

Airport Link

Phase 2 – Detailed Feasibility Study

TECHNICAL REPORT NO. 11

SOCIAL IMPACT ASSESSMENT

■ May 2006

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1. Introduction

This report addresses Section 5.10 of the Terms of Reference, which requires a description of the existing social values that may be affected by the Project, including amenity and use of the study corridor. The existing social environment is described by:

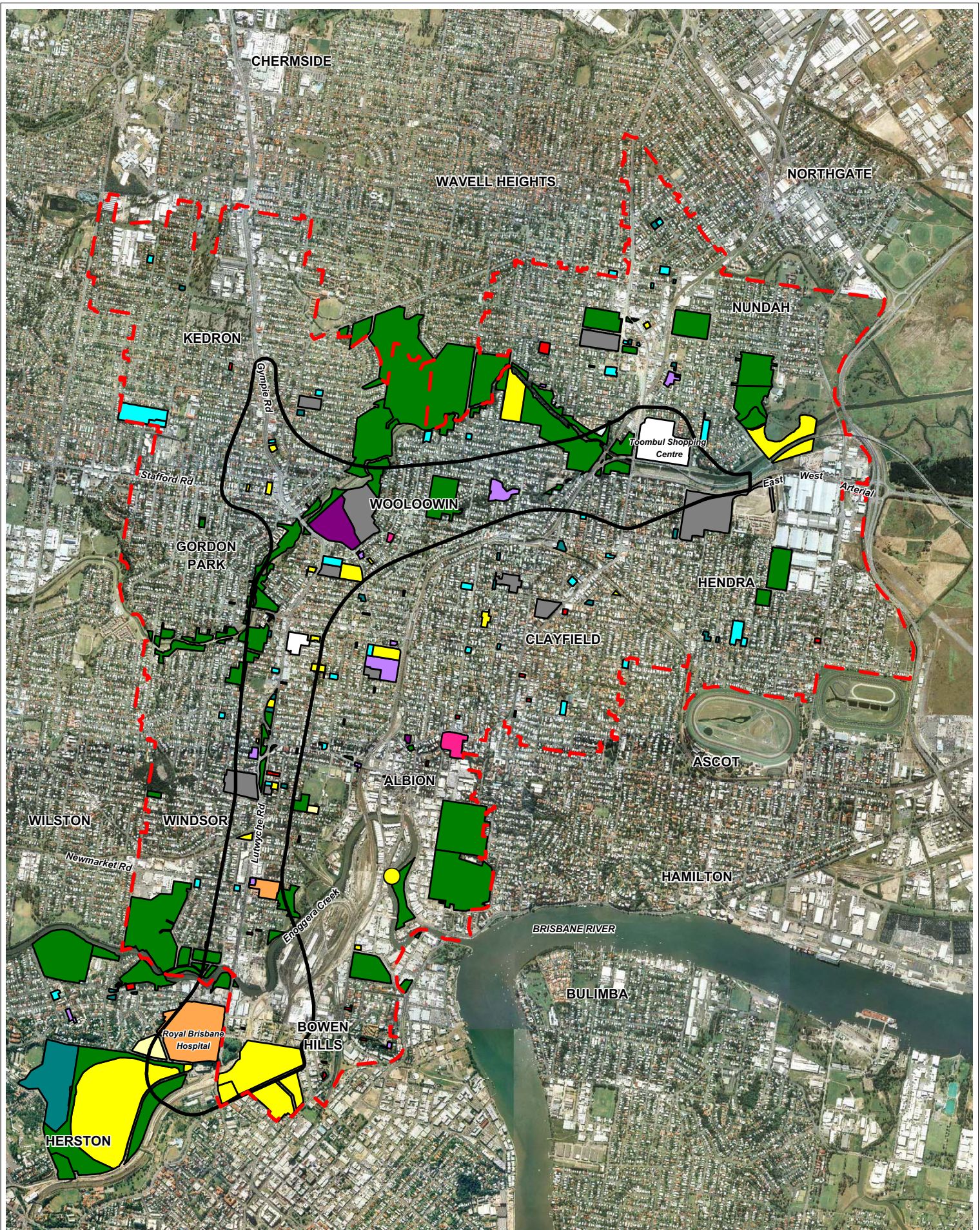
- Developing a set of social indicators to describe current social conditions in the study corridor;
- Describing existing social conditions (health, housing, social infrastructure, community values, amenity, connectivity, community safety and access); and
- Mapping social indicators and social infrastructure.

In assessing the effects of the Project on the social environment, this report:

- Analyses existing social data and the results of community consultation to identify potential changes to demography, equity, quality of life and community values which may result from the Project;
- includes the results of quantitative and qualitative assessment to determine specific social impacts and benefits within the study corridor and describe wider, including cumulative, impacts and benefits;
- Predicts potential social impacts and benefits, including quality of life, amenity, access, connectivity, changes to population diversity, changes to the social environment, employment, equity in local distribution of the community benefits and social impacts; and
- recommends mitigation strategies to optimise community benefits and minimise negative impacts, including development of design, public transport and urban renewal strategies.

1.1 Study corridor

The Study Corridor, as defined in the Terms of Reference and shown on Figure 7, was delineated to take account of the results of the Corridor Assessment Study in identifying the alignment for the road tunnels. So delineated the study corridor has no correspondence with suburb boundaries or any statistical subdivision of the urban areas it overlay. This lack of correspondence has been a problem in presenting statistical information about the study corridor because virtually all statistical demographic information is based on suburban areas as the smallest aggregated datasets. Therefore, the closest approximation to the study corridor has been sought by presenting data for each of the individual suburbs that are in any part included in the study corridor. An approximation of the study corridor is arrived at by aggregating the suburban datasets for Albion, Bowen Hills, Clayfield, Hendra, Kedron (including Gordon Park), Lutwyche, Nundah, Windsor and Woolloowin. The aggregation of these suburbs is referred to informally as the “study area” in Tables 2.1 to 2.14 and in a few other places in the text and is shown on Figure 7, but through the text this statistical unit is taken as the best available approximation to the study corridor.



LEGEND

Aged Care	Higher Education	School
Child Care Centre	Hospital	Shopping Centre
Church	Park	State Government Facility
Community	Retirement Village	Airport Link Corridor
Boarding House	Study Area	



0 0.5 1km

Figure 7
Social Infrastructure
Airport Link EIS Study Corridor



1.2 Methodology

The methodology for social impact assessment is described below. Key stages included documentation of the exiting social environment (demography, social infrastructure and community values); assessment of impact and analysis of their significance; and development of mitigation and environmental management strategies.

Demography

Demographic analysis drew on the Australian Census of Population and Housing (2001) and related ABS publications, analysis of demographic trends, Real Estate Institute of Queensland housing research, and consultation data. The long-term nature of the project's effects requires consideration of both existing and future populations. Population projections used in this report were prepared for Brisbane City Council for its' Brisbane Long Term Infrastructure Plan¹. More detail on the BLTIP is contained in Appendix A.

Social infrastructure

Social infrastructure includes services, facilities and networks which support quality of life and well being, including community, cultural, educational, health and recreational facilities. Facilities provide the base for most services and networks, and are the primary focus of the assessment. The description of social infrastructure was informed by field research, an inventory of social infrastructure, and consultation with community facilities.

Social indicators

Social indicators are measures of the factors that affect quality of life and community well being. The social indicators used in this report include both quantitative and qualitative measures, and respond to the Terms of Reference for the EIS and community values in the corridor. In order to map social indicators, the report refers to Socio-Economic Indices for Areas (SEIFA) values, which are based on data derived from the 2001 Census to measure socio-economic conditions by collector district (approximately 220 households). These indices were considered to give the best indication of the sum of personal resources which enable people to cope with change. Low values indicate areas of relative disadvantage. The indices used in this report are:

- the Index of Advantage\Disadvantage, which describes a continuum of advantage to disadvantage, based on variables including income, educational attainment, and unemployment; and
- the Index of Economic Resources, which describes a continuum of economic resources including household income, housing costs, expenditure, and other factors which indicate potential to cope with change.

Community values

Community values include access and connectivity, sense of place and community cohesion. Assessment has been informed by:

- Brisbane City Council and Queensland Government social policies, as part of the strategic context for the proposal;
- Consultation data, including community input from neighbourhood fairs, Community Liaison Group meetings and information sessions; and
- Observation of conditions in the study corridor.

¹ Department of Local Government Planning Sport and Recreation Planning Information and Forecasting Unit "Brisbane Long term Infrastructure Plan – Projection of Demographic Indicators" August 2005

Analysis of social impacts and their significance

In Section 3, the project's effects are discussed in terms of potential changes to characteristics of communities and places, and the likely consequences for the social environment.

Section 4 addresses the significance of potential changes to the social environment, in relation to quality of life, community values, demography and equity.

Mitigation

Section 5 recommends strategies to reduce the project's negative impacts and enhance its benefits for the study corridor. This includes design development, urban regeneration, environmental management and monitoring.

1.3 Definitions

The report adopts the definition of social impact assessment recommended by the International Association for Impact Assessment:² *Social impact assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned ... projects and any social change processes invoked... Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.* The following terms are central to the assessment.

Term	Definition
Community diversity	Describes characteristics which indicate community vitality and sustainability of social structures, such as age range, socio-economic range and cultural diversity
Quality of life	Satisfaction and enjoyment in every day life, which is dependent on enjoyment of home and community life, good health and social connections
Social sustainability	Sufficiency of social resources to support quality of life, equity and community values, over time
Equity	A fair distribution of the resources that allow residents full participation in their community. In particular, equity requires that the well-being of people with fewer resources is protected
Housing affordability	Describes the existence of housing choices accessible by people on low incomes. Private housing is generally considered affordable when rent or mortgage payments require 30% or less of weekly income.
Amenity	The social values of streets and public places which support quality of life at both household and community level.

² International Association for Impact Assessment (2003) Social Impact Assessment International Principles

Sense of place	People's identification with and valuing of environmental features which make a place special and supports community identity.
Access and connectivity	Existence of adequate options for moving within and between suburbs, and to and from attractors such as the CBD and local facilities
Access to community facilities	Describes availability of community facilities which support equity, community health and social policy delivery

2. Existing Social Environment

Brisbane is rapidly evolving as a metropolitan centre. Housing and employment options, affordability and lifestyle are attracting population growth which makes Brisbane the fastest growing capital city in Australia. During the past few decades most growth has occurred in the outer suburbs, which absorbed three quarters of population growth between 1991 and 1998. In the twenty years to 2021, Brisbane's population is expected to grow by 14.7%, to reach more than 1.1 million people. Dispersion of the population and the lack of adequate traffic and transport infrastructure have contributed to traffic volumes growing at a higher rate than the population.

The inner northern suburbs were first settled by Aboriginal people attracted to the richness of the Brisbane River, Enoggera Creek, and Kedron Creek catchments. Europeans arrived in the area known as Moreton Bay in 1825, and the Moreton Bay Penal Settlement opened in 1842. Following closure of the penal settlement, the area was opened to free settlers, and Brisbane was proclaimed as a municipality in 1859. New settlers were attracted by the same values as the Aboriginal people, and the hills and ridges around the two creeks were settled during the 1860's. Wealthier migrants settled on the hills and ridges, which offered views and had better access to breezes. More modest family homes were built on the ridges, whilst workers' cottages were established on lesser hills and flat land. Early migrants included British, German, Italian, and Chinese people, and these communities remain in evidence today.

The study corridor for social impact assessment purposes is shown in Figure 1. The population of the "study area" is around 52 000 people, and is expected to grow to up to 60 000 by 2021³. In addition to residential and community purposes, they accommodate social and recreational infrastructure of State-wide, regional and local significance, retail and service precincts, and the major traffic and public transport infrastructure. Planning for Brisbane's growth and renewal will see more intense growth in residential and employment uses throughout the area over the next twenty years.

This section describes the study corridor's social conditions by describing:

- Existing social policy, representing agreed objectives for social sustainability;
- Population characteristics;
- Health and community safety factors;
- Housing supply and affordability;
- Social infrastructure provision;
- Community values; and
- Amenity.

Socio-economic index values are mapped in Figures 2 and 3, land use for community facilities in Figure 7, and community facilities in areas near project infrastructure in Figures 8, 9 and 10. Demographic characteristics and social infrastructure and community values at suburb level are summarised in Appendix B.

³ Population Information and Forecasting Unit, Queensland Government, Brisbane Long Term Infrastructure Plan data, for BCC October 2005.

2.1 Government and Council Policy

Brisbane sees itself as a place of vitality and social inclusion. This is reflected in Queensland Government and Brisbane City Council policy frameworks which are briefly outlined below.

Queensland Government Policy

The *South East Queensland Regional Plan* (SEQRP) provides the framework for sustainable population growth in South East Queensland over the next twenty years. The Queensland Government is working with Brisbane City Council and other stakeholders to implement the SEQRP and its allied document, the *South East Queensland Infrastructure Plan and Program 2006-2011*.

The regional plan's most salient aspects for the social environment are outlined in Part F: Regional Policy 6: Strong communities. The Desired Regional Outcome for Part F is: *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.*

Principles which support achievement of this outcome include:

- Maximise access to appropriate social infrastructure for all residents in the region;
- Ensure the social effects of growth and change on the local community are planned for, monitored, and evaluated;
- Address issues of disadvantage in communities;
- Create well-designed, safe, and healthy local environments, encourage active community participation, promote healthy lifestyles, and prevent crime;
- Support community engagement and community capacity building in the planning and development of future communities;
- Manage urban growth and development to create, maintain, and enhance a sense of community, place, and local identity throughout the region;
- Protect the region's unique cultural heritage, including historic places; and
- Support the arts and cultural development through the planning and provision of cultural infrastructure and spaces.

Social policy is co-ordinated within the Policy Division in the Department of the Premier and Cabinet, which 'strives to ensure that all Queenslanders have equitable access to positive social, economic and environmental outcomes from government policies and programs'⁴. Key policies include:

- Engaging communities, which refers to the ways in which governments connect with citizens in the development and implementation of policies, programs and services;
- Multicultural diversity, which refers to the need to foster diversity, acceptance of difference, and inclusion;
- Indigenous capacity building, which aims to improve Aboriginal people's skills, employment opportunities and education and health opportunities; and

⁴ Department of Premier and Cabinet www.premiers.qld.gov.au/policy/strategicadvice/social viewed 20 February 2006

- The Smart State strategy, which seeks to reposition the State in national and international arenas.

Social policy is enacted by the Departments of Communities, Education and the Arts, Health and Housing, each of which have policy and a program structure aimed at enhancing quality of life and community well being.

Council Policy

Living in Brisbane 2010 is Brisbane City Council's framework for a liveable Brisbane. All themes in *Living in Brisbane 2010* are relevant to the City's liveability, but themes and strategic directions of particular relevance to the social environment include:

Active and healthy city

- An active and healthy place to live;
- Fit and healthy kids;
- Getting involved in new events;

Inclusive city

- Tackling homelessness and providing access to affordable housing;
- Revitalising places and communities;
- Supporting special needs;
- Safe and supportive communities;

Accessible city

- Keeping Brisbane moving (primarily bus transport initiatives); and
- Pedestrian and bike friendly.

The Council is engaged in extensive consultation about future development as part of its 'Neighbourhood Planning' program. The key output to date is the Draft Brisbane CityShape⁵, which outlines proposed future urban development patterns and responses to expressed community values such as:

- proposed connectivity networks including paths, roads and public transport;
- enhancement of sense of place and identity;
- protection of environmental values;
- employment creation; and
- sustainable resource management, with a focus on water.

These responses to population growth will influence future population distribution, social infrastructure provision and community values in the corridor, by identifying priorities for implementation at the local and broader level.

2.2 Population characteristics

This section describes population characteristics in the study corridor. Unless otherwise referenced, the source of all demographic data is Australian Bureau of Statistics *Census of Population and Housing 2001*, except for PIFU projections for Brisbane City Council as previously described. Demographic parameters examined are:

⁵ The Draft Brisbane CityShape 2026, Brisbane City Council April 2006

- Population size and projected growth;
- Age profile;
- Types of households;
- Cultural diversity;
- The SEIFA Index of Relative Socio-Economic Advantage/Disadvantage; and
- Income and Economic Resources.

As a group, these are considered to provide a reasonable profile of an area's population. Trends in these demographic parameters provide some basis for forecasting future needs. Population size indicates sheer volume of services likely to be needed. Trends in the age profile may indicate changing needs in terms of health services, transport needs among other services. The income profile will be linked at least partly to the types of households including ownership levels. The SEIFA Index of Advantage/Disadvantage takes into account the proportion of families with high incomes, people with a tertiary education, and employees in skilled occupations and is a nationally used index. Cultural diversity indicates ethnic mix which may relate to translation services, multilingual signage etc.

Existing Population

In 2001, Brisbane's Local Government Area had a population of approximately 890 000 people⁶. Between 2001 and 2004, the city experienced an average annual increase of around 3%, growing to approximately 980 000 people.

In the Brisbane Metropolitan Area⁷ the total population in 2004 was approximately 1.79 million people, with average annual growth of around 2.4% between 2001 and 2004⁸. Brisbane City's population was growing faster than that of its immediate neighbours, but the whole South East Queensland region is showing strong growth.

Within the study corridor (as defined in Section 1.1) a population of 49 759 people in 2001 grew to an estimated population of 52 120 people in 2004, representing an average annual increase of about 1.6% (787 people per year). The study corridor's growth rate was just over half the annual average increase average for Brisbane; however the rate of increase was substantially higher than in the 1991-2001 period when population growth across the area averaged just 0.1%.

Between 2001 and 2004, the study corridor's smallest and inner-most suburb, Bowen Hills, experienced average annual increases of 16.4%, or 7.3% of the corridor's total growth for the three-year period. This was only 173 additional residents, and due to the development of units in the area, but is an example of the increasing attractiveness of inner city living in Brisbane.

Nundah, Clayfield, and Kedron had the largest populations in 2004 and collectively represented 57.8% of the estimated population. Bowen Hills, Albion and Lutwyche were the smallest suburbs, representing a total of 12.1% of the population.

Table 2-1 outlines population⁹ and growth rates of Brisbane, the "study area" and each suburb from 1996 to 2004¹⁰.

⁶ The population figures in Table 2-1 are derived from analysis for the Brisbane City Statistical Subdivision, which differs slightly from the Brisbane City LGA boundary.

⁷ This includes LGAs of Brisbane, Logan, Ipswich, Redland, Pine Rivers, Redcliffe and part of Caboolture.

⁸ PIFU 2005 p.7

Table 2-1 Population and Growth in Study Corridor 1996-2004 (est)

Area	Estimated resident population at 30 June			Average annual population change			
	1996	2001	2004(p)	5 years to 30 June 2001		3 years to 30 June 2004	
	no.	no.	no.	no.	%	no.	%
Albion	2 318	2 203	2 224	-23	-1.0	7	0.3
Bowen Hills	844	900	1 418	11	1.3	173	16.4
Clayfield	9 278	9 303	9 709	5	0.1	135	1.4
Hendra	3 556	3 579	3 909	5	0.1	110	3.0
Kedron	11 332	11 397	11 723	13	0.1	109	0.9
Lutwyche	2 570	2 542	2 714	-6	-0.2	57	2.2
Nundah	7 975	8 328	8 721	71	0.9	131	1.5
Windsor	5 960	6 016	6 130	11	0.2	38	0.6
Woolloowin	5 557	5 491	5 572	-13	-0.2	27	0.5
Study area	49 390	49 759	52 120	74	0.1	787	1.6
Brisbane City Statistical Subdivision	824 489	896 649	979 655	14 432	1.7	27 669	3.0
Brisbane Statistical Division	1 519 991	1 650 422	1 774 890	26 086	1.7	41 489	2.5
Queensland	3 338 690	3 628 946	3 882 037	58 051	1.7	84,364	2.3

Clayfield, Hendra, Lutwyche and Nundah had higher increases (1.4 to 3%). The higher rate of increase is likely due to local factors including the range of housing choices, the quality of housing and in suburbs other than Clayfield, housing affordability. The suburbs of Albion, Kedron, Windsor and Woolloowin experienced population increases in the range of 0.3% to 0.9%, possibly reflecting lower rates of redevelopment, or a preference for neighbourhoods which are better separated from road and rail infrastructure.

Expected Population Growth

Population projections were prepared for Brisbane City Council as part of the Brisbane Long Term Infrastructure Plan in 2005. Projections were prepared on the basis of trend data and for four further scenarios – ‘multi-centred’, ‘corridor’, ‘dispersed’ and ‘compact’, based on Council’s Neighbourhood Planning scenarios for future urban development. Due to the strategic location of the corridor in relation to major employment centres such as the Royal Brisbane Hospital, CBD and Fortitude Valley, and accessibility to public transport, the ‘corridor’ scenario has been adopted here as the basis for potential future population growth in the study corridor. Refinements to projections are likely to be required as local area planning for the study corridor refines the future development pattern.

The population of the study corridor in 2006 is estimated to be approximately 52 479 people.¹¹ Based on the trend, a population increase of 1 562 people is expected between 2006 and 2021, or around 3%.

Under the ‘corridor scenario’, as shown in Table 2-2, the projected population increase for the study corridor is approximately 6 500, representing an increase for the study corridor of around 12%. Bowen Hills is predicted to experience the highest increase in both numerical and percentage terms with growth of 2 414 people (158%) expected between 2006 and 2021. Nundah’s population is expected to increase by almost 26% between 2006-

⁹ ABS Census of Population and Housing 2001 plus Estimated Residential Population as calculated by PIFU for the Queensland Government 2005

¹⁰ Data for 2004 refers to estimated residential populations (unpublished PIFU data).

¹¹ Brisbane Long Term Infrastructure Plan Projection of Demographic Indicators PIFU August 2005

2021, and Albion's by 15.6%. Growth is also expected in Lutwyche (9.1%), Clayfield (8.9%), Woolloowin (6.4%) and Windsor (2.1%). Negative growth is expected in Hendra (-2.3%) and Kedron (-0.6%).

Table 2-2: Study Corridor Population Projections - Corridor Scenario

Suburb (SLA)	2006 Population	2011 Population	2016 Population	2021 Population	No. Growth 2006-2021	% Growth 2006-2021
Albion	2268	2357	2468	2622	354	15.6%
Bowen Hills	1530	2144	2532	3944	2414	158%
Clayfield	9823	10022	10297	10696	873	8.9%
Hendra	4072	4080	4026	3976	-96	-2.3%
Kedron	11755	11691	11658	11684	-71	-0.6%
Lutwyche	2739	2802	2881	2990	251	9.1%
Nundah	8981	9567	10302	11293	2312	25.8%
Windsor	6247	6318	6334	6379	132	2.1%
Woolloowin	5659	5763	5865	6023	364	6.4%
Study area	53074	54744	56363	59607	6533	12.4%

Source: PIFU (2005) BLTIP: Corridor Scenario Projections (Small Area Forecasts) 2005

Age profile and household type

The median age in the study corridor increased from 33 in 1996 to 34 in 2001, in line with Brisbane averages. The median age was substantially higher than the Brisbane average in Hendra, and slightly higher than the average age in Kedron and Nundah, but lower than the average in all other suburbs (please see Appendix C for more detail).

The "study area" has a lower percentage of people less than 20 years of age (20.5%) than Brisbane, and a slightly higher percentage of people over 60 years, with highest percentages of older people in Nundah, Hendra, Clayfield and Kedron. However, during 1996-2001 the number of young people (0-14 years) increased by 8.5%, while the number of people 65 years and over decreased by 6.8%. This is in contrast to the general ageing of Brisbane's population, and demonstrates the increasing attractiveness of the inner suburbs to younger people for medium density housing options and amenity values.

There was a slight increase in the number of couple families with children (from 37.5% of all families in 1996, to 38.3% in 2001), but 'couple families without children' also increased, at a slightly higher rate. The percentage of couple families without children was higher than the Brisbane average in every suburb and highest in Albion, Bowen Hills and Lutwyche. This did not correspond with higher percentages of people over 60 years of age, indicating growth in the number of younger and middle-years couples. Woolloowin and Hendra were the only suburbs where families with children approached the Brisbane average. Woolloowin had the highest percentage of young people, according with residents' perceptions that the suburb is attractive to families.

