precincts.

During operation, localised impacts on amenity may be experienced at properties near to the surface stations and adjacent to the surface rail corridor south of Park Road. Such impacts would include the potential for noise break-out from public address systems, commuter traffic and parking near stations, and increased rail freight on the existing surface tracks. The design of public address systems within stations would be designed to minimise potential impacts on surrounding properties.

During consultation for the Project, community concerns were identified in relation to the existing impact of freight train services, including noise and vibration, particularly at night. The Project is not expected to result in any discernible increase in noise levels at properties north of the southern portal. Where the Project results in noise levels above the relevant Queensland Rail standards, noise barriers would be established to mitigate potential impacts for nearby properties. Noise barriers themselves can impact on local amenity due to changes in community connectivity, air flow, light, security and visual amenity, and would need to be appropriately designed to ensure that these impacts are avoided. Further discussion about noise impacts associated with the Project's operation is in **Chapter 16 Noise and Vibration**.

The Project may impact local access and amenity in local streets due to increased demand for commuter parking. Implementation of local traffic management measures within local streets surrounding new stations would assist in mitigating potential impacts on local parking. Further discussion about impacts of the Project on access is provided in **Chapter 5 Transport**.

The Project would increase cross-modal transport services and capacity on the rail network. This may result in changes to land use, access and amenity of land, especially near the new stations. Potential improvements to transport may also result in a greater demand for higher density residential development near the new stations. Any development would be required to consider the relevant local and state planning policies, including those relating to character housing where applicable. The Project would impact on property above the tunnel alignment through the acquisition of a volumetric lot beneath those properties located directly above the tunnels. Volumetric resumptions would be noted on the affected properties' titles.

Following construction, land occupied by construction worksites that is not required for the Project would become available, where appropriate, for redevelopment, in accordance with the relevant local and state planning policies. ie City Plan or UDA Development Scheme. Any future redevelopment of the construction worksite at Yeerongpilly for higher order uses such as mixed use residential and commercial would require a change to the existing land use designation of this site and subsequent revision to the City Plan. This would be undertaken as part of a separate planning process to the Project.

*Pedestrian impacts*

The existing rail corridor creates a barrier to east-west pedestrian movement within the study area. During operation, the Project would improve access for pedestrians across the rail corridor through the improvement in the pedestrian overpasses near Nyanda State High School at Salisbury. This would include provision of lifts and stairs, in accordance with DD Act requirements. Improvements to station overpasses at Rocklea and Moorooka would also improve pedestrian access at these stations. Improvements in pedestrian access and amenity would also occur in the vicinity of stations, due to footpath improvements, street tree planting and provision of street furniture (ie seating) at station plazas.

The overpass across the rail corridor and Fairfield Road at Yeerongpilly would be extended to the realigned Wilkie Street and a covered pedestrian walkway provided along Wilkie Street between the overpass and the new station. This would improve pedestrian amenity for local residents and rail passengers.

*Community cohesion*

At a city level, access to improved public transport options is likely to provide benefits for community cohesion. Travel facilitates social interactions and economic transactions across Brisbane. Where mobility is constrained, people avoid making trips that have unacceptable travel times. The Project would improve access to the Brisbane CBD, decreasing travel times for these trips, and facilitating community interaction.

Locally, property impacts and loss of neighbours may lead to social discord and a loss of community cohesion. In particular, relocation of households may disrupt bonds between neighbours and local communities. While these impacts would be localised, they would be significant to the quality of life of residents who relocate and other members of their local networks. Potential impacts on community cohesion and loss of social networks due to the need for local residents to relocate, was identified during community consultation for the Project. Involvement of local community groups through the Project, such as in the design of public art or rehabilitation of open space areas disturbed by construction activities, may assist in strengthening community bonds. This has worked successfully on other major transport projects such as the Inner Northern Busway Station at the RBWH.

*Community safety*

The design of stations and public spaces has considered Crime Prevention through Environmental Design (CPTED) to ensure safety for passengers. CPTED principles take into account the relationship between the physical environment and the users of that environment, and promote maximum usability and safety.

Safe and functional access for passengers would be delivered through features such as CCTV monitoring of the entire platform, intrusion detection and monitoring, and integration of security bollards where vehicular access/approach to the station is available. Station platforms in underground stations would also be fitted with platform screen doors to avoid likelihood of accidental access to rail line.

During consultation for the Project, concerns were raised by residents near to existing stations about potential impacts on community safety and property security, due to an increase in passengers accessing the new stations. Security measures implemented at new stations would assist in mitigating potential security issues for adjoining neighbourhoods.

### 20.3.5 Potential construction impacts

Construction activities for the Project may lead to changes in local amenity and liveability for communities near to construction works due to increased construction noise, changed access, traffic diversions and construction traffic issues including parking. While the scale and intensity of the Project construction undertaking is significant, the impacts would be of limited duration (ie 5.5 years), compared with the operational benefits.

*Residential amenity*

During construction, communities closest to the construction work sites and other construction works may experience changes to local amenity, access and connectivity and quality of life, due to:

- construction noise and dust, including noise and dust associated with the loading, handling and removal of spoil from construction worksites
- impacts on connectivity and changes to local access, including temporary street closures in the vicinity of surface works and/or work sites
- impacts on residential amenity, particularly where night-time construction works are required
- vibration from tunnelling construction.

Construction hours for above ground works would vary depending on the location of the worksite and/or construction works. Construction hours are described in **Chapter 4 Project Description**. In general, above ground works in most areas would be undertaken during daytime hours and would generally be avoided on Sundays or public holidays. However, some night-time construction works would be required to minimise disruption to existing rail services and traffic movements on major roads. Underground construction works and works undertaken within an acoustic lined shed would occur 24 hours a day, seven days per week.

Limiting surface construction works during night time hours would assist in minimising potential impacts for residents near to the construction worksites. However, where surface works are required to be undertaken during night time hours, impacts on sleeping patterns for some residents closest to these works may occur if noise levels exceed sleep disturbance levels.

During construction of the tunnels, some residents above the tunnel alignment may experience perceptible levels of noise and vibration as each tunnel boring machine passes. This may impact on amenity of these properties, particularly if sleep disturbance goals are exceeded. These impacts would last for approximately five to seven days for each TBM pass-by, except for tunnelling under the CBD, where each pass by would take longer (eg 7 to 10 days). Further discussion about potential impacts of noise and vibration are in **Chapter 16 Noise and Vibration**.

Changes to local access may occur during construction, particularly near to construction works. In particular, temporary changes to local access would occur due to:

- the modification of O'Connell Terrace
- realignment of Wilkie Street
- closure of Peter Doherty Drive due to the location of the Boggo Road construction worksite
- increased workers parking in local streets.

During community consultation for the Project, a number of concerns were raised by local residents in relation to impacts on residential amenity from construction activities. These included:

- potential disturbance from vibration of tunnelling
- concerns about noise impacts from construction activities occurring 24 hours/ 7days a week
- duration of construction works
- need for local street access to be maintained during construction.

Environmental management measures for noise, dust and vibrations would be implemented at construction worksites and other work areas to manage impacts for nearby communities. Worker parking would also be provided at each construction worksite. This would also assist in mitigating potential amenity impacts on local communities.

On-going consultation and communication with local residents close to construction works would also be undertaken. This would help to maximise the success of the mitigation measures and ensure that local communities and other stakeholders are informed about the construction, including the timing, duration and likely impacts of construction activities and measures to mitigate or manage potential construction impacts.

A community complaints process will also be established and implemented which includes procedures for receiving, registering and responding to community complaints about construction activities and maintenance of a staffed, 24 hour, seven day a week community information line. Further information on on-going consultation and communication during construction is detailed in **Chapter 24 Draft Outline EMP**.

*Spoil and material haulage*

Construction traffic would bring materials, equipment and personnel to and from the construction sites on a daily basis and transport spoil away from the work sites. Delivery of materials and equipment would also occur at varying hours across the study area, depending on the location of the worksite. Spoil haulage from, and deliveries to, construction work sites with direct access to arterial roads could occur 24 hours a day, seven days per week.

Elsewhere, haulage and deliveries would generally occur between 6.30 am Monday and 6.30 pm Saturday, apart from the CBD where haulage and deliveries may occur up to 10.00 pm, Monday to Friday.

Spoil from the Project would be transported by road to a spoil placement site at Swanbank. Transport of spoil from work would be primarily be via major arterial roads. The spoil placement site is located within an industrial precinct with the nearest residential property located approximately 1.7 km to the north-east.

Potential impacts on local amenity may occur from increased spoil haulage vehicles on the road network and potential traffic safety issues for motorists, pedestrians and cyclists along spoil haulage routes. Environmental measures would also be implemented to manage dust impacts for local communities such as the covering of haulage loads and wheel wash facilities. Traffic management measures would also be implemented to mitigate potential impacts from the movement of spoil haulage vehicles. These are discussed in the **Chapter 5 Traffic**.

*Community health and safety*

During construction, potential impacts, including perceptions or concerns, on community health and safety may result from:

- noise and dust from construction activities
- increased construction traffic in the vicinity of construction worksites
- changes to pedestrian and cycle paths near worksites and surface works, reducing the legibility of the pedestrian environment
- the perceived potential for the creation of unsafe public places near worksites and surface works, by reducing sight lines, opportunities for casual surveillance and levels of activity in public spaces.

