

Future Land Demand Study

Moreton Bay Regional Council

Final Report
January, 2012

A leading Australian consulting group recognised through the success of our clients

- 
- Economics, Planning & Development
 - Business Strategy & Finance
 - Community Research & Strategy
 - Design, Marketing & Advertising
 - Information & Knowledge Management

Document Control

Job ID: 15672
Job Name: MBRC Future Land Demand Study
Project Director: Simon Smith
Project Manager: Michael Campbell
Company: Moreton Bay Regional Council
Job Contact: Peter Rawlinson
Document Name: MBRC Future Land Demand - Final Report
Last Saved: 20/1/2012 12:38 PM

Version	Date	Reviewed PM	Approved PD
Draft Report	19 December 2011	MC	SS
Final Draft Report	13 January 2012	MC	SS
Final Report	20 January 2012	MC	SS

Disclaimer:

Whilst all care and diligence have been exercised in the preparation of this report, AEC Group Limited does not warrant the accuracy of the information contained within and accepts no liability for any loss or damage that may be suffered as a result of reliance on this information, whether or not there has been any error, omission or negligence on the part of AEC Group Limited or their employees. Any forecasts or projections used in the analysis can be affected by a number of unforeseen variables, and as such no warranty is given that a particular set of results will in fact be achieved.



Executive Summary

Background

Moreton Bay Regional Council recently adopted an Economic Development Strategy (EDS), which contained an ambitious goal of 70% self-containment in the region. Currently, Moreton Bay Regional Council is in the process of developing a new planning scheme and there is a distinct need to ensure sufficient lands exist to allow for future jobs growth in the area, which will foster higher self-containment rates.

AECgroup was engaged by Moreton Bay Regional Council to identify what the economy and subsequent land use requirements in the region that may be needed as a result of a 70% self-containment rate.

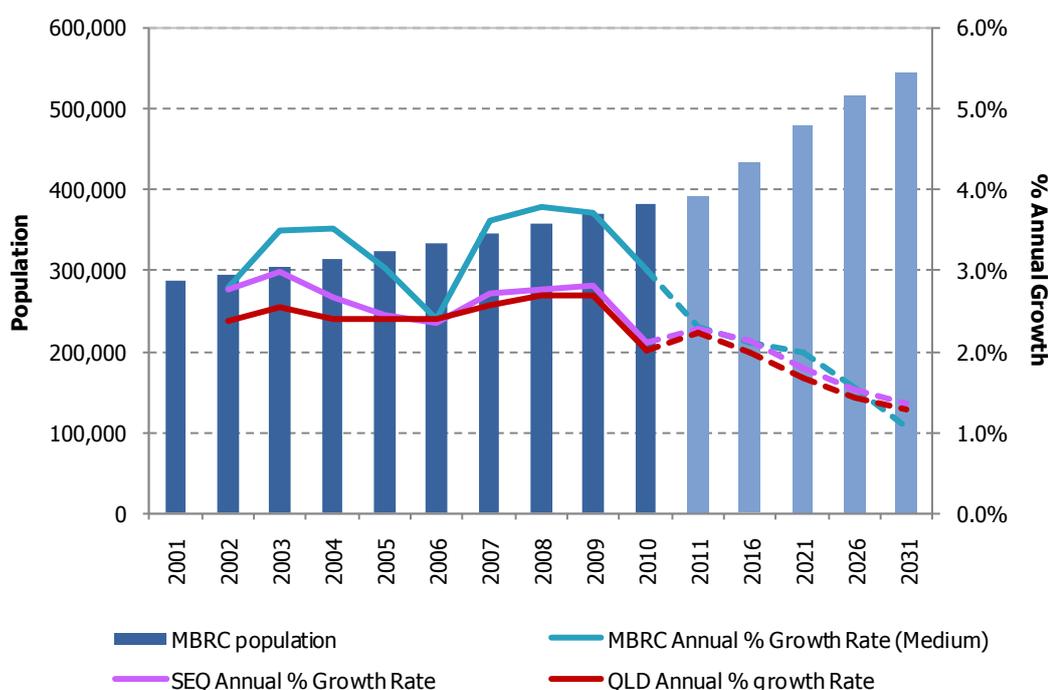
The Moreton Bay Local Government Area (LGA), referred to as MBRC in this document, is located in South East Queensland, north of the capital city of Brisbane. MBRC is a growing area in the State, having recorded an average annual growth rate of 3.3%pa over the last 10 years. Between 2009-10, the population of MBRC added 11,125 people, making it the fourth fastest growing local government area in the country. This population growth has encouraged increased demand for housing and business in the area but has also resulted in a variety of issues in MBRC, including high rates of congestion.

As of the 2006 Census, the employment self-containment rate (proportion of resident workers working locally) of MBRC was 43.1%. Estimates developed by AECgroup based on population growth and 2006 travel patterns suggest that self-containment has fallen to 41.4% between 2006 and 2010.

Existing Environment

MBRC has experienced strong population growth over recent years, outperforming South East Queensland and the State. Population growth is expected to slow over the coming 20 years, however, existing issues within the region relating to strong population growth are expected to remain problematic unless proactive action is undertaken.

Figure ES. 1: Population Projections, 2001 to 2031



Source: Moreton Bay Regional Council (2009), Moreton Bay Regional Council (2010a), Planning Information Forecasting Committee (2008)

MBRC's economy was valued at \$9.7 billion in 2009-10, following average annual growth of 5.6% per annum since the 2007 financial year. Population growth is a key driver of economic growth in the region, with construction, healthcare and social assistance forming over a quarter of the total economy. The local labour force is also highly population-growth dependent, with retail trade and healthcare forming nearly a quarter of all jobs in the region.

Table ES. 1: Socio-Economic Indicators, MBRC

Indicator	Period	MBRC
Estimated Population	2010	382,280
Projected Population	2031	545,528
Historical Population Growth	2001-2010	3.3%
Projected Population Growth	2011-2031	1.7%
Average Age	2009	36.3
GRP (\$M)	2009-10	\$9,763.3
GRP Growth (Average Annual)	2006-07 to 2009-10	5.6%
Unemployment Rate (Place of Residence)	Sep-10	4.6%
Level of Employment	Sep-10	177,845
Level of Unemployment	Sep-10	8,622
Top 3 Industries by Employment (Place of Work)	2006	Retail trade (13%)
		Manufacturing (12%)
		Health care and social assistance (11%)
No. Residential Building Approvals	2009-10	3,991
Growth in Residential Building Approvals	2008-09 to 2009-10	-44.13%
Value Non-Residential Building Approvals (\$'000)	2009-10	\$296,233
Growth in Non-Residential Building Approvals	2008-09 to 2009-10	-26.39%
Number of Dwellings	2011	142,432
Self-Containment	2010	41.4%

Source: Australian Bureau of Statistics (2007a, 2010a, 2010b, 2011a, 2011b), Moreton Bay Regional Council (2009, 2010, 2011a), Planning Information Forecasting Committee (2008), Department of Education, Employment and Workplace Relations (2010)

The Jobs Challenge

The EDS provided clear guidance on diversifying the economy and identified specific industry sectors which represent opportunities for MBRC to pursue. These sectors included:

- Building product Manufacturing;
- Machinery and Equipment Manufacturing;
- Food and Beverage Manufacturing;
- Professional Services; and
- Transport and Logistics.

Whilst a 70% employment self-containment rate is ambitious, increasing the number of jobs in the region and achieving a higher employment self-containment rate will assist in relieving the pressure on road infrastructure at peak times in the region and subsequently Council's financial commitments to maintaining infrastructure. Essentially, if there are more jobs available locally, then there is less of a need for a high proportion of residents to travel to Brisbane for work. Failure to increase the number of local jobs combined with continued population growth will result in a further deterioration in infrastructure and increases in congestion.

Achieving a 70% employment self-containment rate is no small undertaking (as identified in Table ES. 2). The 70% employment self-containment scenario requires the MBRC region to almost double its annual jobs increase (to 4,774 per annum), more than double the amount of total jobs existing in the region in 2009, and there is a need for a new planning scheme to supply sufficient land to accommodate future jobs growth to reach this goal.

Table ES. 2: Required Local Jobs to Meet Employment Self-Containment Ratios

Self-Containment Rate	Number of Jobs	Difference with 2009	Total % growth
40%	113,147	20,172	21.7%
50%	141,434	48,458	52.1%
60%	169,721	76,745	82.5%
70%	198,008	105,032	113.0%
80%	226,295	133,319	143.4%

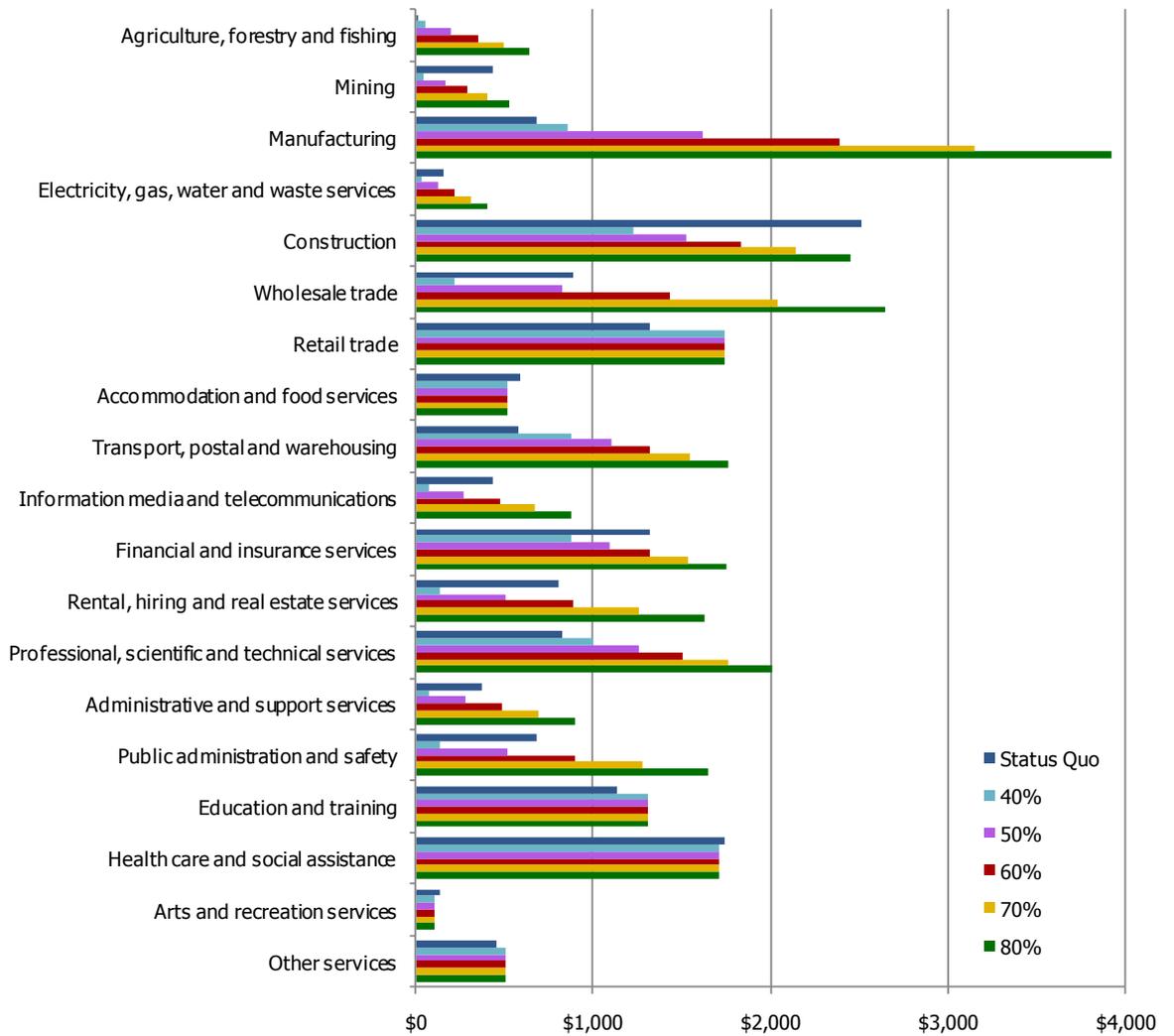
Source: Moreton Bay Regional Council (2009), Moreton Bay Regional Council (2010a), Australian Treasury (2009), Department of Education, Employment and Workplace Relations (2010), AECgroup

The Future Economy

The future economic development of MBRC can take many forms. Using the various employment self-containment scenarios and the status quo, a variety of future local employment profiles can be generated. Growth in the industry sectors identified in the MBRC EDS has been used to achieve the increased levels of employment self-containment. Essentially, population growth will only deliver a certain amount of jobs and growth while alternative sectors must be utilised to deliver significant amounts of future job growth.

The sectors identified in the EDS provide considerable value to the economy. Achievement in growing these sectors will lead to a structural shift of the economy over time, away from population driven industries to yield a more balanced economy. Figure ES. 2 demonstrates the structure shift of the economy that would be achieved in 2031 across the various employment self-containment rates (in terms of contribution towards GRP).

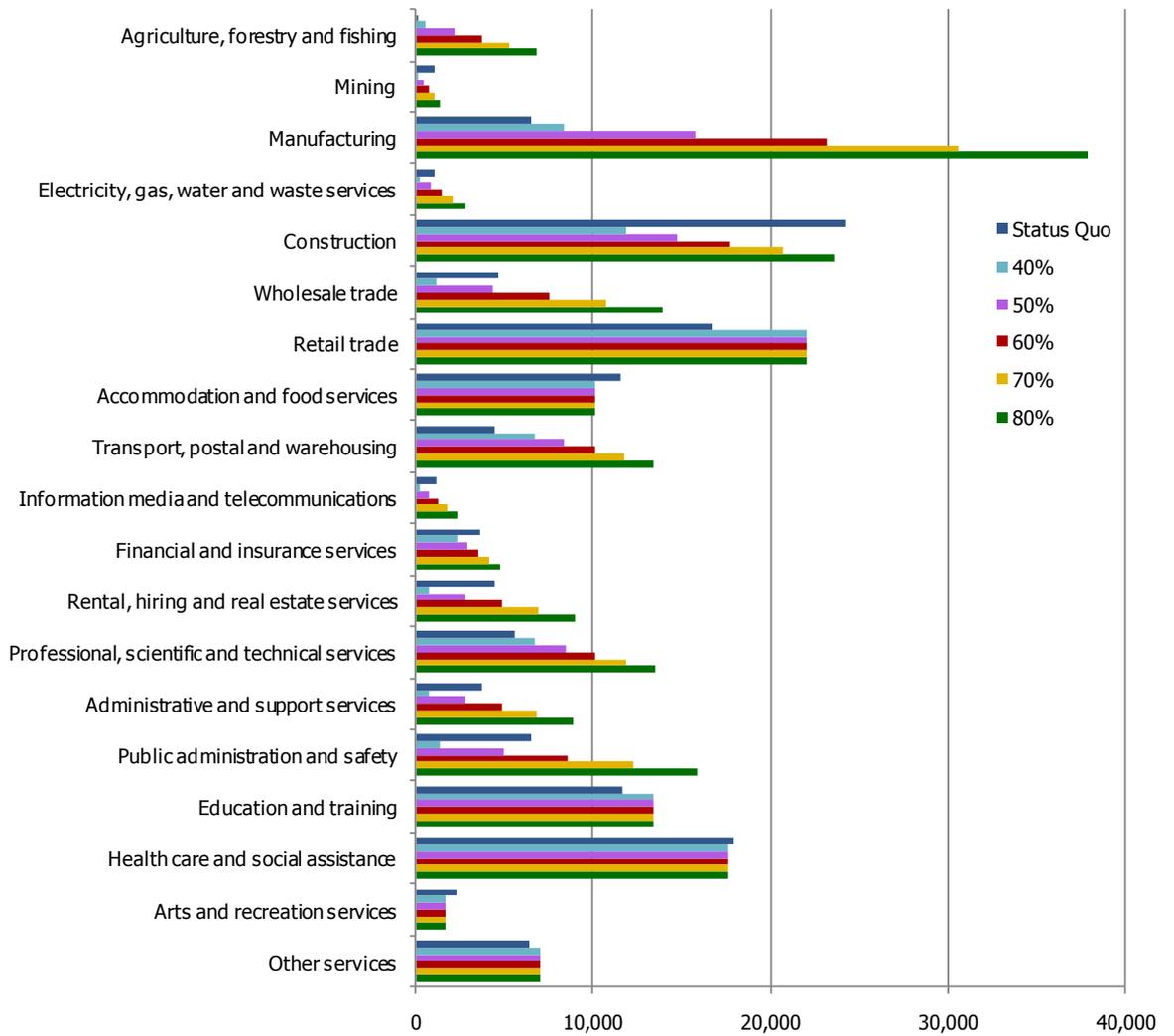
Figure ES. 2: Estimated Value Contribution to GRP by Industry in 2031, \$M



Source: AECgroup

As the economic structure of the region shifts so too will its employment base. The changes in industry contribution to GRP generally represent high value-adding sectors of the economy, which require positions that are generally highly skilled. These sectors are also aligned with some of the skills set of the local resident workforce (particularly manufacturing which forms 12% of jobs for which locals leave the area). As Figure 4.2 demonstrates, the higher employment self-containment rates provide much greater number of local jobs, which is in accordance with the anticipated structure shift of the economy over time necessary to achieve higher employment self-containment rates.

Figure ES. 3: Estimated Employment by Industry, 2031



Source: AECgroup

Future Land Use

The above economic modelling has been used to identify future potential land use requirements for retail, industrial and commercial office space.

Retail

Currently, there is nearly 907,000 sqm of retail floor space in MBRC. However, it is estimated that 120,000 sqm of this space is occupied by office uses. There are a number of large retail centres in MBRC, including Westfield at North Lakes and Strathpine. Additionally, there are a significant numbers of local centres (70) in the region. Retail centres in the area are outlined in Table ES. 3.

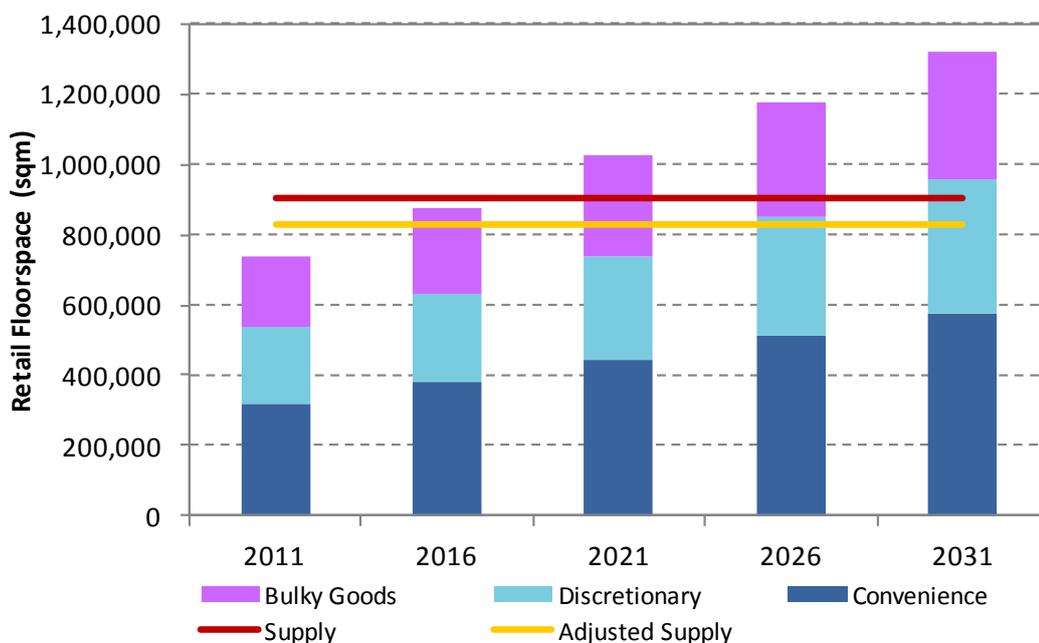
Table ES. 3: Retail Supply, 2011

Hierarchy	Centre	GFA (sqm)
Principal Activity Centre	Caboolture	63,081
	Morayfield	203,201
	Sub-Total	266,282
Major Activity Centre	Kippa-Ring Village	64,603
	North Lakes	79,165
	Redcliffe Seaside Village	58,370
	Strathpine	94,280
	Sub-Total	296,418
District Centre	Albany Village	13,379
	Bellara	25,650
	Burpengary	34,347
	Deception Bay	16,059
	Kallangur Fair	6,771
	Narangba	3,563
	Patricks Road Shopping Centre	15,197
	Petrie	10,038
	Warner	8,477
	Sub-Total	133,481
Local Centre	70 Centres	210,743
Total Floor space		906,924

Source: MBRC (2011), PCA (2010), AECgroup

Based on future population projections, there is estimated demand for some further expansion of retail space by 2031 by some 580,000 sqm. The data and inspection of various activity centres would indicate that much of the space identified as retail shops is actually occupied by commercial office uses. Current estimates of office space, bulky goods and retail space would still indicate a 100,000 sqm oversupply of retail space.

Figure ES. 4: Required Retail Floor space, MBRC, (sqm)



Note: Adjusted supply has accounted for the infiltration of commercial office uses within existing retail space. Unless significant commercial office supply is added in MBRC, these users are likely to remain in retail space, thereby removing it from available supply for retail uses.
Source: AECgroup (2011)

Between 416,000 sqm and 533,000 sqm of retail space will need to be added in the future, equating to 16,550 sqm and 20,800 sqm per year.

Table ES. 4: Retail Floor space Gap Analysis, MBRC (sqm)

Year	Convenience	Discretionary	Bulky Goods	Total Demand	Existing Supply	Gap	Adjusted Gap
2011	321,455	214,068	204,958	740,481	906,924	166,443	90,419
2016	380,741	252,723	243,012	876,476	906,924	30,448	-86,568
2021	445,339	295,173	284,610	1,025,122	906,924	-118,198	-235,214
2026	512,836	338,644	327,551	1,179,031	906,924	-272,107	-389,123
2031	576,962	378,989	367,150	1,323,101	906,924	-416,177	-533,193

Note: Adjusted Gap has accounted for the infiltration of commercial office uses within existing retail space. Unless significant commercial office supply is added in MBRC, these users are likely to remain in retail space, thereby removing it from available supply for retail uses.

Source: AECgroup (2011), MBRC (2011), PCA (2010)

Industrial

Industrial lands in MBRC (occupied and vacant) total approximately 1,600 ha, 80% of which is currently occupied. New supply is expected to come on-stream between 2011 and 2031, in the order of 1,300 ha.

Table ES. 5: Industrial Lands by Industrial Precinct (ha)

Precincts	Current Occupied	Current Vacant	Future Supply
C-M PAC	1.13	0.00	0.00
Caboolture Airport	145.02	58.60	0.00
Caboolture	203.61	0.00	0.00
Brendale	259.50	103.28	0.00
Brendale West	23.08	23.28	200.75
Bribie Island	8.17	20.17	0.00
Burpengary	31.11	1.34	45.07
Clontarf	78.54	4.43	0.00
Dayboro	1.05	1.61	0.00
Deception Bay	12.95	2.55	30.53
Elimbah	0.00	3.05	391.61
Hills District	14.16	0.08	0.00
Joyner	18.08	0.00	0.00
Kippa-Ring	7.53	0.13	0.00
Lawnton	34.48	0.38	0.00
Margate	2.63	0.00	0.00
Mt Mee	0.20	0.20	0.00
Narangba	170.59	36.39	84.31
North East Business Park	0.00	0.00	384.26
North-Lakes Mango Hill	28.96	0.00	181.01
Petrie	202.77	57.79	0.00
Redcliffe	1.06	0.00	0.00
Rothwell	2.92	2.48	0.00
Strathpine	4.86	0.02	0.00
Woodford	9.29	0.35	0.00
Total	1,261.69	316.15	1,317.55

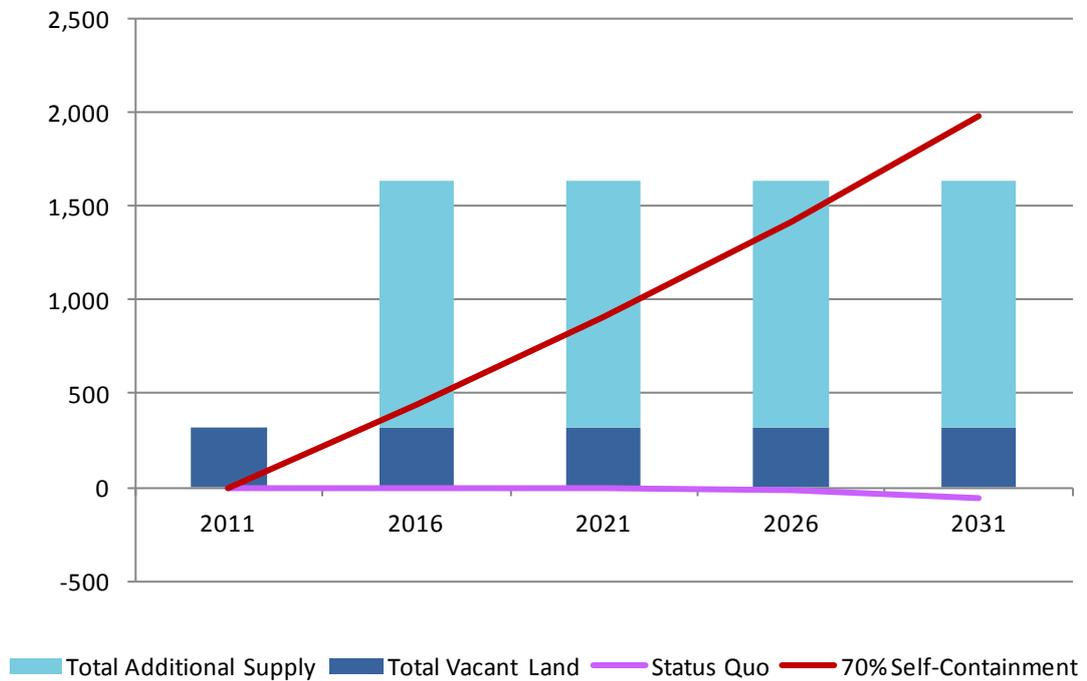
Note: land supply figures have been sourced from a land audit. In some cases, land in these zones has been used for alternative purposes to the main land use zone (such as service stations being classified as industrial lands).

Source: MBRC (2011a)

Future industrial activity in MBRC is expected to occur on existing vacant lands and a portion of expected future industrial supply land supply by 2031. This reflects increased business activity and jobs growth in the area. Adequate servicing of this land will also be required to ensure these lands are appropriate for industrial use and are attractive to business owners. In addition, it will be important that the location of future industrial lands is attractive to the market (i.e. proximity to transport infrastructure, suppliers, workforce and customers).

Analysis indicates that there will not be a sufficient quantum of industrial lands required to meet the 70% employment self-containment goal, with a shortfall of 346 ha. However, the 70% employment self-containment scenario equates to an annual consumption of 99 ha of land, far exceeding the recent average of 8 ha.

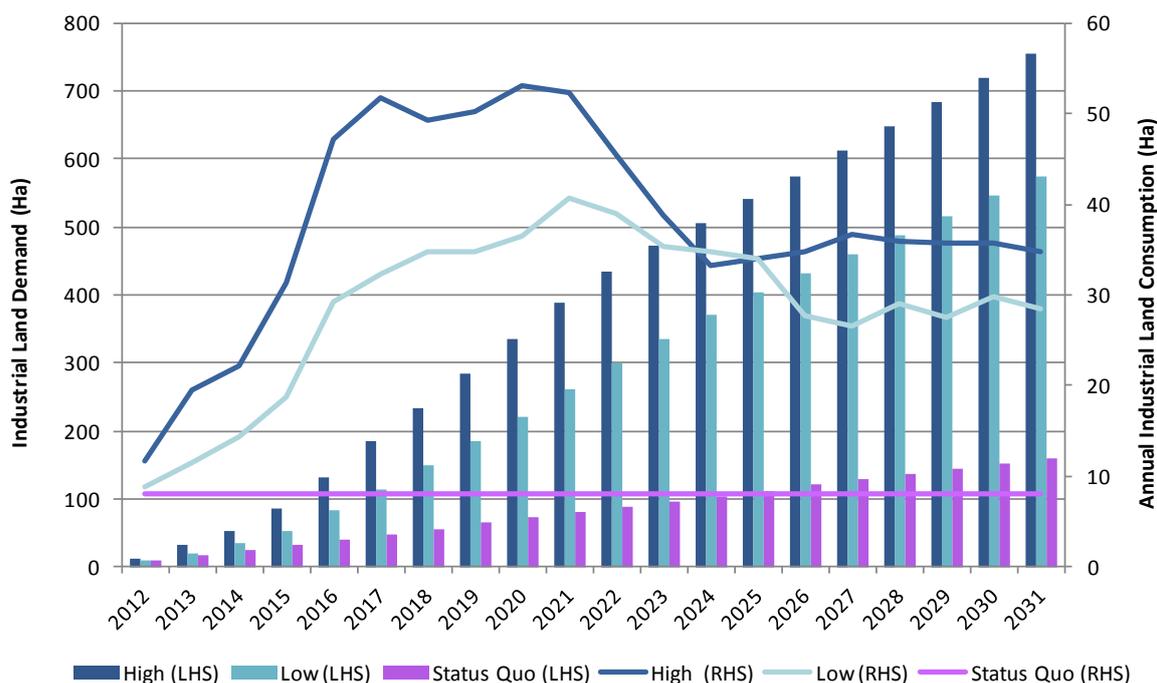
Figure ES. 5: Projected Net Industrial Land Demand and Supply, MBRC, 2011 to 2031 (ha)



Source: MBRC (2011), AECgroup

Given that the 70% self-containment scenario far exceeds the recent trends, it was necessary to estimate future industrial land take-up rates across the region. In developing these projections, recent take-up rates in specific areas, anticipated lifecycles of existing estates and anticipated trends in industrial take-up (i.e. consumption of industrial land in estates will generally slow after the estates reach 65%-75% capacity, newer estates further north will become more attractive as land in the south becomes more expensive, etc.) were applied. These figures represent the aspirations of a 70% self-containment rate and the realities of the recent past.

Figure ES. 6: Future Industrial Land Consumption, MBRC (ha)



Source: AECgroup

Commercial

Based on a recent land audit by MBRC, existing commercial space in MBRC totals 172,984 sqm. The majority of the commercial space in MBRC is located in Griffin-Mango Hill (in the North Lakes Business Park), Strathpine-Brendale, Redcliffe-Scarborough and Caboolture Central. It should be noted that this space includes government offices. Current demand estimates suggest 290,000 sqm are required in MBRC, despite only 172,000 sqm reflected in the land audit. These figures reflect the encroachment of office space into retail areas in MBRC. An inspection of various centres within the catchment supports an estimate of around 120,000 sqm of office users are located within retail space. These users would typically be banks, real estate firms, tax/legal practices and other small scale office users.

Table ES. 6: MBRC Commercial Space by SLA (sqm)

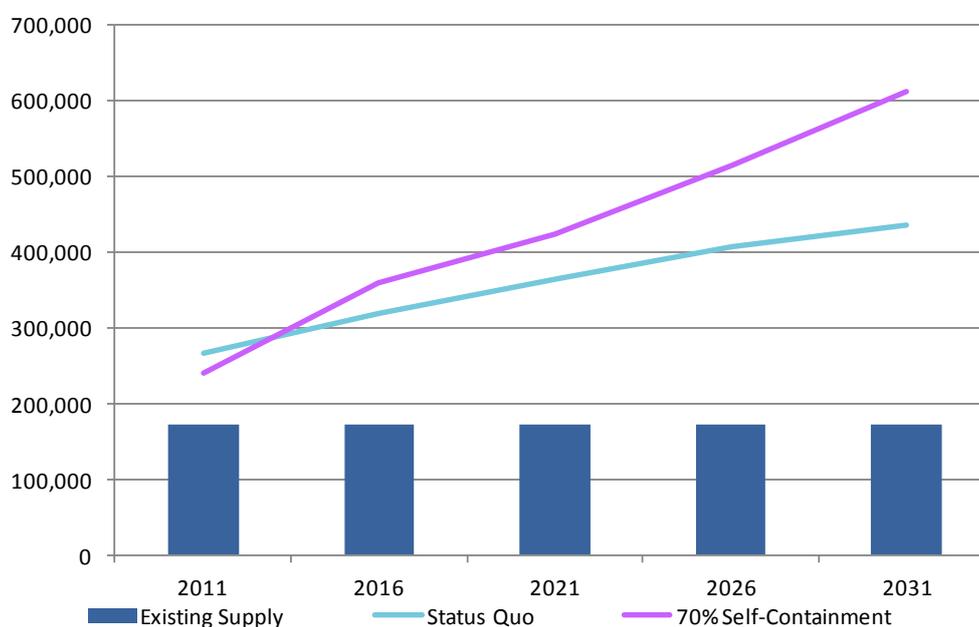
SLA	Commercial Space	% of Total
Bribie Island	6,890	4%
Burpengary-Narangba	1,317	1%
Caboolture (S) - Central	19,724	11%
Caboolture (S) - East	0	0%
Caboolture (S) - Hinterland	0	0%
Caboolture (S) - Midwest	246	0%
Deception Bay	2,270	1%
Morayfield	11,392	7%
Albany Creek	2,812	2%
Bray Park	287	0%
Central Pine West	1,184	1%
Dakabin-Kallangur-M. Downs	3,888	2%
Griffin-Mango Hill	44,389	26%
Hills District	1,405	1%
Lawnton	705	0%
Petrie	378	0%
Strathpine-Brendale	35,336	20%

SLA	Commercial Space	% of Total
Pine Rivers (S) Bal	3,837	2%
Clontarf	3,052	2%
Margate-Woody Point	4,457	3%
Redcliffe-Scarborough	20,575	12%
Rothwell-Kippa-Ring	8,840	5%
MBRC	172,984	100%

Source: MBRC (2011a), AECgroup

Estimates of demand for office space in MBRC over the coming 20 years suggest strong demand for offices as the region attracts businesses in the professional services industries. Future demand is estimated to exceed existing supply over the forecast horizon. Over the coming 20 years, demand for office space is expected to exceed existing supply by 566,000 sqm under the 70% employment self-containment rate scenario and 331,000 sqm under the status quo scenario, equating to annual additions of 28,300 sqm and 16,500 sqm, respectively. By way of comparison, the Gold Coast has added 21,800 sqm per year recently and the Sunshine Coast added 11,250 sqm per year.