The percentage of sole person households was lower than the Brisbane average in all suburbs except Bowen Hills, and approaching the average in Nundah and Hendra (which also had high numbers of older people, reflecting the higher percentage of couple households).

The "study area" had a slightly lower percentage of residents counted at the same address at the 1996 and 2001 Census, at 41.2% (compared to the Brisbane average of 43.5%). This is a measure of population stability, which is generally positive for community cohesion and social capital. The percentage of people who had lived at the same address for five years was highest in Hendra and Kedron where they exceeded Brisbane averages and

lowest in Bowen Hills, indicating that the outlying suburbs have more stable populations. Characteristics of the communities' structure are outlined in Table 2-3.

Table 2-3: Age and Household Structure 2001

Suburb	% residents <20 years age (2004)	% residents >60 years age	% couple families with children	% couple families	% sole person households	% stable residency ¹²
Albion	20.8	15.6	31.6%	50.8	19.5	34.8
Bowen Hills	13.0	14.0	23.6	57.6	26.1	24.7
Clayfield	21.8	17.7	39.2	40.8	19.7	37.2
Hendra	21.5	19.1	43.1	39.6	10.9	48.9
Kedron	21.3	17.2	37.2	40.9	17.5	46.8
Lutwyche	18.1	15.9	26.5	43.4	22.5	36.1
Nundah	18.8	17.3	33.5	41.9	22.2	40.3
Windsor	18.2	15.2	37.4	41.7	18.2	39.6
Wooloowin	24.0	13.9	43.8	35.7	15.0	41.7
Study Area	20.5	16.6	37.3	41.2	18.5	41.2
Brisbane City	27.3	15.1	44.3	31.7	26	43.5

Source: Census 2001 Basic Community Profile, Table B17

Cultural Diversity

The study area had low proportional populations of Indigenous Australians compared to the Brisbane average of 1.3%. More than 4 000 people in the study corridor speak other languages at home, (approximately 8.5% of all residents). This compares to a Brisbane average of 12.3%, indicating there is less cultural diversity in the “study area” than in Brisbane as whole. The most common languages in 2001 were Italian (1067), Chinese (527) and Tagalog (246), but there was evidence of at least 32 languages as diverse as Arabic, Russian, Vietnamese and Tamil, and this is likely to have increased over the past four years.

There were 656 people in the “study area” at the 2001 census that did not speak English well or speak at all. These people represent a stakeholder group with particular communication needs, and are likely to be more vulnerable than some other members of the community. Kedron, Nundah, Clayfield and Windsor had the highest numbers of people with poor or no English skills. Cultural diversity indicators are outlined in Table 2.4.

Table 2-4: Cultural Diversity, 2001

Suburb	% Ab. & TSI residents	Speak other languages ¹³	Speak English not well/not at all
Albion	0.1	230	33
Bowen Hills	0.1	92	12
Clayfield.	0.1	720	112
Hendra	0.1	162	9
Kedron	0.1	887	129
Lutwyche	0.1	362	73
Nundah	0.1	740	126
Windsor	0.1	603	103
Wooloowin	0.0	402	59

¹² Percentage of residents counted at the same address at the 1996 and 2001 Census.

¹³ Number of residents who speak languages other than English at home, ABS 2001 – generally indicates affiliation with communities other than Australian-born.

Study area	0.1	4,198	656
Brisbane	1.3	112 264	N.A.

Source: Census 2001 Basic Community Profile, Table B08

Advantage and Disadvantage

The SEIFA Index of Relative Socio-Economic Advantage/Disadvantage is a continuum of advantage to disadvantage¹⁴. Low scores on the indices occur when the area has many people earning low incomes, many people with little training, and many people working in unskilled jobs. Higher scores occur when areas have few people on low incomes, few people with low levels of education or training, and few people working in unskilled occupations¹⁵. Many aspects of disadvantage are linked. For example, the relationship between a poor education and low income is well established, while low incomes are in turn associated with insecure housing and poorer health.

In Woolloowin, Lutwyche and Clayfield, the lowest scores were all above the Queensland LGA 90% percentile, indicating a higher overall level of advantage. Highest levels were found in collector districts within Clayfield (1222), Windsor (1159) and Hendra (1175). The lowest values were found in Hendra (952) and Nundah (953), with Kedron next at 978.

The range of SEIFA Relative Socio-Economic Advantage/Disadvantage values for collector districts is shown in Table 2-5.

Table 2-5 - SEIFA Relative Socio-Economic Advantage/Disadvantage

Suburb	Range SEIFA Adv/Disad. Index
Albion	998-1101
Bowen Hills	996-1067
Clayfield.	1024 - 1222
Hendra	952-1175
Kedron	978-1113
Lutwyche	1038-1115
Nundah	953-1131
Windsor	992-1159
Woolloowin	1012-1131
Study corridor	952 - 1222
Brisbane	800 - 1280

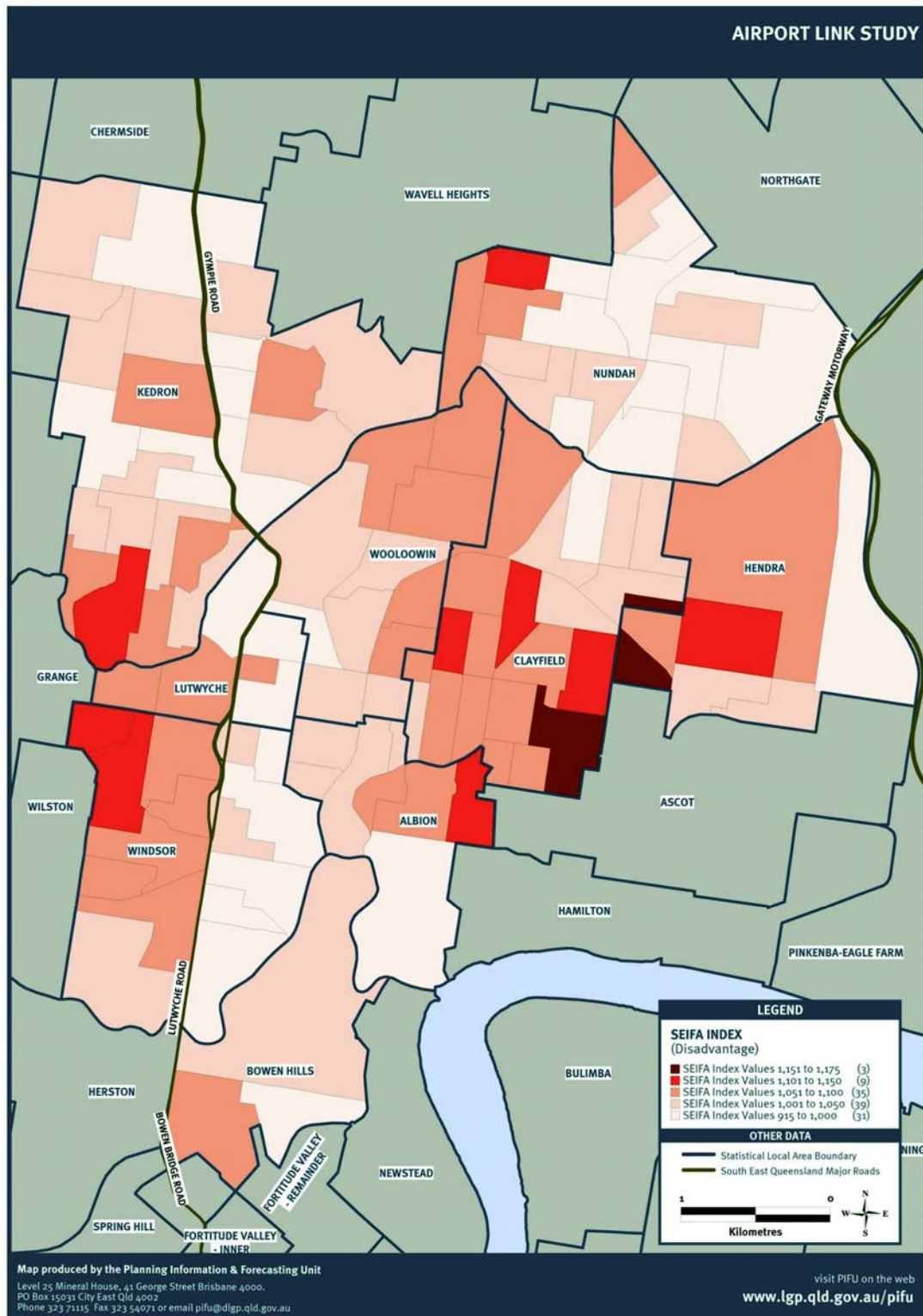
ABS (2003) SEIFA Index Scores for Brisbane Collector Districts, provided by PIFU

Figure 2 is a map of the SEIFA Advantage/Disadvantage Index for the “study area”. It shows that areas of Clayfield, Woolloowin, Albion and Windsor West have higher levels of advantage as determined by socio-economic factors, whilst Windsor East, Kedron, and Nundah have lower levels of advantage.

14 Indicators summarised by this index include: persons aged 15 years and over with no qualifications, percentage of families with less than \$15,600 annual income, percentage of unemployed residents, percentage of dwellings with no motor cars, and people lacking fluency in English. A full listing of indicators is provided in Appendix B.

¹⁵ ABS, 1996 Census of Population and Housing Socio-Economic Indexes for Areas Information Paper, Cat. No. 2039.0, p 3

Figure 2: SEIFA Advantage/Disadvantage Index



Income and Economic Resources

Average median household incomes were lowest in Bowen Hills, Lutwyche and Nundah at \$600-699 per week, and highest in Albion, Clayfield, Woolloowin and Hendra at \$800-899 per week, which was equivalent to the Brisbane average. This provides more evidence that Bowen Hills and Lutwyche and Nundah are likely to contain ‘pockets’ of disadvantage.

The study corridor as a whole had a slightly lower percentage of people on very low incomes than the Brisbane average, but included some 1 150 people with very low incomes, which represents high vulnerability to change. Bowen Hills, Kedron, Lutwyche, Nundah, and Windsor all showed higher than Brisbane average percentages of people earning less than \$199/week. There are also higher than average percentages of households earning more than \$1500/week, indicating a wide range of income types and some polarity in income distribution. Only Bowen Hills, Lutwyche and Nundah showed lower than Brisbane average percentages of households earning \$1500/week.

The “study area” had a lower percentage overall of people with a tertiary qualification (a predictor of job choice and of resilience) but Windsor, Clayfield and Bowen Hills had higher percentages than the Brisbane average. Unemployment was lower than the Brisbane average in Albion and Clayfield, and substantially lower in Hendra. In other suburbs, unemployment was slightly higher than the average, and highest in Lutwyche and Bowen Hills. It is likely that, in Bowen Hills at least, this percentage has decreased with the movement of more working couples to the area. The study corridor has a wide range of economic resources values, as measured by the SEIFA Economic Resources Index¹⁶. This index reflects income levels and housing costs for different household types. Details are shown in Table 2-6. Further detail of percentages of people in different income groups is contained in Appendix C.

Table 2-6: Economic Resources, 2001

Suburb	Median Weekly household income	Unemployment rate	Tertiary qualification ¹⁷	Range - SEIFA Economic Resources
Albion	800-999	4.3	18.2	981-1086
Bowen Hills	600-699	6.3	19.4	1018 – 1097
Clayfield	800-999	4.4	19.5	954 – 1197
Hendra	800-999	2.9	14	951-1137
Kedron	700-799	4.6	14	968 - 1192
Lutwyche	600-699	5.7	16.3	929 - 1148
Nundah	600-699	5.1	11.6	968 - 1234
Windsor	700-799	5.1	19.4	952 - 1145
Woolloowin	800-899	4.9	18	967 - 1160
<i>BSD</i>	<i>800-899</i>	<i>4.5%</i>	<i>19.3</i>	<i>929 - 1234</i>

The lowest SEIFA Economic Resource value is found in Lutwyche, which in comparison with the previous SEIFA score for Lutwyche probably indicates lower family incomes against higher housing prices. Most

¹⁶ Factors contributing to this index include: families with annual incomes greater than \$77,999, households paying rent greater than \$225 per week and mortgages greater than \$1,360 per month, low income families and single-person households. A full listing of indicators is provided in Appendix A

¹⁷ Bachelor degree or higher.

suburbs included collector districts with values less than the mean of 1000, indicating an expected lack of resilience in some areas. Levels above 1080 were found in each suburb, with highs in Clayfield, Kedron and Nundah.

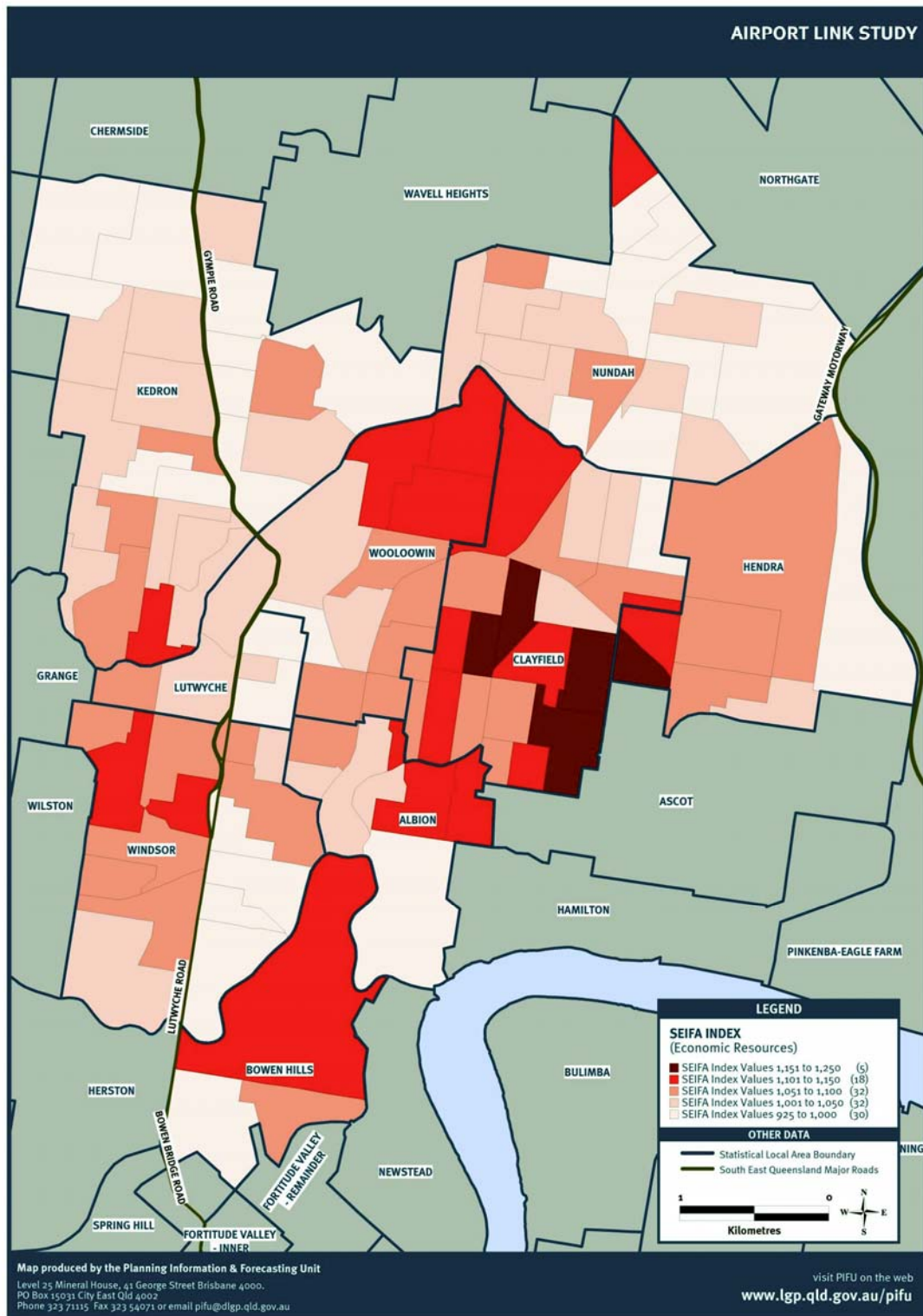
Summary of Social Indicators

The area generally has medium to high levels of economic resources, with pockets of disadvantage as shown in Figure 2, where lighter values represent areas with values below the mean. With more than 1 000 people on very low incomes, and a good supply of public housing, there are pockets of likely disadvantage, particularly in Windsor East, Lutwyche East and Kedron, and potentially in Bowen Hills. Socio-economic Index for Areas (SEIFA) values are variable, with lowest values found in Kedron, Bowen Hills and Windsor, and highest values found in Clayfield and Woolloowin.

All but Woolloowin and Bowen Hills had higher than average percentages of people 60 years and over, while all suburbs recorded lower than Brisbane average of residents less than 20 years of age. Couple households are the fastest growing group. The percentage of sole person households (which may indicate households have fewer resources to cope with change) was highest in Bowen Hills, Nundah and Lutwyche, and lowest in Hendra.

The percentage of people who speak other languages at home (which is an indicator of households with affiliation to other countries and potentially marginalisation) was lower than the Brisbane average, but represented around 4 000 residents, with highest numbers in Lutwyche.

Figure 3: SEIFA Index of Economic Resources



2.3 Health

This description of health status is based on the prevalence of social determinants of health, including socio-economic risk factors, access to community facilities, including health and recreational facilities, and the common disease profile in the Brisbane North region¹⁸.

Key risk factors¹⁹ for lesser health outcomes and corresponding local values in the study corridor are summarised in Table 2-7.

Table 2-7: Population risk factors for health

Indicator	Predictive factor	Local status of indicator ²⁰
Lower socio-economic households	Indicator of higher risk of chronic childhood illness and earlier mortality	<ul style="list-style-type: none"> No SEIFA values in bottom ten percentile Higher than average percentages of people earning less than \$199/week in Bowen Hills, Kedron, Lutwyche, Nundah, and Windsor also higher than average percentages of households earning more than \$1500/week
People living alone	Indicates vulnerability to social isolation and a higher risk of reduced health	<ul style="list-style-type: none"> Lower percentage of sole person households over all higher than average in Bowen Hills, and approaching average in Nundah and Hendra
Indigenous population size	Likelihood of lower health status and reduced life expectancy	<ul style="list-style-type: none"> Low representation, no suburb with higher than 0.1% compared with average of 1.3% in Brisbane
Cultural and linguistic diversity	Associated with poorer health outcomes due to communication difficulties and lack of social networks;	<ul style="list-style-type: none"> less cultural diversity in the corridor as a whole - 8.5% of study corridor residents speak languages other than English at home compared to 12.3% highest numbers in Lutwyche
Unemployment	May lead to poverty (a strong indicator of poor health).	<ul style="list-style-type: none"> lower than average in Albion, Clayfield, and Hendra. slightly higher than the average, and highest in Lutwyche and Bowen Hills.
Age greater than 65 years	Increased need for health services and higher rates of disability	<ul style="list-style-type: none"> Slightly higher percentage of people over 65 years in study corridor Highest percentages in Nundah, Hendra, Clayfield and Kedron

On the basis of predictive socio-economic factors, the study corridor population appears to have a low risk of general poor health than communities with a higher prevalence of risk factors. Disease prevalence rates per 1,000 population²¹ were consistent with the national averages, with the exceptions of respiratory system diseases

¹⁸ Data on health status was not available at the local level, as it is published at regional level only. The Division is bordered by the Brisbane river to the south, and includes all suburbs north of the river including the Pine Rivers Shire, east to Moreton Bay, and west to Bellbowrie.

¹⁹ Health Determinants Queensland 2004 At A Glance - Public Health Services and Health Information Centre, Queensland Health

²⁰ In relation to the Brisbane average. Based on data as referenced in Section 2.2.1.

²¹ Brisbane North - Division of General Practice (2005) Population Health Profile of the Brisbane viewed at www.bndgp.com.au/documents/rescare_co-oplist.pdf.

(including asthma) and osteoporosis (in women) which were slightly higher than the national average. There was a slightly lower estimated prevalence of mental health disorders in the District. The 'all causes' death rate in the Division (254.9 deaths per 100,000 population) was lower than for Brisbane (277.8) and well below that for Australia (290.422).

The Brisbane North Health District had a higher level of provision of GP services than the Australian average. Access to accident and emergency services, public hospital care and community services supporting health for specific target groups (e.g. aged people) is good throughout the study corridor (see section 2.3.3). The availability of public transport assists with access to specialist services. Access to open space and recreation facilities which encourage physical activity (including sports clubs and a family recreation centre) is adequate, and otherwise supported by public transport. Community support services which support community participation and cohesion, and therefore good health, are also well distributed.

Given the status of socio-economic risk factors, the disease profile and access to services, the health status of the general community is good. Individual health outcomes will vary in line with socio-economic factors and personal risk factors, with poorer health experienced by people with lowest incomes or greater ages.

2.4 Community Safety

In the Metropolitan North area of Brisbane (which includes the study corridor), there was a total of 684 offences against the person in 2004-5, which was down by 7% from the previous year, and 6 913 offences against property (down 14% from the previous year²³). Improvements are considered to be partly attributable to a Regional Policing initiative enacted in the Brisbane North area over the past year²⁴. The rate of offences against the person²⁵ was lower in the Metropolitan North area in 2004-05 than in all regions across Queensland, apart from the Metropolitan South area.

In Queensland in 2004-5, 56% of offences against people and 61% of offences against property occurred in community or commercial environments including public places and public transport²⁶. (Murder was the exception, with two thirds of murders in 2004-5 occurring in dwellings or on residential land.) Crime prevention requires that opportunities for crime are reduced by providing safe environments in streets, parks and other public places, and encouraging community participation in reducing crime.

Socio-economic factors in the study corridor and crime rates in the Brisbane North region do not invoke particular concern, however the prevalence of crime on public places illustrates the importance of creating safe public environments. Environmental factors influencing propensity for crime is highly variable across the corridor, with inconsistently lit pathways, poor sight lines within some public spaces, and areas where both day and night time activity levels are low, thereby giving rise to opportunities for crime.

Community safety is also determined by road safety, freedom from hazards such as poor environmental quality, and adverse events. These factors are comprehensively addressed in other sections of the EIS.

