

ITEM 16.2.1 SOUTHERN THORNLANDS ECONOMIC ANALYSIS**Objective Reference:** A2020497**Attachments:** [Thornlands Future Urban Growth Investigation Area](#)
[Thornlands Employment and Enterprise Needs Assessment](#)**Responsible Officer:** Kim Kerwin
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PURPOSE

The purpose of this report is to:

1. Note the findings of the Thornlands Integrated Employment Area (IEA) Employment and Enterprise Needs Assessment dated September 2016, prepared in response to Council resolution dated 9 December 2015.
2. Identify the future program of works required to investigate the feasibility of the area in Thornlands identified in the draft City Plan as a Future Urban Growth Investigation Area to accommodate employment generating land.

BACKGROUND

The Thornlands Future Urban Growth Investigation Area, as identified in the draft City Plan and in Attachment 1 of this report, has been the subject of changing policy decisions for an extended period of time.

Upon the release of the first South East Queensland Regional Plan (SEQRP) in 2005, parts of the area had been included in the urban footprint. Following this, the Redlands Planning Scheme 2006 identified (and still does identify) this area for investigation as a future employment area within *Desired Environmental Outcome No. 6 – Economic Development* as part of the development of a Local Growth Management Strategy under the SEQRP.

The draft SEQRP 2009-2031 released for public consultation in 2008 advanced the planning detail included in the 2005 version of the document and included the area as an Enterprise Opportunity Area (EOA). However, the final SEQRP 2009-2031 identified the entire area within the Regional Landscape and Rural Production Area, removing it from the region's EOA network and from the Urban Footprint.

The State clarified that this policy change was based primarily on the area's koala habitat values. At around the same time, the State removed Local Growth Management Strategies as a type of planning tool made under the SEQRP.

In preparation of the draft City Plan, Council had identified the area as part of a larger precinct for rural residential land uses, including land south of Eprapah Creek. The rural residential designation of this area however was removed at the direction of the State Planning Minister, with further directions provided to identify the area as a Future Urban Growth Investigation Area in the strategic framework of the draft City Plan.

In response to the Future Urban Growth Investigation Area designation, Council sought to undertake the necessary investigations to determine the suitability of the area for employment generating purposes. At the General Meeting dated 9 December 2015, Council resolved as follows:

“That Council resolves to investigate the area at Thornlands identified as a possible option for longer term, future urban growth to further consider its suitability as an integrated employment area, before the adoption of the City Plan:

- 1. Reviewing the scope and outcomes of previous studies for the area formerly known as the Thornlands Integrated Employment Area;*
- 2. Considering emerging opportunities for employment embracing new technology, innovation, transport and logistics in this area;*
- 3. Identifying opportunities for high speed internet infrastructure, strategic transport corridors connecting the area with the Gateway Arterial Road and Australia Trade Coast as well as other regionally significant employment areas to strengthen economic supply chains; and*
- 4. Achieved initially through current budgets. Any further funding requirements will come back to Council.”*

In response to the Council resolution, Economic Associates were engaged to conduct a demand and supply analysis for employment generating land in Redland City LGA to determine the need for employment generating land over the life of the draft City Plan, and in turn, the suitability of the Thornlands future growth area to accommodate any need.

Preliminary findings of the Thornlands IEA Employment and Enterprise Needs Assessment were workshopped with Council on 14 July 2016.

ISSUES

Project Management

The investigation of this area for employment is a substantial project involving a number of key steps, as outlined in the following project chart:

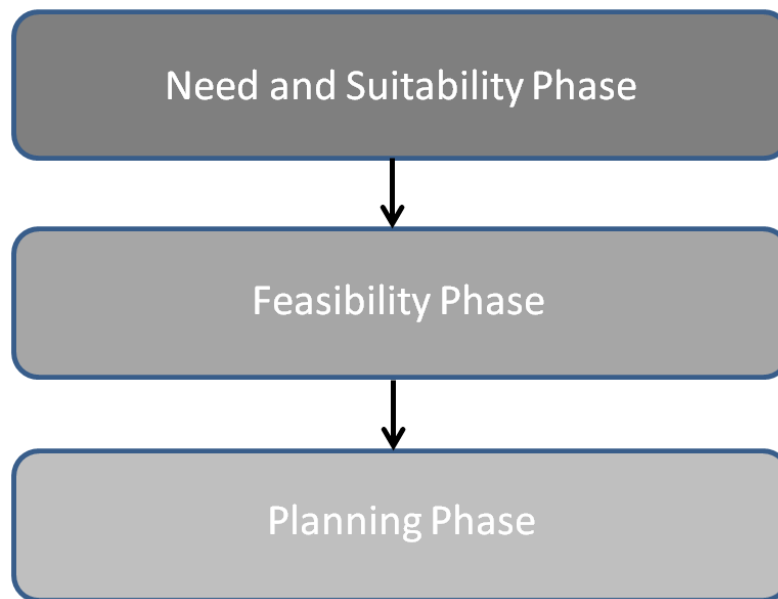


Figure 1: Project Chart

The report from Economic Associates investigates whether there is a need for an integrated employment area in Redland City and whether the Thornlands area represents a suitable location, considering key criteria required for an integrated employment area. Between each phase is a “hold point” for Council to review the outcomes and determine whether to move to the next phase.

Report Findings

The following is provided as a summary of the key findings detailed in the Thornlands IEA Employment and Enterprise Needs Assessment (the full report is at Attachment 2):

Industrial land demand and supply

Medium term need for industrial zoned land. The analysis identifies that there is approximately 37 hectares of available industrial land supply (as at April 2016) in Redland City. This supply is almost entirely contained within the Redlands Business Park at German Church Road, Redland Bay.

The supply demand balance indicates that there is sufficient industrial zoned land to accommodate growth within Redland City until around 2025. The planning horizon for the draft City Plan extends to the year 2041 and the supply demand balance indicates a shortfall of industrial zoned land within this planning horizon of approximately 50 hectares.

Officer Comment: It is recognised that this finding differs to that of the Redland City Centres and Employment Strategy Review 2013 prepared by Urbis. The Urbis report concluded that sufficient supply was available to 2031, and any subsequent shortfall post 2031 could be addressed through a review of net supply of existing industrial areas. It is recognised however that the Thornlands IEA Employment and Enterprise Needs Assessment builds on the information provided in the previous study, utilises latest Queensland treasury forecasts, and ultimately presents an alternate professional opinion in terms of meeting future demand.

Additionally, whether the exhausting of industrial land occurs by 2025, 2031 or a later period, the investigation and earmarking of future employment-generating land is a lengthy process and there is a significant time lag between identification and investment and delivery on the ground. The strategic identification of future land for this purpose should be considered decades before an urgent need is present, particularly to ensure that land use and infrastructure investment decisions do not prejudice the ability to deliver future industrial land within the City.

Suitability analysis

Thornlands Future Growth Area represents the most appropriate location to accommodate future industrial land demand. The report identifies that there remains two options to satisfying the identified need for industrial land:

- Southern Thornlands; and
- Commonwealth owned land at Birkdale.

While the previous Redland City Centres and Employment Strategy Review, 2013 (Urbis) suggests the Commonwealth owned land in Birkdale is the most appropriate location to accommodate future industrial land, this report suggests the Thornlands area is superior for the following reasons:

- Connectivity to SEQ strategic freight network is similar for both sites;
- Infrastructure provision is similar for both sites;
- Limited conflict between heavy vehicle and commuter traffic; and
- Avoidance of additional heavy vehicle traffic through Capalaba Principal Regional Activity Centre.

This report does not consider land assembly constraints. The report suggests further work be undertaken regarding land fragmentation, constraints and land assembly issues through the preparation of a feasibility assessment.

Officer Comment: The Thornlands IEA Employment and Enterprise Needs Assessment builds on previous integrated employment studies dating back to 2000 to determine areas most suitable to accommodate future employment needs. Therefore, the report provides a comparative analysis of the Thornlands Future Growth Investigation Area against the site previously identified as being most suitable in the previous study, being the Birkdale Commonwealth land.

Whilst the findings of the report conclude the investigation areas of Birkdale and Thornlands are not greatly dissimilar in terms of their appropriateness to accommodate employment generating land, it is acknowledged that further feasibility analysis is required to be carried out. The completion of a feasibility study is considered highly appropriate, acknowledging that land assembly constraints associated with land fragmentation, together with infrastructure servicing considerations could detract from the overall suitability of the area.

Mixed Industry and Business Area Opportunity

Long term opportunity to establish a MIBA within the Thornlands Future Urban Growth Investigation Area. Mixed Industry and Business Areas (MIBA) allow businesses to co-locate their industrial and commercial requirements to create efficiencies in service and product throughput and create an “employment cluster”.

The report identifies that existing MIBAs within the east Brisbane/ north Logan sub-region are facing build-out. Additionally, there are very limited opportunities for new greenfield MIBAs in this sub-region.

An opportunity therefore exists for the Thornlands area to accommodate both industrial land uses and a MIBA. It is suggested that the development of a MIBA within the area would occur over the long term, which may be post-2041, to allow redevelopment activity within the Capalaba and Cleveland centres to occur without being challenged by development of this area for business operations.

Officer Comment: Whilst the report suggests the area presents a long term opportunity for the development of a MIBA, it is recognised that the Thornlands Future Urban Growth Investigation Area may not satisfy all of the characteristics of the other MIBAs considered as competitive locations in the report and requires further investigation. A key element in the feasibility of Thornlands accommodating a MIBA is the price point for land purchase, infrastructure servicing costs and expected earthworks and construction costs. These costs will determine the feasibility of a MIBA when weighed against the expected rate of return from development in this area.

If a MIBA is seen as an opportunity worth pursuing, the feasibility analysis for industrial land supply can include additional comparative analysis of the Thornlands MIBA opportunity against other MIBA opportunities in the region.

Future Program of Works

While the Economic Associates' report establishes a need for industrial land and that the Thornlands area is suitable, it is evident that further work is required to determine whether development of this area for an employment precinct is feasible. This would involve an opportunities and constraints analysis and a feasibility study as the next phase of the project. The need to provide a competitive price point is identified as a critical success factor in determining the economic feasibility of the future development of the area. Further investigations would likely include consideration of land fragmentation, assembly issues, infrastructure servicing costs and physical and environmental constraints. It is recognised that such investigations are necessary in determining the price point for which the area would need to provide in order to be regionally competitive.

Further detailed planning would be undertaken as part of a future master planning exercise, should the area be considered feasible to accommodate future employment generating land.

STRATEGIC IMPLICATIONS

Legislative Requirements

Council is in the process of finalising the draft City Plan. Direction was provided by the State Planning Minister to identify the area as a Future Urban Growth Investigation Area. Based on this designation, there is a requirement that appropriate studies be undertaken to determine the potential future use of the land.

The recent release of the draft SEQRP in October 2016 identifies the area as a future investigation area and places an onus on Council to investigate this area in the short-term, including its potential as a future employment area, to assist in finalising the future planning for this area.

Whilst the new regional plan is currently in draft format on public consultation, and therefore carries no legislative requirements, identification of the area as a future investigation area and establishing an onus for Council to complete the necessary planning investigations signals the State's future planning intent for the area.

Risk Management

The findings of the economic analysis detailed in the Thornlands Employment and Enterprise Needs Assessment conclude that a shortfall of industrial land supply exists in Redland City to 2041. Further, the study area is recognised as being potentially suitable to accommodate this shortfall.

Despite this conclusion, it is noted that further detailed studies are required to confirm the feasibility of the area.

In the absence of completeness, it is considered that the release of the report to the public carries a high risk of elevating public expectation within the locality in terms of the potential future use of the area. This is particularly concerning, given the history of past planning policy decisions, whereby changing policy positions within the State government have resulted in an uncertain future intent for the area and unduly elevated community expectation.

Acknowledging these risks, it is recommended that the contents of this report and its attachments remain confidential. The additional investigations should be completed before findings are released in the public domain.

Financial

The project to date has been completed in existing budgets. However, the opportunities and constraints and feasibility studies will require additional budget and will be sought from Council as a budget review request.

People

Consultants will be engaged to complete the studies that form part of the feasibility analysis phase, with project management by an existing Council resource.

Environmental

Nil.

Social

Nil.

Alignment with Council's Policy and Plans

The report aligns with Council's policies and plans. Specifically, this report meets the objectives of the Corporate Plan Outcome 5: Wise Planning and Design and addresses the Future Urban Growth Investigation Area designation in draft City Plan, whereby further detailed studies are required to determine the future use of the area.

CONSULTATION

Workshops were held with Council on 14 July 2016 and 26 April 2017. Consultation has been undertaken with City Planning and Assessment in preparation of this report.

OPTIONS

Option 1

That Council resolves to:

1. Note the findings of the Thornlands IEA Employment and Enterprise Needs Assessment;
2. Agree to progress the project to the next phase to consider feasibility through an opportunities and constraints analysis and feasibility analysis; and
3. Agree to further explore the opportunity for a Mixed Industry and Business Area as part of the feasibility analysis phase.

Option 2

That Council resolves to:

1. Note the findings of the Thornlands IEA Employment and Enterprise Needs Assessment; and
2. Agree to progress the project to the next phase to consider feasibility of this area to satisfy a future shortfall of industrial land through an opportunities and constraints analysis and feasibility analysis;

Option 3

That Council resolves to:

1. Note the findings of the Thornlands IEA Employment and Enterprise Needs Assessment; and
2. Determine that the Thornlands Future Urban Growth Investigation Area is not suitable for an integrated employment area.

OFFICER'S RECOMMENDATION

That Council resolves to:

1. **Adopt Option 1 outlined in the confidential report; and**
2. **Maintain this report and its attachments as confidential until the finalisation of this project.**

Attachment 1 – Thornlands Future Urban Growth Investigation Area



Thornlands IEA Employment and Enterprise Needs Assessment

Final Report

September 2016



ECONOMIC ASSOCIATES

Thornlands IEA Employment and Enterprise Needs Assessment

Final Report

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TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Background & Purpose of Study	1
1.2	Report Structure	1
2	BACKGROUND AND REVIEW	3
2.1	Thornlands Integrated Employment Area	3
2.1.1	Planning History	3
2.1.2	Location	4
2.2	Literature Review	5
2.2.1	Redland Shire Integrated Employment Area Study, 2000	8
2.2.2	Redland Shire Integrated Employment Area Investigation, 2005	9
2.2.3	Redland City Centres and Employment Strategy Review, 2013	10
2.2.4	362-392 Old Cleveland Road East, Context Review and Gap Analysis, 2015	11
2.2.5	NIEIR Employment Forecasts, Redland City Council	12
2.2.6	Queensland Treasury and Trade Employment Projections, 2016	15
3	REGIONAL ECONOMIC ANALYSIS	18
3.1	Redland City Socio-Economic Profile	18
3.2	Population Growth	21
3.3	Building Approval Activity	22
3.4	Working Population Characteristics	26
3.4.1	Journey to Work	26
3.4.2	Working Population by Industry	27
3.5	Regionally Competitive and Significant Sectors	27
3.5.1	Screening Methodology	27
3.5.2	Analysis of Redland City Competitive Advantage	31
3.5.3	Industry Sectors of Regional and Competitive Significance	36
4	ENTEPRISE AND BUSINESS LAND SUPPLY IN REDLAND CITY	38
4.1	Industrial and MIBA Precincts in Redland City	38
4.1.1	Tenancy Mix	39
4.1.2	Vacant Land in MIBA and Industrial Precincts in Redland City	44
4.2	Other Sites to Accommodate Future Enterprise and Business Activity in Redland City	47
4.2.1	Vacant Centres Land	47
4.2.2	Redevelopment Opportunities	47
4.2.3	Brownfield Sites	47
5	SELECTED COMPETITOR MIBA PRECINCTS	50
5.1	Southgate Corporate Park	53
5.2	Metroplex on Gateway	53
5.3	Brisbane Technology Park	53
5.4	Trade Coast Central	54
5.5	Queensport	54
5.6	Vacant Land Analysis	54
5.7	Characteristics of Relevant SEQ MIBA Precincts and Relevance to Thornlands IEA	55

6	PROPERTY MARKET ANALYSIS	57
6.1	Volume of Sales	58
6.1.1	Redland City	58
6.1.2	Proximate and Similar Sites	59
6.2	Value of Sales	61
6.2.1	Redland City	61
6.2.2	Proximate and Similar Sites	62
6.3	Median Allotment Size	64
6.3.1	Redland City	64
6.3.2	Proximate and Similar Sites	65
6.3.3	Comparison of Redland City and Proximate and Similar Sites	67
6.4	Median Sales Price per Square Metre	68
6.4.1	Redland City	68
6.4.2	Proximate and Similar Sites	69
6.4.3	Comparison of Redland City and Proximate and Similar Sites	70
6.5	Summary	72
7	INFRASTRUCTURE CONSIDERATIONS	73
7.1	SEQ Strategic Freight Network	73
7.1.1	Connectivity of Thornlands IEA to SEQ Strategic Freight Network	74
7.2	Other Infrastructure Considerations	74
7.3	Summary	75
8	SWOT ANALYSIS	76
8.1	Economic Structure	76
8.2	Regional Assets	77
8.2.1	Education System Assets	77
8.2.2	Health System Assets	78
8.2.3	Freight Network	79
8.2.4	ICT Infrastructure	80
8.3	Markets	80
8.4	SWOT Summary	83
9	DEMAND PROJECTIONS	85
9.1	Scenario Comparison	85
9.1.1	Employment Projections	85
9.1.2	Industrial Land Demand	87
9.1.3	Commercial Office Floor Space Demand	88
9.2	Detailed Employment and Land Demand Projections	89
9.2.1	Industrial and Commercial Office Sectors	89
9.2.2	Projected Employment in Industrial and Commercial Office Sectors	91
9.2.3	Projected Industrial and Commercial Office Land Demand	94
10	NEEDS ASSESSMENT	97
10.1	Supply Demand Balance	97
10.2	Need for Thornlands IEA	97
10.2.1	Suitability of Thornlands IEA over Alternative Sites	97
10.2.2	Infrastructure Requirements for Thornlands IEA	98
10.2.3	Land Requirements for Thornlands IEA	99
APPENDIX A		100
	Working Population Industry Share, Redland city	100

APPENDIX B	104
Detailed Analysis of Regional Competitive Advantage, Redland City	104
APPENDIX C	114
Total Exports (Domestic and International Exports) By Industry Subsector, Redland City	114
APPENDIX D	118
Projected Industrial and Commercial Office Employment	118
LIST OF FIGURES & TABLES	
Figure 2.1: Thornlands Integrated Employment Area	5
Table 2.1: Literature Review Summary	6
Table 2.2: Employment Growth Forecast by Industry (Primary Scenario), Redland City, 2011-2041	14
Table 2.3: Employment Growth Forecast by Industry (Scenario 2), Redland City, 2011-2041	15
Table 2.4: QTT Employment Projections by Industry, Redland City, 2011-2041	16
Table 2.5: Comparison between QTT Employment Growth and NIEIR Primary Scenario Growth, 2011-2041	17
Table 3.1: Socio-Economic Profile, Redland City, SEQ and QLD 2001, 2006 and 2011	19
Table 3.2: Estimated Resident Population, Redland City, SEQ and QLD, 2005 to 2015	21
Table 3.3: Redland City Population Projection Comparisons	21
Table 3.4: Population Projections, Redland City, SEQ and QLD, 2016 to 2041	22
Table 3.5: Value of Non-Residential Building Activity (\$m), Redland City, SEQ and QLD, 2007 to 2015	22
Table 3.6: Average Annual Value of Non-Residential Building Activity (\$m), Redland City	24
Figure 3.1: Value of Non-Residential Building Approvals in Redland City as % of SEQ, 2007-2015	25
Figure 3.2: Value of Non-Residential Building Approvals in Redland City as % of QLD, 2007-2015	25
Table 3.7: Employment Location of Redland City Residents, 2011	26
Table 3.8: Place of Residence of Redland City Workers, 2011	27
Table 3.9: Industry sectors that achieve affirmative results across at least two measures, Redland City	31
Table 3.10: Industry sectors achieving an affirmative results across at least one measure IS _Q , LQ and Shift Share (Regional Shift), Redland City	32
Table 3.11: Location Quotient Analysis, Key Industry Sectors, Redland City, 2011 Census	34
Table 3.12: Regional Export and Value Growth Assessment, Key Industry Sectors, Redland City	36
Table 3.13: Regionally significant and competitive industries, Redland City	37
Figure 4.1: Geographic Location of Industrial and MIBA Precincts in Redland City	39
Table 4.1: Redland City Industrial and Mixed Use Area Tenancy Composition, April 2016	42
Table 4.2: Vacant Industry and Mixed Use Land Supply, Redland City, April 2016	44
Table 4.3: Vacant Land Property Details, Cleveland MIBA, April 2016	44
Table 4.4: Vacant Land Property Details, Capalaba MIBA, April 2016	45
Table 4.5: Vacant Land Property Details, Cleveland Industrial Area, April 2016	45
Table 4.6: Vacant Land Property Details, Capalaba Industrial Area, April 2016	45
Table 4.7: Vacant Land Property Details, Thorneside Industrial Area, April 2016	46

Table 4.8: Vacant Land Property Details, Redland Bay Industrial Area, April 2016	46
Table 4.9: Connectivity of Thornlands IEA and Brownfield Sites	48
Table 4.10: Infrastructure Considerations, Thornlands IEA and Other Brownfield Sites	49
Figure 5.1: Geographic Location of Competitor MIBA Precincts	52
Table 5.1: Vacant Land at Competitor MIBA Precincts	55
Table 5.2: Key Attributes of Comparable MIBA Precincts	55
Figure 6.1: Volume of Improved Property Sales, MIBA and Industrial Zoned Land, Redland City, 2006-2015	58
Figure 6.2: Volume of Vacant Land Sales, MIBA and Industrial Zoned Land, Redland City, 2006-2015	59
Figure 6.3: Volume of Improved Property Sales, Proximate and Similar Sites, 2006-2015	60
Figure 6.4: Volume of Vacant Land Sales, Proximate and Similar Sites, 2006-2015	60
Figure 6.5: Value of Improved Property Sales (\$million), MIBA and Industrial Zoned Land, Redland City, 2006-2015	61
Figure 6.6: Value of Vacant Land Sales (\$million), MIBA and Industrial Zoned Land, Redland City, 2006-2015	62
Figure 6.7: Value of Improved Property Sales (\$million), Proximate and Similar Sites, 2006-2015	63
Figure 6.8: Value of Vacant Land Sales (\$million), Proximate and Similar Sites, 2006-2015	63
Table 6.1: Median Allotment Size (sqm), Improved Property, MIBA and Industrial Zoned Land, Redland City, 2006-2015	64
Table 6.2: Median Allotment Size (sqm), Vacant Land, MIBA and Industrial Zoned Land, Redland City, 2006-2015	65
Table 6.3: Median Allotment Size (sqm), Improved Property, Proximate and Similar Sites, 2006-2015	66
Table 6.4: Median Allotment Size (sqm), Vacant Land, Proximate and Similar Sites, 2006-2015	66
Table 6.5: Median Allotment Size (sqm), Improved Property, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015	67
Table 6.6: Median Allotment Size (sqm), Vacant Land, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015	67
Table 6.7: Median Sales Price per Square Metre (\$/sqm), Improved Property, MIBA and Industrial Zoned Land, Redland City, 2006-2015	68
Table 6.8: Median Sales Price per Square Metre (\$/sqm), Vacant Land, MIBA and Industrial Zoned Land, Redland City, 2006-2015	69
Table 6.9: Median Sales Price per Square Metre (\$/sqm), Improved Property, Proximate and Similar Sites, 2006-2015	70
Table 6.10: Median Sales Price per Square Metre (\$/sqm), Vacant Land, Proximate and Similar Sites, 2006-2015	70
Table 6.11: Median Sales Price per Square Metre (\$/sqm), Improved Property, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015	71
Table 6.12: Median Sales Price per Square Metre (\$/sqm), Vacant Land, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015	71
Table 8.1: Gross Regional Product, Redland City, SEQ and QLD, 2001 to 2015	76
Table 8.2: Total Exports by Industry Sector, Redland City, 20010/11 to 2014/15	82
Table 8.3: SWOT Analysis Summary	83
Table 9.1: Projected Employment Growth, Primary Scenario, Scenario 2 and Economic Associates Estimates, 2011-2041	87

Table 9.2: Incremental Industrial Land Demand, Redland City, 2011-2041	88
Table 9.3: Incremental Commercial Office Floor Space Demand, Redland City, 2011-2041	88
Table 9.4: Two Digit ANZSIC Sectors which Typically Require Industrial Land	89
Table 9.5: Two Digit ANZSIC Sectors which Typically Require Industrial Land	91
Table 9.6: Projected Incremental Employment in Industrial Sectors, 2021-2041	91
Table 9.7: Projected Incremental Employment in Industrial Sectors for Sole Trader and Employing Businesses, Redland City, 2021-2041	92
Table 9.8: Projected Incremental Employment in Commercial Office Sectors, 2021-2041	93
Table 9.9: Proportion of Employment in Sole Trader Businesses and Employing Businesses, Redland City, June 2015	93
Table 9.10: Projected Incremental Employment in Commercial Office Sectors for Sole Trade Businesses and Employing Businesses, Redland City, 2021-2041	94
Table 9.11: Assumed Employment Density Ratios (employed persons per hectare)	94
Table 9.12: Incremental Net Industrial Land Demand (hectares), Redland City, 2021-2041	95
Table 9.13: Incremental Commercial Office Floor Space Demand, Redland City, 2021-2041	96
Table 10.1: Supply Demand Balance (ha), Industrial Land in Redland City, 2016-2041	97
Table A.1: Working Population Industry Share, Redland City Council, SEQ and Queensland, 2011	101
Table B.1: Detailed analysis of regional significance and competitive advantage, Redland City	105
Table B.2: Location Quotient Analysis, Redland City relative to SEQ and Queensland	109
Table B.3: Export Value and Growth Assessment, Redland City	112
Table C.1: Total Exports by Industry Subsector, Redland City, 2010-11 to 2014-15	115
Table D.1: Projected Incremental Industrial Employment and Incremental Land Demand, 2021-2041	119
Table D.2: Projected Incremental Commercial Office Employment and Incremental Commercial Office Floor Space, 2021-2041	120

1 INTRODUCTION

1.1 Background & Purpose of Study

Economic Associates was engaged by Redland City Council to undertake an analysis of the potential development of the Thornlands Integrated Employment Area (IEA).

A review of the history relating to the development of integrated employment areas (IEA) in Redland City was undertaken to identify the main competitor sites to the Thornlands IEA.

The study reviewed the historical and projected trends in Redland City and identified a number of regionally competitive and significant sectors, and how these relate to demand for an integrated employment area within Redland City. A number of comparable mixed industry and business areas (MIBA) sites were assessed to provide a comprehensive understanding of the success factors for such a development.

A quantitative and qualitative assessment of demand and supply was undertaken to determine the need for additional IEA/MIBA land within Redland City and the suitability of the Thornlands IEA to accommodate future demand relative to competitor sites in Redland City.

1.2 Report Structure

This report is structured as follows:

- **Chapter 1: Introduction:** provides a brief introduction of the intent of this report;
- **Chapter 2: Background and Review:** provides a literature review of various background studies considered relevant to the Thornlands IEA and broader Redland City;
- **Chapter 3: Regional Economic Analysis:** provides an analysis of the socio-economic and economic characteristics of Redland City including an assessment of population growth, resident workforce movements, regionally competitive and significant sectors;
- **Chapter 4: Enterprise and Business Land Supply in Redland City:** provides an assessment of the existing industrial and MIBA precincts within Redland City, including details on tenancy mix and vacancies (vacant tenancies and vacant land). This chapter also considers the availability of vacant centres land, redevelopment opportunities and brownfield sites to accommodate activity such as that likely to be suited to the Thornlands IEA;
- **Chapter 5: Selected Competitor MIBA Precincts:** provides an overview of established MIBA precincts that are considered competitive to the proposed Thornlands IEA, including details on vacant land, ICT provision, public transport connections and connectivity to the SEQ strategic freight network;
- **Chapter 6: Property Market Analysis:** provides an assessment of the performance of enterprise and business park lands within Redland City relative to the selected competitor MIBA precincts, in terms of sales values, volumes, average allotment size and sales prices on a per square metre basis for both vacant land and improved property;
- **Chapter 7: Infrastructure Considerations:** provides an overview of key infrastructure assets within Redland City;

- **Chapter 8: SWOT Analysis:** provides an evaluation of the Strength, Weaknesses, Opportunities and Threats (SWOT) of the findings of the previous chapters in developing the Thornlands IEA; and
- **Chapter 9: Demand Projections:** Provides a quantitative assessment of demand for the Thornlands IEA, based on employment projections developed by Economic Associates; and
- **Chapter 10: Needs Assessment:** Assesses the need for the Thornlands IEA in both a qualitative and quantitative sense, including consideration of the merits of the Thornlands IEA relative to competitive sites. This chapter also provides advice on infrastructure provision and the quantum of land that should be identified to accommodate industrial and MIBA uses.

2 BACKGROUND AND REVIEW

The purpose of this section is to provide a contextual overview of previous studies undertaken relating to development within Redland City. This chapter also provides detailed history relating to investigations for an Integrated Employment Area (IEA) within Redland City.

The key findings of these reports provide a base for the current and future development opportunities within Redland City.

2.1 Thornlands Integrated Employment Area

2.1.1 Planning History

The Thornlands IEA has not always been considered the preferred site for integrated employment area activity within Redland City, with a range of sites being considered over the past sixteen years, including:

- Commonwealth land at Birkdale Road, Capalaba;
- German Church Road, Redland Bay (now Redlands Business Park);
- Kinross Road, Thornlands;
- Springacre Road, Thornlands (Thornlands IEA); and
- Double Jump Road, Victoria Point.

This section of the report provides a detailed background regarding the identification of preferred sites for an integrated employment area within Redland City. Section 2.2 of the report provides a detailed literature review of a number of studies relating to the development and economic prospects of Redland City, including studies which considered preferred locations for an integrated employment area.

In 2000 Redland City Council and the Queensland Department of State Development jointly commissioned an evaluation of eleven potential Integrated Employment Area sites across Redland City. This joint evaluation recommended two preferred sites for development; one on Commonwealth land at Birkdale Road, Capalaba and the second on freehold land at German Church Road, Redland Bay.

Redland City Council nominated these two localities as potential IEAs through the draft Statement of Proposals. In response, the State government instructed Redland City Council to remove the nominated IEAs and investigate the suitability of three alternate IEA options contained within the Urban Footprint. These three sites were at Kinross Road, Thornlands, Taylor / Springacre Road, Thornlands (Thornlands IEA) and Double Jump Road, Victoria Point.

In 2005, Redland City Council assessed the suitability of the three abovementioned sites for an IEA. The study concluded that not one of these sites were considered an ideal location for an IEA, but the Thornlands IEA site demonstrated the most potential of the three sites. This investigation concluded that the Birkdale Road, Capalaba and German Church Road, Redland Bay sites should be pursued as preferred sites.

Despite the 2005 findings, the new Redland Planning Scheme was redrafted in 2006 to identify the Thornlands IEA in the Strategic Framework as the preferred location for an IEA. This

position was reaffirmed by the findings of the 2007 Redland Shire Centres and Employment Review, which identified that the Thornlands IEA was an appropriate location to accommodate integrated employment uses in the medium term. The Redland Shire Centres and Employment Review also recommended that the Thornlands IEA be considered as two distinct parcels given that the eastern side of the area around Springacre Road was notably less constrained. The Local Growth Management Strategy further reinforced Redland City Council's position that the Thornlands IEA was the preferred location for integrated employment uses within Redland City, forming part of Redland City Council's submission to the 2008 review of the South East Queensland Regional Plan (SEQRP) 2005-2026.

The draft SEQRP 2009-2031 identified the Thornlands IEA within its network of Enterprise Opportunity Areas (EOA). However, the final SEQRP 2009-2031 identified the entire Thornlands IEA within the Regional Landscape and Rural Production Area (RLRPA), removing it from the EOA network. The State clarified that this policy change was based primarily on the area's koala habitat values.

Subsequent to this decision by the State, Redland City Council initiated a review of the Centres and Employment Study in 2010, taking into account the loss of the Thornlands IEA as an integrated employment area. This study concluded that Redland City's existing zoned industrial land precincts, including the integrated employment area at Redland Bay, provided sufficient opportunity to accommodate forecast demand for industrial land to 2031.

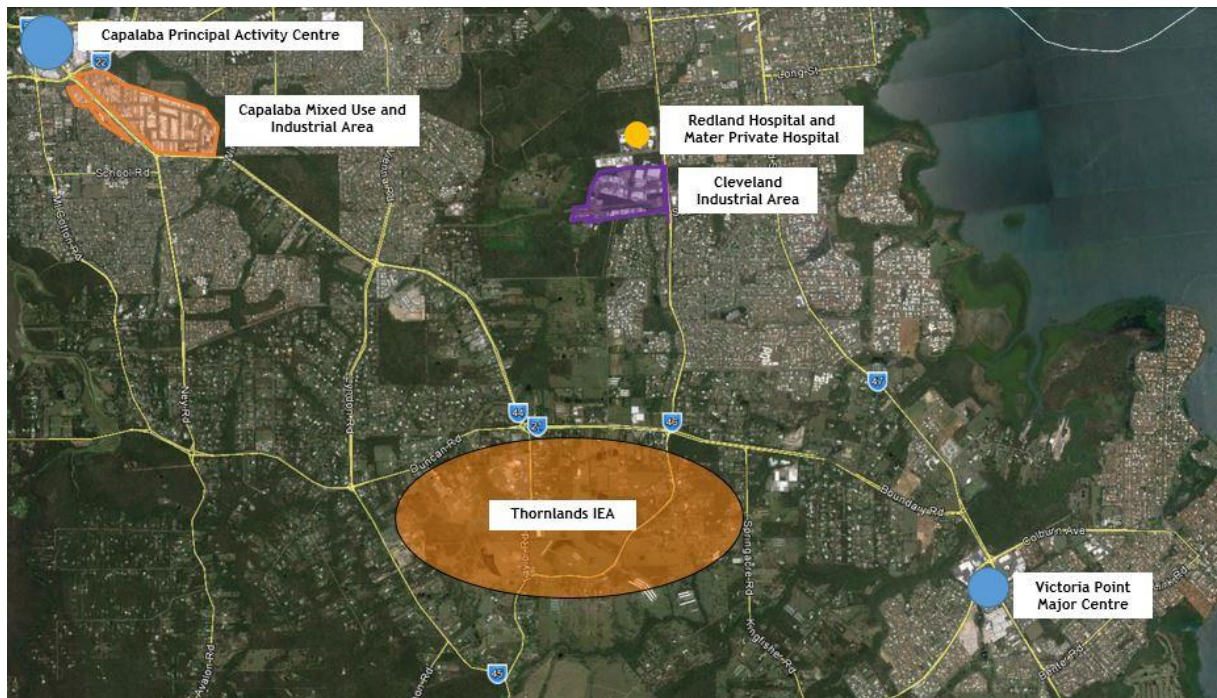
In 2013, a further review of the Centres and Employment Study was completed, in preparation for the draft City Plan. This review considered that there was sufficient capacity within existing zoned areas to accommodate industrial growth, and that the Thornlands IEA did not meet essential criteria for a regionally competitive industry area, including land ownership, land values, access and proximity to the Port of Brisbane and established infrastructure. This review considered that Commonwealth land at Birkdale Road, Capalaba was more appropriately suited to an integrated employment area.

2.1.2 Location

The Thornlands Integrated Employment Area (IEA) comprises land located south of Boundary Road, Thornlands. The Eprapah Creek borders the site to the south. The Thornlands IEA is characterised by rural land, with surrounding activity including a mix of rural, education (Sheldon College), and residential uses.

The Thornlands IEA is located approximately 4.5 kilometres northwest of the Victoria Point Major Centre, seven kilometres southeast of Capalaba Principal Activity Centre, and three kilometres south of the Redland Hospital and Mater Private Hospitals as illustrated in Figure 2.1.

Figure 2.1: Thornlands Integrated Employment Area



Source: Google Earth

2.2 Literature Review

A number of previous studies have been undertaken in relation to the development and economic prospects of Redland City. As a part of this assessment, the following reports have been reviewed to obtain an understanding of the key outcomes derived from each report:

- Draft Redland City Plan 2015;
- Review of Draft Redlands Planning Scheme – Economic Analysis (2016);
- Redland City Council Corporate Plan 2015 – 2020;
- Redland City Economic Development Framework 2014 – 2041;
- Redland Tourism Strategy and Action Plan 2015 – 2020;
- Redland City Centres and Employment Strategy (2010);
- Redland City Large Format Retail Demand and Supply Analysis (2012);
- Redlands Land Supply Review (2014); and
- Redland Rural Futures Strategy (2013).

Table 2.1 summarises the key findings of the above reports.

Table 2.1: Literature Review Summary

Report	Author	Summary
Draft Redland City Plan 2015	Redland City Council	The draft Redland City Plan 2015 has recently undergone public consultation, and Council are currently in the process of reviewing submissions. The Planning Scheme serves to guide future development through Redland City with an emphasis on encouraging appropriate development. The draft City Plan 2015 identifies a centres hierarchy anchored by the higher order Principal Centres at Cleveland Capalaba as well as the Victoria Point Major Centre. Industrial uses are accommodated within a mix of low and medium impact industry zoned land with allowance made for industrial uses to be accommodated within the designated mixed use areas in Cleveland and Capalaba. The existing hospital precinct has been identified as a specialised centre. Of particular relevance, no additional land has been identified for industrial uses within the draft Redland City Plan 2015 reflecting the existing industrial zones under the current Redland Planning Scheme.
Review of Draft Redlands Planning Scheme - Economic Analysis, 2016	Economic Associates	The analysis was undertaken to identify any potential constraints to development feasibility that may occur as a result of planning controls outlined within the Draft Redland City Plan 2015. In particular, the analysis examined the implications for retail, commercial and industrial land demand within the draft Redland City Plan 2015, including the identification of any particular indicators that may raise housing affordability concerns. Overall, the analysis concluded that the planning controls articulated by the Draft Redland City Plan 2015 does not impede development within Redland with any feasibility concerns derived from economic market conditions as opposed to the planning framework. With regards to industrial land, the analysis concludes that there is demand for between 28ha and 102ha based on NIEIR projections. Based on a brief review of vacant industrial zoned land the analysis concluded that there is a likely shortfall in the supply of industrial zoned land within Redland City.
Redland City Council Corporate Plan 2015-2020	Redland City Council	The Redland City Corporate Plan is a strategic document that guides how Council prioritises and delivers services, programs and facilities to the community. The Corporate Plan identifies eight key outcomes derived from the community plan including Healthy Natural Living, Green Living; Embracing the Bay; Quandamooka Country; Wise Planning and Design; Supportive and Vibrant Economy; and Strong and Connected Communities. Of particular relevance, the corporate plan highlights Council's commitment to ensuring Redland has the necessary infrastructure, policies and development framework that supports economic development and a vibrant community.
Redland City Economic Development Framework 2014 - 2041	Redland City Council	The Economic Development Framework (EDF) aims to align with Council's "open for business" philosophy and seek to develop initiatives that increase the economic capacity of Redland. The EDF highlights the key areas of focus for the local business community and future opportunities to boost export-oriented and value-add industries. Key industry sectors identified include tourism (accommodation and food services), construction, education and training, high value-add services, health care and social assistance, manufacturing, retail trade and rural enterprises. The EDF acknowledges the importance of improving Redland City's connectivity to the region's major industry and employment hubs to maximise employment opportunities for residents. The EDF also seeks to establish an Economic Development Advisory Board made up of representatives from each of the City's eight identified key industry sectors to implement the EDF.
Redland City Tourism Strategy and Action Plan 2015 - 2020	Redland City Council	With tourism identified as one of the key industry sectors within the Economic Development Framework, the tourism strategy provides an assessment of Redland tourism economy whilst recognising its opportunities and challenges. The strategy recognises the attractiveness of the region whilst also noting the need to develop the sector further through new commissionable product development and investment of tourism infrastructure. The strategy identifies three key performance areas including tourism and investment opportunities, destination marketing and event opportunities, and supporting infrastructure and coordination opportunities. The key performance areas aim to deliver the intent of the tourism strategy.

