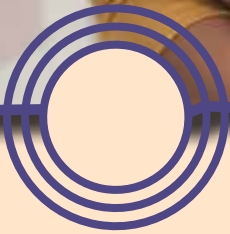




City of
Cockburn



wetlands to waves



December 2012

Local Commercial & Activities Centres Strategy

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ABBREVIATIONS

DA	DEVELOPMENT APPLICATION
DAPs	DETAILED AREA PLAN
DoP	DEPARTMENT OF PLANNING
PTA	PUBLIC TRANSPORT AUTHORITY
WAPC	WESTERN AUSTRALIAN PLANNING COMMISSION

1 EXECUTIVE SUMMARY

The City of Cockburn's Local Commercial and Activity Centres Strategy is an important planning document for implementing the new direction for the planning of activity centres in Perth and Peel set by the refreshed policy context outlined in *Directions 2031 and beyond: Metropolitan planning beyond the horizon*, and *State Planning Policy No. 4.2 – Activity Centres for Perth and Peel*. These two documents reflect a growing recognition within the State Government and the planning profession of the complex issues relating to sustainability and planning for the urban environment. The LCACS represents a new strategic direction for the planning and development of activity centres within the City, and replaces the 2006 version of the Local Commercial Strategy.

Reflecting the revised policy context in which it has been produced, the LCACS is not a traditional local commercial strategy. The previous focus of local commercial strategies on commercial development and the application of floorspace caps has been completely reinvented through the new State planning framework. There are a number of key differences to the approach taken by the LCACS, which include;

- the activity centre network incorporating commercial, industrial and specialised centres;
- a shift towards evidence and performance based planning;
- the avoidance of floorspace caps or triggers to control the planning and development of activity centres;

- centre planning is to be focused on the centre's user rather than subjective population catchments; and
- a focus on delivery of quality employment options.

There are nine principles that form the core of the LCACS and will be used to guide all planning, decision making and investment undertaken by the City relating to its activity centres. These principles are:

Principle 1 - Efficient, Intense and Compact Centres

Principle 2 - Optimise Frequency, Concentration and Quality of Transactions

Principle 3 - Support Maturation of Centres

Principle 4 - Support Integrity of the Network of Activity Centres

Principle 5 - Optimise Access To and Within Centres

Principle 6 - Match Use with Purpose of Place

Principle 7 - Place Identity, Amenity and Integrity

Principle 8 - Place Equity

Principle 9 - Coherent, Logical and Legible Places

Many strategies spend a great deal of time and energy focused on the definition of scope, vision and goals with little or no detail on how these may be practically implemented. The LCACS aims to provide a comprehensive roadmap for translating the nine principles into a decision making framework. Key to this approach is a strong link between the nine principles and a broad performance based assessment framework that can be utilised in the City's

various decision making responsibilities. This performance based assessment framework aims to be;

- Robust, defensible and evidence based; and
- Able to be implemented within the context of the City's available resources and competencies.

The LCACS's assessment framework responds to both the scale of the proposal and the importance of the centre within the activity centre network. The LCACS outlines the minimum reporting requirements of a proposal. It seeks to provide a clear understanding of the expectations flowing from LCACS to both the City and proponents of development within the City's activity centres.

The LCACS is structured into eight key Sections:

Section 2 - Introduction to LCACS

Section 3 - LCACS Background Studies

Section 4 - LCACS Principles

Sections 5 to 7 - Outline the framework and actions required to implement the LCACS

Section 8 - Definitions

Appendices 1-8 also provide important contextual information to aid the reading and interpretation of the LCACS.

2 INTRODUCTION TO LCACS

In 2010 the Western Australian Planning Commission (WAPC) released two important strategic planning documents relevant to the planning of activity centres in the Perth metropolitan area: *Directions 2031 and beyond: Metropolitan planning beyond the horizon* ("Directions 2031"), and *State Planning Policy No. 4.2 – Activity Centres for Perth and Peel* ("SPP 4.2"). These two documents reflect a growing recognition within the State Government and the planning profession of the complex issues relating to sustainability and planning for the urban environment. The City of Cockburn's ("the City") Local Commercial and Activity Centres Strategy ("LCACS") was prepared within this refreshed policy context, and is an important planning document for implementing the new direction for the planning of activity centres in Perth and Peel. The LCACS represents a new strategic direction for the planning and development of activity centres within the City, and replaces the 2006 version of the Local Commercial Strategy.