²² *Ibid* - Division of General Practice 2005

²³ Queensland Police Services 2005 – 2004-05 Statistical Report viewed at www.police.qld.gov.au/services/reports March 18 2006

²⁴ *Ibid* – Queensland Police Service 2005

²⁵ Reported offences per 100 000 population

²⁶ *Ibid* – Queensland Police Service 2005

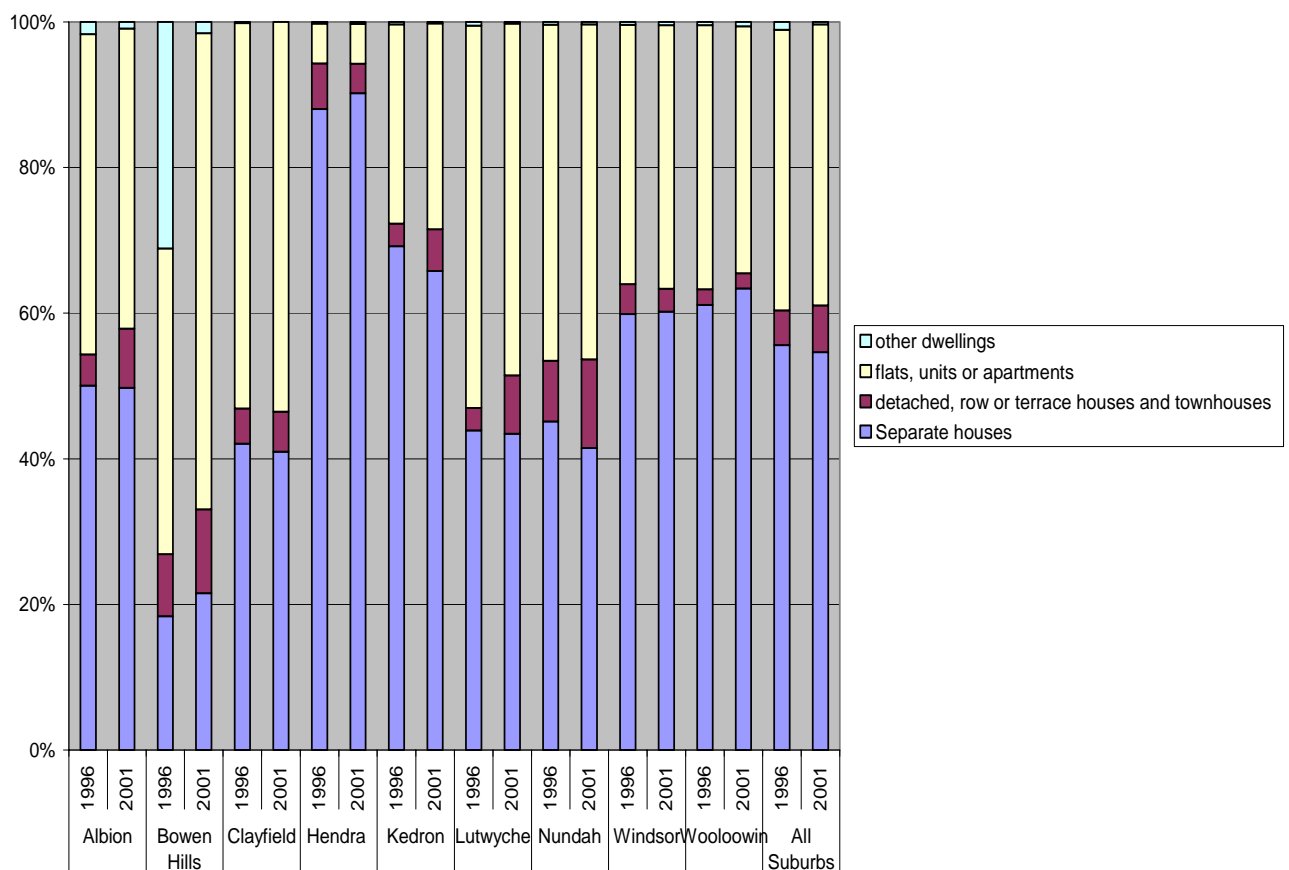
2.5 Housing

This section outlines the type of housing stock, home ownership levels and availability of affordable housing.

Attached and detached dwellings

There was a total of 24 238 dwellings in the study corridor in 2004. Detached dwellings represented 54% of dwellings in the “study area” in 2001, substantially lower than the Brisbane City average of 70%, but higher than the inner city percentage of 33%. Medium density housing is relatively well provided throughout the corridor, with highest levels in Bowen Hills, Lutwyche East, Kedron, and Clayfield. Percentages of separate houses, flats units and apartments, row or terrace houses and other dwellings are shown in Figure 4.

Figure 4: Dwelling types by suburb.



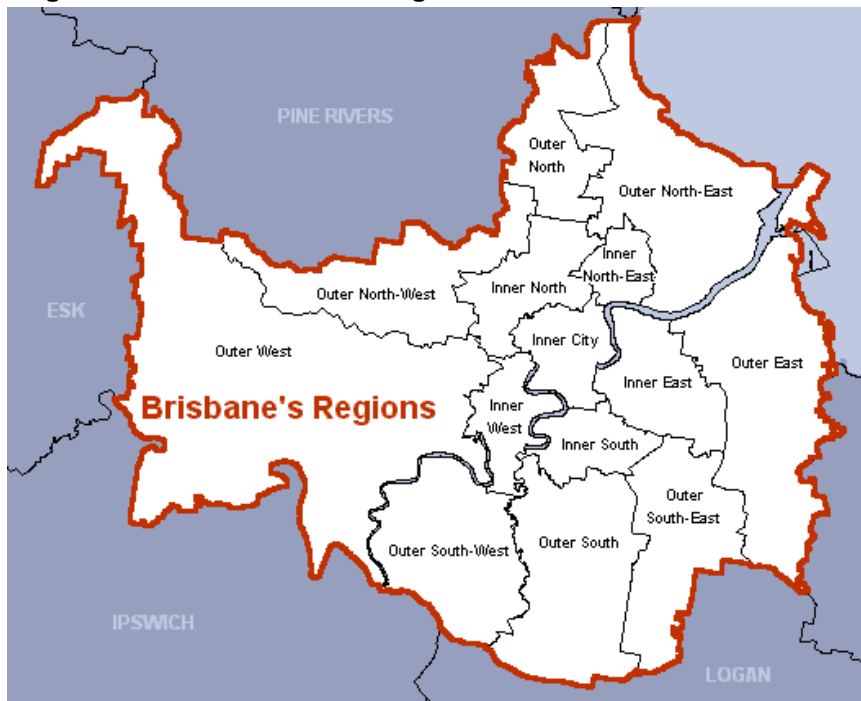
Bowen Hills, Lutwyche and Clayfield had the lowest levels of separate dwellings. All suburbs except Hendra had higher (than the Brisbane average) percentages of attached dwellings. Lutwyche, Nundah and Clayfield had more than 50% attached dwellings. Kedron and Hendra had higher percentages of detached dwellings than the study corridor average.

Dwelling increase projections

Under the BLTIP 'corridor' scenario²⁷, the number of detached dwellings in inner Brisbane is expected to decrease by 590 dwellings by 2021, whilst the number of attached dwellings (units, apartments, flats and townhouses) is expected to increase (to around 134 500 in 2021, an increase of around 50 500 attached dwellings, or more than 60%). Figure 5 identifies suburbs considered 'inner'²⁸.

Of Brisbane building approvals in the September quarter of 2005, 3 413 were for houses and 5 037 approvals were for units and townhouses. This is evidence of an increasing trend to the provision of more medium density housing in Brisbane. The increase in attached dwellings reflects trends towards smaller households and the declining affordability of housing. Attached housing will lead to a higher rate of increase in the number of households than in the number of people, with consequent demands on infrastructure

Figure 5: Statistical Portrait Regions



Reference: PIFU, ABS, BCC 2003: Brisbane Regions

Home ownership

Investment in a home is a primary goal for most families and individuals. Ownership of a home provides security of tenure, choice, and an asset base. It is also an indicator of households' resource levels, in that purchasing a house and maintaining a mortgage generally requires a secure income. At the community level, the level of home ownership is an indicator of a population's stability, in that home owners are likely to stay longer in an area than tenants, and may therefore be more likely to contribute to community cohesion and social capital.

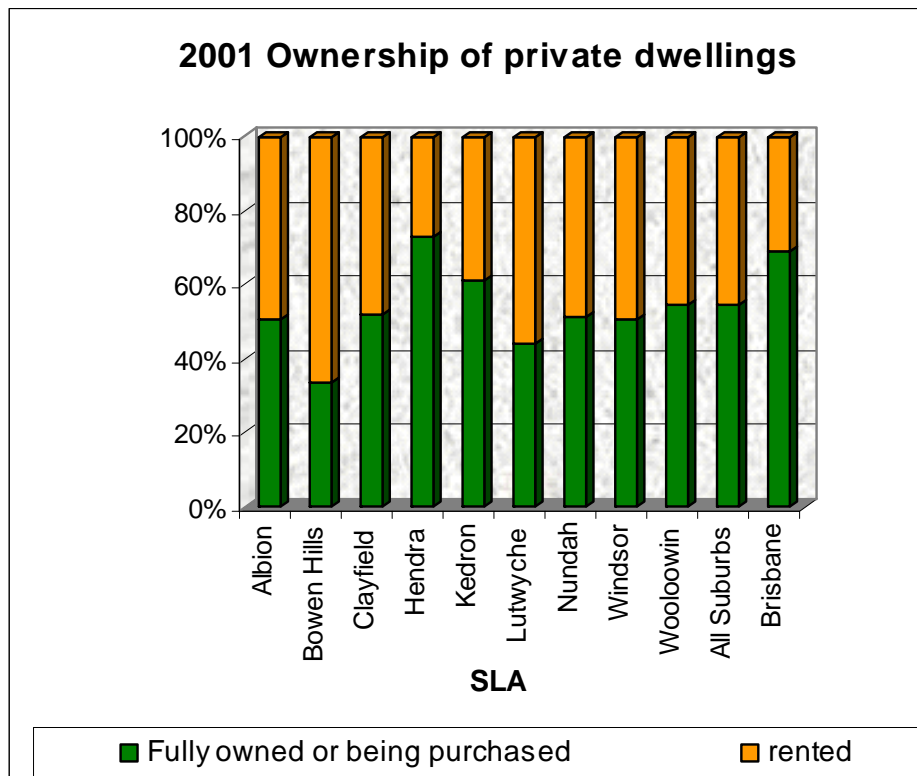
²⁷ Planning Information & Forecasting Unit Population (2005) BLTIP Projections

²⁸ QDLGP and Brisbane City Council 2003: Statistical Portrait of Brisbane

Within the area, 73% of households in separate dwellings owned or were purchasing their homes, whereas in the adjacent inner city region less than half (46.7 %) of dwellings were owned or being purchased. Home ownership is lower across the study corridor than the average across Brisbane, but is increasing in most suburbs. The rate of home ownership increased between 1996 and 2001 in all suburbs except Kedron, Lutwyche and Nundah, but only marginally in Bowen Hills.

Figure 6 shows the levels of home ownership in each suburb of the study corridor, and in the study corridor as a whole, as compared to Brisbane averages.

Figure 6: Home ownership and rental levels in the study corridor



The graph indicates that:

- Hendra has the highest rates of home ownership, reflecting to the small percentage of multi-unit dwellings, small number of sole person households and higher stability of occupancy (Kedron also had high levels in comparison to other suburbs);
- Bowen Hills ownership levels were lower than all other suburbs, reflecting the percentage of multi-unit dwellings and low stability of occupancy; and
- Ownership in Lutwyche was also low, reflecting a higher percentage of attached dwellings.

Housing Affordability

Recent research by the Real Estate Institute of Queensland (REIQ) indicates house and unit purchase prices in the inner northern suburbs are above the average Brisbane prices. There was a substantial increase in rental prices between 2003 and 2004, which continued in 2004 to 2005 (see Table 2-8), whilst many suburbs in the study corridor have a median weekly household income below the Brisbane average of \$800-999. This may

signify increasing disadvantage if the rental cost trend continues. Almost 70% of households had mortgages of less than \$800/month, indicating that there is some affordability for those purchasing their homes, however these lower levels are in part due to mature mortgages.

Table 2-8: Housing affordability indicators

Indicators	Albion	Bowen Hills	Clayfield	Hendra	Kedron	Lutwyche	Nundah	Windsor	Woolloowin	Study area
Median house price 2005 (\$) ²⁹	395,000	n.a.	620,000	465,000	345,000	373,250	368,000	545,000	452,000	445,406
Median Unit Price 2005 (\$)	303,000	n.a.	250,000	n.a.	239,000	251,500	237,000	n.a.	230,000	251,750
% change median 3 weekly bdrm house rental 2003-04	n.a.	8.93%	13.5%	7.7%	11.11%	14.58%	11.1%	8.33%	8.33%	7.8%
% Change median weekly 3bdrm house rental 2004-05	n.a.	n.a.	18.6%	25.0%	8.0%	10.9%	4.0%	11.5%	17.3%	10.6%
% change median 2 bdrm unit rental 2003-04	n.a.	3.33%	5.3%	5.3%	8.57%	14.71%	8.3%	17.65%	17.65%	9.9%
% change median 2 bdrm unit rental 2004-05	n.a.	n.a.	10.0%	10.0%	15.8%	7.7%	7.7%	10.0%	5.0%	4.7%
median weekly household income (\$)	800-999	600-699	800-999	800-999	700-799	600-699	600-699	700-799	800 ³⁰ -999	n.a.

Public Housing and Boarding Houses

Around 4% of Brisbane's housing stock is owned by a housing authority (Department of Housing or Department of Defence Housing Division). Nundah and Lutwyche had highest percentages of public housing in the study corridor (5.7% and 4.8% respectively at the last census). Windsor was also high at 4.6%. There are 69 properties owned by the Department of Housing, with a total of 445 housing units (418 apartments or duplexes and 25 houses). The number and type of Department of Housing properties is summarised in the table below.

Table 2-9: Department of Housing Properties

Suburb	No DoH Properties	No. Units	No. houses	Est. no. households
Albion				
Bowen Hills	5	22	1	23
Windsor	12	96	4	100
Lutwyche	10	76	2	78
Gordon Park	4	20	1	21
Kedron	12	85	5	90
Woolloowin	18	31	11	42
Albion	3	42	1	43
Clayfield	3	23	0	23
Nundah	1	22	0	22

²⁹ Real Estate Institute of Queensland 2005 Housing Costs Report viewed at www.reiq.com.au April 23 2006

³⁰ Database supplied by Department of Housing March 2006

Hendra	1	1	0	1
Total	69	418	25	443

Woolloowin had the highest number of public housing properties, and Windsor had the highest number of households in public housing. Clayfield, Nundah and Hendra had lower levels.

Boarding houses are represented in nearly all suburbs within the study corridor. Many of these are close to the Lutwyche Road corridor or the Rail corridor, and thus are in close proximity to services and public transport. The number and location of registered boarding houses is shown in Table 2-10.

Table 2-10: Registered Boarding Houses

Suburb	Number of Registered Boarding Houses	Location
Windsor	6	Northey Street, Bonython Street, Albion Road, Earle Street (3 houses)
Bowen Hills	4	Wren Street, Abbotsford Road, Down Street, Mallon Street
Clayfield	4	London Road, Sandgate Road, Bonney Avenue, Montpelier Street
Woolloowin	3	Chalk Street, Kedron Park Rd (2 houses)
Albion	3	Lever Street, Grove Street, Marne Road
Kedron	1	Strathmore Street
Lutwyche	1	Thistle Street
Hendra	1	Nudgee Road
Nundah	1	Atthow Parade
Total	24	

Overall, provision of boarding houses is good; however the inner areas are traditionally the primary areas for boarding house, and this type of stock needs to be maintained in the local area.

2.6 Social infrastructure

Social infrastructure includes services, facilities and networks that support quality of life and well being. 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.

There are four locations where community facilities are clustered. This has come about through either historical factors (e.g. Holy Cross centre and adjacent facilities, and the Windsor precinct), or the existence of government land including the former QUT campus and nearby Warilda Centre in Kedron. The existence of facilities often spawns others in the vicinity, as efficiency and connections between organisations are then maximised. The clusters of social infrastructure include:

- Windsor, between Harris, Roblane, Grafton and Somerset Streets;
- Woolloowin, between Lutwyche Road and Merehay Street;
- Kedron, between Tenth Avenue and Park Road; and
- Nundah Town Centre.

More than 158 facilities of various types are distributed throughout the study corridor, including health, education, community support, sport and recreation facilities, provided through schools, churches, community organisations, and Council and State provision. Social infrastructure land uses are mapped in Figure 7, and facilities identified in Figures 8, 9 and 10. Community organisations are also well established with 28 community organisations funded by the Department of Communities in the study suburbs. More than half of these organisations are situated in Woolloowin.

Table 2-11: Social infrastructure indicators

	Albion	Bowen Hills	Clayfield	Hendra	Kedron	Lutwyche	Nundah	Windsor	Woolloowin	Study area	Source
No. community and cultural facilities (inc. religious places)	10	13	21	6	20	8	31	26	22	158	Social Existing Environment Report Feb 2006
No. of DoC funded community orgs	1	0	3	0	0	1	5	7	11	28	Dept of Communities ³¹

The study corridor accommodates several major community facilities with both local and regional catchments, devoted to health, education, community support, sport and recreation. Facilities which have a regional catchment are listed in Table 2-12. Local facilities are described in each of the suburb profiles in Appendix B.

Table 2-12: Major Community Facilities

Facility Type	Location	Facility
Education	Bowen Hills	University of Qld School of Medicine
	Windsor	Northey Street City Farm
		Queensland Institute of Art
	Kedron	Kedron High School
	Hendra	Hendra High School
Health	Bowen Hills	Royal Brisbane Hospital Complex
	Windsor	Rosemount Hospital
Aged Care		
	Woolloowin	Alzheimers Association
		Clifford House
		Holy Cross Residential Care
	Nundah	Zion Lutheran Nursing home
Community support	Windsor	Inner North Community Housing
		Youth Advocacy Centre

³¹ Database of funded services in the study corridor supplied by Department of Communities in May 2006. This total does not include services funded by the plethora of other minor service provision agencies.

		Refugee House
	Woolloowin	Warilda Community Centre
		Woolloowin Community Centre
		Disability Services Regional Office
	Bowen Hills	Endeavour Foundation South East Queensland

Table 2-12: Major Community Facilities cont.

Facility Type	Location	Facility
Cultural	Bowen Hills	Old Museum
	Windsor	Old Windsor Council Chambers
Religious	Kedron	St. Andrew's Anglican Church
	Lutwyche	Islamic Mosque
	Kedron	Brisbane Cantonese Christian Church
	Lutwyche	Brisbane Christadelphian Church
Sport and Recreation	Bowen Hills	RNA Exhibition Grounds
	Lutwyche	YMCA Family Recreation Centre
	Kedron	Kedron Brook & Adjacent parks
	Albion	Brothers Rugby Union Club
		Qld Cricket Club
		Albion Park Paceway
	Nundah	Ross Park Skate Facility
	Bowen Hills	Strikers Soccer Club
Other	Kedron	Department of Emergency Services Complex

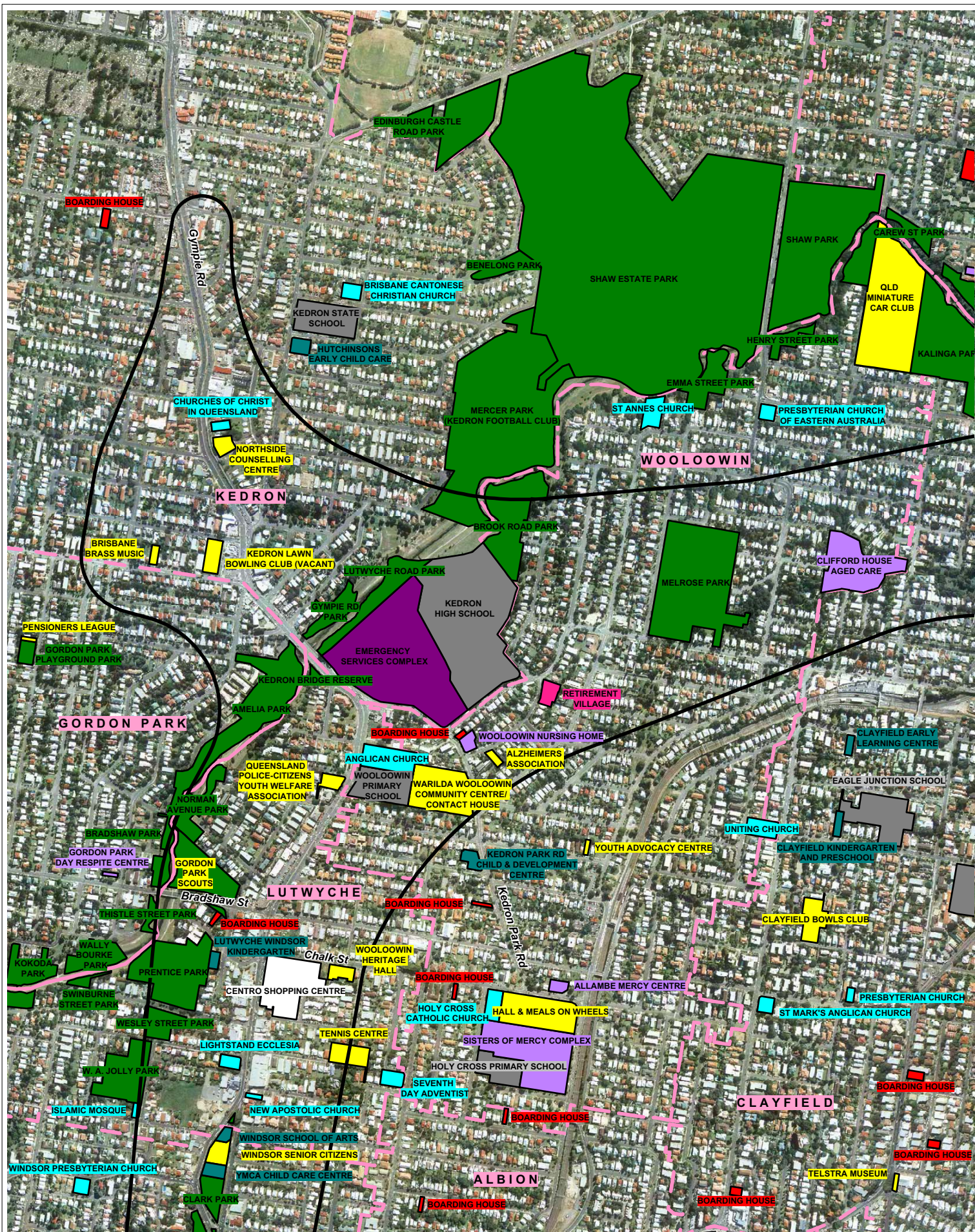
The study corridor has a high level of provision of health and aged care facilities, including the Royal Brisbane Hospital, health and residential care facilities based at Rosemount (including a palliative care service), several aged care hostels and nursing homes, and the State headquarters for the Alzheimers Association and Arthritis Association. As such it is particularly important that the area remain conducive to the mobility and health needs of seniors.

Schools within the study corridor include Holy Rosary Primary School, Kedron Park High School, Kedron State School, Windsor State School and Woolloowin State School. Holy Rosary Primary School is the smallest of the schools in size and enrolments (less than one hundred students) in the corridor, and is an equity school. Kedron Park High, which serves a regional catchment, is the largest school in size and in enrolments (nearly 1 000 students). All schools are located relatively close to a bus stop³², with Holy Rosary Primary, Windsor State School and Woolloowin State School likely having best access to bus services as they are adjacent to Lutwyche Road, a major route for express and local bus services. Windsor State and Holy Rosary Primary are also in close proximity to Windsor Railway Station. Schools enrolments and distances to public transport are summarised in Table 2-13.

³² Does not indicate frequency or efficiency of service.

Table 2-13: Statistics on schools in study corridor.

	<i>Hendra Secondary</i>	<i>Holy Rosary Primary</i>	<i>Kedron Park High</i>	<i>Kedron State</i>	<i>Windsor State</i>	<i>Wooloowin State</i>	<i>Total</i>
School enrolments	409	92	927	211	417	236	2292
Metres between centre of school and public transport stop	209	135	178	86	127	103	N.A.