During construction, pedestrian and cycle access would be maintained near construction works, including to community facilities, schools, child care centres, churches, open spaces and sport and recreation and shopping facilities. Application of CPTED principles and consideration of the particular needs of children, elderly people and people with mobility disabilities would be important in the design of this temporary pedestrian and cycle access.

On-going consultation and communication with local communities about potential changes to pedestrian and cycle facilities would help to improve community safety by improving legibility of the environment. In particular, this will need to consider the needs of blind residents in Fairfield and should include consultation and communication with organisations supporting these residents.

Implementation of traffic management measures would also assist in managing potential safety impacts due to increased construction traffic near worksites.

The implementation of environmental management measures would also assist in mitigating health impacts from noise, dust and vibration. These are described in **Chapter 24 Draft Outline EMP**.

*Amenity of parks and reserves*

Construction and operation of the Project would impact directly on parkland at Victoria Park and indirectly on the use of parkland and open space areas at Roma Street Parkland, due to impact on car parking and increased construction traffic. Potential impacts on the amenity of parks and open space areas may result from such things as the loss of open space area, either temporarily or permanently, changed access to park facilities (i.e. pedestrian and cycle paths, playground or picnic facilities), and noise and dust from construction works.

Changes to the use of open spaces and parks during construction may impact on people's sense of place within their suburb, although this may be mitigated when the park is reinstated after construction. Where the park land is altered, community reaction and concern may occur about the loss of the visual and open space amenity offered by the parkland. Replacement of established trees may reduce net loss of vegetation due to construction.

Post construction, the area of Victoria Park disturbed by construction activities, which would not be required for the Project, would be reinstated as parkland. The construction worksite within the Roma Street Parkland car park would also be reinstated for parking. Specific impacts on these areas are described in **Section 20.4**.

### 20.3.6 Impacts on social infrastructure

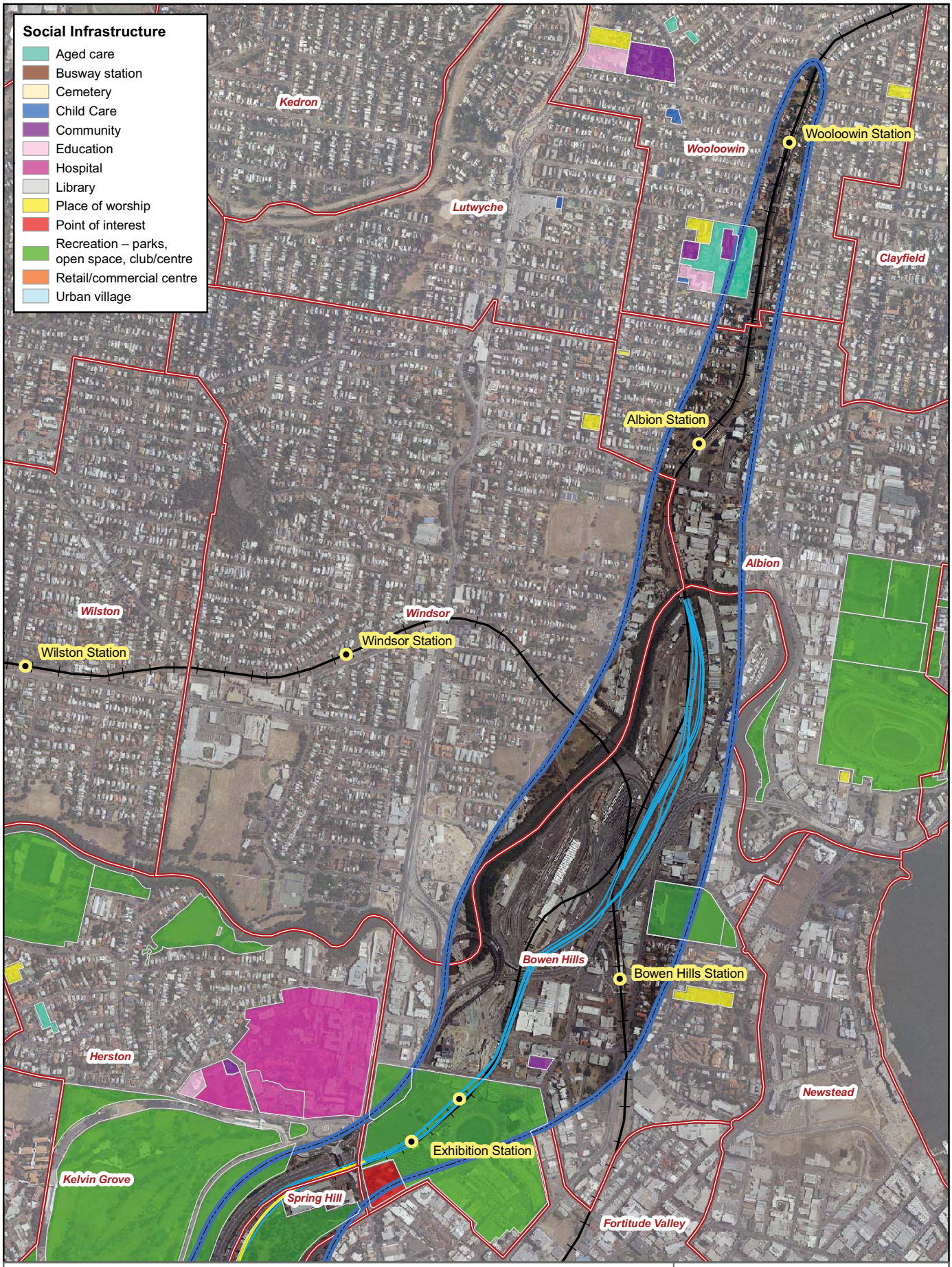
The Project would help improve access to a range of important district and regional level social infrastructure, for communities in the study area as well as the wider South East Queensland region. These include:

- major medical and health care facilities such as the RBWH, PAH and Mater Hospital
- sport and entertainment facilities such as the Gabba Stadium, Queensland Tennis Centre and the RNA Showgrounds
- education facilities such as QUT and UQ
- major open spaces such as the City Botanic Gardens and Roma Street Parkland.

The Project would also improve accessibility to a wide range of community service organisations within inner Brisbane, particular for clients in Brisbane outer northern and southern suburbs and the wider South East Queensland region.

However, during construction, the Project may impact on some social infrastructure in the vicinity of construction works, including through such things as changes to access, increased noise and dust, and temporary reduction in some open space areas due to construction works. These facilities will be able to continue operating during construction. The implementation of environmental management measures at worksites and early and on-going consultation with managers of social infrastructure in the vicinity of construction works will also assist in reducing impacts for users of these facilities during construction. The development of local access strategies near construction works, in consultation with local communities, community facility stakeholders and relevant stakeholder groups, would also reduce potential impacts on pedestrian and cycle access to community facilities.

Social infrastructure directly impacted by the Project is shown in **Figure 20-6** to **Figure 20-9**. Potential benefits and impacts of social infrastructure within various study area suburbs are also discussed further in **Section 20.4**.




**LEGEND**

- Study Corridor
- Statistical Local Area
- Station
- Track
- Underground Station