Report	Author	Summary
Redland City Centres and Employment Strategy, 2010	SGS Economics and Planning	The Redland City Centres and Employment Strategy assesses the future demand for commercial, retail and industrial land within Redland City as input into the preparation of the Draft Redland City Plan 2015. The strategy projected employment in Redland City would increase from 32,095 in 2006 to 50,009 in 2031, with the largest increases occurring in property and business services, health and community services, and retail trade. The strategy concluded that an additional 285,797m ² of in-centre and 54,617m ² of out-of-centre retail and commercial floor space would be demanded between 2006 and 2031, with Cleveland and Capalaba having the highest demand. In regard to industrial, the strategy estimates an additional 3,308 workers employed in industrial sectors between 2006 and 2031 with an additional demand for 60ha of the industrial site area. Overall, the strategy does not suggest there is a need for any additional retail, commercial or industrial floor space to accommodate growth within Redland City to 2031.
Redland City Large Format Retail Demand and Supply Analysis, 2012	SGS Economics and Planning	The Redland City Large Format Retail Demand and Supply Analysis assessed the supply of, and demand for, large format retailing in Redland and future land requirements. The analysis projects growth in retail floor space demand of an additional 45,366m ² of large format floor space and 169,6814m ² of additional non-large format retail floor space within Redland City between 2012 and 2031. The analysis indicates a total of 47.5ha of additional land is required for both large format retail (13.6ha) and non-large format retail (33.9ha) within Redland City to 2031. The analysis suggests that there is sufficient land to accommodate large format retail uses within Redland City.
Redlands Land Supply Review, 2014	Urbis	The Redland Land Supply Review 2014 revises and updates the previous 2012 residential land supply review to reflect the realignment of the planning horizon to 2041 for the Draft Redland City Plan 2015. The supply update estimated a total of 821.5ha of residential land (compared to 874ha in the 2012 land supply study)
Redland Rural Futures Strategy, 2013	Aecom	<p>The Rural Futures Strategy aims to establish a strategic direction of the Rural Area of Redland that actively promotes a collection of mutually compatible and sustainable land uses. The Rural Futures Strategy seeks to halt the ongoing decline of the rural economy to provide new rural industries, recreation and tourism experience, habitat conservation and living opportunities. The report identifies three strategic themes including work and learn; play and stay; and live and sustain to support the RFS. Under the strategic themes the RFS aims to create 500 new rural jobs by 2031, support the continuity of the poultry industry, provide connectivity with rural areas for both residents and visitors, protect and enhance Redland rural areas.</p> <p>The Thornlands IEA is contained within the Woodlands Drive Rural Business and Innovation Precinct and the Double Jump Road Rural Activities Priority Precinct. The vision for the Woodlands Drive Rural Business and Innovation Precinct is for a sustainable and low-scale rural industry, education and technology development area that provides for future employment needs, high accessibility, infrastructure, best practice design outcomes and maintains rural uses to create a transition between urban and rural land. The Double Jump Rural Activities Priority Precinct, on the other hand is envisaged to protect the rural economy and landscape through increasing the viability of rural land while providing an integrated buffer interface to existing urban development.</p>

In addition to the literature review summary undertaken above, the following reports are considered particularly relevant to the development of the Thornlands IEA and have been reviewed in further detail as follows:

- Redland Shire Integrated Employment Area Study (2000);
- Redland Shire Integrated Employment Area Investigation (2005);
- Redland City Centres and Employment Strategy Review (2013);
- 362-392 Old Cleveland Road, Context Review and Gap Analysis (2015); and
- National Institute of Economic and Industry Research (NIEIR) Small Area Labour Forecast for Redland City LGA (2015).

2.2.1 Redland Shire Integrated Employment Area Study, 2000

The Redland Shire Integrated Employment Area Study was undertaken by GHD in 2000 and considered the appropriateness of thirteen sites for an integrated employment area. The thirteen sites considered in the analysis were as follows:

- Area 1: Birkdale Road, Birkdale (Commonwealth owned land);
- Area 2: Taylor Road, Mt Cotton;
- Area 3: Between Double Jump and Giles Road, Redland Bay;
- Area 4: German Church Road, Redland Bay (now Redlands Business Park);
- Area 5a: Serpentine Creek Road, Redland Bay;
- Area 5b: South of Scenic Drive, Redland Bay;
- Area 5c: West of Serpentine Creek Road, Redland Bay;
- Area 6: Kinross Road, Thornlands;
- Area 7: Marlborough Road/Main Road, Wellington Point;
- Area 8: Woodlands Drive, Sheldon;
- Area 9: Mount Cotton Road, Mount Cotton;
- Area 10: Giles Road, Redland Bay; and
- Area 11: Cleveland Redland Bay Road, Redland Bay.

The Thornlands IEA was not considered as a site under investigation in this study, with parts of Area 2 and Area 8 forming the Thornlands IEA area. The most significant constraints identified for Area 2 were the relatively large number of residential allotments within the precinct and environmental sensitivity (which predominately affected the area west of Taylor Road). Area 8, on the other hand faced challenges in terms of topography (potential slope constraints in the eastern part of the site, potentially beyond the Thornlands IEA boundary) and servicing costs (trunk main and sewer connectivity required to service the site).

A two staged evaluation process was adopted to compare the relative merits of each site, with the first stage identifying the top five sites based on the core evaluation criteria of accessibility, servicing costs, proximity to population and environmental sensitivity. Based on these criterion, Areas 1, 2, 4, 6 and 7 were identified as the top five sites. Further evaluation was then

undertaken of the top five sites, with a wide range of social, environmental and economic factors considered. The conclusion of the more detailed evaluation identified that Area 1 and Area 4 were considered the top sites for an integrated employment area.

The Redland Shire Integrated Employment Area Study also explored the potential range of employment activities that could be targeted by an IEA within Redland Shire. The employment activities identified as suited to an IEA within Redland Shire were:

- Manufacturing and value adding services to the marine industry;
- Manufacturing and value adding services to the horticultural, viticulture and poultry industries;
- Manufacturing and value adding services to environmental industry; and
- Technological and research activity related to each of the above sectors.

2.2.2 Redland Shire Integrated Employment Area Investigation, 2005

The Redland Shire Integrated Employment Area Investigation was undertaken by SGS Economics and Planning to specifically quantify the amount of land required to satisfy future requirements of employment generating uses within Redland City and assess the suitability of selected land parcels for integrated employment purposes. Three employment investigations areas were identified including land located at Kinross Road, Thornlands (180 hectares), Taylor/Springacre Roads, Thornlands (850 hectares) and Double Jump Road, Victoria Point (150 hectares).

Based on the analysis, the Report concluded that the Kinross Road and Double Jump sites were not suitable candidates for integrated employment purposes. The Taylor/Springacre Roads site was identified as a suitable site for further consideration for integrated employment purposes.

The Report concluded that the Taylor/Springacre Roads site is generally well serviced with respect to transport connectivity and accessibility noting the site does have direct access to the arterial road system. Overall, the report noted a number of opportunities and constraints relating to the site as an integrated employment area including:

- Existing and planned transport infrastructure is to a standard that would support the location of an integrated employment area onsite;
- Some limitations on reticulated infrastructure to the site with no access to the reticulated sewer network and the existing water main requiring upgrades;
- Some topographical constraints (steep land) which may pose some development limitations for commercial or industrial purposes in some parts of the site. However, given the size of the land (850 hectares) there are substantial parcels of land suitable for development;
- There are some environmentally constrained parcels predominantly on the western portion of the site¹. Significant koala habitat in the western portion and adjoining land to the west and south limiting any significant development in the future in the western half of the site. The Report suggests considering the subdivision of the site into two main parcels for planning purposes, allowing further consideration of integrated employment uses to be concentrated on the eastern portion of the site;

¹ Advice from Redland City Council has indicated that the presence of environmental constraints was not ground trothed as part of the study.

- There are a number of existing complementary uses to the potential development of an integrated employment area onsite (e.g. education facilities, home based businesses). The site is in close proximity to the local workforce and given the site characteristics the report suggests that it would generally accommodate most of the Redland Shire's priority/future industry sectors (with the exception of higher impact manufacturing and processing activities);
- The site is limited by a highly fragmented ownership structure, although anecdotal evidence at the time of the report suggested developers were packaging land holding on the site for potential residential development. Consequently, the report noted that the packaging of land parcels may reduce the number of owners with potential to find suitably size and located land parcels to develop an integrated employment area.

Overall, the Report concluded that the site had some potential for the development of an integrated employment area with the identified constraints (infrastructure limitations, environmentally sensitive land, fragmented landownership etc.) suggesting any development for employment purposes would be a medium term prospect at best. The Report recommended that the site be split into two large parcels, with a focus on developing the eastern portion of the site (due to less constraints).

2.2.3 Redland City Centres and Employment Strategy Review, 2013

The primary purpose of the Redland City Centres and Employment Strategy Review (2013) prepared by Urbis was to review the Redland City Centres and Employment Strategy (2010) prepared by SGS Economics and Planning, provide recommendations and actions to strengthen the strategy and to update the analysis to reflect the most up-to-date data, most notably the 2011 Census.

The 2013 Strategy Review concluded that there is sufficient opportunity to accommodate forecast demand for industrial land to 2031 within Redland City, consistent with the findings of Redland City Centres and Employment Strategy (2010). However, the study did identify that sub-areas within Redland City may be increasingly constrained. The 2013 Strategy review suggested that the net supply by industrial area be investigated to identify any shortfalls in industrial land provision.

Despite the study concluding that there was sufficient industrial land within Redland City to accommodate demand to 2031, investigations were undertaken to identify suitable sites for a major employment lands precinct with an export orientated focus. However, the study does not clarify why investigations relating to future industrial land provision in Redland City had an export orientated focus.

The 2013 Strategy Review considered the following criteria would need to be satisfied in order for Redland City to successfully provide regionally competitive employment land for export orientated industry:

- In close proximity to the Port of Brisbane and Brisbane Airport;
- Relatively flat land with minimal constraints (vegetation, bushfire hazard etc.);
- Offers a comparatively cheaper price point than Yatala and the Australia Trade Coast;
- Established infrastructure links – Old Cleveland/Moreton Bay Road > Gateway Motorway;

- Significant scale (i.e. greater than 50 hectares);
- Leverage from Brisbane market; and
- Consolidated land ownership.

The assessment concluded that only two immediately adjacent sites could potentially meet the above criteria, these sites being:

- 340-378 Old Cleveland Road, Birkdale – owned by Airservices Australia; and
- 380-416 Old Cleveland Road, Birkdale – owned by the Australian Communications Authority.

The 2013 Strategy Review contended that the Thornlands IEA does not meet a number of these success factors including consolidated land ownership, access and close proximity to the port of Brisbane and Brisbane Airport and established infrastructure links. The 2013 Strategy Review recommends that the Thornlands IEA be designated as a rural enterprise precinct due to its locational benefits (i.e. central to Redland City and rural lands).

Based on our understanding of the characteristics of the Thornlands IEA, it is our view that the site should be preserved as an enterprise and business precinct, rather than a rural enterprise precinct.

Whilst the Thornlands IEA has fragmented ownership, this in itself does not discount the site as a potential location for an integrated employment area.

The supply chapter (Chapter 4) of this report explores the characteristics of the Thornlands IEA relative to the Birkdale sites in more detail and concludes that on balance, the Thornlands IEA represents the most appropriate location for an enterprise and business precinct within Redland City.

2.2.4 362-392 Old Cleveland Road East, Context Review and Gap Analysis, 2015

The Context Review and Gap Analysis (2015) report was prepared by Urbis as part of phase one in a two phase process to identify the preferred future and use of Commonwealth Land at 362-392 Old Cleveland Road East, Birkdale. The site comprises 100.84 hectares over five separate titles owned by the Australian Communications and Media Authority (ACMA) and Airservices Australia (ASA).

The AMCA announced in 2014 an infrastructure sharing arrangement with the Australian Department of Defence, which authorises the ACMA use of four high frequency sites that are part of the Defence High Frequency Communications System. Consequently, the AMCA advised it would no longer require its monitoring facility located in Birkdale and expects to dispose of the site in 2017. Discussions were subsequently held with ASA (land owners of land adjoining the AMCA site to the north) to gauge their operational requirements and potential surplus land for disposal. As a result of discussion, ASA indicate that operations would continue from the site with a potential willingness to dispose of land surplus to their operational requirements (an area of approximately 37ha)². The site has primary frontage to the east on Old Cleveland Road.

² 362-392 Old Cleveland Road East, Birkdale Context Review and Gap Analysis, 2015

The purpose of the analysis was to establish the context of the study area to summarise the statutory and physical parameters (including the provision of technical assessments) to provide further insight as the key opportunities/constraints pertaining to the site. Small portions of the land are utilised by the ACMA and ASA for high frequency monitoring, receiving and transmission sites in the form of a number of antennas as well as small buildings. Significant tracts of protected remnant vegetation occupy the site which is also identified as koala habitat. Parts of the site have also been extensively cleared.

Preliminary opportunities and constraints were identified through Commonwealth, State and Local Policies to identify constrained and unconstrained land to be subject to further planning. From the initial analysis, an estimated 56.56ha was identified as being potentially suitable for alternative purposes subject to further analysis. The report is to be utilised as a basis for progressing phase two of the study including the identification of detailed opportunities and constraints analysis, detailed review of ASA requirements, identification of potential uses, assessment criteria, options analysis etc.

The site is included within the strategic framework of the Draft Redland City Plan 2015 as “*a special purpose precinct may be established on the Birkdale Commonwealth land, possibly containing a mix of low impact, export-oriented industries and training and tertiary education facilities.*”³ The site was also recognised as meeting the identified success factors for an industrial employment precinct with key strengths of the site being its proximity to the established freight routes, proximity to an existing and established population, access to labour force and consolidated ownership⁴.

2.2.5 NIEIR Employment Forecasts, Redland City Council

The SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council (2015) prepared by the National Institute of Economic and Industry Research (NIEIR) explores the relationship between population and employment growth in driving future economic prosperity for residents. Four employment scenarios are examined by NIEIR based on a range of employment/industry growth assumptions and population growth assumptions.

Of the four scenarios, the Primary Scenario and Scenario 2 are considered the most relevant to Redland City as a whole and have been reviewed in detail. The following provides a summary of each scenario are detailed below:

- **Primary Scenario:** achieves the highest overall employment and population growth and assumes that employment growth will satisfy employment requirements of the residential population. The Primary Scenario outputs align directly with the employment and industry projections prepared by the Queensland Government at the local government area (LGA) level to small areas; and
- **Scenario 2:** attempts to balance both population and employment growth within the constraints of the existing infrastructure patterns and the productive capacity of existing industry clusters to grow at above average rates. Rather than adopting a population target, Scenario 2 models the population growth and distribution that would match job opportunities in the locations where they currently exist and demonstrate growth potential. It assumes a

³ Strategic Framework, Draft Redland City Plan 2015, p.?

⁴ 362-392 Old Cleveland Road East, Birkdale Context Review and Gap Analysis, 2015

lower population growth outcome driven by employment growth potential within sub-LGA areas resulting in the lowest population and employment growth outcome but achieves higher per capita incomes (living standards) and uses existing infrastructure to its maximum potential. Scenario 2 is a NIEIR-only scenario that “*provides small area employment projections based on the capacity of SEQ’s small areas to grow population and employment, subject to a travel time constraint that links population growth in each specific area to places where suitable employment can be accessed*”⁵.

One of the key differences between the Primary Scenario and Scenario 2 is that Scenario 2 projections estimate the extent of population growth that can be satisfied by accessible employment opportunities and their suitability to the resident workforce. The Primary Scenario, on the other hand, relies on the assumption that transformative infrastructure investment will be made to ensure that either the same or improved access to jobs is achieved throughout South East Queensland into the future.

As a result, the way in which population growth is applied under the two scenarios (and therefore subsequent employment growth) is likely in many regards to generate upper and lower limits of employment growth, with employment projections likely to sit somewhere between the Primary Scenario and Scenario 2.

Primary Scenario

Under the NIEIR Primary Scenario, the major employment growth within Redland City is anticipated in the following industry sectors:

- Health care and social assistance (+6,122 workers);
- Construction (+4,188 workers);
- Education and training (+3,752 workers);
- Accommodation and food services (+2,915 workers); and
- Manufacturing (+2,045 workers).

Table 2.2 details the employment growth forecast by industry for Redland City between 2011 and 2041 under the NIEIR Primary Scenario.

⁵ SEQ Employment and Economic Activity Forecasting Project LGA Summary Report: Redland City Council February 2015. NIEIR, p.5

Table 2.2: Employment Growth Forecast by Industry (Primary Scenario), Redland City, 2011-2041

Industry	2011	2041	Change 2011-2041
Agriculture, Forestry and Fishing	420	587	167
Mining	289	480	191
Manufacturing	3,836	5,881	2,045
Electricity, Gas, Water and Waste Services	332	453	121
Construction	5,303	9,491	4,188
Wholesale Trade	1,574	1,908	334
Retail Trade	6,912	8,265	1,353
Accommodation and Food Services	3,506	6,421	2,915
Transport, Postal and Warehousing	1,440	2,705	1,265
Information Media and Telecommunications	597	681	84
Financial and Insurance Services	774	835	61
Rental, Hiring and Real Estate Services	873	1,514	641
Professional, Scientific and Technical Services	2,353	4,151	1,798
Administrative and Support Services	1,858	3,230	1,372
Public Administration and Safety	1,773	2,804	1,031
Education and Training	4,198	7,950	3,752
Health Care and Social Assistance	6,154	12,276	6,122
Arts and Recreation Services	512	910	398
Other Services	2,061	3,001	940
Total Redland City	44,765	73,543	28,778

Source: SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council (2015) - National Institute of Economic and Industry Research (NIEIR)

Scenario 2

Under the NIEIR Scenario 2 projections, employment growth is anticipated to be the largest in the following industry sectors:

- Healthcare and social assistance (+5,439 workers);
- Education and training (+2,892 workers);
- Professional, scientific and technical services (+1,837 workers);
- Accommodation and food services (+1,112 workers); and
- Construction (+883 workers).

Table 2.3 details the employment growth forecast by industry for Redland City between 2011 and 2041 under the NIEIR Scenario 2.

Table 2.3: Employment Growth Forecast by Industry (Scenario 2), Redland City, 2011-2041

Industry	2011	2041	Change 2011-2041
Agriculture, Forestry and Fishing	479	550	71
Mining	361	232	-129
Manufacturing	3,302	3,331	29
Electricity, Gas, Water and Waste Services	307	365	58
Construction	5,403	6,286	883
Wholesale Trade	1,341	1,304	-37
Retail Trade	6,904	7,128	224
Accommodation and Food Services	4,073	5,185	1,112
Transport, Postal and Warehousing	1,457	2,332	875
Information Media and Telecommunications	610	378	-232
Financial and Insurance Services	706	925	219
Rental, Hiring and Real Estate Services	1,058	1,554	496
Professional, Scientific and Technical Services	2,190	4,027	1,837
Administrative and Support Services	2,030	2,877	847
Public Administration and Safety	1,619	2,495	876
Education and Training	4,353	7,245	2,892
Health Care and Social Assistance	6,059	11,498	5,439
Arts and Recreation Services	843	1,096	253
Other Services	1,948	2,671	723
Total Redland	45,043	61,479	16,436

Source: SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council (2015) - National Institute of Economic and Industry Research (NIEIR)

It is noted that subsequent population projections prepared by Queensland Treasury and Trade (QTT) at the local government area level (2015 edition) were released in April 2016. Population projections for Redland City have been revised down from the previous population projections (2013 edition), which are likely to reduce the employment projections prepared by NIEIR.

2.2.6 Queensland Treasury and Trade Employment Projections, 2016

In May 2016, QTT released employment projections based on the latest population projections (2015 edition).

In the 2011 to 2041 period, the QTT projections anticipate employment growth to be highest within the following industry sectors:

- Health care and social assistance (+4,885 workers);
- Construction (+4,662 workers);
- Education and training (+2,836 workers);
- Professional, scientific and technical services (+2,701 workers); and
- Accommodation and food services (+2,647 workers).

Table 2.4 below summarises the employment growth forecast by industry for Redland City under the QTT employment projections.

Table 2.4: QTT Employment Projections by Industry, Redland City, 2011-2041

Industry	2011	2041	Change 2011-2041
Agriculture, Forestry and Fishing	418	402	-16
Mining	289	516	227
Manufacturing	3,828	5,151	1,323
Electricity, Gas, Water and Waste Services	335	1,389	1,054
Construction	5,298	9,960	4,662
Wholesale Trade	1,579	1,693	114
Retail Trade	6,912	6,506	-406
Accommodation and Food Services	3,505	6,152	2,647
Transport, Postal and Warehousing	1,439	1,835	396
Information Media and Telecommunications	602	739	137
Financial and Insurance Services	782	1,039	257
Rental, Hiring and Real Estate Services	882	1,672	790
Professional, Scientific and Technical Services	2,352	5,053	2,701
Administrative and Support Services	1,856	3,012	1,156
Public Administration and Safety	1,774	2,812	1,038
Education and Training	4,196	7,032	2,836
Health Care and Social Assistance	6,156	11,041	4,885
Arts and Recreation Services	521	686	165
Other Services	2,057	2,504	447
Total Redland	44,781	69,193	24,412

Source: Queensland Treasury and Trade (2016) - Regional Employment Projections Data Tables - 2010-11 to 2040-41

The 2016 QTT employment projections estimate an additional 24,412 employed persons by 2041, approximately 15% lower than forecast under NIEIR's Primary Scenario (additional 28,778 employed persons by 2041).

The most significant changes in additional employed persons in the 2011 to 2041 period are for the following sectors:

- Retail trade (-1,759 persons under QTT projections);
- Health care and social assistance (-1,237 persons under QTT projections);
- Education and training (-916 persons under QTT projections);
- Transport, postal and warehousing (-869 persons under QTT projections);
- Manufacturing (-722 persons under QTT projections);
- Professional, scientific and technical services (+903 persons under QTT projections); and
- Electricity, gas, water and waste services (+933 persons under QTT projections).

Table 2.5 below provides a comparison between the QTT employment projections and the NIEIR Primary Scenario projections.

Table 2.5: Comparison between QTT Employment Growth and NIEIR Primary Scenario Growth, 2011-2041

Industry	QTT Employment Growth, 2011-2041	NIEIR Primary Scenario Growth, 2011-2041	Difference
Agriculture, Forestry and Fishing	-16	167	-183
Mining	227	191	36
Manufacturing	1,323	2,045	-722
Electricity, Gas, Water and Waste Services	1,054	121	933
Construction	4,662	4,188	474
Wholesale Trade	114	334	-220
Retail Trade	-406	1,353	-1,759
Accommodation and Food Services	2,647	2,915	-268
Transport, Postal and Warehousing	396	1,265	-869
Information Media and Telecommunications	137	84	53
Financial and Insurance Services	257	61	196
Rental, Hiring and Real Estate Services	790	641	149
Professional, Scientific and Technical Services	2,701	1,798	903
Administrative and Support Services	1,156	1,372	-216
Public Administration and Safety	1,038	1,031	7
Education and Training	2,836	3,752	-916
Health Care and Social Assistance	4,885	6,122	-1,237
Arts and Recreation Services	165	398	-233
Other Services	447	940	-493
Total Redland	24,412	28,778	-4,366

Source: SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council (2015) - National Institute of Economic and Industry Research (NIEIR), Queensland Treasury and Trade (2016) - Regional Employment Projections Data Tables - 2010-11 to 2040-41

3 REGIONAL ECONOMIC ANALYSIS

This section identifies the economic base and endowments of the Redland City economy in the context of the broader South East Queensland (SEQ) regional economy. The regional economic analysis comprises both quantitative and qualitative investigations.

3.1 Redland City Socio-Economic Profile

A socio-economic profile of Redland City benchmarked against SEQ and Queensland (QLD) is summarised in Table 3.1 below as of the 2001, 2006 and 2011 Censuses. The following provides a summary of the key characteristics of Redland City:

- Redland City exhibited a higher proportion of persons aged 65 years and over between 2001 and 2011, increasing from 11.5% to 14.5%. As at 2011, the proportion of persons aged 65 years and over within Redland City was higher than the SEQ and QLD benchmarks (14.5% cf. 13.3% SEQ and 13.7% Queensland). The average age of Redland City residents as of 2011 was 38.9 years compared to 37.7 years SEQ and 38 years for Queensland;
- The proportion of households with couple without children families has increased between 2001 and 2011 from 27.3% to 28.3%, although this is lower than the SEQ benchmark (increasing from 36.0% to 37.1% between 2001 and 2011). Conversely, the proportion of households with couple with children families has been decreasing within Redland City, SEQ and QLD;
- Redland City has a skilled workforce with the proportion of persons attaining a non-school qualification increasing from 33.6% to 44.9% between 2001 and 2011 (which is marginally lower the SEQ comparison increasing from 34.2% to 45.6% between 2001 and 2011). As of 2011 Redland City exhibited a higher incidence of persons with a diploma (9.0% cf. 8.3% SEQ and 7.6% QLD) or certificate (22.6% cf. 18.9% SEQ and 19.8% Queensland) than SEQ and QLD;
- Redland City is a relatively affluent community with the average household income in 2001, 2006 and 2011 consistently higher in Redland City than SEQ and QLD. The average household income in Redland City increased from the 2001 Census (\$985 cf. \$931 SEQ and \$902 Queensland) to the 2011 Census (\$1,585 cf. \$1,358 SEQ and \$1,501 Queensland);
- A higher proportion of Redland City residents are employed in lower white collar occupations (such as community and personal service workers, clerical workers and sales workers) compared to the SEQ and QLD benchmarks; and
- At the time of the 2011 Census, health care and social assistance, retail trade and construction were the main industries of employment for Redland City residents. Manufacturing is also a main industry of employment for Redland City residents although the proportion of persons employed in these sectors has declined since 2001 and 2011 from 12.6% to 10.6%. The decrease in the proportion of persons employed in the manufacturing sector was also exhibited within the SEQ and QLD benchmarks.

Table 3.1 summarises the results of the 2001, 2006 and 2011 censuses for Redland City compared to SEQ and QLD.

Table 3.1: Socio-Economic Profile, Redland City, SEQ and QLD 2001, 2006 and 2011

	Redland City Council			SEQ			QLD		
	2001	2006	2011	2001	2006	2011	2001	2006	2011
Population (Counted at Home)	113,811	126,129	136,438	2,332,427	2,619,848	2,910,148	3,585,639	3,973,958	4,392,097
Ave. Annual Population Growth (%)	-	2.1%	1.6%		2.4%	2.1%	-	2.1%	2.0%
Age Distribution									
0-14 years	22.7%	21.1%	20.3%	20.6%	19.9%	19.7%	21.3%	20.4%	20.0%
15-24 years	13.7%	13.6%	13.3%	14.2%	14.1%	13.9%	13.8%	13.6%	13.4%
25-34 years	12.0%	10.7%	10.6%	14.5%	13.7%	14.0%	14.2%	13.3%	13.4%
35-44 years	15.7%	14.5%	13.8%	14.9%	14.8%	14.5%	14.9%	14.6%	14.2%
45-54 years	15.1%	15.1%	14.8%	13.8%	13.6%	13.3%	13.7%	13.7%	13.6%
55-64 years	9.3%	11.8%	12.8%	9.5%	11.1%	11.3%	9.7%	11.4%	11.7%
65+ years	11.5%	13.0%	14.5%	12.5%	12.9%	13.3%	12.4%	13.0%	13.7%
Average age (years)	36.2	37.9	38.9	36.7	37.5	37.7	36.6	37.6	38.0
Household Type (% of dwellings)									
Couple families with children	38.5%	36.2%	35.4%	45.7%	44.9%	44.9%	30.7%	29.4%	29.5%
Couple families without children	27.3%	27.9%	28.3%	36.0%	37.2%	37.1%	25.3%	26.0%	26.6%
Single parent family	10.8%	10.7%	11.0%	16.3%	16.0%	16.0%	10.8%	10.5%	10.7%
Lone person households	17.9%	18.6%	19.2%	32.0%	31.0%	30.4%	21.8%	21.0%	21.4%
Average household size	2.8	2.7	2.7	2.6	2.6	2.7	2.6	2.6	2.7
Household Finances									
% of households fully owning home	38.1%	32.7%	31.1%	35.7%	29.1%	27.1%	36.6%	30.4%	28.4%
% of households purchasing home	33.9%	38.4%	39.6%	27.5%	33.0%	34.4%	25.8%	31.4%	32.6%
% of households renting	23.6%	23.1%	24.1%	31.2%	29.9%	32.0%	31.6%	30.0%	32.0%
Average weekly household income	\$985	\$1,281	\$1,585	\$931	\$1,245	\$1,358	\$902	\$1,202	\$1,501
Average monthly housing loan repayment	\$1,045	\$1,560	\$2,142	\$1,038	\$1,557	\$2,131	\$994	\$1,470	\$2,034
Average weekly rent payment	\$166	\$237	\$333	\$169	\$242	\$330	\$155	\$219	\$299
Average housing costs (as a % of income)	12.3%	15.1%	17.4%	12.7%	15.3%	20.2%	12.0%	14.3%	16.6%
Labour Market									
Full-time employment (% labour force)	59.1%	60.8%	59.7%	58.0%	60.9%	59.0%	58.6%	61.4%	59.9%
Part-time employment (% labour force)	27.8%	29.2%	29.5%	27.3%	28.5%	29.1%	26.6%	27.7%	28.1%
Total employment (% labour force)	93.0%	95.8%	94.6%	91.6%	95.3%	93.7%	91.8%	95.3%	93.9%
Unemployment rate (% labour force)	7.0%	4.2%	5.4%	8.4%	4.7%	6.3%	8.2%	4.7%	6.1%
Participation rate (% of population > 15 years)	63.3%	63.9%	65.1%	60.9%	61.8%	63.3%	60.6%	61.1%	62.2%
Qualifications									
% of persons with a non-school qualification	33.6%	38.9%	44.9%	34.2%	39.6%	45.6%	32.3%	37.5%	43.3%
% of persons with Bachelor or higher	8.9%	10.6%	13.3%	12.3%	15.0%	18.4%	10.8%	13.1%	15.9%
% of persons with Diploma	6.3%	7.8%	9.0%	6.0%	7.3%	8.3%	5.5%	6.6%	7.6%
% of persons with Certificate	18.4%	20.5%	22.6%	15.8%	17.3%	18.9%	16.0%	17.8%	19.8%
Occupation									

	Redland City Council			SEQ			QLD		
	2001	2006	2011	2001	2006	2011	2001	2006	2011
Upper White Collar									
Managers	11.7%	11.9%	12.2%	11.6%	11.8%	11.9%	13.3%	12.9%	12.4%
Professionals	14.1%	14.6%	16.2%	18.0%	18.9%	20.9%	15.3%	16.4%	17.2%
Subtotal	25.9%	26.5%	28.4%	29.6%	30.8%	32.8%	28.6%	29.3%	29.6%
Lower White Collar									
Community & Personal Service Workers	8.1%	8.7%	9.7%	8.9%	9.1%	10.0%	8.1%	8.9%	9.1%
Clerical and Admin Workers	17.9%	17.2%	17.4%	16.5%	15.9%	15.7%	15.3%	15.0%	14.8%
Sales Workers	11.8%	11.3%	10.6%	11.5%	10.9%	10.2%	10.2%	10.7%	10.3%
Subtotal	37.8%	37.2%	37.7%	36.9%	35.8%	35.9%	33.6%	34.7%	34.2%
Upper Blue Collar									
Technicians & Trades Workers	16.3%	16.8%	16.3%	14.5%	14.8%	14.0%	15.6%	14.7%	15.3%
Subtotal	16.3%	16.8%	16.3%	14.5%	14.8%	14.0%	15.6%	14.7%	15.3%
Lower Blue Collar									
Machinery Operators & Drivers	7.7%	6.8%	6.2%	6.9%	6.2%	6.0%	8.3%	7.8%	7.2%
Labourers	10.3%	11.1%	9.9%	10.1%	10.7%	9.5%	11.4%	11.5%	11.9%
Subtotal	18.0%	17.9%	16.1%	17.1%	16.9%	15.4%	19.7%	19.3%	19.1%
Employment by Industry (% of employees)									
Agriculture, forestry & fishing	1.5%	0.7%	0.6%	1.7%	1.2%	0.9%	5.2%	4.9%	3.4%
Mining	0.7%	0.7%	1.0%	0.4%	0.5%	1.0%	1.6%	1.2%	1.7%
Manufacturing	12.6%	12.3%	10.6%	11.3%	10.4%	8.7%	10.1%	10.5%	9.9%
Electricity, gas, water & waste services	0.9%	0.9%	1.2%	0.9%	0.9%	1.1%	0.9%	1.0%	1.0%
Construction	8.5%	10.6%	10.9%	7.1%	9.1%	9.0%	7.0%	6.9%	9.0%
Wholesale trade	6.4%	5.6%	4.9%	5.0%	4.3%	3.9%	5.3%	4.9%	3.9%
Retail trade	12.6%	12.6%	11.4%	11.8%	11.9%	10.8%	10.6%	11.5%	11.6%
Accommodation & food services	5.2%	5.3%	5.4%	7.3%	6.9%	6.9%	7.2%	7.4%	7.0%
Transport, postal & warehousing	6.1%	5.8%	5.9%	5.0%	5.0%	5.2%	5.1%	5.2%	5.1%
Information media & telecommunications	2.1%	1.5%	1.4%	2.2%	1.7%	1.5%	2.1%	1.9%	1.4%
Financial & insurance services	3.3%	3.0%	2.9%	3.4%	3.4%	3.2%	3.0%	2.8%	2.9%
Rental, hiring & real estate services	2.0%	2.0%	1.7%	2.2%	2.3%	2.0%	2.0%	2.0%	2.1%
Professional, scientific & technical services	5.4%	5.3%	6.2%	6.5%	6.7%	7.7%	5.5%	5.4%	5.6%
Administrative & support services	3.5%	3.4%	3.3%	3.5%	3.3%	3.4%	2.7%	3.2%	3.0%
Public administration & safety	5.4%	5.7%	5.9%	5.8%	6.3%	6.6%	6.3%	6.2%	6.7%
Education & training	6.9%	6.6%	7.2%	7.9%	7.6%	8.0%	7.5%	8.0%	7.6%
Health care & social assistance	9.1%	10.0%	11.8%	9.8%	10.5%	12.3%	9.2%	9.5%	10.2%
Arts & recreation services	1.0%	1.1%	1.2%	1.7%	1.6%	1.6%	1.5%	1.5%	1.4%
Other services	4.7%	4.3%	4.3%	4.2%	3.8%	3.8%	4.3%	4.0%	3.7%

Source: ABS Census of Population and Housing, 2001, 2006, 2011

3.2 Population Growth

Population growth within Redland City over the past decade has averaged 1.5% per annum (compared to 2.2% for SEQ and 2.0% for Queensland), increasing from 128,654 persons in 2005 to 149,989 persons in 2015. Over the past decade, population growth with Redland City increased at an average of 1.9% per annum between 2005 and 2010 (compared to 2.6% for SEQ and 2.4% for Queensland), decreasing to an average of 1.2% per annum between 2010 and 2015 (compared to 1.8% for SEQ and 1.6% for Queensland).

Table 3.2 summarises the population growth for Redland City compared to SEQ and Queensland between 2005 and 2015.

Table 3.2: Estimated Resident Population, Redland City, SEQ and QLD, 2005 to 2015

Year	Redland City	SEQ	QLD
2005	128,654	2,608,600	3,918,494
2006	130,760	2,671,361	4,007,992
2007	133,596	2,746,702	4,111,018
2008	136,771	2,823,685	4,219,505
2009	139,859	2,903,160	4,328,771
2010	141,552	2,959,328	4,404,744
2011	143,711	3,012,313	4,476,778
2012	145,707	3,076,351	4,568,205
2013	147,264	3,135,324	4,651,359
2014	148,700	3,187,936	4,719,925
2015	149,989	3,238,577	4,778,854
Ave. Ann. Growth, 2005-2010	1.9%	2.6%	2.4%
Ave. Ann. Growth, 2010-2015	1.2%	1.8%	1.6%
Ave. Ann. Growth, 2005-2015	1.5%	2.2%	2.0%

Source: ABS Regional Population Growth (2016)

In April 2016, Queensland Treasury and Trade (QTT) released a new set of population projections for Queensland at the local government area level (2015 edition). The population projections for Redland City to 2036 have been revised downwards (2015 edition) from the previous set of projections (2013 edition) as summarised in Table 3.3 below.

Table 3.3: Redland City Population Projection Comparisons

Year	QTT Projections		Difference
	2013 Edition	2015 Edition	
2016	157,224	151,674	-5,550
2021	169,498	162,017	-7,480
2026	180,599	172,673	-7,925
2031	190,187	180,615	-9,572
2036	198,290	184,683	-13,607
Ave. Ann. Growth, 2016-2036	1.2%	1.0%	

Source: Queensland Treasury and Trade Population Projections, 2013 and 2015 editions.

For the purposes of this analysis, the 2015 edition of the QTT population projections have been utilised.

Redland City is anticipated to achieve lower growth rates in comparison to SEQ and QLD, averaging 0.9% per annum between 2016 and 2041 (cf. 1.8% SEQ and 1.7% QLD). As of 2016, Redland City is estimated to comprise a resident population of 151,674 persons increasing to 188,844 persons by 2041.

Table 3.4 below summarises the population projections for Redland City compared to SEQ and QLD between 2016 and 2041.

Table 3.4: Population Projections⁶, Redland City, SEQ and QLD, 2016 to 2041

Year	Redland City	SEQ	QLD
2016	151,674	3,284,466	4,853,048
2021	162,017	3,583,642	5,250,292
2026	172,673	3,950,720	5,730,062
2031	180,615	4,344,485	6,240,546
2036	184,683	4,750,086	6,763,153
2041	188,844	5,193,554	7,329,526
Ave. Ann. Growth, 2016-2041	0.9%	1.8%	1.7%

Note: 2041 figures have been extrapolated based on the growth rate recorded in the 2031-2036 period.
Source: Queensland Treasury and Trade Population Projections (2015 edition)

3.3 Building Approval Activity

Over the past nine years, the total value of non-residential building activity within Redland City has averaged \$135.7 million per annum, representing an average of 1.2% of the value of non-residential building activity within SEQ.

Non-residential building activity in Redland City peaked in 2009 at \$215.0 million.

Table 3.5 below summarises the value of non-residential building activity in Redland City, benchmarked to SEQ and QLD.