LEGEND

■ Aged Care	■ Higher Education	■ School
■ Child Care Centre	■ Hospital	■ Shopping Centre
■ Church	■ Park	■ State Government Facility
■ Community	■ Retirement Village	■ Airport Link Corridor
■ Boarding House	 Suburb Boundary	

Figure 9

Social Infrastructure - Landuse
Lutwyche / Kedron / Woolloowin

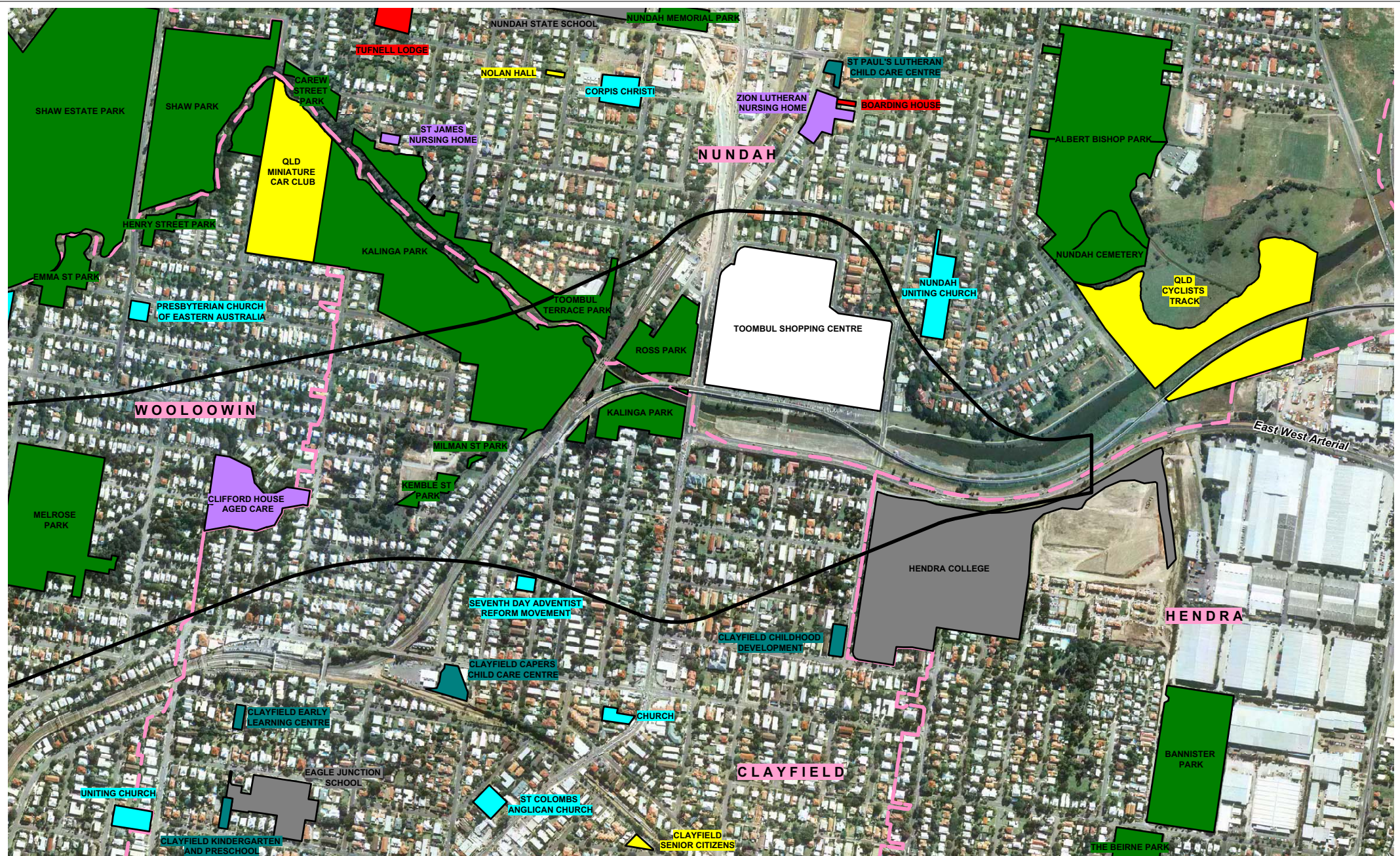


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SKM Connell Wagner
JOINT VENTURE





LEGEND

- | | | |
|---|--|---|
| Aged Care | Higher Education | School |
| Child Care Centre | Hospital | Shopping Centre |
| Church | Park | State Government Facility |
| Community | Retirement Village | Airport Link Corridor |
| Heritage | Boarding House | Suburb Boundary |

Figure 10

Social Infrastructure - Landuse
Clayfield, Albion, Nundah, Hendra and Toombul



2.7 Community values

Community values are the elements held as important to 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 also highly valued in local communities. This section focuses on these qualities which could be affected as result of changes to the physical and social environment.

2.7.1 Connectivity and Access

Connectivity and access as described here refer to the existence of options for moving within and between suburbs, and to and from attractors such as the CBD and local facilities.

The Lutwyche Road and Sandgate Road traffic corridors provide major north-south and north east traffic arteries between the suburbs and to the CBD. As such, they provide connectivity for private vehicles and buses through the area, but being congested, form major barriers to pedestrian east-west movement between suburbs. Lutwyche Road in particular provides a barrier to pedestrian movements particularly for children, seniors and people with mobility problems. Rail lines also form barriers to east-west movements. Barriers to connectivity are most prevalent in Bowen Hills and Windsor, with rail, and road infrastructure accommodated. Bowen Hills is also the most isolated of the suburbs, being largely a peninsula bordered by Enoggera Creek and the Inner City Bypass. Measures indicating barriers to connectivity are outlined in Table 2-14.

Table 2-14: Connectivity indicators

	<i>Albion</i>	<i>Bowen Hills</i>	<i>Clayfield</i>	<i>Hendra</i>	<i>Kedron</i>	<i>Lutwyche</i>	<i>Nundah</i>	<i>Windsor</i>	<i>Woolloowin</i>	<i>Study area</i>	<i>Source</i>
No. of Physical barriers within suburb, i.e. rail lines and 4-6 lane roads	6	8	4	4	4	3	6	7	4	46	Extracted from UBD
No. of Physical barriers bordering each suburb, i.e. rail lines and 4-6 lane roads	5	5	4	6	4	3	7	3	5	42	
Length of cycle paths- off road (Kilometres) (estimate only)	0.6	1.1	1.4	0.4	1.6	1.5	1.7	3.1	0.5	11.8	Extracted from BCC Webbasx
Length of cycle paths- all (Kilometres) (estimate only)	1.9	3.5	1.6	0.4	2.2	1.4	4.7	3.7	5.8	25.1	

Most streets have footpaths connecting to main roads. The pedestrian environment on main roads is generally poor due to high traffic volumes and the hardening of in Lutwyche Road, Sandgate Road and Gympie Road, where lack of shade and the predominance of hard landscaping characterise an unwelcoming environment. Footpath connections and quality for people in wheel chairs is generally poor, exacerbated in some areas by uneven and degraded pedestrian paths and topography.

There is some access to off-road bike paths (see Table 2-14), notably through the Kedron Brook-Kalinga Park open space corridor, and along Enoggera Creek in Windsor. Woolloowin has the poorest off-road bike path provision, though overall, is quite well serviced by on-road bike paths

Public transport access is very good by Brisbane standards. The rail network provides excellent access with stations at Bowen Hills, RNA (open only during the annual Exhibition), Albion, Woolloowin, Windsor and Eagle Junction. Recent provision of an increased bus fleet and integrated ticketing are improving public transport access.

Given bus, rail, road and some bike options, accessibility throughout the area is generally good. Pedestrian connectivity and travel times are however becoming compromised by increasing traffic congestion.

2.7.2 Sense of place

Sense of places refers to the relationship between people and their environment, and denotes the existence of special characteristics which define a place's character and identity. Sense of place in the study corridor is established by traditional Queensland housing, mature street trees, and neighbourhoods interspersed with increasing medium density housing options. The study corridor also includes a number of heritage sites that are on the Brisbane City Council, State or National registers (see Cultural Heritage Technical Report). Windsor has by far the largest number of heritage sites on all registers, due to the historical significance of Windsor as a centre of shire governance before Brisbane shires were amalgamated to form the city local government area.

On the basis of consultation data, the local characteristics that people value include:

- Access to quiet neighbourhoods within easy reach of the city's services and amenity;
- Connectivity as derived from Kedron Brook, the park network, bike paths and access to public transport;
- The contribution of heritage places, street trees and open space to visual amenity and local identity;
- Access to both local and regional community facilities; and
- Housing choice, both detached housing suitable for families, and increasing options for smaller, medium density housing.

Many community members are aware that several major initiatives (including Airport Link, the Northern Busway and local planning) are planned for their area, and are concerned to ensure that planning for land use and transport infrastructure are integrated to ensure the best possible outcomes for their local areas. People are also concerned to ensure that developments and redevelopment are consistent with aspirations for their area, including those represented by the SEQ Regional Plan and Brisbane City Plan.

2.7.3 Community Cohesion

Cohesion refers to connections between community members, and is essential to social capital, which refers to the store of community resources which results from people working together for the common good. It includes trust between local people, and networks that support community development. Longer term residents who have relationships with schools, shops and sporting clubs are likely to have a stronger sense of belonging to the community, and therefore be more willing to invest their time for community benefit. Around 41% of residents had lived in the area for more than 5 years in 2001, and school communities report strong and interested parent bodies. Home ownership is lower across the study corridor than in Brisbane as a whole, but increased in most

suburbs between 1996 and 2001. As such, it appears the area has increasing attractiveness, and many people feel strongly connected to their area.

Cohesion is encouraged by:

- the existence of facilities (especially schools, churches and parks);
- neighbourhoods with access to adequate open space;
- a sense of local identity;
- social diversity and social stability; and
- participation in community events including consultation.

As indicated by the number of community facilities within the area, interest in consultation, and the values placed on community diversity expressed in consultation assets, levels of social capital in the study corridor are likely to be healthy.

2.7.4 Amenity

Amenity values can be defined as “those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes”³³.

The study corridor is mostly flat, with some hilly terrain offering visual diversity and city views at higher elevations. The Lutwyche Road corridor is located within a saddle between slight ridges. Lutwyche and Sandgate Roads provide extensive retail and commercial service options, and light industry operates in Windsor, Bowen Hills and Albion. Windsor Shire Council Chambers, Windsor State School and Nundah State School are examples of listed heritage places valued by local residents.

The corridor accommodates a rich diversity of land uses including inner city and suburban neighbourhoods, major facilities, and commercial and industrial precincts. All suburbs are serviced by at least one ‘centre’³⁴ providing easy access to local shops.

Most neighbourhoods have a quiet and relaxed ‘Queensland’ character, however many are affected by proximity to major roads and facilities, and increasingly by rat running. Medium density housing is relatively well provided throughout the corridor, with highest levels close to major roads and public transport routes in Bowen Hills, Lutwyche East, Kedron, and Clayfield.

Whilst comprehensively settled, the area retains natural features such as Kedron Brook and Enoggera Creek, somewhat modified, but of high local value. Visual and recreational relief from intensive uses in the traffic and transport corridors is provided by facilities, parks and green corridors.

More than 40 parks are within the study corridor as defined here. Bowen Hills suffers from a lack of public open space, though still able to take advantage of public open space offered by Herston and Windsor. Lutwyche, being a small suburb, enjoys a high level of open space access offered by the Kedron Brook corridor. So too does Windsor due to the Enoggera Creek flood plains and large area offered by Windsor Park.

³³ Resource Management Act 1991, New Zealand, S.2

³⁴ ‘Centre’ refers to convenience centres/ major centres/ suburban centres as identified in BCC City Plan

Kedron Brook extends from Grange through Lutwyche, Gordon Park, Kedron and Woolloowin, to Nundah transecting Gympie Road east-west. Kedron Brook acts as a major open space corridor, providing pedestrian and cycle connectivity through these suburbs, defines suburbs borders, and provides green space with visual amenity values. Regional significance occurs when land has characteristics including: is part of a major open space corridor; separates major urban areas; is important to both the local and wider community; and/or is used by a large number of people³⁵. As such, Kedron Brook is regionally significant. Several parks and reserves are adjacent to the Brook, accommodating passive and active recreational pursuits, and these include John Wren Oval, Mercer Park, Kalinga Park and Hugh Courtney Oval.

Collectively, amenity in the study corridor is high, given good access to public transport, a range of housing, access to quiet neighbourhoods within easy reach of services and employment, and excellent access to facilities of state and regional significance. Accessibility and quiet neighbourhood character are however being compromised by increasing travel times, congestion costs and rat running. Increases in population and housing stock will increase these issues.

³⁵ Regional Framework for Growth Management 2000 Section 5 Principle 5.6, accessed at www.oum.qld.gov.au 24 May 2005

3. Social impacts

The terms of reference for the EIS require:

- analysis of potential changes to quality of life, community values, demography, and equity;
- Prediction of potential social impacts and benefits, including for quality of life, amenity, access, connectivity, changes to population diversity, changes to the social environment³⁶, employment, equity in local distribution of the community benefits and social impacts, and including cumulative impacts; and
- Development of mitigation strategies to optimise community benefits and minimise negative impacts, including development of design, public transport and urban renewal strategies.

Potential changes, impact and benefits are outlined in this section, and their significance evaluated in Section 4. Mitigation strategies are outlined in Section 5.

3.1 Quality of life

Quality of life is affected by social environmental factors outlined here, including:

- Residential amenity;
- Community health and safety;
- School amenity and access; and
- Employment options.

Quality of life is also affected by community values, socio-economic factors and equity, which are outlined in following sections.

3.1.1 Amenity of local streets

Local streets are important to residents' amenity for functions such as vehicular movement, and walking, but also as part of households' realm of space. Most people feel a strong sense of ownership of their street and its access, aesthetic and usage values. Where residents consider that traffic volumes or driver behaviour cause unacceptable noise or safety risks in local streets, amenity is affected and usage for other than vehicular purposes lessens. This occurs on residential streets where 'rat running' occurs.

Airport Link's creation of an alternate route may therefore improve amenity in both benefited major routes and adjacent local streets in the longer term, with potential benefits including:

- Reduction in traffic noise for community and commercial facilities along Lutwyche Road;

³⁶ The social environment includes the population, conditions such as equity and amenity, social infrastructure and community values. These elements are separately described as required by the Terms of Reference, whereas the social environment is represented by these factors.

- Protection of neighbourhood character due to reduced rat running (e.g. McLellan Street Windsor and Hudson Road, Albion);
- Reduction of traffic volumes on major routes, supporting a safer pedestrian environment; and
- Potential for improvement to amenity in streets which become cul-de-sacs as a result of the project.

During construction however, streets nearest worksites and surface construction may experience impacts on amenity including:

- potential noise from surface works, change of physical character and traffic disruption for Kedron and Gordon Park residents in Stafford Road, Lasseter Street, Erskine Avenue, Arnott Street, Gympie Road and Suez Street;
- construction noise, noise from haulage trucks and change of physical character including pedestrian connectivity and visual amenity for Windsor residents in Earle Street, Federation Street and Campbell Street;
- potential noise from surface works and construction of elevated structures, loss of neighbours and change to physical character and views to Kedron Brook, for Lutwyche residents in Perry Street, Colton Avenue, Windsor Avenue, Norman Avenue and Lamington Avenue;
- changed access to Kalinga Park for residents of Lewis and Kalinga Streets; and
- change of physical character due to the location of the worksite, diminution of direct access to Kalinga Park and changed pedestrian arrangements to Toombul/Nundah for Clayfield residents in Wongara Street, Alma Road, Stuckey Road and Elliott Street.

The project's construction methodology and environmental management requirements will reduce and mitigate most potential impacts, however successful mitigation for the duration of the construction period will require close communication and consultation with local residents.

Residents have raised the potential for volumetric tenure to reduce the amenity and therefore value of their properties. Whilst the north-south running tunnels would be constructed primarily within the Lutwyche Road corridor, the east-west running tunnel would run beneath properties in Woolloowin and the Clayfield localities of Eagle Junction and Kalinga. Where the project runs beneath private property, it would need to acquire an interest in the property through acquisition of volumetric tenure over these properties.

It is also possible that some residents may experience perceptible vibrations as a result of tunnelling construction, and this is addressed in Chapter 10.

Longer term impacts on amenity relate mostly to potential for traffic noise to increase, particularly for properties newly exposed to traffic due to removal of buildings or infrastructure moving closer to homes. Mitigation would likely include the installation of acoustic screens and possibly landscaping. This is addressed in Chapter 10. Where mitigation measures include noise barriers, their design and placement will need to respect pedestrian routes and the visual amenity of adjacent properties.

3.1.2 Amenity of parks and reserves

Visual access to green space and physical access to public open space are particularly valued in urban environments for their relief to the spirit, and this value will increase as land use intensifies. Most areas within the study corridor meet the BCC park provision standard of 4 ha/1 000 population, however accessibility, amenity and relative values are highly variable. Kedron Brook and its associated reserves, Kalinga Park and the

Enoggera Creek floodplain make a substantial contribution to the level of park provision. Existing parks in the study corridor therefore have high community values and are well used by local residents. A range of community values attach to parks. For example, Kalinga Park has aesthetic, heritage and amenity features. Both Breakfast/Enoggera Creek and Kedron Brook are highly valued for the inter-suburb connectivity they offer walkers and cyclists.

During construction, impacts on park values will include:

- Changed access to open space adjacent to Kedron Brook, north and south of Gympie Road, due to use for worksites;
- Proximity of worksites to Kedron High School ovals;
- Loss of access to part of Kalinga Park due to construction of transition structures and the ventilation infrastructure; and
- Changed access to Enoggera Creek due to worksites and construction of elevated structures and bridges.

Following construction, disturbed parkland would be re-instated to the extent possible. There would however be a loss of open space in Kedron Brook due to bridge widening and transition structures, in Kalinga Park due to transition structures and ventilation infrastructure, and along Breakfast/Enoggera Creek due to bridge structures. Other likely permanent impacts on the values of parks include change to perceived visual values of Kedron Brook, Enoggera Creek and Kalinga Park in areas affected by elevated structures or transition structures, and diminished access to Kedron Brook from the Kedron High School grounds.

New urban parkland spaces will be created in association with the project (refer to Chapter 15). This should aim to achieve no net loss in open space. Values other than land area (such as visual amenity, passive recreation and connectivity of open spaces) should also be considered in planning new spaces created as part of project works or the urban regeneration strategy.

3.1.3 Community health and safety

Community health is dependent on a range of factors including health and community facility access, levels of physical activity, and environmental qualities including safety and amenity. The study corridor population appears to have a generally lower risk of general poor health compared to communities with a higher prevalence of risk factors (see Section 2.2.2), notwithstanding the presence of people experiencing poverty, homelessness or illness, who are likely to have poorer health outcomes.

Access to accident and emergency services, public hospital care and community services supporting health for specific target groups (e.g. aged people) is likely to improve as a result of access to Airport Link as an alternative route, and facilitation of increased public transport services.

Access to open space and recreation facilities which encourage physical activity is dependent on ensuring that parks and reserves remain as accessible as possible during construction, and on restoring park areas used during construction (e.g. Kalinga and Ross Parks and Kedron Brook). Project works including proposed streetscape improvements to encourage pedestrian activity, and better pedestrian and cycle path provision, may in the longer term lead to higher physical activity levels for local people.

Potential exists for reduction in quality of life due to the effects of uncertainty, or to environmental changes such as noise and vibration. Some residents facing changes such as relocation or living near a worksite will experience anxiety and stress about changes. Uncertainty in proceeding with house sales, purchases, and renovations is also evident in the local area, and this also may cause stress. Consultation also identified concern amongst business owners near project works in Lutwyche Road due to uncertainty regarding amenity and access.

Air pollution has been raised in consultation as the primary health concern for local residents. It is expected that people will be concerned to ensure air quality is maintained at safe levels.

On balance such anxiety is unlikely to affect health given the range of support facilities and socio-economic resilience which is generally evident in the corridor. Further stages of project planning and delivery will need to be sensitive to the potential for anxiety and stress and ensure sensitive communication with residents reduces uncertainty. This will include consulting with residents in the design and implementation of environmental management strategies. Communication about the methodology for and results of air quality modelling will be valuable in assuring most community members that potential effects on health have been comprehensively assessed.

A community concern identified in consultation was in relation to children's safety around construction zones near schools. This is subject to ongoing consultation with Education Queensland and schools, but would be addressed through provision of safe pedestrian routes, strict safety standards, construction traffic management and consultation with schools and students.

Crime prevention requires that opportunities for crime are reduced by providing safe environments in streets, parks and other public places, and encouraging community participation in reducing crime. Potential impacts relate to the possibility of creating unsafe public spaces adjacent to infrastructure (such as around outlets and under the elevated structures over Kedron Brook and Enoggera Creek.). To ensure maximum usability and safety in public areas adjacent to Airport Link surface infrastructure, maximising activity levels in public areas, good sight-lines, and community surveillance of public thoroughfares and open space are required. In particular, attention to supporting walking and cycle activity, and increasing the legibility of the environment around worksites and connections will be required.

Other values which contribute to community safety include freedom from threats to personal well being, protection of personal and public property, and road safety. These aspects are comprehensively addressed in other sections of the report.

3.1.4 School amenity and access

Woolloowin State School (Lutwyche Road southbound) is located near the proposed site for the tie-in of the elevated structure over Kedron Brook. The school may experience changes to pedestrian access both during construction and longer term. The perceived legibility of the area is also likely to be affected during construction as rapid changes take place. The school has a strongly local catchment (most of the 200 children are from within 1.5 kilometres). As vehicle access to the school is difficult at best, and there is no off-street parking, safe pedestrian access from Lutwyche Road and Kedron Park Road is extremely important. Options for establishing safe and visible pedestrian access to the school, and for improving vehicle and pedestrian access longer term, are being explored with the school and with Education Queensland.

Parents of children at the school have expressed concerns about the safety of pedestrian access, air quality (see below) and predicted construction noise levels within the school environs.

Longer term, the character of Lutwyche Road in this area will be affected by the tie in and the tunnel portal, and the long term association of the school (and the church) with this area should be respected in designing urban landscaping treatments.

A worksite will be established on Department of Emergency Services land adjacent to Kedron State High School, and transition structures and cut and cover tunnel will extend onto school land. The site is used for school sports and as open space for the school, and as a pedestrian connection with Kedron Brook. Construction of the transition structures and cut and cover tunnels may need to be scheduled to avoid impacts from noise, for both grounds and teaching buildings. The location of a transition structure in close proximity to the school may also require particular attention to design and management to protect children's safety.

There is also concern from parents and Education Queensland about the potential for air quality changes to affect children's health as a result of exposure to pollutants within the school grounds. A ventilation outlet will be located within 300 metres of Kedron High School and more than 300 metres from Woolloowin State Primary School. Management of air quality is expected to ensure that no health impacts would be experienced. It will be important to address this issue through communication with school communities and provision of technical information with appropriate levels of detail to parents.

3.1.5 Employment Options

The Australia Trade Coast (to the near east of the study corridor) and the inner northern city fringe have been identified as the main drivers for Brisbane's economic growth over the next twenty years³⁷. Jobs growth of 550 000 – 850 000 is expected (and will be required) in Brisbane between 2001 and 2026, with the Australia TradeCoast area alone expected to achieve about 50 000 jobs over the next twenty years. Inner areas where major jobs and export growth will occur include Spring Hill, Herston, Inner City, Fortitude Valley and Bowen Hills.

Support for employment outcomes will derive from:

- provision of more direct access between the major employment hubs;
- shorter commuting times, more road space for public transport, and subsequent willingness to travel to jobs;
- facilitation of better environments for businesses to flourish in key employment corridors such as Lutwyche and Sandgate Roads;
- potential for a catalyst effect for the location of businesses near portals;
- business profitability leading to expansion, as a result of reduced cross-town freight and delivery); and
- support for the development of mixed commercial-housing hubs in response to the SEQ Regional Plan.

Approximately 9 business premises would be acquired for Airport Link. most of which are small businesses, including two motels. A small displacement impact on employment will occur as a result of acquisition of properties and this is addressed in the economic and employment impacts (Chapter 16).

³⁷ Brisbane City Council (2005) BLTIP Economic Development Study – Northern Corridor

It will be important for the project to include support for relevant industry skills training, in particular for population groups who experience disadvantage in accessing employment. Public transport and pedestrian accessibility in this area will be important to equitable employment outcomes.

3.2 Community values

3.2.1 Access and connectivity

Access is concerned with how people walk, cycle or wheel³⁸ to facilities in their neighbourhoods, and connectivity means the existence of pedestrian and cycle links between connecting paths and local attractors (such as churches and schools)³⁹. Whilst the project introduces no new barriers within neighbourhoods, work site locations and the intensification of road infrastructure may impact on connectivity between neighbourhoods, and on access to community facilities.

Kedron

Providing the optimum connections and movements between Airport Link and surface roads has necessitated a large project footprint in the Lutwyche/Kedron area. During construction, worksites and bridge widening will constrain Kedron Brook's pedestrian and bike route, and residents are likely to have difficulty crossing Lutwyche Road between Kedron Park Road and Norman Avenue due to construction of transition and ramp structures. This area is important for access to a range of community facilities within a 250 metre radius, including Warilda, Kedron High School, Woolloowin State School and the Alzheimers Association. The Lamington Avenue/Norman Avenue neighbourhood is home to a high proportion of seniors, and access to shops and bus stops in Lutwyche Road is also important in this regard. This will require a comprehensive pedestrian management strategy, with particular regard to how elderly residents (in particular) are able to move about the neighbourhood and across Lutwyche Road.