Figure ES. 7: Projected Commercial Space Demand and Supply, 2011 to 2031 (sqm)



Source: MBRC (2011a), AECgroup

Development Feasibility

Development feasibility is fundamental to ensuring the region remains attractive to businesses and supports increased jobs growth in the area. More than planning instruments, several factors play a key role in property development and the delivery of jobs to a region, these include:

- Capital costs (land and construction);
- Market pricing;
- Supply and demand conditions; and
- Personal preference.

It is not sufficient to simply have the right quantum of land to meet future employment goals but that this land is located in areas that are attractive and viable for development. Given high construction costs and the relatively lower rents that are achieved in MBRC (relative to Brisbane), property development across industrial, retail and commercial can

often struggle to be viable, particularly stand-alone commercial projects in Strathpine and Caboolture.

There are existing developments across industrial, retail and commercial in the region currently taking place, so these types of developments can be viable in the region. Each individual project will be different given the situation of the proponents. However, analysis carried out by AECgroup shows that simply because land is zoned for a use does not necessarily make it viable and the viability of development needs to be taken into account when considering future lands for employment.

Planning Considerations

Given the findings of this study and through consultation with property developers and real estate professionals, it would be very difficult for MBRC to reach the 70% employment self-containment aspirational goal. However, reaching a point that is closer to it would help to change the structure of the regional economy and deliver more local jobs, which would help to improve current constraints on infrastructure and future spending.

There are numerous considerations for planning that can help increase investment and job creation above the status quo towards the 70% employment self-containment aspiration, including:

General Planning Scheme Outcomes

- **Certainty of outcomes:** Providing certainty of future desired outcomes will assist the development community to understand Council's planning desires and provide a strong platform for innovation. The development community can provide very innovative solutions for property development if there is a clear understanding of the desired future state. Leveraging a place type model should assist in providing some certainty.
- **Easy, efficient and transparent approval process:** Reducing the time that is necessary to review and approve development applications will increase the attractiveness of the area for new developments of all kinds and can act as an incentive to invest in MBRC. The creation of a *Risk-Smart* program similar to that of Brisbane City Council would assist in this process.

Specific Planning Scheme Outcomes

- **Site amalgamation:** Most centres will have fractured ownership, meaning that they consist of numerous individual parcels owned by different parties. In order to provide a stimulus for centre redevelopment across the area, it must be easy for developers to amalgamate numerous land parcels to achieve economies of scale and feasible development.
- **Height restrictions, parking and mix of uses:** In order to achieve more dense developments, Council must allow developers to achieve certain heights and to mix uses (i.e. allow a four storey residential development with ground floor retail in suburban areas). In some instances, allowing higher buildings alone will not be sufficient to generate a viable development, for example in Caboolture and Strathpine. Similarly, parking policy must encourage development and assist in development viability. Enforcing significantly high or low parking provisions has a great impact on the available land required for a development or redevelopment and the financial viability of the project. All of these planning policies must work together to encourage development by considering the financial impact that these policies may have on the feasibility of projects. Providing flexible options generally provides a solid basis on which to encourage development.
- **General zoning for commercial and retail:** Much of MBRC's commercial activity currently takes place on retail zoned land. In order to provide flexibility to developers in the future and better react to the market, there should be a common zoning for both commercial and retail uses. This would allow developers the flexibility of including retail or commercial space in mixed use developments and allow the market to decide the eventual use.

- **Redevelopment of older industrial areas:** Council should consider planning provisions that allow for the transition of older industrial areas into more functional and useful space. It is very common for older industrial areas to transition into bulky goods and retailing uses. Historically, these areas were located on major roads and had buffers between their industrial uses and nearby residential uses. However, over time, residential uses often encircle these older industrial areas. Their access to major transport nodes and population centres makes them very attractive for bulky goods. Industrial areas such as Lawnton and Burpengary are potentially better suited to bulky goods than industrial uses and there is strong evidence on the ground that this transition has already begun.
- **Bulky goods:** Providing a distinct zoning or areas specifically earmarked for bulky goods development would assist in preventing bulky goods uses from infiltrating industrial land. Similarly, allowing for older industrial areas to transition to bulky goods would assist as well. Clearly separating bulky goods from industrial and general retail has the benefits of allowing for more strategic locations to be found and isolated for bulky goods retailing. There are already strong bulky goods precincts in Morayfield and Brendale.
- **Building conversions:** In new industrial areas and for existing industrial premises, allowing for building conversions will be a good way to maximise the employment opportunities across MBRC. For example, in new industrial areas when new buildings are proposed, building in provisions that allow the building to convert into an alternative industrial use in the future could assist in generating greater employment densities. For example, allowing a 5,000 sqm warehouse with 500 sqm of office space to be built today would have a provision to easily increase the office space to 1,000 sqm – 2,000 sqm in the future. This would allow the property to transition from a warehouse to more of a high technology industrial operation, generating significantly more employment. Allowing this conversion in existing facilities could have the same effect.
- **Small scale industrial developments:** Consultation revealed that there is strong demand for larger industrial sites and a clear shortage of this type of product in MBRC. There are currently only a handful of industrial sites 5 ha and greater in size. At the same time, modelling also indicates that as Brendale and North Lakes reach capacities in the future, demand for land in these areas will either be driven further north or to other parts of Brisbane City Council. In order to provide maximum flexibility and opportunity, the addition of 3-4 small scale industrial developments (i.e. 40-50 ha gross) could provide opportunities for larger industrial sites and greater supply in the southern part of the region. Ensuring that this demand can be met will increase jobs in the region.

Use of Infrastructure Funds and Council Assets

- **Incentives and fees:** Providing incentives to encourage development is a well established practice, with private sector developers often offering free rent for a certain time period or governments offering tax incentives to recruit companies. If MBRC had an incentive program to encourage job growth and redevelopment, it could assist in delivering jobs and investment. Additionally, the introduction of a special levy to fund large infrastructure or redevelopment projects could assist to lower the capital expenditure to developers, thereby making larger projects more attractive. Also, the use of urban growth bonds or value capture mechanisms could also assist in the funding of future infrastructure and major redevelopment projects, although these initiatives would require changes to State legislation. Naturally, MBRC has a responsibility to deliver infrastructure to grow the region and be fiscally responsible, so any incentives would have to be well managed with future revenues.
- **Infrastructure fund:** the development of an infrastructure fund to be used to finance larger infrastructure projects or contribute to major redevelopments or future developments could assist in making these projects viable and act as a catalyst for investment and job creation. Spare Council assets or land could potentially be sold to provide the initial funding source and then structured financial vehicles could provide funding on an on-going basis with some contributions made as development takes place.

- **Use of Council owned land in Strathpine and Caboolture:** Council must consider how to strategically use its land holdings in both Strathpine and Caboolture. In each centre, Council owns large strategically located sites that could be attractive for future mixed use development. However, often the purchase price of this land (in addition to other market factors) makes development not viable. If Council were to provide the land at little or no cost, the viability of development would increase significantly. Additionally, if there was a government pre-commitment for this space, Council could provide these sites as a catalyst for future development, achieving numerous economic and planning goals.

Recommendations

This study has revealed a detailed understanding of the current land use in MBRC across industrial, retail and commercial uses and identified numerous considerations for future planning. In conducting this study, numerous areas were identified where greater detail of information is needed or more thorough investigations need to be made to inform future planning decisions.

Specific Actions Required in the Future

The following investigations could be made by Council to address specific issues that were uncovered as a result of this project, including:

- **Household retail survey:** A detailed household retail survey of retail shopping preferences and characteristics is needed to provide a strong evidence base for the future retail hierarchy. AECgroup used available information regarding the region, limited consultation and our own experience to define retail catchments for MBRC. A detailed household retail survey would provide very accurate information and help to inform the size and scale of various centres.
- **Feasibility of new residential development:** An investigation into the feasibility of residential development around train stations and older residential areas, where the local residential demographics are changing, would assist to inform specific planning tools and provisions in these areas. These feasibilities would assist in identifying opportunities for higher density residential accommodation, which will assist MBRC to accommodate some of the future population growth, as well as the necessary planning provisions to encourage these developments.
- **Site Selection for future small scale industrial developments:** A thorough investigation of the southern half of the region to explore options for future small scale industrial developments would assist in meeting short-term demand for larger industrial lots and provide additional land supply to buffer against future shortages of industrial land in the southern half of the region.

Opportunities for Development in Activity Centres

The following investigations could be made by Council to identify opportunities for redevelopment and consider ways to use Council owned land and investment in parking strategies as a way to encourage future development and attract investment, including

- **Redevelopment opportunities:** AECgroup has identified numerous centres for redevelopment consideration based on our retail assessment, future modelling and experience in property development. However, in order to prioritise these redevelopments and ensure their acceptance by the market, more detailed assessments are required to determine the highest and best use, scale of redevelopment, staging of various projects and ultimate yields (in terms of jobs and built form). These additional investigations would assist in providing certainty to planners and developers as well as providing a catalyst for these projects to take place.
- **Business case for council owned land:** Conducting business case and feasibility assessments on Council owned land in Strathpine and Caboolture would assist in creating catalytic development projects that can help achieve designed planning outcomes and increase investment and jobs towards the 70% employment self-containment goal.

- **Parking Strategy:** Development of a parking strategy for major centres that ensures for the provision of parking to meet future demand but at the same time provides flexibility for individual developments would greatly assist in the future development of these centres. Consideration should be given to existing and future supply required to meet demand, potential for central parking facilities to service multiple lots as well as innovative ways to deal with peak demand and the potential for mixed uses (i.e. retail, commercial and residential).

Feasibility and Value of Future Investment Attraction

The following investigations would assist Council to better understand future development and how to achieve the desired strategic goals, including:

- **Business case/feasibility tests:** The ability to test desired planning outcomes to ensure they are feasible would greatly increase the value of urban design studies and master plans. Providing an evidence base regarding the viability of large, complex property projects will assist in delivering plans that are achievable and deliver the desired built form outcome.
- **Investigation into incentives and funds:** Given the unique financing position of MBRC (i.e. must provide infrastructure capacity with capped infrastructure charges), innovative and unique funding mechanisms are needed to encourage development, investment and job growth. These mechanisms could act as a catalyst for reaching closer to the 70% employment self-containment goal. Options include special levies, value capture and growth bonds.
- **Balance between residential and employment growth:** Considering the different financial impacts that residential and employment growth have on Council is important. Businesses usually do not consume and demand Council financed infrastructure in the same manner as residents. An investigation into the future value of residential development versus employment growth (in terms of rates and other Council revenue) could be compared to the costs required to service this growth (through the provision of infrastructure). The economic impacts of each type of development could also be considered. If it is more valuable to Council to have employment growth, then mechanisms such as deferment of infrastructure charges could be considered to encourage employment growth, given the more financially attractive nature of the development.
- **Funding of economic development and investment attraction:** Given the importance of increasing employment opportunities locally, Council should investigate the level and degree to which economic development and investment attraction are funded. Comparing not only over all dedicated resources (in terms of financial funds and human resources) but consideration of specific programs to generate employment outcomes should be included. It could be that MBRC needs to fund economic development and investment attraction at a higher than average level in order to achieve meaningful results. As highlighted in this report, planning provisions are only part of the overall equation to deliver development outcomes.

Table of Contents

DOCUMENT CONTROL.....	I
EXECUTIVE SUMMARY.....	II
TABLE OF CONTENTS.....	XVI
1. INTRODUCTION	1
1.1 BACKGROUND	1
1.2 STRUCTURE OF THE PROJECT	1
2. EXISTING ENVIRONMENT	3
2.1 CATCHMENT	3
2.2 ECONOMIC CONTEXT	3
2.3 SOCIO-ECONOMIC OVERVIEW	4
2.4 AVAILABLE LAND.....	7
2.4.1 RESIDENTIAL LAND.....	7
2.4.2 EMPLOYMENT ACTIVITIES.....	9
2.5 FUTURE POPULATION PROJECTIONS	12
3. ECONOMIC DEVELOPMENT STRATEGY	16
3.1 STRATEGY OVERVIEW	16
3.2 THE JOBS CHALLENGE	17
4. FUTURE ECONOMIC MODELLING	19
4.1 ESTIMATING FUTURE WORKFORCE.....	19
4.2 LAND DEMAND MODELLING	19
4.2.1 INDUSTRIAL	19
4.2.2 RETAIL.....	20
4.2.3 COMMERCIAL.....	21
4.3 FUTURE ECONOMIC DEVELOPMENT	21
5. INDUSTRIAL LAND REQUIREMENTS.....	24
5.1 EXISTING INDUSTRIAL LANDS.....	24
5.2 FUTURE SUPPLY AND DEMAND	24
5.3 EXISTING TRENDS	28
5.4 FUTURE TRENDS AND ACTIVITIES.....	29
6. RETAIL REQUIREMENTS.....	32
6.1 SUPPLY	32
6.2 CATCHMENT DEFINITION.....	35
6.3 DEMAND	37
6.3.1 RETAIL SPENDING.....	37
6.3.2 RETAIL FLOOR SPACE.....	37
6.4 GAP ANALYSIS	38
6.5 EXISTING TRENDS	41
6.6 FUTURE TRENDS AND ACTIVITIES.....	42
7. COMMERCIAL REQUIREMENTS	43
7.1 EXISTING SPACE AND CENTRES.....	43
7.2 FUTURE SUPPLY AND DEMAND	43
7.3 EXISTING TRENDS.....	44
7.4 FUTURE TRENDS AND ACTIVITIES.....	45
8. DEVELOPMENT FEASIBILITY	47
8.1 FEASIBILITY APPROACH	47
8.2 INDUSTRIAL DEVELOPMENT.....	48
8.3 COMMERCIAL DEVELOPMENT	49
8.4 RETAIL DEVELOPMENT	51
9. LIKELY FUTURE DEVELOPMENT PATTERN	53
9.1 INDUSTRIAL	53

9.2	RETAIL	54
	9.2.1 FUTURE CENTRES.....	54
	9.2.2 CENTRES FOR POTENTIAL REDEVELOPMENT	57
	9.2.3 BULKY GOODS	58
9.3	COMMERCIAL	59
10.	PLANNING CONSIDERATIONS.....	61
11.	PLACE TYPES.....	63
11.1	SPECIAL AREA	63
11.2	SUBURBAN NEIGHBOURHOOD	63
11.3	NEXT GENERATION SUBURBAN NEIGHBOURHOOD	63
11.4	URBAN NEIGHBOURHOOD.....	64
11.5	ACTIVITY CENTRE	64
11.6	ENTERPRISE AND EMPLOYMENT AREA	64
12.	FUTURE RECOMMENDATIONS.....	65
	ACKNOWLEDGEMENTS	67
	REFERENCES	68
	APPENDIX A: MODELLING METHODOLOGY.....	70
	APPENDIX B: DETAILED INDUSTRIAL LAND REQUIREMENTS	73
	APPENDIX C: DETAILED MODELLED RETAIL LAND REQUIREMENTS	80
	APPENDIX D: MBRC PLACE MODEL.....	83

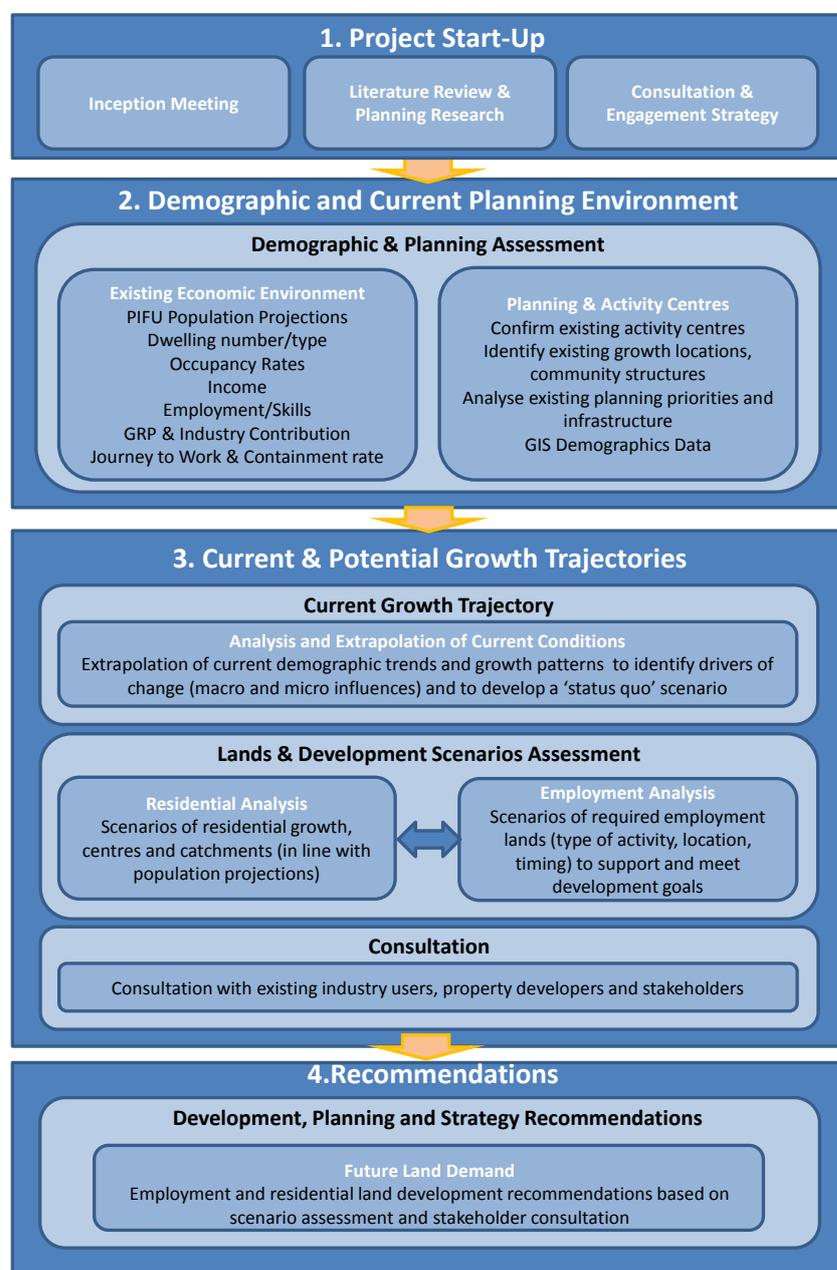
1. Introduction

1.1 Background

The Moreton Bay Regional Council (MBRC) engaged AECgroup to conduct an assessment of future land demand in order to inform MBRC's new planning scheme. This process involved an assessment of future demand for both residential and industrial land. MBRC has a number of strategic goals it wishes to achieve with its planning, including moving towards a 70% employment self-containment ratio for local jobs, developing settlements that can accommodate population growth that makes the best use of current infrastructure, enhances quality of life and maximises economic development in the region.

1.2 Structure of the Project

In order to complete this project, a structured process was designed and implemented to deliver all required outputs and outcomes, and includes the following steps:



Key deliverables of the MBRC Future Land Demand Study include:

- **Background Report** which consists of an overview of the current economic environment in MBRC and existing planning and activities centres as well as establishes the baseline information (population, land use, economic) for future modelling;
- **Future Directions Paper** which provides an overview of the growth scenarios and resultant demand for land (industrial, retail and commercial); and
- **Future Land Demand Study (this report)** which provides evidence of various potential future developments, planning and strategic recommendations stemming from the project to inform future planning.

Each of these reports should be read in the context of the others.



2. Existing Environment

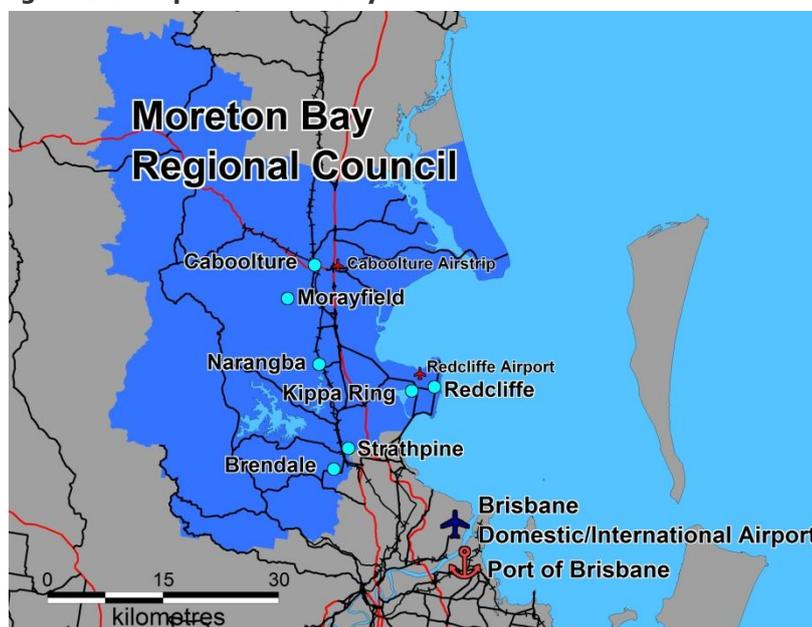
Moreton Bay Regional Council Area (MBRC) is the third largest Local Government Area within Australia (on a population basis). The region has experienced strong population growth over recent years and is expected to continue to expand over the coming 20 years.

The existing socio-economic environment in a region is the basis from which future economic scenarios are built. As such, they provide guidance of the "here and now" for comparison to the "future".

2.1 Catchment

MBRC is the catchment area for this study. MBRC is located within South East Queensland and has been formed by the amalgamation of the former Caboolture, Redcliffe and Pine Rivers shires. The region is a short distance from Brisbane, the capital city of Queensland.

Figure 2.1: Map of Moreton Bay



Source: ABS (2003)

2.2 Economic Context

A range of influences impact upon the performance of the MBRC economy, some of these influences are internal factors and some are external. There are some influences over which the MBRC has control, such as business composition and land use and, to some extent (through land release), land supply.

However, significant influences on the economy are outside the MBRC's control, such as exchange rates, globalisation, productivity gains aligned with technological growth and South East Queensland economic growth. Nevertheless, preparing for and anticipating trends in these influences is an important part of economic development and land planning.

Internal Factors:

- **Business community composition and land use:** different businesses have varying degrees of demand for land. MBRC's economy has a high proportion of professional, scientific and technical research and construction businesses, requiring very low land areas; and

- **Land supply:** Residential land supply in the region is expected to be problematic in the future, however, industrial land is available.

External Influences:

- **Globalisation:** Increased global connectivity is broadening the ability for Australian businesses to reach new markets, however, it also increases local businesses' vulnerability to global economic trends and competition from overseas (particularly in the manufacturing sector);
- **Exchange rates:** Exchange rates are a double-edged sword. Higher exchange rates can increase businesses' purchasing power (in terms of imports), but can negatively impact on their export competitiveness;
- **Shifting economic structure:** From a production and processing based economy to an experimental/knowledge based economy (changing the face of the Australian manufacturing sector and increasing the requirement for innovation and research);
- **Productivity gains from technological advancements:** Increased technological advancements are improving business productivity. For example, the NBN could bring a fresh wave of productivity gains to the region; and
- **South East Queensland growth:** The State of Queensland has become a key driver of national growth over the last 10 years, due predominantly to the presence of mining resources in the region.

The above internal and external factors are likely to hold implications for the MBRC area and future economic growth. These factors will also hold implications for land demand and use within the LGA. Managing these factors and preparing for anticipated developments will be fundamental to ensuring future economic growth and managing land demand.

2.3 Socio-Economic Overview

Moreton Bay is a fast expanding region of South East Queensland, not only in terms of population growth, but also in terms of economic growth. The area has posted strong average annual GRP growth of 5.6% per annum since the 2006-07 year, exceeding the average for SEQ and Queensland of 5.1%. Economic outperformance is evident in the labour force also, where the MBRC unemployment rate is 0.7 percentage points and 1.0 percentage points below that of SEQ and QLD, respectively.

MBRC's strong population growth (ranking 31st out of 567 LGAs in Australia between 2001 and 2010) over recent years is expected to ease over the coming 20 years, though it will remain positive. The construction of a rail network in the east of the area is expected to assist in attracting new residents to the region. MBRC attracts a high proportion of young families, due in part to the relatively low cost of housing in the area compared with Brisbane, and as a result, the MBRC's average resident's age is relatively low, at 36.3 years.

Accommodating future population and economic growth in the MBRC will be instrumental in ensuring the region remains attracting to business and residents in the future. By attracting new business to the region, employment self-containment rates may increase.

Employment self-containment refers to the percentage of working MBRC residents who work in the MBRC area. In 2006, MBRC had an employment self containment rate of 43.1%. Of the 84,630 persons who lived in MBRC and worked elsewhere, over 62,000 worked in Brisbane LGA. Analysis conducted by AECgroup updated the 2006 census journey to work information using actual population growth and MBRC's latest dwelling audit. The analysis assumed the same number of workers per dwelling as in the 2006 census. This analysis indicates a potential decline in the employment self containment rate to 41.4% which will need to be verified once the 2011 Census journey to work data becomes available.

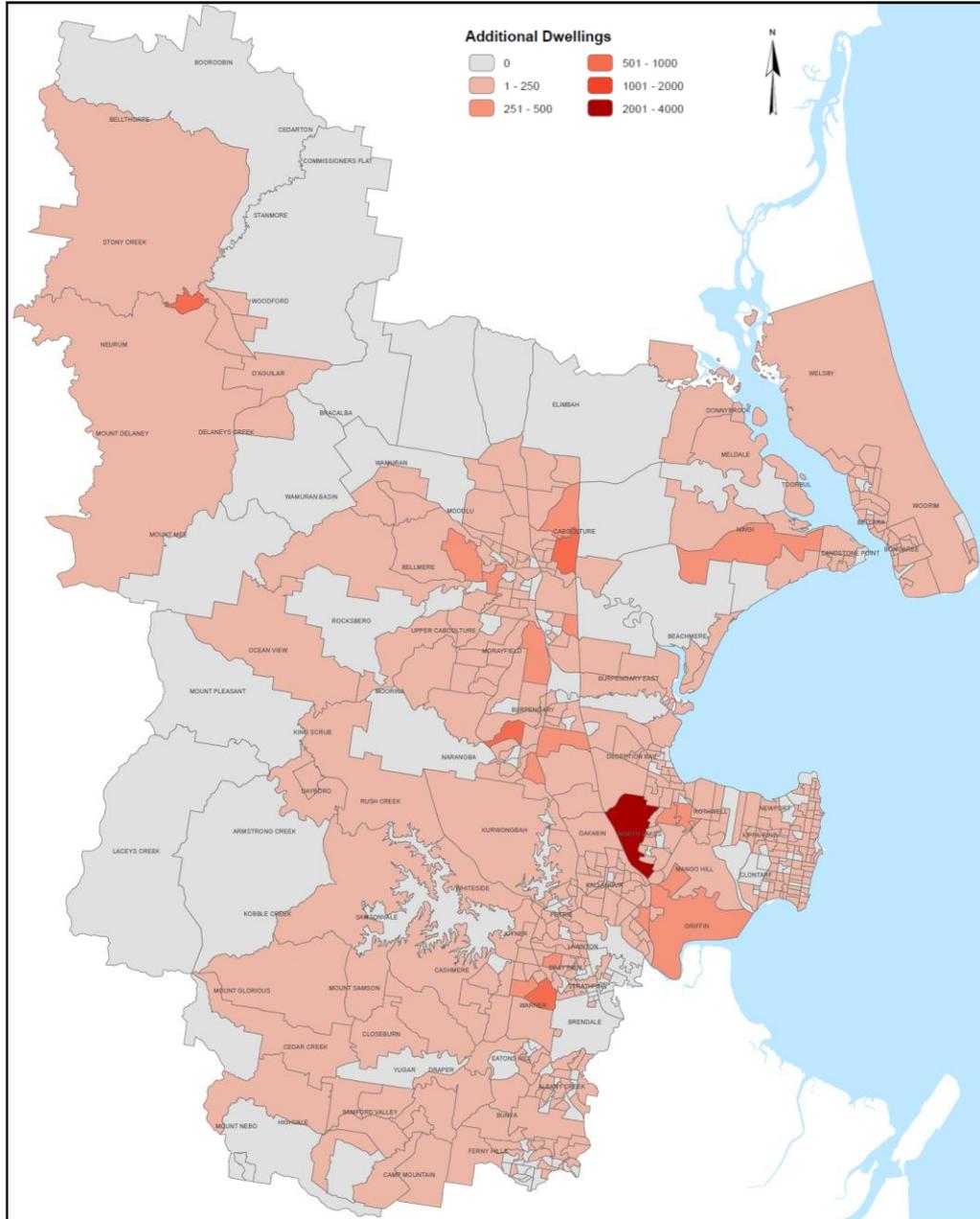
Table 2.1: Socio-Economic Indicators, MBRC

Indicator	Period	MBRC
Estimated Population	2010	382,280
Projected Population	2031	545,528
Historical Population Growth	2001-2010	3.3%
Projected Population Growth	2011-2031	1.7%
Average Age	2009	36.3
GRP (\$M)	2009-10	\$9,763.3
GRP Growth (Average Annual)	2006-07 to 2009-10	5.6%
Unemployment Rate (Place of Residence)	Sep-10	4.6%
Level of Employment	Sep-10	177,845
Level of Unemployment	Sep-10	8,622
Top 3 Industries by Employment (Place of Work)	2006	Retail trade (13%)
		Manufacturing (12%)
		Health care and social assistance (11%)
No. Residential Building Approvals	2009-10	3,991
Growth in Residential Building Approvals	2008-09 to 2009-10	-44.13%
Value Non-Residential Building Approvals (\$'000)	2009-10	\$296,233
Growth in Non-Residential Building Approvals	2008-09 to 2009-10	-26.39%
Number of Dwellings	2011	142,432
Self-Containment	2010	41.4%

Source: Australian Bureau of Statistics (2007a, 2010a, 2010b, 2011a, 2011b), Moreton Bay Regional Council (2009, 2010, 2011a), Planning Information Forecasting Committee (2008), Department of Education, Employment and Workplace Relations (2010)

Population Growth in MBRC has been predominantly focused on the North Lakes area, however, the majority of suburbs in the region have experienced high rates of population growth (and dwelling additions). The key growth areas in MBRC between 2006 and 2010 were Griffin-Mango Hill (including North Lakes) recording a population increase of 57.7%, Central Pine-West recording a population increase of 28.5% and Rothwell-Kippa-Ring recording a population increase of 22.6%. On average, the top 10 growth areas of MBRC expanded by 24.0%.