**Alignment**

- Above Ground
- Underground

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-6**

**Social Infrastructure - Impacts**
**Sheet 1 of 4 (Northern Section)**

0 0.25 0.5 0.75 1 km

N

1:17,500 at A4

CrossRiverRail

SKM aurecon CRR JOINT VENTURE

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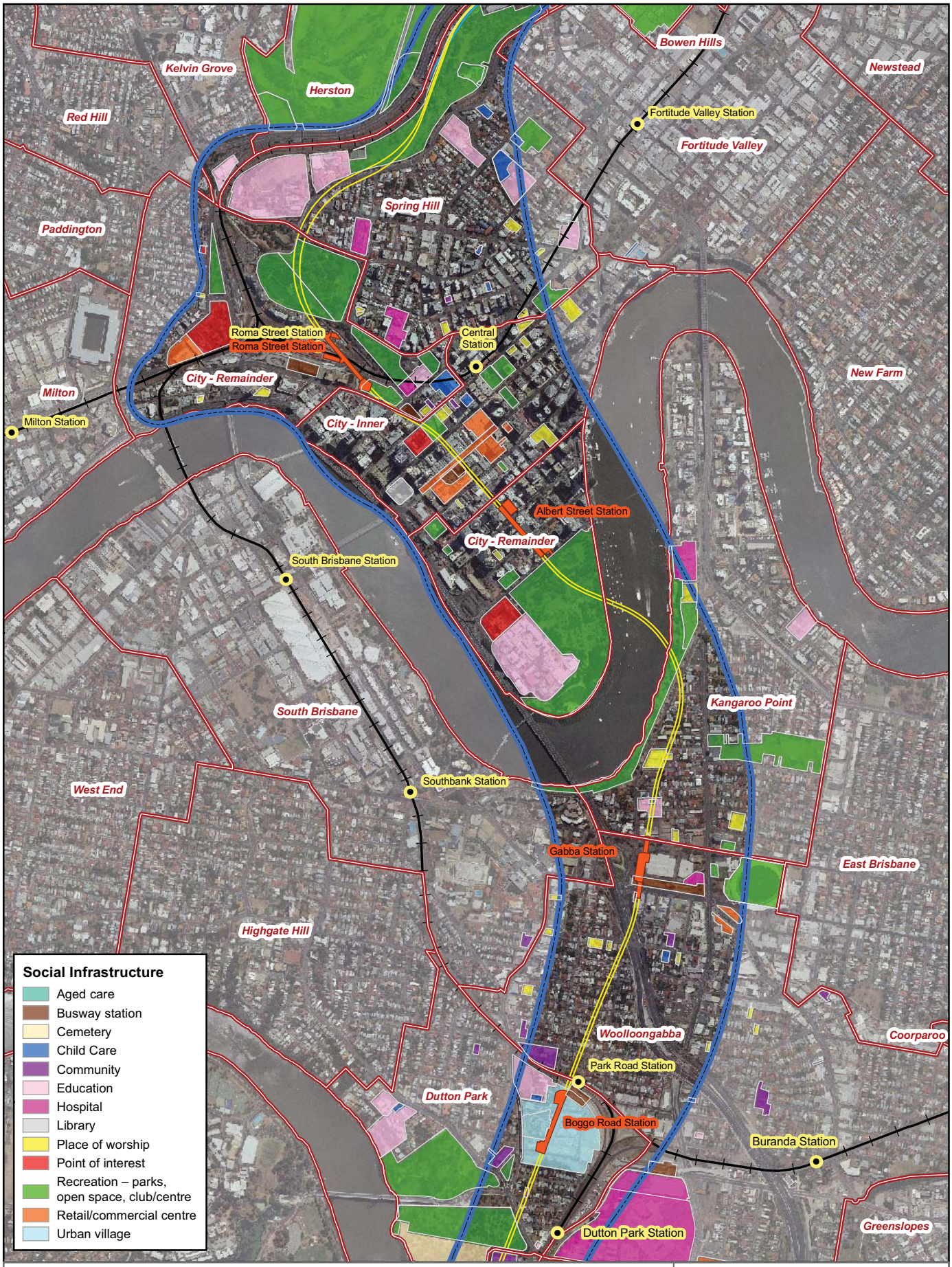


**LEGEND**

- Study Corridor
- Statistical Local Area
- Station
- Track
- Underground Station

**Alignment**

- Above Ground
- Underground

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-7**

**Social Infrastructure - Impacts**
**Sheet 2 of 4 (Central Section)**

0 0.25 0.5 0.75 1 1.25 km

N

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CrossRiverRail

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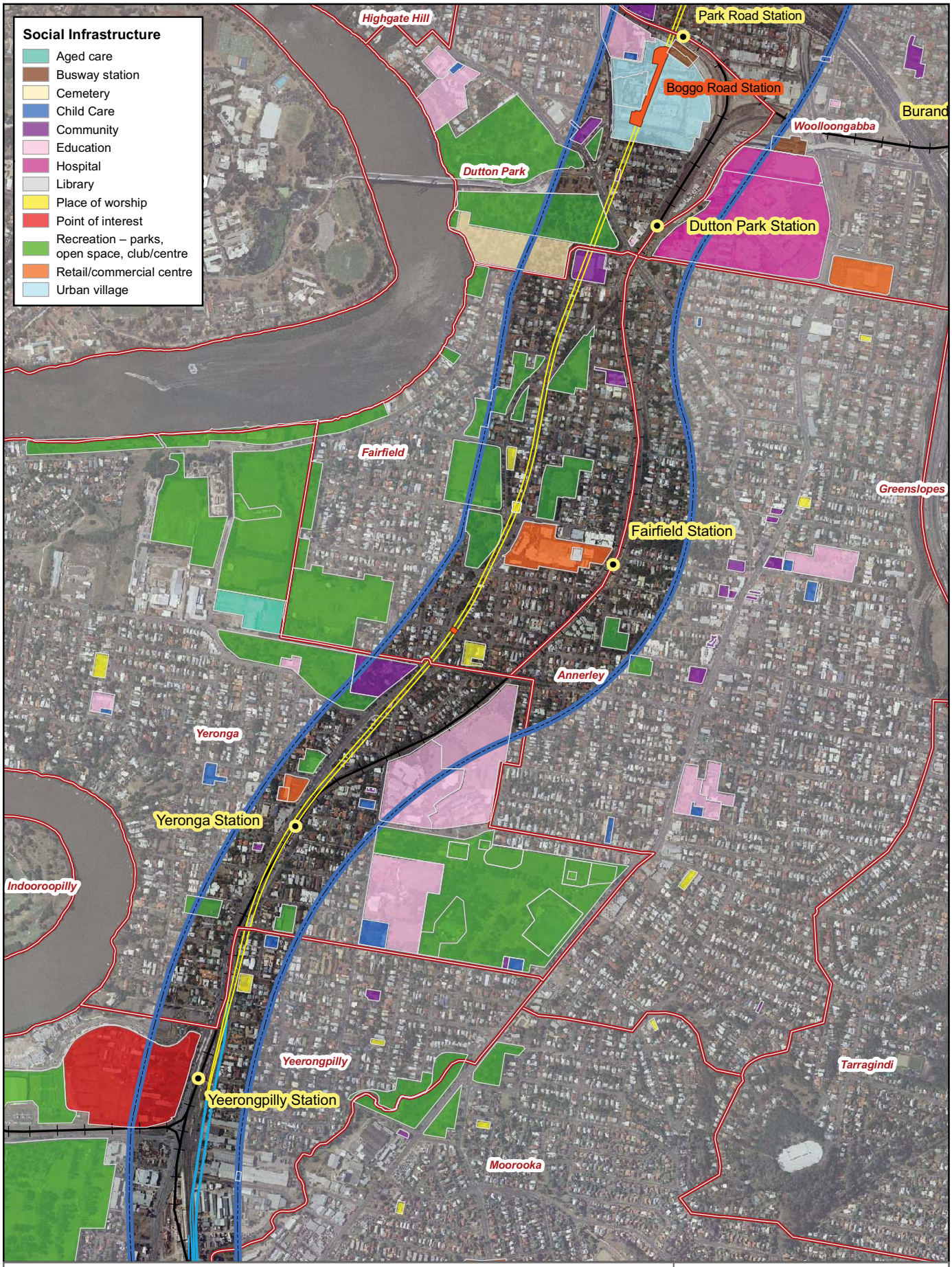


**LEGEND**

- Study Corridor
- Statistical Local Area
- Station
- Track
- Underground Station

**Alignment**

- Above Ground
- Underground

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-8**

**Social Infrastructure - Impacts**
**Sheet 3 of 4 (Southern Section)**

0 0.25 0.5 0.75 1 km

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CrossRiverRail

SKM aurecon CRR JOINT VENTURE

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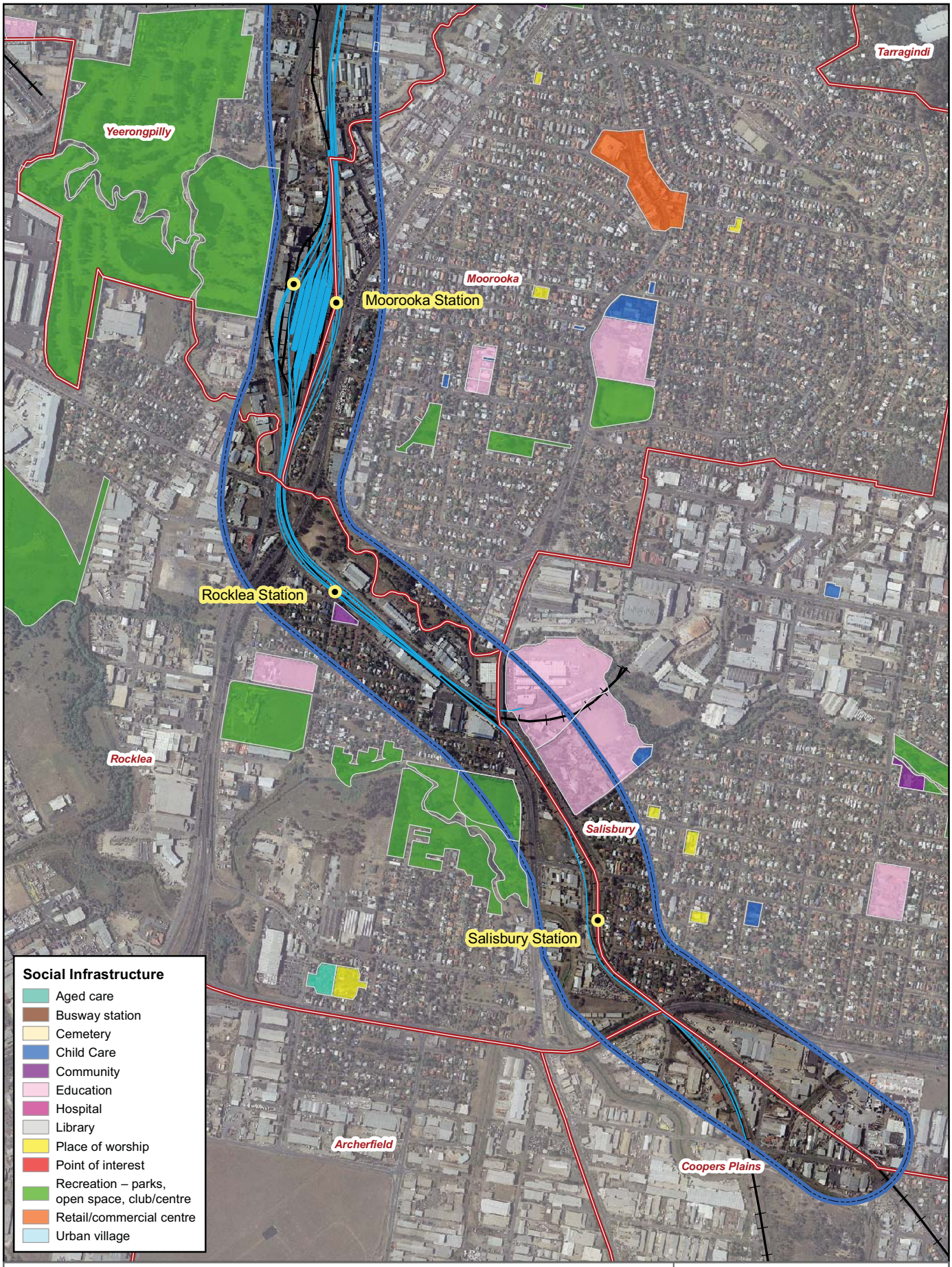