Directions 2031 is the latest spatial planning framework for Perth and Peel and outlines the planning vision that will guide the planning of Perth and Peel to 2031 and beyond. The Strategy aims to provide for different lifestyle choices, vibrant nodes for economic and social activity and a more sustainable urban transport network. Directions 2031 recognises that the role and function of centres will vary depending on their catchment, but should generally:

- provide services, employment and activities that are appropriate for and accessible to the communities they support;
- be integrated with, and encourage the efficient operation of the transport network, with particular emphasis on promoting public transport, walking and cycling, and reducing the number and length of trips;
- be designed based on transit oriented development principles;
- provide opportunities as places to live through higher density housing and the development of social and cultural networks;
- encourage the agglomeration of economic activity and cultivation of business synergies; and
- support the development of a local identity and sense of place.

SPP 4.2 was released in conjunction with Directions 2031. The Policy guides the distribution, function, broad land use and urban design criteria for activity centres, and promotes greater coordination of land use and infrastructure planning.

SPP 4.2 aims to:

- improve the integration of activity centres with public transport;
- lower transport energy use and associated carbon emissions;
- ensure centres contain a range of activities to promote community benefits; and
- promote the economic benefits of business clusters.

The policy also reflects the WAPC's intention to encourage and consolidate residential and commercial development in activity centres so as to contribute to a balanced network. The Perth activity centre network is currently imbalanced with a heavy focus on the Perth CBD in terms of employment distribution, particularly knowledge intensive employment. This imbalance compounds a number of structural problems for the City, particularly vast dormitory suburban areas that rely on residents making large commuter journeys in order to access employment. This commuting has broad social, environmental and economic costs on the City and Perth as a whole. The decentralisation of employment has been a long held objective of Perth metropolitan planning. However, the failures to achieve a greater balance in Perth's network to date calls for a paradigm shift in how to plan and develop activity centres.

The policy objectives of Directions 2031 and SPP4.2 are imbedded within the LCACS and therefore will be implemented in all future planning and development of the City's activity centres. For a full outline of the State Government and local policy context in which the LCACS has been prepared refer to **Appendix 1**.

The LCACS sets the strategic vision and broad framework to guide the planning and development of the City's activity centres and to help guide planning for the City's strategic employment centres over the next 15 years. The LCACS provides:

- a set of guiding principles derived from an analysis of the objectives of Directions 2031 and SPP4.2 within the unique context of the City;
- a framework for implementing the principles within the City's strategic and statutory planning processes;
- an action plan which sets out the key tasks which will aid the implementation of the LCACS; and
- a number of background studies which provide reliable base information on which the City and other stakeholders can base their planning and decision making.

Reflecting the revised policy context in which the LCACS has been produced, the LCACS is not a traditional local commercial strategy. The previous focus of local commercial strategies on commercial development and the application of floorspace caps have been completely reinvented through the new State planning framework. There are a number of key differences to the approach taken by the LCACS, which include;

- the activity centre network incorporating commercial, industrial and specialised centres;
- a shift towards evidence and performance based planning;
- the avoidance of floorspace caps or triggers to control the planning and development of activity centres;
- centre planning is to be focused on the centre's user rather than subjective population catchments; and
- a focus on delivery of quality employment options within the City.

2.1 ACTIVITY CENTRE HIERARCHY

The LCACS's activity centre hierarchy shown on **Table 1**) provides a strategic planning framework to guide the long term planning and development of the City's activity centres. **Figure 1** shows the location of the City's activity centres. The LCACS activity centre hierarchy reflects the hierarchy for Perth's activity centres outlined in SPP4.2.