Table 3.5: Value of Non-Residential Building Activity (\$m), Redland City, SEQ and QLD, 2007 to 2015

	Redland City	SEQ	QLD	Redland City as % of SEQ	Redland City as % of QLD
2007	\$150.6	\$11,815.3	\$15,260.6	1.3%	1.0%
2008	\$197.6	\$15,435.4	\$20,070.9	1.3%	1.0%
2009	\$215.0	\$13,302.9	\$18,285.3	1.6%	1.2%
2010	\$174.3	\$8,992.6	\$12,767.7	1.9%	1.4%
2011	\$85.6	\$10,878.8	\$15,263.3	0.8%	0.6%
2012	\$92.7	\$7,170.6	\$11,982.9	1.3%	0.8%
2013	\$80.3	\$12,330.7	\$15,853.7	0.7%	0.5%
2014	\$125.6	\$9,338.2	\$12,321.0	1.3%	1.0%
2015	\$99.8	\$10,096.0	\$13,548.0	1.0%	0.7%
Average	\$135.7	\$11,040.1	\$15,039.3	1.2%	0.9%

Source: Australian Bureau of Statistics, Building Approvals, Australia, Cat. No. 8731.0

⁶ Based on 2015 edition Queensland Treasury Trade population projections, medium series

The Australian Bureau of Statistics classifies non-residential building activity into 15 categories, these being:

- Commercial buildings
 - Retail and wholesale trade buildings;
 - Transport buildings;
 - Offices;
 - Commercial buildings not elsewhere classified (n.e.c.);
- Industrial buildings
 - Factories and other secondary production buildings;
 - Warehouses;
 - Agricultural and aquacultural buildings;
 - Other industrial buildings n.e.c.;
- Other non-residential
 - Education buildings;
 - Religion buildings;
 - Aged care facilities;
 - Health buildings;
 - Education and recreation buildings;
 - Short term accommodation buildings; and
 - Other non-residential n.e.c.

Over the past nine years, the key sectors of investment within Redland City were:

- Education buildings (29.2% of non-residential activity);
- Retail and wholesale trade buildings (23.5% of non-residential activity); and
- Aged care facilities (20.9% of non-residential activity).

Table 3.6 below summarises the average annual value of non-residential building activity within each sector in Redland City.

Table 3.6: Average Annual Value of Non-Residential Building Activity (\$m), Redland City

	Average Annual Value (\$m)	% of Total
Commercial Buildings	\$38.9	28.7%
Retail and wholesale trade buildings	\$31.8	23.5%
Transport buildings	\$3.4	2.5%
Offices	\$4.7	3.4%
Commercial buildings n.e.c.	\$1.2	0.9%
Industrial Buildings	\$15.2	11.2%
Factories and other secondary production buildings	\$2.6	1.9%
Warehouses	\$9.3	6.8%
Agricultural and aquacultural buildings	\$1.3	1.0%
Other industrial buildings n.e.c.	\$2.5	1.8%
Other Non-residential	\$81.6	60.1%
Education buildings	\$39.7	29.2%
Religion buildings	\$2.1	1.6%
Aged care facilities	\$28.3	20.9%
Health buildings	\$5.7	4.2%
Entertainment and recreation buildings	\$7.1	5.2%
Short term accommodation buildings	\$1.0	0.8%
Other non-residential n.e.c.	\$8.4	6.2%
Total Non-residential	\$135.7	100.0%

Source: Australian Bureau of Statistics, Building Approvals, Australia, Cat. No. 8731.0

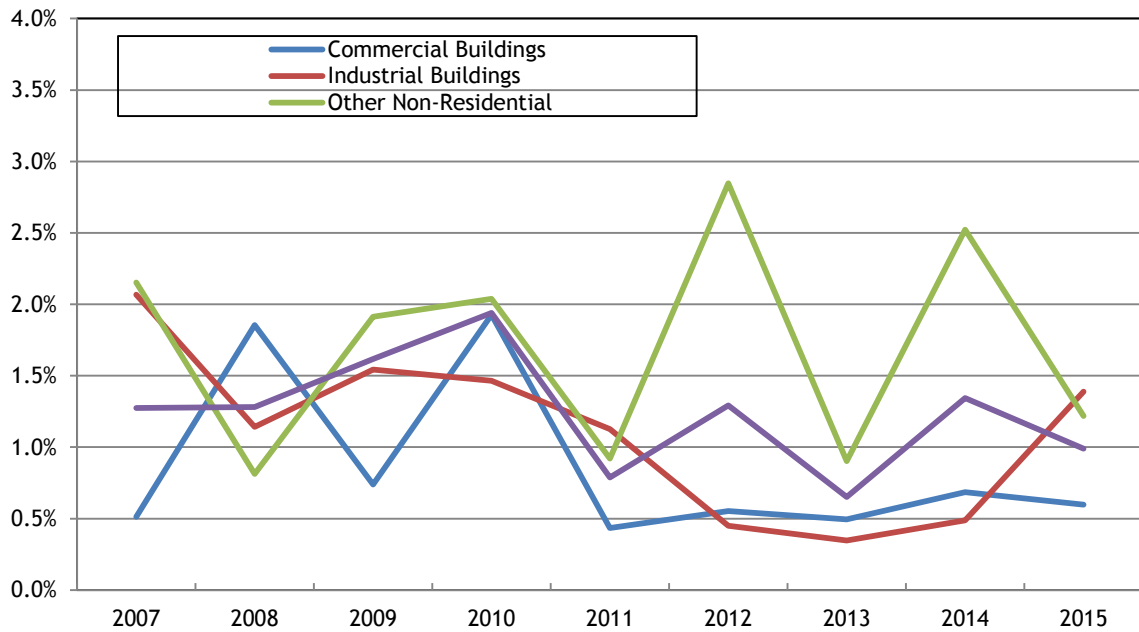
In terms of non-residential building activity in Redland City as a proportion of SEQ and QLD, non-residential building activity and other non-residential building activity had the most significant contribution to SEQ and QLD building activity, particularly between 2012 and 2015. However, there was no clear trend identified within this sector in the past nine years, other than peaks in 2012 and 2014, driven by significant investment within aged care facilities in Redland City in these years (\$53.8 million and \$54.7 million, respectively).

The value of commercial building activity in Redland City as a proportion of SEQ and QLD activity peaked in 2008 at 1.9% and 1.5% of total activity, respectively.

In 2015, there was an uplift in activity within the industrial building sector in Redland City, likely driven by development activity within the Redland Business Park.

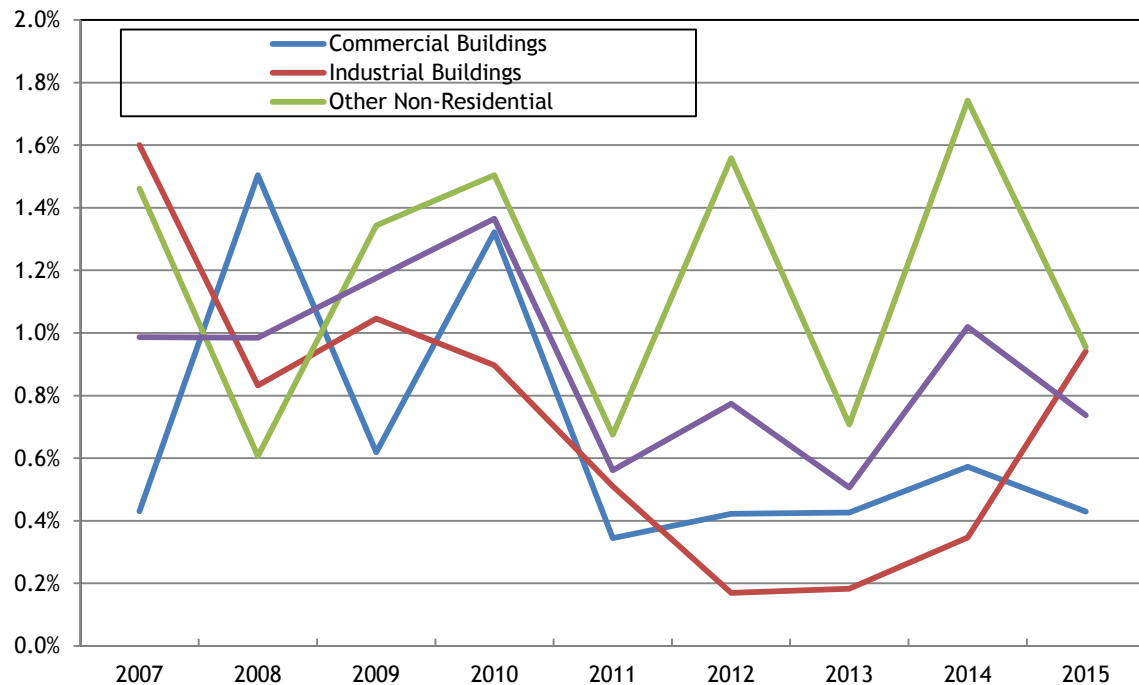
Figures 3.1 and 3.2 below outline the value of non-residential building approvals as a proportion of SEQ and QLD between 2007 and 2015.

Figure 3.1: Value of Non-Residential Building Approvals in Redland City as % of SEQ, 2007-2015



Source: Australian Bureau of Statistics, Building Approvals, Australia, Cat. No. 8731.0

Figure 3.2: Value of Non-Residential Building Approvals in Redland City as % of QLD, 2007-2015



Source: Australian Bureau of Statistics, Building Approvals, Australia, Cat. No. 8731.0

3.4 Working Population Characteristics

3.4.1 Journey to Work

Journey to work data provides information on where a person works rather than where a person lives through a comparison of a person's place of residence (origin) to their place of work (destination). That is, identifying where a resident travels to for work. Journey to work data can also be utilised to identify where workers for a particular region reside (i.e. where do workers travel from to work in the region). The following provides a brief analysis of Redland City residents place of work (i.e. where do Redland City residents travel to for work) and Redland City workers place of residence (i.e. where do workers in Redland City usually reside).

Redland City Residents Place of Work

Redland City has a highly mobile workforce with more than half of residents travelling beyond Redland City for employment. As of the 2011 Census, 27,124 Redland City residents (or 43.5%) also worked in Redland City, with 23,272 residents (or 37.3%) travelling to Brisbane for employment. Redland City residents also travelled to Logan, Gold Coast, Ipswich and Moreton Bay for employment. Based on journey to work data, it is apparent the Redland City exports workers to the broader SEQ region, particularly Brisbane.

Table 3.7 below summarises the journey to work data of the Redland City residential workforce (i.e. where Redland City residents travel to for work).

Table 3.7: Employment Location of Redland City Residents, 2011

Local Government Area	No. of Resident Workers	% of Resident Workers
Redland	27,124	43.5%
Brisbane	23,272	37.3%
Logan	2,466	4.0%
Gold Coast	534	0.9%
Ipswich	353	0.6%
Moreton Bay	34	0.1%
Other	8,584	13.8%
Total	62,367	100.0%

Note: Other includes no fixed address (QLD), State/Territory undefined (QLD), Capital City undefined (Greater Brisbane) and Place of Work not stated

Source: Redland profile id.

Redland City Workers Place of Residence

Workers who live and work within Redland City accounted for 85.5% (or 27,124 workers) of workers within Redland City⁷. Workers from Brisbane accounted for 9.6% of Redland City's workforce whilst a further 4.0% of workers usually resided in Logan. Workers also travelled from the Gold Coast, Moreton Bay and Ipswich to work within Redland City.

Table 3.8 below summarises the place of residence of the Redland City workforce (i.e. where do workers in Redland City usually reside).

⁷ Based on Redland profile.id data derived from the 2011 ABS Census of Population and Household

Table 3.8: Place of Residence of Redland City Workers, 2011

Local Government Area	No. of Workers	% of Workers
Redland	27,124	85.5%
Brisbane	3,034	9.6%
Logan	1,269	4.0%
Gold Coast	142	0.4%
Ipswich	97	0.3%
Moreton Bay	46	0.1%
Total	31,712	100.0%

Source: Redland profile id.

3.4.2 Working Population by Industry

In determining the economic structure of the Redland City, this analysis has utilised working population data sourced from the ABS 2011 Census of Population and Housing at the LGA level. Industry of employment data has been undertaken at the two digit ANZSIC level.

In 2011, the industry sectors that accounted for over 10% of working population employment within Redland City included:

- Retail trade: with the majority of employment within the other store-based retailing industry subsector;
- Education and training: with the majority of employment within preschool and school education industry subsector;
- Health care and social assistance: with the majority of employment within the medical and other health care services industry subsect (although this is only marginally higher than the other industry subsectors);

All three industry sectors identified above recorded a higher incidence of employment relative to SEQ and QLD.

Table A.1 in Appendix A details the distribution of working population within Redland City benchmarked to SEQ and QLD at the two digit ANZSIC level.

3.5 Regionally Competitive and Significant Sectors

This section identifies those industry sectors that are regionally significant and/or in which a particular region holds a regional competitive advantage (or specialisation). In this instance, the analysis has assessed Redland City.

3.5.1 Screening Methodology

In order to determine the dominant and emerging industry sectors within Redland City, the following regional analysis techniques have been utilised as a screening methodology:

- Industry significance analysis;
- Economic base or location quotient analysis;
- Shift share analysis; and

- Assessment of regional export value and growth.

The four regional analysis techniques are simple and easy to understand, thereby being ideal as bases of preliminary screening of industry sectors at a regional level. As each of these techniques has different strengths and weakness, all four techniques have been utilised, with each industry sector subject to all four techniques. Industry sectors that achieve an affirmative results across multiple techniques are considered to be either regionally significant or sectors for which Redland City maintains a competitive advantage.

The following provides a brief description of how each of the measures are calculated.

Industry Significance Analysis

Industry significance analysis seeks to identify whether a particular industry sub-sector (e.g. transport equipment and machinery manufacturing) is relatively significant within the broader industry (e.g. manufacturing). The measure of relative significance takes the form of a quotient that compares the industry share of a specific sub-sector against the average share of sub-sectors within a broader industry. An industry significance quotient greater than one indicates that a given industry sub-sector is relatively significant within the broader industry.

The formula for calculation is:

$$IS_Q = \frac{\text{Employment of Sub-sector A}}{\text{Employment of industry sector}} / \frac{1}{N}$$

Where:

- IS_Q refers to the industry significance quotient;
- Employment of Sub-sector A: refers to the employment within the industry-subsector being evaluated (e.g. Transport equipment and machinery manufacturing);
- Employment of industry sector: refers to employment of the broader industry sector (e.g. Manufacturing); and
- N: refers to the number of sub-sectors within the broader industry sector.

The aim of industry significance analysis is to identify the disproportionately significant sub-sectors. The weakness of the approach is that the 'significance test' is determined by the number of sub-sectors identified within a broader industry. The number of subsectors is determined by the Australian New Zealand Standard Industry Classification (ANZSIC) system. As such, the determination of the number of sub-sectors could be considered arbitrary.

Location Quotient Analysis

Location quotient analysis (or economic base analysis as it is sometimes called) identifies whether any given industry sector within the region is over-represented in comparison to state or national averages. In short, this type of analysis allows for a simple assessment of competitive advantage. A region is considered to have a competitive advantage within an industry sector where that sector's share of regional employment exceeds the sector's share of state or national employment.

The formula for calculation is:

$$LQ_A = \frac{\text{Sector A share of employment within region}}{\text{Sector A share of employment within state}}$$

Where LQ_A refers to the location quotient for a given industry.

In addition to providing an indication of regional competitive advantage, location quotient analysis also identifies those sectors upon which the region has a disproportionately high reliance. While a location quotient is a static measure, when combined with an analysis of broader state or national context it can highlight the region's susceptibility to broader trends.

The location quotient technique has a number of deficiencies: firstly it is a static measure and on its own provides little insight into regional trends, secondly it provides little insight into the competitive positioning of industry sectors that have a high capital intensity.

Within this report the location quotient for Redland City industry sectors is calculated by reference to the Queensland economy. Location quotients for Redland City have also been calculated relative to the South East Queensland economy as outlined in section 3.1.2.

A location quotient that is greater than one signifies an affirmative value for the industry sector.

Shift Share Analysis

Shift share analysis determines proportion of regional economic growth or decline that can be attributed to national, industry based, and/or regional factors. From a regional perspective the analysis helps identify industries where regional factors have contributed to growth or decline.

Shift share analysis generates three separate measures, including:

- **National (or state) Share (NS):** this measures how much total employment in a region increased because of growth in the national or state economy over a period;
- **Industry Mix (IM):** this measure identifies rapid or slow growing industry sectors within a region based on national (or state) growth rates for individual industry sectors;
- **Regional Shift (RS):** this measure seeks to highlight a region's leading or lagging industry sectors by comparing the regional growth in a specific industry sector with the national (or state) growth for the same sector. In short, the regional shift identifies those sectors for which regional factors either contributed to, or detracted from, industry growth.

In the context of Redland City, the Regional Shift measure is most relevant to identifying sectors which benefit from a regional competitive advantage.

Within this report the shift share analysis for Redland City industry sectors is calculated by reference to the Queensland economy.

The formulas for calculating the above measures are as follows:

$$NS = {}_i\text{region}^{t-1} \times \frac{QLDt}{QLDt-1}$$

$$IM = ({}_i\text{region}^{t-1} \times \frac{iQLDt}{iQLDt-1}) - NS$$

$$RS = {}_i\text{region}^{t-1} \times ({}_i\text{region}^t / {}_i\text{region}^{t-1} - iQLDt / iQLDt-1)$$

Where:

${}_i\text{region}^{t-1}$ refers to the regional employment within an industry (i) in the first period of the analysis (t-1)

${}_i\text{region}^t$ refers to the regional employment within an industry (i) in the second period of the analysis (t)

QLDt-1 refers to the total employment within the state in the first period of the analysis (t-1)

QLDt refers to the total employment within the state in the second period of the analysis (t)

iQLDt-1 refers to the employment within an industry (i) in the first period of the analysis (t-1)

iQLDt refers to the employment within an industry (i) in the second period of the analysis (t)

The shift share model articulated above is the model in its simple form. More complex variants of the model can be formulated to provide a more dynamic analysis of regional industry performance.

An affirmative result for the shift share analysis for the purposes of the screening process arises when a given industry sector achieves a positive (greater than zero) Regional Shift result. This implies that regional factors have contributed positively to the sectors performance.

Unlike industry significance analysis and location quotient analysis, shift share analysis has a temporal dimension. Therefore, inclusion of shift share analysis should overcome some of the limitations flowing from the static nature of the other two tests.

Regional Export Value and Growth

The industry significance analysis, economic base or location quotient analysis and shift share analysis all represent employment based measures and rely on data from the 2011 Census of Population and Housing.

An assessment of regional export value and growth has also been included in the screening of regionally competitive and significant sectors in Redland City, based on data generated by NIEIR at the two digit ANZSIC level. For the purpose of analysis, an industry sector (at the two digit ANZSIC level) is considered to be significant in terms of regional export value and growth if both of the following criteria are met:

- **Regional export value:** The industry sector accounts for at least 1% of total regional export value in 2014-15; and
- **Export growth:** The industry sector has recorded export value growth in the past five years (2009-10 to 2014-15).

As stated above, the combination of these four techniques is for the purposes of a preliminary screening of regionally competitive sectors for further analysis, and is not definitive.

3.5.2 Analysis of Redland City Competitive Advantage

Employment Measures

Based on the analytical techniques described above the following summarises the results of the Redland City’s competitive advantage across the three employment measures described above (i.e. industry significance analysis, economic base or location quotient analysis and shift-share analysis). Industry sectors are identified which achieve an affirmative result from the industry significance, location quotient and shift share analysis.

For the purposes of this analysis, the criteria requires that industry sectors achieve an affirmative result across at least two of the three regional analysis employment measures. Table 3.9 identifies those sectors within Redland City that achieved such a result. It is noted that a number of industry sectors achieved an affirmative result across all three measures including:

- Waste collection, treatment and disposal services;
- Other goods wholesaling;
- Postal and courier pickup and delivery services;
- Medical and other health care services;
- Social assistance services; and
- Personal and other services.

Table 3.9 identifies those sectors within Redland City that achieved an affirmative result across at least two of the employment based measures.

Table 3.9: Industry sectors that achieve affirmative results across at least two measures, Redland City

Industry Sectors	ISq & LQ	ISq & RS	LQ & RS
Non-metallic mineral mining and quarrying	✓		
Manufacturing, nfd	✓		
Food product manufacturing	✓		
Textile, leather, clothing and footwear manufacturing			✓
Wood product manufacturing			✓
Pulp, paper and converted paper product manufacturing			✓
Machinery and equipment manufacturing	✓		
Electricity, gas, water and waste services, nfd			✓
Waste collection, treatment and disposal services	✓	✓	✓
Construction services	✓		
Basic material wholesaling	✓		
Other goods wholesaling	✓	✓	
Retail trade, nfd			✓
Fuel retailing			✓
Food retailing	✓		
Other store-based retailing	✓		
Food and beverage services	✓		
Transport, postal and warehousing, nfd			✓
Water transport			✓
Postal and courier pick-up and delivery services	✓	✓	✓
Information media and telecommunications, nfd			✓
Publishing (except internet and music publishing)	✓		
Motion picture and sound recording activities	✓		
Telecommunications services		✓	
Auxiliary finance and insurance services		✓	
Property operators and real estate services	✓		

Industry Sectors	ISq & LQ	ISq & RS	LQ & RS
Administrative services		✓	
Building cleaning, pest control and other support services	✓		
Preschool and school education	✓		
Hospitals		✓	
Medical and other health care services	✓	✓	✓
Residential care services	✓		
Social assistance services	✓	✓	✓
Sports and recreation activities	✓		
Repair and maintenance	✓		
Personal and other services	✓	✓	✓

IS_Q: refers to industry significance quotient

LQ: refers to location quotient

RS: refers to the regional shift measure from the shift-share analysis

Nfd - refers to not further defined

Source: Derived from analysis contained in Table B.1 in Appendix B

Table 3.10 reports those industry sectors that achieved an affirmative result across at least one of the measures and the value of the result achieved.

Table 3.10: Industry sectors achieving an affirmative results across at least one measure IS_Q, LQ and Shift Share (Regional Shift), Redland City

Industry Sector	ISq	LQ	Shift Share - RS
Agriculture	4.9	0.3	-48
Aquaculture	0.2	1.0	-1
Fishing, hunting and trapping	0.5	1.2	-4
Agriculture, forestry and fishing support services	0.4	0.3	5
Metal ore mining	3.1	0.8	-63
Non-metallic mineral mining and quarrying	1.5	1.6	-13
Exploration and other mining support services	0.6	0.2	5
Manufacturing, nfd	1.9	1.4	-58
Food product manufacturing	5.4	1.6	-44
Beverage and tobacco product manufacturing	0.5	2.0	-6
Textile, leather, clothing and footwear manufacturing	0.6	1.4	21
Wood product manufacturing	0.8	1.0	31
Pulp, paper and converted paper product manufacturing	0.2	1.0	26
Printing (including the reproduction of recorded media)	0.4	0.9	16
Polymer product and rubber product manufacturing	0.3	0.6	6
Non-metallic mineral product manufacturing	0.4	0.5	2
Fabricated metal product manufacturing	1.0	0.8	11
Transport equipment manufacturing	0.9	0.7	20
Machinery and equipment manufacturing	2.0	1.2	-33
Furniture and other manufacturing	0.6	0.9	25
Electricity, gas, water and waste services, nfd	0.1	3.4	3
Electricity supply	0.8	0.2	1
Gas supply	0.1	0.4	1
Water supply, sewerage and drainage services	1.4	0.8	-21
Waste collection, treatment and disposal services	2.6	1.6	5
Building construction	1.1	0.9	-33
Construction services	2.6	1.1	-324
Basic material wholesaling	2.2	1.3	-126
Machinery and equipment wholesaling	1.6	0.9	-164
Motor vehicle and motor vehicle parts wholesaling	0.6	1.0	-10
Other goods wholesaling	1.4	1.1	36
Commission-based wholesaling	0.1	0.8	5
Retail trade, nfd	0.2	1.3	32
Motor vehicle and motor vehicle parts retailing	0.4	1.1	-8
Fuel retailing	0.2	1.2	8

Industry Sector	ISq	LQ	Shift Share - RS
Food retailing	2.1	1.7	-146
Other store-based retailing	3.1	1.4	-11
Non-store retailing and retail commission-based buying and/or selling	0.1	1.5	-20
Food and beverage services	2.7	1.4	-516
Transport, postal and warehousing, nfd	0.3	1.5	7
Road transport	5.4	0.8	-32
Water transport	0.8	4.1	6
Air and space transport	0.1	0.0	3
Postal and courier pick-up and delivery services	1.6	1.0	10
Transport support services	0.5	0.3	2
Information media and telecommunications, nfd	0.1	1.2	1
Publishing (except internet and music publishing)	3.3	1.7	-20
Motion picture and sound recording activities	1.3	1.3	32
Broadcasting (except internet)	0.2	0.2	6
Internet publishing and broadcasting	0.1	2.4	0!
Telecommunications services	2.5	0.9	69
Library and other information services	0.4	1.1	-5
Financial and insurance services, nfd	0.2	1.3	-6
Finance	2.1	0.8	-5
Auxiliary finance and insurance services	1.2	0.8	17
Property operators and real estate services	2.4	1.3	-37
Professional, scientific and technical services, nfd	0.0	1.6	0
Professional, scientific and technical services (except computer system design and related services)	2.5	0.8	-135
Computer system design and related services	0.5	0.9	73
Administrative services	1.1	0.7	46
Building cleaning, pest control and other support services	1.9	1.3	-83
Public administration	3.1	0.7	-110
Preschool and school education	3.3	1.6	-42
Adult, community and other education	0.4	1.3	-26
Hospitals	1.2	0.8	71
Medical and other health care services	1.3	1.3	92
Residential care services	1.1	1.8	-102
Social assistance services	1.3	1.3	59
Sports and recreation activities	3.5	1.1	-8
Repair and maintenance	1.9	1.1	-69
Personal and other services	2.1	1.2	13

Source: Derived from analysis contained Table B.1 in Appendix B.

Note: Because of rounding to the first decimal place, some quotients of 1.0 are not highlighted. This is because they have been rounded up.

For the purposes of this analysis, location quotients have been used to assess the concentration of industry sectors in Redland City relative to SEQ and QLD. Location quotients for Redland City have been derived at the local government area (LGA) level.

Table 3.11 summaries the location quotients for those key industry sectors and sub-sectors identified within Redland City with a location quotient greater than one.

Table 3.11: Location Quotient Analysis, Key Industry Sectors, Redland City, 2011 Census

Redland City Industry Sector / Sub Sector	Location Quotient	
	Relative to SEQ	Relative to QLD
Agriculture, forestry and fishing	1.0	0.3
Aquaculture	2.0	1.0
Fishing, hunting and trapping	3.4	1.2
Manufacturing	1.0	1.0
Manufacturing, nfd	1.3	1.4
Food product manufacturing	1.7	1.6
Beverage and tobacco product manufacturing	1.7	2.0
Textile, leather, clothing and footwear manufacturing	1.1	1.4
Wood product manufacturing	1.1	1.0
Pulp, paper and converted paper product manufacturing	0.7	1.0
Machinery and equipment manufacturing	1.1	1.2
Construction	1.2	0.9
Construction, nfd	1.1	0.8
Building construction	1.1	0.9
Construction services	1.5	1.1
Retail trade	1.4	1.5
Retail trade, nfd	1.4	1.3
Motor vehicle and motor vehicle parts retailing	1.1	1.1
Fuel retailing	1.5	1.2
Food retailing	1.7	1.7
Other store-based retailing	1.3	1.4
Non-store retailing and retail commission-based buying and/or selling	1.3	1.5
Accommodation and food services	1.1	1.1
Food and beverage services	1.3	1.4
Rental, hiring and real estate services	1.0	1.1
Property operators and real estate services	1.0	1.3
Administrative and support services	1.1	1.0
Building cleaning, pest control and other support services	1.8	1.3
Education and training	1.2	1.3
Preschool and school education	1.6	1.6
Adult, community and other education	1.2	1.3
Health care and social assistance	1.1	1.2
Medical and other health care services	1.2	1.3
Residential care services	1.7	1.8
Social assistance services	1.3	1.3
Other services	1.2	1.2
Repair and maintenance	1.3	1.1
Personal and other services	1.1	1.2

Note: nfd - not further defined

Source: ABS (2011) Census of Population and Housing

Other industry sub-sectors of significance⁸ that achieved a location quotient greater than one within Redland City include:

- Food product manufacturing;
- Construction services;
- Food retailing;
- Other store-based retailing;
- Food and beverage services;
- Preschool and school education;
- Medical and other health care services;
- Residential care services;
- Social assistance services;
- Repair and maintenance; and
- Personal and other services.

A detailed overview of location quotients for each industry and sub-sector for Redland City relative to SEQ and QLD at the two digit ANZSIC level is provided in Table B.2 in Appendix B.

Value Measures

There were eleven industry sectors which met the regional export and value growth criteria in Redland City, these being:

- Agriculture;
- Food product manufacturing;
- Beverage and tobacco product manufacturing;
- Printing (including the reproduction of recorded media);
- Basic chemical and chemical product manufacturing;
- Primary metal and metal product manufacturing;
- Other store-based retailing;
- Accommodation;
- Finance;
- Rental and hiring services (except real estate); and
- Professional, scientific and technical services (except computer systems design and related services).

⁸ For the purposes of this analysis, industry sub-sectors which accounted for at least 2% of total employment and recorded a location quotient greater than one relative to both SEQ and QLD have been identified as being significant

Seven of the eleven industry sectors identified in the regional export and value growth assessment achieved an affirmative result across at least one employment measure.

Table 3.12 below summarises the sectors which achieved an affirmative result for the regional export and value growth assessment.

Table 3.12: Regional Export and Value Growth Assessment, Key Industry Sectors, Redland City

Industry	% of Export Value, 2014-15	Ave. Ann. Growth, 2009-10 to 2014-15	Affirmative Result Across at Least One Employment Measure
Agriculture	1.8%	0.4%	✓
Food product manufacturing	25.2%	4.9%	✓
Beverage and tobacco product manufacturing	5.8%	23.6%	✓
Printing (including the reproduction of recorded media)	4.3%	92.5%	✓
Basic chemical and chemical product manufacturing	1.9%	9.5%	x
Primary metal and metal product manufacturing	4.5%	0.8%	x
Other store-based retailing	1.0%	0.5%	✓
Accommodation	2.9%	6.5%	x
Finance	2.5%	3.3%	✓
Rental and hiring services (except real estate)	5.5%	2.4%	x
Professional, scientific and technical services (except computer system design and related services)	1.8%	36.1%	✓

3.5.3 Industry Sectors of Regional and Competitive Significance

This section identifies those industry sectors of regional and competitive significance within the Redland City based on the above analysis of the regional measures.

Table 3.13 summarises the regionally significant and competitive industry sectors alongside the industry subsectors identified for Redland City. The industry sectors are informative rather than definitive and provide an overview of the potential industry sectors to be further examined. For the purposes of this analysis only industry sectors relating to industrial and commercial office uses have been identified (as these are the types of uses that are likely to be found within in mixed industry business area such as the Thornlands IEA). Other industry sectors such as retail have been excluded from this analysis as such uses would not require industrial land. However, small retail uses may be found within industrial and business precincts as ancillary uses for workers of the precinct. Not all of the industry sectors identified would be accommodated within the Thornlands IEA (e.g. non-metallic mineral mining and quarrying).

Table 3.13: Regionally significant and competitive industries, Redland City

Industry	Identified Sectors
Mining	<ul style="list-style-type: none"> • Non-metallic mineral mining and quarrying
Manufacturing	<ul style="list-style-type: none"> • Manufacturing, nfd • Food product manufacturing • Beverage and tobacco product manufacturing • Textile, leather, clothing and footwear manufacturing • Wood product manufacturing • Pulp, paper and converted paper product manufacturing • Printing (including the reproduction of recorded media) • Machinery and equipment manufacturing
Electricity, gas, water and waste services	<ul style="list-style-type: none"> • Electricity, gas, water and waste services, nfd • Waste collection, treatment and disposal services
Construction	<ul style="list-style-type: none"> • Construction services
Wholesale trade	<ul style="list-style-type: none"> • Basic material wholesaling • Other goods wholesaling
Transport, postal and warehousing	<ul style="list-style-type: none"> • Transport, postal and warehousing, nfd • Water transport • Postal and courier pick-up and delivery services
Information media and telecommunications	<ul style="list-style-type: none"> • Information media and telecommunications, nfd • Publishing (except internet and music publishing) • Motion picture and sound recording activities • Telecommunications services
Financial and insurance services	<ul style="list-style-type: none"> • Finance • Auxiliary finance and insurance services
Rental, hiring and real estate services	<ul style="list-style-type: none"> • Property operators and real estate services
Professional, scientific and technical services	<ul style="list-style-type: none"> • Professional, scientific and technical services (except computer system design and related services)
Administrative and support services	<ul style="list-style-type: none"> • Administrative services • Building cleaning, pest control and other support services
Other services	<ul style="list-style-type: none"> • Repair and maintenance • Personal and other services

Note: nfd - not further defined

Source: Economic Associates Analysis

4 ENTERPRISE AND BUSINESS LAND SUPPLY IN REDLAND CITY

This chapter of the report provides an overview of the existing industrial and MIBA precincts within Redland City, based on a site inventory undertaken by Economic Associates in April 2016. The inventory includes details on the mix of activity and quantum of size of vacant land parcels contained within each industrial / MIBA precinct in Redland City.

The purpose of the supply analysis is to identify the remaining land within Redland City to accommodate enterprise and business uses such as those envisaged within the Thornlands IEA. The assessment considers vacant land within industrial, mixed use and centres zoned land⁹, redevelopment sites and brownfield sites in Redland City which represent alternatives to the Thornlands IEA.

4.1 Industrial and MIBA Precincts in Redland City

An examination of existing business activity within Redland City was undertaken by Economic Associates in April 2016, which entailed the following:

- Vacant land supply analysis: quantification of the available supply of vacant industrial (low and medium impact industry) and mixed use zoned land within Redland City, based on land zonings under the draft Redland City Plan 2015; and
- Tenant composition: inventory of businesses within existing industrial (low and medium impact industry) and mixed use areas within Redland City to identify the composition of tenants by industry sector.

For the purposes of this analysis, the industrial and mixed use areas examined are defined as follows:

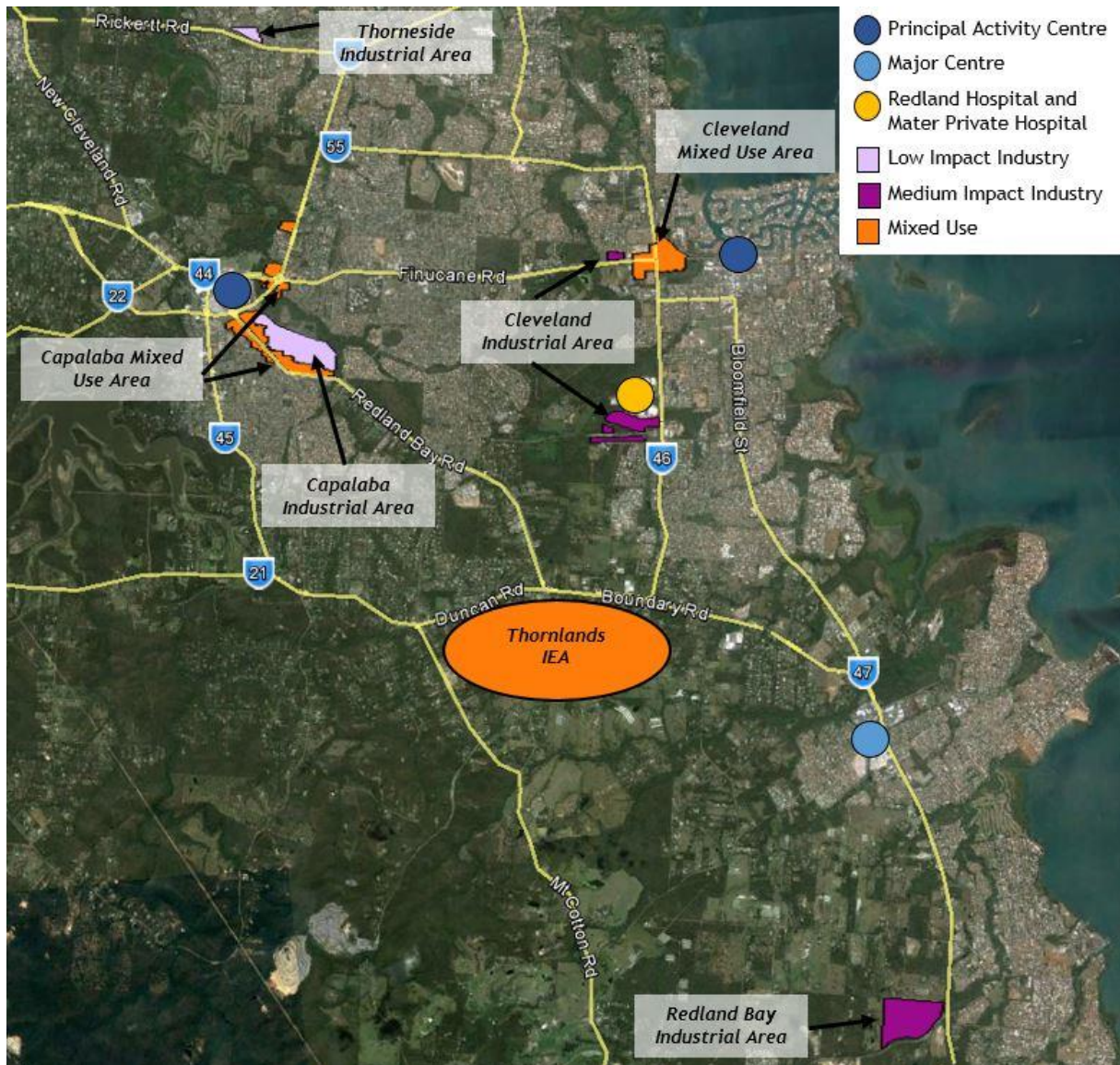
- **Cleveland Mixed Use Area (Cleveland MIBA):** mixed use zoned land concentrated along Shore Street extending west to Delancey Street, north to Trade Street, east towards Gordon Street and south to Grant Street;
- **Capalaba Mixed Use Area (Capalaba MIBA):** mixed use zoned land concentrated along Redland Bay Road extending northwest to Moreton Bay Road and southeast to Neumann Road. Mixed use zoned land concentrated around the intersection of Finucane Road and Moreton Bay Road, as well as mixed use zoned land along Jones Road;
- **Cleveland Industrial Area:** medium impact industrial zoned land concentrated along Enterprise Street immediately south of the Cleveland Hospital;
- **Capalaba Industrial Area:** low impact industrial zoned land located north of Hook Street, Smith Street and Merritt Street immediately adjoining the Capalaba mixed use area;
- **Thornside Industrial Area:** low impact industrial zoned land concentrated along Railway Parade; and

⁹ The analysis of vacant centres zoned land has been limited to the Capalaba and Cleveland PRACs as it is envisaged that only larger scale commercial office activity would locate within the Thornlands IEA.

- **Redland Bay Industrial Area:** medium impact industrial zoned land within the Redland Business Park as well as low impact industrial zoned land located along German Church Road.

The following sections summarises the findings of the vacant land supply and tenant composition investigations undertaken.

Figure 4.1: Geographic Location of Industrial and MIBA Precincts in Redland City



4.1.1 Tenancy Mix

A tenant inventory was undertaken by Economic Associates in April 2016 to obtain an understanding of the current mix of industrial activity within industrial areas within Redland City. Under the draft Redland City Plan 2015, the mixed use zones are also capable of including industrial uses (where appropriate). The use/activity was noted and classified based on the standardised industry ANZSIC classifications at the two digit level.

The tenant composition of each mixed use and industrial area identified above is detailed in Table 4.1.

Cleveland MIBA

The Cleveland MIBA comprises a mix of retail uses on the northern side of Shore Street with industrial units generally located to the south of Shore Street. Within the Cleveland mixed use area is predominantly characterised by repair and maintenance business (29.1%), other store based retailing (21.4%), food retailing (13.7%) and motor vehicle and motor vehicle parts retailing (12.0%). Retail uses include Harvey Norman, fast food outlets, gym, bakery etc.

Upon inspection, a total of eight vacancies were identified within the Cleveland MIBA, which generally comprise retail vacancies.