LEGEND

- Study Corridor
- Statistical Local Area
- Station
- Track
- Underground Station

**Alignment**

- Above Ground
- Underground

CROSS RIVER RAIL
ENVIRONMENTAL IMPACT STATEMENT

**Figure 20-9**

**Social Infrastructure - Impacts**
**Sheet 4 of 4 (Southern Section)**

0 0.25 0.5 0.75 1 km

N

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CrossRiverRail

SKM aurecon CRR JOINT VENTURE

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## 20.4 Specific impacts and mitigation

This section describes impacts of the project, both positive and adverse, on specific areas within the study area.

### 20.4.1 Bowen Hills

The Project would provide year round services to the new Ekka Station. This would improve public transport access for communities in Bowen Hills to key growth areas and major employment centres in South East Queensland. In addition, the Project would improve access to key regional community facilities such as the RBWH at Herston and the RNA Showgrounds, for residents in South East Queensland. Improved public transport services would also support future developments at the Bowen Hills UDA and RNA Showgrounds. These are proposed to include a mix of high and medium intensity residential development, and mixed use precincts and the retention of existing major open space.

**Social infrastructure impacted by the Project**

*RNA Showgrounds*

Construction and operation of the Project would directly impact on the RNA Showgrounds, due to the provision of the new Ekka Station, new tracks, surface works associated with the modification of O'Connell Terrace and construction worksites. Construction of the Project in this area would occur over a number of years.

The RNA Showgrounds accommodates a range of events across the year, including the annual Royal Queensland Show – the 'Ekka'. The Ekka is held over 10 days each August and attracts over half a million visitors annually to experience the unique mix of entertainment, agriculture and education (www.ekka.com.au). In particular, works in this area would impact on the existing Exhibition Station and rail viaduct as well as part of Show Ring No. 2, the Dairy Cattle, Sheep and Goat and Beef Cattle pavilions and part of the existing car park used as "Side Show Alley".

Construction works in this area would occur over two to three annual Ekka events, although works would be temporarily suspended for the 10 day duration of the event. This may disrupt some functions during the event, such as the showing of animals and show rides. The works may also impact on internal movement of animals and people within the showgrounds site in the vicinity of construction works. On-going consultation with the RNA about proposed works would help to minimise potential impacts of construction on the Ekka and assist in site planning for the event. The implementation of management measures in the vicinity of proposed works, would also ensure safe access is maintained for pedestrians, including children, the elderly, and people with mobility difficulties. Careful management of movement of animals in the vicinity of proposed works would also be important and should be undertaken in consultation with the RNA.

Access to the Exhibition Station would be disrupted for at least one Ekka event. During this time, alternative public transport access would be provided, which would help to minimise potential impacts for Ekka visitors.

The construction activities may impact community values associated with the heritage of the showgrounds and the buildings. In particular, the Project works would require the removal of some heritage buildings and structures adjacent to O'Connell Terrace and would directly impact on the heritage listed show ring adjacent to the existing Exhibition Station. These buildings accommodate livestock and associated personnel during the annual Ekka event.

The demolition of these buildings has been approved as part of the RNA's proposed redevelopment. Impacts on the heritage values of these buildings are discussed in **Chapter 19 Non-Indigenous Cultural Heritage.** The removal of these buildings would impact on community values associated with the history and heritage of these buildings as well as the wider RNA Showgrounds site. Recognising the history and heritage of the site through urban design measures for the station, such as public art, would help to mitigate potential impacts on community values.

The removal of these buildings prior to construction of replacement facilities may also impact on the ability to accommodate livestock entries during the Ekka event, until replacement buildings are developed. On-going consultation with the RNA and their developers is required about the timing of the proposed demolition of these buildings and associated impacts.

*Other social infrastructure*

A section of the RNA Showgrounds west of the existing rail tracks, is currently used as parking by staff of the RBWH. Construction works within the RNA Showgrounds site would temporarily impact on a part of this car parking. However, the identification of alternative parking sites within the showgrounds and communication with users about proposed changes would assist in reducing potential impacts for hospital staff.

O'Connell Terrace is currently used to provide access for emergency vehicles to the RBWH. Construction activities associated with the modification of O'Connell Terrace would temporarily disrupt vehicle access along O'Connell Terrace, although at least one lane would be maintained at all times. In particular, access for emergency vehicles along O'Connell Terrace would be maintained at all times. On-going consultation and communication with Queensland Ambulance and Queensland Health about the timing, duration and likely disruption to access as a result of works in this area would also help to ensure disruptions to emergency vehicle access are appropriately managed.

**Construction impacts**

Construction activities associated with the station, surface tracks and modifications of O'Connell Terrace are expected to generate increased construction noise, dust and construction traffic. This may impact on amenity for local residents, workers and visitors if not appropriately managed through the use of environmental management measures.

Works associated with the modification of O'Connell Terrace would also temporarily change access for motorists, pedestrians and cyclists in the vicinity of construction works. O'Connell Terrace is an important pedestrian and cycle link connecting Bowen Hills Station to the RBWH. Pedestrian access along O'Connell Terrace is currently provided by a footpath on the northern side of the rail over bridge, while a cycle lane is located on O'Connell Terrace. The implementation of traffic mitigation measures and ensuring safe access for motorists, pedestrians and cyclists is maintained, would reduce potential impacts on amenity and safety for road users. This would include a communication and consultation process to inform pedestrians, cyclists and road users about potential changes to local access, including timing, likely disruptions and alternative access arrangements.

**Cumulative impacts**

Bowen Hills has experienced a number of large transport projects over the past 10 years, including the ICB, Clem Jones Tunnel, the Inner Northern Busway and Airport Link and the Northern Busway (currently under construction). In addition, the RBWH has also undergone major refurbishment. These projects have resulted in a lengthy period of construction impacts for nearby residents, businesses and workers. Construction of the Project, as well as the redevelopment of the RNA Showgrounds, will further increase the duration of construction activities in this area.

Community consultation has indicated support for the outcomes of the Project in this area. However, concerns have also been identified about potential impacts of on-going construction activities, such as increased construction traffic and noise and dust. The implementation of environmental and traffic management measures, as well as the implementation of a community consultation process, will be important in helping to manage potential impacts for the local community. Where possible, the coordination of construction activities with other projects may also help to reduce potential impacts for the local community.

### 20.4.2 Spring Hill

In Spring Hill, the Project connects to the existing surface network at the Exhibition Loop. Works in this area would include construction of the northern portal, additional surface rail tracks and construction of the tunnels. The area would also be the location of a major worksite. The works would generally be located within the existing rail corridor, although some works would extend into Victoria Park and on Brisbane City Council and Queensland Government land.

**Social infrastructure impacted by the Project**

Victoria Park is a major open space area and has important social, heritage, environmental, recreational and amenity values. It comprises large open grassed areas and is planted with mature figs, shade trees, palms and garden beds. The 'Gundoo Memorial Grove' is a large grove of eucalypts in the south-east end of Victoria Park that was planted by the students of The Brisbane Girls' Grammar School as their contribution to the centenary celebrations in 1959. This grove would not be impacted by the construction site.

The worksite would occupy a small area of land within Victoria Park adjacent to the existing railway corridor, the ICB landbridge and tennis courts used by St Joseph's College Gregory Terrace. Impacts on the park include:

- loss of a small area of land due to the widening of the corridor for new tracks
- temporary loss of an area of the park, due to the construction worksite and works associated with the cut and cover construction of the tunnels
- diversion of the bicycle path east of the railway corridor, extending from the ICB land bridge to Gregory Terrace, near the intersection with Bowen Bridge Road
- impact on the amenity for park users, due to increased noise and dust from construction activities
- widening of the existing access road from Gregory Terrace, to provide access to the worksite.

