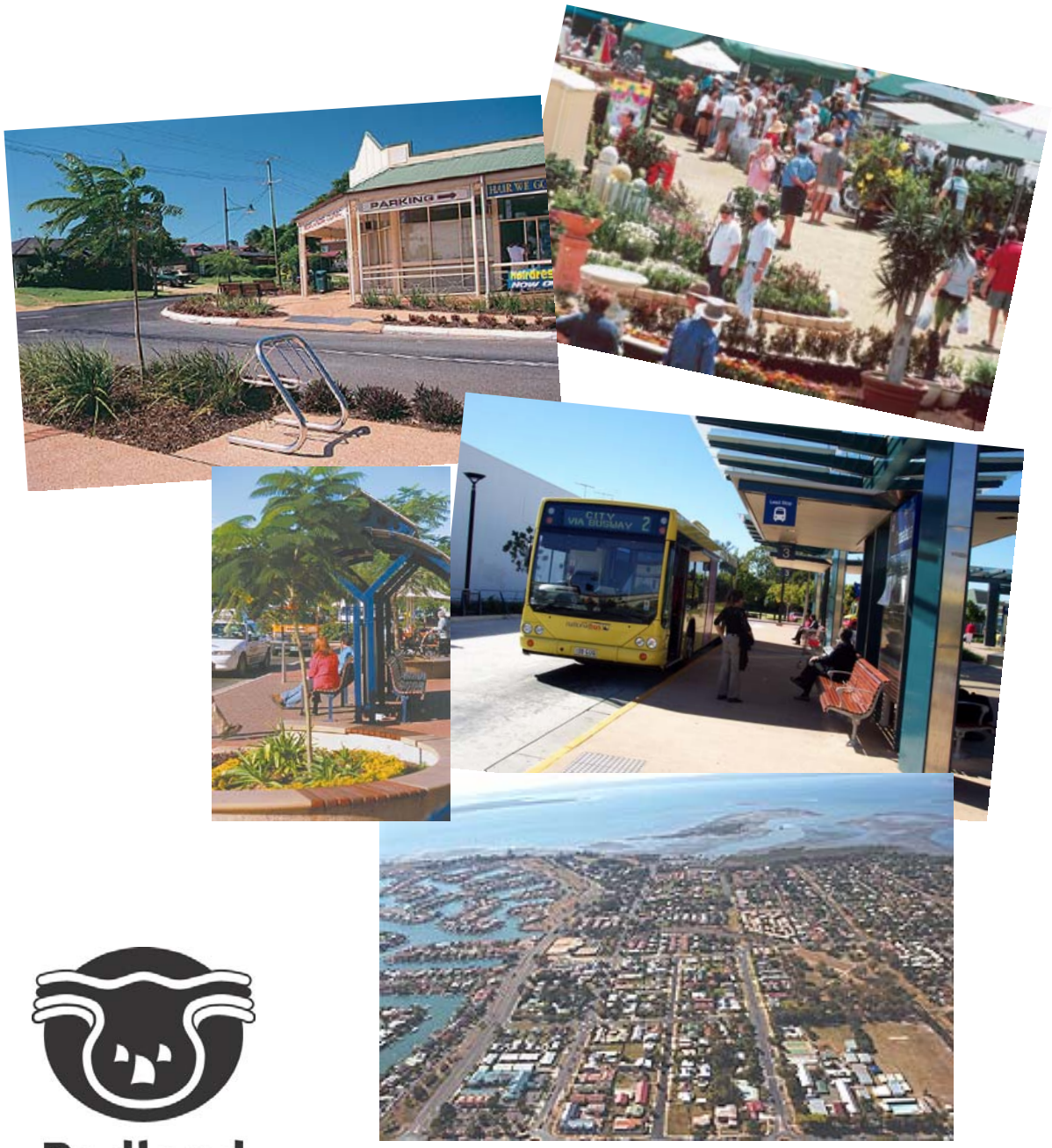
Redland Priority Infrastructure Plan Demographics Report



Redland
SHIRE COUNCIL

Employment and Demographic Analysis for the Priority Infrastructure Plan for Redland Shire

August 2007 Update Version

REDLAND SHIRE
PRIORITY INFRASTRUCTURE PLAN

DEMOGRAPHICS REPORT

2007 Review Report

Table of Contents

EXECUTIVE SUMMARY

Redland Shire (Council), in accordance with the provisions of the *Integrated Planning Act 1997* is required to prepare a Priority Infrastructure Plan. The purpose of this Plan is to provide better coordination and integration of the infrastructure required to meet the future needs of the Shires population growth. This infrastructure includes roads, public transport, walking and cycle provisions; water supply, sewerage and stormwater management and provision of community land for facilities such as community centres, libraries and recreation and sport parks.

In identifying the need for future infrastructure it is vital to accurately identify the demand generated for this infrastructure by the new residents and workers within the Shire whether located within existing developed areas or new growth areas over the planning period for the Priority Infrastructure Plan (PIP), being 2006 to 2021.

The data collected and analysed is known as *demographics* and incorporates people resident in the shire, and those who work or go to school or TAFE here.

This report details how the demographic data was collected and analysed for each of the 11 mainland suburbs and the Moreton Bay Islands (Including North Stradbroke Island and the Southern Moreton Bay islands) for the planning periods of 2016 and 2021 (a base year updated to 2006).

Underpinning the analysis of this demographic data has been reference to the available data and body of work undertaken in the Shire by the Council, its consultants and government agencies, most notably the Planning and Information Forecasting Unit (PIFU) of Queensland Government. PIFU undertakes future year population forecasting in Queensland and their Medium and High Series projections for the Shire underpin the analysis.

The study team, using this available data and local knowledge undertook suburb by suburb capacity and growth analysis based on available developable land, planning controls, growth trends and proposed developments. The PIP analysis was based on the LGMS review, along with the 2007 Land Availability Study completed jointly by Council, the UDIA and State Agencies (OUM and PIFU). Additionally, as part of the 2006 population projection review by PIFU, the figures were adjusted in the order of 1.5% to 5% upwards for the medium and high series.