The core aim of Perth's activity centre hierarchy is to achieve the optimum distribution of activity centres to meet community needs by enabling employment, goods and services to be accessed efficiently and equitably by Perth's population. Another important element of the hierarchy is to provide certainty for public and private investment in activity centres.

Table 2 provides a summary of the Typical Functions and Characteristics of activity centres in the hierarchy.

Table 1 Activity Centre Hierarchy			
Activity Centres		Other Centres	
Secondary Centres		Specialised Centres	
1	Cockburn Central Regional Centre	44	Jandakot Airport Industrial Area
District Centres		Strategic Employment Centres	
2	Cockburn Coast District Centre	3	Phoenix District Centre *
		45	Bibra Lake Industrial Centre
		46	Henderson Industrial Centre
		47	Jandakot East Industrial Centre
		48	Jandakot West Industrial Centre
		49	Latitude 32 Industrial Centre
Neighbourhood Centres		Mixed Business Areas	
4	Barrington Street Neighbourhood Centre	8	Lakes Neighbourhood Centre
5	Coolbellup Neighbourhood Centre	9	Merevale Gardens Neighbourhood Centre ***
6	Hamilton Hill Neighbourhood Centre	10	Port Coogee Marina Neighbourhood Centre ***
7	Harvest Lakes Neighbourhood Centre	11	Russell Road Neighbourhood Centre
		50	Beeliar Road
		51	Mell Road *
		52	North Lake Road (North) **
		53	North Lake Road (South) **
		54	Phoenix ***
		55	Memorial Hall *
		56	Verna Court **
Local Centres		Unclassified	
12	Atwell Deli **	28	Lyon Road Local Centre
13	Atwell Local Centre	29	Memorial Hall Local Centre*
14	Banjup Local Centre ***	30	Murial Court Local Centre ***
15	Berrigan Drive Local Centre	31	Newmarket Local Centre
16	Bibra Lake Local Centre	32	Rockingham Road Local Centre (North)
17	Bolderwood Deli **	33	Rockingham Road Local Centre (South) *
18	Churchill Avenue	34	Southwell Local Centre
19	Fairbairn Road Deli **	35	Marvell Avenue Local Centre **
20	Forrest Road Local Centre	36	Spinaker Heights Local Centre ***
21	Glen Iris Local Centre	37	St Paul's Local Centre
22	Hamilton Road Local Centre	38	Stratton Street Local Centre
23	Hammond Park Local Centre ***	39	Tony Ales Local Centre
24	Hammond Road Deli **	40	Watsons Local Centre ***
25	Lakefront Avenue Local Centre	41	Winterfold Road Local Centre
26	Latitude 32 East Local Centre ***	42	Yangebup Local Centre
27	Latitude 32 West Local Centre ***	43	Yangebup South Local Centre
		57	Favazzo Place **

Notes

* Mixed business area collocated with an activity centre and therefore considered as one centre. Where demand assessment has been undertaken (refer Appendix 4) the modelling considers them as one Centre.

** These centres were not included in the gravity modelling outlined in Appendix 4 due to their small size. Therefore no demand assessment for these centres is available.