Figure 2.2: Population Density Growth, 2006-2011



Source: MBRC (2011b)



2.4 Available Land

2.4.1 Residential Land

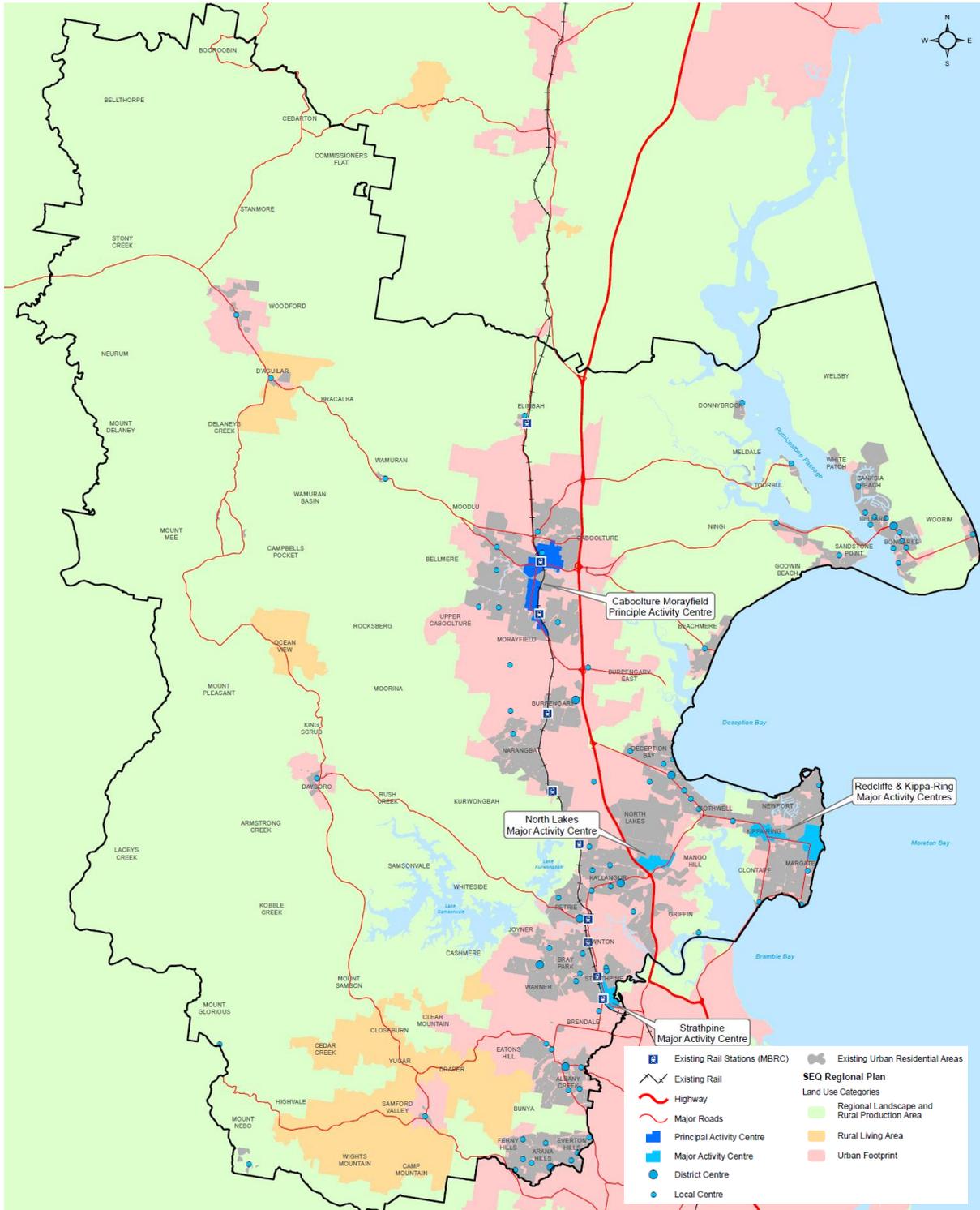
Residential Lands in MBRC total 44,146 ha, 3,000 ha of which are vacant. The residential density (gross) of MBRC sits at 3.2 dwellings per hectare. Planned residential developments in MBRC are expected to increase the density of housing in MBRC close to centres, particularly in the Mango Hill, Redcliffe and Kippa-Ring areas where the Moreton Bay Rail Link will be developed. Planning for future population growth, in terms of new housing, has been centred around these new rail stations and Caboolture, which also serves as the Primary Activity Centre for the region, as well as Morayfield, Dakabin, Griffin and Narangba.

Table 2.2: MBRC Residential Land (ha)

SLA	Total Land	Total Private Dwellings	Total Vacant
Bribie Island	559	9,213	170
Burpengary-Narangba	2,206	9,079	140
Caboolture (S) - Central	1,709	9,122	306
Caboolture (S) - East	2,929	6,976	272
Caboolture (S) - Hinterland	2,457	1,447	276
Caboolture (S) - Midwest	3,872	4,540	126
Deception Bay	1,101	7,684	42
Morayfield	1,872	8,929	123
Albany Creek	525	5,568	3
Bray Park	232	3,572	5
Central Pine West	2,311	7,475	203
Dakabin-Kallangur-M. Downs	1,029	11,273	53
Griffin-Mango Hill	895	7,594	14
Hills District	700	7,768	45
Lawnton	302	2,389	5
Petrie	267	3,137	5
Strathpine-Brendale	297	4,601	9
Pine Rivers (S) Bal	19,402	6,566	1,197
Clontarf	207	3,496	1
Margate-Woody Point	274	5,580	3
Redcliffe-Scarborough	574	9,763	8
Rothwell-Kippa-Ring	426	6,660	165
Total	44,146	142,432	3,169

Source: MBRC (2011a)

Figure 2.3: Current MBRC Residential Centres



Source: MBRC (2011b)



2.4.2 Employment Activities

Current land planning in MBRC highlights areas in terms of activity centres and industrial areas which are designed for employment purposes. The key employment areas in MBRC include (further details on these employment areas can be found in the **Background Report**):

- **Caboolture-Morayfield:** In total, there are over 15,600 employees in the Caboolture-Morayfield Area. 17.2% of these workers are employed by the health care and social assistance (due to the presence of the Caboolture Hospital) sector. The retail sector employed a further 16.2%. Over 10% of workers in the region are in the construction industry.

The Caboolture area is home the Caboolture Aerodrome which provides services for local aircraft. There is some available land but there is limited opportunity for expansion due to the location of the highway and also low demand for aviation services. The area has a Central Business District (CBD) zone which has a mix of retail, commercial and industrial businesses. There is some opportunity for expansion of the CBD, particularly for office and commercial space.

- **Burpengary-Narangba:** Over 5,000 persons work in the Burpengary-Narangba SLA. The most prominent industry, by employment, in the region is manufacturing, which accounts for over 21% of all workers in the area. The region has a large industrial sector which accounts for the strong representation of the manufacturing industry in Burpengary-Narangba. The second most prominent industry in the SLA is the construction industry, which accounts for over 18% of employment in the area.

The Narangba industrial area is focused around heavy industry with albeit limited capacity to expand. The older precinct has very established companies such as Nationwide Oil (part of the Transpacific Industries family) as well as SRL Plasma (a cutting edge firm that delivers plasma arc waste disposal machines), Sheepskin Tannery and Packer Leather. The newer areas of the Narangba estate include smaller facilities primarily offering service industries.

In Burpengary, there is an older established industrial area, primarily offering bulky goods retailing and service industries. Some large lots are occupied by vehicle sale yards. Greenfield opportunities exist directly across the Bruce Highway in the Motorway Business Park. The Bruce Highway runs along the edge of the Burpengary-Narangba area with truck movements forming over 18% of traffic in the area. The Motorway Business Park is likely an ideal location for manufacturers, due to the access to road infrastructure.

- **Strathpine-Brendale:** Nearly 14,000 workers are employed in the Strathpine-Brendale SLA. The most prominent industry of employment is the manufacturing industry, which employs over a quarter of all workers in the area. Brendale is the largest industrial precinct in the area. In addition to the strong presence of the manufacturing industry, high proportions of the workforce in the SLA are employed in construction (11.9%) and retail trade (10.4%).

Brendale is the largest industrial precinct in MBRC. Good transport infrastructure in the SLA, including road and rail access, are likely a key driver to attracting businesses into the area. The park has existing industrial users and also holds available greenfield sites for future development. There is a mix of large manufacturing operations (CSR Bradford, Iplex, VIP Packaging, Mills Tui) as well as smaller industrial operators. The precinct also has a variety of bulky goods retail shops as well as other smaller warehouse/retail operations selling tiles, plumbing fixtures, garden supplies and other traditional bulky goods/trade goods.

- **Redcliffe and Kippa-Ring:** The Redcliffe and Kippa-Ring area, defined in this report as the two SLAs of Redcliffe-Scarborough and Rothwell-Kippa-Ring, has an employment population of over 11,000 persons, the majority of whom work in the Redcliffe-Scarborough SLA. The most prominent industry of employment in the area is health care and social assistance, due to the presence of a large hospital in the area. Retail trade is also a prominent industry in the area. At Redcliffe, there is an Aerodrome which is more developed than the Caboolture Aerodrome. However, as in the case of the Caboolture Aerodrome, there is minimal demand for an expansion of the centre.

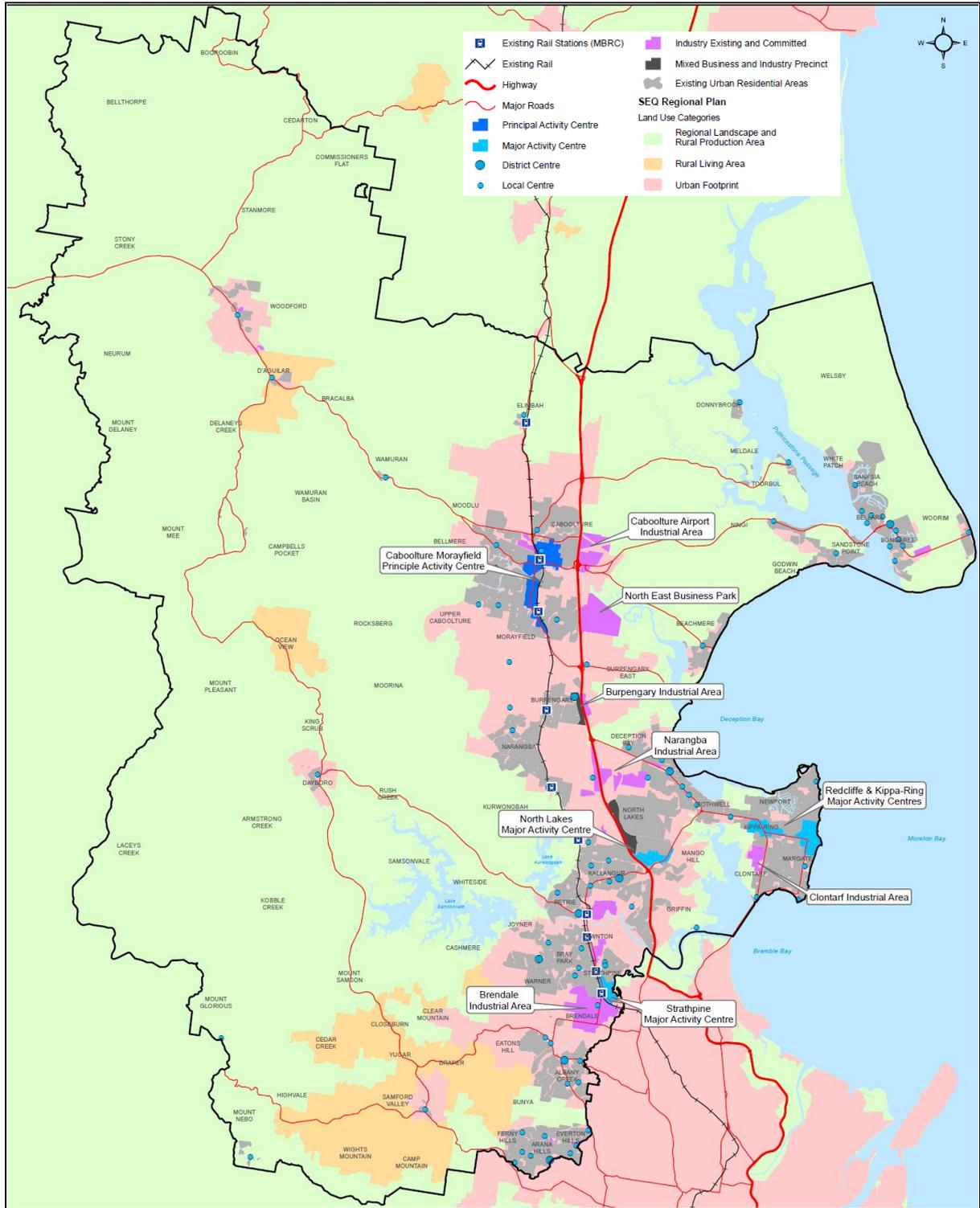
- **North Lakes, Mango Hill and Griffin:** Around 7,500 workers¹ are employed in the North Lakes, Mango Hill and Griffin area. Nearly a quarter of these workers are employed in the construction industry and a further 23% are employed in retail trade, due to the presence of a large Westfield shopping centre in the North Lakes area.

There is an industrial precinct in North Lakes, directly adjacent to the Bruce Highway at Anzac Ave, approximately 25 km north of Brisbane. It is a broad residential, retail and commercial development spanning 1,000 ha that has a burgeoning industrial area. Encompassing 85 ha, the North Lakes Business Park caters to advanced industrial operations, which produce high value-adding, large office component developments. The business park still has significant greenfield areas.

- **Clontarf:** Over 3,000 employees work in the Clontarf SLA. Almost a third of these workers are employed by the manufacturing industry. The second most prominent industry by employment in the area is the construction industry. There is an older established industrial area in Clontarf which has limited opportunities for growth. The area has had some recent expansion to include smaller buildings tailored to the services industries.

¹ Estimate provided by Moreton Bay Regional Council.

Figure 2.4: Current MBRC Employment Centres



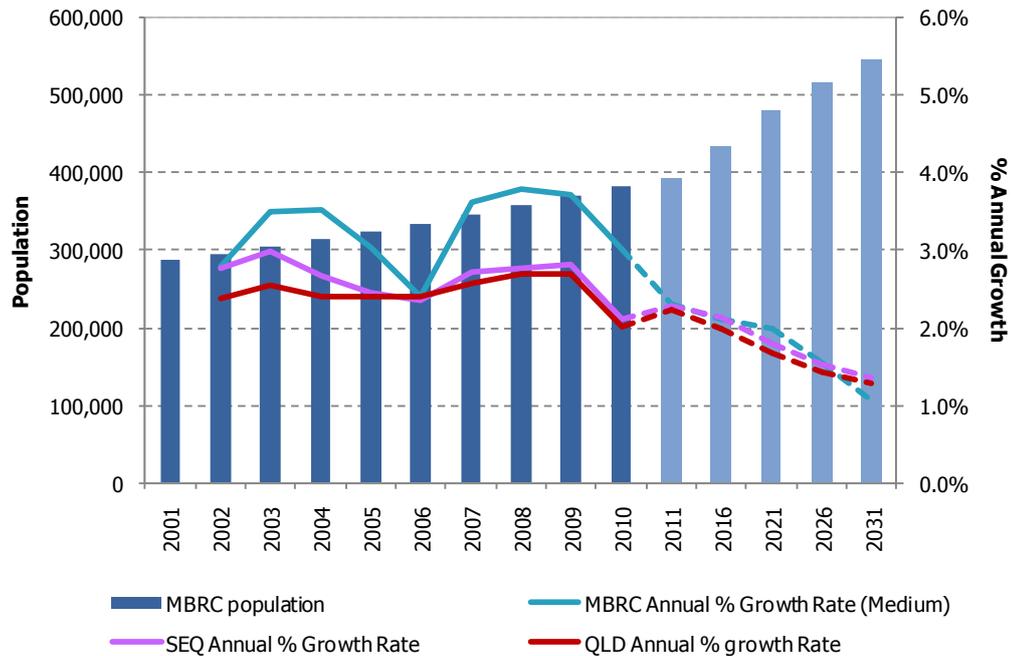
Source: MBRC (2011b)



2.5 Future Population Projections

According to the Queensland Government, and adjusted for expected increased population in certain areas within MBRC directly relating to the delivery of the Moreton Bay Rail Link (MBRC, 2010a) the population of MBRC is expected to increase to nearly 545,000 by 2031, a total increase of over 160,000 persons. Population growth in MBRC is expected to slow over the coming 20 years, from an average annual growth rate of 3.3%pa between 2001 and 2010 to an average annual growth rate of 1.7%pa between 2011 and 2031. Population growth in MBRC is also projected to drop below that of Queensland and South East Queensland in the later years, but it will remain positive.

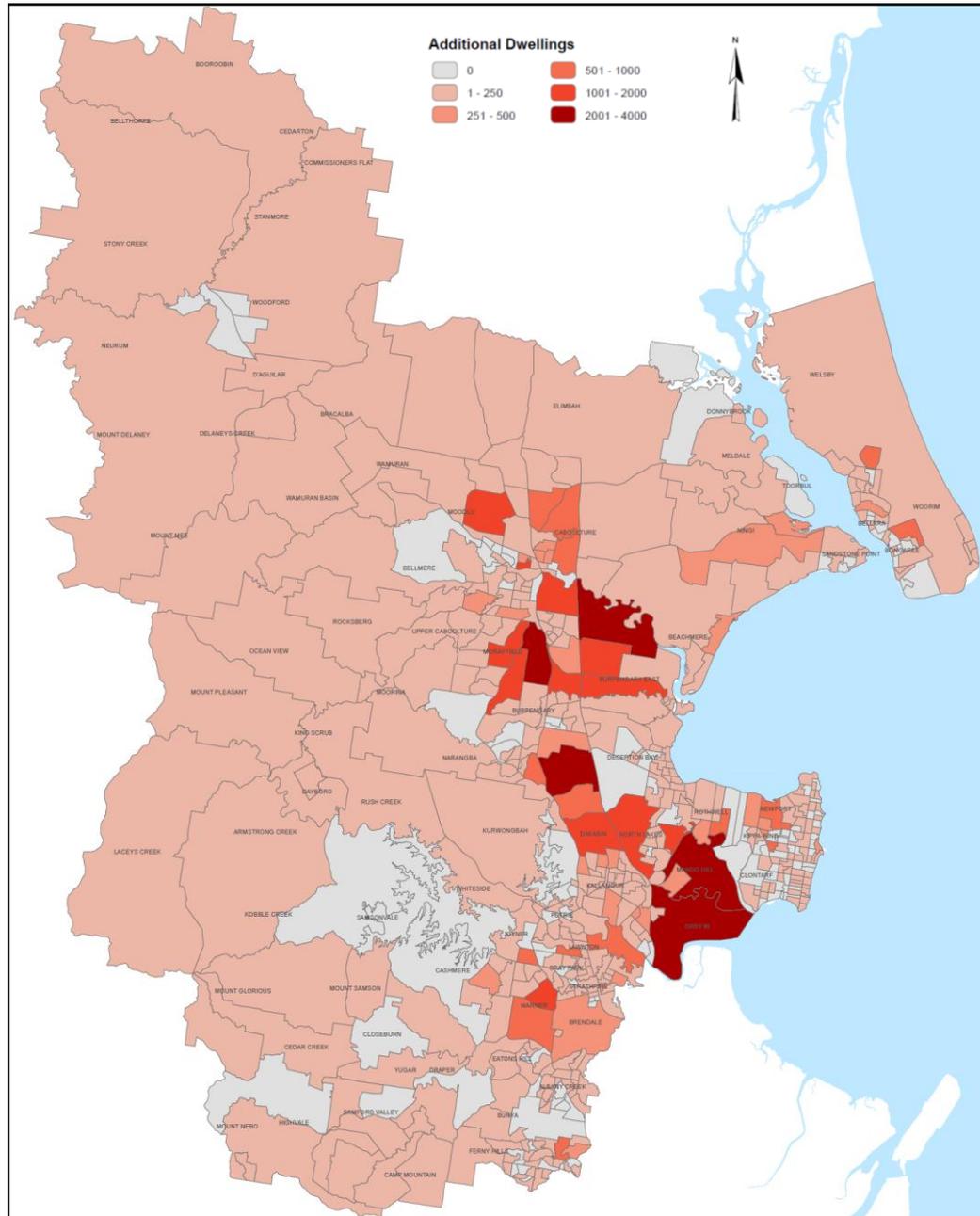
Figure 2.5: Population Projections, 2001 to 2031



Source: Moreton Bay Regional Council (2009), Moreton Bay Regional Council (2010a), Planning Information Forecasting Committee (2008)

Population growth expectations in MBRC area between 2011 and 2031 are outlined in **Figure 2.6**. Key pockets of growth in the region include Griffin, Mango Hill as well as parts of Caboolture (south, central and west), Morayfield, Dakabin and Warner/Joyner. Further strong population growth in the area will, if unprepared for, will lead to an escalation in existing congestion issues in the region. Infrastructure demands in the area will also increase. Fundamental to accommodating the quantum of residents in the area will be increasing the number of local jobs available. This will have several flow-on impacts in the area. Increased local jobs and higher employment self-containment rates will reduce the morning congestion and the region's high dependency on car transport (in Griffin Mango-Hill, this will also be alleviated to some extent by the Moreton Bay Rail Link). In addition, the expected stress on infrastructure will be lessened, reducing the need for large-scale infrastructure spending in the area.

Figure 2.6: Future Population Density Growth, 2011-2031



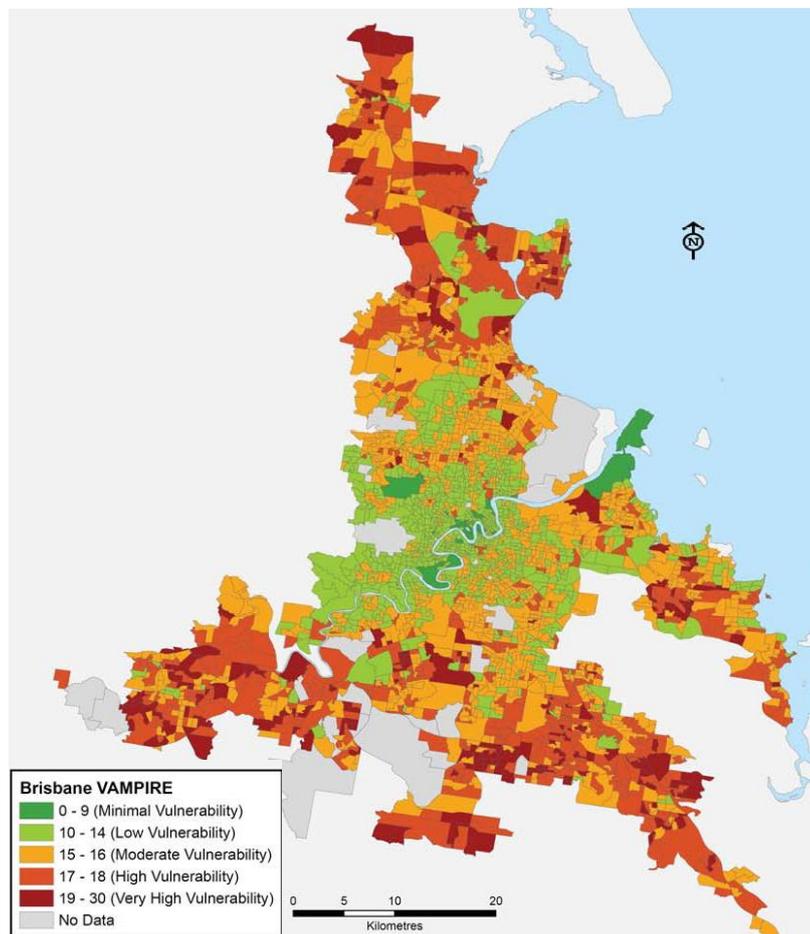
Source: MBRC (2011b)

Given recent strong population growth and the current economic structure (which has led to a low employment self-containment rate), a number of factors present risks to the MBRC community:

- Fuel costs:** Rising oil prices are impacting on Australians, particularly those with high car-dependency. MBRC is such a community, recording high commuter rates and low employment self-containment rates (and a high proportion of persons travelling to work by car). International oil experts are warning that peak oil is approaching. According to OPEC estimates (2010) world oil demand in 2010 outstripped supply by 4.3 million barrels per day. By 2030, the excess demand for oil is expected to reach above 9 million barrels per day (OPEC, 2010). Reduced supply of oil is expected to push up prices, impacting particularly on communities with high car usage. Estimates of fuel prices in 2031, using the pace of fuel price increases experienced in Australia over the last 20 years (ABS, 2011d), suggest that in 2031 motorists will be facing a fuel price of \$3.60 per litre, a significant increase of 152% from current levels (Motormouth, 2011);

- **Transportation costs:** research in the US suggests that areas of urban sprawl which attract residents because of their low house prices (in comparison with central areas) were often at a higher risk of transportation costs due to the greater need for car use and larger distances travelled (Bernstein and Tholin, 2010). Residents of MBRC are also more vulnerable to the cost of transportation as residents tend to have a greater need for a car and tend to drive greater distances than those in metropolitan Brisbane;
- **Mortgage stress:** Rising interest rates can result in mortgage stress (defined as households spending more than 30% of their income on their mortgage repayments). Mortgage stress can have far-reaching implications in terms of discretionary spending and physiological distress. In 2006, the proportion of households experiencing mortgage stress in MBRC was 7.3% (PHIDU, 2010). Rental stress is also problematic across Australia, and MBRC was no exception in 2006, with 29% of renters paying more than 30% of their income in rent;
- **Price rises, mortgage stress and fuel costs:** the vulnerabilities of local areas to these three factors was researched in 2008 and quantified in the VAMPIRE Index. According to this index, the majority of the MBRC region is classified as either high risk or very high risk to these factors (graphically depicted in Figure 2.7);

Figure 2.7: Brisbane VAMPIRE Index, 2008



Source: Griffith University (2008)

- **Levels of disadvantage and advantage:** MBRC is socio-economically diverse, with pockets of high disadvantage evident in some areas. The SEIFA index of relative socio-economic advantage and disadvantage is worse in the former LGAs of Caboolture and Redcliffe than in South East Queensland, though Pine Rivers LGA is less disadvantaged than the South East Queensland Area (ABS, 2007b). Significant pockets of disadvantage in the region include Margate-Woody Point and Deception Bay;

- **Employment:** Employment impacts on a person's income, social interactions and personal relationships (ABS, 2010c). Having a high vulnerability to employment (and a higher risk of unemployment) can have negative impacts on these aspects of a person's wellbeing. In an index of employment vulnerability conducted in 2009, Morayfield ranked 25th out of all suburbs in Brisbane (suggesting a high vulnerability to employment). Caboolture, Deception Bay, Upper Caboolture and Caboolture South all also ranked highly on the index and are classified as high risk suburbs (Baum and Mitchell, 2009).

MBRC is an area of strong population growth. The impacts of this strong population growth are already evident in high levels of congestion and infrastructure strain. The low level of employment self-containment in the area is emphasising these trends, which present vulnerabilities to the residents of MBRC which can, if left unaddressed, reduce the amenity and quality of life in the area.

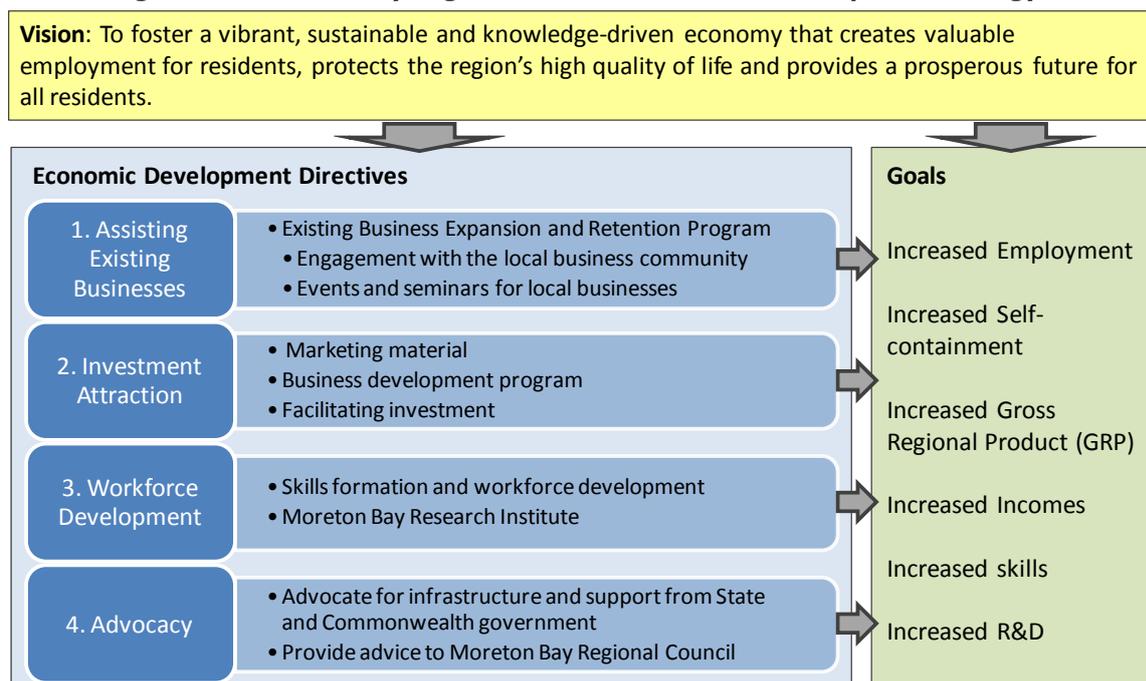
3. Economic Development Strategy

An Economic Development Strategy (EDS) has recently been adopted by Council. This strategy will enable Council to drive economic growth in identified sectors and, in doing so, create more local jobs. The EDS also identified goals for the Moreton Bay Regional Council, including an ambitious 70% employment self-containment rate.

3.1 Strategy Overview

The EDS outlined 4 key economic development directives to assist MBRC to achieve their strategic goals. This strategy also established an aspirational target of 70% employment self-containment.

Figure 3.1: Moreton Bay Regional Council – Economic Development Strategy Overview



Source: AECgroup

As part of the EDS, five industries of economic opportunity were identified. These opportunities were:

- Building Product Manufacturing:
 - **Metal product manufacturing** (Prefabricated steel, structural steel and architectural aluminium manufacturing, non-ferrous pipe fitting manufacturing, metal coating & finishing, non-ferrous metal container manufacturing, steel pipes and tubes, iron & steel casting);
 - **Cement, lime, plaster & concrete manufacturing** (Plaster product manufacturing, concrete slurry, concrete pipe and box culvert manufacturing);
 - **Glass manufacturing** (specialised glass for building industry, medical industry, solar industry); and
 - **Pre-fabricated building manufacturing** (Buildings, garages, sheds, kit homes, waste disposal blocks, etc.).
- Machinery and Equipment Manufacturing:
 - **Industrial M&E manufacturing** (mining equipment, food processing equipment, specialty pumps / compressors / components, other high-tech industrial equipment);

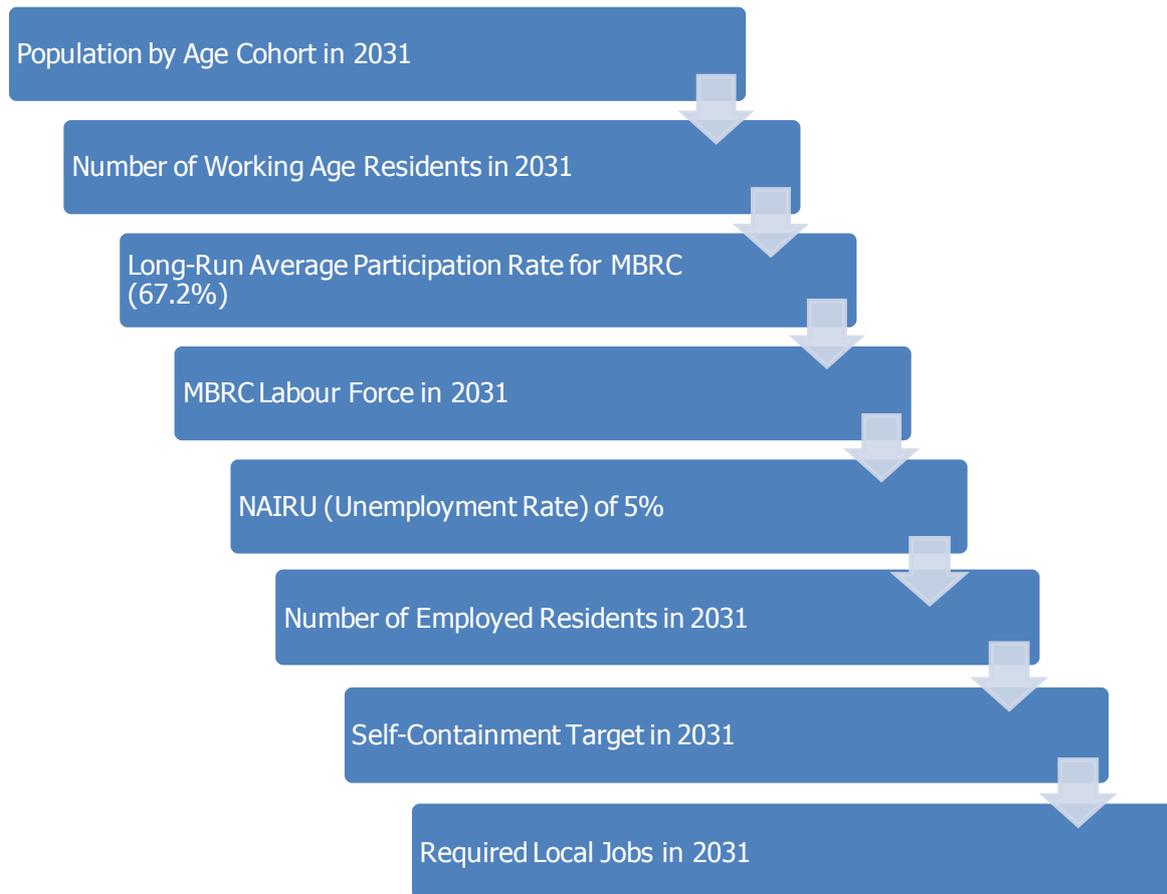
- **Medical device manufacturing** (dental equipment, medical examination equipment, medical tools);
- **Professional equipment manufacturing** (digital imagery equipment, optical equipment, scientific measurement equipment);
- **Specialty transportation equipment manufacturing** (public transportation equipment, security vehicles, military vehicles, mining equipment); and
- **Solar manufacturing** (PV modules and panels, PV wafer manufacturing, PV cells).
- Food and Beverage Manufacturing:
 - **Baked goods** (breads, biscuits, etc.);
 - **Processed foods** (packaged foods, frozen foods, ingredients, snack foods, etc.); and
 - **Beverage:** (bottling, niche beverage, health food drinks).
- Professional Services:
 - **Professional services** (accounting, banking, legal, property);
 - **Back office/processing centres** (centralised accounting and HR functions, insurance processing, payroll processing);
 - **Business customer service centres** (NOT outbound call centres, but inbound customer service centres requiring higher degree of skill including IT related industries, engineering, finance.); and
 - **Training centres** (IT, engineering, financial, insurance).
- Transport and Logistics:
 - **Distribution centres** (for large, national retail chains); and
 - **Logistics operations** (warehousing and distribution operations servicing a variety of clients and customers for both import and export).