Streets which would be permanently truncated from the Lutwyche and Gympie Road corridor include Colton Avenue, Norman Avenue, and Windsor Avenue in Lutwyche, Swan Street in Gordon Park and Park Terrace and Lasseter Street in Kedron. This may affect pedestrian connectivity, however the existing road already presents a major barrier in this respect, and new arrangements included in project works are expected to restore pedestrian access to major facilities and public transport stops. The truncation of streets could improve their amenity by reducing traffic and buffering streets from traffic and non-residential uses on Lutwyche Road.

The scale of the connections and overpasses at Kedron is a significant challenge to pedestrian connectivity between Lutwyche, Gordon Park and Woolloowin, affecting major pedestrian routes on Gympie, Lutwyche and Kedron Park Roads. Pedestrian movement between Lutwyche and Kedron Park Roads, and to St. Andrew's Anglican Church and Woolloowin State School would be maintained. Whilst north-south connectivity here is presently inferior, safe and attractive underpass options of the infrastructure elements are to be provided. An integrated urban design and regeneration response will be delivered as part of project works to ensure that people are able to move about the area in comfort and safety.

³⁸ Wheelchairs, skateboards, scooters and gophers.

³⁹ Broader connectivity with regards to inter-suburb movements and longer journeys is addressed in the traffic chapter.

Bowen Hills

Access from the Federation Street neighbourhood south to Bowen Park and the RBH would be maintained though probably changed during construction by the NSBT and AL projects. This access is required for people with disability, hospital visitors and young people travelling to sporting facilities in Northey Street. New pedestrian connections will be developed after construction to ensure there are no permanent impacts on accessibility to community facilities for local residents.

Campbell Street between Sneyd and Tufton Streets will be blocked off to vehicular and pedestrian traffic which will use O'Connell Terrace. The residential development, "The Mews", at the Lutwyche Road end of Campbell Street will be more isolated between Lutwyche Road and the carriageways of the NSBT/AL connection and will be very close to new bridge structure over Breakfast/Enoggera Creek that will have visual and noise impacts on the residential environment.

Toombul

Toombul has a simpler connection to the surface network, and no direct cumulative impacts with other projects. Pedestrian access between Clayfield (Kalinga), Kalinga Park, Centro Toombul and Nundah rail station is likely to be constrained due to construction of cut and cover tunnel and transition structures, and this would extend to the longer term in respect of crossing the East-West Arterial, if compensatory measures were not provided. Construction here would need to maintain the bike route from Kedron Brook to Schultz Canal, which is an important route to the north-east.

3.2.2 Sense of place

Sense of place refers to people's identification with and valuing of environmental features, built and natural. It is important to quality of life, affecting feelings of identification with the local area and community belonging.

In the study corridor and throughout Brisbane, people derive a strong sense of place from urban bush land, open space, and cultural heritage values. The two highest priorities articulated by residents in Council's Neighbourhood Planning consultation workshops (August-October 2005) were protection of parks and open space, and protection of the natural environment. This has also been demonstrated in consultation for Airport Link, where residents have nominated Kalinga Park, Kedron Brook, Windsor Memorial Park and Pop's Fig as important aspects of place. They also identify character housing and cultural heritage places, such as Windsor Council Chambers, and character housing.

Changes that will affect sense of place on a broader scale during construction are likely to include:

- loss of tall trees temporarily diminishing Kalinga Park's scenic value from the East-West Arterial;
- worksites affecting the aesthetic and amenity values of Kalinga Park, Kedron Brook, and the Enoggera Creek area;
- removal of the old Windsor Police Station (QPCYCA building); and
- juxtaposition of transport infrastructure with St. Andrew's Anglican Church and the Kedron Park Hotel.

Loss of sense of place can lead to disengagement from the area, with impacts on community cohesion ranging from less participation in community activities to relocation.

Longer term, the introduction of infrastructure to the study corridor may ‘harden’ the environments around connections to surface roads, by increasing the space used for built structures. Infrastructure placed in existing major road corridors will intensify their use, by widening bridge structures and adding overpasses and complex road connections.

Lutwyche and Gympie Roads are historic traffic corridors (dating back to Indigenous settlement) and define the suburbs of Lutwyche, Gordon Park, Woolloowin and Kedron. As such they are major landmarks contributing to sense of place. They carry high volumes of traffic which present significant barriers to pedestrian movements and a less than pleasurable driving or pedestrian experience. If the project reduces traffic and congestion and improves pedestrian amenity, this would be a benefit to sense of place in major road corridors.

The project could also contribute to a more positive character and sense of place for these corridors through streetscaping and facilitation of land use change, such as creation of new activity centres and new focal points. For example, urban design includes creation of better landscapes with shade and dedicated east-west pedestrian access under elevated structures at Kedron. Successful outcomes for sense of place will depend on urban design which complements the character of local areas and of Brisbane.

3.2.3 Community Cohesion

Community cohesion is a social characteristic dealing with connections and relations between societal units such as individuals, community groups, and neighbourhoods⁴⁰. Its value is in the creation of social capital (trust and joint effort for common good) and protection of well being through community inclusion. As indicated by the number of community facilities in the area, increasing home ownership and community values expressed in consultation, community cohesion in the study corridor is likely to be healthy.

Potential impacts on cohesion may begin: “from the time of the earliest .. rumour about a project, (when) both hopes and hostilities begin to mount...”⁴¹. Conflict between project proponents and opponents may affect the level of trust between neighbours and community members, and detract from community cohesion; however community activism for mitigation and community benefits is likely to have positive effects on cohesion from people working together.

At the neighbourhood level, physical separation of neighbourhoods affects cohesion by reducing interactions between neighbouring areas. In Windsor East, property acquisition for connections to Lutwyche Road will impact heavily on the Earle, Cedric and Byrne Streets neighbourhood, which is likely to affect neighbourhood friendships and community group memberships. With potential for construction impacts and reduced aesthetic values likely in this area and in Federation Street, cohesion within this neighbourhood is likely to be substantially affected.

Around the northwestern connection, expansion of the road profile in Gympie, Lutwyche and Stafford Roads is likely to reduce the visual connection and potentially interactions between neighbourhoods though these are already affected by high traffic volumes during peak travel times. Bridges across Kedron Brook at the

⁴⁰ McCracken, M. 1998 Social cohesion and macroeconomic performance, Centre for the Study of Living Standards Conference, Ottawa Ontario

⁴¹ US Dept of Commerce/National Oceanic and Atmospheric Administration (1994) Guidelines and Principles for Social Impact Assessment, Interorganisational Committee on Guidelines and Principles for Social Impact Assessment, page 9 of 33

Northwestern Connection may impede visual access, changing but not lessening the sense of connection between suburbs. In Stafford Road, an embankment in the middle lane would provide an additional barrier however it is likely that connections between residents here are already affected by poor street amenity and heavy traffic.

Approximately 33 households would need to move as a result of property acquisition for Airport Link in the Kedron/Lutwyche/Gordon Park area, and a further 23 households would be affected by the common requirements of Airport Link and Northern Busway. Whilst the number of relocations is not significant at a large scale, acquisition will displace a number of older people and long term tenants with a strong connection to the area. Cohesion within the Lutwyche neighbourhood between Norman Avenue and Kedron Brook will be particularly affected with the loss of residential properties in Colton Avenue, Perry Street, Norman Avenue, Windsor Avenue, Lamington Avenue, and Lutwyche Road. Stafford Road, Arnott Street, Gympie Road, Park Terrace, and Erskine Avenue in Kedron are also affected at a lesser scale.

These impacts would be localised, but significant to the quality of life of residents who relocate and other members of their social networks. Dependent on the number (and period of residence) of people who relocate from the area, social capital may also be affected. Cohesion is also dependent on relationships to community facilities, re-enforcing the need to maintain amenity for schools, churches and parks.

It will be important to redress impacts on cohesion by ensuring that the local environment around affected areas is restored and where possible enhanced in a way that promotes connections and interaction, for example through provision of attractive and usable public space.

At city level, access to better cross-city travel options is likely to provide benefits for community cohesion. Travel facilitates social interactions and economic transactions across Brisbane. Where mobility on major routes is constrained by heavy, inefficient traffic streams, people avoid making trips that have unacceptable travel times. Airport Link would provide alternative routes for cross-town travel, decreasing travel time between family, friends and community participation options.

3.3 Demography

3.3.1 Population size and composition

A range of factors - amenity, affordability, proximity to the city, and projected increases in attached dwellings - are combining to drive population growth in the study corridor. Forecasts⁴² indicate that the area's population is expected to increase from approximately 53 000 people in 2006 to 60 000 people in 2021 (an increase of around 12%)⁴³. Most growth will occur in the area's inner suburbs.

42 Brisbane Long term infrastructure Plan Population Forecasts, August 2005, for Brisbane City Council by the Population Information Forecasting Unit (2005)

43 The provision of Airport Link was factored into these projections. Population yields are derived from existing City Plan classifications, and may change with the implementation of the Local Growth Management Strategy (required by the South East Queensland Regional Plan) and subsequent amendments to City Plan. It is possible that, with the implementation of the SEQRP and Brisbane City LGMS, the population of the inner north will increase beyond currently forecast levels.

In the short term, Airport Link may cause a very small population decrease (in the order of 200 people) if residents whose properties are acquired by the project leave the area. In particular, the population of Windsor East will decrease, whilst the Norman Avenue - Colton Avenue area will also experience a small decrease. This is not seen to be significant against suburb populations of 6 100 (Windsor) and 2 700 (Lutwyche).

Concern about construction impacts, traffic disruptions and real estate values may cause a slowing of population growth in the next few years if people are dissuaded from living in the study corridor due to the perception of amenity impacts, however this is not likely to affect the area's future growth potential.

3.3.2 Population diversity

The project's direct property impacts are most extensive in three areas where average SEIFA (socio-economic) values are in the fourth or fifth quintile (see Section 3.4.2), indicating that residents here have lower incomes and fewer resources to cope with change. This is likely to reduce the number of lower income households in the study corridor. People displaced by property acquisition may have to move to other areas away from social networks and known places, which may impact on their well being if they are not supported to do so.

Around 650 residents in the study corridor in 2001 had poor or no English speaking skills. These residents may have limited access to information about the project during construction. The provision of access to translation services in the process of property acquisition and construction may be required to ensure people with poor English continue to feel comfortable in their surroundings.

3.4 Equity

Equity refers to 'justice according to fairness, especially as distinguished from mechanical application of rules'⁴⁴, and in a social sense, means a fair distribution of the resources that allow residents full participation in their community. In particular, equity requires that the well-being of people with fewer resources is protected. Changes to conditions which affect equity include: impacts on population diversity as outlined above; access to community facilities, and access to affordable housing.

3.4.1 Access to community facilities

The study corridor has a rich variety of community facilities, and several services and facilities have district and citywide catchments (see Section 2.6). The project will increase vehicular access to such services from other parts of Brisbane; however during construction visual and pedestrian amenity may be affected by proximity to construction sites. Community facilities which would be in close proximity to construction activities are listed in Table 3-1.

Many people using facilities and services access them by public transport or on foot, and it is therefore important that good pedestrian access is maintained including for people with disabilities. If pedestrian or vehicular access is impeded, or people feel less confident moving through the area due to construction activity, facility use may suffer. Similarly, the congregations of churches such as St. Andrew's Anglican and Churches of Christ Kedron will require communication and consideration to ensure their access to church is maintained, and that church activities can be maintained during construction.

⁴⁴ Merriam-Webster's Dictionary of Law, 1996 Merriam-Webster, Inc.

Airport Link will require the acquisition of property accommodating Queensland Police and Citizens Youth Association (QPCYCA) State headquarters, in the Old Windsor Police Station on Lutwyche Road. The QPCYCA centre is an administrative centre, and whilst its functions are important, its location in the local area is not. The centre's functions will relocate following acquisition.

The project will also require a portion of land currently occupied by Department of Emergency services, which delivers state-wide program and service co-ordination for emergency services. The proponent is working with Department of Emergency Services to ensure acquisition does not inhibit delivery of the Department's services.

Dependent on the location of the ventilation outlet in Toombul, the skating facilities in Ross Park may need to be relocated. This is an important facility for young people in surrounding suburbs, and would need to be restored within the local area. Community facilities adjacent to proposed works and which will require consideration of their needs are listed in Table 3-1, along with potential construction impacts to be mitigated. With the exception of Woolloowin State School, each has a district or regional catchment, and effects on access and amenity would be felt at wider than local scale.

Table 3-1 Facilities and potential impacts

Location	Key facilities	Potential impacts
Southern Connection		
Earle to Cartwright Streets, Windsor	<ul style="list-style-type: none"> Regis Marooma Aged Care Children by Choice Rosemount Hospital and facilities Arthritis Association 	<ul style="list-style-type: none"> Construction noise and vibration in Federation Street potentially affecting aged care facility Pedestrian access to Rosemount from south changed Potential for vibration under Arthritis Association Constraints on parking near facilities
Northwestern Connection		
Lutwyche Road/Kedron Park Road area, Woolloowin	<ul style="list-style-type: none"> Woolloowin State School St. Andrew's Anglican Church Warilda and Disability Services Queensland 	<ul style="list-style-type: none"> Change of vehicular and pedestrian access due to construction barriers or noise barriers Surface construction noise affecting facility grounds in Lutwyche Road Constraints on parking near facilities Impact on visual amenity and legibility near church and school
Kedron Brook/Gympie Road area	<ul style="list-style-type: none"> Kedron State High School Department of Emergency Services 	<ul style="list-style-type: none"> Construction of transition structure affecting pedestrian access from Brook to school Temporary and permanent use of DES land used for school sports and as open space Changed access and construction noise impacting on grounds amenity
Northeastern Connection		
Kalinga Park	<ul style="list-style-type: none"> Eastern extension of Kalinga Park 	<ul style="list-style-type: none"> Change of pedestrian access from Kalinga Park to Toombul Shopping Centre

Maintaining access to facilities and services during and after construction is important to their retention and continued operation in the locality. It is important to ensure that access is maintained and construction noise levels do not impact on amenity to the extent that functions are constrained.

3.4.2 Affordable housing

Affordable housing includes boarding houses, public housing, community rental housing, and affordable private rental housing⁴⁵ (usually older flats or houses). Affordable housing is often located on or near main roads and transport corridors, and this is so in the study corridor.

Direct impacts on affordable housing due to acquisition for the project include:

- three boarding houses (two in Earle street and one in Colton Avenue), affecting around 18 residents and constituting around 12% of the study corridor's boarding house stock; and
- affordable private rental dwellings - 20 flats and 6 houses - affecting a total of 26 households⁴⁶.

⁴⁵ Private housing is generally considered affordable when rent or mortgage payments require 30% or less of weekly income. The income and rental payment of affected households have not been identified due to privacy concerns. Affordability was assessed according to age and condition survey.

⁴⁶ 14 flats and 1 house in Stafford Road; 6 flats in Gympie Road; three houses in Perry Street and two houses in Colton Street

Supplies of affordable housing are falling throughout the city, and diminishing supply makes it difficult for people on low and very low incomes to access housing, particularly in the inner areas. The loss of boarding houses, flats and rental houses will reduce opportunities for people on low and very low incomes to maintain secure housing in the study corridor. In combination, these losses are also likely to reduce socio-economic diversity, to the extent that these residents cannot relocate within the area. The Department of Housing and Council have a protocol in place to deal with boarding house closures in respect to relocating residents. This does not however address the loss of affordable housing stock, and mitigation of the loss of stock should be included in the project. The area's relatively good representation of public housing and boarding houses has maintained some balance in affordability and therefore some social diversity.

Indirect impacts on affordable housing stock are likely to occur over time (5-10 years). Replacement of older housing stock with new, higher priced housing stock is likely to occur due to a mix of existing factors such as market pressures and demand from population growth. The increased connectivity and access offered by Airport Link and North-South Bypass Tunnel (NSBT), and Northern Busway may also contribute to change. More affordable private rentals, older/smaller houses and traditional flats will be replaced through redevelopment with or without the Airport Link Project. The likely sale of the DMR corridor ('Old Route 20') properties will also impact on affordable housing levels in Woolloowin and Nundah as many are affordable rental properties.

As change accelerates as a result of cumulative effects, people who contribute to the social character of the place – older people, people from Non-English Speaking Background (for example Italian families in Lutwyche) and people on low incomes - may find it increasingly difficult to access housing in the area. In the context of reduced housing affordability across the city, options for increasing the supply of affordable housing in the study corridor should be considered and this is addressed in Section 5.

3.4.3 Equity in distribution of the community benefits and social impacts

Social equity - the concept of fair treatment and just sharing of resources - is integral to Council's liveability agenda. "In the thriving Brisbane of 2010, a balance between striving for prosperity and social wellbeing will exist. It will be about trying to make sure everyone has the same chances"⁴⁷.

Airport Link's primary objectives are to reduce traffic congestion and improve the strategic traffic and transport network in northern Brisbane. The average full time employee in Brisbane spends almost four hours per week commuting⁴⁸. Congestion has a range of impacts at family and community level, including:

- impacts on families' disposable income, through increasing the cost of each kilometre travelled;
- reduction in the range of employment locations that can be reached in a reasonable time;
- consumption of road space which could otherwise be used for alternative transport, constraining road space as a public good;
- increased demand for inner-city living which avoids long commuting trips; and
- effects on travel times, and therefore on time for family, community participation and leisure.

⁴⁷ Brisbane City Council, Living in Brisbane 2010

⁴⁸ Michael Flood & Claire Barbat, The Australia Institute, Discussion Paper Number 78, April 2005 Off to Work - Commuting in Australia

Reducing the household and community costs of congestion would constitute a benefit for the general community, and may provide particular benefits to people living in and near the study corridor, either through tunnel access or better public transport. Other potential benefits for equity include:

- facilitating the improvement of public transport provision, including leverage of better network functioning through reconfiguration of ‘chokepoints’ within the study corridor; and
- Reducing bus transit times through bus priority measures made possible by freed road space from congestion.

Airport Link’s connections to the surface network will be constructed in areas where some people have fewer resources to cope with changes such as relocation or amenity impacts. Airport Link’s property impacts (project footprint) are in areas where average socio-economic values are low - Earle Street (fifth quintile SEIFA values); Perry Street (fourth quintile SEIFA values) and Gympie Road north of Kedron Brook (fifth quintile SEIFA values). The project will require land accommodating at least 30 houses and 54 units leading to displacement of these people from the neighbourhood and potentially from the area.

In addition to impacts on less advantaged residents, the project is likely to affect the pleasantness and perceived liveability of residents nearest to construction sites. Potential impacts in some areas from the Airport Link Project include changed access to parkland and reduction in visual qualities. Noise, reduced visual qualities and pedestrian severance already caused by existing major transport corridors contribute to the socio-economic nature of these areas. While each impact of itself is likely to be managed within acceptable standards and goals (such as safety, noise, construction air quality and traffic management), the cumulative impact during the operational phase of the tunnels is unlikely to make significant change in the perception of pleasantness or liveability. During construction areas closest to worksites may be affected but every effort is proposed to consult with residents, businesses and facilities to agree mitigation measures to maintain existing standards of liveability wherever possible.

In conclusion, benefits such as reduced congestion, facilitation of urban regeneration and better public transport are likely to be shared at both local and regional level, whilst the impacts of property acquisition and construction will be experienced in areas closest to the project. These areas include residents with fewer resources. Protection of amenity and community values will need to be addressed by the project to protect social equity.

3.5 Cumulative effects

Other planning and infrastructure responses have been initiated to achieve sustainable population growth in the inner north. These include the North-South Bypass Tunnel, the proposed Northern Busway, other major infrastructure projects in the inner city, and planning initiatives. Interaction with other projects’ impacts may decrease or intensify Airport Link’s impacts and benefits on the social environment.

3.5.1 North-South Bypass Tunnel

North-South Bypass Tunnel is an approved project, and construction is likely to begin in Bowen Hills in the second half of 2006. Engineering and urban design for Airport Link has allowed for the connection to NSBT. Properties acquired for NSBT include two boarding houses in Earle Street, adding to Airport Link’s requirement for three boarding house sin the area. Cumulatively, construction of NSBT and Aport Link will require a large construction zone adjacent to Windsor East and Bowen Hills, which may increase the duration of surface construction activities for residents in the Windsor East area and particularly in Federation Street. The two

projects' interchanges require additional bridges across Enoggera Creek (see Chapter 4). This is likely to increase the challenge already heightened by its isolation of providing safe and usable spaces along Enoggera Creek. However, urban design will address connectivity and may enhance amenity values following construction.

3.5.2 Northern Busway

Planning for Airport Link and Northern Busway has been co-ordinated to ensure neither project compromises the other's objectives. The concept design for the Northern Busway in Bowen Hills follows the western side of Bowen Bridge Road and is physically separate from the Airport Link connection to NSBT, but then crosses Lutwyche Road, with the Busway station likely to be adjacent to Airport Link and North-South Bypass Tunnel connections to Lutwyche Road. Construction of this section of the Busway could occur during Airport Link construction, which would increase the magnitude of construction in Bowen Hills, and the challenge in providing adequate pedestrian connections and a comfortable local environment for local residents.

Commuters are likely to require educational and awareness support regarding changed access in the Windsor East precinct during construction, and periods of traffic congestion might be expected in the traffic network between Lutwyche Road and Mayne Road. This will require close co-operation between teams planning and managing construction of the three projects.

Between Windsor East and Lutwyche, the proposed Northern Busway is likely to make use of surface routes in the short to medium term. The staged Northern Busway would impact on the Children by Choice facility in Lutwyche Road and affect access to the cluster of facilities located along Roblane and Truro Streets, which may affect their viability and in turn reduce opportunities for social connections in the local area. This may compound potential losses in cohesion in the Lutwyche and Windsor East areas due to property acquisition for Airport Link

In Lutwyche and Kedron, the 'ultimate' Northern Busway could be constructed co-incident with Airport Link. Construction of cut and cover tunnel and transition structure for the Northern Busway would begin at Norman Avenue and extend to a station located on Lutwyche Road just south of the Brook, alongside Airport Link structures. Together with Airport Link, this would produce an expanded project footprint with two additional lanes required. It has also required the alignment of Airport Link to be moved to the east to cater for the Busway and requires additional acquisition on the eastern side of Gympie Road. Depending on co-incidence of particular construction activities, construction of the two projects could intensify or extend the duration of impacts such as changes to pedestrian access. This may have an impact on access to the Churches of Christ Kedron property on Gympie Road, and constrain pedestrian access to the Housing Queensland unit complex between Leckie Street and Gympie Road.

This will require joint planning to re-create the pedestrian and public space environment, with careful design and formal surveillance to ensure community safety through the area.

3.5.3 Other projects

Construction of the Gateway Upgrade Project is expected to start in late 2006 and be completed by 2011. This will co-incide with construction of NSBT and Airport Link, as will development of Australia Trade Coast and at Brisbane Airport. In combination, construction traffic from major projects is likely to place additional pressure from on arterial roads connecting to the Gateway Motorway north of the Brisbane River, leading to periods of congestion and frustration for motorists.

Additional major projects planned for construction in inner Brisbane over the next five years include:

- NSBT connections in Kangaroo Point and Woolloongabba;
- Inner Northern Busway extension;
- Hale Street Bridge;
- Tank Street Pedestrian Bridge; and
- Potentially, the Eastern Busway.

In combination, construction impacts such as traffic diversions and construction traffic will cause a changing and sometimes challenging driving environment in inner Brisbane, and this will need to be addressed through co-operative planning between Council and the Queensland Government agencies responsible for new infrastructure projects.

3.5.4 Local area planning

The Draft Brisbane Cityshape identifies a growth corridor corresponding to the Airport Link corridor. The study corridor will become increasingly attractive as public transport, public amenity and employment options strengthen in response to Airport Link and other projects. Growth pressures will reduce the proportion of single dwellings, and older flats and duplexes will be redeveloped for higher yields in suburbs such as Lutwyche, Albion and Kedron.

Consultation with City Planning has ensured mutual recognition of opportunities for the study corridor. The outcomes of the Neighbourhood Planning and LGMS processes will need to be considered in refining the urban regeneration strategies for Airport Link.

4. Significance of Social Impacts

This section evaluates the significance of the project's potential benefits and impacts. It refers to Council and Government objectives for liveability in Brisbane, and to expressed community values identified in consultation.

Table 4-1 summarises themes, directions and principles, as stated in *Living in Brisbane 2010*⁴⁹ and the *South East Queensland Regional Plan*, as relevant to social impacts and benefits.