Works within Victoria Park would also impact on existing vegetation, including established fig trees and areas of landscape rehabilitation. Potential impacts on the ecological values of these impacts are discussed in **Chapter 11 Nature Conservation**. Following construction, areas of Victoria Park disturbed by construction activities would be reinstated to the extent possible. However, there would be a permanent loss of a small portion of the park adjacent to the existing rail corridor.

The location of the construction worksites adjacent to the existing rail corridor would help to reduce potential impacts for park users and residential uses at Gregory Terrace. However, the proximity of the works in relation to the tennis courts owned by St Joseph's Gregory Terrace are likely to impact on amenity for users of the tennis courts. The Project would not impact on the use of the pedestrian link under Gregory Terrace that links to the school or the court access located at the southern end of the courts.

The proximity of the Project works to the Centenary Aquatic Centre may also impact on amenity for users of this facility due to increased noise. Vibration from tunnelling construction is not expected to impact on the pool structure. This is further discussed in **Chapter 16 Noise and Vibration.**

During consultation for the Project, community concerns were identified about potential impacts on the park, including loss of parkland, disruption to bikeways and playground facilities and impact on vegetation and birdlife. Concerns about potential impacts on the dog park were also identified. Where possible, the construction worksite has been located to minimise to the extent possible, either temporary or long term impacts on Victoria Park, including existing vegetation and facilities such as the landbridge and the dog park. Pedestrian and cycle access in the vicinity of construction works would also be maintained.

The implementation of environmental management measures would help to reduce impacts of construction noise and dust on amenity for users of park, the tennis courts and swimming pool. On-going consultation and communication with the school community and managers of the swimming pool complex, about construction activities, including duration, timing and likely impacts, would be undertaken and would also assist in reducing potential impacts on these facilities.

**Construction impacts**

Access for pedestrians and cyclists in the vicinity of the Project, including construction works, would be maintained, although changes to access may occur in some locations. In particular, a section of the bikeway connecting the ICB land bridge and Gregory Terrace would be diverted, although the functionality of the bikeway would be maintained. On-going communication, including signage and advertisements, about potential changes to the bikeways, would reduce potential impacts for users during construction.

Access to the worksite for construction traffic would be via the access road connecting from Gregory Terrace. Access for haulage vehicles on Gregory Terrace, west of Rogers Street, would be restricted during school pick-up and drop-off times to minimise impacts on road safety for school students.

### 20.4.3 Roma Street

The new Roma Street Station would improve public transport access for residents, workers and visitors to this part of the Brisbane CBD, and consolidate Roma Street Station's role as a key hub for public transport services. The station would also improve access for communities in the wider South East Queensland region to regional community facilities such as Suncorp Stadium and Roma Street Parkland.

**Social infrastructure impacted by the Project**

*Emma Miller Place*

The Project would directly impact on the western portion of Emma Miller Place on Roma Street. During construction, this area would be used to support construction activities for the station cavern and station entries. In the longer term, this would be the location for the southern entrance to Roma Street Station, resulting in the permanent loss of this portion of the park. Public access to, and use of, the eastern portion of the site would be maintained.

Emma Miller Place has important social values and is used throughout the year for events such as:

- Queensland Council of Unions Memorial Day in honour of dead and injured workers (April)
- international women's day activities (8 March)
- Pride Fair day rally (early June).

On-going communication about changes to the park, including both temporary and permanent changes, would be required to ensure impacts on these events can be appropriately managed.

During construction, potential impacts on the amenity of Emma Miller Place would result from such things as noise and dust from construction activities and increased construction traffic, including haulage vehicles. Environmental management measures, such as the use of noise barriers, acoustic enclosures and dust suppression methods, would be implemented, reducing impacts on amenity for park users. The timing of construction activities that generate excessive noise and dust should consider the timing of events held in the park.

*Roma Street Parkland*

The Project would not directly impact on the Roma Street Parkland. However, access to construction worksites for the station would use Parkland Boulevard, which is a key access to the Roma Street Parkland. Increased use of this road by construction traffic, including heavy vehicles, may impact on access for Parkland users. These may include potential impacts on safety for road users, including pedestrians and cyclists. Traffic management measures would be implemented to ensure safe access is maintained for all road users in the vicinity of construction works. On-going consultation and communication should also be undertaken with managers of the parkland to ensure that the planning of major haulage activities considers the timing of major events held within Roma Street Parkland.

During construction, the parkland car park would also be used to support construction works for the station. This would include a range of site offices, storage and worker parking. This would impact the amount of parking available for visitors to Roma Street Parkland. On-going consultation and communication, including signage, about alternate visitor parking should be undertaken to minimise potential impacts on park users. Following construction, the car park would be reinstated.

Increased noise, dust and traffic from construction activities may also impact on the amenity for users of Roma Street Parkland. However, the implementation of environmental management measures at worksites would assist in reducing impacts.

**Construction impacts**

Residential amenity for occupants of the Roma Street Parkland Apartments may change as a result of increased noise, dust, lighting and traffic from construction activities. This was raised by community members during consultation for the Project. While the majority of surface works and haulage activities would occur between 6.30am to 10.00pm, Monday to Friday and 6.30am and 6.30pm, Saturday, some surface works and haulage tasks may be required to be undertaken outside of these hours to minimise impacts on the rail network. This may impact on sleeping patterns for some residents closest to these works if noise levels exceed sleep disturbance levels. This is discussed in **Chapter 16 Noise and Vibration**.

On-going consultation and communication with residents of the Roma Street Parkland Apartments about construction activities and potential disruptions would be required to maximise the success of environmental management measures. This will be particularly important where surface works are proposed to be undertaken during night time hours.

### 20.4.4 Albert Street

The new Albert Street Station would provide a link to the southern end of the city and improve public transport access to QUT, the City Botanic Gardens and the southern CBD. This would allow the redistribution of commuters over three Brisbane CBD stations, helping to relieve passenger crowding and congestion at Central Station.

The Project includes the development of a new civic plaza at the northern entrance to the Albert Street Station on the corner of Albert Street and Mary Street. This would assist in revitalising this part of the CBD. Footpath widening is also proposed as part of the Project along Albert Street and Mary Street. This would improve pedestrian access and safety along these streets.

There are no direct impacts on social infrastructure due to works associated with the Albert Street Station.

The development of the Albert Street Station would directly impact 10 businesses in this location, including a number of cafes, restaurants and shops. The provision of retail space around the civic space at the northern entry to Albert Street Station would assist in offsetting some of this loss of available CBD retail space.

Pedestrian access and amenity in the vicinity of construction worksites may be impacted, due to increased noise, dust and construction traffic, including heavy vehicles. Albert Street provides an important link to the Botanic Gardens and QUT. Pedestrian access would be maintained in the vicinity of construction worksites, although temporary changes may be required to existing access, particularly on the northern side of Albert Street and on Mary and Alice streets. Temporary changes to pedestrian access would need to consider the access needs of children, elderly and people with mobility difficulties, as well as visitors who may be unfamiliar local streets and existing conditions.

Changes to local road access may also occur in the vicinity of worksites, resulting in potential disruptions and delays for motorists. The implementation of traffic management measures at each worksite would assist in maximising safety for pedestrians as well as motorists and cyclists. This would include minimising haulage tasks during morning and afternoon peak periods where practicable. On-going consultation and communication with local residents, workers and visitors to the CBD about potential changes to local access, including the timing and duration of construction activities and temporary access arrangements and traffic management measures, would also be important.

Residents in residential apartments and local business near each of the worksites may also experience impacts on amenity from noise, dust and vibration. Acoustic enclosures are proposed to be established over the southern access shaft as one means of mitigating predicted construction impacts. This would assist in mitigating potential impacts of construction activities. However, impacts on local amenity may occur during the site establishment and prior to the completion of the acoustic shed.

Impacts on residential amenity may also occur where noise and vibration from tunnelling construction exceeds the sleep disturbance goals for residential uses. This is discussed further in **Chapter 16 Noise and Vibration**.

In addition to the acoustic shed, implementation of environmental management measures would help to reduce or mitigate some of the potential impacts on the residential amenity for local residents, businesses and workers. Early and on-going consultation with residents and businesses about construction activities and potential disruptions would also be required to maximise the success of the mitigation measures. This will be particularly important where night-time construction activities are proposed and where predicted vibration levels are expected to expected to exceed sleep disturbance levels for residential uses.

### 20.4.5 Woolloongabba

The Gabba Station would improve transport access for communities in Woolloongabba and support future residential and commercial development within the Woolloongabba UDA. The station would also improve access for communities in the wider South East Queensland to major community facilities such as the Gabba Stadium.

The location of the station within the UDAand the provision of a single entry point would allow effective crowd management during major events at the Gabba Stadium. The station would also incorporate an urban plaza at the station entry.

**Social infrastructure impacted by the Project**

There are no direct impacts on social infrastructure due to works associated with the Gabba Station. However, construction activities, including spoil haulage, may impact on the amenity of nearby community uses, such as the Russian Orthodox Cathedral of St Nicolas at Vulture Street and the South Brisbane Dental Hospital.