Capalaba MIBA

The Capalaba MIBA is largely characterised by large format retail showrooms such as Fantastic Furniture, Super Amart, Freedom Furniture, Snooze, Forty Winks, Supercheap Auto, Repco, BCF etc. A number of smaller retail tenants can also be found within the Capalaba MIBA. Consequently, other store-based retailing (36.5%) accounted for the largest proportion of businesses identified within the Capalaba MIBA. Other key industry sectors identified within the Capalaba mixed use area included repair and maintenance (19.2%), food retailing (7.5%) and motor vehicle and motor vehicle parts retailing (6.7%).

Five vacant premises were identified within the Capalaba MIBA with largest vacancy noted within the Capalaba Home Centre comprising ~700 sqm.

Cleveland Industrial Area

A total of 40 businesses were identified within the Cleveland industrial area characterised by businesses within the repair and maintenance (20.0%), other store-based retailing (20.0%), manufacturing (15.0%, which includes wood product, primary metal and metal product, pulp, paper and converted paper product manufacturing) industry sectors.

A total of 11 vacant premises were identified within the Cleveland industrial area ranging in size from ~200 sqm to ~7,500 sqm.

Capalaba Industrial Area

The Capalaba industrial area comprises the largest concentration of industrial activity within Redland City with a total of 359 businesses identified. Repair and maintenance accounted for the highest proportion of businesses within the Capalaba industrial area (38.2%), followed by professional, scientific and technical services (15.0%), construction services (11.1%), and other store based retailing (6.1%). Repair and maintenance services are generally characterised by automotive and marine repairs such as mechanics, panel beaters, air conditioning etc.

In addition, 54 vacant premises were identified (the largest concentration of vacant premises within the industrial and mixed use areas examined) within the Capalaba industrial area particularly along Smith Street and Neumann Road. Vacant premises identified generally ranged in size from ~100 sqm to ~1,000sqm.

Thorneside Industrial Area

A total of 29 businesses were identified within the Thorneside industrial area characterised by repair and maintenance (24.1%), motor vehicle and vehicle parts retailing (10.3%), construction services (6.9%) and fabricated metal manufacturing. The Thorneside industrial area is generally characterised by small industrial tenants.

Upon inspection, no vacant premises were identified.

Redland Bay Industrial Area

The main concentration of business activity within the Redland Bay industrial area is within the Redland Business Park. Construction services (27.0%), other store based retailing (16.2%) and repair and maintenance (10.8%) were the main industry sectors identified within the Redland Bay industrial area.

Upon inspection, no vacant premises were identified.

Redland City Mixed Use and Industrial Summary

Overall, repair and maintenance (28.6%) accounted for the largest proportion of businesses identified within the mixed use and industrial areas of Redland City followed by other store-based retailing (18.5%), professional, scientific and technical services (7.9%) and construction services (6.9%). A total of 78 vacant premises were identified within the mixed use and industrial areas examined, with the majority of vacant premises located within the Capalaba industrial area.

The existing mixed use areas within Redland City (located at Cleveland and Capalaba) are retail centric with industrial uses being secondary.

Table 4.1 summarises the tenancy composition of each of the identified mixed use and industrial areas by industry sector (based on ANZSIC classifications at the two digit level).

Table 4.1: Redland City Industrial and Mixed Use Area Tenancy Composition, April 2016

Industry Sector	Cleveland MIBA		Capalaba MIBA		Cleveland Industrial		Capalaba Industrial		Thorneside Industrial		Redland Bay Industrial		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture, Forestry and Fishing Support Services	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	1	0.1%
Food Product Mfg	0	0.0%	1	0.4%	1	2.5%	4	1.1%	0	0.0%	2	5.4%	8	1.0%
Beverage & Tobacco Product Mfg	1	0.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.1%
Textile, Leather, Clothing & Footwear Mfg	1	0.9%	3	1.2%	2	5.0%	2	0.6%	0	0.0%	0	0.0%	8	1.0%
Wood Product Manufacturing	1	0.9%	1	0.4%	2	5.0%	1	0.3%	1	3.4%	1	2.7%	7	0.8%
Pulp, Paper and Converted Paper Product Mfg	0	0.0%	0	0.0%	0	0.0%	2	0.6%	0	0.0%	0	0.0%	2	0.2%
Printing (including the Reproduction of Recorded Media)	0	0.0%	2	0.8%	0	0.0%	7	1.9%	0	0.0%	0	0.0%	9	1.1%
Petroleum and Coal Product Mfg	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	1	0.1%
Basic Chemical and Chemical Product Mfg	0	0.0%	1	0.4%	0	0.0%	4	1.1%	0	0.0%	0	0.0%	5	0.6%
Polymer Product and Rubber Product Mfg	0	0.0%	0	0.0%	0	0.0%	2	0.6%	0	0.0%	0	0.0%	2	0.2%
Non-Metallic Mineral Product Mfg	0	0.0%	0	0.0%	1	2.5%	2	0.6%	0	0.0%	0	0.0%	3	0.4%
Primary Metal and Metal Product Mfg	0	0.0%	0	0.0%	2	5.0%	2	0.6%	0	0.0%	0	0.0%	4	0.5%
Fabricated Metal Product Mfg	1	0.9%	5	2.0%	1	2.5%	8	2.2%	2	6.9%	0	0.0%	17	2.0%
Transport Equipment Mfg	0	0.0%	0	0.0%	0	0.0%	6	1.7%	0	0.0%	0	0.0%	6	0.7%
Machinery and Equipment Mfg	0	0.0%	0	0.0%	2	5.0%	3	0.8%	1	3.4%	2	5.4%	8	1.0%
Furniture and Other Mfg	1	0.9%	2	0.8%	0	0.0%	5	1.4%	1	3.4%	0	0.0%	9	1.1%
Electricity Supply	0	0.0%	0	0.0%	1	2.5%	1	0.3%	0	0.0%	0	0.0%	2	0.2%
Waste Collection, Treatment and Disposal Services	0	0.0%	3	1.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.4%
Building Construction	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.4%	0	0.0%	1	0.1%
Heavy and Civil Engineering Construction	0	0.0%	2	0.8%	1	2.5%	0	0.0%	1	3.4%	1	2.7%	5	0.6%
Construction Services	0	0.0%	4	1.6%	2	5.0%	40	11.1%	2	6.9%	10	27.0%	58	6.9%
Basic Material Wholesaling	0	0.0%	0	0.0%	0	0.0%	3	0.8%	0	0.0%	0	0.0%	3	0.4%
Machinery and Equipment Wholesaling	1	0.9%	0	0.0%	0	0.0%	5	1.4%	0	0.0%	2	5.4%	8	1.0%
Motor Vehicle and Motor Vehicle Parts Wholesaling	0	0.0%	1	0.4%	0	0.0%	1	0.3%	1	3.4%	0	0.0%	3	0.4%
Grocery, Liquor and Tobacco Product Wholesaling	0	0.0%	1	0.4%	0	0.0%	1	0.3%	0	0.0%	0	0.0%	2	0.2%
Other Goods Wholesaling	0	0.0%	0	0.0%	0	0.0%	5	1.4%	0	0.0%	0	0.0%	5	0.6%
Commission-Based Wholesaling	0	0.0%	0	0.0%	0	0.0%	3	0.8%	0	0.0%	0	0.0%	3	0.4%
Motor Vehicle and Motor Vehicle Parts Retailing	14	12.0%	17	6.7%	0	0.0%	3	0.8%	3	10.3%	0	0.0%	37	4.4%
Fuel Retailing	1	0.9%	2	0.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.4%
Food Retailing	16	13.7%	19	7.5%	1	2.5%	6	1.7%	0	0.0%	1	2.7%	43	5.1%
Other Store-Based Retailing	25	21.4%	93	36.5%	8	20.0%	22	6.1%	1	3.4%	6	16.2%	155	18.5%
Food and Beverage Services	1	0.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.1%
Road Transport	0	0.0%	0	0.0%	0	0.0%	1	0.3%	0	0.0%	0	0.0%	1	0.1%
Transport Support Services	0	0.0%	1	0.4%	0	0.0%	2	0.6%	1	3.4%	1	2.7%	5	0.6%
Warehousing and Storage Services	0	0.0%	3	1.2%	2	5.0%	6	1.7%	1	3.4%	1	2.7%	13	1.6%
Telecommunications Services	0	0.0%	0	0.0%	0	0.0%	1	0.3%	0	0.0%	0	0.0%	1	0.1%
Finance	0	0.0%	3	1.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.4%
Auxiliary Finance and Insurance Services	0	0.0%	0	0.0%	0	0.0%	2	0.6%	0	0.0%	0	0.0%	2	0.2%

Industry Sector	Cleveland MIBA		Capalaba MIBA		Cleveland Industrial		Capalaba Industrial		Thorneside Industrial		Redland Bay Industrial		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Rental and Hiring Services (except Real Estate)	2	1.7%	5	2.0%	1	2.5%	1	0.3%	1	3.4%	0	0.0%	10	1.2%
Property Operators and Real Estate Services	2	1.7%	2	0.8%	0	0.0%	1	0.3%	0	0.0%	0	0.0%	5	0.6%
Professional, Scientific and Technical Services	0	0.0%	9	3.5%	1	2.5%	54	15.0%	1	3.4%	1	2.7%	66	7.9%
Computer System Design and Related Services	1	0.9%	2	0.8%	0	0.0%	0	0.0%	2	6.9%	0	0.0%	5	0.6%
Administration Services	0	0.0%	0	0.0%	0	0.0%	1	0.3%	0	0.0%	0	0.0%	1	0.1%
Building Cleaning, Pest Control & Other Support Services	0	0.0%	2	0.8%	0	0.0%	0	0.0%	1	3.4%	1	2.7%	4	0.5%
Adult, Community and Other Education	0	0.0%	1	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.1%
Hospitals	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Medical and Other Health Care Services	4	3.4%	8	3.1%	0	0.0%	2	0.6%	0	0.0%	1	2.7%	15	1.8%
Social Assistance Services	1	0.9%	2	0.8%	1	2.5%	0	0.0%	0	0.0%	0	0.0%	4	0.5%
Creative & Performing Arts Activities	2	1.7%	1	0.4%	0	0.0%	1	0.3%	1	3.4%	0	0.0%	5	0.6%
Sports & Recreation Activities	6	5.1%	9	3.5%	1	2.5%	11	3.1%	0	0.0%	1	2.7%	28	3.3%
Repair & Maintenance	34	29.1%	49	19.2%	8	20.0%	137	38.2%	7	24.1%	4	10.8%	239	28.6%
Personal & Other Services	2	1.7%	1	0.4%	2	5.0%	1	0.3%	0	0.0%	0	0.0%	6	0.7%
Total	117	100.0%	255	100.0%	40	100.0%	359	100.0%	29	100.0%	37	100.0%	837	100.0%
Vacant Premises	8		5		11		54		0		0		78	

Source: Economic Associates Site Inspections April 2016

4.1.2 Vacant Land in MIBA and Industrial Precincts in Redland City

Based on site inspections undertaken by Economic Associates in April 2016, Redland City has an estimated 36.8 hectares of vacant low/medium impact industry (34.8 hectares) and mixed use zoned land (2.0 hectares). The largest quantum of vacant industrial zoned land is located within the Redland Bay Industrial Area, in particular, the Redland Business Park.

Table 4.2 summarises the quantum of vacant industry and mixed use land within Redland City as of April 2016.

Table 4.2: Vacant Industry and Mixed Use Land Supply, Redland City, April 2016

Industrial/Mixed Use Area	Zone			Total
	Low Impact	Medium Impact	Mixed Use	
Cleveland MIBA	-	-	0.4	0.4
Capalaba MIBA	-	-	1.6	1.6
Cleveland Industrial Area	-	0.5	-	0.5
Capalaba Industrial Area	-	1.4	-	1.4
Thorneside Industrial Area	-	2.3	-	2.3
Redland Bay Industrial Area	4.3	26.2	-	30.5
Total	4.3	30.6	2.0	36.8

Note: Zonings based on the draft Redland City Plan 2015
Source: Economic Associates Site Inspections April 2016

Cleveland MIBA

A single vacant lot was identified within the Cleveland MIBA comprising a total of 0.4ha. The vacant lot is located to the rear of a substation with access via Gordon Road.

Table 4.3 details the property description of the vacant lot identified within the Cleveland MIBA.

Table 4.3: Vacant Land Property Details, Cleveland MIBA, April 2016

Property Description	Hectares
63/C627	0.4
Total	0.4

Source: Economic Associates Site Inspections, April 2016

Capalaba Mixed Use Area

A total of seven vacant lots were identified within the Capalaba MIBA, totalling 1.6ha. The identified vacant lots are located north of the intersection of Old Cleveland Road and Finucane Road with lot sizes ranging from 0.1ha to 0.5ha.

Table 4.4 details the property description of the vacant lots identified within the Capalaba MIBA.

Table 4.4: Vacant Land Property Details, Capalaba MIBA, April 2016

Property Description	Hectares
13/RP70826	0.1
14/RP70826	0.1
15/RP70826	0.1
16/RP70826	0.5
3/RP143285	0.3
1/RP126378	0.1
17/RP70826	0.4
Total	1.6

Source: Economic Associates Site Inspections, April 2016

Cleveland Industrial Area

Three vacant industrial lots were identified within the Cleveland industrial area totalling 0.5ha, with the largest lot comprising 0.3ha. Lot sizes ranged from 0.1ha to 0.3ha. The identified lots are located along Enterprise Street south of the Cleveland hospital.

Table 4.5 reports the property description of each of the identified vacant lots within the Cleveland industrial area.

Table 4.5: Vacant Land Property Details, Cleveland Industrial Area, April 2016

Property Description	Hectares
7/SL10939	0.1
2/SL10939	0.1
10/SL12784	0.3
Total	0.5

Source: Economic Associates Site Inspections, April 2016

Capalaba Industrial Area

A total of 1.4ha of vacant land was identified within the Capalaba industrial area located along Hook Street and Redland Bay Road. A total of five lots were noted with lot sizes ranging from 0.1ha to 0.4ha.

Table 4.6 details the property description of the vacant lots identified within the Capalaba industrial area.

Table 4.6: Vacant Land Property Details, Capalaba Industrial Area, April 2016

Property Description	Hectares
2/SP171380	0.1
1/SP171380	0.2
9/RP92441	0.4
8/RP92441	0.4
18/SP171386	0.2
Total	1.4

Source: Economic Associates Site Inspections, April 2016

Thorneside Industrial Area

Four vacant lots were identified within the Thorneside industrial area totalling 2.4 hectares, with lot sizes ranging from 0.1ha to 2.4ha. The vacant lots are identified are north of Railway Parade and west of Mondo Street.

Table 4.7 reports the property description of the identified vacant lots within the Thorneside industrial area.

Table 4.7: Vacant Land Property Details, Thorneside Industrial Area, April 2016

Property Description	Hectares
27/RP92563	0.1
28/RP92563	0.1
30/RP92563	0.1
31/RP92563	2.1
Total	2.4

Source: Economic Associates Site Inspections, April 2016

Redland Bay Industrial Area

A total of 30.5 hectares of vacant industrial zoned land was identified within the Redland Bay industrial area comprising a total of 20 lots. The largest number of vacant lots identified are located within the existing Redland Business Park (17 lots totalling 26.2ha) with lots sizes ranging from 0.1ha to 0.8ha. A large vacant lot (21.3ha) was identified adjoining the Redland Business Park to the west, which is earmarked for stages 3 and 4 of the Redland Business Park.

Table 4.8 details the property description of vacant industrial lots identified within Redland Bay.

Table 4.8: Vacant Land Property Details, Redland Bay Industrial Area, April 2016

Property Description	Hectares
3/SP210923	0.8
4/SP210923	0.4
8/SP210923	0.2
11/SP219023	0.2
12/SP210923	0.3
13/SP210923	0.2
17/SP210923	0.5
18/SP210923	0.4
23/SP210923	0.1
24/SP210923	0.3
26/SP210923	0.2
27/SP210923	0.2
29/SP210923	0.3
35/SP201923	0.4
38/SP210923	0.3
39/SP210923	0.4
900/SP210923	21.3
10/SP213906	0.6
11/SP213906	0.4
2/SP147566	3.3
Total	30.5

Source: Economic Associates Site Inspections, April 2016

4.2 Other Sites to Accommodate Future Enterprise and Business Activity in Redland City

The Thornlands IEA is envisaged to accommodate both industrial and commercial office uses. In order to appropriately consider alternative locations for future industrial and commercial office activity in Redland City, the analysis has also considered vacant centres land, redevelopment sites suited to industrial and commercial office activity and brownfield sites.

A discussion of the suitability of brownfield sites for enterprise and business activity has also been undertaken to assess the merits of each site relative to the Thornlands IEA.

4.2.1 Vacant Centres Land

In considering vacant centres land, the analysis has limited its scope to the Capalaba and Cleveland major centres. As of May 2016, there were no entirely vacant land parcels identified within either centre, consistent with the findings of the Redland City Large Format Retail Demand and Supply Analysis (SGS Economics and Planning, 2012).

4.2.2 Redevelopment Opportunities

The former Fisher & Paykel site, located at 2-14 Weippin Street, Cleveland, represents the major redevelopment opportunity within Redland City. This 9.78 hectare site was previously utilised for the manufacture of Fisher & Paykel whitegoods until April 2009, when Fisher & Paykel ceased the manufacture of whitegoods locally to save on manufacturing costs.

The site is located within the Cleveland Industrial Area, to the south of the Redland Hospital / Mater Private Hospital.

In order to accommodate future growth within commercial office sectors, it is intended that significant centre redevelopment and consolidation will be required within both the Capalaba and Cleveland PRACs (as concluded within the Redland City Centres and Employment Strategy Review 2013 (Urbis)).

4.2.3 Brownfield Sites

The Redland City Centres & Employment Strategy Review (Urbis, 2013) identified two potential sites for an employment lands precinct other than the Thornlands IEA, these being:

- 380-416 Old Cleveland Road, Birkdale (39.06 hectares); and
- 340-378 Old Cleveland Road, Birkdale (61.78 hectares).

Ownership records identify that these lots are both owned by the Federal Government, with the sites used by Air Services Australia to guide aircraft into Brisbane airport (380-416 Old Cleveland Road, Birkdale) and by the Australian Communications and Media Authority to monitor broadband spectrum use (340-378 Old Cleveland Road, Birkdale). The Redland City Bulletin reported in early 2015 that both allotments were likely to be sold, although sales records indicate this is yet to occur¹⁰.

¹⁰ Refer to: <http://www.redlandcitybulletin.com.au/story/2826339/university-proposed-for-birkdale-land/> (January 19, 2015 article)

Connectivity to SEQ Strategic Freight Network

An assessment of relative connectivity indicates that the above brownfield sites offer similar connectivity to the Gateway Motorway and the Acacia Ridge Rail Terminal as the Thornlands IEA, as outlined in Table 4.9 below.

Table 4.9: Connectivity of Thornlands IEA and Brownfield Sites

Site	Distance and Travel Times	
	Gateway Motorway	Acacia Ridge Rail Terminal
Thornlands IEA	13 kilometres / 11 minutes (Mt Gravatt-Capalaba Road onramp)	23 kilometres / 26 minutes
380-416 Old Cleveland Road, Birkdale	9 kilometres / 10 minutes (Old Cleveland Road onramp)	25 kilometres / 25 minutes
340-378 Old Cleveland Road, Birkdale	9 kilometres / 10 minutes (Old Cleveland Road onramp)	25 kilometres / 25 minutes

Source: Whereis

The Thornlands IEA is slightly further away from connections to the Gateway Motorway and the Acacia Ridge Rail Terminal than both Birkdale sites. However, the Birkdale sites connect to the Gateway Motorway through travelling along Old Cleveland Road, which is considered one of the major commuter corridors in Redland City. The establishment of an enterprise area/MIBA within Birkdale may restrict the mix of activity which would ultimately locate at these sites, due to the perceived conflict between heavy vehicle and commuter traffic.

The Thornlands IEA site, on the other hand, relies on connectivity to the Gateway Motorway via Mt Gravatt-Capalaba Road, which represents an extension of the Brisbane Urban Corridor and already carries a number of heavy vehicle movements.

Travel from the Birkdale sites to the Gateway Motorway involves passing through the Capalaba PRAC. It is considered undesirable to have heavy vehicle movements through a major centre if it can be avoided. Travel from the Thornlands IEA to the Gateway Motorway, on the other hand, does not involve passing through a major centre, making it a more desirable location for industrial activity than the Birkdale sites.

This would suggest that the Thornlands IEA would represent a more appropriate alternative to the Birkdale sites, in terms of connectivity and road freight movements.

Other Infrastructure Considerations

The provision of infrastructure in terms of trunk water, sewer connectivity, ICT infrastructure and gas is also very similar between the three sites, with the major difference being existing trunk water and sewer connectivity at the Birkdale brownfield sites.

However, it is our understanding that trunk water connectivity for the Thornlands IEA is planned for completion in 2018 and that sewer connectivity would be achievable, should the Thornlands IEA ultimately be developed.

There are no plans to roll out NBN infrastructure in Redland City north of Finucane Road in the short term¹¹, whereas it is understood that construction works have commenced immediately to

¹¹ Both Birkdale sites are located north of Finucane Road

the south of the Thornlands IEA site (immediately south of Eprapah Creek). It is anticipated that development of the Thornlands IEA has the potential to bring forward the provision of NBN infrastructure whereas the same cannot be said for the two brownfield sites identified in Birkdale.

Table 4.10 below summarises the availability of various infrastructure within the Thornlands IEA and other brownfield sites.

Table 4.10: Infrastructure Considerations, Thornlands IEA and Other Brownfield Sites

	Thornlands IEA	380-416 Old Cleveland Road, Birkdale	340-378 Old Cleveland Road, Birkdale
Trunk water	✓	✓	✓
Sewer connectivity	x	✓	✓
4G mobile network	✓	✓	✓
NBN	x	x	x
Natural gas main	x	x	x

Note: Trunk water connectivity for the Thornlands IEA is planned for completion in 2018

Overall, it would appear that the Thornlands IEA would offer similar characteristics, in terms of connectivity, water, sewer, ICT and gas infrastructure to both of the Birkdale sites identified by Urbis (2013).

On balance, it would appear that the Thornlands IEA would represent a more desirable location to locate an enterprise and business precinct than Birkdale.

5 SELECTED COMPETITOR MIBA PRECINCTS

This chapter provides a description of a number of established MIBA precincts within proximity to Redland City that would be considered competitive locations to the proposed Thornlands IEA, including details on the mix of activity and vacant land parcels within each precinct.

Numerous mixed industry business areas (MIBA) or integrated employment areas (IEA) have been developed throughout Brisbane and the broader SEQ region. Such precincts provide a broader range of uses (including commercial office, sport and recreation, etc.) compared to more traditional industrial estates which have a predominantly industrial focus. The evolution of MIBA or IEA has allowed the inclusion of non-industrial uses to co-locate with industrial uses to create a dedicated employment node. Such uses may include commercial office, service industry uses (i.e. repair and maintenance uses), retail (generally food retailing catering to workers), sport and recreation (e.g. indoor sports centres, dance studios, gymnasiums etc.) etc. The creation of mixed business and industrial precincts allow industrial businesses to locate their commercial requirements with their industrial requirements. Whilst the development of MIBA or IEA has seen the introduction of a mix of uses, industrial uses have remained the core focus of the precinct.

Within Redland City, there are two designated mixed use areas in Cleveland and Capalaba, with both areas largely dominated by retail uses (particularly large format retail showrooms) as discussed in section 4.1. These areas also include a mix of industrial uses (mostly repair and maintenance uses), commercial office (generally small commercial offices attached to industrial units), recreation uses (including gymnasium, dance studios etc.), and places of worship (e.g. churches). Beyond these areas, the Principal (Cleveland and Capalaba) and Major (Victoria Point) Activity Centres also cater for a mix of non-industrial uses including commercial office, retail, recreation and entertainment uses and should continue to be the main locations for such uses. The Cleveland and Capalaba Principal Activity Centres should accommodate the main concentration of commercial office space within Redland City.

The Thornlands IEA is anticipated to accommodate a range of low impact industrial tenancies, typically on allotments less than two hectares in size. The Thornlands IEA is located off Mt Cotton Road/Duncan Road/Boundary Road, which represents an extension of the Brisbane Urban Corridor past the Gateway Motorway. Businesses that would consider locating within the Thornlands IEA are also likely to consider tenancies within the eastern Brisbane / northern Logan corridor, with proximate access to the Gateway Motorway corridor.

Therefore, in identifying MIBA precincts that would be considered competitive locations to the proposed Thornlands IEA, the following criteria were considered:

- Location either within Redland City, eastern Brisbane or northern Logan;
- Proximity to Gateway Motorway;
- Established precinct MIBA precincts within Redland City, eastern Brisbane or northern Logan (i.e. the assessment did not consider new MIBA precincts such as BTP Northshore Hamilton or BTP Westlink Green¹²);

¹² The new BTP developments are unlikely to be considered as directly competitive to the Thornlands IEA as BTP Westlink Green benefits from connectivity to the Ipswich Motorway corridor as opposed to the Gateway Motorway

- Mix of industrial and commercial office activity (i.e. the assessment did not consider precincts accommodating medium and high impact industry uses or predominantly occupied by industrial tenants such as Yatala); and
- High quality built form.

Based on the above listed criteria, the following MIBAs were considered to be competitive locations to the proposed Thornlands IEA:

- Southgate Corporate Park;
- Metroplex on Gateway;
- Brisbane Technology Park;
- Trade Coast Central; and
- Queensport Industrial Area.

There is limited scope to establish new precincts within eastern Brisbane, with Brisbane LGA approaching build out.

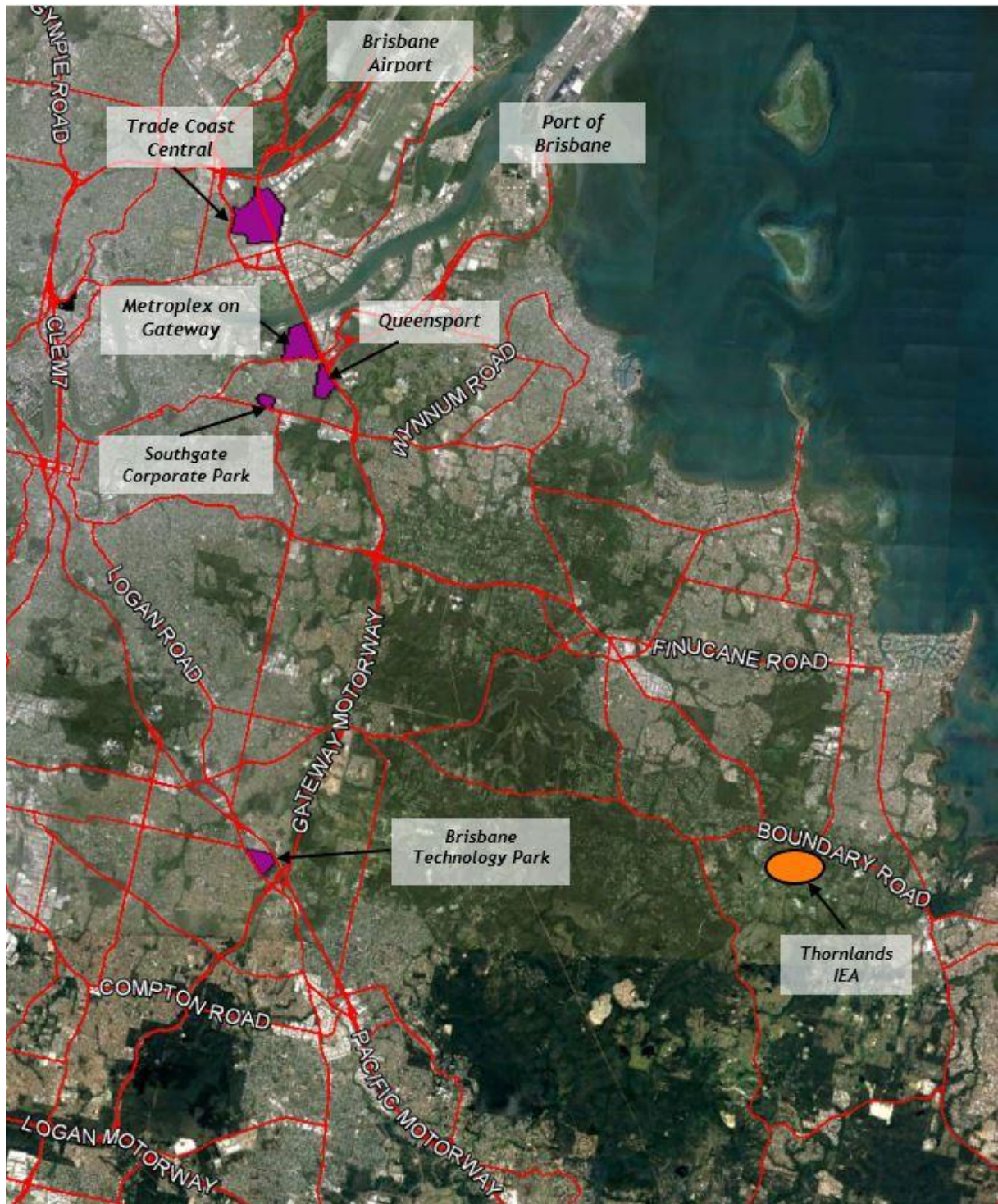
Precincts investigated further represent likely alternative locations for prospective businesses that might consider Thornlands IEA as a viable alternative.

Throughout SEQ there are a number of large greenfield or developing industrial areas within which there is significant available land. However, these areas are typically located outside of the market context within which the Thornlands IEA would operate. For example, the Thornlands IEA would be unlikely to accommodate medium to high impact industry by virtue of its location and likely issues with community acceptance. Many of the large greenfield industrial areas are intended for medium to high impact industry and/or are located along different freight corridors. Locations such as Yatala would not be alternatives to the Thornlands IEA, given its heavy industry focus and it being removed from the Gateway Motorway corridor.

Figure 5.1 below summarises the geographic location of the Thornlands IEA relative to MIBA locations considered to be competitive to the proposed Thornlands IEA.

corridor and BTP Northshore Hamilton is considered to be part of the northern Brisbane market, as opposed to the eastern Brisbane/northern Logan market.

Figure 5.1: Geographic Location of Competitor MIBA Precincts



5.1 Southgate Corporate Park

Southgate Corporate Park is a mixed use development concentrated around Southgate Avenue and Corporate Drive in Cannon Hill. It incorporates a mix of light industrial warehouse and commercial office uses supported by retail services and facilities including a tavern, fast food and cafes. Southgate Corporate Park is located within walking distance to the Cannon Hill train station and in proximity to the Cannon Hill bus interchange offering easy access for tenants and their employees. In addition, Southgate Corporate Park offers high speed fibre optic connectivity.

Southgate Corporate Park has direct connectivity to Wynnum Road offering easy access to the Gateway Motorway (approximately 2.5 kilometres west of the site). Residential uses are located to the west and south of the site, with the East Village development (comprising a mix of residential, retail and commercial) adjoining the site to the east. The Cannon Hill District Centre (which includes the East Village development, Cannon Hill Kmart Plaza and the Cannon Hill Shopping Centre) is also located within proximity to the Southgate Corporate Park. Major tenants include Canon, Honeywell, Orica, Holden, NAB, Bayer and the National Archives of Australia. Southgate Corporate Park provides a mix of business activity within easy access and proximity to the Gateway Motorway and Brisbane CBD for tenants requiring such connectivity.

5.2 Metroplex on Gateway

Metroplex on Gateway is business and industrial park located approximately 800 metres west of the Gateway Motorway along Metroplex Avenue. Metroplex encompasses a diverse mix of industrial, commercial, retail and health businesses and services including cafes, childcare, gym, doctors etc. A hotel and conference centre is also intended to be developed with the precinct. Major tenants include Toshiba, LG Electronics, Adidas Australia, Johnson and Johnson, Phillips Australia, Kia Automotive Australia etc. Metroplex on Gateway offers high speed fibre optic connectivity.

Metroplex on Gateway is serviced by a private shuttle bus offering free service for estate tenants throughout the day with connectivity to public transport including the Cannon Hill Bus interchange and Murarrie train station. Metroplex provides easy and convenient access to the Gateway Motorway and Port of Brisbane through its direct connectivity with Lytton Road.

5.3 Brisbane Technology Park

Brisbane Technology Park is located approximately fifteen kilometres southeast of the Brisbane CBD in Eight Mile Plains with access via Miles Platting Road and Logan Road. The Brisbane Technology Park has access to the Gateway Motorway (via Miles Platting Road) and the Pacific Motorway (via Logan Road). The Eight Mile Plains is located proximate to the Brisbane Technology Park although this is located on the opposite side of the Pacific Motorway. The Technology Office Park adjoins the Brisbane Technology Park to the north which offers ~ 15,000 square metres of commercial office. Brisbane Technology Park was developed in the mid-1990 as a Queensland Government initiative to support new and existing technology and research companies. In the initial years, the Brisbane Technology Park had some difficulties in tenanting underpinned by the parks focus on catering for innovative technology and research companies.

In 2001 Graystone were appointed as the development manager and tenancing requirements were relaxed to allow more traditional business park operators to also locate within the precinct. The Brisbane Technology Park comprises a mix of businesses including industrial, research and design, commercial office, and cafes etc. Major tenants included Toshiba, Johnson and Johnson, Woolworths Limited and Siemens. An onsite conference centre is also provided within the park. A new 90 serviced apartment hotel (over three levels) is also to be developed within the Brisbane Technology on Logan Road and is to be operated by Quest Apartment Hotels. Brisbane Technology Park offers high speed fibre optic connectivity.

The success of the Brisbane Technology Park has resulted in the development of two additional parks including BTP Westlink Green (located north of the Darra train station) which is to be developed over five stages to include over 20,000 square metres of commercial office, laboratory and technical space, retail and conference amenities. BTP North Shore Hamilton is also being developed as part of a sub-precinct of the overall North Shore Hamilton development. BTP North Shore Hamilton is to include a mix of commercial office, technical, laboratory, retail and storage space with access to the CityCat ferry terminal.

5.4 Trade Coast Central

Trade Coast Central is located on the former Brisbane Airport site adjacent to the Gateway Motorway and approximately 8 kilometres east of the Brisbane CBD. Trade Coast Central offers a diverse range of lots sizes (generally ranging from 1ha to 20ha lots) for industrial tenants as well as commercial office units. Major tenants including Schindler, Sasgar Fire and Rescue, DB Schenker, Oztrail, Harcourts, Rentokil, EB Games, Volgren etc. A childcare centre, café and subway are also provided within the precinct. The TradeCoast Central Heritage Park incorporates three recognised heritage sites and the Heritage Park and Interpretive Centre that is open free to the public along Schneider Road. TradeCoast Central provides good access to the Brisbane Airport and Port of Brisbane through its connectivity with the Gateway Motorway via Kingsford Smith Drive. TradeCoast Central incorporates high speed fibre optic offering business higher capacity internet and telephone services. The internal road network has also been designed to cater for heavy vehicles including B-Double truck access.

5.5 Queensport

The Queensport industrial area is located in Murarrie approximately a kilometre east of Metroplex on Gateway. The industrial area adjoins the Gateway Motorway with connectivity to the Port of Brisbane via Lytton Road. Queensport provides a mix of uses including industrial, commercial offices and retail uses for workers such as cafes and takeaway food. It is understood that the Queensport Industrial Area offers high speed internet connectivity.

5.6 Vacant Land Analysis

Vacant land at the competitor MIBA precincts was identified by a review of aerial photography. There were relatively few vacant land parcels at the competitor MIBA precincts, with no vacant land identified at Brisbane Technology Park or the Queensport industrial area.

Trade Coast Central had the largest quantum of vacant land, but aerial photography highlighted that earthworks were underway on the vacant land parcels, suggesting that these sites are likely to be taken up in the near future.

Table 5.1 below summarises the quantum of vacant land at competitor MIBA precincts to the proposed Thornlands IEA.

Table 5.1: Vacant Land at Competitor MIBA Precincts

MIBA Precinct	MIBA Precinct Size (ha)	Vacant Land (ha)
Southgate Corporate Park	11.9	0.5
Metroplex on Gateway	59.0	3.9
Brisbane Technology Park	24.8	-
Trade Coast Central	116.3	16.5
Queensport	20.0	-

Source: Economic Associates desktop analysis, July 2016

5.7 Characteristics of Relevant SEQ MIBA Precincts and Relevance to Thornlands IEA

The MIBA/IEAs discussed above benefit from a number of key attributes such as:

- Location on or proximity to major arterial roads;
- Proximity and convenient access (within 3km) to the Gateway Motorway connecting the broader national highway network;
- Proximity to the major industrial nodes including the Port of Brisbane and Brisbane Airport;
- Proximity and access to a large residential population base;
- Access and connectivity to public transport; and
- Key anchor tenants of national/international reputation.

All of the comparable MIBA precincts are within three kilometres of the Gateway Motorway, with four of the five precincts also less than 15 kilometres from Brisbane Airport. Fibre optic connectivity is offered at each MIBA precinct, with public transport connections also available at every MIBA precinct.

Table 5.2 below provides a summary of the key attributes of each of the comparable SEQ MIBA precincts.

Table 5.2: Key Attributes of Comparable MIBA Precincts

MIBA Precinct	Proximity to SEQ Freight Network (km)				Fibre Optic Connectivity	Public Transport Connectivity
	Gateway Motorway	Acacia Ridge Rail Terminal	Port of Brisbane	Brisbane Airport		
Southgate Corporate Park	3.0	21.3	17.2	12.9	✓	✓
Metroplex on Gateway	1.3	22.7	14.4	11.1	✓	✓
Brisbane Technology Park	1.0	7.4	27.3	25.5	✓	✓
Trade Coast Central	2.7	21.7	16.9	7.7	✓	✓
Queensport	0.5	23.4	13.6	10.4	✓	✓

The Thornlands IEA is located approximately 13 kilometres east of the Gateway Motorway (via Mount Cotton Road) posing some accessibility and connectivity issues for tenants that may require convenient access to the national highway (such as transport and logistic operators). Compared to other business and industrial areas such as Metroplex on Gateway, Southgate Corporate Park and TradeCoast Central, the Thornlands IEA may be perceived as being a less convenient and desirable location for those businesses requiring easy access to the national highway network. That being said the other precincts would all have significantly higher occupancy costs than the proposed Thornlands IEA¹³ and the majority of these precincts are facing build out as highlighted in Table 4.9 above.

Existing industrial areas within Redland City are generally well established with limited vacant land available (with the exception of Redland Business Park) and are generally characterised by repair and maintenance businesses (e.g. mechanics, panel beaters, air conditioning servicing, etc.). Mixed use areas within Redland City (i.e. Cleveland MIBA and Capalaba MIBA) are generally characterised by non-industrial uses namely large format retail showrooms and are unlikely to accommodate large industrial uses due to insufficient availability of land.

The development of the Thornlands IEA would need to provide a point of difference from other established mixed industry business areas or offer more affordable occupancy costs than those identified above particularly given the area's distance from the Gateway Motorway, which may be perceived as an inconvenience for some businesses. That being said there are limited opportunities for development of new MIBA/IEA precincts within the eastern Brisbane / northern Logan corridor that offer proximate access to the Gateway Motorway¹⁴.

A review of the Industrial Land Development Activity Profile for SEQ (prepared by Queensland Treasury and Trade in December 2011) highlights that vacant industrial land opportunities within SEQ are typically medium to high impact or align with freight corridors other than the Gateway Motorway (e.g. Pacific Motorway, Ipswich Motorway). Hence these opportunities are not considered competitive in nature to the proposed Thornlands IEA and would target different segments of the industrial land market.

Apart from the Thornlands IEA, any new precincts would need to entail redevelopment of existing industrial areas thereby posing significant land assembly and transition challenges. The Thornlands IEA represents the closest to a greenfield opportunity of any new MIBA/IEA in the eastern Brisbane / northern Logan corridor offering proximate access to the Gateway Motorway.

¹³ The competitor MIBA precincts discussed in this report face high occupancy costs due to low vacancy rates, high levels of amenity and infrastructure provision.