The study identified a population growth in the Shire from 132,971 in 2006 to 176,778 in 2021. This level of growth falls between the Medium and High Series projections produced by PIFU and is seen as providing a robust assessment of the predicted future growth for the Shire to 2021.

Employment analysis was also suburb based and drew upon work previously undertaken by Veitch Lister Consulting during the Regional Plan development, other published consultants work and the latest planning undertaken by Council. The study identified employment growth in the shire from 27,364 in 2004 to 41,028 in 2021.

Overall the study identified a consolidation of growth in key centres such as Capalaba, Cleveland and Victoria Point with the potential for greater internalisation of employment in the shire. New residential growth with related service industries was identified for Mt Cotton Village, Redland Bay and Thornlands and would be further examined during the structure planning process for these areas.

1.0 Introduction

This report outlines the methodology and background to the production of the demographic data generated for the Redlands PIP and for input into the Redlands Traffic Model, as reproduced in Table 1 of this report.

The Study area is the local government area of Redland Shire, including the Mainland and the islands of North Stradbroke, Coochiemudlo and the Southern Moreton Bay Islands. Demographic data has been defined by the twelve suburbs that make up the Shire. See Map 1.

For the purpose of this report Demographic Data is defined as:

- Population:
  The total number of people resident at a particular location within the Shire. In this case, by Statistical Local Area (SLA) or Suburb within the Shire.
- Employment:
  The total number of people at their place of work.

1.1 Background

The update of the previous PIP Demographics document and analysis (dated July 2006) has been undertaken by Council staff to include the results of the Land Availability Study which was jointly produced by Redland Shire Council, the Urban Development Institute of Australia (Queensland) (UDIA) and State Government (PIFU and OUM). This analysed the Redlands Planning Scheme and the South East Queensland Regional Plan to determine a 2026 or Ultimate Capacity for the Shire in terms of population and dwellings.

This report then formed the basis for Councils preparation of the Redlands Local Growth Management Strategy (2006 – 2026). Time period breakdowns for 2016, and subsequently 2021 were prepared as part of the analysis utilised in preparing the PIP.

For the original analysis (dated July 2006) Veitch Lister Consulting (VLC) were employed as a sub-consultant to GHD Pty Ltd to assist in the preparation of the PIP for Redland Shire Council.

VLC are travel demand and traffic modelling specialists. A key role for VLC in this project was the production of a Redlands Traffic Model that would identify existing and future traffic movements and demand on the road network within the Shire.

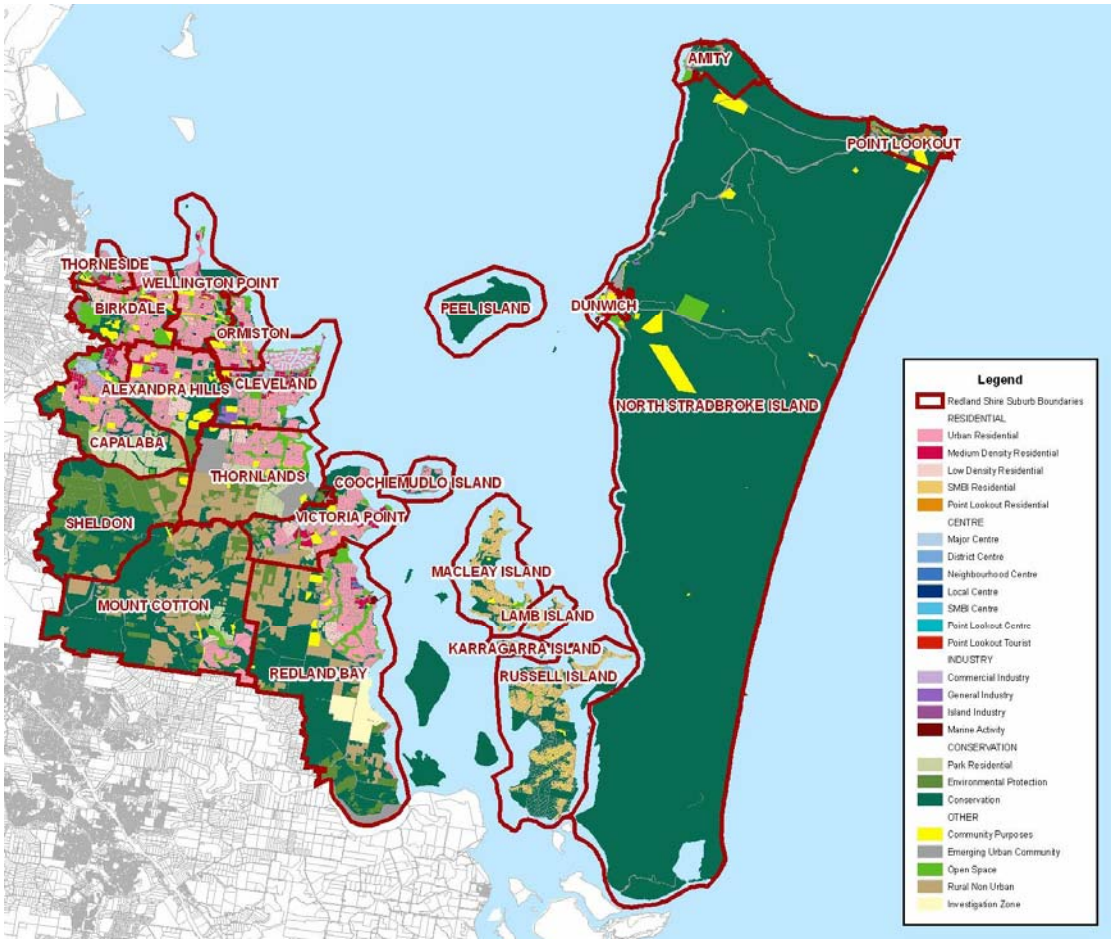
A key input to this model is the production of demographic projections; sourced from available demographic data. The PIP has a 15year plan period with periods of review during this time. Therefore, based on this framework and the availability of data for specific time periods projected demographic data was produced for:

- 2004 employment base case
- 2006 population base case
- 2011
- 2016
- 2021 – Plan year

1.1.1 The VLC Redland Shire Traffic Model – Demographic Inputs

VLC operate their own in-house traffic model called Zenith. The model produced for Redland Shire is a sub-model of the SEQ 2026 Regional Model produced for Queensland Government to support the land use policies and proposed infrastructure identified in the SEQ Regional Plan and the SEQ Infrastructure Priority Plan (SEQIPP).
The demographic databases of SEQ 2026 Regional Traffic Model were used as the basis for defining demographic data used for the Redland Shire Traffic Model. This report provides an outline of the methodology undertaken to obtain the final demographic data for Redland Shire.