Table 4-1: Social Framework - SEQRP and Living in Brisbane 2010

South East Queensland Regional Plan	'Living in Brisbane 2010
Desired Regional Outcome F 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	Key themes <ul style="list-style-type: none"> • accessible city • active and healthy city • city of inclusive communities • clean and green city • regional and world city • smart and prosperous city
Principles <ul style="list-style-type: none"> • Maximising access to social infrastructure; • Managing the social effects of growth and change to create and enhance a sense of community • Addressing issues of disadvantage; • Creation of well-designed, safe, and healthy local environments; • Supporting community engagement in planning; and • Protecting cultural heritage, including historic places. 	Key directions <ul style="list-style-type: none"> • an active and healthy place to live; • providing access to affordable housing; • revitalising places and communities; • supporting special needs; • safe and supportive communities; • pedestrian and bike friendly; and • keeping Brisbane moving (primarily bus transport initiatives).

The following sections evaluate the significance of benefits and impacts for the four key dimensions required by the Terms of Reference: demography, quality of life, equity and community values, with reference where relevant to these policy frameworks. This section assumes the implementation of urban design strategies proposed as part of the project.

4.1 Significance for quality of life

4.1.1 Benefits

Potential benefits significant to quality of life include:

- reduced congestion, which constrains the capacity of major routes and streets affected by rat running to support social functions such as walking and meeting friends;
- better access to community facilities with regional catchments for the Brisbane community, due to decreased congestion on major routes, and facilitation of better public transport outcomes in northern Brisbane;
- reduced costs of congestion for disposable income and family time;

⁴⁹ www.brisbane.qld.gov.au viewed 21 March 06

- potential for greater vitality of local activity centres (including commercial and community facilities) through reduced traffic noise, better pedestrian amenity and urban regeneration; and
- support for economic development leading to greater employment access.

4.1.2 Impacts on Amenity

The most substantial potential impacts on amenity will be experienced by residents in neighbourhoods nearest construction and worksites. Whilst individual construction effects will be managed within environmental goals, impacts such as local access changes, truck noise near worksites, loss of views to open space and changes to pedestrian and cycle connectivity may cumulatively add to the already mediocre amenity in the short term. This is proposed to be mitigated through rigorous environmental management and continuous consultation with local residents.

In the longer term, exposure of previously protected properties to traffic and infrastructure through removal of housing and other buffers may require mitigation to safeguard amenity of residents from noise and pedestrian safety issues.

4.1.3 Potential impacts on school access and amenity

Woolloowin State School and Kedron Park High school adjoin areas required for cut and cover tunnelling, and transition structures and portals will be located close to each school. Parents have expressed concerns about construction safety issues and ventilation outlet locations in relation to the two schools, and parents at Woolloowin have expressed concerns about access to the school being impeded or discouraged by construction impacts. Physical access to the school is an existing constraint and a solution is required regardless of whether or not the Airport Link Project proceeds. St. Andrew's Anglican Church parishioners have also expressed similar concerns although the worksite will be separated from the Church grounds by the three lane southbound carriageway of Lutwyche Road so the physical structure of the Lutwyche Road frontage of both Woolloowin State School and the adjoining church will not change other than a resurfacing of Lutwyche Road near the end of construction. It is critical that the amenity and access of these facilities is protected from project impacts during and after construction.

'Creation of well-designed, safe, and healthy local environments' is a key objective for both Council and the Queensland Government. Urban regeneration of areas near project connections is proposed and this will need to pay attention to restoration of worksites and connection areas in a way which enhances access to the schools and Church.

4.1.4 Impacts on community health and safety

Stress, due to property impacts, uncertainty or environmental changes is likely to affect small numbers of residents, and communication and responsiveness to residents' concerns will be of the utmost importance. Perceptions about air quality changes as a result of the project will also need to be addressed through community education and communication with residents. Potential for noise and vibration impacts on Regis Marooma Aged Care or Rosemount facilities are of specific concern and will need to be sensitively managed.

4.2 Significance for community values

4.2.1 Impacts on access and connectivity

The construction of transition structures and cut and cover tunnelling will occur in areas where pedestrian connectivity is very important to local residents, who include lower income households, older people and people with disability. The ability to get around the local area without cars is an important value in respect to health,

safety and independence of people with disability, young people, and seniors, and contributes to better connections with place and other residents. Access to community facilities clustered near major interchanges responds to the requirements of the Disability Discrimination Act (DDA) 1992 (Commonwealth).

Brisbane's climate and broad, unshaded road reserves generally challenge the comfort of pedestrians and cyclists, and the development of 'shadeways' and sub-tropical landscapes is a Council objective. The SEQ Regional Plan's objectives also include reference to better pedestrian and urban environmental outcomes, as part of facilitating higher housing and employment densities. The project will reduce traffic volumes as a barrier to crossing Lutwyche and Sandgate Roads, but increased lanes in Lutwyche, Gympie and Sandgate Roads will increase the size of these roads as barriers to movement. The scale of interchanges in Kedron and Bowen Hills thus presents significant challenges and opportunities for the pedestrian environment.

The creation of safe and attractive urban spaces which are pedestrian and bike friendly will be comprehensively addressed in the urban design and urban regeneration strategies for Airport Link.

4.2.2 Impacts on sense of place

Key factors here include visual access to open space and trees, and the physical and social character of neighbourhoods. Sense of place during construction may be affected by removal of houses providing buffers to roads, juxtaposition of construction with facilities such as churches, parks and schools, and changed access to Kedron Brook and Breakfast/Enoggera Creek. Subjective factors such as confidence moving around worksites, legibility and the safety lent by these qualities will be important during construction, regardless of regulatory access provision.

Longer term, whilst the project's infrastructure will be imposing, urban landscapes around interchanges are likely to be improved by urban design strategies. This would include high quality landscaping and path networks, particularly adjacent to homes. Sense of place will be most affected in Windsor East and Bowen Hills, where property acquisition for infrastructure and elevated structures over Enoggera Creek will cause major changes to views and physical character. Restoration of adjoining areas should be undertaken in consultation with local residents and respond to the scale of neighbourhoods in the areas near connections.

4.2.3 Impacts on park and open space values

The qualities of Brisbane's natural environment are strongly aligned with its lifestyle and sense of community. Kalinga Park and Kedron Brook make a substantial contribution to open space and park access. Kedron Brook is regionally significant open space, whilst the Breakfast/Enoggera Creek flood plain is valued by local residents for connectivity and passive recreation values. Transition structures (alongside Kedron Brook and in Kalinga Park), ventilation infrastructure (in the northwest and northeast) and bridge structures (Breakfast/Enoggera Creek and Kedron Brook) are likely to be seen as detracting from their aesthetic values, and potentially on connectivity and amenity values. Urban design, landscaping and regeneration in these areas will be important to both local and regional residents.

4.2.4 Impacts on cohesion

Connections between communities are likely to increase at the regional level due to increased travel opportunities on less congested routes, and facilitation of improved amenity in local centres along previously congested routes, leading to greater opportunity to make connections.

Connections are more easily made where people are able to meet through walking, park use or membership of local groups, and these elements should be respected through protecting pedestrian connectivity and park access to the highest extent during construction and operations. This is relevant for each connection area.

The most likely impacts on cohesion during construction relate to loss of residents from neighbourhoods due to property acquisition or a choice to relocate. Schools, aged care facilities and health facilities located near project infrastructure require particular attention to ensure that their capacity to support community cohesion is not impaired. Reconstruction as part of project works is likely to create environments which are safer by design and support better mixed use outcomes such as access to businesses and housing choices, and creation of safe and attractive public places will be integral to this. In particular this will need to be incorporated around project interchanges.

4.3 Significance for Demography

The study corridor's demographic profile (characteristics, distribution and size) is changing slowly and will continue to change in response to citywide growth pressures, redevelopment of private and public facilities (such as the RNA Showgrounds), and demographic trends such as population ageing and the trend to smaller households. In the short term, demographic changes due to Airport Link will include:

- a small decrease in the number of people on very low incomes, due to removal of boarding houses and affordable private rental stock, affecting some 18 boarding house residents and 26 households and;
- the potential for a slight, short term slowing of population growth in areas closest to project infrastructure due to uncertainty about moving into areas near worksites and ventilation outlets.

Longer term, Airport Link will support the development of employment centres at either end of the corridor (inner city, Australia Trade Coast and Brisbane Airport), which may encourage the co-location of higher housing densities here, in keeping with current land use planning policy. Airport Link is likely to support increased economic development at either end of the study corridor, and may interact with other factors to cause a marginal increase in redevelopment.

Urban regeneration in response to initiatives including Airport Link is likely to increase housing values and costs, and to increase average SEIFA values (advantage/disadvantage and economic resources indices) as the area develops more mixed use and medium density housing and a greater range of employment options and employment accessibility. The flip-side of this is that socio-economic diversity may decrease, as housing affordability declines in redeveloped areas. However, other factors such as demographic trends and redevelopment are likely to be much stronger drivers in this regard.

4.4 Significance for equity

The project footprints in Bowen Hills and Kedron are located in areas of high social sensitivity, in that socio-economic values are low near project connections, and there are several important community facilities close by. This situation may exist because of major transport infrastructure already in the areas so that Airport Link may have minimal impact on this socio-economic profile. Environmental management requirements identified in respect of connectivity, community facility access and consultation will be important to ensuring that people experiencing disadvantage do not experience further difficulties.

Whilst the project's benefits will be experienced at both local and regional scale, activities giving potential rise to impacts (such as removal of properties, access changes and noise and vibration) would be experienced at local level in neighbourhoods closest to construction activity. The focus of urban regeneration work should

therefore be on areas closest to the project connections rather than along benefited (reduced congestion) routes. A 'place making' approach (integrating community development and urban development practices) should be applied in these areas. Where access and amenity changes or reduced pedestrian connectivity have the potential to affect community facility usage, this should be carefully monitored to ensure facilities are sustained in place.

4.5 Conclusion

Airport Link has been proposed in recognition of the social, environmental and economic costs of growing traffic congestion, and in response to deficiencies in Brisbane's road network. As such, it has potential for both citywide and local benefits. Underground roads also allow a reduction in roadside pollution, severance impacts and road traffic noise levels.

Project infrastructure would be placed in a highly urbanised area, which will bring both immediate and longer term changes to the physical and social environment. The construction of Airport Link will change community values in the immediate area during construction. Where these changes are permanent, urban design and regeneration are required to mitigate impacts and maximise benefits for community members.

The extent to which Airport Link achieves positive changes for local social environments is an important measure of its success. Respect for local values and Government and Council policy objectives are essential to impact mitigation, environmental management and urban regeneration.

5. Mitigation

Strategies to minimise project impacts and maximise project benefits are outlined here, under categories as required by the Terms of Reference: development of design, public transport and urban renewal strategies. This is followed by an Environmental Management Plan, which includes consultation strategies.

5.1 Development of Design

The project's design should respect community values in the study corridor. In particular, it should ensure that the amenity of residential neighbourhoods, community facilities and public infrastructure adjacent to the project's traffic infrastructure is maintained to the extent reasonable and practicable. This would include:

- Minimising the footprint of transition structures located near Woolloowin State School and Kedron Park High school;
- Ensuring work site fencing and sheds are designed and located to enable visual and pedestrian legibility around worksites;
- Ensuring the design of public spaces adjacent to the project creates safe and attractive urban spaces with high levels of vitality and connectivity to surrounding areas, including support for pedestrian connectivity between neighbourhoods in Lutwyche and Bowen Hills, and to community facilities in adjoining suburbs during and following construction;
- Ensure barriers and batters adjacent to residential properties incorporate design and landscaping treatments which respond to the neighbourhood scale and values;
- Restoring parks adjacent to project infrastructure protect cultural and community values identified in consultation;
- Considering advanced tree plantings as part of landscaping adjacent to Airport Link connections;
- Ensuring public places throughout the area of project works (including intersections) maintains access for people with disability as required by the Disability Discrimination Act 1992, during construction and operation of the project; and
- Providing for the functional and aesthetic qualities of environments near portals and structures, through design treatments which respond to local features.

5.2 Urban renewal, regeneration and capacity building

Brisbane City Council and the Queensland Government, as the project's proponents and as land use planning authorities, are well placed to integrate planning for Airport Link with planning for land use, community infrastructure and transport infrastructure in the study corridor. The Environmental Impact Statement for Airport Link includes a framework for urban regeneration planning (Chapter 20), to support the proponents' accountability in respect of creating a better city and enhancing the liveability of Brisbane's neighbourhoods. The framework aims to:

- capitalise on opportunities to enhance active transport, public transport and environmental values;
- maximise Airport Link's contribution to the amenity of neighbourhoods near the project; and
- build stronger communities, through capacity building initiatives.

A 'place making' approach (integrating community development and urban development practices) should be applied to urban regeneration. This would include consideration of social, environmental and economic outcomes for neighbourhoods and activity centres, and co-operation with local residents, business and groups to implement 'place making'. Implementation would begin in early stages of project planning to ensure development of local capacity to participate in urban regeneration initiatives.

Urban regeneration initiatives are proposed under three categories: project works (delivered as part of Airport Link); program works (delivered in partnership with other agencies); and redevelopment opportunities (delivered through a variety of means). Projects of particular relevance to the social environment which are expected to be delivered or facilitated by Airport Link include:

- construction of new open spaces or enhancement of existing open space adjacent to the project;
- landscaping and large-scale planting to enhance amenity and ecological values adjacent to project infrastructure;
- providing high quality cycle links to mitigate impacts and improve connectivity throughout the study corridor;
- housing initiatives to replace affordable housing displaced by the project; and
- capacity building initiatives to engage community members in urban regeneration and employment as part of the project.

Successful implementation relies on managing the change process and outcomes to avoid impacts on quality of life and equity. In particular, the delivery of urban regeneration should:

- provide public spaces and pedestrian connections which support the development of community cohesion within neighbourhoods and throughout the study corridor;
- sponsor and support community initiatives to improve the environmental and community values of Kedron Brook and Enoggera Creek;
- develop an employment skills training centre, incorporating a program to employ and train indigenous workers, and including employment and training options for local people with disability;
- enhance pedestrian and cycle links from adjacent neighbourhoods to Kedron Brook
- support the achievement of subtropical boulevard treatments for paths and street crossings to develop an active pedestrian corridor on Lutwyche Road between Windsor and Lutwyche;
- include networking processes with local businesses near portals and joint planning for revitalisation of business precincts in Lutwyche and Eagle Junction;
- provide an equivalent or greater capacity of boarding house stock to that acquired for the project, for single people on very low incomes; and
- recommend planning measures as part of the City Plan amendment process to encourage provision of affordable housing within the corridor.

With regard to affordable housing impacts, the project should commit to both short term actions to re-house people and long term responses to increase affordable housing stock in the study corridor. This will require collaborative action by Council, the Government and community agencies.

5.3 Public transport

The concept design and impact management plan for Northern Busway has been developed co-incident with the Airport Link EIS. The Northern Busway will significantly increase capacity for travel to employment, services and community facilities, and will provide connectivity for local bus services. Its delivery will ensure a high degree of connectivity between catchments and bus stations, thus improving local pedestrian access throughout the Lutwyche Road corridor. The delivery of the ‘staged’ Northern Busway (Royal Children’s Hospital to Kedron) should be considered in construction planning and delivery of Airport Link. The delivery of Airport Link will also need to consider preserving path and road arrangements which support local bus services.

6. Conclusions

Brisbane's aspirations as outlined in *Living in Brisbane 2010* are for an active, inclusive and accessible city, and the SEQ Regional Plan seeks to achieve cohesive, inclusive, and healthy communities.

The community acknowledges managing traffic congestion as a priority for Brisbane. Most people seek a balanced solution including better road capacity and public transport as part of an integrated solution. By enhancing the strategic road network in Brisbane, Airport Link will support public transport improvements and improve the amenity of major routes where traffic volumes would decrease. Enhancements to the pedestrian and cycle network are also likely as a result of the urban regeneration strategy.

Airport Link will interact with other projects to change functionality in the inner northern suburbs. In communities that would accommodate project infrastructure, some existing values may be affected during construction, and whilst construction activities are temporary, they may extend over months and years. For the most part people are likely to accept impacts on the proviso that environmental management protects their quality of life, and urban regeneration delivers long term city-wide benefits.

The extent to which Airport Link achieves positive changes for local social environments is an important measure of its success. This will require co-operation with local communities to ensure that mitigation and urban regeneration protect and enhance local values.

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Appendices

Appendix A - Information on SEIFA and BLTIP

Appendix B - Local area profiles

Appendix C - Demographic Data Tables

Appendix A – Information on Brisbane Long Term Infrastructure Plan

The projections include small area population forecast data for four growth scenarios as developed through Brisbane City Council's neighbourhood planning process. This report has referred to projections for 'Multi-centred city', which is at present the favoured framework to accommodate increased population density. The 'multi-centred' framework assumes (among other things) higher densities in the centres of Carindale, Chermside, Mount Gravatt and Toowong. PIFU qualify the data with the expectation that there will be significant variation in the expected rate and pattern of development, and forecasts will need to be reviewed.

Methodology for small area forecasts is as follows. The BLTIP allocates projected population to SLAs¹ and then to CDs² which are apportioned and aggregated to BSTM³ zones. The current (2005) proportions are used for the 2006 allocation. Future residential land, in localities with large areas of greenfields land, has been estimated (based on lot yields) so as to generate populations for 2021 and for intervening intervals.

Index of Relative Socio-Economic Disadvantage

Variables used in the derivation of the index of relative socio-economic disadvantage

Weight between 0.2 and 0.3

Persons aged 15 and over with no qualifications (%)
Families with income less than \$15,600 (%)
Families with offspring having parental income less than \$15,600 (%)
Females (in labour force) unemployed (%)
Males (in labour force) unemployed (%)
Employed females classified as 'labourer and related workers' (%)
Employed males classified as 'labourer and related workers' (%)
Employed males classified as 'intermediate production and transport workers' (%)
Persons aged 15 and over who left school at or under 15 years of age (%)
One-parent families with dependant offspring only (%)
Households renting (government authority) (%)

Weight between 0.1 and 0.2

Persons aged 15 and over separated or divorced (%)
Dwellings with no motor cars at dwelling (%)
Employed females classified as 'intermediate production and transport workers' (%)
Employed females classified as 'elementary clerical, sales and service workers' (%)
Employed males classified as 'tradespersons' (%)
Persons aged 15 and over who did not go to school (%)
Aboriginals or Torres Strait Islanders (%)
Occupied private dwellings with two or more families lacking fluency in English (%)

INDEX OF RELATIVE SOCIO-ECONOMIC DISADVANTAGE

¹ Statistical Local Area

² Collector Districts

³ Brisbane Strategic Traffic Management

Variables used in the derivation of the index of economic resources

Weight between 0.2 and 0.4

Households owning or purchasing dwelling (%)

Dwellings with 4 or more bedrooms (%)

Families with family structure other than two parent or single parent with dependent offspring or consisting of a couple only, and income greater than \$77,999 (%)

Families consisting of a two-parent family with dependent offspring, and income greater than \$77,999 (%)

Families consisting of a couple only, and with income greater than \$62,399 (%)

Families consisting of a single parent with dependent offspring with income greater than \$31,199 (%)

Mortgage greater than \$1,300 per month (%)

Rent greater than \$249 per week (%)

Weight between 0 and 0.2

Households purchasing dwelling (%)

Households owning dwelling (%)

Dwellings with three or more motor cars (%)

Average number of bedrooms per person (%)

Weight between -0.2 and 0

Households in improvised dwellings (%)

Households renting (government authority) (%)

Households renting (non-government authority) (%)

Dwellings with one or no bedrooms (%)

Rent less than \$74 per week (%)

Families consisting of a single parent with dependent offspring with income less than \$15,600 (%)

Weight between -0.3 and -0.2

Families consisting of a couple only and with income less than \$15,600 (%)

Families with family structure other than two parent or single parent with dependent offspring or consisting of a couple only, and income less than \$26,000 (%)

Families consisting of a two-parent family with dependent offspring and income less than \$26,000 (%)

Dwelling with no motor cars (%)

Source: Australian Bureau of Statistics 1998, Information Paper. 1996 Census of Population and Housing. Socio-Economic Indexes for Areas, Cat. No. 2039.0., Commonwealth of Australia, Canberra.

Appendix B – Local area profiles

This section describes characteristics of the social environment in each suburb of the study corridor in relation to local values, social diversity and social infrastructure provision.

Kedron

Kedron, the most northerly suburb in the study area, is one of the area's largest suburbs, and was home to an estimated 11,723 people in 2004¹. Kedron is 8 km from the CBD, and straddles Gympie Road, the main north-south arterial into the city. The study area is shown in Figure 6. Lutwyche Road, Gympie Road, and Kedron Park Road experience high traffic volumes. These roads contain a mix of primarily commercial and community facilities, with some residential uses. They form barriers to east-west pedestrian connectivity, which are relieved by Kedron Brook.

Land use classifications are predominantly low and low to medium density residential. A social infrastructure precinct has developed around the corner of Kedron Brook Road and Lutwyche Road, where major educational, emergency services and family support facilities are located. The median house price in 2002/03 was \$278,500 (the lowest in the study corridor) and the median weekly rent for a 3-bedroom house in this area in the June 2003 quarter was \$225 per week. The median weekly rent for a 2-bedroom unit in this area was \$175².

The combination of proximity to the city, relatively good public transport (bus) services and local facilities provide a high degree of amenity. Major shopping centres at nearby Stafford and Chermside complement the local commercial uses concentrated along Gympie Road. Kedron Park Hotel was established in 1881 and is a popular local landmark and meeting place.

Strong social capital is evident throughout the area. For example, the Kedron Brook Catchment Network sponsors a range of community and environmental activities and events, and there is a range of substantial facilities. The area is also home to more than 800 non-English-speaking people. Selected characteristics of the Kedron community³ are outlined in Table 4-1 with comparisons to the study corridor. They indicate Kedron has an older population than the average, lower household occupancy than the average, and SEIFA indices for collector districts within the suburb are in the medium range. Kedron has a low percentage of people speaking other languages. The percentage of attached dwellings was one of the lowest in the corridor.

¹ PIFU – preliminary data

² All house and rental prices have been derived from the REIQ Real Estate profile of Brisbane available at www.ourbrisbane.com/Suburbs

³ Derived from *ABS 2001 Census of Population and Housing* and Department of Local Government Planning Sport and Recreation Planning Information and Forecasting Unit 2005 *Brisbane Long Term Infrastructure Plan – Projection of Demographic Indicators*

Table 4-1: Social diversity in Kedron

Characteristic	Kedron	Study Corridor	BSD
% Younger than 20 years	21.3	20.5	27.3
% Older than 60 yrs	17.2	16.6	15.1
% Families with children households	37.2	37.3	44.3
% Sole person households	17.5	18.5	26
% Speaking other languages at home	3.3	8.6	12.8
Stable residency percentage	46.8	41.1	47.2
SEIFA Adv/Disadvantage Range	978-1113	952 - 1222	1034.4 ⁴
Average occupancy rate	1.77	1.9	2.4
% Attached dwellings as % of total dwellings	33	44	25.0

Kedron provides excellent access to both local and regional facilities as listed in Table 4-2. Social infrastructure in Kedron is shown in Figure 6.