3.2 The Jobs Challenge

Recent development in the area has caused considerable congestion and transportation issues within the region, particularly during the peak travel periods in the morning and evening as residents commute to their place of employment. Whilst a 70% employment self-containment rate is ambitious, increasing the number of jobs in the region and achieving a higher employment self-containment rate will assist in relieving the pressure on road infrastructure at peak times in the region and subsequently Council's financial commitments to maintaining infrastructure. Failure to increase the number of local jobs combined with continued population growth will result in a further deterioration in infrastructure and increases in on-going congestion.

In order to assess the economic and land demand implications of higher employment self-containment rates, the total number of jobs required to meet various employment self-containment rates in the region by 2031 was calculated. A diagrammatic depiction of this calculation is illustrated in Figure 3.2. As a result of these calculations the following required jobs numbers were developed.

Figure 3.2: Calculating the Required Local Jobs to Attain Employment Self-Containment Scenarios



Source: AECgroup

Table 3.1: Required Local Jobs to Meet Employment Self-Containment Ratios

Employment Self-Containment Rate	Number of Jobs	Difference with 2009	Total % growth
40%	113,147	20,172	21.7%
50%	141,434	48,458	52.1%
60%	169,721	76,745	82.5%
70%	198,008	105,032	113.0%
80%	226,295	133,319	143.4%

Source: Moreton Bay Regional Council (2009), Moreton Bay Regional Council (2010a), Australian Treasury (2009), Department of Education, Employment and Workplace Relations (2010), AECgroup

Achieving a 70% employment self-containment rate is no small undertaking (as identified in Table 3.1). The 70% employment self-containment scenario requires the MBRC region to almost double its annual jobs increase (to 4,774 per annum) creating more than double the amount of total jobs in the region in 2009. However, targeted business attraction strategies, as outlined in the EDS, can assist MBRC to generate change in the region.

The following sections highlight the future economic modelling that was conducted to describe what the potential future could hold for MBRC under the various employment self-containment scenarios. This modelling feeds directly into future land use considerations.

4. Future Economic Modelling

Economic modelling was undertaken to assist in describing the future possible economic state in the region. As a result of this economic modelling, demand estimates for land, in terms of retail space, industrial land and commercial space were developed. Ensuring adequate and appropriate land is made available for economic purposes will assist in attracting new businesses to the region and expanding the local labour force.

4.1 Estimating Future Workforce

Using the methodology outlined in **Section 3.2**, employment estimates were calculated for the employment self-containment rate scenarios.

Employment estimates to 2031 by industry were developed using the MBRC growth model using three categories of employment industries:

- **Leading Economic Drivers (LEDs):** LEDs are the industries that are either expected to be a focus for economic growth in the region or that are drivers of growth in other industries. In the MBRC model, these industries are those which were identified as key opportunities in the 2010 EDS;
- **Population Driven (PDs):** PDs are industries that are driven almost entirely by population growth and consumption; and
- **Business Activity and Population Driven (BAPDs):** BAPDs are industries that are driven by some combination of activity in other sectors and household consumption.

Employment estimates became the key driver of the modelling in the employment self-containment scenarios.

The modelling of the Status Quo Scenario differs from the employment self-containment scenarios as it is driven by estimates of GRP growth. Industry growth rates in this scenario were developed assuming that similar growth patterns to the period 2006-2010 were continued. Employment estimates were then calculated using estimated employee value added contribution per industry. Further details on the model used are outlined in **Appendix A**.

4.2 Land Demand Modelling

Once employment estimates were identified under each of the scenarios (including the Status Quo Scenario), benchmarks of employees per hectare in industrial activities (manufacturing, transport and warehousing) were used to determine the quantum of land required to house these employees. Estimates by industry were then grouped into the key industrial land uses of General Industry, Heavy Industry and Transport in order to provide guidance for future land use planning.

4.2.1 Industrial

Industrial land zones provided by MBRC were aligned with general industrial land use and heavy industrial land use zones as outlined in the table below. This was undertaken to harmonize and consolidate the three existing land zonings within the MBRC region, reflected in the MBRC land audit, conducted by Council in 2011.

Table 4.1: Industrial Land Use Categories

Land Use Classification	MBRC Land Zoning
General Industry	Home Industry
	Industry Zone
	Local Industry
	Service Industry
	District Industry
	General Industry
Heavy Industry	Extractive Industry
	Regional Industry
	Special Purposes

Source: AECgroup

Land demand estimates by industry are developed based on employment projections by industry and benchmarks of employment per hectare by industry developed specifically from an audit conducted in the Moreton Bay Region. These benchmarks were compared to other existing benchmarks for South East Queensland and other regions to test suitability. As a key driver of land demand modelling, these benchmarks have the ability to significantly impact on the findings. Therefore, sensitivity testing has been presented, where appropriate, to highlight the varying outcomes based on these benchmarks.

Table 4.2: Industrial Employment Ratios

Benchmark	Employment/HA
Melbourne region	30.05
SEQ region	43
Perth and Peel	12.2
Brisbane City Council	47

Source: AECgroup, DPCD (2009), Planning NSW (2010), BCC (2007)

4.2.2 Retail

The AECgroup Retail Model 2011 was used to assess the future demand for retail floor space in MBRC. The model uses the Australian Household Expenditure Survey to estimate the average amount of money each household spends on retail items each year. Average retail expenditure is projected forward in five year intervals to allow for real growth in retail spending by households. Expenditure on each retail item is categorised into:

- **Convenience Retail Spending:** Items that households purchase on a regular basis and will usually purchase from the most convenient location. Items include groceries, toiletries, take-away food, newspapers and personal services;
- **Discretionary Retail Spending:** Items that households do not purchase as often and will usually shop around and compare before purchasing. Items are primarily purchased at larger retail centres and shopping centres. Items include electronics, clothing, footwear, accessories, homewares, books, cosmetics and recreational products; and
- **Bulky Goods Spending:** Large items that households purchase relatively infrequently and will usually shop around and compare before purchasing. Products are primarily purchased from large floorplate retail premises and homemaker centres. Items include large appliances, furniture, outdoor recreational equipment, home fixtures, floor and window coverings, bedding, manchester, building supplies and hardware.

The average spending per household for each category is then multiplied by the number of projected future households (projected by MBRC) to calculate the total expenditure by local residents in five year intervals. Tourism visitation and expenditure data from Tourism Research Australia is used to calculate the total retail expenditure within MBRC by visitors. Total retail expenditure for each retail category in MBRC is then divided by retail turnover benchmarks to estimate the amount of retail floor space that is required to satisfy demand.

Retail businesses generally employ one staff member for every 20-30 sqm of retail floor space. The number of employees that could be supported by the MBRC retail sector has been projected using low, medium and high retail benchmarks of 1 employee for every 30, 25 and 20 sqm of retail floor space respectively.

4.2.3 Commercial

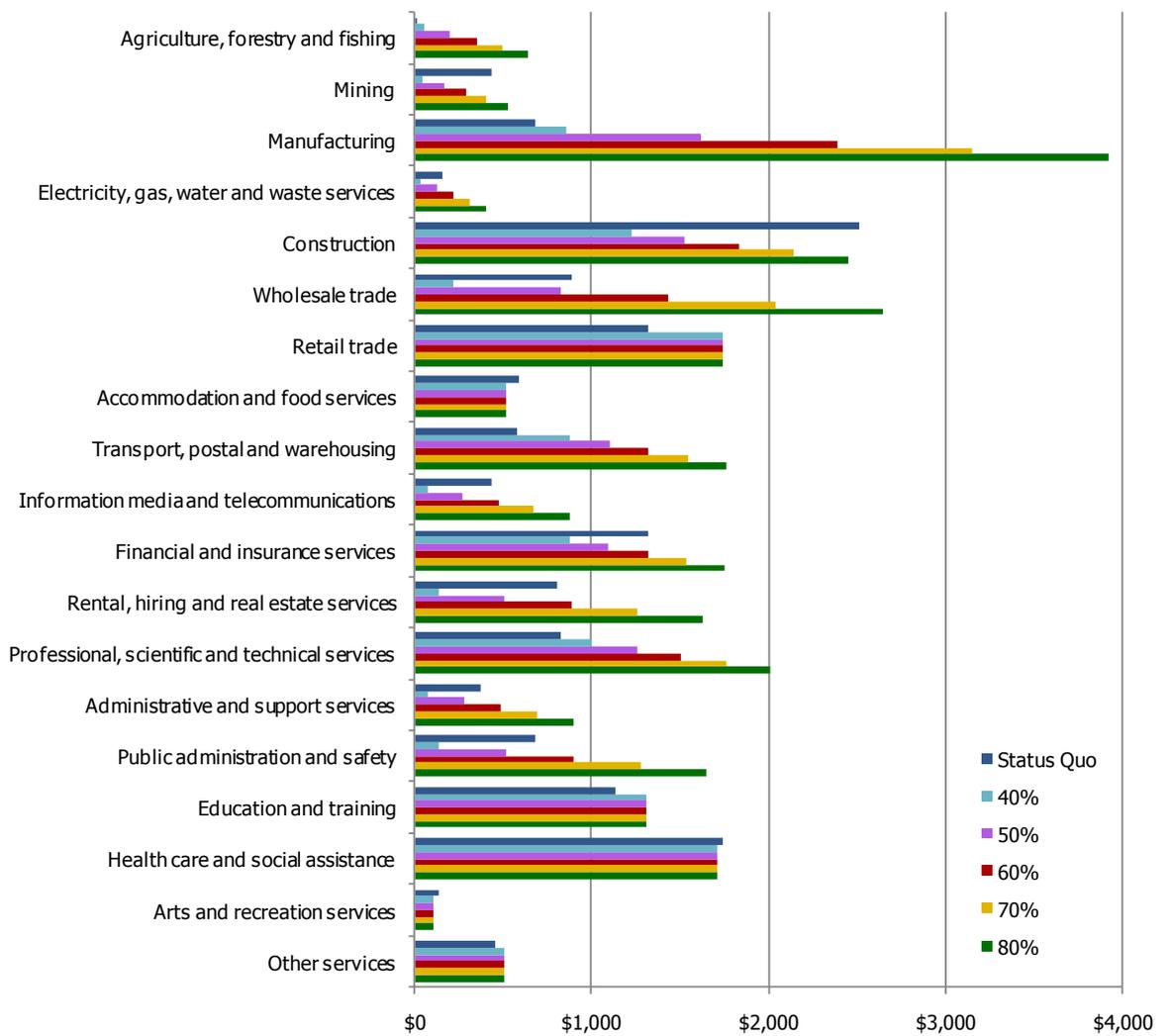
Demand for commercial office space was modelled using estimates of employment by occupation in the MBRC area (using Occupation by Industry of Employment data from the ABS, 2007 and applying it to employment estimates generated from the MBRC Growth Model). Occupations in industries which tend to use office space (such as managers and professionals) were totalled for each industry and a benchmark of floor space per employee (20 sqm) was applied to determine the amount of commercial space required. Government office space was calculated separately.

4.3 Future Economic Development

The future economic development of the MBRC region can take many forms. Using the various employment self-containment scenarios and the status quo, a variety of future local employment profiles can be generated. Growth in the industry sectors identified in the MBRC EDS (refer Section 3.1) were used to achieve the increased levels of employment self-containment. This assumption leverages AECgroup's economic modelling approach (discussed in **Appendix A**), which already accounts for anticipated economic growth stemming from projected population growth. Population growth will only deliver a certain amount of jobs or growth and alternative sectors must be utilised to deliver significant and additional amounts of future job growth. **Essentially, employment growth must be sought in industry sectors that are not driven by population growth.**

The sectors identified in the EDS provide considerable value to the economy and achievement in growing these sectors will lead to a structural shift of the economy over time, away from population driven industries, which will yield a more balanced economy. Figure 4.1 highlights the results of this analysis and demonstrates the structure shift of the economy that would be achieved in 2031 across the various scenarios (in terms of contribution towards GRP).

Figure 4.1: Estimated Value Contribution to GRP by Industry in 2031, \$M

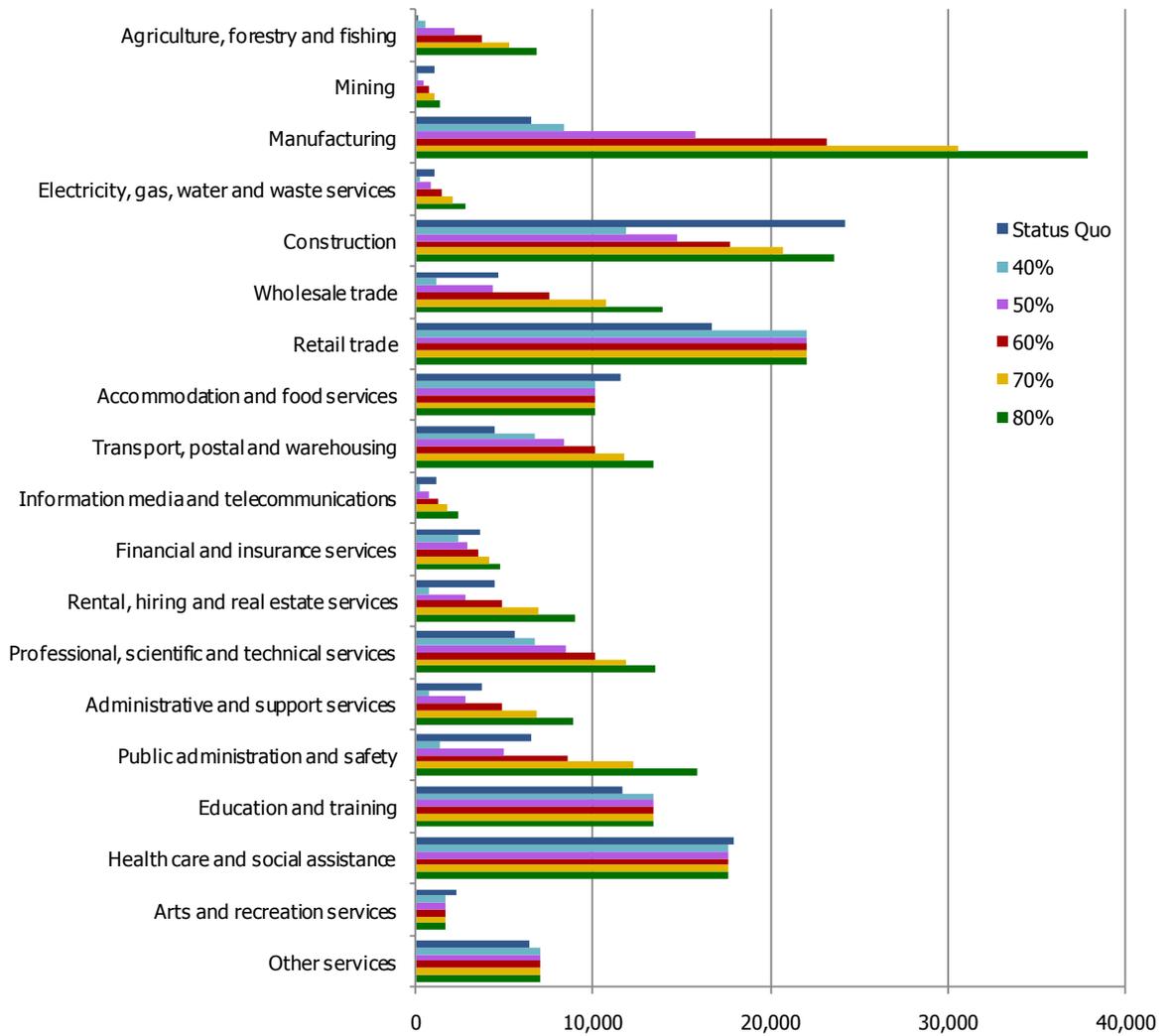


Note: Sectors which are driven purely by population growth do not change between each of the employment self-containment scenarios because population growth remains constant. These sectors change in the status quo scenario as this scenario is a continuation of the trends in economic activity in each sector over the past four years.

Source: AECgroup

Naturally, as the economic structure of the region shifts so too will its employment base. The changes in industry contribution to GRP generally represent high value-adding sectors of the economy, which require positions that are generally highly skilled. These sectors are also aligned with some of the skills set of the local resident workforce (particularly manufacturing which represents 12% of local workers that currently leave MBRC for employment). As Figure 4.2 demonstrates, the higher employment self-containment rate scenarios provide a much higher level of local jobs, which is in accordance with the anticipated structural shift of the economy over time. This structural shift is necessary to achieve higher employment self-containment rates.

Figure 4.2: Estimated Employment by Industry, 2031



Note: Sectors which are driven purely by population growth do not change between each of the employment self-containment scenarios because population growth remains constant. These sectors change in the status quo scenario as this scenario is a continuation of the trends in economic activity in each sector over the past four years.

Source: AECgroup

5. Industrial Land Requirements

Industrial land requirements were modelled to understand the land implications of a 70% employment self-containment rate. Understanding existing land and future demand for land is paramount to understanding how the region will accommodate a larger workforce.

Understanding the infrastructure implications and demand for utilities driven by the increased workforce in the region will also require planning consideration.

5.1 Existing Industrial Lands

Gross industrial land in MBRC (occupied and vacant) total approximately 1,600 ha, 80% of which is currently occupied. New supply is expected to come on-stream between 2011 and 2031, in the order of 1,300 ha.

Table 5.1: Industrial Land (ha)

Precincts	Total Occupied	Total Vacant	Total Future Supply
C-M PAC	1.13	0.00	0.00
Caboolture Airport	145.02	58.60	0.00
Caboolture	203.61	0.00	0.00
Brendale	259.50	103.28	0.00
Brendale West	23.08	23.28	200.75
Bribie Island	8.17	20.17	0.00
Burpengary	31.11	1.34	45.07
Clontarf	78.54	4.43	0.00
Dayboro	1.05	1.61	0.00
Deception Bay	12.95	2.55	30.53
Elimbah	0.00	3.05	391.61
Hills District	14.16	0.08	0.00
Joyner	18.08	0.00	0.00
Kippa-Ring	7.53	0.13	0.00
Lawnton	34.48	0.38	0.00
Margate	2.63	0.00	0.00
Mt Mee	0.20	0.20	0.00
Narangba	170.59	36.39	84.31
North East Business Park	0.00	0.00	384.26
North-Lakes Mango Hill	28.96	0.00	181.01
Petrie	202.77	57.79	0.00
Redcliffe	1.06	0.00	0.00
Rothwell	2.92	2.48	0.00
Strathpine	4.86	0.02	0.00
Woodford	9.29	0.35	0.00
Total	1,261.69	316.15	1,317.55

Note: Land supply figures have been sourced from a land audit. In some cases, land in these zones has been used for alternative purposes to the main land use zone (such as service stations being classified as industrial lands).
Source: MBRC (2011a)

5.2 Future Supply and Demand

Estimates of land demand in MBRC over the coming 20 years vary greatly between each of the employment self-containment rate scenarios. However, the key finding from the exercise is that the total quantum of land supply in 2031 is expected to be sufficient to meet demand. However, the location and characteristics of the land supply will be an important factor in the take up of land over the coming 20 years. ***Simply because land is zoned for industrial purposes does not mean that it will be accepted by the market and developed for industrial purposes.***

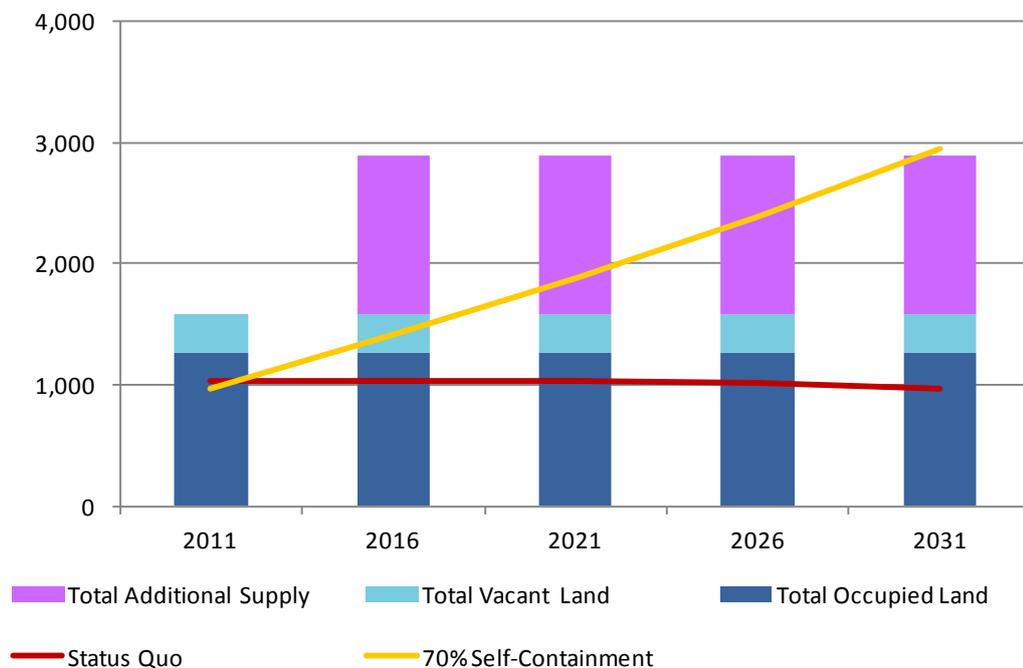
Table 5.2: Industrial Land Demand (ha)

Scenario	2011	2016	2021	2026	2031	Average Annual Consumption
Status Quo	1,026	1,027	1,026	1,009	972	-2.7
40%	889	918	944	992	1,068	9.0
50%	916	1,084	1,257	1,458	1,696	39.0
60%	943	1,250	1,569	1,924	2,323	69.0
70%	970	1,417	1,882	2,391	2,950	99.0
80%	997	1,583	2,195	2,857	3,577	129.0

Source: AECgroup

Consumption of land is expected to be strong over the forecast horizon, assuming land is available in appropriate locations and at attractive market rates. Under a 70% employment self-containment scenario, land consumption is expected to occur at a rate of 99 ha per annum. This pace is significantly higher than the average 8 ha per annum recorded in MBRC between 2006 and 2010. By comparison, the Status Quo scenario has assumed an overall decline in industrial land consumption of 2.7 ha per annum.

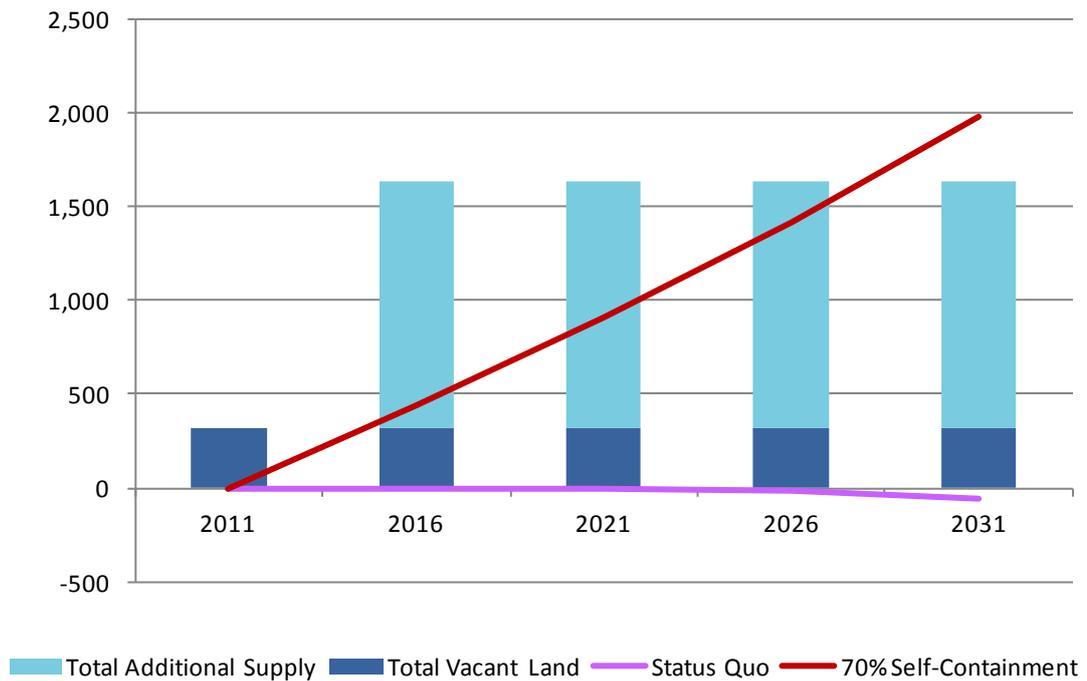
Figure 5.1: Industrial Land Supply and Demand (ha)



Source: MBRC (2011a), AECgroup

The chart above (Figure 5.1) points to demand for industrial land in 2011 to be approximately 1,000 ha while the land audit has identified 1,260 ha of occupied industrial land. This discrepancy is explained through the need for buffer zones (i.e. at the Petri Paper Mill and other large industrial operations) and the infiltration of bulky goods retailing into industrial areas. Assuming that all new demand for industrial land will need to take place on current vacant and future additional supply, demand for land under a 70% containment rate signals demand for a further 1,980 ha of land by 2031 (Figure 5.2), creating a shortfall of 346 ha.

Figure 5.2: Projected Net Industrial Land Demand and Supply, 2011 to 2031 (ha)



Source: MBRC (2011), AECgroup

Table 5.3: Net New Industrial Land Demand (ha)

Scenario	2011	2016	2021	2026	2031	Supply in 2031	Balance
Status Quo	0	0	0	-18	-55	1,634	1,688
40%	0	28	55	102	179	1,634	1,454
50%	0	168	341	542	779	1,634	854
60%	0	307	626	981	1,380	1,634	254
70%	0	446	912	1,421	1,980	1,634	-346
80%	0	586	1,198	1,860	2,580	1,634	-946

Source: AECgroup

As demonstrated in the table above (Table 5.3), if the 70% employment self-containment scenario is to be met, then an additional 346 ha of industrial land would be needed. Up to the 60% employment self-containment scenario, existing and future industrial land supply stocks are less than demand. Beyond this scenario, demand exceeds existing land supplies.

Industrial Land Supply and Demand Dynamics

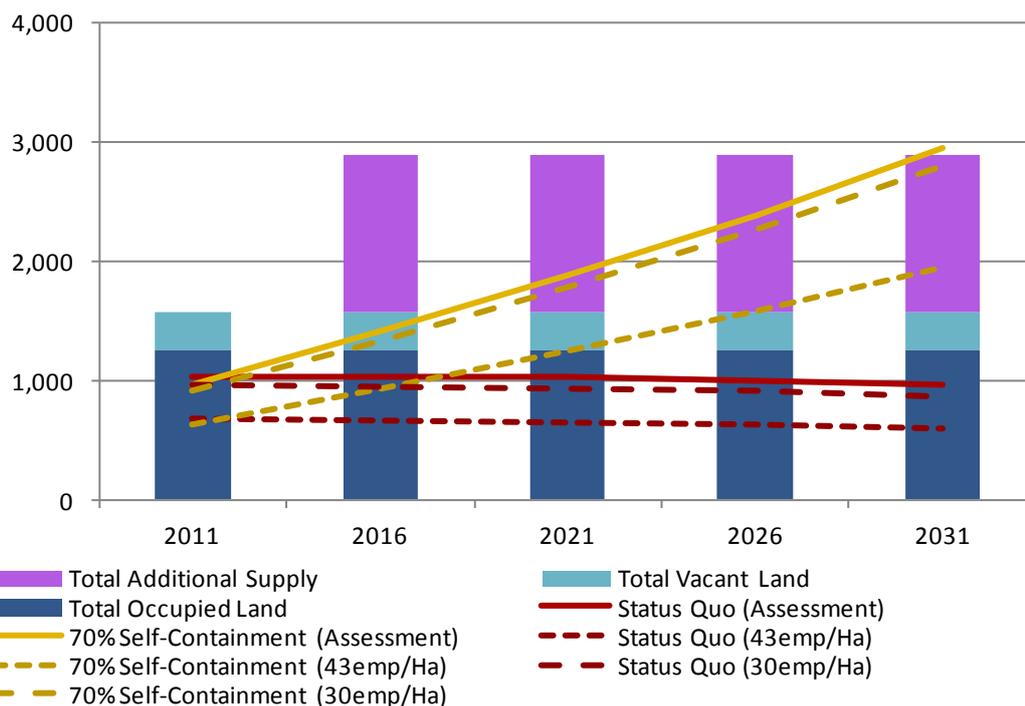
When evaluating industrial land demand and supply, it is important to keep in mind that demand will never equate to supply. As industrial precincts are developed, the amount of land within them decreases. Due to the individual projects developed, the size, shape and scale of individual lots and land parcels will vary. As estates reach 65%-75% capacity, the ability to offer choice, flexibility and options to various businesses looking for new sites will diminish. Additionally, prices generally increase as well.

For example, a single business may require 8 ha of land for a project and given their process, a rectangular shape of land is required. If an 85 ha industrial estate was 70% developed, 25.5 ha of land would be available. However, given development to date, there may be just one land parcel large enough to cater for this business. Competing locations may be able to provide a variety of options at different price levels, which could be more attractive for this business.

For these reasons, **it is important that supply of industrial land always exists in excess of anticipated demand.** Generally speaking, a rolling 10-15 year supply of land (at varying levels of development) is recommended to ensure businesses and developers will have choice and flexibility.

A sensitivity analysis was undertaken to assess the impact of differing employment land use benchmarks on the total quantum of land demand. As illustrated in Figure 5.3, land demanded in the region over the forecast horizon changes significantly depending on the density assumptions used.

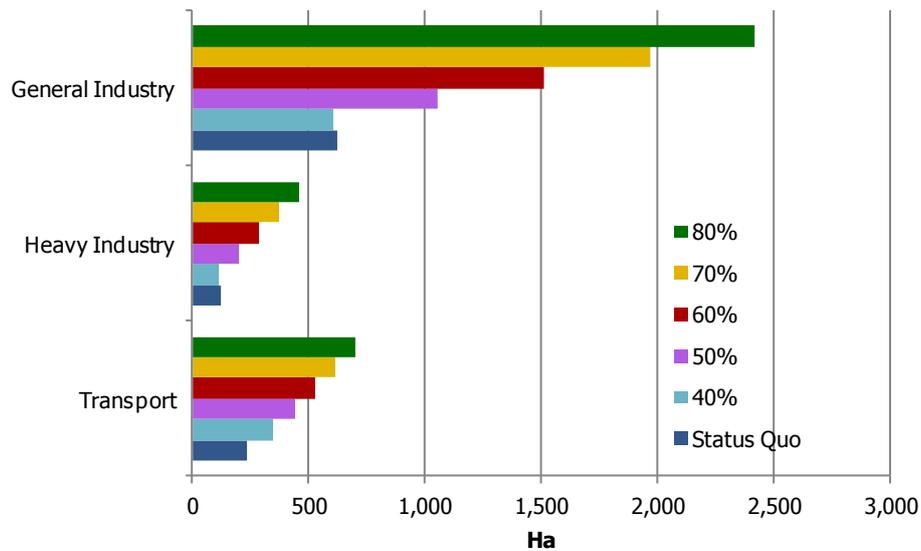
Figure 5.3: Land Supply and Demand (ha)



Source: MBRC (2011a), AECgroup

By 2031, demand for industrial land is expected to have increased under most scenarios. Under the 70% scenario, demand for general industry land is expected to have increased to over 2,000 ha. Demand for heavy industry land is also expected to have increased to almost 300 ha and transport land demand is estimated to have grown to nearly 700 ha.

Figure 5.4: Industrial Land Demand by Type, 2031 (ha)

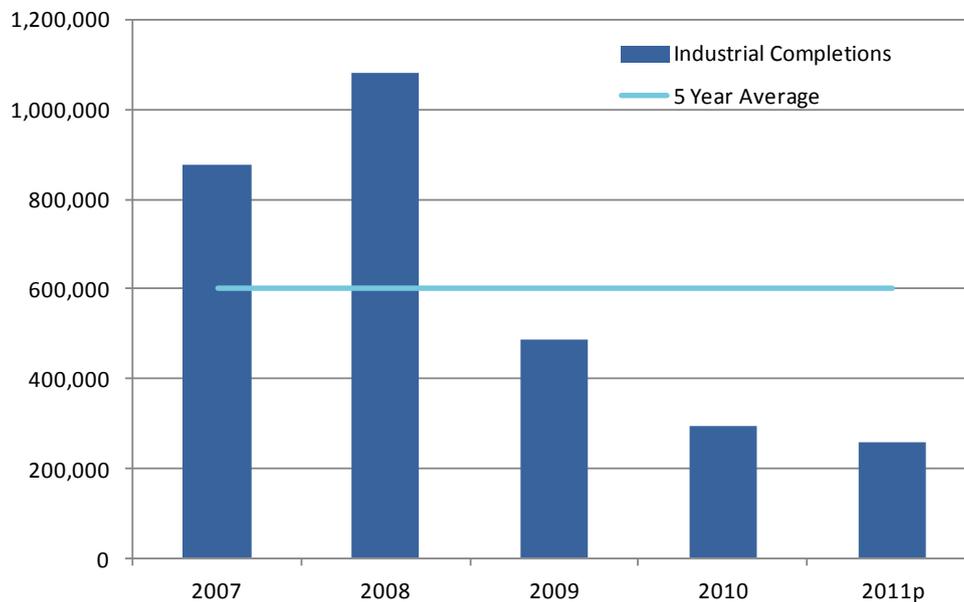


Source: MBRC (2011), AECgroup

5.3 Existing Trends

Industrial development in the broader Brisbane region remains relatively weak in comparison to 2007 and 2008. In 2011, approximately 22,200 sqm of industrial development is expected for MBRC, including a 10,000 sqm Powerlink warehouse at the Interchange Industrial Estate (CBRE, 2011a). Given the tighter lending standards and perspectives on risk in a post GFC world, pre-commitments remain an important aspect of industrial development.