Map 1 – Redland Shire and its Suburbs



2.0 Demographic Data Production Overall Methodology

This section outlines the methodology used to generate the demographic data. This is divided between population and employment and the guiding principles that were adopted.

It is important to note that population and employment projections cannot and were not developed in isolation from each other. Although there is no simple direct relationship, (i.e. population levels go up by two percent therefore employment must go up by the same amount) there is of course a strong relationship between their levels and distribution.

2.1 Overall Guiding Principles

There were a number of guiding principles that underpin the production of this data. They include:

2.1.1 Utilising Official Publications and Data Sets

In early 2007 PIFU generated information relating to the number of dwellings, occupancy rates and population for 2006 through to 2026. This information formed the base level information for the 2006 analysis and document review. This provided a new level of data to a local level than had been available previously.

The demographic databases used for the SEQ 2026 Regional Model formed the basis for the level and distribution of population and employment within Redland Shire. This was refined and updated using other data sources, most notably the latest population projections from PIFU and the Redlands Planning Scheme that came into effect from 30th March 2006.

It was the intention of the team not to ‘reinvent the wheel’. Although considerable new local level on the ground work was done, that is data on growth trends and distribution, regionally and locally, was used to guide the production of the data.

2.1.2 Utilising Local Knowledge

In essence all published data is out of date to some extent. The local knowledge and expertise of Redland Shire Council officers and that of the project team proved invaluable in identifying specific local developments, likely growth scenarios and characteristics of particular area.

The LGMS in defining the Shire’s settlement pattern and new greenfield and infill development predictions, confirmed the outcomes of the previous work.

2.1.3 Bottom-up Approach

Overall Shire projections for population and employment were determined and then distributed across the Shire consistent with the high level strategies of the Redlands Planning Scheme and the South East Queensland Regional Plan.

Distributions undertaken at the local level were based on land availability and capacity. This approach relied on detailed local knowledge of development capacity in each suburb as found in the Redlands Planning Scheme, together with existing demographic and housing characteristics and projected trends.

This principle largely applied to population in terms of defined population estimate totals for Redland Shire produced by PIFU in their low, medium and high growth series data sets. For employment, the Shire wide target was based on the ratio of employment to population in the base year (2004) taking into account trends in population and employment characteristics and local issues.

In line with this principle the overall shire targets were not control totals. They acted as targets with adjustments made based on local issues.

2.1.4 Ultimate Development

The level and distribution of population and employment was based on the ultimate development of land zoned for residential and employment growth in the Redlands Planning Scheme, under the SEQ Regional Plan and based on the LGMS analysis. This was then analysed for a 2021 horizon to align with the PIP timeframe.

The key underlying principle in all this was the ***avoidance of global factoring***. It would have been easy to identify the existing base population and employment totals, the future year population total and simply factor up the figures. In demographics terms this produces very crude data even if some level of local distribution to new growth areas is attempted. In modelling terms it is totally unworkable as the refined demographic factors become meaningless.

The approach undertaken by the team with the valuable support of Redland Shire Council, of ‘manually’ allocating growth under the aforementioned principles is highly time consuming but is the most robust and accurate approach. As this demographic data underpins much of the production of the PIP, particularly the Transport Model, it is crucial that this be as accurate as possible and has been prepared using a defensible methodology.

This approach is reflected in the data produced. For population, as identified in Table 1, growth is not a simple linear process but shows the higher growth occurring later in the plan period in line with projected growth as it occurs at the local level.

During the 2007 update, the project team had access to the LGMS data and the background work used in its preparation. This proved invaluable and formed the basis of generating a 2021 population projection figure. While this did contain small differences to the original PIP figures, this strongly reinforced the original work, while providing another level of robustness for the assumptions made in the PIP. The updated mainland 2021 PIP figure generated was less than 20 persons different than that previously generated.

2.2 History of Process

The production of the demographic data went through three (3) key, inter-related phases.

These were:

- Existing Data Review
- New Data Collection and Review
- Detailed local area distribution and incorporation into the traffic model

2.2.1 Existing Data Review

The VLC SEQ 2026 Regional Model contained demographic data for Redland Shire for 2001 and 2026. The 2001 database was based on official census data and had been brought up to 2004 based on the 2004 Estimated Resident Population (ERP) data produced by the ABS, latest PIFU projections and data produced and collated by the OUM during the modelling process for the Regional Plan.

The first stage was to produce a 2021 total to coincide with the Redlands PIP planning period. This was initially undertaken by linear interpolation.
This formed the basis for initial discussions with Council on developing the Redland Traffic model and the supporting demographic database. This involved matching projected growth with current Council policy and available data and making adjustments as necessary.

2.2.2 New Data Collection and Review

A number of datasets and publications were sourced by the team from Council and other agencies to ensure that the most up to date and relevant data was used. A list of data sources used in producing this data set is contained within the References. It was noted that since the production of the Regional Plan, PIFU had updated and revised its projections for Redland Shire.

New current and future year data was obtained from PIFU and formed the basis for discussions with Council on the local area distribution.