¹⁴ Refer to the Industrial Land Development Activity Profile for SEQ, prepared by Queensland Treasury and Trade in December 2011.

6 PROPERTY MARKET ANALYSIS

The purpose of this section of the report is to undertake an analysis of the sales performance of enterprise and business park lands within Redland City and a select number of locationally proximate or similar sites. The analysis has considered the following property market indicators:

- Volume of sales;
- Value of sales;
- Median allotment size; and
- Median sales price per square metre.

In undertaking the MIBA and industrial land property market assessment within Redland City, the following precincts were considered:

- Redlands Business Park;
- Capalaba MIBA;
- Cleveland MIBA;
- Cleveland Industrial Area; and
- Capalaba Industrial Area

Whilst it is recognised that a small amount of industrial zoned land within Redland City exists outside these precincts, the precincts listed above are considered to represent the majority of supply.

The property market analysis for industrial and MIBA precincts within Redland City considered both improved property and vacant land sales.

The following precincts were considered locationally proximate or similar in nature to the proposed Thornlands IEA:

- Trade Coast Central;
- Metroplex on Gateway;
- Queensport;
- Southgate Corporate Park; and
- Brisbane Technology Park.

The rationale outlining the selection of these precincts is detailed in Section 4.2 of the report.

These precincts were considered to determine whether industrial and MIBA property within Redland City offered a competitive advantage in terms of sales price per square metre or allotment sizes. The assessment of comparable precincts considered improved property sales for Metroplex on Gateway, Queensport, Southgate Corporate Park and Brisbane Technology Park. There were insufficient vacant land sales within these precincts over the past ten years to undertake meaningful analysis¹⁵.

¹⁵ There were less than ten vacant land sales recorded in each of the precincts over the past ten years.

In the case of Trade Coast Central, only vacant land sales were considered, due to the absence of improved property sales over the past ten years.

6.1 Volume of Sales

6.1.1 Redland City

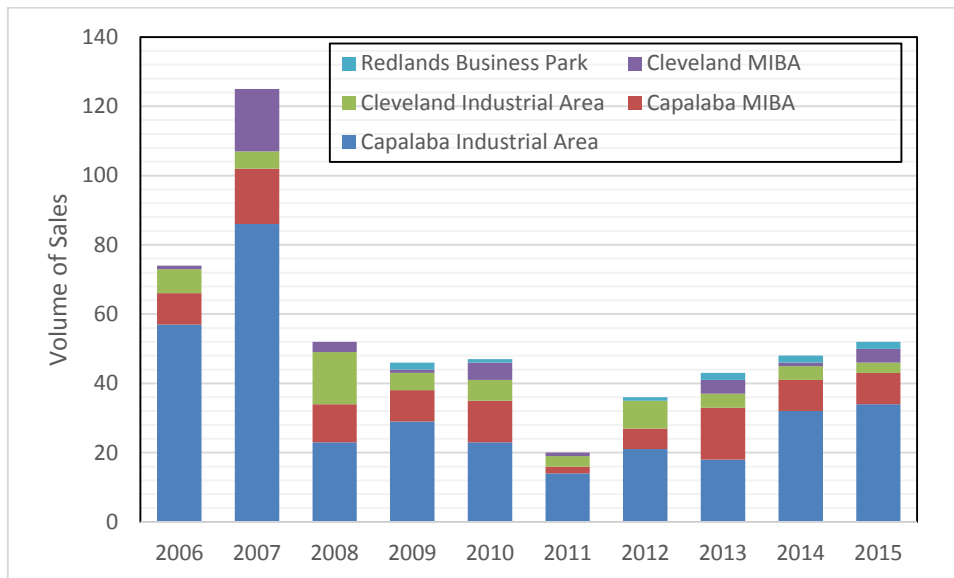
Improved Property

Over the past ten years, the majority of improved property sales within MIBA and industrial zoned land precincts in Redland City were within the Capalaba Industrial Area, averaging 34 sales per annum.

The volume of improved property sales peaked in 2007 at 125 sales across the five precincts. Sales volumes after this period were significantly lower, averaging 44 sales per annum in the 2008 to 2015 period.

Figure 6.1 below summarises the volume of improved property sales within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Figure 6.1: Volume of Improved Property Sales, MIBA and Industrial Zoned Land, Redland City, 2006-2015



Source: PriceFinder database (April 2016)

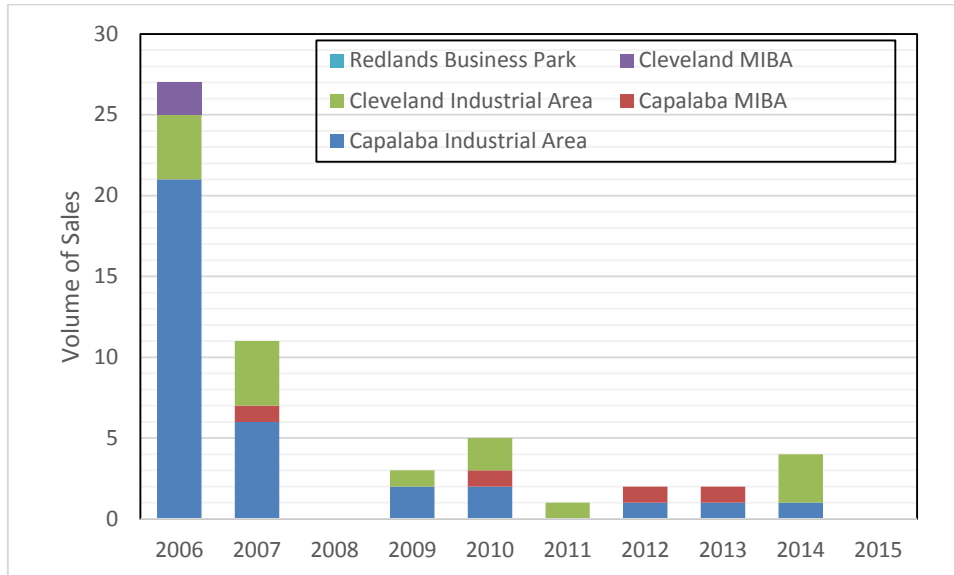
Vacant Land

Over the past ten years, there were an average of six vacant land sales per annum within MIBA and industrial zoned land precincts in Redland City. The majority of vacant land sales were recorded within the Capalaba Industrial Area and Cleveland Industrial Area precincts, with no vacant land sales recorded in the Redlands Business Park.

The volume of vacant land sales was highest in 2006 and 2007, suggesting there has been relatively little vacant land available for sale beyond this period.

Figure 6.2 below summarises the volume of vacant land sales within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Figure 6.2: Volume of Vacant Land Sales, MIBA and Industrial Zoned Land, Redland City, 2006-2015



Source: PriceFinder database (April 2016)

6.1.2 Proximate and Similar Sites

Improved Property

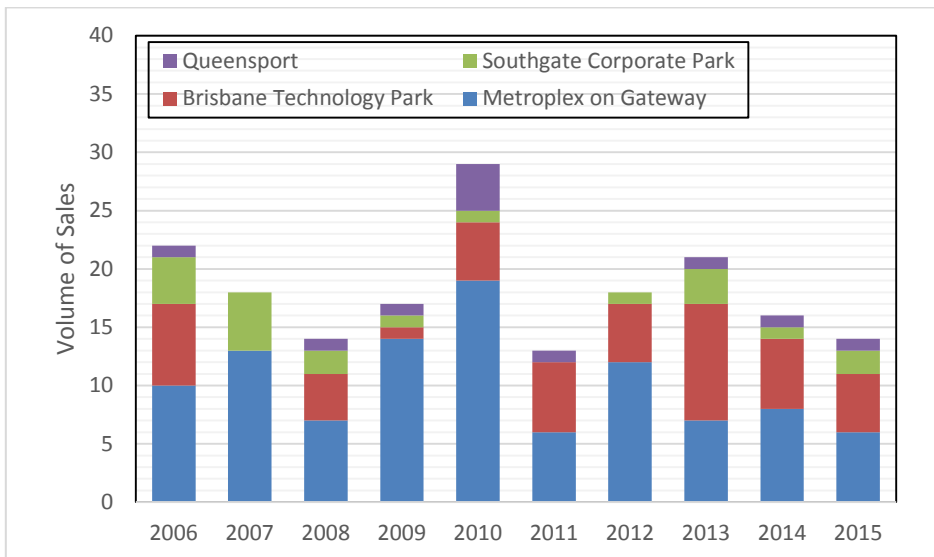
Over the past ten years, proximate and similar sites to the Thornlands IEA recorded the following average annual sales volumes:

- Metroplex on Gateway: Ten improved property sales per annum;
- Brisbane Technology Park: Five improved property sales per annum;
- Southgate Corporate Park: Two improved property sales per annum; and
- Queensport: One improved property sale per annum.

Total sales volumes across the four precincts peaked in 2010 at 33 sales, with higher than average sales volumes recorded at Metroplex on Gateway and Queensport in this year.

Figure 6.3 below summarises the volume of improved property sales within proximate and similar sites over the past ten years.

Figure 6.3: Volume of Improved Property Sales, Proximate and Similar Sites, 2006-2015



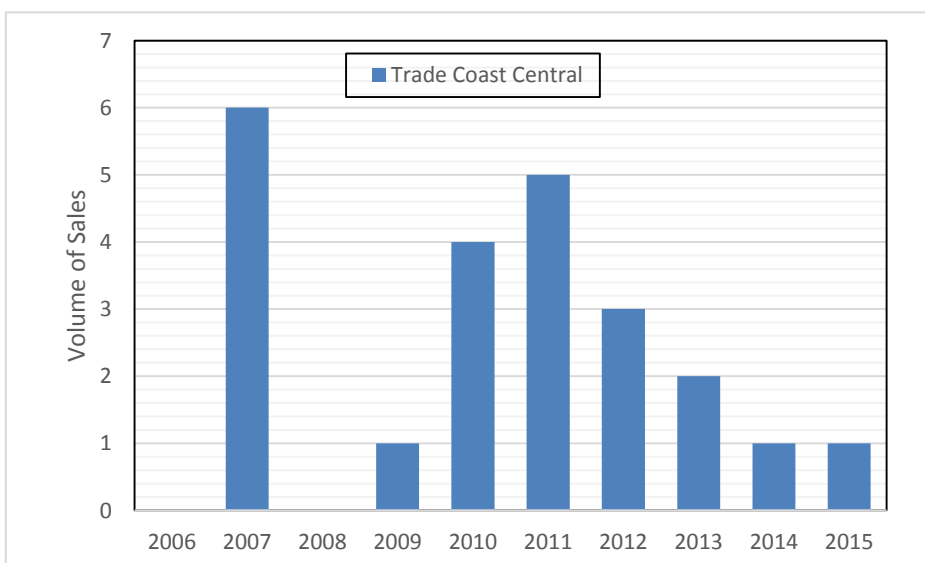
Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
 Source: PriceFinder database (April 2016)

Vacant Land

Trade Coast Central was the only proximate and similar precinct that recorded sufficient vacant land sales in the past ten years. There were an average of two vacant land sales per annum within Trade Coast Central, with sales volumes peaking in 2007 at six sales.

Figure 6.4 below summarises the volume of vacant land sales within proximate and similar sites over the past ten years.

Figure 6.4: Volume of Vacant Land Sales, Proximate and Similar Sites, 2006-2015



Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park and Metroplex on Gateway in the 2006-2015 period.
 Source: PriceFinder database (April 2016)

6.2 Value of Sales

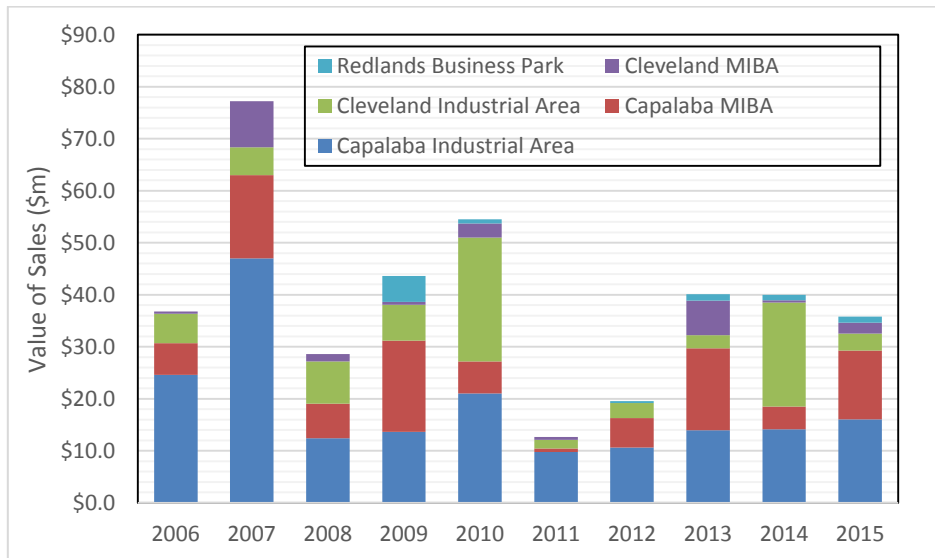
6.2.1 Redland City

Improved Property

Over the past ten years, the average value of improved property sales was \$38.9 million per annum, with the majority of sales value within the Capalaba Industrial Area. The value of sales within the Capalaba Industrial Area was highest in 2007 at \$47.0 million, whereas the value of sales in the Cleveland Industrial Area were relatively high in 2010 and 2014 (\$23.8 million and \$20.0 million, respectively).

Figure 6.5 below summarises the value of improved property sales within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Figure 6.5: Value of Improved Property Sales (\$million), MIBA and Industrial Zoned Land, Redland City, 2006-2015



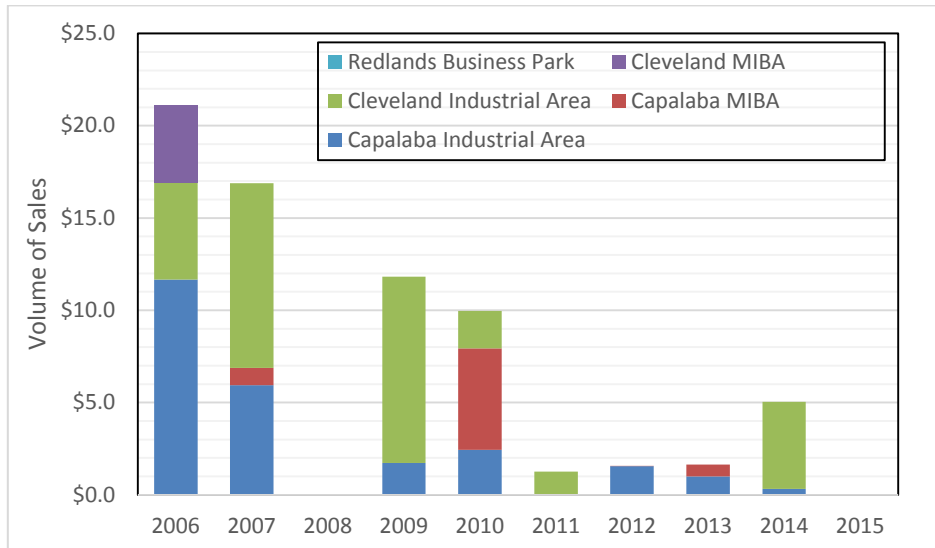
Source: PriceFinder database (April 2016)

Vacant Land

Over the past ten years, the average value of vacant land sales within MIBA and industrial zoned land precincts in Redland City was \$6.9 million per annum. Consistent with the trend in sales volumes, the total value of vacant land sales were highest in 2006 and 2007 (at \$21.1 million and \$16.9 million, respectively).

Figure 6.6 below summaries the value of vacant land sales within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Figure 6.6: Value of Vacant Land Sales (\$million), MIBA and Industrial Zoned Land, Redland City, 2006-2015



Source: PriceFinder database (April 2016)

6.2.2 Proximate and Similar Sites

Improved Property

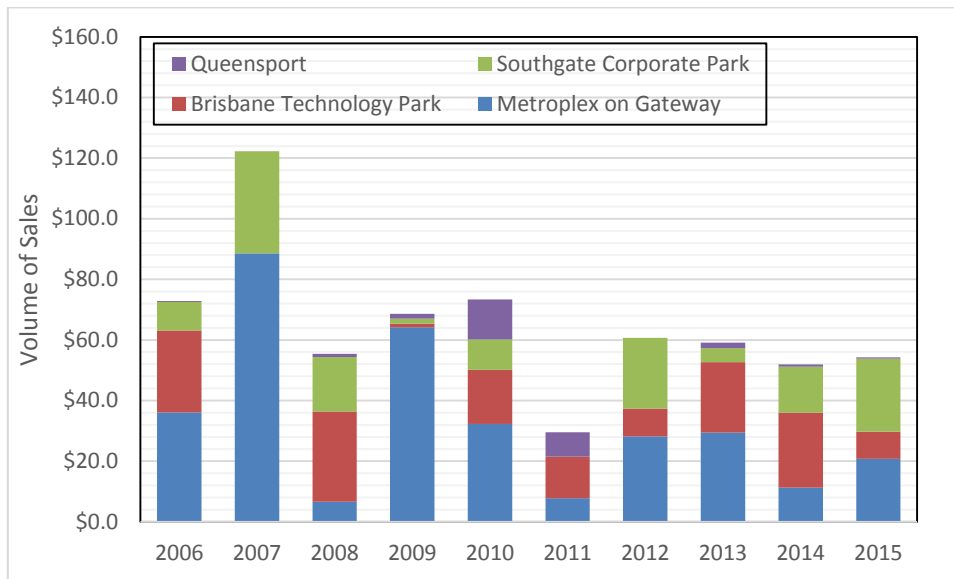
In the 2006 to 2015 period, the value of improved property sales within proximate / similar precincts averaged \$64.8 million per annum, comprising:

- Metroplex on Gateway: \$32.5 million per annum;
- Brisbane Technology Park: \$15.6 million per annum;
- Southgate Corporate Park: \$14.0 million per annum;
- Queensport: \$2.7 million per annum.

The total value of sales across these five precincts peaked in 2007 at \$122.3 million, representing the peak year for sales values in Metroplex on Gateway (\$88.5 million) and Southgate Corporate Park (\$33.7 million).

Figure 6.7 below summarises the value of improved property sales within proximate and similar precincts between 2006 and 2015.

Figure 6.7: Value of Improved Property Sales (\$million), Proximate and Similar Sites, 2006-2015

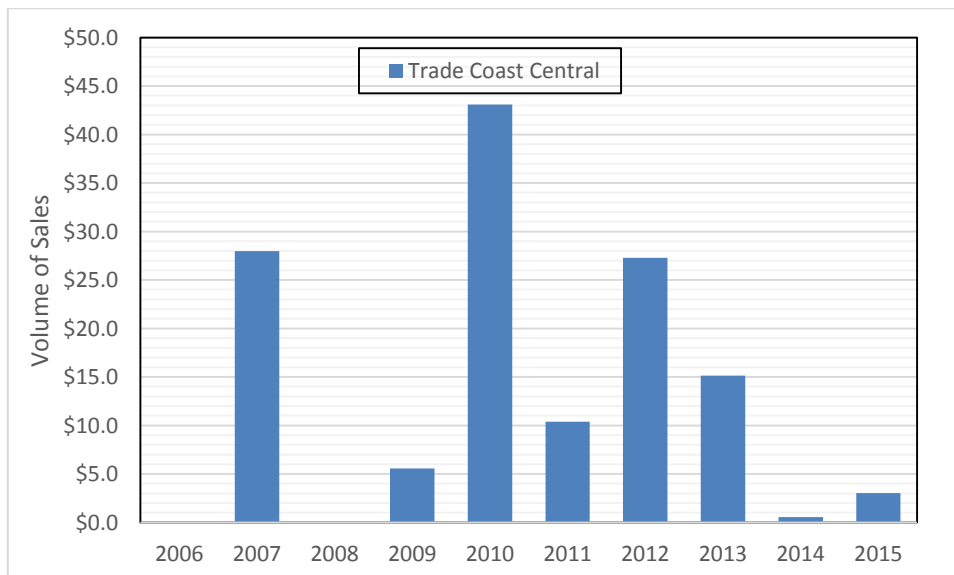


Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
Source: PriceFinder database (April 2016)

Vacant Land

Over the past ten years, the value of vacant land sales within Trade Coast Central averaged \$13.3 million per annum, peaking in 2010 at \$43.1 million (refer to Figure 6.8 below).

Figure 6.8: Value of Vacant Land Sales (\$million), Proximate and Similar Sites, 2006-2015



Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park and Metroplex on Gateway in the 2006-2015 period.
Source: PriceFinder database (April 2016)

6.3 Median Allotment Size

6.3.1 Redland City

Improved Property

The median allotment size for improved property sales within enterprise and business land precincts in Redland City was lowest within the Capalaba Industrial Area (146m²) and highest at Redlands Business Park (1,051m²).

The median allotment size within the Capalaba Industrial Area and the Capalaba MIBA was relatively stable over the past ten years, but was more variable within other precincts.

Table 6.1 below summarises the median allotment size for improved property within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Table 6.1: Median Allotment Size (sqm), Improved Property, MIBA and Industrial Zoned Land, Redland City, 2006-2015

	Capalaba Industrial Area	Capalaba MIBA	Cleveland Industrial Area	Cleveland MIBA	Redlands Business Park
2006	205	306	433	-	-
2007	144	304	417	160	-
2008	120	212	140	152	-
2009	116	233	313	374	6,480
2010	142	204	307	156	452
2011	204	-	336	368	-
2012	129	73	95	-	206
2013	186	207	1,147	1,330	1,650
2014	145	244	239	152	285
2015	138	244	2,888	582	964
<i>Median, 2006-2015</i>	146	223	336	163	1,051

Source: PriceFinder database (April 2016)

Vacant Land

The median allotment size for vacant land allotments sold within MIBA and industrial zoned land precincts in Redland City was highest within the Cleveland MIBA (but based on only two allotment sales) and lowest within the Capalaba Industrial Area.

Table 6.2 below summarises the median allotment size for vacant land within MIBA and industrial zoned land precincts in Redland City between 2006 and 2015.

Table 6.2: Median Allotment Size (sqm), Vacant Land, MIBA and Industrial Zoned Land, Redland City, 2006-2015

	Capalaba Industrial Area	Capalaba MIBA	Cleveland Industrial Area	Cleveland MIBA	Redlands Business Park
2006	1,417	-	1,891	6,869	-
2007	1,238	1,888	1,891	-	-
2008	-	-	-	-	-
2009	1,605	-	50,450	-	-
2010	1,407	3,792	2,679	-	-
2011	-	-	5,431	-	-
2012	1,536	581	-	-	-
2013	1,314	1,440	-	-	-
2014	1,045	-	3,041	-	-
2015	-	-	-	-	-
<i>Median, 2006-2015</i>	<i>1,417</i>	<i>1,664</i>	<i>2,168</i>	<i>6,869</i>	-

Source: PriceFinder database (April 2016)

6.3.2 Proximate and Similar Sites

Improved Property

The median allotment size for improved property at proximate and similar sites varied considerably, with the ten year averages as follows:

- Metroplex on Gateway: Median allotment size of 576m²;
- Brisbane Technology Park: Median allotment size of 1,645m²;
- Southgate Corporate Park: Median allotment size of 1,149m²;
- Queensport: Median allotment size of 790m².

It is noted that the median allotment sizes for improved property at proximate and similar sites was typically higher than for improved property sales within Redland City.

Table 6.3 below summarises the median allotment size for improved property at proximate and similar sites over the past ten years.

Table 6.3: Median Allotment Size (sqm), Improved Property, Proximate and Similar Sites, 2006-2015

	Metroplex on Gateway	Brisbane Technology Park	Southgate Corporate Park	Queensport
2006	845	524	898	149
2007	1,980	-	2,055	-
2008	205	4,990	7,007	498
2009	3,120	3,233	670	761
2010	388	2,920	4,825	2,909
2011	392	2,968	-	13,026
2012	543	367	5,246	-
2013	1,084	390	472	1,109
2014	290	1,684	9,646	5,237
2015	355	2,264	6,878	818
<i>Median, 2006-2015</i>	576	1,645	1,149	790

Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
Source: PriceFinder database (April 2016)

Vacant Land

The median allotment size for vacant land at Trade Coast Central was 16,080m², significantly higher than for any vacant land within MIBA and industrial zoned land precincts in Redland City. The median allotment size sold at Trade Coast Central was highest in 2010 (39,155m²) and 2012 (38,860m²).

Table 6.4 below summarises the median allotment size for vacant land at proximate and similar sites over the past ten years.

Table 6.4: Median Allotment Size (sqm), Vacant Land, Proximate and Similar Sites, 2006-2015

	Trade Coast Central
2006	-
2007	17,795
2008	-
2009	16,080
2010	39,155
2011	5,914
2012	38,860
2013	28,185
2014	2,410
2015	11,640
<i>Median, 2006-2015</i>	16,080

Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park and Metroplex on Gateway in the 2006-2015 period.
Source: PriceFinder database (April 2016)

6.3.3 Comparison of Redland City and Proximate and Similar Sites

Improved Property

Over the past ten years, the median allotment size for was less than 350m² for four of the five MIBA and industrial land precincts within Redland City.

On the other hand, improved property sales at proximate and similar sites were on significantly larger allotments, with Metroplex on Gateway and Queensport the only precincts to have a median allotment size of less than 1,000m² over the past ten years.

Table 6.5 below summarises the median allotment size for improved property sales in the major MIBA and industrial zoned land precincts in Redland City and at proximate and similar sites in the 2006 to 2015 period.

Table 6.5: Median Allotment Size (sqm), Improved Property, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015

MIBA / Industrial Area	Median Allotment Size (sqm)
Brisbane Technology Park	1,645
Southgate Corporate Park	1,149
Redlands Business Park	1,051
Queensport	790
Metroplex on Gateway	576
Cleveland Industrial Area	336
Capalaba MIBA	223
Cleveland MIBA	163
Capalaba Industrial Area	146

Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
Source: PriceFinder database (April 2016)

Vacant Land

The median allotment size for vacant land at Trade Coast Central was significantly larger than within any of the MIBA and industrial zoned land precincts in Redland City.

Table 6.6 below summarises the median allotment size for vacant land sales in the major MIBA and industrial zoned land precincts in Redland City and at proximate and similar sites in the 2006 to 2015 period.

Table 6.6: Median Allotment Size (sqm), Vacant Land, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015

MIBA / Industrial Area	Median Allotment Size (sqm)
Trade Coast Central	16,080
Cleveland MIBA	6,869
Cleveland Industrial Area	2,168
Capalaba MIBA	1,664
Capalaba Industrial Area	1,417

Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park, Metroplex on Gateway and Redlands Business Park in the 2006-2015 period.
Source: PriceFinder database (April 2016)

6.4 Median Sales Price per Square Metre

6.4.1 Redland City

Improved Property

Over the last ten years, the median sales price for improved property within MIBA and industrial zoned land precincts within Redland City was as follows:

- Capalaba Industrial Area: \$1,959 per square metre;
- Capalaba MIBA: \$1,356 per square metre;
- Cleveland Industrial Area: \$2,007 per square metre;
- Cleveland MIBA: \$2,331 per square metre; and
- Redlands Business Park: \$1,075 per square metre.

Table 6.7 below summarises the median sales price per square metre for improved property within MIBA and industrial zoned land precincts within Redland City between 2006 and 2015.

Table 6.7: Median Sales Price per Square Metre (\$/sqm), Improved Property, MIBA and Industrial Zoned Land, Redland City, 2006-2015

	Capalaba Industrial Area	Capalaba MIBA	Cleveland Industrial Area	Cleveland MIBA	Redlands Business Park
2006	\$1,699	\$971	\$1,889	-	-
2007	\$2,075	\$1,931	\$1,789	\$2,379	-
2008	\$2,341	\$1,720	\$2,438	\$2,764	-
2009	\$2,034	\$815	\$1,706	\$1,578	\$385
2010	\$2,130	\$1,643	\$1,700	\$2,340	\$1,764
2011	\$1,988	-	\$2,122	\$1,495	-
2012	\$2,171	\$575	\$3,673	-	\$1,965
2013	\$1,968	\$550	\$1,378	\$760	\$374
2014	\$2,244	\$1,649	\$2,104	\$3,003	\$1,811
2015	\$1,382	\$1,660	\$589	\$1,479	\$1,200
<i>Median, 2006-2015</i>	<i>\$1,959</i>	<i>\$1,356</i>	<i>\$2,007</i>	<i>\$2,331</i>	<i>\$1,075</i>

Source: PriceFinder database (April 2016)

Vacant Land

In the 2006 to 2015 period, the median sales price of vacant MIBA and industrial zoned land within Redland City was lowest within the Cleveland MIBA (averaging \$310 per square metre) and highest within the Capalaba MIBA (averaging \$471 per square metre).

Table 6.8 below summarises the median sales price per square metre for vacant MIBA and industrial zoned land within Redland City between 2006 and 2015.

Table 6.8: Median Sales Price per Square Metre (\$/sqm), Vacant Land, MIBA and Industrial Zoned Land, Redland City, 2006-2015

	Capalaba Industrial Area	Capalaba MIBA	Cleveland Industrial Area	Cleveland MIBA	Redlands Business Park
2006	\$398	-	\$285	\$310	-
2007	\$654	\$501	\$413	-	-
2008	-	-	-	-	-
2009	\$538	-	\$200	-	-
2010	\$912	\$1,450	\$384	-	-
2011	-	-	\$233	-	-
2012	\$1,009	\$38	-	-	-
2013	\$761	\$440	-	-	-
2014	\$302	-	\$536	-	-
2015	-	-	-	-	-
<i>Median, 2006-2015</i>	<i>\$418</i>	<i>\$471</i>	<i>\$362</i>	<i>\$310</i>	<i>-</i>

Source: PriceFinder database (April 2016)

6.4.2 Proximate and Similar Sites

Improved Property

In the past ten years, the median sales price per square metre for improved property at proximate similar sites was as follows:

- Metroplex on Gateway: Median sales price of \$2,298 per square metre;
- Brisbane Technology Park: Median sales price of \$2,281 per square metre;
- Southgate Corporate Park: Median sales price of \$2,348 per square metre;
- Trade Coast Central: Median sales price of \$282 per square metre; and
- Queensport: Median sales price of \$1,797 per square metre.

Table 6.9 below summarises the median sales price per square metre for improved property at proximate / similar sites to the Thornlands IEA between 2006 and 2015.

Table 6.9: Median Sales Price per Square Metre (\$/sqm), Improved Property, Proximate and Similar Sites, 2006-2015

	Metroplex on Gateway	Brisbane Technology Park	Southgate Corporate Park	Queensport
2006	\$1,397	\$3,592	\$2,608	\$2,215
2007	\$995	-	\$2,321	-
2008	\$3,824	\$1,984	\$2,701	\$2,108
2009	\$798	\$357	\$2,627	\$1,971
2010	\$2,883	\$1,393	\$2,073	\$1,600
2011	\$3,162	\$983	-	\$619
2012	\$2,171	\$4,207	\$4,441	-
2013	\$3,367	\$2,800	\$2,376	\$1,623
2014	\$2,535	\$4,057	\$1,576	\$143
2015	\$2,697	\$674	\$1,751	\$504
<i>Median, 2006-2015</i>	<i>\$2,298</i>	<i>\$2,281</i>	<i>\$2,348</i>	<i>\$1,797</i>

Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
Source: PriceFinder database (April 2016)

Vacant Land

In the past ten years, the median sales price per square metre for vacant land at Trade Coast Central was \$282 per square metre, peaking in 2009 at \$347 per square metre.

Table 6.10 below summarises the median sales price per square metre for vacant land at proximate / similar sites to the Thornlands IEA between 2006 and 2015.

Table 6.10: Median Sales Price per Square Metre (\$/sqm), Vacant Land, Proximate and Similar Sites, 2006-2015

	Trade Coast Central
2006	-
2007	\$220
2008	-
2009	\$347
2010	\$325
2011	\$309
2012	\$269
2013	\$264
2014	\$230
2015	\$259
<i>Median, 2006-2015</i>	<i>\$282</i>

Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park and Metroplex on Gateway in the 2006-2015 period.
Source: PriceFinder database (April 2016)

6.4.3 Comparison of Redland City and Proximate and Similar Sites

Improved Property

In Redland City, the Cleveland MIBA achieved the highest median sales price of \$2,331 per square metre, similar to the ten year median for Metroplex on Gateway (\$2,298 per square metre), Brisbane Technology Park (\$2,281 per square metre) and Southgate Corporate Park (\$2,348 per square metre).

Redlands Business Park recorded a significantly lower median sales price per square metre than all other major MIBA and industrial zoned land precincts within Redland City and all comparable sites.

Table 6.11 below summarises the median allotment sales price per square metre for the major MIBA and industrial zoned land precincts in Redland City and at proximate and similar sites in the 2006 to 2015 period.

Table 6.11: Median Sales Price per Square Metre (\$/sqm), Improved Property, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015

MIBA / Industrial Area	Median Sales Price (\$/sqm)
Southgate Corporate Park	\$2,348
Cleveland MIBA	\$2,331
Metroplex on Gateway	\$2,298
Brisbane Technology Park	\$2,281
Cleveland Industrial Area	\$2,007
Capalaba Industrial Area	\$1,959
Queensport	\$1,797
Capalaba MIBA	\$1,356
Redlands Business Park	\$1,075

Note: There were no improved property sales recorded within Trade Coast Central in the 2006-2015 period.
Source: PriceFinder database (April 2016)

Vacant Land

The median sales price per square metre for vacant land within Trade Coast Central was lower than for any of the MIBA and industrial precincts within Redland City. The median sales price for MIBA and industrial zoned land in Redland City was typically higher at Capalaba than Cleveland.

Table 6.12 below summarises the median allotment sales price per square meter for the major MIBA and industrial zoned land precincts in Redland City and at proximate and similar sites in the 2006 to 2015 period.

Table 6.12: Median Sales Price per Square Metre (\$/sqm), Vacant Land, MIBA and Industrial Zoned Land in Redland City and Proximate and Similar Sites, 2006-2015

MIBA / Industrial Area	Median Sales Price (\$/sqm)
Capalaba MIBA	\$471
Capalaba Industrial Area	\$418
Cleveland Industrial Area	\$362
Cleveland MIBA	\$310
Trade Coast Central	\$282

Note: There were insufficient vacant land sales recorded within Queensport, Brisbane Technology Park, Southgate Corporate Park, Metroplex on Gateway and Redlands Business Park in the 2006-2015 period.
Source: PriceFinder database (April 2016)

6.5 Summary

Within Redland City, the majority of sales activity over the past ten years was concentrated within the Capalaba Industrial Area. Over the past eight years, there have been no more than five vacant land sales per annum, which suggests relatively few opportunities to purchase vacant MIBA or industrial zoned land within Redland City.

The median allotment size of improved property within Redland City was less than 350m² in the Capalaba Industrial Area, Cleveland Industrial Area, Capalaba MIBA and Cleveland MIBA, suggesting this would limit the mix of activity which could ultimately locate within these tenancies. Improved property sales within Redlands Business Park were on significantly larger allotments, with a median of just over 1,000m². The median sales price for improved property within the Redlands Business Park was significantly lower than all other MIBA and industrial zoned land precincts within Redland City.

Analysis of proximate and similar sites to the proposed Thornlands IEA indicates that sales activity was concentrated within Metroplex on Gateway and Brisbane Technology Park over the past ten years. The proximate and similar sites offered compact but larger allotments than four of the five MIBA and industrial zoned land precincts in Redland City, with the median allotment size typically between 500m² and 1,500m².

In the past ten years, the median sales price per square metre for improved property in Metroplex on Gateway, Brisbane Technology Park and Southgate Corporate Park was approximately \$2,300 per square metre, similar to the median price per square metre achieved by the Cleveland MIBA.

Vacant land allotments within Trade Coast Central were typically more competitively priced on a per square metre basis than vacant land allotments within the MIBA and industrial land precincts in Redland City, with the price differential partially explained by significantly larger allotment sizes at Trade Coast Central.

7 INFRASTRUCTURE CONSIDERATIONS

This section identifies how the Thornlands IEA sites within the existing and planned networks. The purpose of this section is to consider the prospects and implication of connectivity rather than detailing infrastructure capacity issues.

7.1 SEQ Strategic Freight Network

Interstate, intrastate and international freight movements generate significant economic activity in SEQ. The infrastructure in SEQ used for linking national and Queensland products to markets can be described as the SEQ strategic freight network.

The SEQ strategic freight network includes:

- Port of Brisbane, including terminal facilities, shipping channel and Port of Brisbane Motorway;
- A network of airports connecting SEQ to regions throughout Australia and the rest of the world, including major airports such as Brisbane Airport, Gold Coast Airport, Sunshine Coast Airport, Archerfield Airport and the region's newest airport Brisbane West Wellcamp Airport (Toowoomba);
- Transport and logistics hubs including:
 - North East corridor (areas adjacent to or readily accessible from the Gateway Motorway including Australia TradeCoast, Eagle Farm, Hendra, Nudgee, Northgate, Geebung, Virginia and Zillmere);
 - South Western corridor (areas adjacent to or readily accessible from the Ipswich Motorway including Acacia Ridge, Acacia Ridge Rail Terminal (ARRT), Archerfield, Rocklea, Darra, Wacol, Richlands, Carole Park, Riverview, Dinmore, Redbank and Amberley with a subsidiary hub located along the Logan Motorway including Browns Plains and Parkinson/Larapinta);
 - Southern and Gold Coast corridor (areas adjacent to or readily accessible from the Pacific Motorway between Beenleigh and Nerang including Staplyton, Yatala, Coomera, Oxenford and Gaven and along Southport-Nerang Road at Molendinar, Ernest and Ashmore); and
 - Sunshine Coast corridor (areas adjacent to or readily accessible from Maroochydore Road and the Bruce Highway at Buderim, Kunda Park, Forest Glen, Woombye, Nambour and Yandina);
- Major rail connections including:
 - Dual gauge rail link from the ARRT to the Port of Brisbane;
 - Standard gauge railway linking the ARRT to the National Interstate Rail Network and interstate ports (including Sydney, Melbourne and Fremantle);
 - Narrow gauge rail network, connecting SEQ to regions throughout Queensland;
- Major road connections including:

- Major highways (including Warrego, Cunningham, Brisbane Valley, D’Aguilar Sunshine, Pacific and Bruce Highways);
- Major urban and motorway corridors including Brisbane Urban Corridor and Ipswich, Logan, Gateway and Pacific Motorways;
- Arterial road linkages between Acacia Ridge and motorways (including Ipswich Motorway and Logan Motorway) and the Brisbane Urban Corridor;
- Maroochydore Road connecting the Bruce Highway and Sunshine Motorway; and
- Southport Nerang Road.

7.1.1 Connectivity of Thornlands IEA to SEQ Strategic Freight Network

The Thornlands IEA is located off Mt Cotton Road/Duncan Road/Boundary Road, which represents an extension of the Brisbane Urban Corridor past the Gateway Motorway. The Thornlands IEA is located an estimated 11 minutes (or 13 kilometres) from the Gateway Motorway, via the Mt Gravatt-Capalaba Road onramp. Whilst the Thornlands IEA has a relatively direct connection to the Acacia Ridge Rail Terminal, travel times are estimated at approximately 26 minutes (or 23 kilometres).

The upgrade of the connection between the Thornlands IEA (at the intersection of Duncan, Boundary and Redland Bay Roads) and the Gateway Motorway onramp at Mount Gravatt-Capalaba Road has been under consideration for some time, and was identified as a priority project by Redland City Council in 2011 (Redland City Gateway Motorway Connection)¹⁶. It is understood that this road upgrade would improve freight corridor movements from Redland City to the Gateway Motorway.