Table 4-2: Community Facilities in Kedron

Type	Facility	Location
Education - Public	Kedron Secondary School	34 Park Road
	Kedron State School	16 Ninth Avenue
	Kedron Heights Pre-school and Kindergarten	107 Kitchener Road
Disability	Disability Services Area Office	84 Kedron Park Road
Family support	Family and Early Childhood Team	84 Kedron Park Road
	Abused Child Trust	84 Kedron Park Road
	Northside Counselling Centre	219 Gympie Road
Aged service	Alzheimer's Association	7 Eveleigh Street
	Gordon Park Day Respite Centre	45 Shamrock Street
	Australian Pensioners' League Hall	43 Khartoum Street
Cemetery	Lutwyche Cemetery	Lutwyche Road
Childcare	Kedron Park Childcare Centre	84 Kedron Park Road
	Hutchison's Early Learning Centre	7 Ninth Avenue
Community health and safety	Emergency Services Complex	125 Kedron Park Road
Sporting	Kedron District Rugby League Inc Juniors	Sixth Avenue
	Kedron Football Club	Sixth Avenue
	John Wren Oval	Mercer Avenue
	Kedron Lawn Bowling Club (vacant)	17 Stafford Road
Recreation	Mercer Park	Bennelong Street
	Brisbane Brass Music Association	45 Stafford Road
	Gordon Park Scouts	20 Lamington Avenue
Place of worship	St Therese & St Anthony's Catholic Church	80 Turner Road
	Churches of Christ in Queensland	217 Gympie Road
	City North Baptist Church	52 Yiada Street
	Brisbane Cantonese Christian Church	28 Tenth Avenue

⁴ BCC (2004) Place Management and Social Capital what we are learning in Brisbane : BCC Social Policy Department

Woolloowin

Woolloowin was subdivided in the 1880's. The Sisters of Mercy retreat was established during the 1880's to care for the 'needy and destitute' and is still home to a variety of community organisations. With the Temple of the Holy Triad and market gardens established near Breakfast Creek, Woolloowin, and nearby suburbs were also home to a large Cantonese community, and their descendants remain in the area. Woolloowin has always been socially progressive, establishing one of the earliest progress associations in 1911⁵. The area is shown in Figure 6.

In 2004 there were estimated to be 5 572 people living in Woolloowin, which is 7 km from the CBD. The suburb is divided by the North Coast railway line, and accommodates busy Rose Road/Junction Road and the downstream effects of Sandgate Road traffic to and from the city. The number of large, older Queenslanders and leafy streetscapes contribute to its character, whilst workers' cottages have become attractive to couples and small families. Many Woolloowin neighbourhoods retain a quiet character notwithstanding the railway's operation, busy through traffic routes (e.g. Bridge Street) and proximity to arrange of traffic generators such as the Brisbane Airport, Australia Trade Coast, and Toombul and Lutwyche shopping centres.

Land use classifications in Woolloowin are predominantly low density residential to the west of the railway line and low to medium density residential to its east. Pockets of character housing are also contained in the eastern portion. The percentage of attached dwellings was substantially lower than the study corridor average. The median house price in the suburb for the financial year 2002/03 was \$379,000 (the second highest in the study area). The median weekly rent for a 3-bedroom house in this area in the June 2003 quarter was \$240, and the median weekly rent for a 2-bedroom unit was \$170 for the same period.

Woolloowin had higher percentages of young people than the study corridor, reasonable cultural diversity, and a range of SEIFA index scores above the mean (indicating relative advantage). Selected characteristics are shown in Table 4-3.

Table 4-3: Social diversity in Woolloowin

Characteristic	Woolloowin	Study Corridor	BSD
% Younger than 20 years	24.0	20.5	27.3
% Older than 60 yrs	13.9	16.6	15.1
% Families with children households	35.6	37.3	44.3
% Sole person households	15	18.5	26
% Speaking other languages at home	7.5	8.6	12.8
Stable residency percentage	41.7	41.1	47.2
SEIFA Adv/Disadvantage Index	1012 - 1131	952 - 1222	1034.4
Average occupancy rate	2.1	1.9	2.4
% Attached dwellings as % of	35	44	25.0

⁵ BCC Brisbites History Series 2005

total dwellings			
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Community facilities and their locations in Woolloowin are listed below, and show very good access to local facilities and parks of regional significance.

Table 4-4: Community Facilities in Woolloowin

Type	Facility	Address
Education - Public	Woolloowin State School	663 Lutwyche Road
Education - private	Holy Cross Primary School	40 Morris Street
Community – various	Woolloowin Community Centre	84 Kedron Park Road
	Warilda Community Centre	84 Kedron Park Road
	Community Garden	Bridge St
	Holy Spirit Church Hall	18 Chalk Street
	Woolloowin Heritage Hall	104 Chalk Street
Child care	Kedron Park Road Childcare Centre	60 Kedron Park Road
Aged care - residential	Clifford House Hostel and Nursing Home	44 Jimbour Street
	Mercy Aged Care Centre	22 Morris Street
Aged care – community care	Holy Cross Health Services	60 Bridge Street
	Alzheimer's Association	7 Eveleigh Road
	Retirement Village	41 Eveleigh Street
	Allambe Mercy Centre	12 Chalk Street
	Woolloowin Nursing Home	99 Kedron Park Road
Health – Community	Holy Spirit Health Services	18 Chalk Street
Recreation – district park & Bikepath	Kedron Brook	
Recreation – park and club/centre	Kalinga Park	Park Avenue
	Shaw Park	Shaw Road
	Melrose Park	Roseleigh Street
	Qld. Miniature Car Racing Club	61 Bertha Street
Hostel	Holy Cross Hostel	22 Morris Street
Place of worship	St Andrews Anglican Church	673 Lutwyche Road
	Holy Cross Catholic Church	28 Chalk Street
	Presbyterian Church of Eastern Australia	Cnr Shaw Road and Emma Street

Lutwyche

Lutwyche was also settled in the 1860's, and St Andrew's Church was first opened in 1866, with the larger new church erected from 1925. Lutwyche is located 3 kms from the city, and is bordered by Lutwyche Road to the east and Kedron Brook to the north. As such, it has good local and regional connectivity.

In 2004 there were estimated to be 2 714 people living in Lutwyche, which has a high percentage (approximately 14%) of people speaking another language. This is reflected in local church populations and the Lutwyche Mosque in Fuller Street.

Land use classifications closest to Lutwyche Road are predominantly low to medium density residential (LMR), with low-density residential (LR) classifications to the west. Multi-Purpose Centre classifications accommodate local shopping and specialist stores with wider attraction. The Lutwyche Shopping Centre acts as a retail hub for the area

There are no character housing precincts in Lutwyche, but a range of housing options exist. The median house price in 2002/03 was \$335,000. The median weekly rent paid for a 3-bedroom house in the June 2003 quarter was \$240, whilst median weekly rent for a 2-bedroom unit in this area was \$170 for the same period. Lutwyche had the highest percentage of attached dwellings of any suburb in the study corridor.

The area's values are derived from good access to bus services, access to a range of schools located within 1-2 kms and comprehensive community services in surrounding suburbs. Leafy streets and the existence of parks such as Prentice Park, WA Jolly Park and Bradshaw Park add to the suburb's character.

Lutwyche's percentage of family with children households was higher than that of the study corridor as a whole, and had a lower level of stable residency (over the period 1996-2001). SEIFA values were above the mean in each area of Lutwyche, and were above the Brisbane city average, indicating relative advantage. Selected characteristics of the Lutwyche community are outlined below with comparisons to the study corridor and Brisbane statistical division characteristics. Occupancy rates were low, whilst sole person households were a higher percentage than for the study corridor as a whole.

Table 4-5: Social diversity in Lutwyche

Characteristic	Lutwyche	Study Corridor	BSD
% Younger than 20 years	18.1	20.5	27.3
% Older than 60 yrs	15.9	16.6	15.1
% Families with children households	43.4	37.3	44.3
% Sole person households	22.5	18.5	26
% Speaking other languages at home	14.4	8.6	12.8
Stable residency percentage	36	41.1	47.2
SEIFA Adv/Disadvantage Index	1038-1115	952 - 1222	1034.4
Average occupancy rate	1.7	1.9	2.4
% Attached dwellings	56	44	25.0

Community facilities and their locations in Lutwyche are listed below. Figure 7 shows their locations. Lutwyche has fewer community facilities but good access to shopping with Centro Lutwyche, and shopping and services strips along Lutwyche Road.

Table 4-6: Community Facilities in Lutwyche

Type	Facility	Location
Child care	YMCA Child Care Centre	387 Lutwyche Road
	Lutwyche Windsor Kindergarten	14 Lucas Street
Recreation – district park	Prentice Park	Swinburne Street
	Bradshaw Park	Bradshaw Street

	William Jolly Park	Tobruk Street
Recreation - local park and bikeway	Kokoda Park	Montgomery Street
	YMCA Family Activity Centre	387 Lutwyche Road
	Tennis Centre	39 Laura Street
Place of worship	Islamic Mosque	33 Fuller Street
	Church	Chapel Street
	Church	456 Lutwyche Road
Community Organisation	Queensland Police-Citizens Youth Welfare Association	654 Lutwyche Road

Windsor

Windsor is currently home to an estimated 6 130 people, and was growing slowly at the last Census. Land use classifications in Windsor West are predominantly low medium residential closest to Lutwyche Road, with low density residential uses further west, six parks, and six sites designated as community uses. Windsor East is more varied, with classifications for low to medium residential, low density residential, character housing, light industrial and sport and recreation. Whilst enjoying proximity to the CBD and accommodating the Lutwyche Road commercial/traffic corridor, Windsor maintains a strong suburban residential character.

Windsor's housing stock includes worker's cottages, Queenslanders, chamfer board homes and units. The median house price in the suburb for the financial year 2002/03 was \$341,000, median weekly rent for a 3-bedroom house in the June 2003 quarter was \$240, and the median weekly rent paid for a 2-bedroom unit in this area was \$170 for the same period. Anecdotally, proximity to the RBH makes Windsor attractive to health professionals. Almost 2 in 5 dwellings in Windsor is an attached dwelling.

Enoggera Creek and its adjacent park network provide a defining feature and good connectivity through Windsor. Windsor Park is an important local facility providing a range of passive and active recreational uses, and metropolitan level sporting and recreation facilities are located in the nearby Downey Park and Victoria Park. City Farm, located at Northey Street, is also an important focus of community activity for local residents

As one of the first settled of Brisbane's suburbs (during the 1860's), Windsor has strong cultural heritage values. Places of value include the Windsor Shire Council Chambers, Memorial Gardens including the War Memorial erected in 1925, the Energex Museum, and several private buildings such as the Rosemount Terrace house, Brisbane's smallest residential block. With community facilities serving most local needs and fostering community cohesion, and with character, recreational and public transport values, Windsor has high levels of amenity and connectivity.

Windsor had lower percentages of young people, and was the most culturally diverse of the study corridor suburbs, with the highest percentage of people speaking other languages at home (but less than the Brisbane average). Selected characteristics of the Windsor community are outlined in Table 4-7 with comparisons to the study corridor and Brisbane Statistical Division characteristics.

Table 4-7: Social diversity in Windsor

Characteristic	Windsor	Study Corridor	BSD
% Younger than 20 years	18.2	20.5	27.3
% Older than 60 yrs	15.2	16.6	15.1
% Families with children households	41.6	37.3	44.3
% Sole person households	18.2	18.5	26
% Speaking other languages at home	10.2	8.6	12.8
Stable residency percentage	39.6	41.1	47.2
SEIFA Adv/Disadvantage Index	992 - 1159	952 - 1222	1034.4
Average occupancy rate	1.9	1.9	2.4
% Attached dwellings	39	44	25.0

Important local social infrastructure includes the Holy Rosary School and Windsor State School, and two aged care residential facilities (Marooma Private Nursing Home and Amarina Aged Care). Facilities are listed in Table 4-8.

Table 4-8: Community Facilities in Windsor

Type	Facility	Location
Education - Public	Windsor Primary School	270 Lutwyche Road
	Brisbane Institute of Art	57 Grafton Street
Education - private	Holy Rosary Primary School	9 Roblane Street
	Windsor School of Arts	409 Lutwyche Road
Child care	Windsor Neighbourhood Child Care Centre	17 Bonython Street
Community – children & young people	Dundalli Youth	61 Somerset St
	Youth Advocacy Centre	52 Inwood Street
Community - refugees	Refugee Claimants Support Centre	12 Bonython St
Health	Children by Choice	Lutwyche Road
Community Housing service	Windsor Lodge (Inner North Community Housing)	32 Bonython Street
Aged care - residential	Amarina Aged Care	26 Palmer Street
Aged care	Arthritis Foundation	Lutwyche Road/Cartwright street
	Oz Care Respite and Nursing Service	Lutwyche Road
	Regis Marooma	12 Federation Street
	Rosemount Hospital Geriatric and Rehab Centre (RBH)	Cartwright St
	Mental Health Services	Cartwright St
	Karuna Hospice	Cartwright St
Aged care and recreation	Windsor Senior Citizens Centre	Lutwyche Road
Cultural	Windsor Memorial Park & War Memorial	Lutwyche Road
	Windsor Council Chambers	Palmer Street/Lutwyche Road
Recreation – district park	Windsor Town Quarry Park	Lutwyche Road/Flower Street
	Downey Park	Green Terrace

	Flynn Oval	Cartwright Street
	Windsor Park	Grafton Street
Recreation – club/centre	Windsor Croquet club	Blackmore Street
	Windsor Bowls Club	Blackmore Street
Places of worship	St George's Anglican Church	Cnr Newmarket Road and Victoria Street
	Holy Rosary Catholic Church	Roblane Street
	New Apostolic Church	437 Lutwyche Road
	The Solid Rock	Cnr Lutwyche and Fuller Street
	Presbyterian Church	Cnr Maygar and Whish Streets
	Uniting Church	Cnr Green Terrace and Newmarket Road
Community Hall	Albion Peace Centre	102 McDonald Rd

Features of Windsor are shown in **Figure 7**.

Bowen Hills

Bowen Hills, home to an estimated 1 400 people in 2004, is located approximately 3 km from the Brisbane CBD, and is bordered to the west by Enoggera Creek and to the north by Breakfast Creek. Bowen Hills accommodates the Inner City Bypass, and the Mayne Railway Yards. The Queensland Newspapers building in Campbell Street is another prominent landmark. The RNA Exhibition Grounds form the southern boundary.

Much of the suburb's land is classified light industrial. Low to medium density residential neighbourhoods and a character housing precinct are located near Montpelier Road. The Royal Brisbane Hospital Complex, University of Qld School of Medicine and Queensland Radium Institute are directly adjacent to Bowen Hills and provide superior access to a range of clinical and health services. The hospital, rail yards and Queensland Newspapers contribute to Bowen Hills as a 24-hour precinct, whilst major seasonal uses (sporting events at Perry Park and the RNA Show) contribute to the area's identity.

Whilst much of the inner city is bereft of open space, Bowen Hills retains parks of importance to both local and regional residents, including Bowen Park and Perry Park. This is complemented by a network of bike paths and access to Bowen Hills Rail Station and bus facilities in Bowen Bridge Road/Lutwyche Road. As such, connectivity between transport modes is good, notwithstanding the barriers posed by road and rail corridors.

Bowen Hills has both detached and attached housing options, but has one of the highest percentages of attached dwellings in Brisbane. The median house price in 2003 was \$264 000, making it the most affordable suburb in the study area for housing purchase (though from a small sample). The median weekly rent paid for a 3-bedroom house in this area in the June 2003 quarter was \$280, and for a 2-bedroom unit was \$300.

Bowen Hills' amenity is related to its proximity to the city and access to schools and services in surrounding suburbs such as Lutwyche, Albion and Windsor. Part of the local character and amenity derive from major facilities which provide state-wide services.

The SEIFA indices for Bowen Hills were in the lower range compared with the study corridor and the mean. Bowen Hills' population is small but culturally diverse and there was a very high percentage of attached dwellings. Selected characteristics of the Bowen Hills community are outlined in Table 4-9 with comparisons to the study corridor and Brisbane statistical division characteristics.

Table 4-9: Social diversity in Bowen Hills

Characteristic	Bowen Hills	Study Corridor	BSD
% younger than 20 years	13	20.5	27.3
% Older than 60 yrs	14	16.6	15.1
% Families with children households	57.6	37.3	44.3
% Sole person households	26.0	18.5	26
% Speaking other languages at home	7.9	8.6	12.8
Stable residency percentage	24.7	41.1	47.2
SEIFA Adv/Disadvantage Index	996-1067	952 - 1222	1034.4
Average occupancy rate	1.5	1.9	2.4
% Attached dwellings	76	44	25.0

Community facilities and their locations in Bowen Hills are listed in Table 4-10, and are predominantly regional or state-wide facilities.

Table 4-10: Community Facilities in Bowen Hills

Type	Facility	Location
Health - tertiary	Royal Brisbane Hospital Complex	Bowen Bridge Road
Health/Education	University of Qld School of Medicine	Herston Road
Health Research	Queensland Radium Institute	Herston Road
Community/cultural	RNA Exhibition Grounds	O'Connell Tce/Gregory Tce
Employment Service	Access Employment Service – North	6 Edmonstone Road
Aged care	Home and Community Care District Office - Rosemount Hospital	Cartwright St
	Denmora Nursing Home	20 Cowlishaw Street
	River Breeze Manor	20 Cowlishaw Street
	Good Samaritans Mercy Centre	36 Hurtworth Street

Albion

Albion is located 5 kilometres north of the Brisbane CBD, with Breakfast Creek as a defining boundary. The former Albion Fire Station was opened in 1927 and whilst it is now used as architects' offices, the station retains its value as a landmark and heritage place. Albion Rail Station is also a local landmark and a highly valued transit facility. The Breakfast Creek Hotel constructed in the late 1880's contributes prominently to local identity.

In 2004, Albion was home to an estimated 2 224 people, and has a wide variety of housing styles including workers cottages, large Queenslanders and low-rise units. Albion had a higher than (Brisbane and study corridor average) percentage of attached dwellings, and as a result occupancy per dwelling was lower than average. There was however a higher than average percentage of families, though from a small population base. Street scaping, the Albion Hotel, and restaurants and cafes located along Sandgate Road contribute to a busy inner city suburb feel. Green space near the creek has been retained and is used for a

number of purposes including the Albion Park Paceway, Brothers' Rugby Club and Queensland Cricket Club.

Land use classifications in Albion are predominantly low to medium density residential, with some light industrial land near Sandgate Road and Hudson Road. The median house price in Albion for 2002/03 was \$350,000, median weekly rent for a 3-bedroom house in the June 2003 quarter was \$300, and the median rent for a 2-bedroom unit was \$185 for the same period.

Albion had a high percentage of families with children, and a high percentage of people speaking other languages. There was a high rate of attached dwellings, and a range of SEIFA values at the lower end of the study corridor's values. Selected characteristics of the Albion community are outlined in Table 4-11 with comparisons to the study corridor and Brisbane statistical division characteristics.

Table 4-11: Social Diversity in Albion

Characteristic	Albion	Study Corridor	BSD
% younger than 20 years	20.8	20.5	27.3
% Older than 60 yrs	15.6	16.6	15.1
% Families with children households	50.8	37.3	44.3
% Sole person households	19.5	18.5	26
% Speaking other languages at home	10.2	8.6	12.8
Stable residency percentage	34.8	41.1	47.2
SEIFA Adv/Disadvantage Index	998-1101	952 - 1222	N/a
Average occupancy rate	1.8	1.9	2.4
% Attached dwellings	49	44	25.0

Community facilities and their locations in Albion are listed below and shown on Figure 6.

Table 4-12: Community Facilities in Albion

Type	Facility	Location
Corrections	Women's Correctional Facility	372 Sandgate Road
Education – private	St Margaret's Anglican Girls School	Petrie Street
Aged care – residential	Forest Place Retirement Village	469 Sandgate Road
Park - district	Crosby Park	Crosby Road
	Brothers Rugby Union Community Sports Club	Crosby Road
	Albion Park Paceway	Park Street
	Queensland Cricket Club – Alan Border Field	Bogan Street
	Yowogerra Park	Argyle Street
	Albion Boat Ramp	70 Sandgate Road
Places of worship	Baptist Church	14 McLennan Street
	Seventh-day Adventist	57 McLennan Street
	Chinese Temple Society	32 Higgs Street

Clayfield

Clayfield, located 6.5 kilometres from Brisbane's CBD, was settled from the 1860-70's, and was named for its associations with the brickworks in Hendra. Buildings now used by St.

Rita's College were constructed in about 1885, whilst the buildings used by Clayfield College were constructed for school purposes in 1902.

In 2004, there were an estimated 9 700 people living in Clayfield. Its character is derived from undulating hills and flat land, accommodating some of Brisbane's larger old homes and tree-lined streets. Land use classifications in Clayfield encompass both low density and low to medium density residential. Almost 3 in 5 dwelling sin Clayfield was an attached dwelling which is one of the higher levels in the study corridor.

The median house price in the suburb for the financial year 2002/03 was \$470,000 (the highest in the corridor), with median weekly rent for a 3-bedroom house in the June 2003 quarter at \$260, and for a 2-bedroom unit \$190. The suburb has a range of local cafes and restaurants café lifestyle and is close to the Eagle Farm and Doomben race courses. There are however few local parks in Clayfield.

Clayfield had an older population, and lower than average levels of people speaking other languages. It also had the highest range of SEIFA index values in the study corridor. Selected characteristics of the Clayfield community are outlined in Table 4-13 with comparisons to the study corridor and Brisbane statistical division characteristics.

Table 4-13: Social Diversity in Clayfield

Characteristic	Clayfield	Study Corridor	BSD
% Younger than 20 years	21.8	20.5	27.3
% Older than 60 yrs	17.7	16.6	15.1
% Families with children households	40.7	37.3	44.3
% Sole person households	19.7	18.5	26
% Speaking other languages at home	7.4	8.6	12.8
Stable residency percentage	37.3	41.1	47.2
SEIFA Adv/Disadvantage Index	1024 - 1222	952 - 1222	1034.4
Average occupancy rate	1.9	1.9	2.4
% Attached dwellings	59	44	25.0

Community facilities and their locations in Albion are listed below. The suburb and its social infrastructure are shown on Figure 6.

Table 4-14: Community Facilities in Clayfield

Type	Facility	Location
Education – Public	Eagle Junction Primary School	Roseby Avenue
Education – private	Clayfield College	Sandgate Road
	St Agatha's Catholic Primary School	Hunter Lane
	St Rita's College	Hunter Lane
Childcare	Clayfield Childhood Development Centre	32 Widdup Street
	Clayfield Kindergarten and Pre-school	28 Bayview Terrace
	Clayfield Capers Child Care Centre and Pre-school	222 Junction Road
	Clayfield Childhood Development Centre	68 Gellibrand Street
	Clayfield Early Learning Centre	23 Norman Parade
	Wagner Road Early Childhood Centre	32 Wagner Road

Park - district	Kalinga Park	Park Avenue
Park - local	Oriel Park	Oriel St
Recreation – club/centre	Clayfield Bowls Club	Adelaide Street
Aged recreation	Senior Citizens Centre	178 Alexandra Road
Heritage resources	Telstra Museum	3 Oriel Road
Places of Worship	St Colombs' Anglican Church	25 Victoria Street
	St Marks Anglican Church	Cnr Bonney Avenue and Bellevue Terrace
	Clayfield Baptist Church	Cnr Sefton and Alexandra Roads
	St Agatha's Catholic Church	52 Oriel Road
	Church	788 Sandgate Road
	Seventh Day Adventist Reform Movement	Cnr Maxwell and Elliott Streets
	Presbyterian Church	29 Bellevue Terrace
	Uniting Church	170 Bonney Avenue

Nundah

In 2004 there were an estimated 8,700 people living in Nundah, which is 8 kms from the CBD. Nundah has a large range of community organisations and facilities, and rich cultural heritage resources including the Nundah Historic Cemetery, Nundah State School, First Free Settlers' Monument, Corpus Christi Church, Nundah War Memorial, Toombul Shire Hall, and Nundah Railway Station. There are several parks and paths, including access to Kalinga Park and Kedron Brook. Several train stations are located within a few kilometres of Nundah.

The Nundah & Districts Historical Society and several churches are part of an extensive range of local organisations (see Table 3-16). The town centre has a strong village feel and good amenity, following construction of the Nundah Bypass and suburban improvement program of the 1990's. Nundah has a strong relationship to Kalinga Park and its recreational and cultural values. The suburb is bounded by Kedron Brook to the south and by the East-West Arterial.

Predominant land use classifications in Nundah include low to medium and low density residential, and the multipurpose centre at Toombul. The median house price in the suburb for the financial year 2002/03 was \$299,500. The median weekly rent for a 3-bedroom house in the June 2003 quarter was \$225, and the median weekly rent paid for a 2-bedroom unit in this area was \$180. Given proximity to the CBD, airport, Toombul Shopping Town, and major transport routes, medium density units have developed over the past several years.