2.2.3 Detailed Local Area Distribution and Incorporation into the Traffic Model

This process has been the longest and most detailed. It has involved regular discussions with Council officers, meetings with PIFU officers and detailed GIS mapping of the area.

An added complication has been that during this process the Redlands Planning Scheme was going through the final stages of completion including a final State Interest Review. This has resulted in refinement and changes to proposed future land use zones, particularly in the suburbs of Thornlands and Redland Bay.

During the original document analysis and the process of local area distribution it was clear that PIFU's 2003 high growth projections were more applicable than the medium series data that had previously been used, and subsequently was adopted.

PIFU updates its projections overtime based on the latest available data. Earlier 2001 Medium series projections indicated a projected 2021 population of 176,495. Revised 2002 figures gave a higher growth rate for the Shire with a projected population of 168,805 for 2016. No data for 2021 was available. Subsequent 2003 projections indicated a lower growth rate with a 2021 population of 168,435. As the latest available data the 2003 series data was initially used as a basis for identifying and distributing population growth within the shire's suburbs.

During the 2007 document review, the latest 2006 population projections were used. This updated the previous 2021 figure of 168,435 to 170,751, or an increase of 1.4%. At the same time the high series was revised from 179,636 to 183,392, which is an increase of 2.1%. This review aligns with the analysis undertaken in the PIP and reinforces the 2021 PIP figure of 176,778 as providing a range midway between the medium and high series.

The final stage of the original process was the incorporation of the data into the Redland Traffic model. Adjustments were made where this detailed review indicated anomalies between projection and local area capacity.

3.0 Demographic Data Production Population

For population, there were a series of checks and balances to guide the nature and distribution of the population growth.

PIFU projections acted as control totals but only within the context of identifying population distribution from the bottom up.

Reports and documents such as the Redlands Planning Scheme; Redland Shire Broadhectare Study, Land Availability Study and the SEQ Regional Plan provided guidance on the nature, type, density and distribution of residential growth.

Further guidance was also provided from the mapping of a Priority Infrastructure Area (PIA). A PIA was developed as part of the PIP process. It is consistent with the planning scheme and the SEQ Regional Plan, and identifies land suitable for urban growth. Although some population growth would occur outside of the PIA the majority of new and infill development will be included in this area.

Previous studies and work undertaken by PIFU provided information on density and occupancy rates for residential development.

The 2004 base population, derived from the SEQ 2026 Regional Model database and updated to latest 2006 PIFU projections provided the starting point. Future year populations were guided by the PIFU high growth projections for the Shire.

However, despite this guidance and support data considerable new work had to be done on the mapping and classification of future residential development. As discussed earlier, the ongoing development and approval of the Redlands Planning Scheme resulted in changes.

Additionally, based on the recent detailed Local Growth Management Strategy analysis undertaken, the review of the PIP worked hand in hand with the totals and assumptions produced out of this analysis. These results and assumptions double checked that the PIP results and background planning worked directly in line with existing adopted RPS information and the LGMS study results.

3.1 Methodology

Detailed in this section is an overview on the methodology undertaken in the analysis and derived population projections.

This section will also review some of the specifics in the LGMS analysis, as the 2021 PIP figure is aligned to the LGMS and flows directly from this later analysis. More indepth details of the generation of Councils LGMS analysis are contained in the Planning Study report and associated documentation.

3.1.1 LGMS Analysis

As required under the SEQ Regional Plan, Council is required to prepare a Local Growth Management Strategy. This document sets out Councils strategy for achieving the urban development aspects of the SEQ Regional Plan at the local planning level. A detailed and collaborative review was undertaken of the population capacity for the Shire to a 2026 horizon as part of the LGMS preparation.

This joint analysis was managed by Council, the UDIA, PIFU and the OUM. The study reviewed the zoned urban lands under the RPS, planning scheme overlay constraints, the Broadhectare Studies, proposed structure plans, etc, while looking at an assumed potential under the SEQ Regional Plan and its defined urban footprint. The study results formed the basis of the LGMS study analysis, and were broken into a 2016 and 2026 planning estimate figures.

3.1.2 Greenfield

During the provision of information to OUM, Council has generated and had accepted its Greenfield / Infill boundaries. These boundaries were used to determine the split or break-up for the Shire and to ensure consistency with the SEQ Regional Plan targets.

Previously the greenfield land analysis took place through identification of Emerging Urban Community zoned land and the Redland Shire Broadhectare Study conclusions.

The results of the Broadhectare Study 5, released in February 2006, were utilised and gave the base data of land size and population yields for all lots over 2500m2. These areas were reviewed to confirm their extent and their expected development time frames. The areas identified in the Broadhectare Study were then categorised based on the SEQ Regional Plan definition of “infill” and “greenfield”.

During the update process the latest draft structure plan layouts have been analysed for population estimate / allocation for the Kinross Road and South East Thornlands Areas. There was a high level of correlation between the initial population estimates and the dwelling figures calculated from the draft structure plans.

Prior to this ability to determine populations from the detailed constraint analysis and/or the draft landuse structure plans, a mathematical calculation determined the expected population targets for these areas. An expected population figure was calculated based on 50 percent of these areas not being utilised for urban residential purposes. The balance 50 percent is expected to be utilised for a mix of 75 percent for traditional single detached housing, with the remaining 25 percent being used for higher density development.

This formula was used in the calculation of a population figure for the areas of Redland Bay South, Bunker Road and Double Jump Road Areas.

3.1.3 Infill

Mindful of the targets for infill development promoted by the SEQ Regional Plan, a broad capacity analysis was carried out to determine the amount of potential infill development within the Shire.

Initially the analysis was broad reaching, and validated previous work by Urban Economics & Economic Associates, undertaken in November 2003. This previous work estimated population capacity under the various residential land use zones of Urban Residential, Medium Density and Low Density. These were also recorded under various allotment sizes and a "take up rate" or redevelopment proportion.