Figure 5.5: Industrial Development, Broader Brisbane Region (sqm)



Note: Broader Brisbane Region includes parts of Moreton Bay Regional Council and Ipswich City Council. Completions include additions in excess of 1,000 sqm.

Source: CBRE (2011a), AECgroup

According to the Queensland Government, MBRC has been consuming 8 ha of industrial land a year over the past 4 years, making up just 6.5% of total SEQ industrial land consumption (Queensland Government, 2011). Interestingly, MBRC maintained its land consumption of 8 ha from 2009, while Brisbane City Council saw a decrease of industrial land consumption of 5 ha from 2009 to 2010, potentially indicating a slowing of development in Brisbane City Council. These trends show that in order to achieve a 70% employment self-containment rate, the consumption of industrial land in MBRC must accelerate dramatically, from 8 ha per year currently to almost 100 ha per year (as identified in Table 5.2).

Figure 5.6: Industrial Land Consumption, 2006 to 2010 average (ha)

Area	Consumption
Brisbane	65
Gold Coast	15
Ipswich	14
Lockyer Valley	0
Logan	9
Moreton Bay	8
Redland	1
Scenic Rim	0
Somerset	<1
Sunshine Coast	5
Toowoomba	2
Total SEQ	120

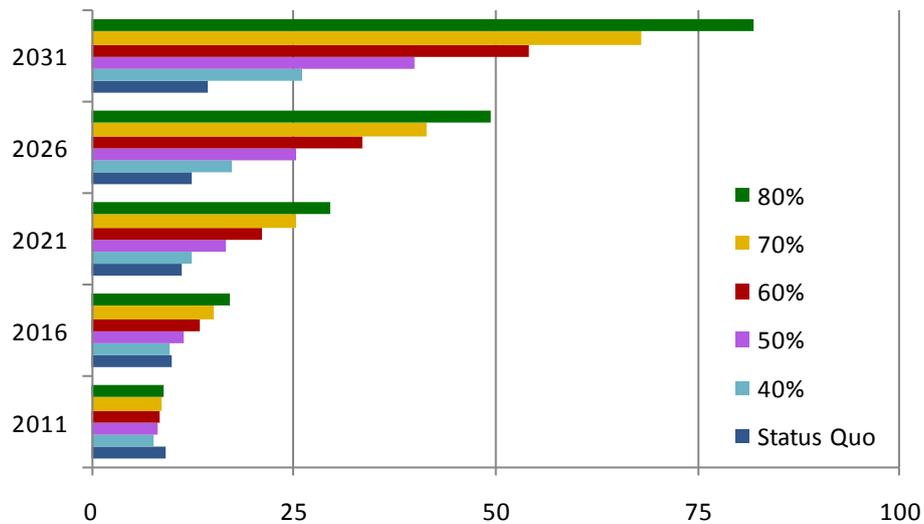
Note: Totals may not equal sum of all inputs due to rounding.
Source: Queensland Government (2011)

Any development of a new industrial estate will require significant pre-commitment in order to justify the infrastructure and development costs incurred. Consultation with developers and real estate professionals in MBRC indicated that current activity and interest is dominated by warehousing and transport related activities, accounting for approximately 60%-65% of investment. Given these factors, unlocking industrial land in the northern portion of the MBRC region (i.e. Northeast Business Park and Elimbah East) could take time as currently, these areas are unattractive to industrial users due to the distance from the Port of Brisbane, core area of SEQ (for distribution) and other industrial users (suppliers/customers). The population growth of the northern portion of the region and the consumption of lands in Brisbane and the southern portion of the the MBRC region will eventually steer demand north.

5.4 Future Trends and Activities

Industrial water use in MBRC is expected to increase over the 20 year horizon in the 70% scenario, to over 60 GL per annum. Estimates of water use include some allowance for a reduction in the water used per dollar of production, in keeping with recent trends. As water is used in some value-adding processes, economic activity, particularly in some industries, tends to increase the use of water. This is evident in the stable water use under the status quo scenario in which these industries experience steady growth.

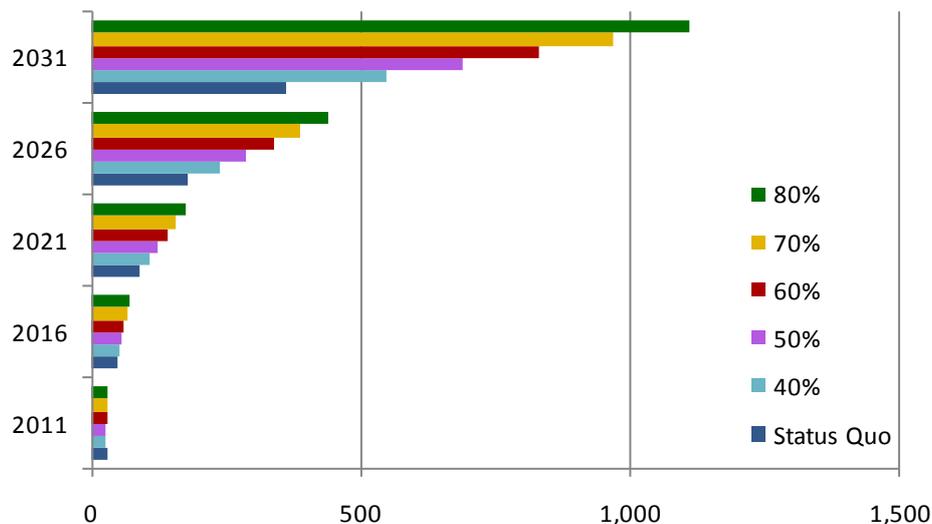
Table 5.4: Projected Industrial MBRC Water Use (GL)



Source: AECgroup, Foran *et al.* (2005), ABS (2010b, 2010d)

Industrial electricity use is expected to increase under each scenario. Electricity use is expected to be particularly focused on the transport, postal and warehousing industries. Stronger rates of economic activity are linked to higher rates of electricity usage as production increases.

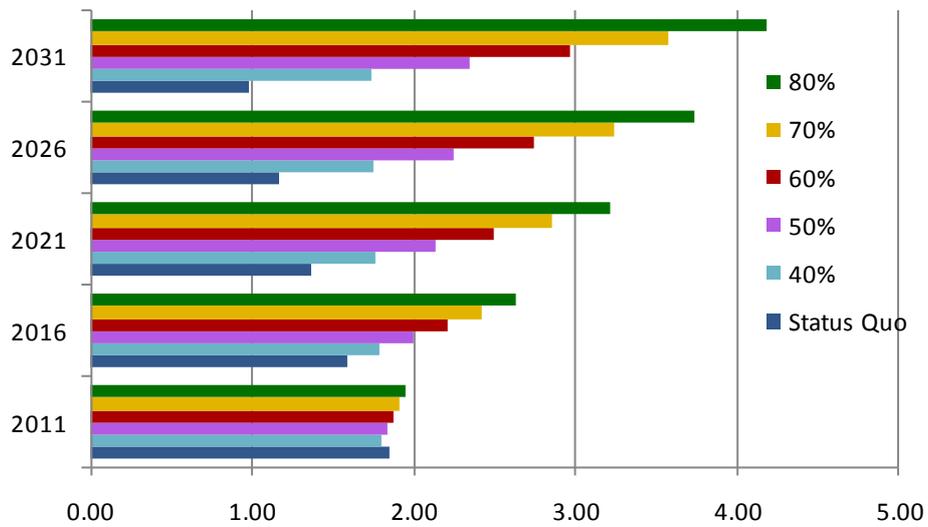
Figure 5.7: Projected Industrial MBRC Electricity Use (MJ)



Source: AECgroup, Foran *et al.* (2005), ABS (2011c), ABS (2010b)

Industrial green house gas emissions are growth and industry dependent. Estimates of green house gas emissions include some allowance for a reduction in the emissions per dollar of production, in keeping with recent trends. Emissions are lower under the Status Quo scenario (and lower than current estimates) as businesses become more efficient at production with lower green house gas emissions. Under the 70% employment self-containment scenario, industrial green house gas emissions are estimated to increase to 3.6Mt per annum by 2031, an increase of 1.66Mt over 2011.

Figure 5.8: Projected Industrial MBRC Green House Gas Emissions (Mt)



Source: AECgroup, Foran *et al.* (2005), ABS (2010b), Department of Climate Change (2010)

Infrastructure demand will be dependent on future economic activities in the region, and vice versa. Ensuring that oncoming land supply is serviced and costs of inputs - such as water and electricity are affordable will increase business demand for land in the area. Other factors such as legislative changes, including the carbon tax, may hold implications for industries in MBRC, their short-term growth rates and, hence, their demand for industrial land.

6. Retail Requirements

Retail land requirements were modelled based on projections of the population in MBRC. Understanding how retail patterns will play out over the coming 20 years in terms of both discretionary and convenience spending is fundamental to ensuring adequate retail space is planned and accommodated for in the land planning process.

6.1 Supply

The MBRC retail hierarchy comprises 85 centres with total retail floor space estimated at 907,000 sqm in 2011. The floor space supply was estimated based on an audit undertaken by MBRC in 2011 and data from the Property Council of Australia's Shopping Centre Directory. It is likely that the estimate of 907,000 sqm of retail floor space is an overestimate as ground level floor space used for finance and professional services (such as banks, real estate agents, accountants, lawyers, etc.) has been categorised as retail floor space when it is actually being used as office space. It is estimated that 120,000 sqm of retail floor space is used for office space meaning that there is more likely to be approximately 787,000 sqm of retail floor space currently located in MBRC.

Centres within the LGA are categorised into four centre categories including:

- **Principal Activity Centre:** Caboolture/Morayfield is the principal activity centre for MBRC and comprises over 266,000 sqm of retail floor space. The centre is anchored by the Morayfield Shopping Centre, Caboolture Park Shopping Centre and Morayfield Supa Centre.
- **Major Activity Centres:** There are four major activity centres located within MBRC comprising almost 300,000 sqm of retail floor space including:
 - Kippa-Ring Village anchored by the Peninsula Fair and Kippa-Ring Village shopping centres;
 - North Lakes anchored by the 60,000 sqm Westfield North Lakes;
 - Redcliffe Seaside Village anchored by Bluewater Square and the traditional main street shopping; and
 - Strathpine anchored by the 40,000 sqm Westfield Strathpine.
- **District Centres:** There are nine district centres located within MBRC comprising approximately 135,000 sqm of retail floor space. District centres range in size from the 3,500 sqm Narangba centre to the 34,350 sqm Burpengary centre.
- **Local Centres:** There are 70 local centres located throughout MBRC totalling over 210,000 sqm of retail floor space. The centres range from small convenience centres of 250 sqm up to larger shopping centre anchored local centres.

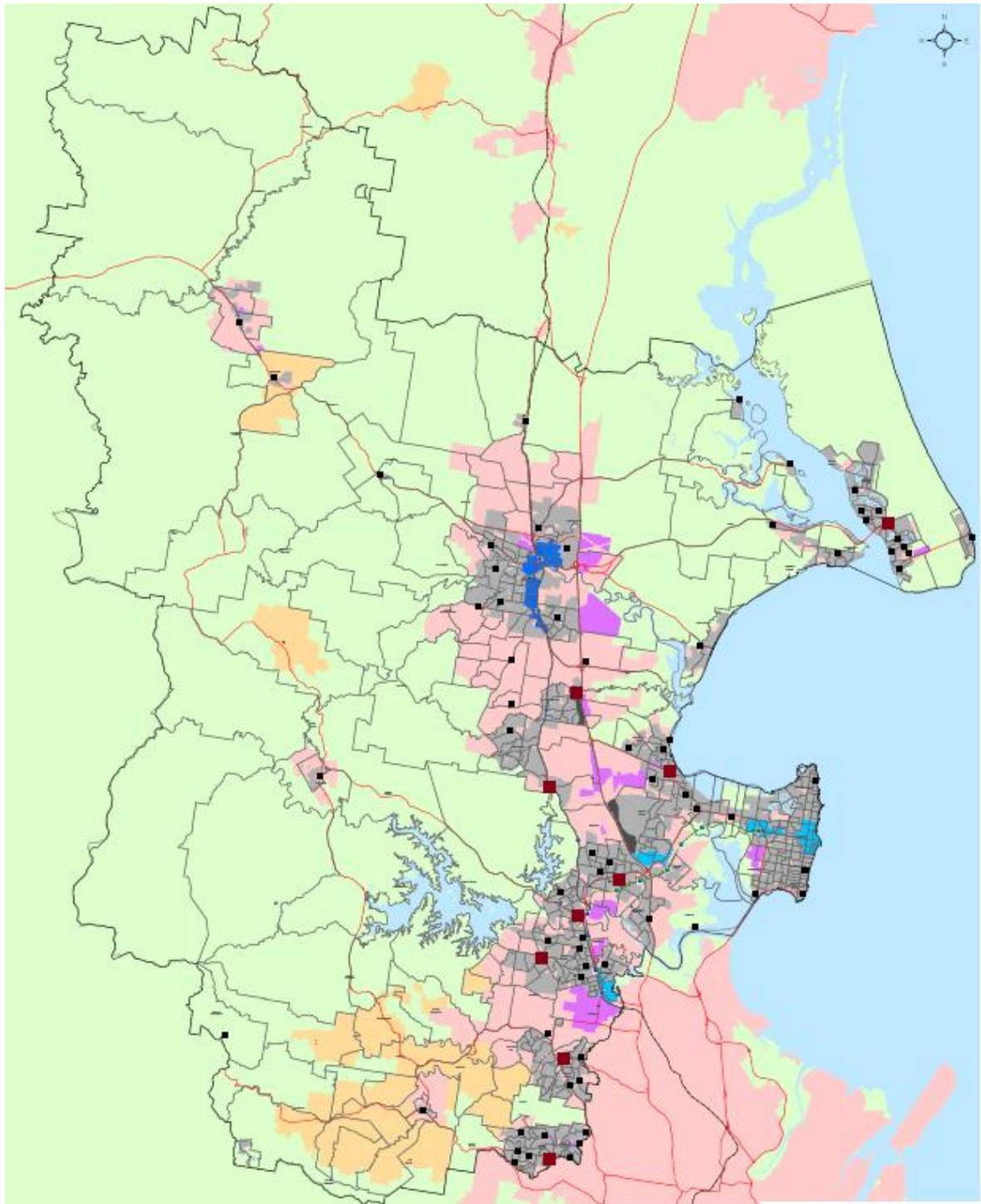
Table 6.1: MBRC Retail Supply, 2011

Hierarchy	Centre	GFA (sqm)
Principal Activity Centre	Caboolture	63,081
	Morayfield	203,201
	Sub-Total	266,282
Major Activity Centre	Kippa-Ring Village	64,603
	North Lakes	79,165
	Redcliffe Seaside Village	58,370
	Strathpine	94,280
	Sub-Total	296,418
District Centre	Albany Village	13,379
	Bellara	25,650
	Burpengary	34,347
	Deception Bay	16,059
	Kallangur Fair	6,771
	Narangba	3,563

Hierarchy	Centre	GFA (sqm)
	Patricks Road Shopping Centre	15,197
	Petrie	10,038
	Warner	8,477
	Sub-Total	133,481
Local Centre	70 Centres	210,743
Total Floor space		906,924

Source: MBRC (2011), PCA (2010), AECgroup

Figure 6.1: MBRC Retail Centres Hierarchy



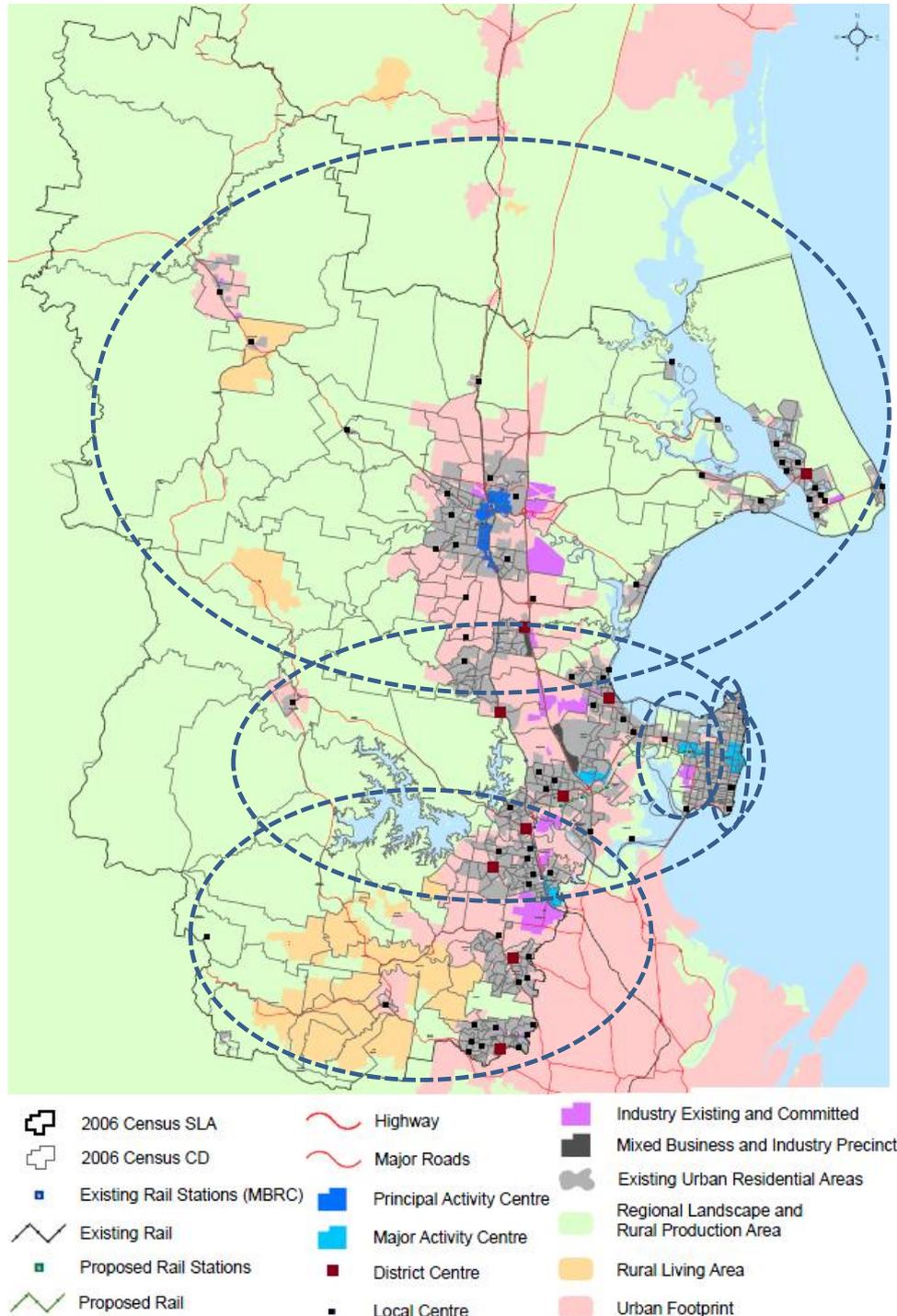
Source: AECgroup (2011)



6.2 Catchment Definition

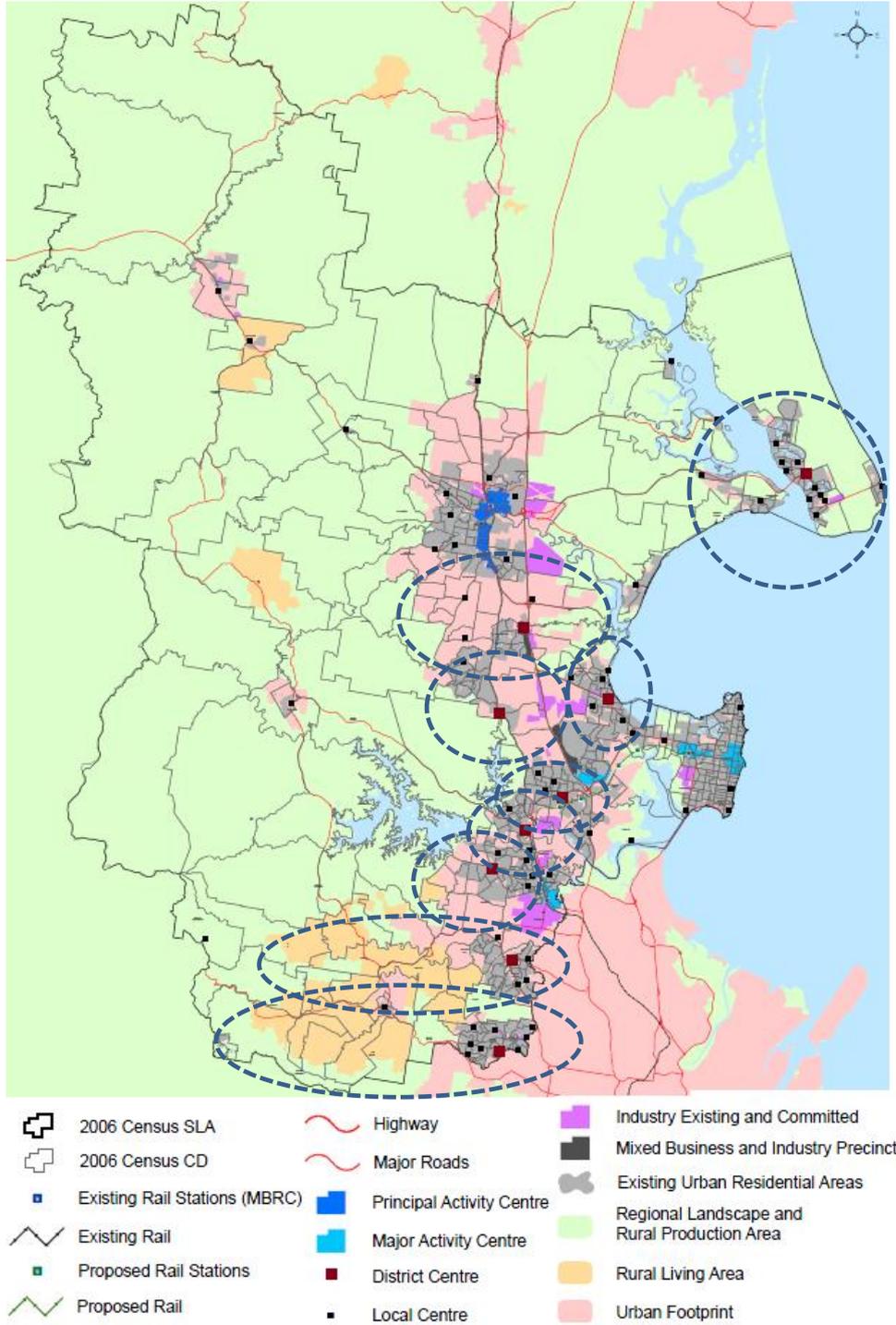
Retail catchments, surrounding the principle and major activity centres in MBRC have been outlined on the following maps (Figure 6.2. and Figure 6.3).

Figure 6.2: MBRC Retail Catchments for Principle and Major Activity Centres



Note: Identified catchments are indicative only.
Source: MBRC (2011b), AECgroup

Figure 6.3: MBRC Retail Catchments for District Activity Centres



Note: Identified catchments are indicative only.
Source: MBRC (2011b), AECgroup

6.3 Demand

6.3.1 Retail Spending

There was an estimated \$3.97 billion of retail expenditure in MBRC in 2011 with approximately 55% of expenditure on convenience products and the remainder on discretionary spending and bulky goods. Over the next 20 years, expenditure within the LGA is projected to almost double.

Table 6.2: Retail Spending in MBRC, \$M

Year	Convenience	Discretionary	Bulky Goods	Total
2011	\$2,250.2	\$963.3	\$758.3	\$3,971.8
2016	\$2,665.2	\$1,137.3	\$899.1	\$4,701.6
2021	\$3,117.4	\$1,328.3	\$1,053.1	\$5,498.7
2026	\$3,589.9	\$1,523.9	\$1,211.9	\$6,325.7
2031	\$4,038.7	\$1,705.5	\$1,358.5	\$7,102.6
Change (2011-31)	\$1,788.6	\$742.1	\$600.1	\$3,130.8

Source: AECgroup (2011)

6.3.2 Retail Floor Space

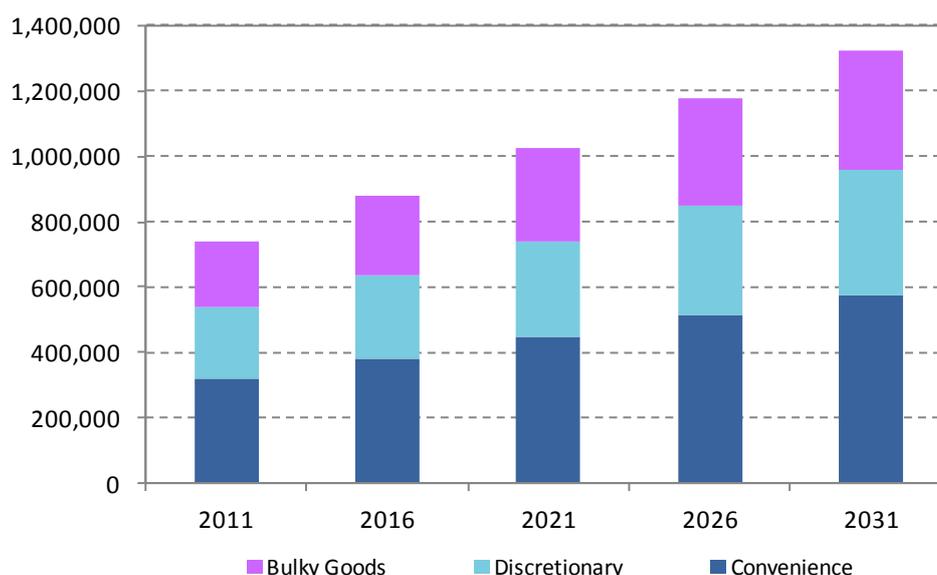
When retail turnover benchmarks are applied to the retail expenditure within MBRC, it is estimated that there is demand for approximately 740,000 sqm of retail floor space. Over the next 20 years, demand for retail floor space is projected to increase by over 580,000 sqm.

Table 6.3: Required Retail Floor space in MBRC, sqm

Year	Convenience	Discretionary	Bulky Goods	Total
2011	321,455	214,068	204,958	740,481
2016	380,741	252,723	243,012	876,476
2021	445,339	295,173	284,610	1,025,122
2026	512,836	338,644	327,551	1,179,031
2031	576,962	378,989	367,150	1,323,101
Change (2011-31)	255,507	164,921	162,191	582,619

Source: AECgroup (2011)

Figure 6.4: Required Retail Floor space, MBRC (sqm)



Source: AECgroup (2011)

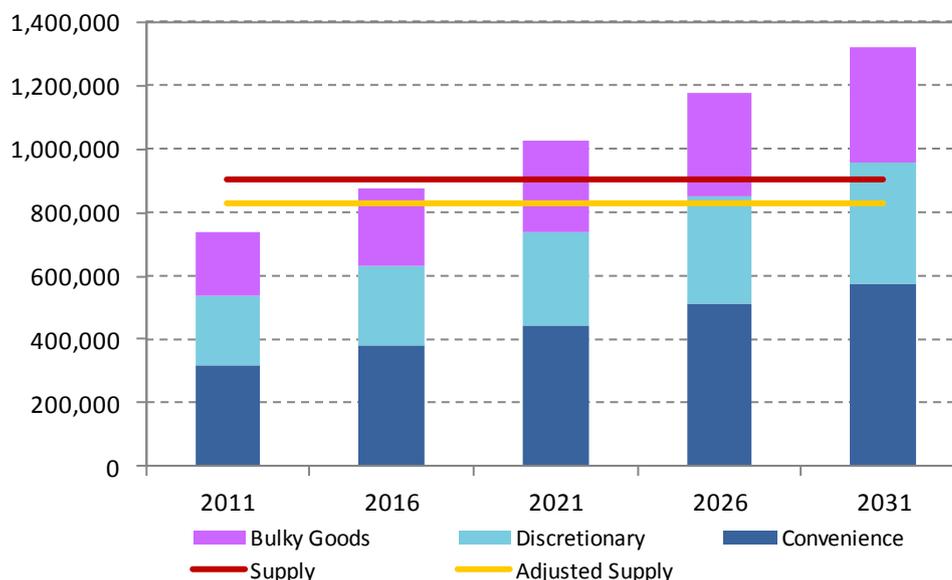
6.4 Gap Analysis

As previously discussed, the existing supply of retail floor space has been estimated at 906,000 sqm. AECgroup's Retail Model has estimated a current demand for 699,000 sqm of retail space, generating a current oversupply of nearly 200,000 sqm. However, inspections of many of the centres and review of MBRC's land audit would indicate that there are a number of commercial office premises currently occupying retail zoned space. AECgroup estimates that commercial office activities are currently taking place in approximately 120,000 sqm of retail space across MBRC. Additionally, bulky goods retailing has also infiltrated many industrial areas, meaning that this retail activity is taking place on industrial land. Combining the infiltration of office use into retail space and bulky goods retailing into industrial areas, the actual oversupply of retail space in MBRC is estimated to be closer to 100,000 sqm.

The oversupply in the market can be explained by several issues including tougher economic conditions, an increase in online shopping, traditional centres and new developments as well as significant competition in the Moreton Bay retail sector. Tough economic conditions have resulted in a decline in consumer confidence that has led to a decline in discretionary spending (as seen at the national level through retail sales data) while the continued growth in online shopping has captured spending from some traditional retail.

However, the majority of the oversupply could be explained through competition within the Moreton Bay retail sector, which also increased significantly in recent years with the development of North Lakes. North Lakes has increased competition in the Pine Rivers and Redcliffe area and has placed pressure on retail in areas such as Redcliffe, Kippa-Ring, Deception Bay and Strathpine. This competition between newer centres and older centres takes place across the region. The significant development of North Lakes has contributed significantly to the current oversupply of retail floor space, which will decline over time as the population of the region increases.

Figure 6.5: Retail Floor space Gap Analysis, MBRC (sqm)



Note: Adjusted supply has accounted for the infiltration of commercial office uses within existing retail space. Unless significant commercial office supply is added in MBRC, these users are likely to remain in retail space, thereby removing it from available supply for retail uses.

Source: AECgroup (2011), MBRC (2011), PCA (2010)

The retail analysis indicates that between 416,000 sqm – 533,000 sqm of retail space will need to be added by 2031. It should be noted that given the on-going population growth in the region, despite the existing oversupply of retail space, there may be the need to add additional retail provision to service areas undergoing strong population growth and development.

Table 6.4: Retail Floor space Gap Analysis, MBRC (sqm)

Year	Convenience	Discretionary	Bulky Goods	Total Demand	Existing Supply	Gap	Adjusted Gap
2011	321,455	214,068	204,958	740,481	906,924	166,443	90,419
2016	380,741	252,723	243,012	876,476	906,924	30,448	-86,568
2021	445,339	295,173	284,610	1,025,122	906,924	-118,198	-235,214
2026	512,836	338,644	327,551	1,179,031	906,924	-272,107	-389,123
2031	576,962	378,989	367,150	1,323,101	906,924	-416,177	-533,193

Note: Adjusted Gap has accounted for the infiltration of commercial office uses within existing retail space. Unless significant commercial office supply is added in MBRC, these users are likely to remain in retail space, thereby removing it from available supply for retail uses.

Source: AECgroup (2011), MBRC (2011), PCA (2010)

The following table (Table 6.5) identifies the net changes (surplus or shortage) of existing centres in 2031. It should be noted that this analysis does not account for the infiltration of commercial activities and is based on detailed analysis of previously lodged development applications, physical inspection of the centres and limited consultation with residents in regards to shopping preferences. Retail catchments have been identified by AECgroup through this detailed research, analysis and our previous experience in retail analysis.

Additionally, demand for bulky goods retail has been allocated to the major centres of Morayfield, North Lakes and Strathpine (Table 6.6). It should be noted that future demand for bulky goods will make up some of the retail floor space shortages in 2031 (i.e. the shortage of 217,510 sqm of retail space in North Lakes contains 142,000 sqm of demand for bulky goods space for that region).