*** Proposed activity centre.

TABLE 2 ACTIVITY CENTRE TYPICAL FUNCTIONS AND CHARACTERISTICS

Typical Characteristic	Strategic Metropolitan Centres	Secondary Centres	District Centres	Neighbourhood Centres	Local Centres
Role/Function	<p>Strategic metropolitan centres are the main regional activity centres.</p> <p>They are multipurpose centres that provide a diversity of uses. These centres provide the full range of economic and community services necessary for the communities in their catchments.</p>	<p>Secondary centres share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city's economy, and provide essential services to their catchments.</p>	<p>District centres have a greater focus on servicing the daily and weekly needs of residents. Their relatively smaller scale catchment enables them to have a greater local community focus and provide services, facilities and job opportunities that reflect the particular needs of their catchments.</p>	<p>Neighbourhood centres provide for daily and weekly household shopping needs, community facilities and a small range of other convenience services.</p>	<p>Local centres provide for daily and some weekly household shopping needs, and a very small range of other convenience services.</p>
Public Realm and Amenity	<p>The public realm is a very important element of strategic, secondary and district centres. These centres are places of recreation for a wide catchment and the focus of many events.</p> <p>These centres should offer high amenity, functional spaces which are freely accessible to the public. A significant level of investment in the public realm should be provided. This investment would normally include public seating, art, play equipment, drink fountains, and etc.</p> <p>A variety of spaces should be provided which aim to satisfy all foreseeable use needs.</p>			<p>The public realm in neighbourhood centres is generally provided through small parks and within the street environment.</p> <p>These spaces should be of high amenity but have a lower level of investment in public infrastructure.</p>	<p>The public realm in local centres is generally provided within the street environment, and sometimes parks.</p>
Transport Connectivity	<ul style="list-style-type: none"> Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. Centralised public transport interchange with scheduled interchanges. Multiple high frequency radial bus routes and at least two high frequency cross-centre routes. Regional road passing through the site, and multiple access points for freight vehicles. 	<ul style="list-style-type: none"> Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. Centralised public transport interchange. At least 2 high frequency radial bus routes, and one high frequency cross-centre route. A regional road passing through the site, and a clear access point for freight vehicles. 	<ul style="list-style-type: none"> Fine grain walk and off-road cycle network providing direct and convenient access everywhere throughout the centre. Multiple medium frequency radial bus routes. Regional road passing through the site, and a clear access point for freight vehicles. 	<ul style="list-style-type: none"> Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. Focal point for bus network. 	<ul style="list-style-type: none"> Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. Stopping / transfer point for bus network.

Diversity	Highly diverse mix of strategic and population driven uses and users interacting within the centre over an extended period of the day		Diverse mix of population driven uses and users interacting within the centre over an extended period of the day		Focused district retail and household services uses and users with a limited amount of local education and healthcare activities		Focused local retail and household services uses		Focused convenience retail activities	
Intensity	Highly intense with significant integration of a range of residential, population-driven and strategic uses in medium/ high density multiple story sites both within the centre, and areas of influence		Intense, with residential, sub-regional education/ healthcare and education, retail and household services integrated with strong relationships both internally and within the defined areas of influence		Intense levels of district education/healthcare, retail and household services within centre, with potential for significant residential densities within the areas of influence		Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence		Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence	
Employment	A metropolitan employment node that provides for high quality strategic employment as well as significant densities of overall employment		A sub-regional employment node for higher-order population driven employment, as well as significant densities over overall employment		A district employment node with significant densities of population driven employment		A local employment node with moderate levels of retail and household services employment		A local employment node with moderate levels of convenience retail employment	
Walkable Catchment ¹	800m		400m		400m		200m		200m	
Residential density target per gross hectare	Minimum	Desirable	Minimum	Desirable	Minimum	Desirable	Minimum	Desirable	Minimum	Desirable
	30	45	25	35	20	30	15	25	15	25

¹ Walkable catchments are determined using the 'ped-shed' technique outlined in Appendix 3 of Liveable Neighbourhoods. Walkable catchments are only one consideration for determining activity centre boundaries (refer Section 9 for guidance on the definition of activity centre boundary).

2.2 MISSION OF LCACS

The overriding vision for the LCACS is;

To provide a network of activity centres and strategic employment centres that perform a full range of functions and in doing so satisfy the employment, shopping, entertainment and community needs of the City's population. Activity centres are attractive places to live and visit that are highly accessible to residential areas via a full range of transport modes. The potential of the strategic employment centres is maximised through land use, transport and infrastructure planning which creates operational synergies.

2.3 OBJECTIVES

The objectives for the LCACS are the nine principles expressed as the outcomes sought by the Strategy:

1. Promote the development of efficient, intense and compact centres
2. Support the optimisation of the frequency, concentration and quality of transactions
3. Ensure continuing maturation of centres
4. Maintain and support the integrity of the of activity centre network
5. Facilitate the optimization of access to and within centres
6. Improve the match between the use and the purpose of centres
7. Encourage the creation of place identity, amenity and integrity
8. Promote place equity
9. Ensure centres are developed in a coherent, logical and legible manner

2.4 ALIGNMENT WITH CITY OF COCKBURN STRATEGIC PLAN

The LCACS aligns with the City's Strategic Plan and specifically the focus areas of:

- Demographic Planning;
- Infrastructure Development;
- Lifestyle and Aspiration Achievement;
- Governance Excellence;
- Employment and Economic Development; and
- Transport Optimisation.