The *State Infrastructure Plan* (Department of Infrastructure, Local Government and Planning (2016)) identified the Redland City Gateway Motorway Connection as one of 16 transport proposals in Greater Brisbane¹⁷ raised through consultation. However, on further review it is noted that this project is not identified as a priority project under the *State Infrastructure Plan* in the short term (next 1-4 years). Therefore, whilst it is recognised this road upgrade is a priority project, it may only occur within the medium to long term.

7.2 Other Infrastructure Considerations

A review of Redland City Council’s Priority Infrastructure Plan (PIP) indicates that the Thornlands IEA currently does not have trunk water supply infrastructure. However, trunk pipe upgrades at the corner of Taylor Road and Boundary Road are planned for completion in 2018.

¹⁶ Refer to Redland City Council (2011) Priority Projects for the Redlands, Redlands – to 2030 and beyond, available at http://www.redland.qld.gov.au/AboutCouncil/CommunityPlan/Documents/Corporate_Plan/Priority_Projects_update_Nov2011.pdf

¹⁷ This document defines Greater Brisbane as Brisbane City Council, Logan City Council, Redland City Council, Ipswich City Council, Moreton Bay Regional Council, Somerset Regional Council and parts of Scenic Rim and Lockyer Valley Regional Councils.

It is understood that there are no existing plans to bring sewer connections to the Thornlands IEA in the PIP. Consultation with Redland City Council indicates that wastewater from the Thornlands IEA could be directed to either the Cleveland or Victoria Point sewerage treatment plants (STP). It is understood that whilst the Cleveland STP is at full capacity, planned upgrades may be sufficient to accommodate the requirements of the Thornlands IEA. Whilst the Victoria Point STP is currently operating at less than full capacity, it was unclear whether remaining capacity was already allocated to in-catchment growth. It is anticipated that the ultimate pattern of development at the Thornlands IEA and population growth within the broader region would likely determine the preferred STP.

In terms of ICT provision, the Thornlands IEA has access to the 4G mobile broadband network. The Thornlands IEA is currently not serviced by the National Broadband Network (NBN), but it is noted that NBN construction works have commenced immediately to the south of the site (immediately south of Eprapah Creek). It is anticipated that development of the Thornlands IEA has the potential to bring forward the provision of NBN infrastructure.

It is understood that there is no natural gas main available within the suburb of Thornlands, with gas supply available through the use of gas bottles on-site. There exists sufficient capacity within the electricity infrastructure network to accommodate development within the Thornlands IEA.

7.3 Summary

The Thornlands IEA has direct connectivity to the Gateway Motorway (Mount Gravatt-Capalaba Road onramp) and the ARRT (via the Brisbane Urban Corridor), although the travel time (and distance) is higher than for other established enterprise areas such as Metroplex on Gateway, Southgate Corporate Park and TradeCoast Central. Therefore the Thornlands IEA may be perceived as a less convenient and desirable location for those businesses requiring direct access to the SEQ strategic freight network.

The Thornlands IEA also faces constraints in regards to natural gas (no natural gas main within the suburb of Thornlands) and sewer connectivity. However, discussions with Council suggest that sewer connectivity could be managed should development within the Thornlands IEA occur.

8 SWOT ANALYSIS

This section analyses the economic prospects for Redland City and more particularly the Thornlands IEA having regard to regional assets, economic structures and markets attributable to Redland City.

The Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis considers key aspects of the economy based on the following broad groups:

- **Economic Structure:** the extent to which the economic structure influences the performance of the region, and/or extent to which the economic structure creates opportunities;
- **Regional Assets:** those regional assets that represent the region's endowment. These assets may be tangible (e.g. extractive industry, good quality agricultural land, water availability, etc.) or intangible (e.g. worker and business skills and capability); and
- **Markets:** the region's exposure to exogenous and macro-economic factors that may influence the region's performance.

8.1 Economic Structure

Redland City Gross Regional Product (GRP) has steadily increased between 2001 and 2015, from ~\$2.94 million to ~\$4.87 million. Redland City GRP accounted for ~2.7% of SEQ's GRP in 2001, decreasing to ~2.6% in 2015. Redland City's contribution to QLD's GRP has remained relatively stable at 1.7% between 2001 and 2015.

Table 8.1 details the GRP for Redland City, SEQ and QLD between 2001 and 2015.

Table 8.1: Gross Regional Product, Redland City, SEQ and QLD, 2001 to 2015

Year (ending June 30)	Redland City		SEQ			QLD		
	GRP \$m	% incr.	GRP \$m	% incr.	% of SEQ	GRP \$m	% incr.	% of QLD
2001	2,944		109,670		2.7%	176,274		1.7%
2002	3,144	6.8%	116,836	6.5%	2.7%	186,045	5.5%	1.7%
2003	3,263	3.8%	121,457	4.0%	2.7%	190,286	2.3%	1.7%
2004	3,437	5.4%	128,327	5.7%	2.7%	199,465	4.8%	1.7%
2005	3,680	7.1%	137,697	7.3%	2.7%	214,538	7.6%	1.7%
2006	3,844	4.5%	147,250	6.9%	2.6%	228,492	6.5%	1.7%
2007	4,068	5.8%	157,782	7.2%	2.6%	242,945	6.3%	1.7%
2008	4,221	3.8%	164,324	4.1%	2.6%	253,391	4.3%	1.7%
2009	4,229	0.2%	166,714	1.5%	2.5%	256,690	1.3%	1.6%
2010	4,283	1.3%	165,657	-0.6%	2.6%	256,028	-0.3%	1.7%
2011	4,354	1.7%	168,687	1.8%	2.6%	258,450	0.9%	1.7%
2012	4,477	2.8%	176,733	4.8%	2.5%	271,670	5.1%	1.6%
2013	4,534	1.3%	181,387	2.6%	2.5%	279,513	2.9%	1.6%
2014	4,827	6.5%	190,174	4.8%	2.5%	292,838	4.8%	1.6%
2015	4,865	0.8%	187,847	-1.2%	2.6%	290,179	-0.9%	1.7%

Source: NIEIR (2016) Compiled and presented by .id

8.2 Regional Assets

A range of economic assets typically anchor the local economy which may include major infrastructure assets, regional institutions, in-region capabilities (e.g. skilled workforce) or a sense of place/history. Within Redland City Council, regional assets identified include:

- Education System Assets: including access to TAFE and schools network;
- Health System Assets: including provision of hospital assets within the region;
- Freight: connectivity to the national highway and network and significant road freight corridors; and
- ICT infrastructure: connectivity and accessibility to ICT infrastructure.

8.2.1 Education System Assets

Access to education system assets such as primary schools, high schools and higher education campuses such as TAFE and universities enhances the liveability of the area for the local residents particularly for those with children.

TAFE Campus

The TAFE Queensland campus is located in Alexandra Hills offering a range of courses including childcare, business administration, health services, tourism, rural operations, nursing etc. The Alexandra Hills TAFE is one of eight of the main TAFE campuses in Brisbane, with others located in South Bank, Bracken Ridge, Caboolture, Keperra, Loganlea, Mount Gravatt and Redcliffe. The provision of a TAFE Campus strengthens the availability of training opportunities for Redland City residents in developing a skilled local workforce.

Nazarene Theological College

The Nazarene Theological College is located within the Thornlands and offers university degrees in theology and ministry as well as a Diploma of Christian Studies. Education is underpinned by Christian values and perspectives. The Nazarene Theological College works in partnership with the New-Horizons School of English (located proximate to the College) to assist international students who wish to study at the College but may be reluctant due to language barriers. Limited student accommodation is also available onsite.

Schools Network

The network of schools within Redland City represents a significant regional asset. The provision of schools within Redland City strengthens the attractiveness of the area as a place to live and work and diversifies the local workforce.

Within Redland City there are a total of 32 schools, comprising the following:

- 16 public primary schools;
- 5 public secondary schools;
- 6 private primary schools; and
- 5 private secondary schools.

Sheldon College is located within the Thornlands IEA precinct on Taylor Road. Sheldon College is a non-denominational private school which offers schooling from Prep through to Year 12, with a long day care centre also co-located on site, accommodating children from 15 months of age.

In 2015, Sheldon College opened the LINQ precinct, which accommodates a range of facilities including the Business Enterprise Centre, the Design Technologies Centre (including facilities for 3D Printing, Laser Cutting, Multi-Cam Routing, and Manufacturing), LINQ Creative production facility (post production editing facilities for film, television and new media), digital technologies and robotics labs, an interactive / collaborative space with full operable walls, a group lecture and exposition space and the LINQ Video Wall for group presentations, venue signage and virtual video collaborations.

It is understood that the ICT infrastructure at Sheldon College is a mix of wired (10 gigabit fibre) and wireless networks, suggesting that high quality fibre connectivity could be brought to the Thornlands IEA site.

Based on the provision at the LINQ precinct, it is envisaged that Sheldon College students will have the opportunity to develop specialist skills in specialised manufacturing/engineering and the multimedia sectors. However, it is likely that if Sheldon College students wish to further enhance their skills in these sectors post-graduation, this is likely to occur outside the Redland region (i.e. typically at tertiary institutions within Brisbane City).

8.2.2 Health System Assets

With a high proportion of persons aged 65 years and older exhibited within Redland City, access to the health system assets such as hospitals are a key asset to the region. The provision of an appropriate health system contributes to the overall liveability of the region for local residents as a place to live and work.

There are two major hospitals in Redland City, these being the Redland Hospital and Mater Private Hospital, co-located on Weippin Street, Cleveland. Master planning activity is currently underway for the site, with the aim of creating a health and wellness precinct. Whilst there are already a number of primary care and specialist health providers within the hospital precinct, potential also exists for a range of other health service providers, including an allied health training precinct and/or community and aged care facilities.

Redland Hospital

The Redland Hospital is the major health centre for Redland City and the surrounding areas. The hospital is public and located on Weippin Street, Cleveland. The hospital provides a range of services including:

- Coronary care unit;
- Emergency department,
- Maintenance and renal dialysis unit;
- Obstetric services;
- Paediatric services; and
- Psychiatric unit.

A major expansion of the hospital was completed in 2012 which include the expansion of the emergency department and paediatric service (including the creation of a dedicated paediatric emergency waiting and treatment area), an expanded emergency short stay unit, expanded paediatric wards and a new paediatric ambulatory services wing.

The hospital employs ~ 1,000 staff and is co-located with the Mater Private Hospital Redland.

Mater Private Hospital Redland

The Mater Private hospital is located next to the Redland Hospital and provides 60 inpatient beds and two operating theatres. The Mater Private Hospital also includes the Mater Mothers Private Hospital, providing a dedicated maternity facility.

The Mater Private Hospital provides a range of clinical services including:

- Breast and endocrine surgery;
- Day haematology and medical oncology;
- Gastroenterology;
- General medicine and gerontology;
- General surgery;
- Gynaecology;
- Obstetrics;
- Ophthalmology;
- Oral and maxillofacial surgery;
- Orthopaedics;
- Palliative care;
- Plastic and reconstructive surgery;
- Rehabilitation;
- Sleep studies; and
- Urology.

The Mater Health Centre is located opposite the Mater Private Hospital and includes specialist services, a pharmacy, pathology and general practitioners.

8.2.3 Freight Network

Redland City has access to the Gateway Motorway via the Mt Gravatt-Capalaba Road onramp providing opportunities for freight movement. The Redland City Gateway Motorway Connection¹⁸ (connection between the intersection of Duncan, Boundary and Redland Bay Road

¹⁸ Refer to Redland City Council (2011) Priority Projects for the Redlands, Redlands – to 2030 and beyond, available at http://www.redland.qld.gov.au/AboutCouncil/CommunityPlan/Documents/Corporate_Plan/Priority_Projects_update_Nov2011.pdf

and the Gateway Motorway onramp at Mount Gravatt) has been under consideration for some time and was identified as a priority project. The upgrade of this connection would improve freight corridor movements from Redland City to the Gateway Motorway. Whilst the State Infrastructure Plan (2016) identified the Redland City Gateway Motorway Connection as one of 16 transport proposals in Greater Brisbane, the project is not identified as a priority project in the short term (next 1-4 years).

8.2.4 ICT Infrastructure

The National Broadband Network (NBN) is a federal government initiative currently under construction to connect Australian households and businesses to high speed broadband and telephone services. The NBN utilises three technologies including fixed line (fibre optic cables), fixed wireless (transmission of data via radio signals rather than cables), and satellite (transmission of data via a satellite).

Redland City has yet to have NBN rolled out across the entirety of the city with build preparations currently underway within the Redland Bay and Mount Cotton Area. It is understood that Sheldon College, located within the Thornlands IEA precinct, has high speed fibre connectivity but is yet to be connected to the NBN.

It is unsurprising that high speed fibre connectivity is not available to a relatively undeveloped area such as the Thornlands IEA. However, should intensification of activity occur to accommodate industrial and/or MIBA uses on the site, it is considered necessary that high speed fibre connectivity is provided as it is a key infrastructure requirement for businesses. The provision of high speed fibre connectivity would ensure that the Thornlands IEA is in line with other comparable MIBA precincts in SEQ, as discussed in Chapter 5 of the report. It would appear on face value that the provision of high speed fibre connectivity to the Thornlands IEA would not be a major challenge, whether it were to occur through connection to the NBN, or through alternative means (such as Sheldon College).

8.3 Markets

In terms of exports from Redland City, manufacturing accounts for the largest quantum of exports both in terms of domestic (i.e. exports from Redland City to other parts of Australia) and international exports (i.e. exports from Redland City to countries located outside of Australia). Between 2010/15 and 2014/15, manufacturing exports from Redland City peaked at ~\$658 million in 2012/13 (comprising ~\$448 million domestic and ~\$210 million in international exports). In 2014/15, manufacturing generated ~\$582 million in total exports (comprising ~\$384 million domestic and ~\$198 million international exports) with the following manufacturing subsectors being the main contributors:

- Food product manufacturing \$262.6 million (\$135.8 million domestic and \$126.8 million international exports);
- Machinery and equipment manufacturing \$60.5 million (\$44.3 million domestic and \$16.2 million international exports);
- Beverage and tobacco product manufacturing \$60.3 million (\$58.6 million domestic and \$1.7 million international exports);

- Primary metal and metal product manufacturing \$46.4 million (\$19.8 million domestic and \$26.7 million international exports); and
- Printing (including reproduction of recorded media) \$45.3 million (\$45 million domestic and \$0.2 million international exports).

Other industry sectors that generated significant exports from Redland City in 2014/15 included:

- Rental, hiring and real estate services \$159.1 million (in particular property operators and real estate services \$102 million);
- Accommodation and food services \$39.0 million (in particular accommodation \$29.9 million);
- Financial and insurance services \$31.9 million (in particular finance \$25.8 million); and
- Mining \$30.9 million (in particular metal ore mining).

Table 8.2 summaries the total exports generated by industry sector from Redland City between 2010/11 and 2014/15 at the one digit ANZSIC level. A more detailed breakdown of total exports generated by industry subsector at the two digit ANZSIC level is provided in Table C.1 of Appendix C.

Table 8.2: Total Exports by Industry Sector, Redland City, 2010/11 to 2014/15

Industry	2010/11			2011/12			2012/13			2013/14			2014/15		
	Domestic	Int’nl	Total	Domestic	Int’nl	Total	Domestic	Int’nl	Total	Domestic	Int’nl	Total	Domestic	Int’nl	Total
Agriculture, Forestry & Fishing	\$20.8	\$12.1	\$32.9	\$20.9	\$10.0	\$30.9	\$18.3	\$7.6	\$25.9	\$18.1	\$4.5	\$22.6	\$19.6	\$2.4	\$22.0
Mining	\$26.1	\$5.3	\$31.4	\$20.1	\$2.6	\$22.7	\$31.0	\$4.0	\$35.0	\$26.1	\$3.7	\$29.8	\$23.5	\$7.4	\$30.9
Manufacturing	\$360.8	\$171.2	\$531.9	\$453.6	\$195.4	\$649.1	\$448.3	\$209.6	\$657.9	\$424.6	\$205.7	\$630.3	\$384.0	\$197.9	\$581.9
Electricity, Gas, Water & Waste Services	\$6.4	\$0.1	\$6.5	\$9.1	\$0.1	\$9.2	\$15.8	\$0.2	\$16.0	\$26.3	\$0.3	\$26.6	\$16.0	\$0.2	\$16.2
Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wholesale Trade	\$7.2	\$4.5	\$11.7	\$6.4	\$5.6	\$12.1	\$7.4	\$5.2	\$12.6	\$6.0	\$6.3	\$12.3	\$4.2	\$7.9	\$12.2
Retail Trade	\$34.6	\$8.1	\$42.6	\$39.9	\$9.7	\$49.6	\$43.4	\$11.1	\$54.4	\$42.6	\$9.8	\$52.4	\$22.9	\$6.0	\$28.8
Accommodation & Food Services	\$23.6	\$6.9	\$30.4	\$30.3	\$4.3	\$34.5	\$31.9	\$4.2	\$36.1	\$33.2	\$4.4	\$37.5	\$32.8	\$6.2	\$39.0
Transport, Postal & Warehousing	\$39.8	\$13.0	\$52.8	\$49.7	\$13.2	\$62.9	\$44.4	\$10.6	\$54.9	\$38.8	\$10.1	\$48.9	\$21.3	\$7.1	\$28.4
Information Media and Telecommunications	\$9.9	\$0.3	\$10.2	\$9.5	\$0.3	\$9.9	\$9.0	\$0.5	\$9.5	\$9.2	\$0.4	\$9.6	\$9.6	\$0.4	\$10.0
Financial & Insurance Services	\$22.8	\$1.3	\$24.1	\$22.6	\$2.0	\$24.7	\$23.9	\$2.6	\$26.5	\$24.7	\$3.7	\$28.4	\$28.2	\$3.7	\$31.9
Rental, Hiring & Real Estate Serv.	\$230.0	\$27.2	\$257.2	\$269.8	\$24.4	\$294.2	\$203.2	\$17.6	\$220.8	\$177.4	\$21.6	\$199.0	\$145.1	\$14.0	\$159.1
Professional, Scientific & Technical Services	\$4.5	\$0.2	\$4.6	\$4.6	\$0.2	\$4.8	\$5.6	\$0.2	\$5.8	\$27.4	\$0.7	\$28.0	\$20.0	\$1.2	\$21.2
Administrative & Support Services	\$10.2	\$0.5	\$10.7	\$2.2	\$0.1	\$2.3	\$7.3	\$0.6	\$7.9	\$4.8	\$0.4	\$5.3	\$2.0	\$0.3	\$2.2
Public Administration & Safety	\$4.1	\$0.0	\$4.1	\$4.2	\$0.0	\$4.2	\$4.2	\$0.0	\$4.2	\$4.4	\$0.0	\$4.4	\$4.4	\$0.0	\$4.4
Education & Training	\$11.0	\$4.5	\$15.5	\$10.8	\$3.9	\$14.7	\$10.7	\$3.5	\$14.2	\$11.7	\$3.8	\$15.5	\$11.6	\$4.7	\$16.3
Health Care & Social Assistance	\$21.1	\$0.3	\$21.4	\$22.0	\$0.3	\$22.3	\$22.5	\$0.3	\$22.8	\$22.4	\$0.3	\$22.7	\$30.0	\$0.4	\$30.3
Arts & Recreation Services	\$3.1	\$0.1	\$3.2	\$3.1	\$0.1	\$3.2	\$3.1	\$0.2	\$3.3	\$3.2	\$0.1	\$3.3	\$3.4	\$0.2	\$3.5
Other Services	\$2.6	\$0.1	\$2.7	\$2.8	\$0.1	\$2.9	\$2.6	\$0.1	\$2.7	\$2.6	\$0.1	\$2.7	\$2.7	\$0.1	\$2.8
Total industries	\$838.3	\$255.5	\$1,093.8	\$981.6	\$272.4	\$1,254.0	\$932.5	\$278.0	\$1,210.5	\$903.4	\$275.8	\$1,179.3	\$781.0	\$259.9	\$1,040.9

Source: NIEIR (2016) Compiled and presented by .id

8.4 SWOT Summary

Table 8.3 below provides a SWOT analysis of the Redland economy, including consideration of implications for the Thornlands IEA based on the analysis undertaken in previous sections of the report.

Table 8.3: SWOT Analysis Summary

Strengths	Weaknesses
<p><u>Structure</u></p> <ul style="list-style-type: none"> Redland City is considered regionally competitive in a number of sectors suited to a MIBA/IEA such as manufacturing, construction, wholesale trade, transport, postal and warehousing, professional services and information media and telecommunications Significant employment growth anticipated within Redland City under a number of projection scenarios, particularly in the manufacturing and construction sectors <p><u>Regional Assets</u></p> <ul style="list-style-type: none"> Attractive lifestyle with access to coastal areas and connectivity to SEQ Proximity of Redland City to Brisbane CBD, Port of Brisbane and Brisbane Airport Direct access to the arterial road system Thornlands IEA's proximity to local workforce Thornlands IEA's proximity to the Capalaba Principal Activity Centre and Victoria Point Major Centre Resident workforce is skilled, with a growing proportion of persons with post-school qualifications Proximity to the broader SEQ region Skills of Sheldon College staff and students, particularly in relation to information communications technology <p><u>Markets</u></p> <ul style="list-style-type: none"> Strong manufacturing exports (both domestic and international) in particular food product manufacturing 	<p><u>Structure</u></p> <ul style="list-style-type: none"> Contracting manufacturing sector, consistent with broader regional, state and national trends Highly mobile resident workforce largely employed beyond Redland City, with more than half the resident workforce employed in locations beyond Redland City (predominately Brisbane City) Older demographic with a higher proportion of persons aged 65 years and older Projected lower rate of population growth than SEQ and Queensland Existing industrial uses within Redland City dominated by repair and maintenance businesses Dominance of population serving industry activity Limited number of workers travelling to Redland City for employment purposes Existing mixed use areas in Redland City dominated by retail uses particularly large format retail showrooms <p><u>Regional Assets</u></p> <ul style="list-style-type: none"> Congestion issues along main arterial routes Fragmented land ownership of the Thornlands IEA Thornlands IEA missing key infrastructure such as trunk sewer and fibre optic connectivity Limited public transport connectivity between Thornlands IEA and major population centres in Redland City Limited zoned and vacant industrial / MIBA land in Redland City other than Redlands Business Park <p><u>Markets</u></p> <ul style="list-style-type: none"> Beyond manufacturing limited other industrial exports from Redland City The most significant export from Redland City appears to be workers Thornlands IEA is less proximate to the Gateway Motorway than other proximate and similar industrial / MIBA precincts Competitor industrial / MIBA precincts have high quality infrastructure and public transport connections relative to Thornlands IEA
<p>Opportunities</p>	<p>Threats</p>
<p><u>Structure</u></p> <ul style="list-style-type: none"> Redland likely to record significant employment growth particularly in manufacturing <p><u>Regional Assets</u></p> <ul style="list-style-type: none"> Potential to retain a higher proportion of resident workforce through the development of the Thornlands IEA Upgrade of Redland Gateway Connection could improve freight movements to and from Redland City Development of Thornlands IEA would increase locational choice for potential MIBA users both within 	<p><u>Structure</u></p> <ul style="list-style-type: none"> Potential inability to attract new workers to Redland City given proximity to Brisbane Overestimation of employment growth and subsequent need for additional industrial / MIBA land within Redland City Potential conflict between rural and employment generating uses intended for the Thornlands IEA <p><u>Regional Assets</u></p> <ul style="list-style-type: none"> Upgrade of Redland Gateway Connection not envisaged in the short term (next 1 to 4 years)

<p>and beyond Redland City</p> <ul style="list-style-type: none"> • Potential reinstatement of the Thornlands IEA in the review of the South East Queensland Regional Plan <p><u>Markets</u></p> <ul style="list-style-type: none"> • Access to a broader range of skilled workers given Redland City's proximity to Brisbane • Potential for Thornlands IEA to represent a competitively priced alternative to existing industrial / MIBA precincts beyond Redland City • Attraction of a broader range of industrial and MIBA tenants currently not represented in Redland City 	<ul style="list-style-type: none"> • Potential competitive development of 340-416 Old Cleveland Road as a mixed industry business area • Potential shortfall in industrial land supply in Redland City without the introduction of the Thornlands IEA <p><u>Markets</u></p> <ul style="list-style-type: none"> • Continued contraction of manufacturing sector resulting in a reduction of exports from Redland City • Inability to attract tenants to Thornlands IEA due to competitive offering in Brisbane City
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9 DEMAND PROJECTIONS

9.1 Scenario Comparison

The purpose of this section of the report is to provide a comparison of the NIEIR employment projections against Economic Associates employment projections and the consequent impact on estimates of commercial office floor space demand and industrial land demand at the single digit ANZIC level.

Whilst the single digit employment projections provide an overview of total demand for industrial land and commercial office floor space for Redland City, there is insufficient detail to determine which portion of the demand can potentially be fulfilled by the Thornlands IEA.

In subsequent sections of the report, the Economic Associates employment estimates are presented at the two digit ANZSIC level to provide more detailed analysis of employment and land demand for those sectors most likely to locate within the Thornlands IEA.

Appendix D of the report provides employment projections at the two digit ANZSIC level.

9.1.1 Employment Projections

As part of the SEQ Employment and Economic Activity Forecasting Project, the National Institute of Economic and Industry Research (NIEIR) prepared four employment scenarios, with the Primary Scenario and Scenario 2 considered the most relevant to Redland City. These projections were prepared at the one digit ANZSIC level.

As outlined in Chapter 2, the characteristics of the Primary Scenario and Scenario 2 are detailed below:

- **Primary Scenario:** achieves the highest overall employment and population growth and assumes that employment growth will satisfy employment requirements of the residential population. The Primary Scenario outputs align directly with the employment and industry projections prepared by the Queensland Government at the local government area (LGA) level to small areas; and
- **Scenario 2:** attempts to balance both population and employment growth within the constraints of the existing infrastructure patterns and the productive capacity of existing industry clusters to grow at above average rates. Rather than adopting a population target, Scenario 2 models the population growth and distribution that would match job opportunities in the locations where they currently exist and demonstrate growth potential. It assumes a lower population growth outcome driven by employment growth potential within sub-LGA areas resulting in the lowest population and employment growth outcome but achieves higher per capita incomes (living standards) and uses existing infrastructure to its maximum potential. Scenario 2 is a NIEIR-only scenario that *“provides small area employment projections based on the capacity of SEQ’s small areas to grow population and employment, subject to a travel time constraint that links population growth in each specific area to places where suitable employment can be accessed”*¹⁹.

One of the key differences between the Primary Scenario and Scenario 2 is that Scenario 2 projections estimates the extent of population growth that can be satisfied by accessible

¹⁹ p.5 SEQ Employment and Economic Activity Forecasting Project LGA Summary Report: Redland City Council February 2015. NIEIR

employment opportunities and their suitability to the resident workforce. As a result, the way in which population growth is applied under the two scenarios (and therefore subsequent employment growth) is likely in many regards to generate upper and lower limits of employment growth, with employment projections likely to sit somewhere between the two.

Economic Associates have also undertaken employment projections for Redland City to 2041, based on our understanding of the current and likely future economic structure of the region. These estimates also take into account the subsequent downward revision of population growth and the 2015 QTT projections, unlike the NIEIR projections. It is our view that the Economic Associates estimates are likely to be most representative of employment growth within Redland City to 2041 and represent an appropriate balance between the growth forecast under the Primary Scenario and Scenario 2.

Between 2011 and 2041, total employment within Redland City is anticipated to increase by 21,974 persons under the Economic Associates scenario, with employment growth highest within the following sectors:

- Health care and social assistance (additional 5,814 persons);
- Education and training (additional 3,186 persons);
- Construction (additional 2,238 persons); and
- Professional, scientific and technical services (additional 1,842 persons).

By comparison, the NIEIR scenarios anticipate employment growth of between 16,434 persons and 28,778 persons in the 2011 to 2041 period. Under both NIEIR scenarios, the health care and social assistance, education and training and professional, scientific and technical services sectors are anticipated to be key drivers of employment growth.

Table 9.1 below outlines the anticipated employment growth within Redland City under the preferred NIEIR scenarios (i.e. Primary Scenario and Scenario 2) and Economic Associates employment projections between 2011 and 2041.

Table 9.1: Projected Employment Growth, Primary Scenario, Scenario 2 and Economic Associates Estimates, 2011-2041

	Scenario 2	Economic Associates	Primary
Agriculture, Forestry and Fishing	71	21	167
Mining	-129	-23	191
Manufacturing	29	1,440	2,045
Electricity, Gas, Water and Waste Services	58	129	121
Construction	883	2,238	4,188
Wholesale Trade	-37	175	334
Retail Trade	224	777	1,353
Accommodation and Food Services	1,112	1,719	2,915
Transport, Postal and Warehousing	875	999	1,265
Information Media and Telecommunications	-232	90	84
Financial and Insurance Services	219	168	61
Rental, Hiring and Real Estate Services	496	567	641
Professional, Scientific and Technical Services	1,837	1,842	1,798
Administrative and Support Services	847	855	1,372
Public Administration and Safety	876	907	1,031
Education and Training	2,892	3,186	3,752
Health Care and Social Assistance	5,439	5,814	6,122
Arts and Recreation Services	253	323	398
Other Services	723	748	940
Total	16,434	21,974	28,778

Source: NIEIR (2015) SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council, Economic Associates estimates

9.1.2 Industrial Land Demand

At the single digit level, the sectors most likely to require industrial land are as follows:

- Manufacturing;
- Wholesale trade; and
- Transport, postal & warehousing.

It should be noted that these three sectors do not cover the entirety of industrial land demand. Discussion at the single digit level is for the purpose of comparing the three projection series, two of which are only generated at the single digit level (i.e. NIEIR and QTI). Economic Associates projections are generated at the two digit level.

The analysis has assumed the following employment densities across industrial sectors²⁰:

- Manufacturing: 40 employees per hectare;
- Wholesale trade: 40 employees per hectare; and
- Transport, postal & warehousing: 30 employees per hectare.

Based on the following assumptions, under the Economic Associates scenario, industrial land demand is anticipated to increase by 73.7 hectares in the 2011 to 2041 period, as compared to 29.0 hectares under Scenario 2 and 101.6 hectares under the Primary scenario.

Table 9.2 below outlines the incremental industrial land demand within Redland City under each of the three scenarios between 2011 and 2041.

²⁰ For consistency, the employment densities applied in this analysis are consistent with those used in the Review of Draft Redland City Planning Scheme – Economic Analysis report.

Table 9.2: Incremental Industrial Land Demand, Redland City, 2011-2041

	Employment Change, 2011-41 (workers)			Incremental Land Demand (ha)		
	Scenario 2	Economic Associates	Primary	Scenario 2	Economic Associates	Primary
Manufacturing	29	1,440	2,045	0.7	36.0	51.1
Wholesale trade	-37	175	334	-0.9	4.4	8.4
Transport, postal and warehousing	875	999	1,265	29.2	33.3	42.2
Total	867	2,614	3,644	29.0	73.7	101.6

Source: NIEIR (2015) SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council, Economic Associates estimates

9.1.3 Commercial Office Floor Space Demand

At the single digit ANZSIC level, the sectors most likely to require commercial office floor space are as follows:

- Information media and telecommunications;
- Financial and insurance services;
- Rental, hiring and real estate services;
- Professional, scientific and technical services;
- Administrative and support services and
- Public administration and safety.

The analysis has assumed that an employment density of 15m² per worker across all commercial office floor space categories²¹.

Based on the above assumptions, the incremental demand for commercial office floor space is estimated to be 66,436m² under the Economic Associates scenario, as compared to 60,645m² to 74,805m² under the NIEIR scenarios.

Table 9.3 below outlines the incremental commercial office floor space demand in Redland City between 2011 and 2041 under each of the three scenarios.

Table 9.3: Incremental Commercial Office Floor Space Demand, Redland City, 2011-2041

	Employment Change, 2011-41 (workers)			Incremental Floor Space Demand (sqm)		
	Scenario 2	Economic Associates	Primary	Scenario 2	Economic Associates	Primary
Information Media and Telecommunications	-232	90	84	-3,480	1,356	1,260
Financial and Insurance Services	219	168	61	3,285	2,522	915
Rental, Hiring and Real Estate Services	496	567	641	7,440	8,504	9,615
Professional, Scientific and Technical Services	1,837	1,842	1,798	27,555	27,627	26,970
Administrative and Support Services	847	855	1,372	12,705	12,829	20,580
Public Administration and Safety	876	907	1,031	13,140	13,598	15,465
Total	4,043	4,429	4,987	60,645	66,436	74,805

Source: NIEIR (2015) SEQ Employment and Economic Activity Forecasting Project, LGA Summary Report: Redland City Council, Economic Associates estimates

²¹ For consistency, the employment densities applied in this analysis are consistent with those used in the Review of Draft Redland City Planning Scheme – Economic Analysis report.

9.2 Detailed Employment and Land Demand Projections

As outlined above, the Economic Associates employment estimates fall between the two NIEIR estimates, and are considered most representative of future employment growth within Redland City.

This section of the report provides further analysis of industrial and commercial office employment for Redland City and likely land demand, based on an assessment at the two digit ANZSIC level.

Incremental employment and land demand estimates are presented at five year intervals, with 2016 as the base year. Whilst 2011 estimates were prepared to allow for meaningful comparison between our estimates and the NIEIR estimates, it is our view that using 2016 as the base year provides an up to date assessment of demand.

For conciseness, the body of the report presents employment and land demand projections for each of the defined broad categories, with two digit ANZSIC projections presented in Appendix A.

9.2.1 Industrial and Commercial Office Sectors

Industrial Sectors

Industrial activity can be classified into four broad categories, these being:

- Large footprint and general industry;
- Service industry;
- Warehousing & storage; and
- Transport uses.

Table 9.4 below outlines the two digit ANZSIC sectors which are contained within each of the four broad categories.

Table 9.4: Two Digit ANZSIC Sectors which Typically Require Industrial Land

Broad Category	Two Digit ANZSIC Sectors
Large Footprint and General Industry	<ul style="list-style-type: none"> • Beverage and Tobacco Product Manufacturing • Food Product Manufacturing • Wood Product Manufacturing; • Pulp, Paper and Converted Paper Product Manufacturing • Petroleum and Coal Product Manufacturing • Basic Chemical and Chemical Product Manufacturing • Polymer Product and Rubber Product Manufacturing • Non-Metallic Mineral Product Manufacturing • Primary Metal and Metal Product Manufacturing • Machinery and Equipment Manufacturing • Fabricated Metal Product Manufacturing • Transport Equipment Manufacturing • Furniture and Other Manufacturing
Service Industry	<ul style="list-style-type: none"> • Textile, Leather, Clothing and Footwear Manufacturing • Printing (including Reproduction of Recorded Media) • Publishing (except Internet and Music Publishing) • Construction Services • Repair and Maintenance

Broad Category	Two Digit ANZSIC Sectors
Warehousing & Storage	<ul style="list-style-type: none"> • Basic Material Wholesaling • Machinery and Equipment Wholesaling • Motor Vehicle and Motor Vehicle Parts Wholesaling • Grocery, Liquor and Tobacco Product Wholesaling • Other Goods Wholesaling • Warehousing and Storage Services
Transport Uses	<ul style="list-style-type: none"> • Motor Vehicle and Motor Vehicle Parts Retailing • Road Transport • Rail Transport • Transport Support Services • Postal and Courier Pick-up and Delivery Services

Based on our understanding of other enterprise and business parks located along the Brisbane Urban Corridor, it is anticipated that the Thornlands IEA would predominantly accommodate industrial activity within the warehousing and storage and transport uses categories.

Commercial Office Sectors

At the single digit ANZSIC level, the sectors most likely to require commercial office floor space are as follows:

- Financial & insurance services;
- Professional, scientific & technical services;
- Health care & social assistance;
- Rental, hiring & real estate services;
- Public administration & safety;
- Information media & telecommunications; and
- Administrative & support services.

Table 9.5 below outlines the two digit ANZSIC sectors which typically require commercial office floor space.

Table 9.5: Two Digit ANZSIC Sectors which Typically Require Industrial Land

One Digit ANZSIC Sectors	Two Digit ANZSIC Sectors
Financial & Insurance Services	<ul style="list-style-type: none"> • Finance • Insurance & Superannuation Funds • Auxiliary Finance & Insurance Services • Finance & Insurance Services, nfd
Professional, Scientific & Technical Services	<ul style="list-style-type: none"> • Professional, Scientific & Technical Services (except Computer Systems Design & Related Services) • Professional, Scientific & Technical Services, nfd • Computer Systems Design & Related Services
Health Care & Social Assistance	<ul style="list-style-type: none"> • Medical & Other Health Care Services
Rental, Hiring & Real Estate Services	<ul style="list-style-type: none"> • Property Operators & Real Estate Services
Public Administration & Safety	<ul style="list-style-type: none"> • Public Administration
Information Media & Telecommunications	<ul style="list-style-type: none"> • Internet Publishing & Broadcasting • Internet Service Providers, Web Search Portals & Data Processing Services
Administrative & Support Services	<ul style="list-style-type: none"> • Administrative services

Note: nfd - not further defined

It is anticipated that the Thornlands IEA would capture only a proportion of future commercial office demand, with some commercial office businesses having a preference to locate on centres zoned land.

9.2.2 Projected Employment in Industrial and Commercial Office Sectors

Projected Employment in Industrial Sectors

Industrial sector employment within Redland City is projected to increase from an additional 687 persons on current levels in 2021 to an additional 2,938 persons on current levels by 2041.

Employment growth is anticipated to be highest within the service industry sector (additional 1,413 persons by 2041), with the construction service sub-sector the key driver of growth (additional 1,089 persons by 2041).

Table 9.6 below summarises the projected incremental employment in industrial sectors in Redland City between 2021 and 2041.

Table 9.6: Projected Incremental Employment in Industrial Sectors, 2021-2041

Industrial Sector	2021	2026	2031	2036	2041
Large Footprint & General industry	193	410	588	698	810
Service Industry	307	654	959	1,182	1,413
Warehousing & Storage	47	93	112	93	66
Transport Uses	140	296	436	541	650
Total	687	1,454	2,095	2,514	2,938

Note: Incremental estimates are on 2016 levels
Source: Economic Associates estimates

Table 9.6 below highlights there is anticipated to be significant growth within the service industry sector, with the construction services sector a key component of growth. The construction services sector comprises a broad range of activities, including plumbers, electricians, concreters and cabinetmakers. It is our understanding that a number of these businesses are sole traders and as such often operate from home, rather than from an industrial premises.

To estimate the number of persons employed in sole trader businesses within the construction services sector, the analysis has relied on data from the ABS Counts of Australian Businesses publication (Cat. No. 8165.0) for Redland City. In June 2015, an estimated 20% of employed persons within the construction sector in Redland City were sole traders. For the purposes of this assessment, it has been assumed that the proportion of sole traders within the construction services sector is consistent with the broader construction sector and remains constant throughout the projection period.

Table 9.7 below summarises the projected incremental industrial employment in sole trader and employing businesses in Redland City between 2021 and 2041.

Table 9.7: Projected Incremental Employment in Industrial Sectors for Sole Trader and Employing Businesses, Redland City, 2021-2041

Industrial Sector	2021	2026	2031	2036	2041
Employing Businesses					
Large Footprint & General industry	193	410	588	698	810
Service Industry	262	557	815	1,002	1,195
Warehousing & Storage	47	93	112	93	66
Transport Uses	140	296	436	541	650
Total	642	1,357	1,951	2,334	2,720
Sole Traders					
Large Footprint & General industry	-	-	-	-	-
Service Industry	45	97	143	180	218
Warehousing & Storage	-	-	-	-	-
Transport Uses	-	-	-	-	-
Total	45	97	143	180	218

Note: Incremental estimates are on 2016 levels
Source: Economic Associates estimates

Projected Employment in Commercial Office Sectors

Commercial office sector employment within Redland City is projected to increase from an additional 777 persons on current levels in 2021 to an additional 3,756 persons on current levels by 2041.