Table 6.5: Retail Floor space, 2031, GFA (sqm)

Hierarchy	Centre	Existing Supply (2011)	Demand (2031)	Surplus/Shortage
Principal Activity Centre	Caboolture	63,081	94,595	-31,514
	Morayfield	203,201	296,435	-93,234
	Sub-Total	266,282	391,031	-124,749
Major Activity Centre	Kippa-Ring	64,603	63,627	976
	North Lakes	79,165	296,675	-217,510
	Redcliffe Seaside Village	58,370	32,414	25,955
	Strathpine	94,280	148,987	-54,707
	Sub-Total	296,418	541,704	-245,286
District Centre	Albany Village	13,379	11,337	2,042
	Arana Hills Kmart	15,197	17,518	-2,321
	Bellara	25,650	29,954	-4,304
	Burpengary	34,347	17,850	16,497
	Deception Bay	16,059	21,327	-5,268
	Kallangur Fair	6,771	12,903	-6,132
	Narangba	3,563	11,102	-7,539
	Petrie	10,038	6,946	3,092
	Warner	8,477	18,625	-10,148
Sub-Total	133,481	147,562	-14,081	
Local Centre	Albany Creek Road	2,374	962	1,412
	Ann Street	1,184	1,634	-450
	Argyll Street	319	1,361	-1,042
	Arlington Drive	1,266	917	349
	Bailey Road	2,277	152	2,125
	Banksia Beach	6,334	9,285	-2,951
	Beachmere	3,000	4,996	-1,996
	Beeville Road	2,668	3,292	-624

Hierarchy	Centre	Existing Supply (2011)	Demand (2031)	Surplus/ Shortage
	Bellara Street	279	456	-177
	Bellmere	676	681	-5
	Brendale	3,214	220	2,994
	Brickworks Road	7,243	13,240	-5,997
	Camelia Avenue	1,590	657	933
	Captain Cook Parade	1,397	76	1,321
	Chinook Street	2,973	1,795	1,178
	Clontarf Gateway	9,408	8,105	1,303
	Coolgarra Avenue	1,750	648	1,102
	Cotterill Avenue	277	165	112
	Craigan Street	844	1,205	-361
	Cresthaven Drive	626	1,161	-535
	Currong Crescent	653	161	492
	D'Aguilar	472	3,823	-3,351
	Dawn Road	1,751	661	1,090
	Dayboro	3,109	4,367	-1,258
	Deception Bay Road	1,867	407	1,460
	Dohles Rocks	373	207	166
	Dohles Rocks Rd/Anzac Ave	676	434	242
	Donnybrook	316	511	-195
	Eatons Crossing	4,835	4,983	-148
	Elimbah	945	456	489
	Ferny Way	549	1,254	-705
	Ferny Way South	2,030	705	1,325
	First Avenue	6,511	5,660	851
	Francis Road	1,333	3,013	-1,680
	Glenwood	1,244	4,286	-3,042
	Goodfellows Road Local Centre	2,465	1,988	477
	Goodrich Road West	6,534	12,200	-5,666
	Goodwin Drive	1,037	152	885
	King Street	2,615	5,648	-3,033
	Lawnton	11,221	922	10,299
	Lipscombe Road	1,446	169	1,277
	Margate	9,876	5,997	3,879
	Marine Parade	445	183	262
	McKean Street (Central Plaza)	3,000	5,157	-2,157
	Mt Glorious	281	1,016	-735
	Nairn Road	633	8,750	-8,117
	Ningi	1,708	7,522	-5,814
	Ogg Road	3,168	3,522	-354
	Parkridge Avenue	1,064	3,959	-2,895
	Patricks Road	1,528	879	649
	Rothwell Junction	20,499	10,791	9,708
	Samford	11,265	10,190	1,075
	Sandstone Point	3,003	6,581	-3,578
	Scarborough	5,157	4,474	683
	South Pine Road	3,086	2,286	800
	Sovereign Avenue	6,182	9,210	-3,028
	Sparks Rd and Ellis St	568	522	46
	Strathpine North	1,376	734	642
	Toorbul	516	1,829	-1,313
	Uhlmann Road	4,134	14,390	-10,256

Hierarchy	Centre	Existing Supply (2011)	Demand (2031)	Surplus/ Shortage
	Wamuran	1,304	3,458	-2,154
	Welsby Parade	3,961	186	3,775
	Whitehorse Road	955	3,662	-2,707
	Woodford	7,694	4,406	3,288
	Woodhill Road	1,263	2,161	-898
	Woody Point	1,150	1,704	-554
	Woolworths Marketplace	5,580	6,622	-1,042
	Woorim	4,055	1,953	2,102
	Young Road	4,740	17,209	-12,469
	Zammit Street	871	436	435
	Sub-Total	210,743	242,804	-32,061
Total Floor space	Total	906,924	1,323,101	-416,177

Source: MBRC (2011), PCA (2010), AECgroup

Table 6.6: Major Retail Centres and Bulky Goods, MBRC (sqm)

Catchment	2011	2031 Convenience and Discretionary Retail	2031 Bulky Goods Only
Morayfield	203,201	150,231	146,204
North Lakes	79,165	154,669	142,006
Strathpine	94,280	70,048	78,939

Source: AECgroup, MBRC (2011)

6.5 Existing Trends

There is currently just under 4 million sqm of retail shopping space in South East Queensland, including 635,000 sqm (16%) of bulky goods space. Since 2006, South East Queensland has added an average of over 80,000 sqm of retail space per year, representing around 2% of the total supply (CBRE, 2011b).

The retail sector in Australia continues to evolve with some key trends including:

- **Disposable Income and Consumer Confidence:** During the last 12 months, retail spending growth has slowed down as consumer confidence has declined. Households are not overly confident about the outlook for the economy with the potential increases in interest rates (and the associated increase in mortgage repayments) and global economic instability in the US and Europe resulting in households reducing their discretionary spending and saving more.
- **Supermarkets and Groceries:** Despite the uncertain economic outlook, spending on essential groceries continues to grow. Competition within the supermarket industry is intense with Coles and Woolworths in a price-war to increase market share. In the last decade, Aldi has also entered the market and opened numerous stores around the country. Aldi offers consumers private labels or home-brand merchandise at competitive prices that resulted in the major supermarkets also expanding their own low cost brands.
- **Discretionary Spending:** As previously mentioned, discretionary spending by households has slowed in the last 12 months that has placed pressure on some retailers. Sectors such as furniture, floor coverings and garden supplies recorded declines due to increased competition.
- **Online Shopping:** Online shopping continues to record strong growth with more Australians using the internet for their shopping needs. IBIS World reports that revenue for Australian online retailers is expected to increase by an average 8.9% per annum over the five years through 2010-11 to be worth approximately \$5.1 billion. This growth has been driven by significant growth in the number of online retailers, technological advancements in the sector and greater consumer confidence about shopping online. The strong value of the Australian dollar is also seeing more

and more Australians shopping online at international stores to take advantage of the exchange rate with the sector increasing its proportion of total retail spending.

- **Mega Retailers:** Mega retailers such as IKEA and Costco are expanding in Australia and opening new stores throughout the country. The stores operate like a warehouse with products displayed on pallets and sold in bulk which allows for lower prices. Currently, there are two Masters stores under development in MBRC, in Morayfield (13,000 sqm) and North Lakes (13,709 sqm) as well as a planned IKEA in North Lakes (generally stores are between 34,000-37,000 sqm).
- **International Retailers:** Numerous international retailers are entering the Australian market including Costco, Zara, Gap and Banana Republic.

6.6 Future Trends and Activities

The growth in online shopping is projected to continue to grow at a strong rate over the foreseeable future. IBIS World projects that industry revenue will increase by 7.6% annually over the five years to be worth \$7.33 billion in 2015-16. Industry players are expected to place greater focus on their marketing techniques in a bid to differentiate themselves from the growing number of competitors.

Whilst there is audible concern from the Australian retail sector regarding the potential impacts of e-commerce on local retail trade, this future projection of online turnover represents just 3.6% of total Australian retail trade in the month of July 2011 (ABS, 2011e). According to the RBA (2011), *"since 2005, the value of online spending on debit and credit cards has grown at an average annual rate of more than 15 per cent, although over the past year there has been little change in this type of spending. In contrast, traditional card spending has increased at a slower average rate of around 9 per cent since 2005"*. International purchases form only 4% of total electronic purchases. Therefore, despite the growing trend of online purchasing, the domestic retail industry is likely to remain in demand.

Use of online shopping is particularly prevalent amongst Australians aged between 18 and 44 years (ABS, 2009). A number of key factors contribute to Australia's online purchases. Online purchasing enables shoppers to easily compare products and access lower prices. Consumers are also encouraged online to purchase goods from overseas by the strong Australian dollar.

However, the growth of online purchases does risk changing the structure of the retail sector, particularly discretionary retail, away from shop fronts and towards distribution centres. Australians can already purchase groceries, books, music, DVDs, sporting goods, clothes and baby products online (amongst others). By conducting business online, businesses can reduce their set-up costs and ongoing costs, through operating warehouses rather than shop-fronts. Many retailers across MBRC, such as Coles and Woolworths, have started to offer online shopping to customers. As the trend to online sales continues, it will be important to track the actual impact on local retailers.

7. Commercial Requirements

Commercial space has been modelled based on employment by occupation by industry estimates. Commercial office space can also assist in accommodating a larger local workforce in the region. Ensuring that adequate commercial space is available and achievable will be an important planning factor in MBRC over the coming 20 years.

7.1 Existing Space and Centres

Existing commercial space in MBRC totals 172,984 sqm. The majority of the commercial space in MBRC is located in Griffin-Mango Hill (in the North Lakes Business Park). Strathpine-Brendale, Redcliffe-Scarborough and Caboolture Central. It should be noted that this space includes government offices. In addition, some of the commercial office demand in MBRC is currently occupying retail space.

Table 7.1: MBRC Commercial Space (sqm)

SLA	Commercial Space	% of Total
Bribie Island	6,890	4%
Burpengary-Narangba	1,317	1%
Caboolture (S) - Central	19,724	11%
Caboolture (S) - East	0	0%
Caboolture (S) - Hinterland	0	0%
Caboolture (S) - Midwest	246	0%
Deception Bay	2,270	1%
Morayfield	11,392	7%
Albany Creek	2,812	2%
Bray Park	287	0%
Central Pine West	1,184	1%
Dakabin-Kallangur-M. Downs	3,888	2%
Griffin-Mango Hill	44,389	26%
Hills District	1,405	1%
Lawnton	705	0%
Petrie	378	0%
Strathpine-Brendale	35,336	20%
Pine Rivers (S) Bal	3,837	2%
Clontarf	3,052	2%
Margate-Woody Point	4,457	3%
Redcliffe-Scarborough	20,575	12%
Rothwell-Kippa-Ring	8,840	5%
MBRC	172,984	100%

Source: MBRC (2011a), AECgroup

AECgroup estimates current demand for over 290,000 sqm in MBRC (including government requirements) despite only 172,000 sqm of supply reflected in the land audit. This reflects the encroachment of office space on retail space in MBRC. An inspection of various centres within the catchment and analysis of the land audit support the hypothesis that around 120,000 sqm of office users are located within retail space in MBRC. These users would typically be banks, real estate firms, tax/legal practices and other small scale office users.

7.2 Future Supply and Demand

Under each employment self-containment rate scenario demand for commercial space is estimated to increase. The 70% employment self-containment scenario includes strong demand for office space (over 500,000 sqm above current office use) and an annual absorption rate of 18,542 sqm. Pursuing economic development activities to attract new businesses in industries such as professional, scientific and technical services and finance

and insurance services should support the demand for office space in the area. Under the status quo scenario, these industries also form a significant portion of commercial demand.

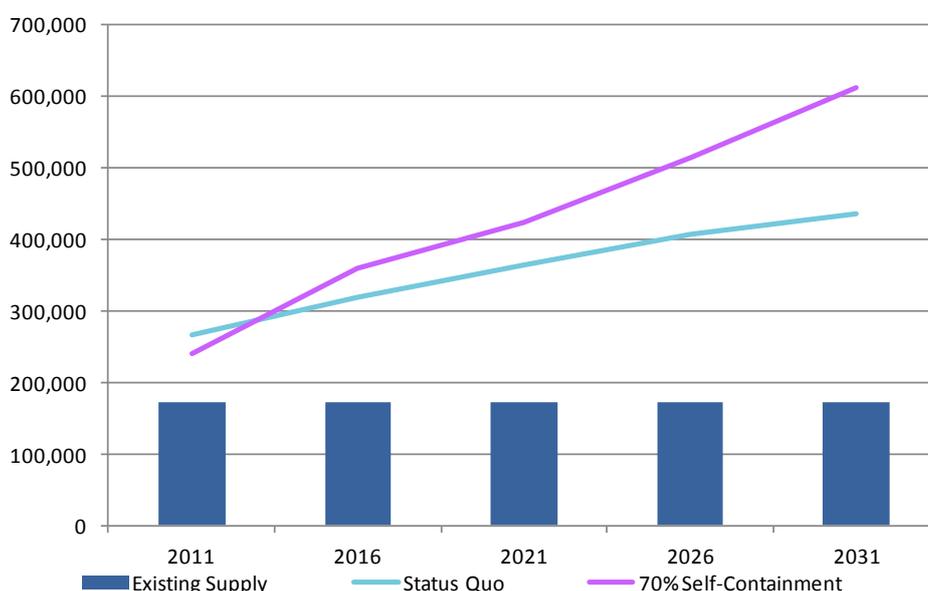
Table 7.2: Commercial Office Space Demand 2031 (sqm)

Land Zone	Status Quo	40%	50%	60%	70%	80%
Commercial Office Space	435,919	249,774	370,376	490,977	611,578	732,180
Government Office Space	67,484	13,790	51,380	88,970	126,559	164,149
Total Office Space	503,402	263,564	421,756	579,947	738,138	896,329

Source: MBRC (2011a), AECgroup

Office space supply (including government) in MBRC is estimated at around 172,000 sqm. Over the coming 20 years, demand for office space is expected to exceed existing supply by 566,000 sqm under the 70% employment self-containment rate scenario and 331,000 sqm under the status quo scenario.

Figure 7.1: Projected Commercial Space Demand and Supply, 2011 to 2031 (sqm)



Source: MBRC (2011a), AECgroup

7.3 Existing Trends

Commercial land absorption slowed markedly during 2007, 2008 and 2009, reflecting weak business confidence owing to the GFC. Net absorption of commercial space in the Brisbane region has averaged 35,600 sqm over the last 10 years. In 2010, the Brisbane fringe market absorbed 101,726 sqm of commercial space (CBRE, 2011c). Since 2008, the Sunshine Coast has delivered an average of 11,250 sqm of office space to the market per year and since 2006 (CBRE, 2011d). Currently, three new office buildings are under construction, including:

- La Balsa Business Centre (5,911 sqm);
- Scotlyn Fair (8,625 sqm); and
- The Corporate Centre (3,600 sqm).

The Gold Coast has added an average of 21,800 sqm of office space to the market. Since a surge in development in 2009 that added well over 50,000 sqm, there has been little activity in new development, with most additions being smaller, pre-committed buildings (CBRE, 2011e).

Government is the largest office user in MBRC with Council offices in Strathpine, Caboolture and Redcliffe as well a significant State Government office in Caboolture. Outside of government, office tenants tend to be smaller scale businesses. There are some exceptions, such as Budget Direct, who employs 300 people in a 3,000 sqm facility in North Lakes.

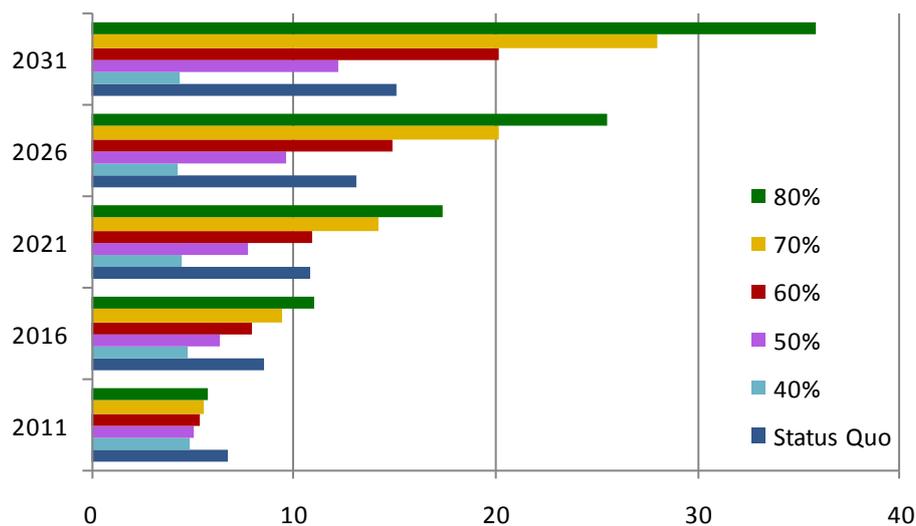
Given the current tight lending standards, any significant new office construction would have to be underwritten by a pre-commitment for the majority of the space. Government offices can often function as the catalyst for commercial developments, providing the necessary pre-commitment.

Additionally, given climate change and the on-going awareness of environmental impacts, the commercial development sector is adapting. Many new commercial buildings are employing energy efficient building materials and designs. It is estimated that currently, 30% of new commercial building construction are green star buildings.

7.4 Future Trends and Activities

Commercial water use is estimated to reach towards 30GL per annum under the 70% employment self-containment scenario. As a proportion of total employment land's water use, office water use by 2031 is estimated to form just 11.4%. The electricity, gas, water and waste services industry is the most prominent user of water.

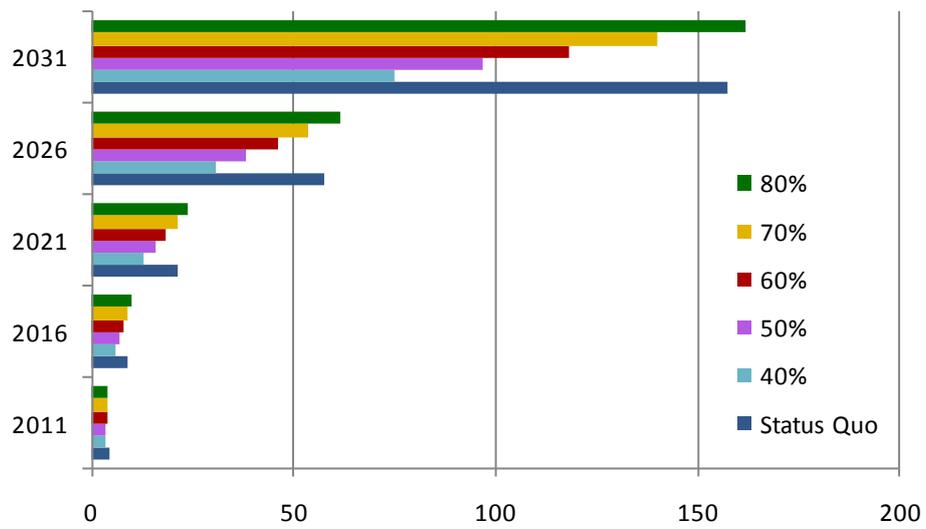
Figure 7.2: Projected MBRC Office Water Use (GL)



Source: AECgroup, Foran *et al.* (2005), ABS (2010b, 2010d)

Office electricity use is estimated to reach 140MJ per annum under a 70% employment self-containment scenario, just under 7% of total employment land's energy use.

Figure 7.3: Projected MBRC Office Electricity Use (MJ)



Source: AECgroup, Foran *et al.* (2005), ABS (2011c), ABS (2010b)

Ensuring that sufficient infrastructure is provided at an appropriate cost to businesses will be fundamental in attracting new businesses in the area and supporting economic growth. Reliable supply of water and electricity are key demands of businesses and planning for future supply of these inputs should accommodate future economic growth expectations.

8. Development Feasibility

This chapter assesses the financial viability of property development in MBRC. Several hypothetical property development projects have been identified across the industrial, commercial office and retail sectors. The purpose of these feasibilities is to assess the likelihood that development can happen at the pace projected under the 70% employment self-containment scenario.

8.1 Feasibility Approach

A range of property feasibility/performance/valuation techniques could be utilised to assess the viability of development in MBRC. The approach adopted in this study is direct capitalisation.

The direct capitalisation approach is based on traditional valuation theory, whereby the market net income is capitalised (multiplied) in perpetuity to arrive at the market value of the property. The net market income is capitalised using a rate or yield which is analysed from sales of investment properties. The formula for the calculation of a yield can be expressed as:

$$\text{Yield} = \text{Net rent} / \text{sale price}$$

Given a known net rent, and by applying an appropriate yield, the formula can be used to ascertain the market value of a property, as follows:

$$\text{Market value} = \text{Net rent} / \text{yield}$$

The capitalisation approach is the principal valuation methodology for commercial or investment properties including retail, industrial, and office premises.

In the case of MBRC, the application of this approach is as follows:

1. Determine development model (site, size, uses, heights, setbacks, footprint, internal area).
2. Determine development yield (gross floor area (sqm) of retail/commercial/industrial).
3. Estimate capital costs of development (land, infrastructure/services, building, parking, professional fees, statutory fees, purchase, sales, other).
4. Estimate net rent from each use based on market trends.
5. Estimate appropriate yield for each use based on sales of investment properties.
6. Estimate capitalised revenue of the project from (4) divided by (5) and account for selling costs and GST.
7. Calculate return on investment from (6) less (3).
8. Calculate return on investment from (7) divided by (3).
9. Assess the sustainability of (8) compared with return on investment criteria (15%).
10. Undertake sensitivity analysis of (9) based on changes in achievable net rent (4).
11. Comment on (9) and (10) in light of the property market in Brisbane as a key competitor market.

The development feasibility appraisal is based upon the purchase of the land, development of infrastructure/services, construction of the building development and then sale of the asset. A threshold Return on Investment (ROI) commensurate with the risk of the developments is considered to be 15%. Many developers would use a higher threshold.

It should be noted that these hypothetical developments are used for indicative purposes to demonstrate the nature of property development and financial fundamentals.

8.2 Industrial Development

The following feasibility looks at the development of a small industrial estate in MBRC. The assessment assumes the purchase of a 1 ha greenfield site that is subsequently serviced with road, sewerage, water and electricity infrastructure. The feasibility assumes that the site is sub-divided into five 2,000 sqm lots with a 1 storey 1,300 sqm warehouse constructed on each lot with 6 parking spaces provided at-grade for each lot.

Based on AECgroup's research into the existing real estate market including consultation with real estate agents and average rental rates for advertised industrial properties, it has been assumed that a rental rate of \$130/sqm would be achieved for the development. A yield of 8.5% has been assumed to capitalise revenues (CBRE, 2011a).

Table 8.1: Development Assumptions - Industrial

Component	Assumption
Site Area	1 ha
Building Footprint	65%
Floor Space Ratio	1
Storeys	1
Land Use	Light industrial/warehouse
Output	5 * 2,000 sqm lots 5 * 1,300 sqm warehouses
Parking	31 spaces at grade
Net Rent	\$130/sqm
Yield	8.5%

Source: CBRE (2011a), AECgroup

The proposed development has a positive return on investment of \$220,136, equating to an annual return of 2.0%. Property developers generally require a return on investment of at least 15% to justify the risk of the project. Based on this benchmark, the viability of the project is negative.

Despite the negative development feasibility of this example, there are several similar developments in the region that are active. These projects are generally smaller developments which involve the sale of strata titled lots around 2,000 sqm in size. It is also worth noting that each project has different issues and risks which influence the viability of individual projects.

The feasibility assessment indicates that the building construction costs and the associated fees are significant which makes it difficult for developers to earn a suitable return. As such, there has been a trend towards developers purchasing land, developing infrastructure and services on the site, subdividing and then selling the vacant lots. The owner/occupiers are then developing custom warehouses/buildings on the site.

Table 8.2: Estimated Developer Return on Investment - Industrial

Item	\$
Capitalised Costs	
Land Value	\$800,000
Infrastructure	\$400,000
Building Cost	\$5,915,000
Parking Costs	\$116,064
Professional Fees	\$578,485
Statutory Fees	\$444,250
Capitalised Interest	\$660,304
Holding Interest	\$356,564
Less GST Input Tax Credits	\$825,380
Sub-total	\$8,445,287

Item	\$
Revenue	
Revenue	\$8,971,912
Less Selling Costs	\$426,166
Less GST Payments	\$897,191
Sub-total	\$7,648,555
Development Profit	
\$m	-\$796,732
Sales Margin (%)	-9.4%
Return on Investment	
Capitalised Costs	\$7,428,419
ROI (\$m)	\$220,136
ROI (%)	2.0%
Viability	Negative

Source: Rawlinsons (2011), Napier & Blakeley (2010), AECgroup

A sensitivity analysis of the development indicates that a rental rate of over \$150/sqm is required for the development to be financially viable.

Table 8.3: Sensitivity Analysis - Industrial

Net Rental Rate (\$/sqm)	ROI (%)
\$90.0	-19.1%
\$110.0	-8.6%
\$130.0	2.0%
\$150.0	12.5%
\$170.0	23.1%
\$190.0	33.7%
\$210.0	44.2%

Source: AECgroup

The industrial market is competitive with average rents within Brisbane's key industrial precincts relatively similar. Average industrial rents in MBRC are only slightly lower than the key gateway precincts to the north and south of the Brisbane CBD. Competitive rents indicate that it will be difficult for landowners to increase rents significantly in the near future to improve the viability of development.

Table 8.4: Industrial Net Face Rents, (\$/sqm)

Region	Prime Warehouse/ Distribution Centres	Prime Strata Units
Moreton Bay	\$100-\$120	\$110-\$140
Gateway North	\$110-\$130	\$140-\$150
Gateway South	\$100-\$130	\$150-\$165
North	\$105-\$115	\$115-\$130
Outer South	\$100-\$115	\$115-\$120
M1 Corridor	\$90-\$110	\$115-\$120
Western Corridor	\$100-\$115	\$115-\$135

Source: CBRE (2011a)

Demand for industrial land in MBRC is projected to be relatively strong with the potential to attract businesses located near the port and CBD that no longer need to be situated there. MBRC offers new industrial developments that allow businesses the ability to sell existing properties, which have increased in value over time, and to construct new and expanded premises.

8.3 Commercial Development

The following feasibilities consider the development of a commercial office building in the key commercial centres of Caboolture and Strathpine. The assessment assumes the same development in each centre including the purchase of a 1,000 sqm site in the respective

CBDs. The feasibility assumes the construction of a 4 storey commercial office building with a total GFA of approximately 3,000 sqm and 150 underground parking spaces.

Based on AECgroup's research into the existing real estate market including consultation with real estate agents and average rental rates for advertised commercial properties, it has been assumed that a rental rate of \$320/sqm would be achieved for the development in Strathpine with a slightly lower rent of \$300/sqm achieved in the Caboolture CBD located further north. Both developments have been capitalised at a yield of 9.13% in line with recent investment sales in suburban Brisbane (CBRE, 2011c).

Table 8.5: Development Assumptions - Commercial

Component	Caboolture	Strathpine
Site Area	1,000 sqm	1,000 sqm
Building Footprint	90%	90%
Floor Space Ratio	3.6	3.6
Storeys	4	4
Land Use	Office	Office
Output	3,060 sqm GFA	3,060 sqm GFA
Parking	153 Spaces underground	153 Spaces underground
Net Rent	\$300/sqm	\$320/sqm
Yield	9.13%	9.13%

Source: CBRE (2011c), AECgroup

The proposed developments in Caboolture and Strathpine have negative returns on investment of 25.5% and 22.7% respectively. The significant negative returns indicate the difficulty undertaking commercial development in the region which is supported by limited recent development in the sector.

Table 8.6: Estimated Developer Return on Investment - Commercial

Item	Caboolture \$	Strathpine \$
Capitalised Costs		
Land Value	\$350,000	\$340,000
Building Cost	\$8,568,000	\$8,568,000
Parking Costs	\$4,243,008	\$4,243,008
Professional Fees	\$1,052,881	\$1,052,081
Statutory Fees	\$428,400	\$428,400
Capitalised Interest	\$1,171,383	\$1,170,519
Holding Interest	\$632,547	\$632,080
Less GST Input Tax Credits	\$1,464,229	\$1,463,149
Sub-total	\$14,981,990	\$14,970,939
Revenue		
Revenue	\$9,552,026	\$10,188,828
Less Selling Costs	\$453,721	\$483,969
Less GST Payments	\$955,203	\$1,018,883
Sub-total	\$8,143,102	\$8,685,976
Development Profit		
\$m	-\$6,838,887	-\$6,284,963
Sales Margin (%)	-45.6%	-42.0%
Return on Investment		
Capitalised Costs	\$13,178,060	\$13,168,340
ROI (\$m)	-\$5,034,957	-\$4,482,364
ROI (%)	-25.5%	-22.7%
Viability	Negative	Negative

Source: Rawlinsons (2011), Napier & Blakeley (2010), AECgroup

A sensitivity analysis of the developments indicate that a rental rate of approximately \$600/sqm is required for the developments in both centres to be financially viable.

Table 8.7: Sensitivity Analysis - Commercial

Net Rental Rate (\$/sqm)	ROI (%)	
	Caboolture	Strathpine
\$300	-25.5%	-25.4%
\$350	-18.6%	-18.6%
\$400	-11.7%	-11.7%
\$450	-4.9%	-4.8%
\$500	2.0%	2.0%
\$550	8.9%	8.9%
\$600	15.7%	15.8%

Source: AECgroup

As previously discussed, rental rates of around \$600/sqm are required to facilitate the development of new office space in Caboolture and Strathpine. Recently renovated office buildings in Spring Hill on the fringe of the Brisbane CBD are currently advertised for lease at rents between \$380-\$400/sqm. New developments trying to charge \$600/sqm in Caboolture and Strathpine would almost certainly receive no interest due to significantly cheaper office space located in more desirable locations adjacent to the Brisbane CBD. With such a significant difference between the market rent and required rent to facilitate new development in Caboolture and Strathpine, it is likely to be several years before development becomes feasible in the area.

While this feasibility shows that commercial development in Caboolture and Strathpine can be very challenging, changes to any of the underlying assumptions would change the development viability. Additionally, North Lakes provides a different setting for commercial development, which greatly improves the feasibility of development, given the rental rates that can be achieved.

8.4 Retail Development

The following feasibility looks at the development of a shopping centre expansion in MBRC. The assessment assumes the purchase of a 3,000 sqm site adjacent to an existing shopping centre. The feasibility assumes a building footprint of 65% which would result in a GFA of approximately 2,000 sqm with parking provided at grade and underground.

Based on AECgroup's research into the existing real estate market including consultation with real estate agents and average rental rates for advertised retail properties, it has been assumed that a rental rate of \$550/sqm would be achieved for the development. Rents have been capitalised at a yield of 8.0% in line with neighbourhood shopping centres in Brisbane (CBRE, 2011b).

Table 8.8: Development Assumptions - Retail

Component	Assumption
Site Area	3,000
Building Footprint	65%
Floor Space Ratio	1
Storeys	1
Land Use	Shopping centre
Output	1,950 sqm GFA or retail
Parking	30 spaces at grade 53 spaces underground
Net Rent	\$550/sqm
Yield	8.0%

Source: CBRE (2011b), AECgroup

The proposed development has a positive return on investment of \$0.98 million, equating to an annual return 7.9%. Property developers generally require a return on investment of at least 15% to justify the risk of the project. Based on this benchmark, the viability of the project is marginal and would depend on the risk profile of the developer.

Table 8.9: Estimated Developer Return on Investment - Retail

Item	\$
Capitalised Costs	
Land Value	\$1,800,000
Building Cost	\$4,114,500
Parking Costs	\$2,295,072
Professional Fees	\$656,766
Statutory Fees	\$298,440
Capitalised Interest	\$733,182
Holding Interest	\$395,918
Less GST Input Tax Credits	\$916,478
Sub-total	\$9,377,401
Revenue	
Revenue	\$10,828,813
Less Selling Costs	\$514,369
Less GST Payments	\$1,082,881
Sub-total	\$9,231,563
Development Profit	
\$m	-\$145,838
Sales Margin (%)	-1.6%
Return on Investment	
Capitalised Costs	\$8,248,300
ROI (\$m)	\$983,263
ROI (%)	7.9%
Viability	Negative

Source: Rawlinsons (2011), Napier & Blakeley (2010), AECgroup

A sensitivity analysis of the development indicates that a rental rate of approximately \$600/sqm is required for the development to be financially viable.

Table 8.10: Sensitivity Analysis - Retail

Net Rental Rate (\$/sqm)	ROI (%)
\$450	-5.6%
\$500	1.2%
\$550	7.9%
\$600	14.7%
\$650	21.5%
\$700	28.3%
\$750	35.1%

Source: AECgroup

As outlined in Chapter 6, retail floor space within MBRC is generally oversupplied. Strong population growth forecast for MBRC will drive the need for additional retail centres and shopping centres to be developed within the new residential areas.

These feasibility assessments show that successful property development across industrial, retail and commercial can be challenging. Naturally, these assessments are conducted using assumptions and averages. Actual development feasibilities for specific projects may vary, but overall these assessments show the financial difficulty that many of these types of projects face. It is important for future planning to consider and appreciate market realities of development feasibility and to provide adequate planning controls that do not stifle development and investment but encourage it.

9. Likely Future Development Pattern

While the 70% employment self-containment scenario remains an aspirational target, it will be important to combine this aspiration with recent trends and future market expectations. This chapter provides a potential future development pattern which is representative of historic trends, current market drivers, future market behaviours and demonstrates aspirations to move toward the goal of 70% employment self-containment.