The capacity for redevelopment of underdeveloped lots or infill sites was assessed for every suburb across the Shire. Assumed development yields (base on current zonings) and take up rates were applied to sites where development intensification or infill development could occur. Take up rates were based on consideration of age of development (where applicable), suburb demographic and locational attributes and likely commercial attractiveness for redevelopment. The final analysis indicated that the key infill sites would be the larger Medium Density sites. These sites were assumed to yield 50 dwelling units per hectare (based on 200m^2 per dwelling unit) and having an occupancy rate of 1.7 persons.

The take up of infill opportunities was adjusted to align with target populations over the various timeframes.

3.1.4 Bay Islands

The Southern Moreton Bay Islands and North Stradbroke Island need to be considered separately from the mainland suburbs. The settlement pattern on the Southern Moreton Bay Islands has already been predetermined by the existing subdivision pattern, which effectively encompasses the entire Islands. Subject to zoning requirements, development can occur anywhere on these Islands. In other words, there are no definable development fronts and no opportunity to stage development.

During the Land Availability Study, the recent Bay Island dwelling approvals was investigated. This was subsequently reviewed further by researching data from additional sources which combined to determine an annual dwelling growth figure which was used for the projections.

In determining the occupancy rate for the Southern Moreton Bay Islands, Council has adopted a lower figure than the mainland rate. The figure adopted for the Islands is 2.1 persons per detached dwelling, which reflects the Census data and future expectations for the Islands.

The population projections on the Southern Moreton Bay Islands have therefore been based on historic trends and updated in light of the more recent rate of lot take up. No spatial phasing of growth over timeframes has been assumed for the Islands for the reasons outlined above.

North Stradbroke Island has limited opportunity for future development being largely designated a conservation area, mining tenements and a National Park. Projections for this Island have been absorbed with those for the Southern Moreton Bay Islands and called 'Redland (S) Bal'.

4.0 Demographic Data Production – Employment

As part of the 2007 review of this document, no direct update of the employment figures has occurred. This is due to the ongoing studies analysing the employment lands in the Shire, and confirming the information currently contained in this analysis.

For employment there was much less published or available data to guide the distribution. A report had been prepared by SGS Economics and Planning, but that focused on issues associated with two key Integrated Employment Areas. However, it did provide useful insights into growth patterns and trends for the Shire.

In Redland Shire a high proportion of the population travel outside the Shire for work, to Brisbane CBD, inner city areas and other employment areas such as the Port of Brisbane and the Australia Trade Coast. The SGS report identified the potential for the greater internalisation of this employment. This view was supported by the objectives and analysis contained in the SEQ Regional Plan and the Redlands Planning Scheme.

As with population the adjusted 2004 SEQ Regional Model employment data formed the base data for this analysis. Overall the ratio of population to employment found at 2004 was maintained with a slight reduction. This took into account factors such as an overall reduction in the employment base due to an aging population, as reflected in regional and national trends, largely offset by an increasing internalisation of employment within the Shire.

It is important to note that employment generated for this report was inputted in the Redland Traffic Model. It identifies *employment at the place of work* not employed persons within the Shire. The ratio of employment to population is therefore lower than may occur in some neighbouring suburbs within Brisbane, which have a higher number of employment areas.

4.1 Methodology

Previous reports, such as the SGS Report, *Redland Shire Integrated Employment Area Investigation* contributed to the study. However, there was insufficient data or long-term research to undertake an entirely new detailed analysis of employment trends in the Shire.

Employment rates are much more volatile then population. Factors such as the increasing flexibility between place of work and residence, the more flexible workplace conditions, especially in relation to the growing trend of contract, part-time and casual work, and the ever changing market conditions can result in rapid changes in the nature and distribution of employment as compared to population. Whist there are standard employed persons densities per Gross Floor Area (GFA) by industry classification employment levels can change from increased production or changed work conditions without a change in site area.

Taking these aforementioned issues into account and the guiding principles identified in section 2.1 two key methodologies were adopted:

- Utilising existing work done for the 2026 Regional Plan; and
- Review of current Data and Publications/Discussions with Council officers.

4.1.1 Utilising Existing Work Done for the SEQ Regional Plan

In preparing the demographic database for the SEQ 2026 Regional Model detailed analysis and distribution of future year employment levels were undertaken by VLC in close consultation with the OUM. The OUM had developed future year employment totals and distribution based on current 2001 census employment data, planned employment growth areas and development polices adopted by the 18 regional councils in SEQ; and growth trends in employment categories identified by government agencies such as PIFU and the ABS.

This data was prepared for 2001, 2016 and 2026 for the whole of SEQ, including Redland Shire.

The trends in employment categories identified by the OUM were still applicable to Redland Shire for this project as they were for the Regional Plan. In summary, as a percentage of the workforce there was a decline in the more traditional industries such as manufacturing/industrial styled employment, agriculture and fisheries, continued growth in retail, leisure and hospitality businesses and large expansion in the fields of education and healthcare.

Therefore, based on this OUM data and guidance, an existing employment distribution (including Redland Shire), was produced for the Regional Plan, and endorsed by Queensland Government and Redland Shire Council.

This demographic database for Redland Shire identified employment distributions by 13 ABS based employment categories. This employment distribution formed the basis for the updated review and as input into the Redland Shire Traffic Model.

4.1.2 Review of Current Data and Publications/Discussions with Council

The Redlands Planning Scheme underpinned the distribution of employment based on the previous work outlined above.

Growth Management principles identified in the Regional Plan and the Redlands Planning Scheme were incorporated into the review of the employment data and supported by detailed discussions with members of Councils Assessment Studies Group. This combined local and state endorsed growth principles with local up to date knowledge of current development approvals.

Notable issues were:

- Continued consolidation in existing Key Employment Centres such as Capalaba, Victoria Point and Cleveland. Capalaba in particular was identified as a key growth area with extensive existing retail and industry based employment, major roads links and an intensification of residential development;

- Identification of potential employment areas such as in Thornlands and Redland Bay. The likely employment characteristics of these areas were

based on previous studies and discussions with council officers. More detailed data will come to the fore during the structure planning process for these areas and can be incorporated, as appropriate, during the PIP review process.