Employment growth is anticipated to be highest within the professional, scientific and technical services and health care and social assistance services sectors.

Table 9.8 below summarises the projected incremental employment in commercial office sectors in Redland City between 2021 and 2041.

Table 9.8: Projected Incremental Employment in Commercial Office Sectors, 2021-2041

Commercial Office Sector	2021	2026	2031	2036	2041
Financial & Insurance Services	33	67	84	80	70
Professional, Scientific & Technical Services	278	595	894	1,143	1,404
Health Care & Social Assistance	234	498	754	973	1,203
Rental, Hiring & Real Estate Services	69	148	219	274	332
Public Administration & Safety	111	236	345	423	504
Information Media & Telecommunications	1	1	2	2	2
Administrative & Support Services	50	107	159	199	241
Total	777	1,651	2,455	3,094	3,756

Note: Incremental estimates are on 2016 levels
Source: Economic Associates estimates

The floor space requirements of businesses requiring commercial office space differ depending on whether the business is a sole trader or employs staff. To estimate the number of persons employed in sole trader businesses and businesses employing staff, the analysis has relied on data from the ABS Counts of Australian Businesses publication (Cat. No. 8165.0) for Redland City.

For the purposes of this assessment, it has been assumed that the proportion of employment contained within sole trader businesses and employing businesses in 2015 remains constant throughout the projection period.

Table 9.9 below summarises the proportion of employment contained within sole trader businesses and employing businesses in 2015.

Table 9.9: Proportion of Employment in Sole Trader Businesses and Employing Businesses, Redland City, June 2015

Commercial Office Sector	% in employing businesses	% in sole trader
Financial and insurance services	35%	65%
Professional, scientific and technical services	80%	20%
Health care and social assistance	95%	5%
Rental, hiring and real estate services	60%	40%
Public administration and safety	70%	30%
Information media and telecommunications	50%	50%
Administrative and support services	90%	10%

Note: Estimates are rounded to the nearest 5%
Source: ABS 8165.0

Based on the information presented above in Table 3.7, the split of incremental employment in employing businesses and sole traders by commercial office sector is presented in Table 9.10 below.

Table 9.10: Projected Incremental Employment in Commercial Office Sectors for Sole Trade Businesses and Employing Businesses, Redland City, 2021-2041

	2021	2026	2031	2036	2041
Employing Businesses					
Financial & Insurance Services	12	23	29	28	25
Professional, Scientific & Technical Services	223	476	715	914	1,123
Health Care & Social Assistance	222	473	716	924	1,143
Rental, Hiring & Real Estate Services	42	89	131	165	199
Public Administration & Safety	78	165	241	296	353
Information Media & Telecommunications	0	1	1	1	1
Administrative & Support Services	45	96	143	179	217
Total	621	1,323	1,977	2,507	3,061
Sole Traders					
Financial & Insurance Services	22	43	55	52	46
Professional, Scientific & Technical Services	56	119	179	229	281
Health Care & Social Assistance	12	25	38	49	60
Rental, Hiring & Real Estate Services	28	59	88	110	133
Public Administration & Safety	33	71	103	127	151
Information Media & Telecommunications	0	1	1	1	1
Administrative & Support Services	5	11	16	20	24
Total	155	328	479	586	696

Note: Incremental estimates are on 2016 levels
Source: Economic Associates estimates

9.2.3 Projected Industrial and Commercial Office Land Demand

Industrial Land Demand

To convert industrial sector employment projections into industrial land demand, the assessment relies on employment density ratios by industry sector.

Table 9.11 below outlines the assumed employment density ratios applied in the industrial land demand analysis.

Table 9.11: Assumed Employment Density Ratios (employed persons per hectare)

Industrial Sector	Employment Density (persons / ha)
Large Footprint & General Industry	
Beverage & Tobacco Product Manufacturing	40
Food Product Manufacturing	40
Wood Product Manufacturing	35
Pulp, Paper & Converted Paper Product Manufacturing	40
Petroleum & Coal Product Manufacturing	35
Basic Chemical & Chemical Product Manufacturing	35
Polymer Product & Rubber Product Manufacturing	30
Non-Metallic Mineral Product Manufacturing	20
Primary Metal and Metal Product Manufacturing	25
Machinery and Equipment Manufacturing	45
Fabricated Metal Product Manufacturing	35
Transport Equipment Manufacturing	45
Furniture & Other Manufacturing	35

Industrial Sector	Employment Density (persons / ha)
Service Industry	
Textile, Leather, Clothing & Footwear Manufacturing	45
Printing (including the Reproduction of Recorded Media)	40
Publishing (except Internet and Music Publishing)	40
Construction Services	30
Repair & Maintenance	35
Warehousing & Storage	
Basic Material Wholesaling	20
Machinery & Equipment Wholesaling	20
Motor Vehicle & Motor Vehicle Parts Wholesaling	20
Grocery, Liquor & Tobacco Product Wholesaling	25
Other Goods Wholesaling	25
Warehousing & Storage Services	20
Transport Uses	
Motor Vehicle & Motor Vehicle Parts Retailing	30
Road Transport	25
Rail Transport	10
Transport Support Services	30
Postal & Courier Pick-up and Delivery Services	35

Source: Economic Associates

Net incremental industrial land demand within Redland City is projected to increase from 20.8 hectares in 2021 to 87.1 hectares in 2041, with land demand highest for the service industry sector (increasing from 8.2 hectares in 2021 to 37.9 hectares in 2041).

Table 9.12 below summarises the incremental net industrial land demand within Redland City by industrial sector between 2021 and 2041.

Table 9.12: Incremental Net Industrial Land Demand (hectares), Redland City, 2021-2041

Industrial Sector	2021	2026	2031	2036	2041
Large Footprint & General industry	5.2	11.0	15.7	18.7	21.7
Service Industry	8.2	17.5	25.7	31.7	37.9
Warehousing & Storage	2.2	4.4	5.3	4.4	3.1
Transport Uses	5.2	11.1	16.3	20.3	24.4
Total	20.8	44.0	63.0	75.1	87.1

Note: Incremental land estimates are on 2016 levels

Source: Economic Associates estimates

Commercial Office Floor Space Demand

In converting commercial office employment projections to floor space demand, the following assumptions have been made:

- Employing businesses: Assumed employment density of 15m² per worker;
- Sole traders: Only 50% of sole traders require commercial office space, as the remaining 50% are home-based businesses. The sole trader businesses that require commercial office space require a 25m² tenancy.

Based on the above assumptions, incremental commercial office floor space is projected to increase from 11,260m² in 2021 (on current levels) to 54,605m² in 2041 (on current levels).

Table 9.13 below outlines incremental commercial office floor space demand by sector, including a breakdown by employing businesses and sole trader businesses.

Table 9.13: Incremental Commercial Office Floor Space Demand, Redland City, 2021-2041

	2021	2026	2031	2036	2041
Employing Businesses					
Financial & Insurance Services	176	349	440	418	368
Professional, Scientific & Technical Services	3,340	7,134	10,723	13,711	16,850
Health Care & Social Assistance	3,328	7,101	10,738	13,866	17,144
Rental, Hiring & Real Estate Services	624	1,328	1,969	2,469	2,990
Public Administration & Safety	1,166	2,478	3,622	4,443	5,290
Information Media & Telecommunications	5	10	13	13	12
Administrative & Support Services	679	1,445	2,143	2,688	3,255
Total	9,317	19,844	29,649	37,609	45,910
Sole Traders					
Financial & Insurance Services	272	540	681	648	570
Professional, Scientific & Technical Services	696	1,486	2,234	2,857	3,510
Health Care & Social Assistance	146	311	471	608	752
Rental, Hiring & Real Estate Services	346	738	1,094	1,372	1,661
Public Administration & Safety	417	885	1,294	1,587	1,889
Information Media & Telecommunications	4	8	11	11	10
Administrative & Support Services	63	134	198	249	301
Total	1,944	4,103	5,983	7,330	8,695

Note: Estimates are on 2016 levels

Source: Economic Associates estimates

10 NEEDS ASSESSMENT

This chapter provides a summary of the major findings of the report and comments on the need for the Thornlands IEA, the suitability of the Thornlands IEA over alternative sites within Redland City, the infrastructure required to ensure the Thornlands IEA is considered desirable to prospective tenants and the quantum of land required to accommodate industrial and MIBA uses within the Thornlands IEA.

10.1 Supply Demand Balance

Our assessment has focused on the supply demand balance for industrial land within Redland City as our review of previous studies has indicated there exists sufficient capacity within the planning scheme to accommodate commercial office uses, primarily through redevelopment activity within the Cleveland and Capalaba PRACs.

There is an estimated 36.8 hectares of remaining zoned and vacant industrial land within Redland City, primarily contained within the Redlands Business Park. Incremental demand for industrial land is projected to increase from 20.8 hectares in 2021 to 87.1 hectares in 2041.

The supply demand balance (as outlined in Table 10.1 below) indicates that there is sufficient remaining zoned and vacant industrial land to accommodate growth within Redland City until 2025 (i.e. the next nine years), suggesting a need for additional zoned land in Redland City within the medium term.

Table 10.1: Supply Demand Balance (ha), Industrial Land in Redland City, 2016-2041

	2016	2021	2026	2031	2036	2041
Supply	36.8	36.8	36.8	36.8	36.8	36.8
Demand	-	20.8	44.0	63.0	75.1	87.1
Supply Demand Balance	36.8	16.0	-7.2	-26.2	-38.3	-50.3

Note: A positive (negative) supply demand balance indicates that remaining supply exceeds (is lower than) projected demand.

Source: Economic Associates estimates

10.2 Need for Thornlands IEA

10.2.1 Suitability of Thornlands IEA over Alternative Sites

The supply demand balance presented in Table 10.1 above indicates there is anticipated to be need for additional industrial zoned land within Redland City in the short to medium term.

The main competitor sites identified within Redland City for an integrated employment area to accommodate future industrial land demand are 380-416 Old Cleveland Road, Birkdale (39.06 hectares) and 340-378 Old Cleveland Road, Birkdale. The Urbis (2013) study concluded that the Birkdale sites were considered more suited for an IEA due to a number of factors, including consolidated land ownership and access and proximity to infrastructure links.

Our review concluded that the Thornlands IEA site represented the most appropriate location to accommodate future industrial land demand within Redland City, rather than the Birkdale sites, provided land assembly can occur, for a number of reasons:

- **Connectivity to SEQ Strategic Freight Network Similar for All Sites:** The Thornlands IEA has similar connectivity to the Gateway Motorway than both Cleveland sites, with the difference in estimated travel times to the nearest motorway entrance only marginal (10 minutes for Birkdale sites, versus 11 minutes for Thornlands IEA);
- **Other Infrastructure Provision Similar for All Sites:** All three sites do not have access to NBN or a natural gas main. The Birkdale sites benefit from sewer connectivity, but discussions with Redland City Council indicated that sewer connectivity to the Thornlands IEA is planned for completion in 2018, which is prior to the likely introduction of the Thornlands IEA;
- **Limited Conflicts between Heavy Vehicle and Commuter Traffic:** Whilst the Birkdale sites are marginally closer to a Gateway Motorway entrance than the Thornlands IEA, the Birkdale sites rely on travel along Old Cleveland Road, which is considered one of the major commuter corridors in Redland City. On the other hand, the Thornlands IEA site relies on connectivity to the Gateway Motorway via Mt Gravatt-Capalaba Road, which represents an extension of the Brisbane Urban Corridor and already carries a number of heavy vehicle movements. On balance, it would appear that the Thornlands IEA represents the most appropriate site in terms of limiting heavy vehicle and commuter traffic conflicts; and
- **Avoidance of Additional Heavy Vehicle Movements through Capalaba PRAC:** Travel between the Birkdale sites and the Gateway Motorway involves vehicle movements through the Capalaba PRAC. It is not considered desirable to encourage both commuter and heavy vehicle traffic movements through an established centre if it can be avoided. Vehicle movements from the Thornlands IEA to the Gateway Motorway do not involve travel through the Capalaba PRAC or any other established centres. Therefore, it follows that the Thornlands IEA represents a more appropriate site for industrial activity than the Birkdale sites.

Whilst land assembly within the Thornlands IEA area is more challenging than the Birkdale sites, this in itself does not discount the suitability of Thornlands IEA site to accommodate future industrial land demand. Also, whilst the Birkdale sites represent a consolidated land holding, the timing of this land disposal is unclear. It is our experience that it has been very difficult to accurately identify the Federal Government's intentions when it comes to the timing of such land disposals.

It is suggested that should Redland City Council wish to proceed with the development of the Thornlands IEA, further investigations should be undertaken regarding land fragmentation, constraints and land assembly issues through the preparation of a feasibility assessment.

10.2.2 Infrastructure Requirements for Thornlands IEA

Section 4.2 of the report identified that the Thornlands IEA had a number of shortcomings in regards to infrastructure provision, which is considered unsurprising given the relatively undeveloped nature of the area.

Advice from Council has indicated that trunk water connectivity for the Thornlands IEA is planned for completion in 2018 and that sewer connectivity would be achievable, should the Thornlands IEA ultimately be developed.

A review of competitor MIBA precincts within eastern Brisbane / northern Logan identified that all developments offered fibre optic connectivity. The provision of high speed internet

infrastructure is necessary for any future Thornlands IEA to attract tenants. The provision of high speed internet infrastructure would not change the ultimate tenancy mix within the Thornlands IEA, rather it would ensure that tenants would wish to locate there in the first place. Such infrastructure is now considered 'standard' in most employment areas, particularly in those competitor precincts to the Thornlands IEA.

The Thornlands IEA is likely to be considered less desirable than competitor MIBA precincts within eastern Brisbane / northern Logan due to its relative distance from the Gateway Motorway, which may be perceived as an inconvenience for some businesses. However, competitor MIBA precincts offer limited vacancies and there are relatively few opportunities to develop a MIBA precinct within the eastern Brisbane / northern Logan corridor. Therefore, if appropriate levels of infrastructure are provided within the Thornlands IEA and occupancy costs are not significantly higher than competitor MIBA precincts, the Thornlands IEA is likely to be considered a competitive offering in the eastern Brisbane / northern Logan market.

10.2.3 Land Requirements for Thornlands IEA

Table 10.1 above indicates that by 2041, there will be need for an additional 50.3 hectares of zoned industrial allotments within Redland City. Based on our experience with industrial land assessments, this means that approximately 100 hectares of raw land will need to be identified to accommodate 50.3 hectares of allotments (i.e. approximately double the required allotment land). The identification of 100 hectares of raw land should ensure sufficient land is available to accommodate 50.3 hectares of allotments after allowing for site constraints (e.g. slope, waterways and other environmental constraints), access roads, infrastructure and buffering from adjacent uses.

In the longer term an opportunity exists for the Thornlands IEA site to accommodate both industrial uses and a mixed industry and business area (MIBA) precinct, such as Metroplex on Gateway or Brisbane Technology Park. It is suggested that the development of a MIBA precinct on the Thornlands IEA site occurs over the longer term (~15 years), to allow redevelopment activity within the Capalaba and Cleveland PRACs to occur unhindered.

Our experience has been that an allowance of 50 hectares of allotments (translating to the identification of 100 hectares of raw land) for MIBA uses allows for sufficient scale to assist in ensuring the development of the precinct is financially feasible.

Therefore it is suggested that 200 hectares of raw land is identified to accommodate both industrial uses and MIBA uses within the Thornlands IEA.

It is suggested that masterplanning of the Thornlands IEA is undertaken to ensure that the site is developed in such a way that industrial development in the short to medium term does not sterilise the opportunity for MIBA uses in the longer term.

APPENDIX A

WORKING POPULATION INDUSTRY SHARE, REDLAND CITY

Table A.1: Working Population Industry Share, Redland City Council, SEQ and Queensland, 2011

Industry Sector/Subsector	Redland City	SEQ	Queensland
Agriculture, forestry and fishing			
Agriculture, forestry and fishing, nfd	0.0%	0.0%	0.0%
Agriculture	0.7%	0.7%	2.4%
Aquaculture	0.0%	0.0%	0.0%
Forestry and logging	0.0%	0.0%	0.0%
Fishing, hunting and trapping	0.1%	0.0%	0.1%
Agriculture, forestry and fishing support services	0.1%	0.1%	0.2%
<i>Total</i>	0.9%	0.8%	2.7%
Mining			
Mining, nfd	0.1%	0.1%	0.2%
Coal mining	0.0%	0.3%	1.2%
Oil and gas extraction	0.0%	0.3%	0.2%
Metal ore mining	0.4%	0.1%	0.5%
Non-metallic mineral mining and quarrying	0.2%	0.1%	0.1%
Exploration and other mining support services	0.1%	0.2%	0.4%
<i>Total</i>	0.7%	0.9%	2.6%
Manufacturing			
Manufacturing, nfd	1.1%	0.8%	0.8%
Food product manufacturing	2.9%	1.7%	1.8%
Beverage and tobacco product manufacturing	0.3%	0.2%	0.1%
Textile, leather, clothing and footwear manufacturing	0.3%	0.3%	0.3%
Wood product manufacturing	0.4%	0.4%	0.4%
Pulp, paper and converted paper product manufacturing	0.1%	0.2%	0.1%
Printing (including the reproduction of recorded media)	0.2%	0.3%	0.2%
Petroleum and coal product manufacturing	0.0%	0.1%	0.1%
Basic chemical and chemical product manufacturing	0.2%	0.4%	0.3%
Polymer product and rubber product manufacturing	0.2%	0.4%	0.3%
Non-metallic mineral product manufacturing	0.2%	0.5%	0.4%
Primary metal and metal product manufacturing	0.4%	0.7%	0.8%
Fabricated metal product manufacturing	0.5%	0.8%	0.7%
Transport equipment manufacturing	0.5%	0.8%	0.7%
Machinery and equipment manufacturing	1.1%	1.1%	0.9%
Furniture and other manufacturing	0.3%	0.5%	0.4%
<i>Total</i>	8.8%	9.1%	8.5%
Electricity, gas, water and waste services			
Electricity, gas, water and waste services, nfd	0.0%	0.0%	0.0%
Electricity supply	0.1%	0.5%	0.7%
Gas supply	0.0%	0.0%	0.0%
Water supply, sewerage and drainage services	0.2%	0.3%	0.3%
Waste collection, treatment and disposal services	0.4%	0.2%	0.3%
<i>Total</i>	0.8%	1.2%	1.2%
Construction			
Construction, nfd	0.2%	0.2%	0.3%
Building construction	2.4%	2.1%	2.6%
Heavy and civil engineering construction	0.3%	0.8%	1.1%
Construction services	5.5%	3.6%	5.1%
<i>Total</i>	8.4%	6.8%	9.0%
Wholesale trade			
Wholesale trade, nfd	0.2%	0.3%	0.2%
Basic material wholesaling	1.1%	0.9%	0.9%
Machinery and equipment wholesaling	0.8%	1.0%	0.9%
Motor vehicle and motor vehicle parts wholesaling	0.3%	0.4%	0.3%
Grocery, liquor and tobacco product wholesaling	0.4%	0.7%	0.7%
Other goods wholesaling	0.7%	0.9%	0.6%



Industry Sector/Subsector	Redland City	SEQ	Queensland
Commission-based wholesaling	0.0%	0.1%	0.1%
<i>Total</i>	3.6%	4.2%	3.7%
Retail trade			
Retail trade, nfd	0.6%	0.4%	0.4%
Motor vehicle and motor vehicle parts retailing	1.0%	0.9%	0.9%
Fuel retailing	0.4%	0.3%	0.4%
Food retailing	5.7%	3.4%	3.3%
Other store-based retailing	8.2%	6.2%	5.7%
Non-store retailing and retail commission-based buying and/or selling	0.1%	0.1%	0.1%
<i>Total</i>	16.0%	11.2%	10.8%
Accommodation and food services			
Accommodation and food services, nfd	0.0%	0.0%	0.0%
Accommodation	0.6%	1.4%	1.6%
Food and beverage services	7.5%	5.8%	5.4%
<i>Total</i>	8.1%	7.1%	7.0%
Transport, postal and warehousing			
Transport, postal and warehousing, nfd	0.1%	0.1%	0.1%
Road transport	1.8%	2.2%	2.4%
Rail transport	0.0%	0.6%	0.7%
Water transport	0.3%	0.1%	0.1%
Air and space transport	0.0%	0.6%	0.5%
Other transport	0.0%	0.1%	0.1%
Postal and courier pick-up and delivery services	0.6%	0.6%	0.6%
Transport support services	0.2%	0.7%	0.7%
Warehousing and storage services	0.1%	0.2%	0.2%
<i>Total</i>	3.1%	5.1%	5.3%
Information media and telecommunications			
Information media and telecommunications, nfd	0.0%	0.0%	0.0%
Publishing (except internet and music publishing)	0.5%	0.4%	0.3%
Motion picture and sound recording activities	0.2%	0.2%	0.2%
Broadcasting (except internet)	0.0%	0.2%	0.2%
Internet publishing and broadcasting	0.0%	0.0%	0.0%
Telecommunications services	0.4%	0.6%	0.5%
Internet service providers, web search portals and data processing services	0.0%	0.1%	0.1%
Library and other information services	0.1%	0.1%	0.1%
<i>Total</i>	1.3%	1.5%	1.3%
Financial and insurance services			
Financial and insurance services, nfd	0.1%	0.1%	0.1%
Finance	1.0%	1.4%	1.2%
Insurance and superannuation funds	0.3%	1.0%	0.7%
Auxiliary finance and insurance services	0.6%	1.0%	0.7%
<i>Total</i>	1.9%	3.5%	2.7%
Rental, hiring and real estate services			
Rental, hiring and real estate services, nfd	0.0%	0.0%	0.0%
Rental and hiring services (except real estate)	0.5%	0.5%	0.5%
Property operators and real estate services	1.7%	1.6%	1.3%
<i>Total</i>	2.1%	2.2%	1.9%
Professional, scientific and technical services			
Professional, scientific and technical services, nfd	0.0%	0.0%	0.0%
Professional, scientific and technical services (except computer system design and related services)	4.6%	6.9%	5.6%
Computer system design and related services	0.9%	1.5%	1.0%
<i>Total</i>	5.5%	8.3%	6.6%
Administrative and support services			
Administrative and support services, nfd	0.0%	0.0%	0.0%
Administrative services	1.2%	1.9%	1.7%

Industry Sector/Subsector	Redland City	SEQ	Queensland
Building cleaning, pest control and other support services	2.0%	1.1%	1.5%
<i>Total</i>	3.2%	3.0%	3.2%
Public administration and safety			
Public administration and safety, nfd	0.0%	0.0%	0.0%
Public administration	3.3%	4.7%	4.4%
Defence	0.0%	0.6%	0.7%
Public order, safety and regulatory services	1.0%	1.7%	1.7%
<i>Total</i>	4.2%	7.0%	6.8%
Education and training			
Education and training, nfd	0.1%	0.2%	0.2%
Preschool and school education	8.2%	5.3%	5.3%
Tertiary education	0.7%	2.3%	1.8%
Adult, community and other education	1.0%	0.9%	0.8%
<i>Total</i>	10.1%	8.6%	8.0%
Health care and social assistance			
Health care and social assistance, nfd	0.4%	0.4%	0.4%
Hospitals	3.3%	4.6%	4.1%
Medical and other health care services	3.8%	3.3%	2.9%
Residential care services	3.1%	1.8%	1.7%
Social assistance services	3.6%	2.8%	2.8%
<i>Total</i>	14.3%	13.0%	12.1%
Arts and recreation services			
Arts and recreation services, nfd	0.0%	0.0%	0.0%
Heritage activities	0.1%	0.2%	0.2%
Creative and performing arts activities	0.2%	0.3%	0.2%
Sports and recreation activities	0.8%	0.9%	0.8%
Gambling activities	0.1%	0.3%	0.2%
<i>Total</i>	1.2%	1.7%	1.4%
Other services			
Other services, nfd	0.0%	0.0%	0.0%
Repair and maintenance	2.1%	1.7%	1.9%
Personal and other services	2.5%	2.2%	2.0%
Private households employing staff and undifferentiated goods and service-producing activities of households for own use	0.0%	0.0%	0.0%
<i>Total</i>	4.6%	3.9%	3.9%
Inadequately described	1.0%	1.0%	1.2%
Industry of employment not stated	0.1%	0.0%	0.1%
Total	100.0%	100.0%	100.0%

Note: nfd - not further defined

Source: ABS (2011) Census of Population and Housing

APPENDIX B

**DETAILED ANALYSIS OF REGIONAL COMPETITIVE
ADVANTAGE, REDLAND CITY**

Table B.1: Detailed analysis of regional significance and competitive advantage, Redland City

Industry sector	Redland City Council					Queensland				IS _Q	LQ	Shift Share Analysis		
	Emp, 2006	Emp, 2011	% change, 2006-2011	Subsector share, 2011	Subsector share of industry 2011	Emp, 2006	Emp, 2011	Subsector share of industry 2011	% change, 2006-2011			NS	IM	RS
Agriculture, forestry and fishing, nfd	0	3	100.0%	0.0%	1.0%	394	481	0.0%	22.1%	0.1	0.4	0	0	0
Agriculture	332	257	-22.6%	0.7%	82.1%	52,392	48,144	2.4%	-8.1%	4.9	0.3	381	-75	-48
Aquaculture	11	9	-18.2%	0.0%	2.9%	531	500	0.0%	-5.8%	0.2	1.0	13	-2	-1
Forestry and logging	0	0	100.0%	0.0%	0.0%	1,033	793	0.0%	-23.2%	0.0	0.0	0	0	0
Fishing, hunting and trapping	39	24	-38.5%	0.1%	7.7%	1,508	1,084	0.1%	-28.1%	0.5	1.2	45	-17	-4
Agriculture, forestry and fishing support services	15	20	33.3%	0.1%	6.4%	3,649	3,561	0.2%	-2.4%	0.4	0.3	17	-3	5
Mining, nfd	18	23	27.8%	0.1%	9.0%	1,989	3,322	0.2%	67.0%	0.5	0.4	21	9	-7
Coal mining	6	7	16.7%	0.0%	2.7%	13,739	24,471	1.2%	78.1%	0.2	0.0	7	4	-4
Oil and gas extraction	3	3	0.0%	0.0%	1.2%	1,015	4,952	0.2%	387.9%	0.1	0.0	3	11	-12
Metal ore mining	137	133	-2.9%	0.4%	52.2%	6,419	9,199	0.5%	43.3%	3.1	0.8	157	39	-63
Non-metallic mineral mining and quarrying	60	62	3.3%	0.2%	24.3%	1,728	2,162	0.1%	25.1%	1.5	1.6	69	6	-13
Exploration and other mining support services	12	27	125.0%	0.1%	10.6%	4,119	7,549	0.4%	83.3%	0.6	0.2	14	8	5
Mfg, nfd	379	379	0.0%	1.1%	12.1%	13,679	15,765	0.8%	15.2%	1.9	1.4	434	2	-58
Food product mfg	1,046	1,046	0.0%	2.9%	33.5%	35,288	36,780	1.8%	4.2%	5.4	1.6	1,199	-	-44
Beverage and tobacco product mfg	102	102	0.0%	0.3%	3.3%	2,694	2,847	0.1%	5.7%	0.5	2.0	117	-9	-6
Textile, leather, clothing and footwear mfg	124	124	0.0%	0.3%	4.0%	6,197	5,158	0.3%	-16.8%	0.6	1.4	142	-39	21
Wood product mfg	155	155	0.0%	0.4%	5.0%	10,418	8,323	0.4%	-20.1%	0.8	1.0	178	-54	31
Pulp, paper and converted paper product mfg	17	40	135.3%	0.1%	1.3%	2,690	2,222	0.1%	-17.4%	0.2	1.0	19	-5	26
Printing (including the reproduction of recorded media)	77	77	0.0%	0.2%	2.5%	6,112	4,847	0.2%	-20.7%	0.4	0.9	88	-27	16
Petroleum and coal product mfg	4	4	0.0%	0.0%	0.1%	1,356	1,612	0.1%	18.9%	0.0	0.1	5	0	-1
Basic chemical and chemical product mfg	57	57	0.0%	0.2%	1.8%	5,520	6,511	0.3%	18.0%	0.3	0.5	65	2	-10
Polymer product and rubber product mfg	67	67	0.0%	0.2%	2.1%	7,149	6,472	0.3%	-9.5%	0.3	0.6	77	-16	6
Non-metallic mineral product mfg	73	73	0.0%	0.2%	2.3%	8,625	8,376	0.4%	-2.9%	0.4	0.5	84	-13	2
Primary metal and metal product mfg	125	125	0.0%	0.4%	4.0%	16,224	16,540	0.8%	1.9%	0.6	0.4	143	-16	-2
Fabricated metal product mfg	186	186	0.0%	0.5%	6.0%	14,362	13,485	0.7%	-6.1%	1.0	0.8	213	-39	11
Transport equipment mfg	176	176	0.0%	0.5%	5.6%	16,374	14,499	0.7%	-11.5%	0.9	0.7	202	-46	20
Machinery and equipment mfg	395	395	0.0%	1.1%	12.6%	16,911	18,330	0.9%	8.4%	2.0	1.2	453	-25	-33
Furniture and other mfg	119	119	0.0%	0.3%	3.8%	9,172	7,257	0.4%	-20.9%	0.6	0.9	136	-42	25
Electricity, gas, water and waste services, nfd	3	7	0.0%	0.0%	2.5%	87	115	0.0%	32.2%	0.1	3.4	3	1	3

Industry sector	Redland City Council					Queensland				IS _Q	LQ	Shift Share Analysis		
	Emp, 2014	Emp, 2015	%	Subsector	Subsector	Emp, 2014	Emp, 2015	Subsector	%			NS	IM	RS
Electricity supply	36	45	25.0%	0.1%	15.9%	10,807	13,316	0.7%	23.2%	0.8	0.2	41	3	1
Gas supply	3	5	66.7%	0.0%	1.8%	601	736	0.0%	22.5%	0.1	0.4	3	0	1
Water supply, sewerage and drainage services	59	80	35.6%	0.2%	28.3%	3,269	5,601	0.3%	71.3%	1.4	0.8	68	33	-21
Waste collection, treatment and disposal services	95	146	53.7%	0.4%	51.6%	3,354	4,995	0.3%	48.9%	2.6	1.6	109	33	5
Construction, nfd	80	80	0.0%	0.2%	2.7%	4,913	5,558	0.3%	13.1%	0.1	0.8	92	-1	-11
Building construction	844	844	0.0%	2.4%	28.3%	49,856	51,817	2.6%	3.9%	1.1	0.9	967	-90	-33
Heavy and civil engineering construction	114	114	0.0%	0.3%	3.8%	13,419	21,435	1.1%	59.7%	0.2	0.3	131	51	-68
Construction services	1,946	1,946	0.0%	5.5%	65.2%	86,709	101,136	5.1%	16.6%	2.6	1.1	2,231	39	-324
Wholesale trade, nfd	108	72	-33.3%	0.2%	5.6%	5,172	4,073	0.2%	-21.2%	0.4	1.0	124	-39	-13
Basic material wholesaling	491	396	-19.3%	1.1%	30.8%	16,458	17,497	0.9%	6.3%	2.2	1.3	563	-41	-126
Machinery and equipment wholesaling	376	291	-22.6%	0.8%	22.6%	14,948	18,094	0.9%	21.0%	1.6	0.9	431	24	-164
Motor vehicle and motor vehicle parts wholesaling	117	115	-1.7%	0.3%	8.9%	5,785	6,189	0.3%	7.0%	0.6	1.0	134	-9	-10
Grocery, liquor and tobacco product wholesaling	166	145	-12.7%	0.4%	11.3%	13,477	13,564	0.7%	0.6%	0.8	0.6	190	-23	-22
Other goods wholesaling	213	251	17.8%	0.7%	19.5%	12,833	12,942	0.6%	0.8%	1.4	1.1	244	-29	36
Commission-based wholesaling	11	15	36.4%	0.0%	1.2%	1,147	1,020	0.1%	-11.1%	0.1	0.8	13	-3	5
Retail trade, nfd	200	201	0.5%	0.6%	3.5%	10,298	8,688	0.4%	-15.6%	0.2	1.3	229	-61	32
Motor vehicle and motor vehicle parts retailing	352	351	-0.3%	1.0%	6.2%	17,174	17,529	0.9%	2.1%	0.4	1.1	403	-44	-8
Fuel retailing	148	150	1.4%	0.4%	2.6%	7,334	7,049	0.4%	-3.9%	0.2	1.2	170	-27	8
Food retailing	2,031	2,024	-0.3%	5.7%	35.6%	62,380	66,634	3.3%	6.8%	2.1	1.7	2,328	-	-146
Other store-based retailing	2,771	2,923	5.5%	8.2%	51.4%	107,078	113,394	5.7%	5.9%	3.1	1.4	3,176	-	-11
Non-store retailing and retail commission-based buying and/or selling	38	35	-7.9%	0.1%	1.2%	920	1,323	0.1%	43.8%	0.1	1.5	44	11	-20
Accommodation and food services, nfd	0	0	#DIV/0!	0.0%	0.0%	73	77	0.0%	5.5%	0.0	0.0	0	0	0
Accommodation	212	212	0.0%	0.6%	7.3%	31,545	32,093	1.6%	1.7%	0.2	0.4	243	-27	-4
Food and beverage services	2,646	2,646	0.0%	7.5%	91.5%	90,266	107,864	5.4%	19.5%	2.7	1.4	3,033	129	-516
Transport, postal and warehousing, nfd	29	37	27.6%	0.1%	3.4%	1,363	1,388	0.1%	1.8%	0.3	1.5	33	-4	7
Road transport	588	656	11.6%	1.8%	59.5%	41,454	48,480	2.4%	16.9%	5.4	0.8	674	14	-32
Rail transport	8	10	25.0%	0.0%	0.9%	9,893	13,316	0.7%	34.6%	0.1	0.0	9	2	-1
Water transport	98	103	5.1%	0.3%	9.3%	1,412	1,400	0.1%	-0.8%	0.8	4.1	112	-15	6
Air and space transport	3	7	133.3%	0.0%	0.6%	7,723	9,670	0.5%	25.2%	0.1	0.0	3	0	3
Other transport	11	8	-27.3%	0.0%	0.7%	1,938	2,492	0.1%	28.6%	0.1	0.2	13	2	-6
Postal and courier pick-up and delivery services	176	199	13.1%	0.6%	18.0%	10,204	10,982	0.6%	7.6%	1.6	1.0	202	-12	10

Industry sector	Redland City Council					Queensland				IS _Q	LQ	Shift Share Analysis		
	Emp, 2014	Emp, 2015	%	Subsector	Subsector	Emp, 2014	Emp, 2015	Subsector	%			NS	IM	RS
Transport support services	49	61	24.5%	0.2%	5.5%	11,001	13,239	0.7%	20.3%	0.5	0.3	56	3	2
Warehousing and storage services	43	22	-48.8%	0.1%	2.0%	2,949	3,956	0.2%	34.1%	0.2	0.3	49	8	-36
Information media and telecommunications, nfd	3	4	0.0%	0.0%	0.9%	218	195	0.0%	-10.6%	0.1	1.2	3	-1	1
Publishing (except internet and music publishing)	232	190	-18.1%	0.5%	40.7%	7,026	6,345	0.3%	-9.7%	3.3	1.7	266	-56	-20
Motion picture and sound recording activities	36	74	105.6%	0.2%	15.8%	2,685	3,132	0.2%	16.6%	1.3	1.3	41	1	32
Broadcasting (except internet)	7	13	85.7%	0.0%	2.8%	3,350	3,496	0.2%	4.4%	0.2	0.2	8	-1	6
Internet publishing and broadcasting	0	6	#DIV/0!	0.0%	1.3%	76	143	0.0%	88.2%	0.1	2.4	0	0	0
Telecommunications services	84	145	72.6%	0.4%	31.0%	10,350	9,406	0.5%	-9.1%	2.5	0.9	96	-20	69
Internet service providers, web search portals and data processing services	11	11	0.0%	0.0%	2.4%	1,186	1,368	0.1%	15.3%	0.2	0.5	13	0	-2
Library and other information services	22	24	9.1%	0.1%	5.1%	903	1,197	0.1%	32.6%	0.4	1.1	25	4	-5
Financial and insurance services, nfd	39	33	-15.4%	0.1%	4.9%	1,448	1,444	0.1%	-0.3%	0.2	1.3	45	-6	-6
Finance	357	346	-3.1%	1.0%	51.8%	23,999	23,572	1.2%	-1.8%	2.1	0.8	409	-59	-5
Insurance and superannuation funds	80	89	11.3%	0.3%	13.3%	11,344	14,089	0.7%	24.2%	0.5	0.4	92	8	-10
Auxiliary finance and insurance services	179	200	11.7%	0.6%	29.9%	14,410	14,730	0.7%	2.2%	1.2	0.8	205	-22	17
Rental, hiring and real estate services, nfd	0	0	0.0%	0.0%	0.0%	63	49	0.0%	-22.2%	0.0	0.0	0	0	0
Rental and hiring services (except real estate)	212	160	-24.5%	0.5%	21.2%	9,922	10,332	0.5%	4.1%	0.6	0.9	243	-22	-61
Property operators and real estate services	654	595	-9.0%	1.7%	78.8%	27,431	26,494	1.3%	-3.4%	2.4	1.3	750	-118	-37
Professional, scientific and technical services, nfd	0	6	0.0%	0.0%	0.3%	113	217	0.0%	92.0%	0.0	1.6	0	0	0
Professional, scientific and technical services (except computer system design and related services)	1,362	1,617	18.7%	4.6%	82.7%	86,791	111,650	5.6%	28.6%	2.5	0.8	1,561	191	-135
Computer system design and related services	180	332	84.4%	0.9%	17.0%	13,922	20,054	1.0%	44.0%	0.5	0.9	206	53	73
Administrative and support services, nfd	0	0	0.0%	0.0%	0.0%	29	45	0.0%	55.2%	0.0	0.0	0	0	0
Administrative services	322	433	34.5%	1.2%	38.0%	28,500	34,234	1.7%	20.1%	1.1	0.7	369	18	46
Building cleaning, pest control and other support services	648	706	9.0%	2.0%	62.0%	24,552	29,907	1.5%	21.8%	1.9	1.3	743	47	-83
Public administration and safety, nfd	0	3	#DIV/0!	0.0%	0.2%	233	295	0.0%	26.6%	0.0	0.6	0	0	0
Public administration	1,177	1,156	-1.8%	3.3%	76.9%	81,344	87,522	4.4%	7.6%	3.1	0.7	1,349	-83	-110
Defence	22	3	-86.4%	0.0%	0.2%	11,107	14,433	0.7%	29.9%	0.0	0.0	25	3	-26
Public order, safety and regulatory services	316	341	7.9%	1.0%	22.7%	26,009	33,339	1.7%	28.2%	0.9	0.6	362	43	-64
Education and training, nfd	81	47	-42.0%	0.1%	1.3%	4,224	3,164	0.2%	-25.1%	0.1	0.8	93	-32	-14