Tunnelling construction may also impact on the amenity of community uses located above or near to the tunnel alignment due to increased vibration. These include St Joseph’s Primary School and the Jesus Christ Church of Latter Day Saints, both at River Terrace, Kangaroo Point.

Regular consultation and communication would be undertaken during the construction phase with the managers of the community uses, to ensure impacts for these facilities are identified and appropriate mitigation strategies identified.

**Impacts**

During construction, potential impacts may be experienced by residents, workers and visitors in the vicinity of the construction worksite, due to increased construction noise, vibration and dust. However, the implementation of environmental management measures, supported by a comprehensive consultation and communication process, would assist in mitigating potential effects for nearby areas.

Changes in local traffic access may also occur near the worksite, impacting on local and regional communities through delays, disruptions and impacts on road safety. In particular, a major worksite would be located on the current Goprint site that would be used to remove spoil from tunnelling construction between Woolloongabba and Victoria Park. During peak construction, approximately 214 spoil haulage trucks would access the worksite each day, as well as approximately 57 material delivery trucks. While through traffic on Vulture Street, Main Street, Stanley Street and the Pacific Motorway would be maintained during construction, impacts may be experienced by motorists in the vicinity of the worksite. Where possible, haulage activities would be limited during the morning and afternoon peak periods to help reduce potential traffic impacts. Traffic management measures would also be implemented to ensure that construction vehicles can access the construction sites with minimal disturbance to motorists and pedestrians, and the amenity of the nearby residential and commercial areas.

Following construction, the Woolloongabba worksite would be redeveloped in accordance with the Development Scheme for the UDA.

### 20.4.6 Dutton Park

Boggo Road Station enhances accessibility and connectivity to key employment and education precincts in Brisbane, such as UQ, the PAH and Boggo Road Urban Village, including the Ecosciences building. The station has been designed to maximise the station's walk up catchment and to allow interchange with existing bus and rail facilities, such as Park Road Station, the Boggo Road Busway and the Eleanor Schonell Bridge.

The Project would include a range of surface works, including footpath widening and improved crossing facilities. These would enhance pedestrian and cycle access in the vicinity of the new station and to nearby areas and public transport facilities.

**Social infrastructure impacted by the Project**

*Dutton Park Primary School*

The northern entrance to the Boggo Road Station is located on land adjacent to the Dutton Park Primary School car park. Noise from early construction activities, such as piling and initial excavation for the station, may impact on the amenity of the school. However, the establishment of noise walls around construction works would effectively mitigate potential impacts. Once the concrete slab has been placed over the station excavation, noise impacts on the school are expected to be avoided.

During community consultation for the Project, community concerns were identified about impacts of construction noise, safety for students and vibration impacts of station construction on the school. The main access to the construction worksite would be via Peter Doherty Street to the south. This would minimise the amount of heavy vehicles moving in the vicinity of the school and school car park.

The implementation of environmental and traffic management measures would reduce impacts for the school. This includes restricting the movement of haulage vehicles on Annerley Road, north of Boggo Road during school drop off and pick up hours. In addition, on-going consultation and communication about construction activities would be undertaken with the school community.

The local area has experienced a number of large transport projects over recent years, including construction of the Boggo Road Busway and Clem Jones Tunnel. These projects have resulted in lengthy periods of construction impacts for the school. Construction of the Project, as well as the development of the Boggo Road Urban Village, will further increase the duration of construction activities in this area. The implementation of environmental and traffic management measures, as well as the implementation of a community consultation process, will be important in helping to manage potential impacts for the local community. Where possible, the coordination of construction activities with the redevelopment of the urban village may also help to reduce potential impacts for the local community.

During operation, the Project would not impact on the amenity or functioning of the school. However, during consultation for the Project, freight noise was identified by some people as an existing issue impacting on teaching. Impacts of noise from the Project operations are discussed in Ch**apter 16 Noise and Vibration**. On-going consultation and communication should be undertaken with the school community about potential impacts of the Project operations and appropriate mitigation measures.

*South Brisbane Cemetery*

The main tunnel alignment would pass beneath the eastern corner of the South Brisbane Cemetery. The cemetery is of high cultural significance and social importance, both locally and regionally. Potential impacts, actual or perceived, would be of concern to the community. Ancestors/families of many local people are also buried within the cemetery. As such, it provides a sense of community connection and community history.

The Project would achieve a tunnelling depth approximately 30 m beneath the South Brisbane Cemetery. Potential vibration from tunnel construction would not disturb monuments above or near to the tunnel alignments. The construction of tunnels under the cemetery is also not expected to result in any settlement of the ground surface. Further discussion on noise and vibration impacts of the Project are in **Chapter 16 Noise and Vibration**.

During construction, on-going consultation should be undertaken with the South Brisbane Cemetery group about the tunnelling construction and potential impacts for the cemetery.

*Other social infrastructure*

The Sunshine Welfare & Remedial Association is located at Park Road, Woolloongabba, which is attended on a daily basis by approximately 60-70 people with disabilities. Changes to local access, either temporary or permanent, in the vicinity of works for Boggo Road Station will need to consider the particular needs of people with mobility difficulties.

The Boggo Road Station has been designed to ensure compliance with DD Act access standards to ensure people with mobility difficulties can access the station. During construction, any changes to local access in the vicinity of construction worksites would also need to comply with DD Act access standards.

**Impacts**

During construction, impacts on local amenity may be experienced by local residents, workers and businesses in the vicinity of construction works, due to increased noise and dust, vibration from tunnelling activities and changes to local access.

Pedestrian access between the Boggo Road Urban Village, including the Ecosciences building, and the Park Road Station and the Boggo Road Busway Station would be maintained during construction, but would be changed due to the location of proposed works. Safe, alternative pedestrian access would be provided in the vicinity of the worksite. This will need to consider the needs of children and people with mobility difficulties.

The tunnels have been aligned primarily under existing road and rail corridors to minimise the potential vibration impacts on residential properties and other sensitive uses. However, in some locations, the tunnels would traverse under properties containing a mix of residential, commercial, industrial, community and open space. This includes properties with a number of sensitive uses such as the Ecosciences building. During construction, some residents above each tunnel alignment may experience perceptible levels of noise and vibration for a short period as each tunnel boring machine passes. In the longer term, vibration from train pass-bys would not be perceptible within nearby buildings. Further discussion on noise and vibration, including for sensitive uses, is provided in **Chapter 16 Noise and Vibration**.

### 20.4.7 Fairfield

A ventilation and emergency access building is required at Fairfield due to the length of the tunnels between Boggo Road Station and the southern portal at Yeerongpilly. The building provides emergency access for passengers and emergency services in the event of an incident, as well as ventilation equipment for emergency use or to occasionally remove excess heat from the tunnels.

The site is at Railway Road, Fairfield, between Bledisloe and Sunbeam streets and includes an existing Energex substation and an area of land between Fairfield Road and Railway Road. The section of Railway Road between Sunbeam and Bledisloe Streets would be realigned following construction. The building would be approximately 24 m by 7 m by 5 m high and incorporate an 8.5 m high outlet.

During construction, impacts on local amenity may be experienced for properties near to construction works due to increased noise, dust and construction traffic. Nearby properties comprise residential uses, the Yeronga Vet located at the corner of Sunbeam Street and Railway Road and the Fairfield Christian Family Church located at Sunbeam Street. Construction may also affect safety for other road users, including pedestrians and cyclists, in the vicinity of construction works.

The implementation of environmental management measures such as noise screens, dust suppression and covered spoil loads, would also assist in mitigating potential impacts on local amenity. Where possible, limiting construction works and haulage to daytime hours, Monday to Saturday, with no work on Sunday or public holidays, would also assist in minimising potential impacts for residential uses. Access for spoil haulage vehicles would be provided at Bledisloe Street, near to the intersection of Fairfield Road. This, as well as the implementation of other traffic management measures, would help to reduce the number of construction vehicles using other local streets.

Following construction, the worksite would be reinstated with landscaping and vegetation. This would mitigate the visual impacts of the building from nearby properties. In the longer term, impacts on properties surrounding the ventilation and emergency access building would generally be limited to emergency situations.

During consultation for the Project, community concerns were raised by residents in Fairfield and Yeronga about existing noise levels of rail operations in the study corridor, particularly for freight traffic. The Project would not result in a discernible change in noise levels in that section of the study area north of the southern portal.

### 20.4.8 Yeerongpilly

The Project would include a new station at Station Road at Yeerongpilly, with urban plaza, kiss ’n’ ride facilities and bus stops. Project works at Yeerongpilly would also include:

- construction of the southern tunnel portal, including dive structure and cut and cover tunnel
- realignment of Wilkie Street and reconfiguration of some local roads to accommodate widening of the rail corridor
- construction of additional surface tracks, extending south from the Cardross Street overpass

- extension of the existing pedestrian overpass over the rail corridor and Fairfield Road to the realigned Wilkie Street
- development of a stabling facility at Clapham Rail Yard.

In addition, a major construction worksite would be located on industrial land at Station Road. This would support construction activities for works at Yeerongpilly and further south, as well as removal of spoil from construction of the tunnels between Yeerongpilly and Woolloongabba. Industrial buildings would be retained as screens to the residential areas of Yeerongpilly.