- Planned new residential growth areas such as Mount Cotton Village and major subdivision in Redland Bay. Data on future employment land use was limited to projected residential lot availability with no master planning mapping or data available. Based on this, assumptions were made by the project team on the expected level of employment. For instance, new or upgraded shopping centres, education and health establishments and other such support industries to support this type of residential development;

- Employment distribution data and mapping presented to Council officers was subject to detailed discussions and review based on current knowledge of local development issues; and

- This distribution was supported by numerous site inspections of existing and proposed employment areas.

It is worth noting that the robustness of the 2004 employment distribution was proven during the model validation process. Model validation is based around matching recorded traffic flows with that produced by the model based on the demographic database. This validation is based on stringent international modelling criteria. The principles in generating the 2004 employment distribution is replicated in the future year work.

5.0 Demographic Data for Redland Shire

The tables below identify employment and population totals generated for 2004, 2016 and 2021 for each of the suburbs and Islands located within Redland Shire.

5.1 Study Team Projections Population

Table 1 below indicates the population and employment figures generated by the study for Redland Shire. This data has formed the basis of the demographic data set used to undertake traffic modelling in the Shire in support of the Redlands PIP.

Table 1: Population Projections

SLA Name	2006	2016	2021
Alexandra Hills	17,661	18,658	18,765
Birkdale	14,661	16,827	17,061
Capalaba	17,905	19,661	20,937
Cleveland	14,164	15,552	16,609
Mount Cotton/Sheldon	5,168	8,316	8,963
Ormiston	5,793	6,808	7,203
Redland Bay	11,042	18,060	20,306
Thorneside	3,514	3,639	3,680
Thornlands	11,073	20,855	20,999
Victoria Point	14,566	17,426	18,935
Wellington Point	10,499	12,181	12,465
Redland (S) Bal (Bay Islands)	6,925	9,506	10,855
Totals	**132,971**	**167,489**	**176,778**

SLA = Statistical Local Area – a population assessment derived administrative boundary in the case of Redland Shire this is the same as the suburb.

This data is based on an overall **Medium / Mid Range Growth** scenario for Redland Shire.

5.1.2 PIFU Population Projections

Table 2 below indicates the latest population projections by suburb produced by the Planning Information & Forecasting Unit (PIFU), a population forecasting unit within the Department of Local Government, Planning Sport and Recreation (DLGPSR) of Queensland Government. This data was published in September 2006.

This data represents a **Medium Series projected resident population**.

The numbers in Table 2 below will therefore be lower then the planning projections contained in Table 1. However, they do serve as a reference point in comparing differences in growth trends between data produced in this report and that published by PIFU.

Table 2: Latest PIFU Medium Series Population Projections by Suburb

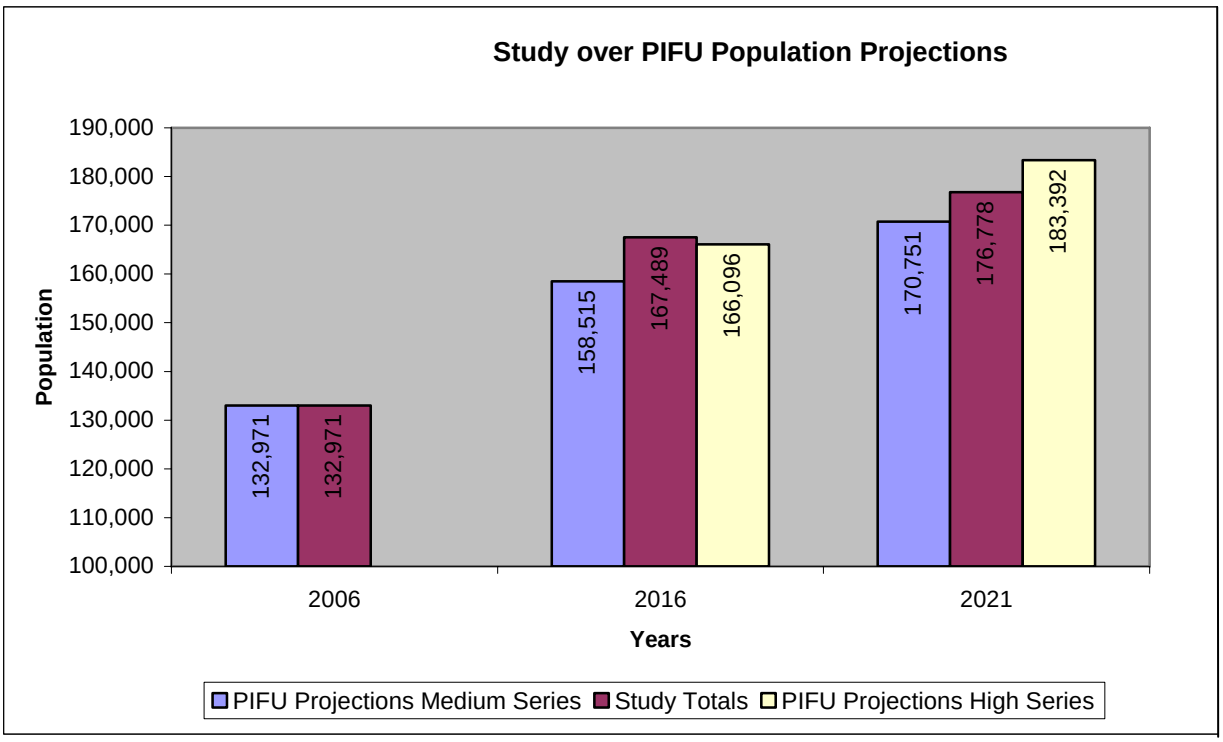
SLA Name	2006	2011	2016	2021	% Diff to 2021 PIP Figure
Alexandra Hills	17,661	17,428	17,187	17,103	9.7%
Birkdale	14,661	15,121	15,794	16,141	5.7%
Capalaba	17,905	18,224	20,160	22,773	-8.1%
Cleveland	14,164	14,266	14,161	14,710	12.9%
Mount Cotton/Sheldon	5,168	7,063	8,772	9,348	-4.1%
Ormiston	5,793	6,199	6,666	6,730	7.0%
Redland Bay	11,042	15,048	18,388	21,527	-5.7%
Thorneside	3,514	3,503	3,448	3,447	6.8%
Thornlands	11,073	13,854	16,467	18,884	11.2%
Victoria Point	14,566	16,004	17,020	17,867	6.0%
Wellington Point	10,499	11,071	11,496	11,571	7.7%
Redland (S) Bal (Bay Islands)	6,925	7,999	8,956	10,650	1.9%
Totals	**132,971**	**145,780**	**158,515**	**170,751**	**3.5%**