9.1 Industrial

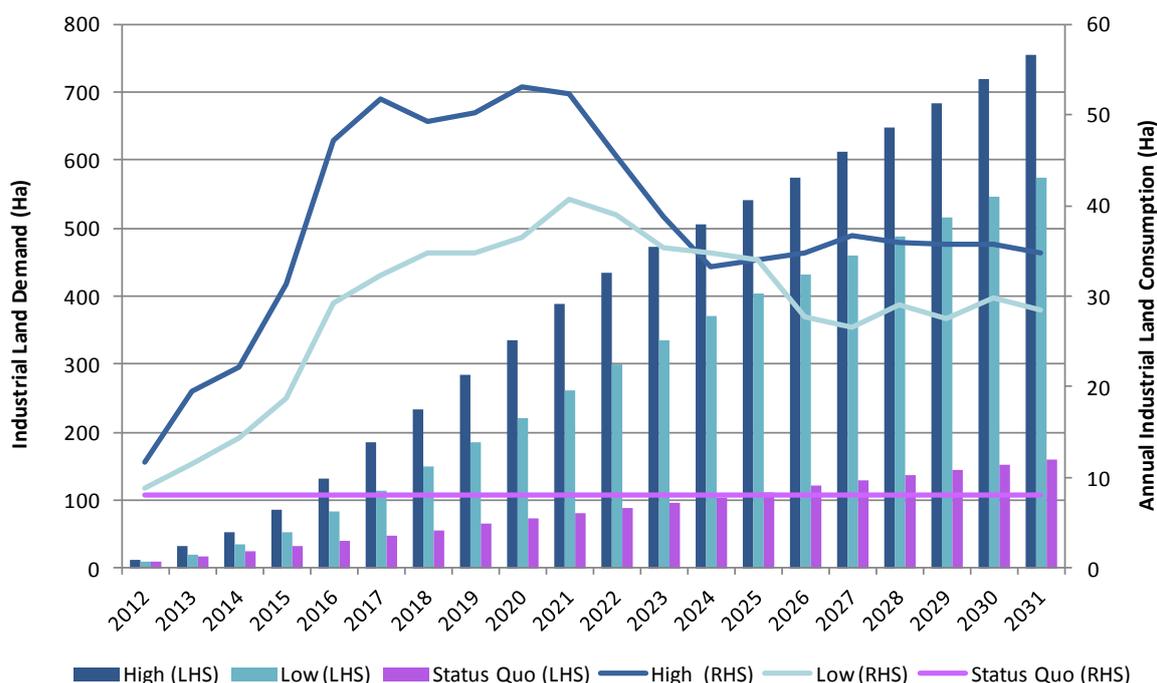
Through consultation with developers and real estate professionals in the region, AECgroup developed forward industrial land consumption patterns. In developing these projections, AECgroup applied recent take-up rates in specific areas, anticipated lifecycles of existing estates and anticipated trends in industrial take-up (i.e. consumption of industrial land in estates will generally slow after the estates reach 65%-75% capacity and newer estates further north will become more attractive as land in the south becomes more expensive).

Table 9.1: Future Industrial Land Consumption, MBRC (ha)

Scenario	2012	2016	2021	2026	2031	Average Annual Consumption
Low	9	83	262	432	574	29
High	12	132	389	575	754	38

Source: AECgroup

Figure 9.1: Future Industrial Land Consumption, MBRC (ha)



Source: AECgroup

These projections show an aggressive trend of industrial land consumption over the next ten years (given recent experience), which represents larger footprint industrial users considering Brendale, increasing levels of interest from businesses currently located in North Brisbane or Australia Trade Coast as well as anticipated growth in the broader SEQ region over the next ten years. Consumption of industrial land wanes after ten years as estates in the southern areas of the region (i.e. Brendale and North Lakes) begin to fill and new estates in the north (i.e. Northeast Business Park and Elimbah East) start to come on line. These projections have also assumed gradual infill of many of the older, existing industrial areas that only have a relatively small amount of available greenfield space.

As discussed earlier, it is important that industrial land stocks exceed demand. Using the projections above (Figure 9.1), the following table demonstrates the amount of industrial land supply that is required in the future to achieve a rolling forward land supply to cater for future demand. From the rolling forward land supply, the majority of this land should be either 'shovel ready' or serviced to a degree, which would make it relatively easy to develop.

Table 9.2: Forward Industrial Land Supply, Moreton Bay Regional Council

Scenario/Year	Annual Consumption	Forward Industrial Land Supply	
		10 year	15 year
Low			
2012	9	87.5	131.3
2016	29	292.5	438.8
2021	41	407.5	611.3
2026	28	277.5	416.3
2031	29	285.0	427.5
High			
2012	12	117.5	176.3
2016	47	472.5	708.8
2021	52	522.5	783.8
2026	35	347.5	521.3
2031	35	347.5	521.3

Note: 10 and 15 year forward supply indicates forward supply needed at that point in time, based on consumption in that year.
Source: AECgroup

9.2 Retail

The future population growth across MBRC will drive the need for retail provision. Based on future household projections, the demand across existing centres will change over time and the need for new centres will emerge. The gap analysis in Section 6.4 highlighted the future undersupply of retail space in many centres. Using this information the need for future centres throughout MBRC has been identified.

9.2.1 Future Centres

There are several urban growth areas in MBRC which are expected to record significant population growth over the next 20 years. The population growth in these areas will drive demand for retail floor space.

- **Caboolture North:** A large growth area north of Caboolture is projected to require approximately 15,500 sqm of convenience retail floor space by 2031 equating to approximately three supermarket anchored neighbourhood centres. This is supported by the nearby Caboolture retail centre projected to have an undersupply of approximately 30,000 sqm by 2031.
- **Narangba-Morayfield:** A large growth area and is projected to have over 8,000 households by 2031 that could support four supermarket anchored neighbourhood centres. This is supported by the nearby Nairn Road retail centre, which is projected to have an undersupply of approximately 8,000 sqm by 2031.
- **Burpengary North:** The area is projected to record solid growth requiring approximately 3 supermarket anchored neighbourhood centres. This is supported by the nearby Uhlmann Road retail centre, which is projected to have an undersupply of approximately 10,000 sqm by 2031.
- **Narangba:** The area is projected to record solid growth requiring approximately 3 supermarket anchored neighbourhood centres. This is supported by the nearby Narangba Valley Road retail centre, which is projected to have an undersupply of approximately 12,500 sqm by 2031.

- **Dakabin:** The area is projected to have approximately 2,300 households by 2031 which would drive the need for a new retail centre. This is supported by the nearby Narangba Station retail centre, which is projected to have an undersupply of approximately 7,500 sqm by 2031.
- **Strathpine:** The area north east of Strathpine is expected to have 1,000 households and could support a local centre. This is supported by the nearby Strathpine retail centre, which is projected to have an undersupply of approximately 50,000 sqm by 2031.
- **Warner South:** Household growth in the area could sustain an additional two supermarket anchored neighbourhood centres by 2031. This is supported by the nearby Warner retail centre, which is projected to have an undersupply of approximately 10,000 sqm by 2031.
- **Warner West:** Household growth in the area could sustain an additional supermarket anchored neighbourhood centre by 2031. This is supported by the nearby Warner retail centre, which is projected to have an undersupply of approximately 10,000 sqm by 2031.
- **Eaton's Hill:** Growth to the west of Eaton's Hill could sustain the redevelopment of an existing centre into a larger centre (approximately 2,000-3,000 sqm expansion). This is supported by the nearby Eaton's Crossing retail centre, which is projected to have an undersupply of approximately 200 sqm by 2031 and provide a local alternative to Albany Creek.

Table 9.3: New Retail Centres, 2031

Growth Area	CCDs	Catchment Population (2031)	Required Convenience Retail (sqm)	Recommended New Centres
Caboolture North	120808, 120813, 120814, 120815, 122102, 122107, 122116, 122118	6,245	15,588	3 * 4,000-6,000 sqm
Narangba-Morayfield	122208, 122210, 122212, 122213, 122222, 122223, 122224, 122225, 122226	8,243	20,575	4 * 4,000-6,000 sqm
Burpengary North	120907, 120913, 121010, 121015	5,325	13,292	3 * 4,000-5,000 sqm
Narangba	120901, 120902, 120912, 122303	5,750	14,352	3 * 4,000-5,000 sqm
Dakabin	180501	2,319	5,788	1 * 5,000-6,000 sqm
Strathpine North	180607, 180802	1,008	2,516	1 * 2,000-3,000 sqm
Warner South	180306, 180316, 180717, 180719	3,561	8,889	2 * 4,000-5,000 sqm
Warner West	180319, 180613, 180616, 180617, 180715	2,106	5,257	1 * 4,000-6,000 sqm
Eatons Hill	180308, 180310, 180315, 180317	1,354	3,380	1 * 2,000-3,000 sqm expansion

Note: Retail space only. Does not include any future allowance for commercial uses. Assumes all existing centres remain.
Source: AECgroup, MBRC (2011)

As part of the Moreton Bay Rail Link there are six new train stations planned including Kallangur, Murrumba Downs, Mango Hill, Kinsellas Road, Rothwell and Kippa-Ring. The development of the train stations will create opportunities to develop retail floor space to activate the centres. Kippa-Ring already has a well developed retail centre servicing the surrounding area. The other five stations are projected to record catchment populations of between 600-1,200 households, which could support supply of between 1,500 to 3,000 sqm of convenience retail floor space. Additionally, the stations will provide a catalyst for foot traffic through the stations, which will supply a certain level of demand for specific retail services (i.e. news agent, coffee shop, express grocery store, take away shop,

etc.). Based on these factors, Table 9.4 provides an overview of the potential retail space to be provided at the stations.

Table 9.4: Required Retail Floor space, New Train Stations, 2031

Station	Catchment Population (2031)	Convenience Retail (sqm)
Kallangur	938	2,341
Murrumba Downs	593	1,480
Mango Hill	1,189	2,968
Kinsellas Road	1,031	2,573
Rothwell	599	1,495

Source: AECgroup, MBRC (2011)

As examples of potential developments, Figure 9.2 and Figure 9.3 show conceptual drawings for mixed use developments adjacent to train stations in Brisbane City Council. Both are relatively large developments that include a large residential component as well as retail and commercial office uses.

Table 9.5: Transport Oriented Developments

Component	Alderley Square, Alderley	Eldorado Village, Indooroopilly
Residential	21,480 sqm (241 units)	7,200 sqm (100 units)
Retail	6,300 sqm (supermarket, 20 specialty shops)	871 sqm (7 specialty shops)
Commercial Office	3,300 sqm	4,056 sqm

Source: AECgroup, Alderley Square (2011), Eldorado Village Commercial (2011), Eldorado Village (2011)

For transport oriented developments in MBRC, these examples demonstrate the high residential content that these types of centres can have. Using these examples, MBRC could consider the following splits for future transport oriented development, including redevelopment opportunities at existing stations.

Table 9.6: Future Transport Oriented Developments

Component	Future TODs
Residential	60%-70%
Retail	10%-20%
Commercial Office	10%-20%

Source: AECgroup

Figure 9.2: Alderley Square, Alderley



Source: www.alderleysquare.com.au

Figure 9.3: Eldorado Village, Indooroopilly



Source: www.eldoradovillage.com.au

9.2.2 Centres for Potential Redevelopment

The retail assessment (Section 6) confirms that many centres will continue to underperform even though the population continues to grow. As these centres may not represent the highest and best land use of the land, they should be considered for redevelopment. Typically, many of these centres are very old, provide very little retail amenity and are not ideal for current retailing (i.e. many of these centres were built decades ago to service the local community with on street parking). These centres could be transformed to provide a higher density of activity (i.e. include ground floor retail and residential above) or simply be removed to provide for a higher density of residential provision.

Naturally, where centres are removed, new centres in proximity should be provided to replace the lost retail space. This transformation would seem natural as the smaller scale retail centres from 30+ years ago tend not to provide the ideal type of retail experience

demanded today by customers or planning intentions. Providing larger retail centres (minimum of 3,000 sqm) within a walkable distance to local residents would seem to fulfil both commercial reality and planning intentions.

Additionally, many of these centres are not likely to carry significant debt, so the retail rates charged provide mostly profit to the owners, creating a disincentive for redevelopment. If greater densities were allowed, it might provide enough additional return on investment to consider redevelopment. Many older centres also are strata titled and have fractured ownership, which also causes difficulty for redevelopment due to the need to amalgamate numerous titles.

The following centres have been identified for future redevelopment:

- Sparks Road and Ellis Street;
- Dohles Rocks Rd/Anzac Ave;
- Strathpine North;
- Bailey Road;
- Captain Cook Parade;
- Coolgarra Avenue;
- Currong Crescent;
- Deception Bay Road;
- Goodwin Drive;
- Margate;
- Marine Parade; and
- Welsby Parade.

These centres have been chosen due to a current/future oversupply of retail space, ability of the site to carry more dense activities (i.e. retail and residential) or the likely future role and function of the centre.

Additionally, there are numerous centres that present unique redevelopment opportunities, due to their proximity to train stations. These centres can provide for higher residential densities as well as retail and commercial uses and include:

- Elimbah;
- Lawnton;
- Dakabin; and
- Narangba.

9.2.3 Bulky Goods

Bulky goods usually includes large items that households purchase relatively infrequently. As such, these stores are usually associated with relatively large floor plates and are often grouped to form homemaker centres. Products include large appliances, furniture, outdoor recreational equipment, home fixtures, floor and window coverings, bedding, manchester, building supplies and hardware.

There are numerous established bulky goods areas in MBRC including Brendale and Morayfield. The retail modelling for bulky goods considered the larger regional catchments of Morayfield, North Lakes and Strathpine as highlighted in the tables below (Table 9.7 and Table 9.8).

Table 9.7: Bulky Goods Retail Spending, MBRC (\$M)

Catchment	2011	2031	% Change
Morayfield	\$275.0	\$541.0	3.4%
North Lakes	\$290.2	\$525.4	3.0%
Strathpine	\$193.1	\$292.1	2.1%

Source: AECgroup, MBRC (2011)

Table 9.8: Bulky Goods Retail Floor space, MBRC (sqm)

Catchment	2016	2021	2026	2031	Average Annual Increase	Total Increase
Morayfield	91,627	112,651	130,125	146,204	3,594	71,870
North Lakes	91,780	106,060	124,571	142,006	3,178	63,568
Strathpine	59,605	65,899	72,855	78,939	1,338	26,753

Source: AECgroup, MBRC (2011)

These figures identify the demand for future bulky good retail space across the region for the identified catchments:

- Morayfield: Northern portion of the region;
- North Lakes: Middle portion of the region; and
- Strathpine: Southern portion of the region.

It should be noted that these catchments overlap and there will be leakage from one catchment to the other as well as spending that leaves the region. For example, someone living in Lawnton may shop at North Lakes and Strathpine. Equally, a resident in Albany Creek may shop at Chermside or Strathpine. Some leakage and this overlap have been incorporated into the estimates. These estimates should be seen as the general amount of bulky goods space needed across the region in the identified catchments and not specific to the centres of Morayfield, North Lakes and Strathpine.

9.3 Commercial

Future commercial development in MBRC is likely to take two forms; minor parts of larger mixed use and residential developments or larger single purpose commercial facilities. As already discussed in Section 8.3, large multi-storey commercial developments will struggle to compete against other areas of Brisbane, namely the city fringe. Developments such as the Chermside Galleria (5,772 sqm of commercial with 816 sqm of ground floor retail), The Corporate Centre in Maroochydore (3,600 sqm), La Balsa Business Centre in Mooloolaba (5,911 sqm) would face strong competition in Strathpine and Caboolture from recently completed projects in Brisbane that rent for \$380-\$400/sqm. This competition may be a reason why construction of Strathpine Central (6,500 sqm) has not yet commenced.

As the employment modelling (Section 7.2) indicates the demand for government services will grow over time, highlighting the need for more office space. Therefore, there may be the opportunity for a government tenant to underwrite a large commercial office development, which could provide commercial office space in addition to other uses (potential retail and residential). Based on the feasibility assessment (Section 8.3) and consultation with developers and real estate professionals, the pre-commitment of a large tenant would be required for large commercial office developments in MBRC.

North Lakes is a strong contender for future corporate facilities, given the amenity of the area and the workforce catchment. Strathpine and Caboolture could also house large commercial projects, but are likely to require a government pre-commitment. Examples from other jurisdictions demonstrate how government pre-commitments can become the catalyst for major investment and mixed use developments.

McNab Avenue, Footscray VIC

McNab Avenue is a major urban regeneration project in Footscray, Vic (directly west of Melbourne's CBD). The \$350 million development will include an array of residential and commercial development, shared community spaces, cafes and facilities on a 1.3 ha site.

The commercial space totals 17,500 sqm and includes 6,000 sqm for the headquarters of the State Trustees and 5,500 sqm for the headquarters of City West Water. There is an additional 6,000 sqm still available. There is additional space for community facilities, affordable housing and retail uses (DPCD, 2011).

This project was made possible through the pre-commitment of government tenants. Without this commitment, the project would not have been possible due to the capital expenditure required and risk associated with the project.

Figure 9.4: McNab Avenue Development, Footscray (VIC)



Source: www.dpcc.vic.gov.au

Outside of large developments, future commercial office space in MBRC will be delivered as part of larger mixed use projects. Typically, this space would make up the ground floor or 1st floor of these larger developments and add between 250 sqm – 1,500 sqm of space. Often, this space could also be used for retail purposes.

Current examples of this style of development would include Mon Komo in Redcliffe (approximately 1,100 sqm of the total development is for commercial office use), Bayview in Redcliffe (7 storey residential development with approximately 250 sqm of commercial space on the ground floor) and Chermside Focus (large residential development of 79 units with approximately 1,000 sqm of ground floor commercial space).

Consideration of Brisbane suburban centres would indicate that between 10%-15% of space is filled with commercial office uses (Savills, 2011). Considering planning intentions in MBRC and using the Brisbane experience as a guideline, for new retail centres to be developed in MBRC, between 10%-15% of total space could be added and intended for commercial office use. As mentioned previously, many of the commercial office activities are suitable for ground floor retail space and vice versa. As identified in the land audit, this blending of use (i.e. commercial office and retail uses) in retail space already occurs frequently throughout MBRC.

10. Planning Considerations

This report has provided a detailed perspective on future industrial, retail and commercial development. Future modelling has indicated the difficulty of reaching the aspirational goal of 70% employment self-containment, however, there are numerous planning considerations, which would increase MBRC's ability to increase local employment moving closer towards the 70% employment self-containment goal.

General Planning Scheme Outcomes

- **Certainty of outcomes:** Providing certainty of future desired outcomes will assist the development community to understand Council's planning desires and provide a strong platform for innovation. The development community can provide very innovative solutions for property development if there is a clear understanding of the desired future state. Leveraging a place type model should assist in providing some certainty.
- **Easy, efficient and transparent approval process:** Reducing the time that is necessary to review and approve development applications will increase the attractiveness of the area for new developments of all kinds and can act as an incentive to invest in MBRC. The creation of a *Risk-Smart* program similar to that of Brisbane City Council would assist in this process.

Specific Planning Scheme Outcomes

- **Site amalgamation:** Most centres will have fractured ownership, meaning that they consist of numerous individual parcels owned by different parties. In order to provide a stimulus for centre redevelopment across the area, it must be easy for developers to amalgamate numerous land parcels to achieve economies of scale and feasible development.
- **Height restrictions, parking and mix of uses:** In order to achieve more dense developments, Council must allow developers to achieve certain heights and to mix uses (i.e. allow a four storey residential development with ground floor retail in suburban areas). In some instances, allowing higher buildings alone will not be sufficient to generate a viable development, for example in Caboolture and Strathpine. Similarly, parking policy must encourage development and assist in development viability. Enforcing significantly high or low parking provisions has a great impact on the available land required for a development or redevelopment and the financial viability of the project. All of these planning policies must work together to encourage development by considering the financial impact that these policies may have on the feasibility of projects. Providing flexible options generally provides a solid basis on which to encourage development.
- **General zoning for commercial and retail:** Much of MBRC's commercial activity currently takes place on retail zoned land. In order to provide flexibility to developers in the future and better react to the market, there should be a common zoning for both commercial and retail uses. This would allow developers the flexibility of including retail or commercial space in mixed use developments and allow the market to decide the eventual use.
- **Redevelopment of older industrial areas:** Council should consider planning provisions that allow for the transition of older industrial areas into more functional and useful space. It is very common for older industrial areas to transition into bulky goods and retailing uses. Historically, these areas were located on major roads and had buffers between their industrial uses and nearby residential uses. However, over time, residential uses often encircle these older industrial areas. Their access to major transport nodes and population centres makes them very attractive for bulky goods. Industrial areas such as Lawnton and Burpengary are potentially better suited to bulky goods than industrial uses and there is strong evidence on the ground that this transition has already begun.

- **Bulky goods:** Providing a distinct zoning or areas specifically earmarked for bulky goods development would assist in preventing bulky goods uses from infiltrating industrial land. Similarly, allowing for older industrial areas to transition to bulky goods would assist as well. Clearly separating bulky goods from industrial and general retail has the benefits of allowing for more strategic locations to be found and isolated for bulky goods retailing. There are already strong bulky goods precincts in Morayfield and Brendale.
- **Building conversions:** In new industrial areas and for existing industrial premises, allowing for building conversions will be a good way to maximise the employment opportunities across MBRC. For example, in new industrial areas when new buildings are proposed, building in provisions that allow the building to convert into an alternative industrial use in the future could assist in generating greater employment densities. For example, allowing a 5,000 sqm warehouse with 500 sqm of office space to be built today would have a provision to easily increase the office space to 1,000 sqm – 2,000 sqm in the future. This would allow the property to transition from a warehouse to more of a high technology industrial operation, generating significantly more employment. Allowing this conversion in existing facilities could have the same effect.
- **Small scale industrial developments:** Consultation revealed that there is strong demand for larger industrial sites and a clear shortage of this type of product in MBRC. There are currently only a handful of industrial sites 5 ha and greater in size. At the same time, modelling also indicates that as Brendale and North Lakes reach capacities in the future, demand for land in these areas will either be driven further north or to other parts of Brisbane City Council. In order to provide maximum flexibility and opportunity, the addition of 3-4 small scale industrial developments (i.e. 40-50 ha gross) could provide opportunities for larger industrial sites and greater supply in the southern part of the region. Ensuring that this demand can be met will increase jobs in the region.

Use of Infrastructure Funds and Council Assets

- **Incentives and fees:** Providing incentives to encourage development is a well established practice, with private sector developers often offering free rent for a certain time period or governments offering tax incentives to recruit companies. If MBRC had an incentive program to encourage job growth and redevelopment, it could assist in delivering jobs and investment. Additionally, the introduction of a special levy to fund large infrastructure or redevelopment projects could assist to lower the capital expenditure to developers, thereby making larger projects more attractive. Also, the use of urban growth bonds or value capture mechanisms could also assist in the funding of future infrastructure and major redevelopment projects, although these initiatives would require changes to State legislation. Naturally, MBRC has a responsibility to deliver infrastructure to grow the region and be fiscally responsible, so any incentives would have to be well managed with future revenues.
- **Infrastructure fund:** the development of an infrastructure fund to be used to finance larger infrastructure projects or contribute to major redevelopments or future developments could assist in making these projects viable and act as a catalyst for investment and job creation. Spare Council assets or land could potentially be sold to provide the initial funding source and then structured financial vehicles could provide funding on an on-going basis with some contributions made as development takes place.
- **Use of Council owned land in Strathpine and Caboolture:** Council must consider how to strategically use its land holdings in both Strathpine and Caboolture. In each centre, Council owns large strategically located sites that could be attractive for future mixed use development. However, often the purchase price of this land (in addition to other market factors) makes development not viable. If Council were to provide the land at little or no cost, the viability of development would increase significantly. Additionally, if there was a government pre-commitment for this space, Council could provide these sites as a catalyst for future development, achieving numerous economic and planning goals.

11. Place Types

MBRC has developed a Strategic Framework, which is a spatial development plan for the region. The plan provides for both population-based activities and economic-based activities in the region and is expected to guide the growth of the region over the coming 20 years.

As part of this new strategic framework, the MBRC Place Model has been developed, which allows planners to describe, in detail, the features of each area within the MBRC, in terms of:

- Physical attributes;
- Key functions; and
- Economic activity.

The MBRC has identified 13 place types within the MBRC. These are outlined in **Appendix D**. Based on the results of this study, AECgroup provides the following comments regarding the economic activities of each place type. Where possible, existing areas have been identified to assist in describing these economic activities.

11.1 Special Area

Description: Large single use/focus places that as a result of their size and special nature they have a stand-alone function that sets them apart from the function of adjacent areas.

Locations: Woodfordia, Lakeside Old Petrie Town, Abbey Museum, Airports, Harbour, Caboolture Historical Village and Equestrian Centre.

Economic Activity: Economic activity will depend on the nature of the special area. Airports will have aviation related economic activities but probably lack the ability to deliver considerable employment outcomes in the future. For airports, niche maintenance and training opportunities should be explored. Other historical special areas will have some tourism value, however, are unlikely to generate significant numbers of visitors as stand-alone destinations.

11.2 Suburban Neighbourhood

Description: These are the primarily low density, dormitory suburbs that developed in the region over the last 60 years which accommodate the bulk of the region's resident population.

Location: Includes Arana Hills, Eatons Hill, Bray Park.

Economic Activity: Economic activity will be limited to local retail to service existing population. However, individual redevelopment opportunities will exist in some neighbourhoods, which will allow for mixed use developments increasing employment through both retail and potential small scale commercial uses.

11.3 Next Generation Suburban Neighbourhood

Description: These are selected formerly suburban areas, greenfield and rural residential transition areas close to urban neighbourhoods and activity centres that have the capability and capacity to be developed.

Locations: Growth areas.

Economic Activity: Economic activities will be limited to local provision of retail and commercial jobs in mixed use developments. Additional employment in other areas will also exist (i.e. health, education, community services, etc.). In some areas the local centres could expand considerably and potentially provide a higher concentration of commercial employment opportunities than previously experienced in MBRC.

11.4 Urban Neighbourhood

Description: These are selected formerly suburban areas that adjoin activity centres that are intended to be targeted for infill and redevelopment associated with public investment in transport and other infrastructure

Locations: Mango Hill, Lawnton, Narangba.

Economic Activity: Economic activity will still be focused on retail and commercial uses. Other employment opportunities (i.e. including education, health and community services) will also be possible. Opportunities should exist to provide denser employment outcomes in these areas compared to the next generation suburban areas.

11.5 Activity Centre

Description: Activity Centres are important transport hubs and provide a diverse mix of land uses and activities with a concentration of retail, business, commercial, employment, health services, administrative, community, cultural, recreational and entertainment capable of servicing the district and include a substantial resident population. Principal and other Major Regional Activity Centres are major transport hubs that serve catchments of regional and sub-regional significance and accommodate key employment concentrations. They provide a secondary administrative function to the Brisbane CBD, accommodate regional, district or branch government facilities, including offices of health, education and cultural and entertainment facilities and professional offices of regional significance, and include a substantial local residential population.

Locations: Caboolture-Morayfield, North Lakes, Strathpine and Redcliffe.

Economic Activity: These areas will be the main centres of retail and commercial activity in the region. They will continue to provide considerable retail and commercial space in addition to other employment opportunities, including education, health, government, community services, etc.). Increasing opportunities for commercial development and larger scale education and health operations will greatly increase the employment densities of these areas.

11.6 Enterprise and Employment Area

Description: These are the major locations in the region for mixed business and industrial activity particularly manufacturing, building products, transport and logistics which are critical to the future growth of employment opportunities in the region.

Locations: Brendale, Narangba, Burpengary, Elimbah East

Economic Activity: The economic activity in these areas will be focus on industrial activities. These areas will provide for warehousing and distribution operations and some light manufacturing. The nature of the activity in these areas will continue to change over time. In the short-term, warehousing activities will continue to be strong represented, including a sales/service function but primarily acting as a place where goods are received (by containers), unpacked and goods stored and then distributed to customers as needed. There is likely to still be some manufacturing or light industrial components but they will be ever increasing in the use of technology and likely have higher office content than traditional factories. It will be important that these areas provide for 24/7 operations and easy access from B-doubles.

12. Future Recommendations

This study has revealed a detailed understanding of the current land use in MBRC across industrial, retail and commercial uses and identified numerous considerations for future planning. In conducting this study, numerous areas were identified where greater detail of information is needed or more thorough investigations need to be made to inform future planning decisions.

Specific Actions Required in the Future

The following investigations could be made by Council to address specific issues that were uncovered as a result of this project, including:

- **Household retail survey:** A detailed household retail survey of retail shopping preferences and characteristics is needed to provide a strong evidence base for the future retail hierarchy. AECgroup used available information regarding the region, limited consultation and our own experience to define retail catchments for MBRC. A detailed household retail survey would provide very accurate information and help to inform the size and scale of various centres.
- **Feasibility of new residential development:** An investigation into the feasibility of residential development around train stations and older residential areas, where the local residential demographics are changing, would assist to inform specific planning tools and provisions in these areas. These feasibilities would assist in identifying opportunities for higher density residential accommodation, which will assist MBRC to accommodate some of the future population growth, as well as the necessary planning provisions to encourage these developments.
- **Site Selection for future small scale industrial developments:** A thorough investigation of the southern half of the region to explore options for future small scale industrial developments would assist in meeting short-term demand for larger industrial lots and provide additional land supply to buffer against future shortages of industrial land in the southern half of the region.

Opportunities for Development in Activity Centres

The following investigations could be made by Council to identify opportunities for redevelopment and consider ways to use Council owned land and investment in parking strategies as a way to encourage future development and attract investment, including

- **Redevelopment opportunities:** AECgroup has identified numerous centres for redevelopment consideration based on our retail assessment, future modelling and experience in property development. However, in order to prioritise these redevelopments and ensure their acceptance by the market, more detailed assessments are required to determine the highest and best use, scale of redevelopment, staging of various projects and ultimate yields (in terms of jobs and built form). These additional investigations would assist in providing certainty to planners and developers as well as providing a catalyst for these projects to take place.
- **Business case for council owned land:** Conducting business case and feasibility assessments on Council owned land in Strathpine and Caboolture would assist in creating catalytic development projects that can help achieve designed planning outcomes and increase investment and jobs towards the 70% employment self-containment goal.

- **Parking Strategy:** Development of a parking strategy for major centres that ensures for the provision of parking to meet future demand but at the same time provides flexibility for individual developments would greatly assist in the future development of these centres. Consideration should be given to existing and future supply required to meet demand, potential for central parking facilities to service multiple lots as well as innovative ways to deal with peak demand and the potential for mixed uses (i.e. retail, commercial and residential).

Feasibility and Value of Future Investment Attraction

The following investigations would assist Council to better understand future development and how to achieve the desired strategic goals, including:

- **Business case/feasibility tests:** The ability to test desired planning outcomes to ensure they are feasible would greatly increase the value of urban design studies and master plans. Providing an evidence base regarding the viability of large, complex property projects will assist in delivering plans that are achievable and deliver the desired built form outcome.
- **Investigation into incentives and funds:** Given the unique financing position of MBRC (i.e. must provide infrastructure capacity with capped infrastructure charges), innovative and unique funding mechanisms are needed to encourage development, investment and job growth. These mechanisms could act as a catalyst for reaching closer to the 70% employment self-containment goal. Options include special levies, value capture and growth bonds.
- **Balance between residential and employment growth:** Considering the different financial impacts that residential and employment growth have on Council is important. Businesses usually do not consume and demand Council financed infrastructure in the same manner as residents. An investigation into the future value of residential development versus employment growth (in terms of rates and other Council revenue) could be compared to the costs required to service this growth (through the provision of infrastructure). The economic impacts of each type of development could also be considered. If it is more valuable to Council to have employment growth, then mechanisms such as deferment of infrastructure charges could be considered to encourage employment growth, given the more financially attractive nature of the development.
- **Funding of economic development and investment attraction:** Given the importance of increasing employment opportunities locally, Council should investigate the level and degree to which economic development and investment attraction are funded. Comparing not only over all dedicated resources (in terms of financial funds and human resources) but consideration of specific programs to generate employment outcomes should be included. It could be that MBRC needs to fund economic development and investment attraction at a higher than average level in order to achieve meaningful results. As highlighted in this report, planning provisions are only part of the overall equation to deliver development outcomes.

Acknowledgements

AECgroup would like to thank all those consulted during the process of developing this report and acknowledge their important contribution:

- Caboolture Commercial Real Estate;
- Caboolture Shopping Centre (Charter Hall Management);
- De Luca Corporation;
- Department of Infrastructure and Planning (QLD Government);
- Desyn Property;
- Heritage Pacific;
- Investa Property Group;
- Jones Lang LaSalle;
- Knight Frank;
- Morayfield Shopping Centre;
- Moreton Bay Regional Council;
- Ray White;
- Savills;
- QM Properties;
- Walker Corporation; and
- Westfields.