Nundah had a slightly older than average population, and a high percentage of family with children households. The percentage of attached dwellings was high (just one percentage point below Clayfield), and the SEIFA Index values were at the lower end of the area's values, but showing a good range. Selected characteristics of the Nundah community are outlined in Table 4-15.

Table 4-15: Social Diversity in Nundah

Characteristic	Nundah	Study Corridor	BSD
% Younger than 20 years	18.8	20.5	27.3
% Older than 60 yrs	17.3	16.6	15.1
% Families with children households	42	37.3	44.3
% Sole person households	22.2	18.5	26
% Speaking other languages at home	9.1	8.6	12.8
Stable residency percentage	40.3	41.1	47.2
SEIFA Adv/Disadvantage Index	953 -1131	952 - 1222	1034.4
Average occupancy rate	1.8	1.9	2.4
% Attached dwellings	58	44	25.0

Community facilities and their locations in Nundah are listed in Table 4-16.

Table 4-16: Community Facilities in Nundah

Type	Facility	
Education - private	Corpus Christi College	Buckland Road
	St Josephs Primary School	Sandgate Road
Education - public	Nundah State School	Buckland Road/Park Road
	Nundah Library	15 Bage Street
Childcare	ABC Development Learning Centre/ Nundah Childcare Centre	36 Cameron St
	Loosends Outside School Hours Care	25 Chapel St
	Nundah Kindergarten	159 Ryans Rd
	St Paul's Lutheran Child Care Centre	72 Buckland Rd
Cultural heritage	Sir William Knox Archives and Resource Centre	1A Bage Street
Park - local	Nundah Memorial (Boyd) Park	Boyd Street
	Ross Park & Skatebowl	Parkland Street
	Oxenham Park	Duke Street
Park - district	Albert Bishop Park	Hedley Avenue
	Qld Cyclists Track	118 Hedley Avenue Nundah
Cemetery	Nundah Cemetery	Hedley Avenue
Sport	Croquet Club	Duke Street
	Cricket Club	York Street
	Norths Junior Rugby League Club	Amelia Street
Residential – aged care	Zion Lutheran Nursing Home	24 Union St
Residential – students	Tufnell Lodge	Buckland Road
Place of Worship	St. Joseph's Catholic Church	Sandgate Road
	North East Baptist Church	Cnr Bage and Chapel Streets
	St Francis Anglican Church	Cnr Cavendish and Cameron Streets
	Corpus Christi	Bage Street
	Church	19 Chapel Street

	Apostolic Church of Queensland	43 Robinson Road
	Jehovah's Witness	23 Henschman Street
	Presbyterian Church	14 Rode Road
	Uniting Church	71 Hows Road
Halls	Memorial Hall	Boyd Street
	Nolan Hall	20 Leslie Street
	Nundah Community Centre	14 Station Street
Community	Habitat Brisbane	Albert Bishop Park

Hendra

Hendra is located 6 kilometres from Brisbane's CBD and borders the Gateway Motorway. It is low-lying and was originally farming land for the early settlers. This was replaced by suburban development, light industrial uses, and some parkland. Hendra State School, then known as the Eagle Farm School, was one of the earliest schools established in Brisbane in 1864.

In 2004 there were an estimated 3 900 people living in Hendra, which contains open space in the form of Bannister Park, TC Beirne Park, and the Doomben Racecourse. Kedron Brook also runs through Hendra but is badly degraded in this area.

Public transport access is good, with several train stations close by, and proximity to Brisbane Airport. Hendra is primarily classified low density residential, and includes light industrial and commercial uses. The median house price in 2002/03 was \$355,000, median weekly rent for a 3-bedroom house in the June 2003 quarter was \$260, and median weekly rent for a 2-bedroom unit was \$190. Hendra had very low levels of attached dwellings at 9%, reflecting its location on the suburban fringe of the inner north east.

There were higher percentages of older people in Hendra, and the number of family households was higher than the study average. In one area of Hendra the SEIFA index showed the lowest level in the study corridor. Selected characteristics of the Hendra community are outlined in Table 4-17 with comparisons to the study corridor and Brisbane statistical division characteristics.

Table 4-17: Social Diversity in Hendra

Characteristic	Hendra	Study Corridor	BSD
% Younger than 20 years	21.5	20.5	27.3
% Older than 60 yrs	19.1	16.6	15.1
% Families with children households	39.6	37.3	44.3
% Sole person households	10.9	18.5	26
% Speaking other languages at home	4.6	8.6	12.8
Stable residency percentage	48.8	41.1	47.2
SEIFA Adv/Disadvantage Index	952 - 1175	952 - 1222	1034.4
Average occupancy rate	2.1	1.9	2.4
% Attached dwellings	9	44	25.0

Community facilities and their locations in Hendra are listed below.

Table 4-18: Community Facilities in Hendra

Type	Facility	Location
Child Care	Ascot Hendra Child Care and Nursery Centre	16-30 Manson Road
Education - public	Hendra Primary School	Nudgee Road
	Hendra Secondary College	74 Gellibrand Street
Park - local	Bannister Park	McIntyre St
	All Stars Baseball Club	McIntyre St
	TC Beirne Park	Burilda Street
Place of Worship	St John's Anglican Church	Cnr Manson Road & Burilda St
	Our Lady Help of Christians Church	9 Bowman Street

Appendix C

Types of Dwellings

	Albion		Bowen Hills		Clayfield		Hendra		Kedron		Lutwyche		Nundah		Windsor		Woolloowin		All Suburbs		Brisbane	
Separate houses detached, row or terrace houses and townhouses flats, units or apartments other dwellings	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
	500	488	88	84	1698	1688	1170	1272	3325	3342	528	547	1677	1641	1575	1601	1347	1386	11908	12049	432148	481333
	43	80	41	45	195	227	83	57	150	292	37	101	311	483	109	84	47	46	1016	1415	27646	39686
	439	404	201	255	2134	2206	73	77	1314	1435	632	608	1716	1820	936	962	799	742	8244	8509	58384	69886
	17	9	149	6	7	0	3	4	17	11	6	3	14	14	11	12	10	13	234	72	7267	6542
Total	999	981	479	390	4034	4121	1329	1410	4806	5080	1203	1259	3718	3958	2631	2659	2203	2187	21402	22045	525445	597447

Footnote 12: In the 2001 Census, serviced apartments have been included as private dwellings. These dwellings were defined as non-private dwellings in the 1991 and 1996 Censuses. Other dwellings consist of caravans, cabins and houseboats; improvised homes, tents, sleepers out; and house or flat attached to a shop, office etc.

Ownership of private dwellings

	Albion		Bowen Hills		Clayfield		Hendra		Kedron		Lutwyche		Nundah		Windsor		Woolloowin		All Suburbs		Brisbane	Brisbane
Fully owned or being purchased rented	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
	484	487	116	118	1984	2103	940	1022	2855	2952	502	504	1835	1843	1278	1287	1136	1197	11130	11513	352243	388322
	473	418	228	230	1829	1778	352	307	1830	1931	642	690	1748	1902	1258	1202	952	879	9312	9337	157577	180464
Total	957	905	344	348	3813	3881	1292	1329	4685	4883	1144	1194	3583	3745	2536	2489	2088	2076	20442	20850	509820	568786

Number of people speaking English not very well or not at all

	Albion		Bowen Hills		Clayfield		Hendra		Kedron		Lutwyche		Nundah		Windsor		Woolloowin		All Suburbs		Brisbane	
	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
Not very well	40	27	12	6	74	76	7	3	89	108	83	66	80	100	98	89	49	43	532	518	16,302	15,983
Not at all	6	6	0	6	12	36	3	6	14	21	14	7	19	26	11	14	20	16	99	138	3,124	4,141
TOTAL not well	46	33	12	12	86	112	10	9	103	129	97	73	99	126	109	103	69	59	631	656	19,426	20,124

2001 Household Income - Number of households

	Albion	Bowen Hills	Clayfield	Hendra	Kedron	Lutwyche	Nundah	Windsor	Woolloowin	All Suburbs	Brisbane	Queensland
Negative/Nil income	8	3	52	8	22	9	34	15	18	169	3,935	9,803
\$1-\$199	33	33	159	34	217	75	222	130	81	984	20,032	49,119
\$200-\$299	83	51	333	104	529	126	484	269	174	2,153	42,286	99,530
\$300-\$399	53	17	220	90	374	98	293	183	141	1,469	46,263	118,458
\$400-\$499	61	16	274	88	356	105	298	151	146	1,495	42,258	104,114
\$500-\$599	54	28	269	68	318	85	292	133	121	1,368	32,400	75,586
\$600-\$699	54	19	229	86	331	79	256	140	109	1,303	36,701	85,859
\$700-\$799	57	13	225	57	281	74	223	141	102	1,173	29,861	66,142
\$800-\$999	84	25	352	117	472	98	364	248	174	1,934	58,199	125,246
\$1000-\$1199	87	29	346	125	427	107	328	208	176	1,833	50,899	103,765
\$1200-\$1499	83	20	242	98	372	69	281	180	157	1,502	53,332	104,433
\$1500-\$1999	102	36	425	173	521	97	316	285	261	2,216	62,174	113,215
\$2000 or more	93	31	472	182	363	83	164	247	250	1,885	44,838	75,549
Partial income stated(b)	49	26	230	111	268	55	159	145	146	1,189	43,289	98,368
All incomes not stated (c)	33	20	150	42	173	51	134	96	68	767	18,216	46,233
Total	934	367	3,978	1,383	5,024	1,211	3,848	2,571	2,124	21,440	584,683	1,275,420

INDIGENOUS POPULATION, PERSONS, SELECTED SLAS IN AIRPORT LINK STUDY AREA

Source: Census 2001 Basic Community Profile, Table B01

SLA	Aboriginal			Torres Strait Islander			Aboriginal and Torres Strait Islander ²			Total Indigenous			Total ¹		
	M	F	Persons	M	F	Persons	M	F	Persons	M	F	Persons	M	F	Persons
Albion	9	8	17	0	3	3	0	3	3	9	14	23	1,007	1,241	2,248
Bowen Hills	4	4	8	0	0	0	0	0	0	4	4	8	627	530	1,157
Clayfield	23	24	47	3	4	7	3	3	6	29	31	60	4,143	4,918	9,061
Hendra	10	25	35	0	0	0	3	0	3	13	25	38	1,694	1,786	3,480
Kedron	79	108	187	9	13	22	5	3	8	93	124	217	5,283	5,780	11,063
Lutwyche	14	9	23	0	6	6	3	0	3	17	15	32	1,222	1,301	2,523
Nundah	32	63	95	7	6	13	3	3	6	42	72	114	3,834	4,234	8,068
Windsor	44	49	93	13	6	19	3	3	6	60	58	118	2,950	2,959	5,909
Wooloowin	27	32	59	6	4	10	0	0	0	33	36	69	2,543	2,838	5,381
TOTAL	242	322	564	38	42	80	20	15	35	300	379	679	23,303	25,587	48,890

¹ total persons includes overseas visitors

² applicable to persons who are of both aboriginal and torres strait islander origin

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HOUSEHOLD STRUCTURE - COUPLE FAMILIES IN OCCUPIED PRIVATE DWELLINGS (EXCLUDING OVERSEAS VISITORS), SELECTED
SLAS IN AIRPORT LINK STUDY AREA

Source: Census 2001 Basic Community Profile, Table B17

SLA	Couple Family		Couple Family without children		One Parent Family		Other Family		TOTAL	
	Families	Persons	Families	Persons	Families	Persons	Families	Persons	Families	Persons
Albion	147	545	236	470	64	148	18	37	465	1,200
Bowen Hills	34	110	83	157	20	49	7	14	144	330
Clayfield	782	3,065	814	1,608	303	726	97	203	1,996	5,602
Hendra	412	1,534	378	749	150	366	15	32	955	2,681
Kedron	1,057	4,057	1,162	2,291	529	1,308	93	190	2,841	7,846
Lutwyche	146	546	239	478	132	304	34	70	551	1,398
Nundah	625	2,392	781	1,561	379	890	79	162	1,864	5,005
Windsor	496	1,847	552	1,109	207	514	70	145	1,325	3,615
Woolloowin	546	2,136	445	880	207	519	49	99	1,247	3,634
TOTAL	4,245	16,232	4,690	9,303	1,991	4,824	462	952	11,388	31,311

AGE BY LABOUR FORCE STATUS (FULL-TIME/PART-TIME) BY SEX, PERSONS AGED 15 YEARS AND OVER 2001

SLA	Persons										
	Employed, Working			Total Employed	Unemployed looking for:		Total unemployed	Total Labour Force	Not in the labour force	Not stated	Total
	Full time	Part-time	Not stated		Full time work	Part time work					
Albion	820	330	18	1,168	64	18	82	1,250	540	119	1,909
Bowen Hills	405	167	6	578	38	26	64	642	267	114	1,023
Clayfield	3,170	1,379	113	4,662	236	98	334	4,996	2,312	296	7,604
Hendra	1,186	573	47	1,806	62	19	81	1,887	846	87	2,820
Kedron	3,912	1,619	139	5,670	308	117	425	6,095	2,865	202	9,162
Lutwyche	901	400	33	1,334	96	27	123	1,457	625	92	2,174
Nundah	2,820	1,150	89	4,059	259	93	352	4,411	2,226	258	6,895
Windsor	2,069	928	68	3,065	174	83	257	3,322	1,334	363	5,019
Woolloowin	1,812	829	66	2,707	147	67	214	2,921	1,259	164	4,344
Total	17,095	7,375	579	25,049	1,384	548	1,932	26,981	12,274	1,695	40,950

DWELLING STRUCTURE: PRIVATE DWELLINGS IN OCCUPIED PRIVATE DWELLINGS (excluding overseas visitors), SELECTED SLAS IN
AIRPORT LINK STUDY AREA

Source: Census 2001 Basic Community Profile, Table B18

SLA Name	Separate house	Semi-Detached, row or terrace house, townhouse, etc. with:			Flat, unit or apartment					Other dwelling						
		One storey	Two or more storeys	Total	In one or two storey block	In a three storey block	In a four or more storey block	Attached to a house	Total	Caravan, cabin, houseboat	Improvised home, tent, sleepers out	House or flat attached to a shop, office, etc.	Total	Not Stated	Unoccupied private dwellings	Total
Albion	488	15	65	80	117	170	108	9	404	0	0	9	9	29	115	1,125
Bowen Hills	84	0	45	45	151	55	46	3	255	0	0	6	6	5	66	461
Clayfield	1,688	29	198	227	827	1,266	110	3	2,206	0	0	0	0	23	496	4,640
Hendra	1,272	11	46	57	65	9	0	3	77	0	0	4	4	4	155	1,569
Kedron	3,342	126	166	292	904	506	3	22	1,435	0	0	11	11	35	366	5,481
Lutwyche	547	25	76	101	264	341	3	0	608	0	0	3	3	12	99	1,370
Nundah	1,641	119	364	483	932	880	3	5	1,820	0	0	14	14	18	320	4,296
Windsor	1,601	40	44	84	598	307	43	14	962	3	0	9	12	35	197	2,891
Woolloowin	1,386	13	33	46	439	293	4	6	742	0	0	13	13	27	191	2,405
Total	12,049	378	1,037	1,415	4,297	3,827	320	65	8,509	3	0	69	72	188	2,005	24,238
BRISBANE SD	481,333	16,561	23,125	39,686	36,367	20,935	10,998	1,586	69,886	5,418	302	822	6,542	3,699	40,960	642,106
Queensland	1,045,137	46,850	45,129	91,979	91,900	39,526	29,936	3,062	164,424	34,199	3,932	3,697	41,828	12,245	127,299	1,482,912

STATE OF USUAL RESIDENCE 5 YEARS AGO(a) BY SEX (Persons aged 5 years and over)

SLA	People				
	Same usual address 5 years ago as in 2001	Different usual address 5 years ago (b)	Not stated(c)	Persons not usually resident in the SLA of enumeration	Total Persons
Albion	725	1,168	153	35	2,081
Bowen Hills	208	435	155	44	842
Clayfield	3,195	4,625	375	383	8,578
Hendra	1,603	1,437	102	138	3,280
Kedron	4,880	4,819	328	392	10,419
Lutwyche	847	1,281	127	93	2,348
Nundah	3,081	3,970	287	300	7,638
Windsor	2,182	2,674	425	234	5,515
Wooloowin	2,073	2,480	233	186	4,972
Total	18,794	22,889	2,185	1,805	45,673
BRISBANE SD	707,829	691,434	51,775	49,296	1,500,334
Queensland	1,502,287	1,509,541	132,869	136,446	3,281,143

Selected Averages	Albion		Bowen Hills		Clayfield		Hendra		Kedron		Lutwyche		Nundah		Windsor		Wooloowin		Brisbane	
	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
Median Age	31	33	33	32	31	33	37	39	34	35	33	34	34	35	32	33	34	34	33	34
Median Weekly individual income(b)	\$300- \$399	\$400- \$499	\$200- \$299	\$300- \$399	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499	\$300- \$399	\$400- \$499
Median Weekly family income(b)	\$800- \$999	\$1,000- \$1,199	\$800- \$999	\$1,200- \$1,499	\$800- \$999	\$1,000- \$1,199	\$700- \$799	\$1,000- \$1,199	\$700- \$799	\$1,000- \$1,199	\$700- \$799	\$800- \$999	\$700- \$799	\$800- \$999	\$800- \$999	\$1,000- \$1,199	\$800- \$999	\$1,200- \$1,499	\$800- \$999	\$1,000- \$1,199
Median Weekly household income(b)(c)(d)	\$500- \$599	\$800- \$999	\$400- \$499	\$600- \$699	\$500- \$599	\$800- \$999	\$600- \$699	\$800- \$999	\$500- \$599	\$700- \$799	\$500- \$599	\$600- \$699	\$500- \$599	\$600- \$699	\$600- \$699	\$700- \$799	\$600- \$699	\$800- \$999	\$600- \$699	\$800- \$999
Mean Household size(c)(d)	2	2	1.9	1.8	2	2	2.5	2.4	2.2	2.1	2	1.9	2	2	2.1	2.1	2.3	2.3	2.5	2.5

DWELLING STRUCTURE BY TENURE TYPE AND LANDLORD TYPE: OCCUPIED PRIVATE DWELLINGS, SELECTED SLAS IN AIRPORT LINK STUDY AREA

Source: Census 2001 Basic Community Profile, Table B19

SLA	SEPARATE HOUSE									
	<i>Fully owned</i>	<i>Being purchased</i>	<i>Being purchased under a rent/buy scheme</i>	<i>Rented</i>				<i>Other tenure type</i>	<i>Not stated</i>	<i>Total</i>
				<i>State/Territory Housing Authority</i>	<i>Other</i>	<i>Not Stated</i>	<i>Total</i>			
Albion	196	119	5	0	125	0	125	12	29	486
Bowen Hills	35	18	0	0	21	0	21	3	6	83
Clayfield	874	454	6	0	263	0	263	36	53	1,686
Hendra	614	352	4	0	229	0	229	34	37	1,270
Kedron	1,457	1,047	15	32	653	5	690	51	82	3,342
Lutwyche	225	138	3	0	155	0	155	3	23	547
Nundah	723	470	11	7	333	3	343	39	55	1,641
Windsor	620	466	5	8	400	7	415	30	65	1,601
Woolloowin	538	477	6	11	279	3	293	27	45	1,386
TOTAL	5,282	3,541	55	58	2,458	18	2,534	235	395	12,042

SLA	SEMI-DETACHED, ROW or TERRACE HOUSE, TOWNHOUSE									
	<i>Fully owned</i>	<i>Being purchased</i>	<i>Being purchased under a rent/buy scheme</i>	<i>Rented</i>				<i>Other tenure type</i>	<i>Not stated</i>	<i>Total</i>
				<i>State/Territory Housing Authority</i>	<i>Other</i>	<i>Not Stated</i>	<i>Total</i>			
Albion	15	22	0	4	28	0	32	3	8	80
Bowen Hills	11	13	0	0	14	3	17	0	5	46
Clayfield	43	30	0	15	122	0	137	6	9	225
Hendra	19	16	0	0	20	0	20	0	0	55
Kedron	60	56	0	27	136	0	163	7	6	292
Lutwyche	7	18	3	4	67	0	71	0	3	102
Nundah	102	68	0	39	247	3	289	4	18	481
Windsor	6	11	0	5	53	0	58	3	6	84
Woolloowin	12	7	0	0	26	0	26	0	0	45
TOTAL	275	241	3	94	713	6	813	23	55	1,410

FLAT, UNIT or APARTMENT										
SLA	Fully owned	Being purchased	Being purchased under a rent/buy scheme	Rented				Other tenure type	Not stated	Total
				State/Territory Housing Authority	Other	Not Stated	Total			
Albion	64	55	0	3	240	3	246	10	29	404
Bowen Hills	19	19	0	48	138	3	189	0	29	256
Clayfield	409	266	10	31	1,326	13	1,370	26	125	2,206
Hendra	7	7	0	0	58	0	58	0	3	75
Kedron	172	114	10	112	941	11	1,064	26	48	1,434
Lutwyche	57	47	3	57	395	4	456	7	38	608
Nundah	268	176	7	181	1,072	5	1,258	17	93	1,819
Windsor	80	87	3	112	585	11	708	13	73	964
Wooloowin	75	60	3	29	512	4	545	14	45	742
TOTAL	1,151	831	36	573	5,267	54	5,894	113	483	8,508

OTHER DWELLING										
SLA	Fully owned	Being purchased	Being purchased under a rent/buy scheme	Rented				Other tenure type	Not stated	Total
				State/Territory Housing Authority	Other	Not Stated	Total			
Albion	4	0	0	0	3	0	3	0	3	10
Bowen Hills	3	0	0	0	0	0	0	3	0	6
Clayfield	0	0	0	0	0	0	0	0	0	0
Hendra	0	0	0	0	0	0	0	0	0	0
Kedron	6	0	0	0	3	0	3	0	0	9
Lutwyche	0	0	0	0	0	0	0	0	0	0
Nundah	3	3	0	0	8	0	8	3	3	20
Windsor	3	0	0	0	6	0	6	0	3	12
Wooloowin	6	0	0	0	6	0	6	0	0	12
TOTAL	25	3	0	0	26	0	26	6	9	69

NOT STATED											
SLA	Fully owned	Being purchased	Being purchased under a rent/buy scheme	Rented				Other tenure type	Not stated	Total	
				State/Territory Housing Authority	Other	Not Stated	Total				
Albion	7	0	0	0	12	0	12	0	8	27	
Bowen Hills	0	0	0	0	3	0	3	0	0	3	
Clayfield	8	3	0	0	8	0	8	0	3	22	
Hendra	0	3	0	0	0	0	0	0	0	3	
Kedron	9	6	0	0	11	0	11	3	6	35	
Lutwyche	3	0	0	0	5	3	8	0	3	14	
Nundah	9	3	0	0	4	0	4	0	0	16	
Windsor	6	0	0	0	15	0	15	0	10	31	
Woolloowin	7	6	0	0	9	0	9	0	4	26	
TOTAL	49	21	0	0	67	3	70	3	34	177	

TOTAL											
SLA	Fully owned	Being purchased	Being purchased under a rent/buy scheme	Rented				Other tenure type	Not stated	Total	
				State/Territory Housing Authority	Other	Not Stated	Total				
Albion	286	196	5	7	408	3	418	25	77	1,007	
Bowen Hills	68	50	0	48	176	6	230	6	40	394	
Clayfield	1,334	753	16	46	1,719	13	1,778	68	190	4,139	
Hendra	640	378	4	0	307	0	307	34	40	1,403	
Kedron	1,704	1,223	25	171	1,744	16	1,931	87	142	5,112	
Lutwyche	292	203	9	61	622	7	690	10	67	1,271	
Nundah	1,105	720	18	227	1,664	11	1,902	63	169	3,977	
Windsor	715	564	8	125	1,059	18	1,202	46	157	2,692	
Woolloowin	638	550	9	40	832	7	879	41	94	2,211	
TOTAL	6,782	4,637	94	725	8,531	81	9,337	380	976	22,206	

(a) Includes rented dwellings where the landlord type was not stated.

(b) Includes dwellings being occupied rent-free and dwellings being occupied under a life tenure scheme.

(c) Includes dwellings where the tenure type was not stated.

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