The new station would provide improved public transport access for local communities to the Brisbane CBD as well as major community facilities including universities, hospitals, sporting facilities such as the Gabba Stadium and Suncorp Stadium, and the RNA Showgrounds. In addition, the Project would improve access for communities in Brisbane and South East Queensland to major facilities such as the Queensland Tennis Centre.

The station would also support future development of the proposed Yeerongpilly transit oriented development, by providing improved transport access to key employment and commercial centres in inner Brisbane.

**Social infrastructure impacted by the Project**

Potential property impacts of the Project in this part of the study area are described in **Section 20.3.3**. This includes properties required for surface works as well as properties subject to a volumetric acquisition due to the tunnel passing beneath.

The majority of properties impacted by surface works comprise residential and industrial uses. However, a number of community uses would also be directly affected by property acquisition. These include the Endeavour Foundation supported employment, and the Wesley Mission commercial laundry and kitchen. These facilities are likely to require a long lead time to source alternate accommodate and sufficiently support their clients to move workplaces and learn new transport routes. Early consultation and communication with the managers of these facilities about the expected timing of the Project would assist these facilities source alternate accommodation and develop strategies to minimise uncertainty and distress for vulnerable clients.

*St Fabians' Church*

St Fabian's Church is active in the local community providing regular mass services for local parishioners and for students at St Sebastian's Primary School at Yeronga. The church also regularly conducts wedding and funeral services.

While the church would continue to operate during the construction and operation of the Project, impacts on amenity may be experienced during construction, due to increased noise and dust from construction activities and changes in local access, including for pedestrians and cyclists. In the longer term, the operation of the Project would not impact on the functioning of the church.

During consultation for the Project, representatives of St Fabian's Church identified a range of issues in relation to the functioning of the church and construction and operation of the Project. In particular, the need for the church to remain operational in its full range of activities throughout construction and operation of the Project was identified as important.

Funeral services were identified as an important function of the church and the need to maintain these services during construction is important. It was also noted by representatives of the Church that funeral services create a high level of demand for parking in local streets. The need to ensure the sacred area of the Columbarium is respected was also identified. This includes closely monitoring the site during construction.

A range of possible mitigation measures specific to the church were identified by representatives of St Fabian's Church during consultation for the Project. These included:

- completion of a dilapidation report of the church building, prior to construction
- advance notification and consultation with the church community about changes to local access, including road and pedestrian access
- exterior and interior cleaning of the church and neighbouring Majellan House, driveways and toilet blocks, should these be impacted by dust from construction activities
- establishment of sound proof barrier, air-conditioning of the buildings and sound proofing of windows and main access doors of both buildings
- accessing the adjoining site in Wilkie Street, to be acquired for the Project, to allow extension of the church car park.

The implementation of environmental management measures on the worksites would assist in reducing construction impacts on the amenity of the church. On-going consultation and communication would also be undertaken with representatives of the church to ensure that they are kept informed of construction activities, including likely timing, duration and potential impacts. This could include consultation about church activities to ensure that where possible, construction activities that generate excessive noise minimise impacts on church functions, including funeral services.

Provision of worker parking within the Yeerongpilly worksite and restrictions on worker parking in local streets would assist in managing potential impacts on on-street parking. This would assist in mitigating potential impacts during funeral services.

*Other social infrastructure*

Other social infrastructure that may be potentially affected by increased noise, dust, vibration and traffic from construction activities in this area include:

- Grosvenor Hall Preschool & Early Learning Centre at School Road
- Yeronga Park C & K Kindergarten & Preschool at School Road
- Yeronga State School at Park Road.

As previously mentioned, the implementation of environmental management measures would assist in mitigating potential impacts on these uses. The measures include environmental objectives and goals for noise, vibration and air quality for day time and night-time construction activities, as well as for specific uses such as churches, schools and kindergartens. Further information on the environmental management measures to mitigate potential impacts on local communities, including sensitive uses, are outlined in **Chapter 24 Draft Outline EMP**.

**Construction impacts**

During construction, impacts may be experienced for local communities near to works in this location, due to:

- increased noise and dust from construction activities
- changes in local access, including for pedestrians and cyclists
- increased spoil haulage and materials haulage vehicles.

Impacts would generally be greatest for those communities nearest to the construction works, such as Livingstone Street, Green Street, Stamford Street and Crichton Street. In particular, changes to residential amenity may occur for those properties which would become exposed to increased noise due to the removal of buildings acquired for the Project.

It is expected that works within the rail corridor would be required to occur at night to minimise potential impacts on existing rail services. This may result in sleep disturbance for some residents closest to these works due to increased noise and lighting impacts. Early consultation with local residents about these works, including timing and duration, will be important to manage potential impacts. In addition, implementation of appropriate noise mitigation measures will be important.

The implementation of environmental management measures, including the construction of noise barriers and acoustic enclosures, would assist in mitigating potential impacts for these residents.

*Impacts on local access*

Wilkie Street would be realigned to accommodate the new station and additional surface tracks. Station Road and part of Lucy Street would also be closed to traffic and realigned to provide access to the work site during the construction phase. Lucy Street would serve as the key access road for construction vehicles entering and leaving the site.

Local traffic would be required to use alternative routes to access Ipswich Road, potentially increasing traffic on School Road and Green Street. A number of sensitive community uses are located along School Road, including Yeronga Park Kindergarten and Yeronga State School, Meals on Wheels and the Yeronga Park Swimming Pool Complex. Post-construction, the direct connection from Wilkie Street to Ipswich Road via Lucy Street would be reinstated.

Pedestrian access between Wilkie Street and Lucy Street would be closed during construction, with pedestrians and cyclists required to use alternative routes. Pedestrian access along the realigned Wilkie Street between Yeerongpilly Station and Cardross Street would be maintained. Following construction, pedestrian access along Wilkie Street would be upgraded between the pedestrian overpass of the rail corridor and Fairfield Road and the new Yeerongpilly Station.

Access to the existing Yeerongpilly Station would remain open during construction. Where closures are required to allow specific construction activities, alternative public transport access would be provided.

During consultation for the Project, concerns were raised by local residents about impacts of construction traffic on Cardross Street and the inability of this overpass to cope with additional traffic. Construction access to the worksite would be provided from Ipswich Road via Lucy Street. This would avoid the need for the Cardross Street bridge to be used for construction traffic.

*Car parking*

During consultation for the Project, community concerns were raised about potential impacts of worker and commuter parking on local streets. During construction, parking for workers would be provided within the Yeerongpilly worksite, with access to be provided from Ipswich Road via Lucy Street. This would minimise the need for workers to park in local streets.

Commuter parking demands could be mitigated through provision of off-street park ‘n’ ride facilities or through on street parking controls, or a combination of the two. While park ‘n’ ride facilities would not be provided as part of the Project, opportunities for commuter parking could be considered in any future redevelopment of the Yeerongpilly worksite. This is in line with TransLink’s policy for stations within 10 km of the Brisbane CBD, which aims to encourage kiss ‘n’ ride and ‘walk-up’ patronage. Further investigation of potential on-street commuter parking restrictions is recommended as a mitigation strategy, as discussed in **Chapter 5 Transport**.

### 20.4.9 Moorooka

The works at Moorooka comprise upgrade of the station to meet DD Act requirements, construction of new surface tracks within Clapham Rail Yard and construction of a new viaduct adjacent to Moorooka Station and Ipswich Road.

The Project would improve public transport access for communities in Moorooka, through improved access to the station, including for people with mobility issues. During construction, potential impacts for communities in the vicinity of Moorooka Station would generally include:

- increased noise and dust from works associated with the station upgrade and new viaduct
- temporary closure of Moorooka Station to allow upgrade of the new station.

The nature of the area and proximity of the works adjacent to the existing rail corridor and Ipswich Road are likely to help reduce potential noise impacts for residential areas east of Ipswich Road. However, a number of car yards are located on the eastern side of Ipswich Road. If not appropriately managed, dust associated with the placement of fill for the viaduct structure may impact on these businesses.

During the closure of Moorooka Station, alternative bus services would be used to transfer passengers to nearby stations. Communication and notification of local communities and commuters about proposed changes will be important to mitigate potential impacts.

### 20.4.10 Rocklea and Salisbury

In Rocklea and Salisbury, works generally comprise:

- the upgrade of Rocklea Station to meet DD Act requirements
- widening of the existing pedestrian bridge over the rail corridor near Salisbury Station and provision of a new footbridge in the vicinity of Nyanda State High School.
- construction of new surface tracks
- realignment of some local roads.

A number of worksites would also be required to support construction of the surface tracks.

The Project would improve public transport access for communities in Rocklea, through improved access to the station, including for people with mobility issues. The new pedestrian overpass near Nyanda State High School would improve safety for students and improve pedestrian access to the school for students west of the rail corridor.

Impacts on local amenity may occur for residential communities closest to the project works, including in Brooke Street, Pegg Road and Annie Street at Rocklea and Fairlie Terrace at Salisbury. In particular, it is expected that works within the rail corridor would be required to occur at night to minimise potential impacts on existing rail services. This may result in sleep disturbance for some residents closest to these works due to increased noise and lighting impacts.