Industry sector	Redland City Council					Queensland				IS _Q	LQ	Shift Share Analysis		
	Emp,	Emp,	%	Subsector	Subsector	Emp,	Emp,	Subsector	%			NS	IM	RS
Preschool and school education	2,474	2,914	17.8%	8.2%	81.6%	87,944	105,095	5.3%	19.5%	3.3	1.6	2,836	121	-42
Tertiary education	280	242	-13.6%	0.7%	6.8%	30,734	36,327	1.8%	18.2%	0.3	0.4	321	10	-89
Adult, community and other education	329	366	11.2%	1.0%	10.3%	13,152	15,657	0.8%	19.0%	0.4	1.3	377	15	-26
Health care and social assistance, nfd	118	145	22.9%	0.4%	2.9%	4,956	8,727	0.4%	76.1%	0.1	0.9	135	73	-63
Hospitals	758	1,170	54.4%	3.3%	23.1%	56,782	82,344	4.1%	45.0%	1.2	0.8	869	230	71
Medical and other health care services	1,095	1,355	23.7%	3.8%	26.7%	50,788	58,576	2.9%	15.3%	1.3	1.3	1,255	8	92
Residential care services	919	1,107	20.5%	3.1%	21.9%	26,489	34,838	1.7%	31.5%	1.1	1.8	1,053	155	-102
Social assistance services	931	1,289	38.5%	3.6%	25.4%	42,016	55,532	2.8%	32.2%	1.3	1.3	1,067	163	59
Arts and recreation services, nfd	8	5	-37.5%	0.0%	1.2%	841	518	0.0%	-38.4%	0.1	0.5	9	-4	0
Heritage activities	28	31	10.7%	0.1%	7.2%	2,516	3,190	0.2%	26.8%	0.4	0.5	32	3	-5
Creative and performing arts activities	61	76	24.6%	0.2%	17.7%	3,516	4,703	0.2%	33.8%	0.9	0.9	70	12	-6
Sports and recreation activities	260	298	14.6%	0.8%	69.5%	12,837	15,120	0.8%	17.8%	3.5	1.1	298	8	-8
Gambling activities	18	19	5.6%	0.1%	4.4%	4,155	4,890	0.2%	17.7%	0.2	0.2	21	1	-2
Other services, nfd	0	0	100.0%	0.0%	0.0%	26	58	0.0%	123.1%	0.0	0.0	0	0	0
Repair and maintenance	728	762	4.7%	2.1%	46.6%	32,857	37,500	1.9%	14.1%	1.9	1.1	834	-4	-69
Personal and other services	715	872	22.0%	2.5%	53.4%	33,488	40,210	2.0%	20.1%	2.1	1.2	820	39	13
Private households employing staff	3	0	-100.0%	0.0%	0.0%	275	388	0.0%	41.1%	0.0	0.0	3	1	-4
Inadequately described	361	365	1.1%	1.0%	-	21,721	22,910	1.2%	5.5%	-	0.9	414	-33	-16
Industry of employment not stated	36	20	-44.4%	0.1%	-	2,164	1,414	0.1%	-34.7%	-	0.8	41	-18	-4
Total	32,110	35,463	10.4%	100.0%	-	1,737,619	1,991,753	100.0%	14.6%	-	1.0	36,806	0	-

Source: Derived from ABS (various years) Census of Population & Housing, 2nd release

Table B.2: Location Quotient Analysis, Redland City relative to SEQ and Queensland

Location Quotient	Redland City	
	Relative to SEQ	Relative to Queensland
Agriculture, forestry and fishing		
Agriculture, forestry and fishing, nfd	1.0	0.4
Agriculture	1.0	0.3
Aquaculture	2.0	1.0
Forestry and logging	0.0	0.0
Fishing, hunting and trapping	3.4	1.2
Agriculture, forestry and fishing support services	1.0	0.3
<i>Total</i>	<i>1.0</i>	<i>0.3</i>
Mining		
Mining, nfd	0.9	0.4
Coal mining	0.1	0.0
Oil and gas extraction	0.0	0.0
Metal ore mining	4.3	0.8
Non-metallic mineral mining and quarrying	2.6	1.6
Exploration and other mining support services	0.5	0.2
<i>Total</i>	<i>0.8</i>	<i>0.3</i>
Manufacturing		
Manufacturing, nfd	1.3	1.4
Food product manufacturing	1.7	1.6
Beverage and tobacco product manufacturing	1.7	2.0
Textile, leather, clothing and footwear manufacturing	1.1	1.4
Wood product manufacturing	1.1	1.0
Pulp, paper and converted paper product manufacturing	0.7	1.0
Printing (including the reproduction of recorded media)	0.7	0.9
Petroleum and coal product manufacturing	0.1	0.1
Basic chemical and chemical product manufacturing	0.5	0.5
Polymer product and rubber product manufacturing	0.4	0.6
Non-metallic mineral product manufacturing	0.5	0.5
Primary metal and metal product manufacturing	0.5	0.4
Fabricated metal product manufacturing	0.7	0.8
Transport equipment manufacturing	0.6	0.7
Machinery and equipment manufacturing	1.1	1.2
Furniture and other manufacturing	0.7	0.9
<i>Total</i>	<i>1.0</i>	<i>1.0</i>
Electricity, gas, water and waste services		
Electricity, gas, water and waste services, nfd	2.7	3.4
Electricity supply	0.2	0.2
Gas supply	0.5	0.4
Water supply, sewerage and drainage services	0.7	0.8
Waste collection, treatment and disposal services	1.7	1.6
<i>Total</i>	<i>0.7</i>	<i>0.6</i>
Construction		
Construction, nfd	1.1	0.8
Building construction	1.1	0.9
Heavy and civil engineering construction	0.4	0.3
Construction services	1.5	1.1
<i>Total</i>	<i>1.2</i>	<i>0.9</i>
Wholesale trade		
Wholesale trade, nfd	0.8	1.0
Basic material wholesaling	1.3	1.3
Machinery and equipment wholesaling	0.8	0.9
Motor vehicle and motor vehicle parts wholesaling	0.9	1.0



Location Quotient	Redland City	
	Relative to SEQ	Relative to Queensland
Grocery, liquor and tobacco product wholesaling	0.6	0.6
Other goods wholesaling	0.8	1.1
Commission-based wholesaling	0.8	0.8
<i>Total</i>	<i>0.9</i>	<i>1.0</i>
Retail trade		
Retail trade, nfd	1.4	1.3
Motor vehicle and motor vehicle parts retailing	1.1	1.1
Fuel retailing	1.5	1.2
Food retailing	1.7	1.7
Other store-based retailing	1.3	1.4
Non-store retailing and retail commission-based buying and/or selling	1.3	1.5
<i>Total</i>	<i>1.4</i>	<i>1.5</i>
Accommodation and food services		
Accommodation and food services, nfd	0.0	0.0
Accommodation	0.4	0.4
Food and beverage services	1.3	1.4
<i>Total</i>	<i>1.1</i>	<i>1.1</i>
Transport, postal and warehousing		
Transport, postal and warehousing, nfd	1.5	1.5
Road transport	0.8	0.8
Rail transport	0.1	0.0
Water transport	5.6	4.1
Air and space transport	0.0	0.0
Other transport	0.4	0.2
Postal and courier pick-up and delivery services	0.9	1.0
Transport support services	0.2	0.3
Warehousing and storage services	0.2	0.3
<i>Total</i>	<i>0.6</i>	<i>0.6</i>
Information media and telecommunications		
Information media and telecommunications, nfd	1.0	1.2
Publishing (except internet and music publishing)	1.4	1.7
Motion picture and sound recording activities	1.1	1.3
Broadcasting (except internet)	0.2	0.2
Internet publishing and broadcasting	1.7	2.4
Telecommunications services	0.7	0.9
Internet service providers, web search portals and data processing services	0.3	0.5
Library and other information services	0.9	1.1
<i>Total</i>	<i>0.9</i>	<i>1.0</i>
Financial and insurance services		
Financial and insurance services, nfd	0.9	1.3
Finance	0.7	0.8
Insurance and superannuation funds	0.3	0.4
Auxiliary finance and insurance services	0.6	0.8
<i>Total</i>	<i>0.5</i>	<i>0.7</i>
Rental, hiring and real estate services		
Rental, hiring and real estate services, nfd	0.0	0.0
Rental and hiring services (except real estate)	0.9	0.9
Property operators and real estate services	1.0	1.3
<i>Total</i>	<i>1.0</i>	<i>1.1</i>
Professional, scientific and technical services		
Professional, scientific and technical services, nfd	1.2	1.6
Professional, scientific and technical services (except computer system design and related services)	0.7	0.8

Location Quotient	Redland City	
	Relative to SEQ	Relative to Queensland
Computer system design and related services	0.6	0.9
<i>Total</i>	<i>0.7</i>	<i>0.8</i>
Administrative and support services		
Administrative and support services, nfd	0.0	0.0
Administrative services	0.6	0.7
Building cleaning, pest control and other support services	1.8	1.3
<i>Total</i>	<i>1.1</i>	<i>1.0</i>
Public administration and safety		
Public administration and safety, nfd	0.5	0.6
Public administration	0.7	0.7
Defence	0.0	0.0
Public order, safety and regulatory services	0.6	0.6
<i>Total</i>	<i>0.6</i>	<i>0.6</i>
Education and training		
Education and training, nfd	0.8	0.8
Preschool and school education	1.6	1.6
Tertiary education	0.3	0.4
Adult, community and other education	1.2	1.3
<i>Total</i>	<i>1.2</i>	<i>1.3</i>
Health care and social assistance		
Health care and social assistance, nfd	1.0	0.9
Hospitals	0.7	0.8
Medical and other health care services	1.2	1.3
Residential care services	1.7	1.8
Social assistance services	1.3	1.3
<i>Total</i>	<i>1.1</i>	<i>1.2</i>
Arts and recreation services		
Arts and recreation services, nfd	0.5	0.5
Heritage activities	0.6	0.5
Creative and performing arts activities	0.8	0.9
Sports and recreation activities	0.9	1.1
Gambling activities	0.2	0.2
<i>Total</i>	<i>0.7</i>	<i>0.8</i>
Other services		
Other services, nfd	0.0	0.0
Repair and maintenance	1.3	1.1
Personal and other services	1.1	1.2
Private households employing staff and undifferentiated goods and service-producing activities of households for own use	0.4	0.4
<i>Total</i>	<i>1.2</i>	<i>1.2</i>
Inadequately described	1.1	0.9
Industry of employment not stated	1.4	0.8

Note: nfd - not further defined

Source: ABS (2011) Census of Population and Housing

Table B.3: Export Value and Growth Assessment, Redland City

Industry	% of Export Value, 2014-15	Ave. Ann. Growth, 2009-10 to 2014-15
Agriculture	1.8%	0.4%
Aquaculture	0.2%	-0.7%
Forestry and Logging	0.0%	-
Fishing, Hunting and Trapping	0.2%	-27.4%
Agriculture, Forestry and Fishing Support Services	0.0%	-54.5%
Coal Mining	0.0%	-
Oil and Gas Extraction	0.0%	-
Metal Ore Mining	1.8%	-8.8%
Non-Metallic Mineral Mining and Quarrying	1.1%	-4.9%
Exploration and Other Mining Support Services	0.0%	-
Food Product Manufacturing	25.2%	4.9%
Beverage and Tobacco Product Manufacturing	5.8%	23.6%
Textile, Leather, Clothing and Footwear Manufacturing	0.8%	8.1%
Wood Product Manufacturing	1.7%	-14.2%
Pulp, Paper and Converted Paper Product Manufacturing	0.6%	2.1%
Printing (including the Reproduction of Recorded Media)	4.3%	92.5%
Petroleum and Coal Product Manufacturing	0.3%	-2.8%
Basic Chemical and Chemical Product Manufacturing	1.9%	9.5%
Polymer Product and Rubber Product Manufacturing	1.6%	-1.8%
Non-Metallic Mineral Product Manufacturing	0.5%	-2.4%
Primary Metal and Metal Product Manufacturing	4.5%	0.8%
Fabricated Metal Product Manufacturing	0.9%	0.5%
Transport Equipment Manufacturing	1.8%	-1.0%
Machinery and Equipment Manufacturing	5.8%	-7.8%
Furniture and Other Manufacturing	0.2%	-7.0%
Electricity Supply	0.3%	-0.6%
Gas Supply	0.3%	4.4%
Water Supply, Sewerage and Drainage Services	0.5%	80.9%
Waste Collection, Treatment and Disposal Services	0.5%	66.9%
Building Construction	0.0%	-
Heavy and Civil Engineering Construction	0.0%	-
Construction Services	0.0%	-
Basic Material Wholesaling	0.5%	-11.7%
Machinery and Equipment Wholesaling	0.2%	14.2%
Motor Vehicle and Motor Vehicle Parts Wholesaling	0.1%	17.9%
Grocery, Liquor and Tobacco Product Wholesaling	0.1%	12.5%
Other Goods Wholesaling	0.2%	15.8%
Commission-Based Wholesaling	0.0%	10.4%
Motor Vehicle and Motor Vehicle Parts Retailing	0.2%	-0.5%
Fuel Retailing	0.1%	1.2%
Food Retailing	1.5%	-15.8%
Other Store-Based Retailing	1.0%	0.5%
Non-Store Retailing and Retail Commission Based Buying	0.0%	-7.0%
Accommodation	2.9%	6.5%
Food and Beverage Services	0.9%	-1.2%
Road Transport	1.1%	-9.8%
Rail Transport	0.0%	4.6%
Water Transport	1.2%	-17.2%
Air and Space Transport	0.0%	-51.1%
Other Transport	0.0%	-10.4%
Postal and Courier Pick-up and Delivery Services	0.4%	0.7%
Transport Support Services	0.0%	-6.6%
Warehousing and Storage Services	0.0%	-16.1%
Publishing (except Internet and Music Publishing)	0.5%	-0.1%
Motion Picture and Sound Recording Activities	0.0%	-21.4%

Industry	% of Export Value, 2014-15	Ave. Ann. Growth, 2009-10 to 2014-15
Broadcasting (except Internet)	0.0%	-28.9%
Internet Publishing and Broadcasting	0.0%	-11.1%
Telecommunications Services	0.3%	5.2%
Internet Service Providers, Web Search Portals and Data Processing Services	0.0%	62.0%
Library and Other Information Services	0.1%	15.7%
Finance	2.5%	3.3%
Insurance and Superannuation Funds	0.3%	1.2%
Auxiliary Finance and Insurance Services	0.3%	9.9%
Rental and Hiring Services (except Real Estate)	5.5%	2.4%
Property Operators and Real Estate Services	9.8%	-10.3%
Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	1.8%	36.1%
Computer System Design and Related Services	0.2%	38.4%
Administrative Services	0.1%	-7.5%
Building Cleaning, Pest Control and Other Support Services	0.2%	-16.7%
Public Administration	0.3%	1.7%
Defence	0.0%	-
Public Order, Safety and Regulatory Services	0.2%	2.5%
Preschool and School Education	0.3%	1.5%
Tertiary Education	0.5%	8.7%
Adult, Community and Other Education	0.8%	-2.9%
Hospitals	0.6%	1.6%
Medical and Other Health Care Services	1.3%	-2.6%
Residential Care Services	0.6%	33.4%
Social Assistance Services	0.5%	27.0%
Heritage Activities	0.0%	11.6%
Creative and Performing Arts Activities	0.0%	-3.4%
Sports and Recreation Activities	0.3%	3.2%
Gambling Activities	0.0%	2.4%
Repair and Maintenance	0.2%	1.0%
Personal and Other Services	0.1%	1.1%
Private Households Employing Staff and Undifferentiated Goods	0.0%	-

APPENDIX C

**TOTAL EXPORTS (DOMESTIC AND INTERNATIONAL
EXPORTS) BY INDUSTRY SUBSECTOR, REDLAND
CITY**

Table C.1: Total Exports by Industry Subsector, Redland City, 2010-11 to 2014-15

Industry	2010/11			2011/12			2012/13			2013/14			2014/15		
	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total
Agriculture	\$17.0	\$0.8	\$17.8	\$17.9	\$0.9	\$18.8	\$15.1	\$1.0	\$16.1	\$14.9	\$0.8	\$15.7	\$17.2	\$1.0	\$18.2
Aquaculture	\$2.1	\$0.0	\$2.1	\$2.4	\$0.0	\$2.4	\$2.7	\$0.0	\$2.7	\$2.4	\$0.0	\$2.4	\$1.9	\$0.0	\$1.9
Forestry and Logging	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1
Fishing, Hunting and Trapping	\$0.9	\$7.5	\$8.3	\$0.4	\$6.6	\$6.9	\$0.4	\$5.4	\$5.7	\$0.7	\$3.5	\$4.1	\$0.3	\$1.3	\$1.6
Agriculture, Forestry and Fishing Support Services	\$0.8	\$3.8	\$4.6	\$0.1	\$2.5	\$2.7	\$0.1	\$1.2	\$1.3	\$0.0	\$0.2	\$0.2	\$0.0	\$0.1	\$0.1
Coal Mining	\$0.1	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Oil and Gas Extraction	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Metal Ore Mining	\$12.5	\$5.0	\$17.4	\$7.1	\$2.6	\$9.6	\$16.2	\$3.9	\$20.2	\$12.5	\$3.6	\$16.1	\$12.2	\$7.0	\$19.2
Non-Metallic Mineral Mining and Quarrying	\$13.5	\$0.0	\$13.5	\$13.0	\$0.0	\$13.1	\$14.7	\$0.1	\$14.8	\$13.6	\$0.1	\$13.7	\$11.2	\$0.4	\$11.6
Exploration and Other Mining Support Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Food Product Manufacturing	\$148.0	\$103.0	\$250.9	\$175.1	\$116.8	\$291.9	\$165.6	\$127.1	\$292.7	\$164.0	\$130.8	\$294.8	\$135.8	\$126.8	\$262.6
Beverage and Tobacco Product Manufacturing	\$39.9	\$1.0	\$40.9	\$56.8	\$1.1	\$57.9	\$50.1	\$1.3	\$51.4	\$46.9	\$1.6	\$48.5	\$58.6	\$1.7	\$60.3
Textile, Leather, Clothing and Footwear Manufacturing	\$1.4	\$4.4	\$5.8	\$14.8	\$6.4	\$21.2	\$8.0	\$7.5	\$15.6	\$2.7	\$6.8	\$9.6	\$2.1	\$6.0	\$8.1
Wood Product Manufacturing	\$20.9	\$2.9	\$23.8	\$22.4	\$2.4	\$24.8	\$23.9	\$3.9	\$27.8	\$20.8	\$4.4	\$25.2	\$14.5	\$3.0	\$17.5
Pulp, Paper and Converted Paper Product Manufacturing	\$4.0	\$1.3	\$5.3	\$4.3	\$1.6	\$5.9	\$4.1	\$1.6	\$5.7	\$4.2	\$1.4	\$5.6	\$4.6	\$1.3	\$5.8
Printing (including the Reproduction of Recorded Media)	\$2.9	\$0.3	\$3.2	\$30.2	\$0.4	\$30.6	\$52.4	\$0.3	\$52.7	\$51.3	\$0.2	\$51.6	\$45.0	\$0.2	\$45.3
Petroleum and Coal Product Manufacturing	\$4.4	\$0.3	\$4.7	\$3.7	\$0.4	\$4.0	\$2.5	\$0.5	\$3.0	\$2.8	\$0.5	\$3.3	\$2.5	\$0.8	\$3.2
Basic Chemical and Chemical Product Manufacturing	\$8.9	\$6.9	\$15.7	\$11.0	\$7.4	\$18.3	\$12.1	\$6.2	\$18.3	\$13.1	\$5.5	\$18.7	\$13.7	\$5.7	\$19.4
Polymer Product and Rubber Product Manufacturing	\$17.8	\$1.4	\$19.2	\$16.1	\$1.2	\$17.4	\$15.3	\$1.1	\$16.4	\$15.5	\$1.0	\$16.5	\$15.6	\$1.0	\$16.6
Non-Metallic Mineral Product Manufacturing	\$4.8	\$0.3	\$5.1	\$4.4	\$0.3	\$4.7	\$3.9	\$0.4	\$4.3	\$4.1	\$0.5	\$4.6	\$4.6	\$0.4	\$5.0
Primary Metal and Metal Product Manufacturing	\$31.0	\$25.9	\$56.9	\$30.5	\$29.3	\$59.8	\$30.0	\$29.3	\$59.3	\$24.9	\$26.8	\$51.7	\$19.8	\$26.7	\$46.4
Fabricated Metal Product Manufacturing	\$8.6	\$2.0	\$10.6	\$10.1	\$1.9	\$12.0	\$11.6	\$2.8	\$14.4	\$9.0	\$2.0	\$11.0	\$8.2	\$1.5	\$9.7
Transport Equipment Manufacturing	\$17.2	\$3.6	\$20.7	\$17.5	\$5.2	\$22.7	\$16.2	\$5.5	\$21.7	\$15.7	\$5.6	\$21.4	\$12.4	\$6.7	\$19.2
Machinery and Equipment Manufacturing	\$48.4	\$17.9	\$66.3	\$54.0	\$21.0	\$75.0	\$50.1	\$22.0	\$72.0	\$47.1	\$18.5	\$65.6	\$44.3	\$16.2	\$60.5
Furniture and Other Manufacturing	\$2.9	\$0.0	\$2.9	\$2.8	\$0.0	\$2.9	\$2.7	\$0.0	\$2.7	\$2.3	\$0.1	\$2.4	\$2.3	\$0.1	\$2.3
Electricity Supply	\$3.2	\$0.0	\$3.2	\$3.0	\$0.0	\$3.0	\$2.9	\$0.0	\$3.0	\$3.1	\$0.0	\$3.1	\$3.1	\$0.0	\$3.1
Gas Supply	\$2.3	\$0.0	\$2.3	\$3.2	\$0.0	\$3.2	\$3.6	\$0.0	\$3.6	\$3.2	\$0.0	\$3.2	\$2.7	\$0.0	\$2.7
Water Supply, Sewerage and Drainage Services	\$0.2	\$0.0	\$0.3	\$0.8	\$0.0	\$0.9	\$3.5	\$0.1	\$3.5	\$8.2	\$0.1	\$8.3	\$4.7	\$0.1	\$4.8
Waste Collection, Treatment and Disposal Services	\$0.7	\$0.0	\$0.7	\$2.0	\$0.0	\$2.0	\$5.9	\$0.0	\$5.9	\$11.8	\$0.1	\$11.9	\$5.5	\$0.0	\$5.6
Building Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Heavy and Civil Engineering Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0

Industry	2010/11			2011/12			2012/13			2013/14			2014/15		
	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total
Construction Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Basic Material Wholesaling	\$5.1	\$2.0	\$7.0	\$3.1	\$2.3	\$5.4	\$3.0	\$2.0	\$5.0	\$2.6	\$2.4	\$5.0	\$1.8	\$2.9	\$4.7
Machinery and Equipment Wholesaling	\$0.7	\$0.9	\$1.6	\$1.0	\$1.2	\$2.1	\$1.6	\$1.1	\$2.6	\$1.2	\$1.4	\$2.5	\$0.8	\$1.8	\$2.6
Motor Vehicle and Motor Vehicle Parts Wholesaling	\$0.4	\$0.4	\$0.8	\$0.7	\$0.5	\$1.2	\$0.9	\$0.5	\$1.3	\$0.8	\$0.6	\$1.4	\$0.4	\$0.9	\$1.3
Grocery, Liquor and Tobacco Product Wholesaling	\$0.5	\$0.5	\$1.0	\$0.8	\$0.6	\$1.4	\$0.9	\$0.5	\$1.4	\$0.7	\$0.7	\$1.4	\$0.5	\$1.0	\$1.5
Other Goods Wholesaling	\$0.4	\$0.6	\$1.1	\$0.7	\$1.0	\$1.7	\$1.0	\$1.0	\$2.0	\$0.7	\$1.0	\$1.8	\$0.6	\$1.2	\$1.7
Commission-Based Wholesaling	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.3	\$0.1	\$0.2	\$0.3	\$0.1	\$0.2	\$0.3
Motor Vehicle and Motor Vehicle Parts Retailing	\$1.4	\$0.3	\$1.8	\$1.3	\$0.3	\$1.7	\$1.3	\$0.3	\$1.6	\$1.4	\$0.3	\$1.7	\$1.4	\$0.3	\$1.8
Fuel Retailing	\$0.7	\$0.1	\$0.8	\$0.7	\$0.1	\$0.9	\$0.7	\$0.2	\$0.9	\$0.8	\$0.1	\$0.9	\$0.7	\$0.2	\$0.9
Food Retailing	\$23.0	\$6.1	\$29.1	\$28.7	\$7.6	\$36.3	\$32.3	\$9.0	\$41.2	\$31.1	\$7.9	\$39.0	\$11.7	\$3.8	\$15.5
Other Store-Based Retailing	\$9.3	\$1.4	\$10.8	\$9.0	\$1.5	\$10.6	\$9.0	\$1.6	\$10.6	\$9.3	\$1.4	\$10.7	\$9.0	\$1.6	\$10.6
Non-Store Retailing and Retail Commission Based Buying	\$0.1	\$0.0	\$0.2	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1
Accommodation	\$15.7	\$5.9	\$21.6	\$22.5	\$3.4	\$25.9	\$24.1	\$3.3	\$27.4	\$25.2	\$3.5	\$28.7	\$24.4	\$5.5	\$29.9
Food and Beverage Services	\$7.9	\$0.9	\$8.8	\$7.8	\$0.8	\$8.6	\$7.8	\$0.9	\$8.7	\$8.0	\$0.9	\$8.9	\$8.4	\$0.7	\$9.1
Road Transport	\$12.4	\$3.1	\$15.5	\$17.8	\$4.0	\$21.8	\$19.7	\$4.5	\$24.2	\$20.1	\$6.1	\$26.2	\$7.4	\$3.5	\$11.0
Rail Transport	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2
Water Transport	\$22.5	\$8.8	\$31.3	\$26.6	\$8.3	\$34.9	\$19.4	\$5.4	\$24.9	\$13.7	\$3.3	\$17.1	\$9.8	\$2.8	\$12.5
Air and Space Transport	\$0.3	\$0.5	\$0.7	\$0.3	\$0.5	\$0.7	\$0.1	\$0.1	\$0.2	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0
Other Transport	\$0.2	\$0.0	\$0.2	\$0.2	\$0.0	\$0.2	\$0.2	\$0.0	\$0.2	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1
Postal and Courier Pick-up and Delivery Services	\$3.5	\$0.3	\$3.8	\$3.8	\$0.3	\$4.1	\$4.0	\$0.3	\$4.3	\$4.2	\$0.4	\$4.6	\$3.3	\$0.5	\$3.9
Transport Support Services	\$0.5	\$0.1	\$0.6	\$0.6	\$0.1	\$0.7	\$0.6	\$0.1	\$0.7	\$0.4	\$0.1	\$0.5	\$0.3	\$0.1	\$0.5
Warehousing and Storage Services	\$0.3	\$0.1	\$0.4	\$0.3	\$0.1	\$0.3	\$0.2	\$0.0	\$0.3	\$0.1	\$0.1	\$0.2	\$0.1	\$0.1	\$0.2
Publishing (except Internet and Music Publishing)	\$6.0	\$0.0	\$6.0	\$6.1	\$0.0	\$6.1	\$5.7	\$0.0	\$5.7	\$5.7	\$0.0	\$5.7	\$5.5	\$0.0	\$5.6
Motion Picture and Sound Recording Activities	\$0.6	\$0.0	\$0.6	\$0.2	\$0.0	\$0.2	\$0.1	\$0.0	\$0.2	\$0.2	\$0.0	\$0.2	\$0.2	\$0.0	\$0.2
Broadcasting (except Internet)	\$0.4	\$0.0	\$0.4	\$0.2	\$0.0	\$0.2	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1
Internet Publishing and Broadcasting	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Telecommunications Services	\$2.4	\$0.3	\$2.7	\$2.5	\$0.3	\$2.9	\$2.5	\$0.5	\$3.0	\$2.7	\$0.4	\$3.1	\$2.6	\$0.4	\$3.0
Internet Service Providers, Web Search Portals and Data Processing Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.1
Library and Other Information Services	\$0.5	\$0.0	\$0.5	\$0.5	\$0.0	\$0.5	\$0.5	\$0.0	\$0.5	\$0.6	\$0.0	\$0.6	\$1.0	\$0.0	\$1.0
Finance	\$19.1	\$0.9	\$20.0	\$18.6	\$1.5	\$20.1	\$19.8	\$1.9	\$21.7	\$20.3	\$2.7	\$23.0	\$23.0	\$2.8	\$25.8
Insurance and Superannuation Funds	\$1.9	\$0.2	\$2.1	\$1.7	\$0.2	\$1.9	\$2.0	\$0.2	\$2.2	\$2.2	\$0.3	\$2.5	\$2.4	\$0.3	\$2.7
Auxiliary Finance and Insurance Services	\$1.8	\$0.2	\$2.0	\$2.3	\$0.4	\$2.7	\$2.1	\$0.5	\$2.6	\$2.2	\$0.7	\$2.8	\$2.8	\$0.6	\$3.4
Rental and Hiring Services (except Real Estate)	\$49.5	\$10.3	\$59.8	\$59.5	\$8.7	\$68.2	\$53.8	\$6.1	\$60.0	\$52.7	\$7.5	\$60.2	\$52.5	\$4.7	\$57.1
Property Operators and Real Estate Services	\$180.4	\$16.9	\$197.3	\$210.3	\$15.7	\$226.0	\$149.3	\$11.5	\$160.8	\$124.7	\$14.1	\$138.8	\$92.6	\$9.4	\$102.0
Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	\$3.9	\$0.1	\$4.0	\$4.0	\$0.2	\$4.2	\$4.9	\$0.2	\$5.1	\$24.1	\$0.6	\$24.7	\$17.6	\$1.1	\$18.7
Computer System Design and Related Services	\$0.6	\$0.0	\$0.6	\$0.6	\$0.0	\$0.6	\$0.7	\$0.0	\$0.7	\$3.3	\$0.1	\$3.4	\$2.4	\$0.1	\$2.5
Administrative Services	\$1.6	\$0.5	\$2.1	\$0.5	\$0.1	\$0.6	\$1.9	\$0.5	\$2.4	\$1.2	\$0.4	\$1.6	\$0.4	\$0.2	\$0.6

Industry	2010/11			2011/12			2012/13			2013/14			2014/15		
	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total	Domestic	Int'nl	Total
Building Cleaning, Pest Control and Other Support Services	\$8.5	\$0.1	\$8.6	\$1.7	\$0.0	\$1.7	\$5.4	\$0.1	\$5.5	\$3.7	\$0.0	\$3.7	\$1.6	\$0.0	\$1.6
Public Administration	\$2.5	\$0.0	\$2.5	\$2.6	\$0.0	\$2.6	\$2.6	\$0.0	\$2.6	\$2.6	\$0.0	\$2.6	\$2.7	\$0.0	\$2.7
Defence	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Public Order, Safety and Regulatory Services	\$1.6	\$0.0	\$1.6	\$1.6	\$0.0	\$1.6	\$1.7	\$0.0	\$1.7	\$1.8	\$0.0	\$1.8	\$1.7	\$0.0	\$1.7
Preschool and School Education	\$3.0	\$0.1	\$3.1	\$3.0	\$0.1	\$3.1	\$2.9	\$0.1	\$3.0	\$2.9	\$0.1	\$3.0	\$2.9	\$0.1	\$3.0
Tertiary Education	\$0.8	\$2.1	\$2.8	\$1.1	\$2.3	\$3.4	\$1.5	\$2.4	\$3.9	\$1.8	\$2.7	\$4.4	\$1.8	\$2.9	\$4.7
Adult, Community and Other Education	\$7.3	\$2.3	\$9.6	\$6.7	\$1.5	\$8.2	\$6.3	\$1.0	\$7.4	\$7.1	\$1.1	\$8.2	\$6.9	\$1.7	\$8.6
Hospitals	\$4.5	\$0.1	\$4.7	\$5.5	\$0.1	\$5.6	\$6.1	\$0.1	\$6.2	\$5.8	\$0.1	\$5.9	\$5.7	\$0.1	\$5.9
Medical and Other Health Care Services	\$13.9	\$0.2	\$14.1	\$13.7	\$0.2	\$13.9	\$13.6	\$0.2	\$13.7	\$13.7	\$0.2	\$13.8	\$13.5	\$0.2	\$13.6
Residential Care Services	\$1.4	\$0.0	\$1.4	\$1.5	\$0.0	\$1.5	\$1.6	\$0.0	\$1.6	\$1.6	\$0.0	\$1.6	\$6.1	\$0.0	\$6.1
Social Assistance Services	\$1.3	\$0.0	\$1.3	\$1.3	\$0.0	\$1.3	\$1.2	\$0.0	\$1.2	\$1.2	\$0.0	\$1.2	\$4.7	\$0.0	\$4.7
Heritage Activities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1
Creative and Performing Arts Activities	\$0.2	\$0.0	\$0.2	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1
Sports and Recreation Activities	\$2.9	\$0.1	\$3.0	\$2.9	\$0.1	\$3.0	\$2.9	\$0.1	\$3.1	\$3.0	\$0.1	\$3.1	\$3.2	\$0.1	\$3.3
Gambling Activities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Repair and Maintenance	\$2.0	\$0.0	\$2.0	\$2.1	\$0.0	\$2.2	\$2.0	\$0.0	\$2.0	\$2.1	\$0.0	\$2.1	\$2.0	\$0.0	\$2.1
Personal and Other Services	\$0.6	\$0.1	\$0.7	\$0.7	\$0.1	\$0.8	\$0.6	\$0.1	\$0.7	\$0.5	\$0.1	\$0.6	\$0.7	\$0.1	\$0.7
Private Households Employing Staff and Undifferentiated Goods	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total industries	\$838.3	\$255.5	\$1,093.8	\$981.6	\$272.4	\$1,254.0	\$932.5	\$278.0	\$1,210.5	\$903.4	\$275.8	\$1,179.3	\$781.0	\$259.9	\$1,040.9

Source: NIEIR (2016) Compiled presented by .id

APPENDIX D

PROJECTED INDUSTRIAL AND COMMERCIAL OFFICE EMPLOYMENT

Table D.1: Projected Incremental Industrial Employment and Incremental Land Demand, 2021-2041

	Incremental Employment					Incremental Land Demand (ha)				
	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Large Footprint and General Industry										
Beverage and Tobacco Product Manufacturing	8	17	24	28	33	0.2	0.4	0.6	0.7	0.8
Food Product Manufacturing	79	168	241	287	333	2.0	4.2	6.0	7.2	8.3
Wood Product Manufacturing	12	25	36	42	49	0.3	0.7	1.0	1.2	1.4
Pulp, Paper and Converted Paper Product Manufacturing	3	7	10	12	14	0.1	0.2	0.2	0.3	0.3
Petroleum and Coal Product Manufacturing	0	1	1	1	2	0.0	0.0	0.0	0.0	0.0
Basic Chemical and Chemical Product Manufacturing	4	9	13	15	18	0.1	0.3	0.4	0.4	0.5
Polymer Product and Rubber Product Manufacturing	5	10	15	18	21	0.2	0.3	0.5	0.6	0.7
Non-Metallic Mineral Product Manufacturing	6	12	17	21	24	0.3	0.6	0.9	1.0	1.2
Primary Metal and Metal Product Manufacturing	9	20	29	34	39	0.4	0.8	1.1	1.4	1.6
Machinery and Equipment Manufacturing	30	64	91	108	126	0.7	1.4	2.0	2.4	2.8
Fabricated Metal Product Manufacturing	14	30	44	52	60	0.4	0.9	1.2	1.5	1.7
Transport Equipment Manufacturing	13	28	40	48	56	0.3	0.6	0.9	1.1	1.2
Furniture and Other Manufacturing	9	19	27	32	37	0.3	0.5	0.8	0.9	1.1
Subtotal	193	410	588	698	810	5.2	11.0	15.7	18.7	21.7
Service Industry										
Textile, Leather, Clothing and Footwear Manufacturing	9	20	29	34	40	0.2	0.4	0.6	0.8	0.9
Printing (including the Reproduction of Recorded Media)	6	13	18	21	25	0.1	0.3	0.4	0.5	0.6
Publishing (except Internet and Music Publishing)	7	15	20	19	19	0.2	0.4	0.5	0.5	0.5
Construction Services	227	484	717	899	1,089	6.1	12.9	19.1	24.0	29.0
Repair and Maintenance	58	122	175	207	240	1.7	3.5	5.0	5.9	6.9
Subtotal	307	654	959	1,182	1,413	8.2	17.5	25.7	31.7	37.9
Warehousing & Storage										
Basic Material Wholesaling	14	29	34	26	16	0.7	1.4	1.7	1.3	0.8
Machinery and Equipment Wholesaling	11	21	25	19	12	0.5	1.0	1.2	1.0	0.6
Motor Vehicle and Motor Vehicle Parts Wholesaling	4	8	10	8	5	0.2	0.4	0.5	0.4	0.2
Grocery, Liquor and Tobacco Product Wholesaling	5	10	12	10	6	0.2	0.4	0.5	0.4	0.2
Other Goods Wholesaling	9	18	21	17	10	0.4	0.7	0.8	0.7	0.4
Warehousing and Storage Services	3	7	11	13	17	0.2	0.4	0.5	0.7	0.8
Subtotal	47	93	112	93	66	2.2	4.4	5.3	4.4	3.1
Transport Uses										
Motor Vehicle and Motor Vehicle Parts Retailing	13	26	30	23	15	0.4	0.9	1.0	0.8	0.5
Road Transport	90	193	289	368	452	3.6	7.7	11.6	14.7	18.1
Rail Transport	1	3	4	5	6	0.1	0.3	0.4	0.5	0.6
Transport Support Services	9	18	27	35	43	0.3	0.6	0.9	1.2	1.4
Postal and Courier Pick-up and Delivery Services	27	57	86	110	134	0.8	1.6	2.5	3.1	3.8
Subtotal	140	296	436	541	650	5.2	11.1	16.3	20.3	24.4
Total	687	1,454	2,095	2,514	2,938	20.8	44.0	63.0	75.1	87.1

Note: Incremental estimates are on 2016 levels
Source: Economic Associates estimates

Table D.2: Projected Incremental Commercial Office Employment and Incremental Commercial Office Floor Space, 2021-2041

	Incremental Employment					Incremental Floor Space Demand (m ²)				
	2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
Employing Businesses										
Finance	6	13	16	15	13	96	191	241	229	202
Insurance and Superannuation Funds	2	3	4	4	3	25	49	62	59	52
Auxiliary Finance and Insurance Services	4	7	9	9	8	55	109	137	130	115
Professional, Scientific and Technical Services (except Computer System Design and Related Services)	185	395	594	759	933	2,774	5,925	8,906	11,387	13,994
Computer System Design and Related Services	38	81	121	155	190	566	1,209	1,817	2,324	2,856
Medical and Other Health Care Services	222	473	716	924	1,143	3,328	7,101	10,738	13,866	17,144
Property Operators and Real Estate Services	42	89	131	165	199	624	1,328	1,969	2,469	2,990
Public Administration	78	165	241	296	353	1,166	2,478	3,622	4,443	5,290
Internet Service Providers, Web Search Portals and Data Processing Services	0	0	1	1	1	3	7	9	9	9
Internet Publishing and Broadcasting	0	0	0	0	0	1	3	4	4	4
Administrative Services	45	96	143	179	217	679	1,445	2,143	2,688	3,255
total	621	1,323	1,977	2,507	3,061	9,317	19,844	29,649	37,609	45,910
Non-Employing Businesses										
Finance	12	24	30	28	25	149	296	373	355	312
Insurance and Superannuation Funds	3	6	8	7	6	38	76	96	91	80
Auxiliary Finance and Insurance Services	7	13	17	16	14	85	168	212	202	178
Professional, Scientific and Technical Services (except Computer System Design and Related Services)	46	99	148	190	233	578	1,234	1,855	2,372	2,915
Computer System Design and Related Services	9	20	30	39	48	118	252	379	484	595
Medical and Other Health Care Services	12	25	38	49	60	146	311	471	608	752
Property Operators and Real Estate Services	28	59	88	110	133	346	738	1,094	1,372	1,661
Public Administration	33	71	103	127	151	417	885	1,294	1,587	1,889
Internet Service Providers, Web Search Portals and Data Processing Services	0	0	1	1	1	3	6	8	7	7
Internet Publishing and Broadcasting	0	0	0	0	0	1	2	3	3	3
Administrative Services	5	11	16	20	24	63	134	198	249	301
Total	155	328	479	586	696	1,944	4,103	5,983	7,330	8,695

Note: Incremental estimates are on 2016 levels

Source: Economic Associates estimates