References

- Alderley Square (2011). www.alderleysquare.com.au. Last accessed 15 December 2011.
- Australian Bureau of Statistics (2003). *CDATA 2001, 2nd Release*. Australian Bureau of Statistics, Canberra.
- Australian Bureau of Statistics (2007a). *2006 Census of Population and Housing*. Cat. No. 2068.0, ABS, Canberra.
- Australian Bureau of Statistics (2007b) *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia - Data only, 2006*. Cat. No. 2033.0.55.001. ABS, Canberra.
- Australian Bureau of Statistics (2009). *Household Use of Information Technology 2008-09, Australia*. Cat. No. 8146.0, ABS, Canberra
- Australian Bureau of Statistics (2010a). *Population by Age and Sex, Regions of Australia, 2009*. Cat. No. 3235.0, ABS, Canberra
- Australian Bureau of Statistics (2010b), *National Accounts, State Accounts 2009-10*. Cat no. 5220.0. ABS, Canberra
- Australian Bureau of Statistics (2010c). *Measures of Australia's Progress, Work*. Cat No. 1370.0. ABS, Canberra.
- Australian Bureau of Statistics (2010d). *Water Account, Australia, 2008-09*. Cat No. 4610.0. ABS, Canberra.
- Australian Bureau of Statistics (2010e). *Number of Employed Persons by Industry of Employment (ANZSIC 93 all 4 digit classification levels) by all Place of Work LGAs in Australia*. Data provided by Information Consultancy Services, ABS, GPO Box 9817, Brisbane, QLD, 4001.
- Australian Bureau of Statistics (ABS, 2010f). *Experimental Estimates of Industry Multi-Factor Productivity Growth*. Cat. No. 5260.0, ABS, Canberra.
- Australian Bureau of Statistics (2011a). *Australian Population Estimates*. Cat. No. 3218.0 Australian Bureau of Statistics, Canberra.
- Australian Bureau of Statistics (2011b). *Australian Building Approvals*. March 2011. Cat. No. 8731.0. Australian Bureau of Statistics, Canberra.
- Australian Bureau of Statistics (2011c). *Energy Account, Australia, 2008-09*. Cat. No. 4604.0. Australian Bureau of Statistics, Canberra.
- Australian Bureau of Statistics (2011d). *Consumer Price Index, Australia, Jun 2011*. Cat. No. 6401.0. Australian Bureau of Statistics, Canberra.
- Australian Bureau of Statistics (2011e). *Retail Trade, Australia, July 2011*. Cat. No. 8501.0. Australian Bureau of Statistics, Canberra.
- Australian Treasury (2009). *Inter-Generational Report*. Australian Federal Government, Canberra.
- Baum and Mitchell (2009). *Red Alert Suburbs: An Employment Vulnerability Index for Australia's Major Urban Regions*. Griffith University, Brisbane, CoffEE, Newcastle, University of Newcastle and the Urban Research Program, Newcastle.
- BCC (2007). *Australia Trade Coast South Infrastructure Contributions Planning Scheme Policy*. Brisbane City Council, City Planning Branch. July 2007
- Bernstein, S. and Tholin, K. (2010). *Penny Wise Pound Foolish, New Measures of Housing and Transportation Affordability*. CNT, Chicago.
- CBRE (2011a). *MarketView: Brisbane Industrial. Second Quarter 2011*. CBRE, Australia.
- CBRE (2011b). *MarketView: South East Queensland Retail. Second Quarter 2011*. CBRE, Australia.
- CBRE (2011c). *MarketView: Brisbane Office. First Quarter 2011*. CBRE, Australia.

- CBRE (2011d). *MarketView: Sunshine Coast. Second Quarter 2011*. CBRE, Australia.
- CBRE (2011e). *MarketView: Gold Coast. Third Quarter 2011*. CBRE, Australia.
- Department of Climate Change (2010). *Australian National Greenhouse Accounts, National Inventory by Economic Sector 2009*. Australian Government, Canberra.
- Department of Education, Employment and Workplace Relations (2010). *Small Area Labour Markets, Australia, September Quarter 2010*. Australian Government, Canberra.
- Department of Planning and Community Development (2009). *Urban Development Program*. Victorian Government, Melbourne.
- DPCD (2011). *Victorian Department of Planning and Community Development. Footscray Activities Area*. Available from www.dpcd.vic.gov.au. Last accessed 14 December 2011.
- Economic Associates (2011). *Moreton Bay Industrial Land Demand Study*. Economic Associates, Brisbane.
- Eldorado Village (2011). *Investment Information Booklet*. PCN Projects, Indooroopilly QLD.
- Eldorado Village Commercial (2011). *Eldorado Village Commercial Flyer*. Race Property, Banyo, QLD.
- Foran, B., Lenzen, M. and Dey, C. (2005). *Balancing Act - A Triple Bottom Line Analysis of the Australian Economy*. Report prepared by CSIRO and University of Sydney for the Commonwealth Department of Environment and Heritage, Canberra.
- Griffith University (2008). *Unsettling Suburbia: The New Landscape of Oil and Mortgage Vulnerability in Australian Cities*. Griffith University, Brisbane.
- Motormouth (2011). *My Price Search, North Brisbane*. Available from: <http://motormouth.com.au/pricesearch.aspx?Region=Brisbane>. Last Accessed 7 September 2011.
- Moreton Bay Regional Council (2009). *Population and Dwelling Projections. Unpublished*. Moreton Bay.
- Moreton Bay Regional Council (2010). *Moreton Bay Rail Link: Local Area Plans Phase 1 Summary Report (Option B estimates used)*. Parsons Brinckerhoff, dma partners and Foresight for Moreton Bay Regional Council, Caboolture.
- Moreton Bay Regional Council (2011a). *Moreton Bay Land Audit, March 2011*. Moreton Bay Regional Council, Caboolture.
- Moreton Bay Regional Council (2011b). *GIS Mapping, Unpublished*. Moreton Bay Regional Council, Caboolture.
- OPEC (2010). *World Oil Outlook, 2010*. OPEC, Austria.
- PHIDU (2010). *Social Health Atlas of Australian Local Government Areas, 2010*. The University of Adelaide, Adelaide.
- Planning Information and Forecasting Unit (2011). *Queensland Government Population Projections*. Available from: <http://www.oesr.qld.gov.au/products/publications/qld-govt-pop-proj-lga/index.php?>. Last accessed 22 June 2010.
- Planning NSW (2010). *ELDP Report 1 - Sydney City Subregion*. NSW Department of Planning and Infrastructure, Sydney.
- Savills (2011). *Brisbane Suburban Strip Retail*. December 2011. Savills, Australia.
- Queensland Government (2011). *Industrial Land Development Activity Profile*. Queensland Government, Brisbane.
- West, G. (1993). *Input-Output Analysis for Practitioners, Version 7.1, User's Guide*. Department of Economics, University of Queensland, Brisbane.

Appendix A: Modelling Methodology

Status Quo

Projections of labour demand by industry for MBRC have been developed utilising projections of Gross Regional Product (GRP) based on expected real industry growth rates, using 2009-10 as a base. In developing industry growth rates, industries are classified into one of three categories:

- **Leading Economic Drivers (LEDs):** LEDs are the industries that are either expected to be a focus for economic growth in the region or that are drivers of growth in other industries;
- **Population Driven (PDs):** PDs are industries that are driven almost entirely by population growth and consumption; and
- **Business Activity and Population Driven (BAPDs):** BAPDs are industries that are driven by some combination of activity in other sectors and household consumption.

The following types of information will be used to develop growth estimates for each industry within the three types of industry categories:

- **LEDs:** Expected real growth rates for LEDs have been developed based on a combination of historic national growth and performance, industry consultation, desktop research regarding growth potential for each LED in MBRC from published sources and the professional judgment of AECgroup staff;
- **PDs:** Projections of population growth from Moreton Bay Regional Council and ABS historical data all have been used to identify population growth rates for MBRC. Industry growth rates for PDs have then been developed based on the historic relationship between population growth in Queensland (ABS, 2010a) and overall growth in Gross State Product (ABS, 2010b). This modelling approach supports the assumption that, as the MBRC economy expands, it will trend towards the State economic structure; and
- **BAPDs:** Expected real growth rates for BAPDs are developed based on a combination of growth in demand from households (population) and business activity in other sectors that demand goods and services from BAPDs. The relationship between BAPDs, other industry and household demand has been estimated using an Input Output table specifically developed for MBRC (described below), and this relationship has been applied to growth projections of industry and population to develop individual BAPD industry growth rates.

Input-Output Transaction Table Development

An Input Output transaction table specific to the MBRC economy has been developed for this project. The process of developing a regional transaction table involves the development of regional estimates of gross production and the development of purchasing patterns based on a parent table, in this case the 2005-06 Australian transaction table (ABS, 2009).

Estimates of gross production (by industry) for the MBRC economy were developed based on the percent contribution to employment (by place of work) of the MBRC to the Australian economy (ABS, 2010e), and applied to Australian gross output identified in the 2006-07 Australian table. Industry purchasing patterns within the MBRC were then developed using cross industry location quotients and demand-supply pool production functions, consistent with the approach outlined in West (1993).

Employment projections by industry are developed based on GRP projections by industry and historic estimates of value added production per employee from the transaction tables developed specifically for the MBRC, with consideration of any potential changes in productivity in line with historic multi-factor productivity growth (ABS, 2010f).

Land demand estimates by industry are developed based on employment projections by industry and estimates of land use by employee by industry (Economic Associates, 2009) developed specifically from an audit conducted in MBRC.

Scenarios

Estimates of employment required to obtain specific levels of self-containment were estimated based on population estimates (MBRC, 2009, 2010), projections of population by age (Planning Information and Forecasting Unit, 2011), historical participation rates (Department of Employment, Education and Workplace Relations) and an estimate of the Non-Accelerating Inflation Rate of Unemployment (Australian Treasury, 2009).

Projections of employment by industry were developed using estimates of employment required to obtain the specific self containment rates. In developing the composition of the labour force in MBRC, industries were classified into three categories:

- **Leading Economic Drivers (LEDs):** LEDs are the industries that are either expected to be a focus for economic growth in the region or that are drivers of growth in other industries;
- **Population Driven (PDs):** PDs are industries that are driven almost entirely by population growth and consumption; and
- **Business Activity and Population Driven (BAPDs):** BAPDs are industries that are driven by some combination of activity in other sectors and household consumption.

The following types of information will be used to develop growth estimates for each industry within the three types of industry categories:

- **LEDs:** LEDs were identified based on the existing MBRC EDS. LEDs are expected to grow towards the composition they form within a key comparative region, including Brisbane SD, Ipswich LGA, Knox LGA, Parramatta LGA;
- **PDs:** Projections of population growth from MBRC and ABS historical data all have been used to identify population growth rates for MBRC. Industry employment rates for PDs have then been developed based on the historic relationship between population growth in Queensland (ABS, 2010a) and overall growth in Gross State Product (ABS, 2010b). Employment estimates and estimates of their contribution to total employment in MBRC to 2031 were developed based on these GRP estimates. This modelling approach supports the assumption that, as MBRC economy expands, it will trend towards the State economic structure; and
- **BAPDs:** Expected real growth rates for BAPDs are developed based on a combination of growth in demand from households (population) and business activity in other sectors that demand goods and services from BAPDs. The relationship between BAPDs, other industry and household demand has been estimated using an Input Output table specifically developed for MBRC (described below), and this relationship has been applied to growth projections of industry and population to develop individual BAPD industry growth rates.

Land demand estimates by industry are developed based on employment projections by industry and estimates of land use by employee by industry (Economic Associates, 2009, below) developed specifically from an audit conducted in MBRC.

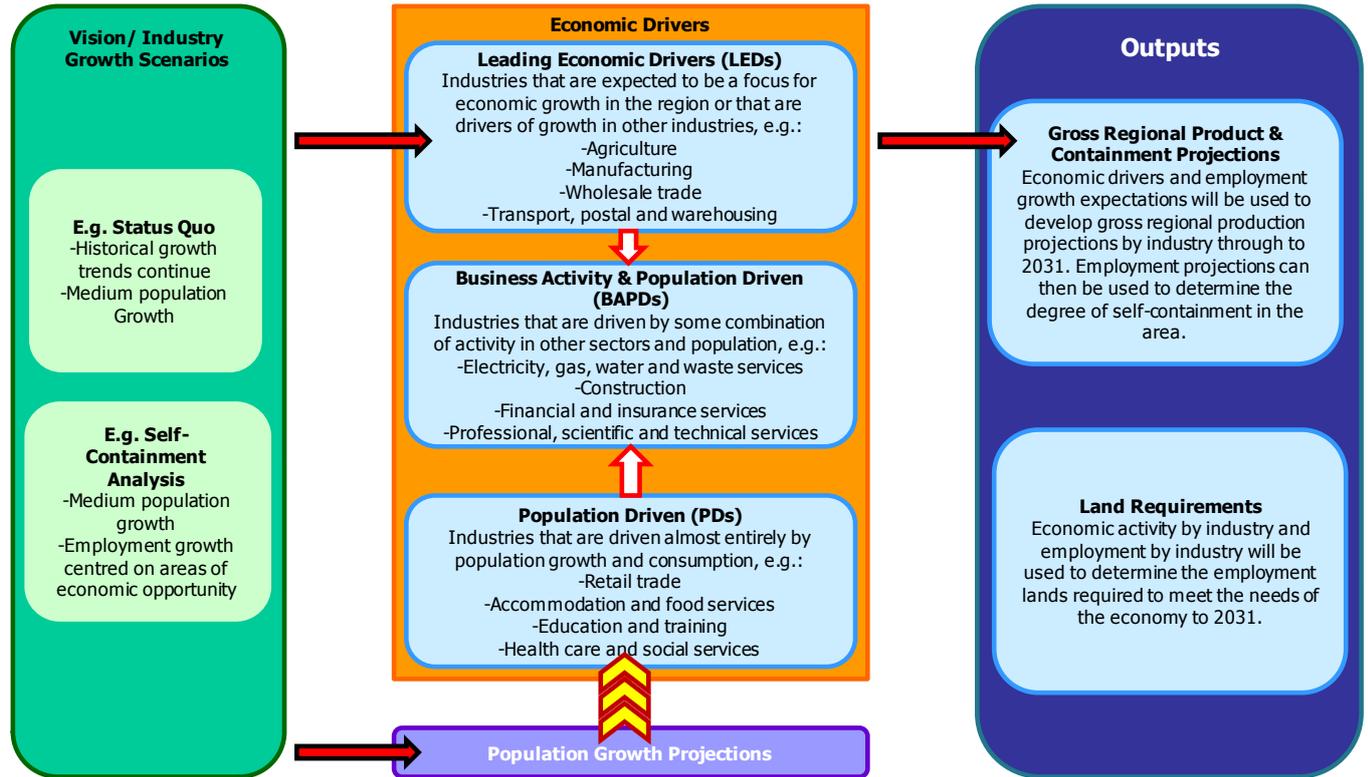
Table A. 1: Industrial Land Benchmarks

Industry	Employees per ha
Manufacturing	36.33
Wholesale trade	22.00
Transport, postal and warehousing	25.00

Note: Manufacturing benchmark represents an average of all manufacturing ratios from an audit conducted in 2009.
Source: AECgroup, Economic Associates (2011)

The figure below summarises the modelling approach utilised to estimate land demand in MBRC by 2031.

Figure A. 1: MBRC Economic Modelling Approach



Source: AECgroup

Appendix B: Detailed Industrial Land Requirements

The following information highlights future estimates for each industrial area, using information from the modelling conducted for this project. High and low future demand information has been used to provide a range of future characteristics. It should be noted that when a precinct reaches 95% capacity or above, it is considered full, yielding '0' years of remaining supply. It should be noted that some precincts are not expected to reach the 95% capacity level over the next twenty years, thus yielding at least 20 year supply remaining.

Employment estimates were developed based on total land consumption and employment per ha benchmarks for industries across each land use category. For water use by employee and truck movement per ha of land, benchmarks were used.

Caboolture-Morayfield PAC

Table A. 1: Caboolture-Morayfield PAC

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	29,429	2031	29,429	2031
Max Water (ML)	5192	2031	5,192	2031
Max Truck Movements	6.8	2012	7	2012

Source: MBRC (2011a), AECgroup

Caboolture Airport

Table A. 2: Caboolture Airport

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
General Industry Land	20	At Least	20	At Least
Heavy Industry Land	0		0	
Max Employment	4,642	2031	4,642	2031
Max Water (ML)	45,228	2031	45,228	2031
Max Truck Movements	885	2031	885	2031

Source: MBRC (2011a), AECgroup

Caboolture

Table A. 3: Caboolture

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	6,408	2012	6,408	2012
Max Water (ML)	62,426	2031	62,426	2031
Max Truck Movements	1,222	2012	1,222	2012

Source: MBRC (2011a), AECgroup

Brendale

Table A. 4: Brendale

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	6		20	At Least
<i>Heavy Industry Land</i>	20	At Least	20	At Least
Max Employment	11,244	2031	10,748	2031
Max Water (ML)	99,521	2031	96,092	2031
Max Truck Movements	2,115	2031	2,025	2031

Source: MBRC (2011a), AECgroup

Brendale West

Table A. 5: Brendale West

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	6,808	2031	6,457	2031
Max Water (ML)	48,710	2031	46,220	2031
Max Truck Movements	1,241	2031	1,177	2031

Source: MBRC (2011a), AECgroup

Bribie Island

Table A. 6: Bribie Island

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	257	2012	257	2012
Max Water (ML)	2,503	2031	2,503	2031
Max Truck Movements	49	2012	49	2012

Source: MBRC (2011a), AECgroup

Burpengary

Table A. 7: Burpengary

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	1,357	2018	1,357	2018
Max Water (ML)	13,217	2031	13,217	2031
Max Truck Movements	259	2018	259	2018

Source: MBRC (2011a), AECgroup

Clontarf

Table A. 8: Clontarf

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	2,558	2028	2,558	2028
Max Water (ML)	24,923	2031	24,923	2031
Max Truck Movements	488	2028	488	2028

Source: MBRC (2011a), AECgroup

Dayboro

Table A. 9: Dayboro

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	65	2024	65	2024
Max Water (ML)	629	2031	629	2031
Max Truck Movements	12	2024	12	2024

Source: MBRC (2011a), AECgroup

Deception Bay

Table A. 10: Deception Bay

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	1,134	2031	1,134	2031
Max Water (ML)	9,181	2031	9,181	2031
Max Truck Movements	210	2031	210	2031

Source: MBRC (2011a), AECgroup

Elimbah

Table A. 11: Elimbah

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	4,356	2031	2,782	2031
Max Water (ML)	37,303	2031	21,973	2031
Max Truck Movements	814	2031	514	2031

Source: MBRC (2011a), AECgroup

Hills District

Table A. 12: Hills District

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	445	2012	445	2012
Max Water (ML)	4,340	2031	4,340	2031
Max Truck Movements	85	2012	85	2012

Source: MBRC (2011a), AECgroup

Joyner

Table A. 13: Joyner

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	569	2012	569	2012
Max Water (ML)	5,544	2031	5,544	2031
Max Truck Movements	108	2012	108	2012

Source: MBRC (2011a), AECgroup

Kippa-Ring

Table A. 14: Kippa-Ring

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	237	2012	237	2012
Max Water (ML)	2,310	2031	2,310	2031
Max Truck Movements	45	2012	45	2012

Source: MBRC (2011a), AECgroup

Lawnton

Table A. 15: Lawnton

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	1,085	2012	1,085	2012
Max Water (ML)	10,571	2031	10,571	2031
Max Truck Movements	207	2012	207	2012

Source: MBRC (2011a), AECgroup

Margate

Table A. 16: Margate

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	83	2012	83	2012
Max Water (ML)	808	2031	808	2031
Max Truck Movements	16	2012	16	2012

Source: MBRC (2011a), AECgroup

Mt Mee

Table A. 17: Mt Mee

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	6	2012	6	2012
Max Water (ML)	62	2031	62	2031
Max Truck Movements	1	2012	1	2012

Source: MBRC (2011a), AECgroup

Narangba

Table A. 18: Narangba

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	18		18	
<i>Heavy Industry Land</i>	20	At Least	20	At Least
Max Employment	7,372	2031	7,372	2031
Max Water (ML)	64,481	2031	64,481	2031
Max Truck Movements	1,478	2031	1,478	2031

Source: MBRC (2011a), AECgroup

North East Business Park

Table A. 19: North East Business Park

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	7,286	2031	3,747	2031
Max Water (ML)	55,352	2031	27,641	2031
Max Truck Movements	1,339	2031	686	2028

Source: MBRC (2011a), AECgroup

North-Lakes Mango Hill

Table A. 20: North-Lakes Mango Hill

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	17	
<i>Heavy Industry Land</i>	0		0	
Max Employment	5,480	2031	6,289	2031
Max Water (ML)	43,241	2031	47,156	2031
Max Truck Movements	1,012	2031	1,154	2031

Source: MBRC (2011a), AECgroup

Petrie

Table A. 21: Petrie

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	9		20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	7,989	2030	7,040	2030
Max Water (ML)	74,563	2031	66,837	2031
Max Truck Movements	1,513	2030	1,337	2030

Source: MBRC (2011a), AECgroup

Redcliffe

Table A. 22: Redcliffe

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	464	2021	464	2021
Max Water (ML)	2,121	2031	2,121	2031
Max Truck Movements	6	2012	6	2012

Source: MBRC (2011a), AECgroup

Rothwell

Table A. 23: Rothwell

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	20	At Least	20	At Least
<i>Heavy Industry Land</i>	0		0	
Max Employment	92	2012	92	2012
Max Water (ML)	896	2031	896	2031
Max Truck Movements	18	2012	18	2012

Source: MBRC (2011a), AECgroup

Strathpine

Table A. 24: Strathpine

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	123	2012	123	2012
Max Water (ML)	1,087	2031	1,087	2031
Max Truck Movements	27	2012	27	2012

Source: MBRC (2011a), AECgroup

Woodford

Table A. 25: Woodford

Precinct Overview	High		Low	
	Indicator	Details	Indicator	Details
Years supply				
<i>General Industry Land</i>	0		0	
<i>Heavy Industry Land</i>	0		0	
Max Employment	292	2012	292	2012
Max Water (ML)	2,848	2031	2,848	2031
Max Truck Movements	56	2012	56	2012

Source: MBRC (2011a), AECgroup

Appendix C: Detailed Modelled Retail Land Requirements

Table C. 1: Existing Retail Supply, 2011

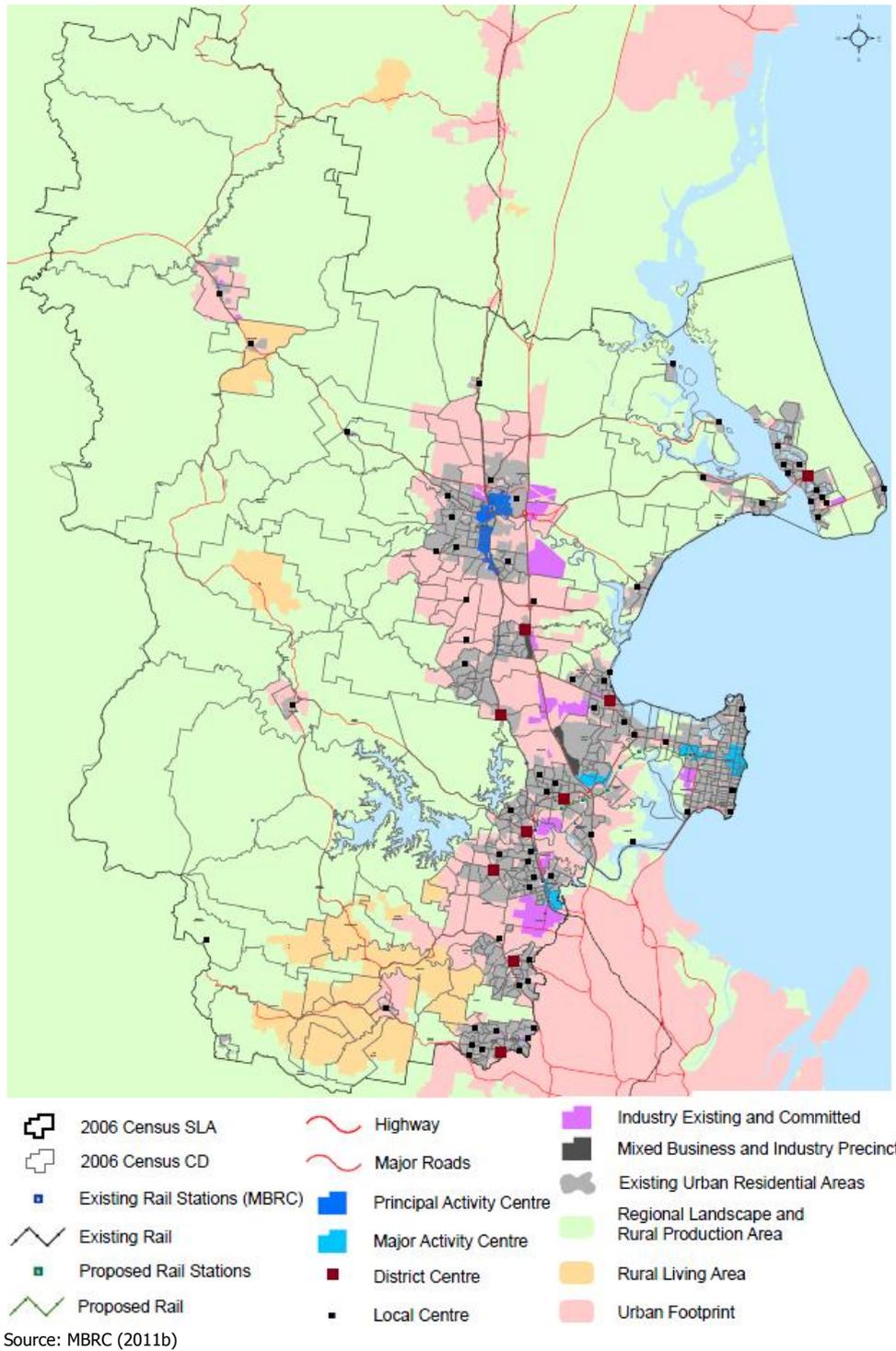
Hierarchy	Centre	GFA (sqm)
Principal Activity Centre	Caboolture	63,081
	Morayfield	203,201
	<i>Sub-Total</i>	<i>266,282</i>
Major Activity Centre	Kippa-Ring Village	64,603
	North Lakes	79,165
	Redcliffe Seaside Village	58,370
	Strathpine	94,280
	<i>Sub-Total</i>	<i>296,418</i>
District Centre	Albany Village	13,379
	Bellara	25,650
	Burpengary	34,347
	Deception Bay	16,059
	Kallangur Fair	6,771
	Narangba	3,563
	Patricks Road Shopping Centre	15,197
	Petrie	10,038
	Warner	8,477
	<i>Sub-Total</i>	<i>133,481</i>
Local Centre	Albany Creek Road	2,374
	Ann Street	1,184
	Argyll Street	319
	Arlington Drive	1,266
	Bailey Road	2,277
	Banksia Beach	6,334
	Beachmere	3,000
	Beeville Road	2,668
	Bellara Street	279
	Bellmere Rd	676
	Brendale	3,214
	Brickworks Road	7,243
	Camelia Avenue	1,590
	Captain Cook Parade	1,397
	Chinook Street	2,973
	Clontarf	9,408
	Coolgarra Avenue	1,750
	Cotterill Avenue	277
	Craigan Street	844
	Cresthaven Drive	626
Currong Crescent	653	
D'Aguilar	472	
Dawn Road	1,751	
Dayboro	3,109	
Deception Bay Road	1,867	
Dohles Rocks	373	

Hierarchy	Centre	GFA (sqm)
	Dohles Rocks Rd/Anzac Ave	676
	Donnybrook	316
	Eatons Crossing	4,835
	Elimbah	945
	Ferny Way	549
	Ferny Way South	2,030
	First Avenue	6,511
	Francis Road	1,333
	Glenwood	1,244
	Goodfellows Road Local Centre	2,465
	Goodrich Road West	6,534
	Goodwin Drive	1,037
	King Street	2,615
	Lawnton	11,221
	Lipscombe Road	1,446
	Margate	9,876
	Marine Parade	445
	McKean Street (Central Plaza)	3,000
	Mt Glorious	281
	Nairn Road	633
	Ningi	1,708
	Ogg Road	3,168
	Parkridge Avenue	1,064
	Patricks Road	1,528
	Rothwell	20,499
	Samford	11,265
	Sandstone Point	3,003
	Scarborough	5,157
	South Pine Road	3,086
	Sovereign Avenue	6,182
	Sparks Rd and Ellis St	568
	Strathpine North	1,376
	Toorbul	516
	Uhlmann Road	4,134
	Wamuran	1,304
	Welsby Parade	3,961
	Whitehorse Road	955
	Woodford	7,694
	Woodhill Road	1,263
	Woody Point	1,150
	Woolworths Marketplace	5,580
	Woorim	4,055
	Young Road	4,740
	Zammit Street	871
	<i>Sub-Total</i>	<i>210,743</i>
Total Floor space		906,924

Source: MBRC (2011), PCA (2010), AECgroup



Figure C. 1: Current Centres Hierarchy, MBRC



Appendix D: MBRC Place Model

Table D. 1: Moreton Bay Place Types

Place Type	Description
Mountain Ranges, Forest and Waterways	<ul style="list-style-type: none"> In the mountain ranges, forest and waterways the natural environment dominates This place type performs essential functions as ecological and regional landscape areas which are vital to protecting the region's unique biodiversity assets and providing essential ecosystem services for human wellbeing Other activities that occur in this area are compatible with maintaining its essential functions
Rural	<ul style="list-style-type: none"> In a rural place there is a balance between rural production and associated rural industry, scenic landscapes and natural areas, outdoor entertainment and recreation, rural living, tourism and home based business activities. Unique biodiversity assets and essential ecosystem services are protected. In the rural area the landscape is characterised by a mosaic of productive farm land and natural areas with the predominant feature being grazing, agriculture, forested areas, tree lined roads and scattered housing and farm buildings
Rural Townships	<ul style="list-style-type: none"> The Rural townships place type includes urban residential development, and semiurban residential development, local shopping, commercial, industrial and community facilities The townships provide employment, services and facilities to residents in the township and surrounding rural areas and visitors to the area
Key Resource Area	<ul style="list-style-type: none"> Key sand, gravel, clay, rock and soil resource areas are of state and regional significance and include the resource/processing area and a separation area
Special Area	<ul style="list-style-type: none"> Large single use/focus places that as a result of their size and special nature they have a standalone function that sets them apart from the function of adjacent areas These stand alone functions include large scale entertainment, recreation, sporting, institutional, aviation and marine facilities and supplementary and allied activities.
Rural Residential	<ul style="list-style-type: none"> This place type is characterised by single family housing on large residential lots with deep set backs and limited services and facilities These areas provide lifestyle choices ranging from large family lifestyle lots close to the City, to lots used for intensive horticulture, lots used for business purposes often involving heavy vehicle parking
Suburban Neighbourhood	<ul style="list-style-type: none"> These are the primarily low density, dormitory suburbs that developed in the region over the last 60 years which accommodate the bulk of the regions resident population Due to the age and condition of these areas they are expected to provide limited opportunity to introduce mixed use development and medium density housing and are expected to continue to provide a limited housing choice and a limited range of local convenience services and facilities.
Next Generation Suburban Neighbourhood	<ul style="list-style-type: none"> These are selected formerly suburban areas, greenfield and rural residential transition areas close to urban neighbourhoods and activity centres that have the capability and capacity to be developed They are intended to provide greater range of housing choice but still predominately detached housing, and more local employment opportunities, services and facilities than suburban neighbourhoods These areas have an interconnected street and active transport network that provides modal choice, and convenient access to services and facilities within the neighbourhood.
Urban Neighbourhood	<ul style="list-style-type: none"> These are selected formerly suburban areas that adjoin activity centres that are intended to be targeted for infill and redevelopment associated with public investment in transport and other infrastructure They are intended to provide housing choice with a more balanced mix of detached and attached housing compared to the next generation suburban neighbourhoods and an expanded range of local convenience services facilities and more local jobs than the next generation suburban neighbourhoods
Activity Centre	<ul style="list-style-type: none"> A high standard of sustainable urban design of these centres is of critical importance to the creation of a sub-regional and regional identity, and to cater for urban lifestyles in vibrant and attractive centres The District Centres are important transport hubs and provide a diverse mix of land uses and activities with a concentration of retail, business, commercial, employment, health services, administrative, community, cultural, recreational and entertainment capable of servicing the district and include a substantial resident population Principal and other Major Regional Activity Centres are major transport hubs that serve catchments of regional and sub-regional significance and accommodate key employment concentrations. They provide a secondary administrative function to the Brisbane CBD, accommodate regional, district or branch government facilities, including offices of health, education and cultural and entertainment facilities and professional offices of regional significance, and include a substantial local residential population

Place Type	Description
Enterprise and Employment Area	<ul style="list-style-type: none"> • These are the major locations in the region for mixed business and industrial activity particularly manufacturing, building products, transport and logistics which are critical to the future growth of employment opportunities in the region
Coastal Villages	<ul style="list-style-type: none"> • These are the small village settlements bordering Pumicestone Passage and Deception Bay that cater for bayside living and retirement lifestyles
Coast and Riverlands	<ul style="list-style-type: none"> • In the Coast and Riverine place type the natural environment dominates • These areas are particularly exposed to coastal hazards and flooding • These areas also perform essential functions as ecological and regional landscape areas which are vital to protecting the regions unique biodiversity assets and providing essential ecosystem services for human wellbeing • Within Coast and Riverine areas, reconnecting habitats and ecosystems and restoring biodiversity to healthy levels is a priority. Other activities that occur in this area are compatible with maintaining its essential functions

Source: MBRC (2011c)

PAGE LEFT INTENTIONALLY BLANK





Brisbane	Level 5, 131 Leichhardt Street Spring Hill QLD 4000	PO Box 942 Spring Hill QLD 4004	T F	+61 7 3831 0577 +61 7 3831 3899
Melbourne	Level 13, 200 Queen Street Melbourne VIC 3000	GPO Box 4500 Melbourne VIC 3001	T F	+61 3 8648 6586 +61 3 8648 6480
Sydney	Level 3, 507 Kent Street Sydney NSW 2000	PO Box Q569, QVB Sydney NSW 1230	T F	+61 2 9283 8400 +61 2 9264 9254
Townsville	233 Flinders Street East Townsville QLD 4810	PO Box 5804MC Townsville QLD 4810	T F	+61 7 4771 5550 +61 7 4771 5152
Perth	Level 2, 580 Hay Street Perth WA 6000	PO Box 2576 Perth WA 6000	T	+61 8 9325 6246