Early consultation with local residents about these works, including timing and duration, will be important to manage potential impacts. In addition, implementation of appropriate noise mitigation measures will be important.

The removal of industrial buildings at Annie Street Rocklea would also result in a number of residential properties along Annie Street becoming exposed to increased rail noise. Noise barriers are proposed in this location, which will assist in mitigating potential noise impacts in the longer term.

The Project would also require the permanent changes of a number of local streets, including:

- Fairlie Street and Heaton Street
- closure of the Beaudesert Road open level crossing
- reconfiguration of Tramore Street, to provide two way access to Beaudesert Road
- realigning of Dollis Street.

A full list of road changes is provided in **Chapter 4 Project Description**.

The proposed closure of the open level crossing at Salisbury was identified as a key issue for many residents during consultation for the Project. The crossing was identified as providing access for residents to Salisbury, Moorooka and other southern suburbs, including schools, shops and employment. Community concerns were raised that access from the residential area of Rocklea was already limited and that the closure of the level crossing would further limit access for local residents.

Other concerns raised by residents in relation to the closure of the open level crossing and changes to the local road network at Salisbury included:

- changed access and increased travel distance to community facilities west of the railway line such as sporting facilities
- Gladstone Street, which is identified as an access route to Beaudesert Road, is subject to flooding
- the open level crossing provides the most flood proof access point to Rocklea, with the crossing providing the only access from Rocklea during flood events.
- potential impacts on property values due to increased difficulties in accessing the residential area
- concerns from local businesses about access, the re-routing of heavy vehicles and congestion impacts of proposed road changes.

Changes to the local road network would result in changes to local traffic movements and may increase travel times for some residents and businesses. However, provision of a signalised intersection of Gladstone Street and Muriel Avenue would assist in providing safe access for residents looking to head south on Beaudesert Road. Access would also be provided from the Beaudesert Road Service Road to Beaudesert Road to provide emergency access in major flood events. Further discussion about local road changes is provided in **Chapter 5 Transport**.

Communication and notification, including signage and advertising, of local communities and road users about local access changes will be important in ensuring residents are able to adapt quickly to local road changes. Consultation with the Nyanda State High School community will also be important about changes to local road and pedestrian networks.

## 20.5 Cumulative impacts

During construction, cumulative impacts between different environmental aspects are likely, particularly in the vicinity of major worksites. The majority of cumulative impacts generated by the Project arise from combinations of noise, dust, visual intrusion, traffic, parking and access issues which would be adverse in nature.

Other nearby projects located in, or adjacent to, the Project study area also have overlapping construction timeframes with the Project. There would be varying potential for adverse cumulative construction impacts to arise with some of these projects. Impacts during construction would be local to neighbourhoods in extent and either short or medium-term in nature.

Major planning and development activities that may occur within the same construction timeframe and corridor as the Project include the Bowen Hills (RNA Masterplan) and Woolloongabba UDAs, the Boggo Road Urban Village, and the Yeerongpilly TOD. A number of isolated development proposals are also identified within the Brisbane CBD. Other infrastructure and planning projects may also emerge during the planning and detailed design phases of this Project. The extent of potential overlap in construction timeframes of these projects with the Project is discussed in **Chapter 23 Cumulative Impacts**.

The cumulative impacts of these projects on the local, regional and state economies and labour markets are addressed in **Chapter 21 Economic Assessment**. Beneficial direct and indirect cumulative impacts are predicted from employment opportunities generated during construction.

Nearby projects that could potentially increase the construction impacts of the Project on the community include Legacy Way (Northern Link) and urban development at Bowen Hills (including RNA Showgrounds) and Woolloongabba, Yeerongpilly TOD and Boggo Road Urban Village.

A number of communities within the study area, in particular the communities near Boggo Road Station, Bowen Hills and at Yeerongpilly, have already experienced significant disruption over a number of years due to other major transport or urban development projects. These communities may be particularly sensitive or vulnerable to Project related impacts.

See **Chapter 23 Cumulative Impacts** for further discussion of cumulative impacts associated with other major projects not discussed below.

Legacy Way's eastern construction site on the northern side of the ICB would be located within close proximity to the Project construction site. The proposed activities for the two projects would result in changes to local accesses, loss of available open space in Victoria Park and a reduction in local amenity during construction.

There may be a small overlap of about six months, from the commencement of construction activities for Cross River Rail and the completion of construction activities at Victoria Park for Legacy Way. Whilst both projects would be located near to the ICB, cumulative impacts on nearby land uses, such as reduced amenity, are considered to be minimal, and would generally relate to the increased duration of construction activities in this location.

The communities located adjacent to the Boggo Road Station, at Bowen Hills and near the Yeerongpilly TOD and Queensland Tennis Centre sites have already experienced significant growth, change and disruption due to previous transport and urban development projects. Residents in Albert Street have also experienced construction impacts due to impacts of on-going construction activities in the CBD.

These communities may be particularly sensitive or vulnerable to Project related impacts. Construction at Bowen Hills, the Woolloongabba UDA, Boggo Road and Yeerongpilly may result in cumulative impacts on the community as a result of changes to local accesses, increased pressures on local parking and a reduction in amenity. Consultation for the Project identified cumulative impacts at Dutton Park and Yeerongpilly including:

- further noise and vibration impacts to students of Dutton Park State School
- cumulative impacts of the Project during construction, in addition to other projects such as the development of the Yeerongpilly TOD
- development post Project construction – regardless of the post construction zoning of the Yeerongpilly construction site, there would be further works at this site to reinstate it for use.

## 20.6 Proposed mitigation measures

A range of mitigation measures are identified to manage potential construction and operation impacts of the project on local and regional communities. These include:

- provision of timely and clear information on the Project works and support to local residents
- a comprehensive suite of integrated mitigation measures within the draft outline EMP for both the construction and operational phases of the Project
- investigating the staging of construction works to minimise impacts
- investigating new initiatives, such as public art programs at the new stations and the involvement of bushland and park regeneration management groups in revegetation projects.

Consultation is required between the Project and other construction projects to manage cumulative impacts of construction. Proposed mitigation measures for the Project for sites of cumulative impact include:

- haulage routes and haulage activities are to be co-ordinated with works from other construction works near to the Project construction activities (RNA, UDA sites - Woolloongabba, Boggo Road and Bowen Hills, and Yeerongpilly TOD)
- on-going consultation and coordination with the Yeerongpilly TOD to manage potential cumulative impacts, with respect to construction timeframes, spoil removal and construction material haulage in order to minimise potential cumulative impacts on parking, access, traffic, noise and dust on the nearby residents of Yeerongpilly and Tennyson.
- detailed discussion undertaken with key community groups of cumulative impact, such as the Dutton Park State school, to identify mitigation measures to alleviate impacts, such as a noise barrier along the school boundary
- on-going communication of construction activities and time frames to impacted people, prior to the commencement of activities
- a process of on-going consultation and coordination with RNA and ULDA to manage potential cumulative impacts, with respect to construction timeframes, construction sites, demolition, spoil removal and construction material haulage in order to minimise potential cumulative impacts on parking, access, traffic, noise, dust and the effective management of operations at the RNA Showgrounds. Early consultation and coordination with RNA and ULDA would be carried out to mitigate cumulative impacts on the social and heritage values of the site.
- construction activities would also need to be managed to minimise impacts on events, with closedown of construction activities during the Ekka anticipated, and cumulative construction impacts on new residential communities introduced into the showgrounds area at the early stages of the showgrounds redevelopment (2012-2018).

In order to minimise disturbance at sensitive locations in the vicinity on construction activities, a variety of control measures would be implemented and included in the draft outline EMP for the Project (refer to **Chapter 24 Draft Outline EMP**). Construction programmes, traffic management measures and EMPs prepared for other nearby projects would be subject to careful consultation and coordination to ensure impacts are minimised on nearby sensitive receptors.

## 20.7 Conclusion

The Project would provide long term benefits to communities in the study area, Brisbane and South East Queensland through improved transport access to major centres and employment areas. The Project also supports important growth areas in inner Brisbane, helping to achieve the objectives of the SEQ Regional Plan related to compact urban form and connecting communities.

Long-term beneficial social and community effects would be realised through increased accessibility and connectivity to a range of district and regional level social infrastructure such as:

- major medical and health care facilities such as the RBWH, PAH and Mater Hospital
- sport and entertainment facilities such as the Gabba Stadium, Queensland Tennis Centre and the RNA Showgrounds
- education facilities such as QUT and UQ
- major open spaces such as the Botanic Gardens and Roma Street Parkland.

The Project also improve accessibility to a wide range of community service organisations within inner Brisbane, particular for clients in Brisbane outer northern and southern suburbs and the wider South East Queensland region.

However, during construction, existing social values for communities closest to construction works may be impacted principally due to acquisition of property for the Project, increased noise and dust from construction activities, vibration, increased construction traffic, changes in local access and loss of some open space.

Careful management of construction impacts would help to minimise construction impacts and protect quality of life and community values for local communities. A key mitigation measure would include the provision of timely and clear information about the Project to local and regional communities, managers of community facilities near the Project works and commuters.

While the scale and intensity of the construction undertaking is significant on a national scale, the impacts would be of limited duration, compared with the operational benefits, which would coincide with the operational life of the Project.