Source: PIFU Planning
Information & Forecasting Unit, Queensland Government
2006 ERP data – Estimated Resident Population.
* Percentage difference is between the Project Teams Projections for 2021 and PIFU's Medium Series Data for 2021.

Table 3: Current PIFU Population Forecasts for Redland Shire

Year	Projected Population		
	Low	Medium	High
2006	132,683	132,971	133,367
2011	143,397	145,780	149,217
2016	153,121	158,515	166,096
2021	160,752	170,751	183,392

Source: PIFU - Planning Information & Forecasting Unit, Queensland Government.



5.1.3 PIFU POPULATION DATA REPORT POPULATION DATA - DIFFERENCES

The two issues addressed concerning the differences in population data are:

- Between the Project Teams Projections (Table 1) and the High Growth Redland Shire totals (Table 3); and

- Between the Project Teams Projections (Table 1) and PIFU's Medium Series data by Suburb (Table 2).

The text below highlights the key differences in the data in certain suburbs.

5.1.3.1 Project Teams Projections and PIFU High Growth Totals by Shire – Differences

The following table summarises the difference between the two sets of projections.

Table 4: Medium Growth Forecasts

Year	Project Team's Projection	PIFU Data Medium Growth	% Difference *
2016	167,489	158,515	5.66%
2021	176,778	170,751	3.53%

* Percentage difference is between the Project Teams Projections for 2021 and PIFU's Medium Growth Data for 2021.

Previously the PIP document was reviewed against the PIFU High series growth figures. As can be seen in Table 3, with the 2006 review of the population projections, PIFU adjusted the High series to be above 200,000 persons. This review accords with Councils internal analysis, and confirms that Council is providing sufficient land to accommodate the medium series population, while managing and limiting any land market variations that may occur over time.

These results reflect the bottom up approach of allocating growth within a framework of the latest data and local knowledge. This sees a distribution and growth pattern occurring in the Shire based on local detailed analysis with strong growth occurring post 2011 principally in the greenfield areas of Thornlands and Redland Bay.

Detailed local analysis has generated accurate likely growth scenarios for the suburbs and has taken in account generic population trends, i.e. an overall declining household size along with likely local growth scenarios that may see an increase in residential densities.

The following pages review the suburb breakdown of the PIP planning figure against the 2006 PIFU medium series figure and show the percentage difference, and paragraph of why these differences have occurred.

The key differences can be found in the following suburbs:

- **Alexandra Hills +9.7% over PIFU Medium Series Projections**

The PIFU data for this suburb appears to largely based on a reducing household size in this suburb with little new development. However, analysis undertaken in this report reveals that this generic decline in household size was offset by higher density dwelling capacity. As such, there was no marginal reduction in population as forecasted by PIFU.

- **Birkdale +5.7% over PIFU Medium Series Projections**

The studies analysis identified a number of sites zoned for medium density development, i.e. redevelopment of properties adjoining the caravan park off Collingwood Road. Significant growth was also identified in the PIFU data with an overall increase of 10.52 percent from 2005 to 2021.

The study identified this growth occurring earlier than that found in the PIFU data and is consistent with PIFU's High Series projections.

- **Capalaba -8.1% under PIFU Medium Series Projections**

Capalaba was identified as a significant growth area in the SEQ Regional Plan and this is supported by the Redlands Planning Scheme. The timing of the growth based on RSC analysis is expected to be slightly slower than the PIFU calculations.

Potential for higher density residential development was identified and has resulted in continued population and employment growth in this area.

- **Cleveland +12.9% over PIFU Medium Series Projections**

Cleveland was identified as a Principal Activity Centre in the SEQ Regional Plan and this is supported by the Redlands Planning Scheme. The timing of the growth based on RSC analysis is expected to be slightly faster than the PIFU calculations.

Due to significant redevelopment interest in the suburb because of it's bayside and transport amenity, the suburb figure has been analysed upwards to reflect the increased growth.

- **Ormiston +7.0% over PIFU Medium Series Projections**

There is no significant difference between the two data sets with overall strong growth of approximately 24 percent occurring from 2006 to 2021. As found in Cleveland, significant development has already occurred in this suburb in recent years resulting in less opportunity for further residential development over the plan period than found in some of the other suburbs.

- **Redland Bay -5.7% under PIFU Medium Series Projections**

A major residential subdivision opportunity has been identified in this suburb which is recognised by both Council and PIFU in the growth figures.

The differences here are largely related to timing and scale of this development. Council identifies a similar residential development extent but occurring later on in the planning period. PIFU identifies a largely linear growth pattern and at a greater scale.

Further details on this proposed development will occur during the structure planning process and can be refined, as required, during the PIP review process.

• **Sheldon - Mt Cotton -4.1% under PIFU Medium Series Projections**
Significant residential development opportunities centred on Mount Cotton Village have been identified in this suburb. This is recognised by Council and PIFU with PIFU identifying a large 80 percent increase from 2006 to 2021.

As with Redland Bay the differences here are largely related to timing and scale of this development. Council identifies potential for a similar residential development extent occurring but at a slightly reduced density rate than originally analysed by PIFU.

Further details on this proposed development will occur during the detailed development assessment planning process as per the Master Plan as included in the Redlands Planning Scheme zoning.

• **Thorneside +6.8% over PIFU Medium Series Projections**
Overall there is little difference between the two data sets with a projected difference of 233 persons at 2021. Thorneside is an established suburb with limited opportunities for further growth compared to some of the other suburbs in the Shire.

• **Thornlands +11.2% over PIFU Medium Series Projections**
Council has revised its expectations for growth in this suburb based on a number of factors including site constraints and development ratios. This is detailed on Pages 6-7 of this report and explained in depth through the Land Availability Study (2007).

Part of this suburb is the subject of structure planning processes as defined in the Redlands Planning Scheme. Any changes to current population projections can be addressed during future PIP review process.

• **Victoria Point +6.0% over PIFU Medium Series Projections**

There is little difference between the two data sets with overall growth of approximately 25% percent occurring from 2006 to 2021. The difference that does exist is due to the upgrade of the Victoria Point Centre to a Major Centre under the RPS and the increased level of residential activity that will occur in line with this designation.

• **Wellington Point +7.7% over PIFU Medium Series Projections**

Overall there is little difference between the two data sets with a projected difference of only 890 persons at 2021. Wellington Point is an established suburb with limited opportunities for further growth compared to some of the other suburbs in the Shire.

• **Redland (S) Balance 1.9% over PIFU Medium Series Projections (North Stradbroke, Coochiemudlo and Southern Moreton Bay Islands)**

Analysis of the development potential has identified some limited opportunities for growth in some areas. However, overall there is little difference between the two data sets with a projected difference of 205 persons at 2021.

Future growth has been based on historic trends and a detailed review of dwelling construction number, along with current and expected occupancy rates.

5.1.3.3 Summary of Differences Study – PIFU Projections

In summary the main differences are limited to the suburbs of Cleveland, Alexandra Hills and Thornlands that have higher growth, and Capalaba & Redland Bay, with lower growth than the PIFU data.

Differences can be attributed to valid local issues. Some of these suburbs will also be subject to a Structure Planning process as they become developed. This provides the opportunity to review the projections as part of the formal review process of the Redlands PIP.

Graphs displaying the growth in population and employment over the four time periods from 2004 to 2021 are contained in Appendix 2.

Table 5 below shows the changes from 2006 to 2016 and to the Redlands PIP horizon of 2021.

SLA Name	2016 PIP Projection	2016 PIFU Projection Medium Series	% Change	2021 PIP Projection	2021 PIFU Projection Medium Series	% Change
Alexandra Hills	18658	17187	8.6%	18765	17103	9.7%
Birkdale	16827	15794	6.5%	17061	16141	5.7%
Capalaba	19661	20160	-2.5%	20937	22773	-8.1%
Cleveland	15552	14161	9.8%	16609	14710	12.9%
Mount Cotton/Sheldon	8316	8772	-5.2%	8963	9348	-4.1%
Ormiston	6808	6666	2.1%	7203	6730	7.0%
Redland Bay	18060	18388	-1.8%	20306	21527	-5.7%
Thorneside	3639	3448	5.5%	3680	3447	6.8%
Thornlands	20855	16467	26.6%	20999	18884	11.2%
Victoria Point	17426	17020	2.4%	18935	17867	6.0%
Wellington Point	12181	11496	6.0%	12465	11571	7.7%
Redland (S) Bal (Bay Islands)	9506	8956	6.1%	10855	10650	1.9%

Table 5: Suburb variations from PIP to PIFU (2006 Medium Series Figures)

5.2 Study Team Projections Employment

As part of the 2007 review of this document, no direct update of the employment figures has occurred. This is due to the ongoing studies analysing the employment lands in the Shire, and confirming the information currently contained in this analysis.

Table 5 details the employment at place of work totals generated by the project team.

Table 6: Employment Projections

SLA Name	2004	2011	2016	2021
Alexandra Hills	2056	2100	2163	2275
Birkdale	1389	1553	1651	1718
Capalaba	7664	8593	9518	10909
Cleveland	7161	8045	8755	9641
Mount Cotton/Sheldon	1137	1239	1440	1494
Ormiston	809	950	994	1040
Redland Bay	1247	1514	1760	3151
Thorneside	391	419	429	437
Thornlands	1218	1526	2123	3217
Victoria Point	1836	2389	2969	3782
Wellington Point	1158	1224	1271	1314
Redland (S) Bal (Bay Islands)	1298	1510	1762	2051
Totals	**27364**	**31062**	**34835**	**41029**

There is no comparable Queensland Government data for employment as there was with population. These figures reflect the methodology and trend in employment identified in this report, namely:

- A consolidation of employment in existing key employment areas such as Capalaba;

- The injection of new employment to service new residential growth and/or as employment areas in their own right as in Redland Bay and Thornlands, respectively; and

- A growing internalisation of employment within the Shire as an increasing number of residents and people from outside the Shire work here.

Current employment site issues that are worthy of noting are:

- The future integrated enterprise employment area in German Church Road (Redland Bay), is approved by Council. With a gross area of approximately 47 hectares this area is expected to provide for employment industry and enterprise uses for the southern part of the Shire. It is also expected to be developed in stages commencing in 2008.

- The land bounded by Springacre, Taylor and Boundary Roads (Thornlands) is identified in the Redlands Planning Scheme for future investigation as an integrated employment area and also identified in the LGMS as the Thornlands Integrated Enterprise Area. The area is intended to accommodate modern high quality employment based on appropriate infrastructure,

transport links and environmental and scenic amenity protection measures; and to significantly contribute to satisfying the future business and employment needs of the Shire. The LGMS provides the planned uses and potential for this area.

Any changes to the projected development of these or any other key employment areas can be addressed in the formal review process of the PIP.

These employment figures are consistent with growth strategies and policies contained within the Queensland Government's SEQ Regional Plan and Redland Shire Planning Scheme.

Graphs displaying the growth in population and employment over the four time periods from 2004 to 2021 are contained in Appendix 2.

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