A number of the Strategic Plan's activities for Demographic Planning, Employment and Economic Development and Transport Optimisation directly relate to the LCACS. **Table 3** outlines the desired outcomes and relevant actions for the six pertinent Strategic Plan focus areas.

TABLE 3 LCACS RELATIONSHIP TO CITY OF COCKBURN STRATEGIC PLAN

Demographic Planning

Outcomes

Through progressive policy development and town planning the Council will manage the development of a growing and socially diverse community that acknowledges the importance of the cultural traditions of our indigenous Australians, the historical significance of the City's pioneer immigrants and encourages economic prosperity across the City.

Activities

The following activities are to be carried out as part of the Council's Policy and Planning Initiative.

- The City's Planning Department will facilitate policies and practices that encourage the maintenance of current growth rates.
- The City will pursue Urban Renewal programs for the older suburbs. These initiatives will seek to improve the quality of State provided infrastructure, such as power and water services.
- Policies will continue to be developed that aim to overcome economic, physical or social disadvantage.

Infrastructure Development

Outcomes

The Council will place a high priority on the development of a needs based infrastructure plan that delivers major capital works in a timely manner, while maintaining the financial sustainability of the City.

Lifestyle and Aspiration Achievement

Outcomes

The Council's Social Development and Service Provision Initiative will work towards the development of an attractive and desirable urban as well as cultural landscape that provides maximum amenity and fosters community spirit. The initiative will be supported by the development of service programs and a calendar of community events that meets the changing demographics of the District

Governance Excellence

Outcomes

The Governance Initiative will develop a Governance model that provides the highest level of stewardship, while informing and encouraging community participation in the City's affairs.

Employment and Economic Development

Outcomes

The Council will pursue the development of a vibrant and diverse local economy that encourages the growth of industry provides 'high value' employment options for the City's residents and facilitates an expansion of educational institutions.

Activities

The following activities are to be carried out as part of the Council's Economic Development Initiative.

- An Economic Development Support Strategy will be developed to identify the major planning and infrastructure requirements for business growth. It will look to expand existing Council support program, such as the Chamber of Commerce, while establishing links to other business forums, such as the West Australian Ship Building Association.
- The City will work with the South West Group to update the current Regional Economic Profile. This will provide direction to guide The City's lobbying efforts for Federal and State Government assistance programs.

Transport Optimisation

Outcomes

The City will increase its lobbying efforts directed at the Government and the Public Transport Agency for expansion of public transport options across the City that maximise the utility of public transport and help to overcome economic or social disadvantage.

Activities

The following activities are to be carried out as part of the Cockburn's Transport Optimisation Initiative.

- The City will continue to monitor the growth and demand on its existing network and take action to maintain safe and efficient traffic flow and transport corridors throughout the City as well as integrate and maintain connectivity with other forms of transport.
- A Transport Strategy will be developed to draw together State and Local Government plans for the City's transportation systems. This will incorporate Main Roads plans for regional roads as well as the City's current Road Infrastructure Program.
- The strategy will provide the basis for the City to consider funding submissions for Federal Government assistance. It will also be used to develop alternative options that mitigate the effect of heavy transport upon residents and the environment.

2.5 SCOPE OF LCACS

The LCACS includes eight key Sections:

Section 2 - Introduction to LCACS

Section 3 - LCACS Background Studies

Section 4 - LCACS Principles

Sections 5 to 8 - Outline the framework and actions required to implement the LCACS

Section 9 - Definitions

Appendices 1-8 also provide important contextual information to aid the reading and interpretation of the LCACS.

2.6 IMPORTANT TERMS

There are a number of terms used in the LCACS that require definition upfront in order to aid reading of the LCACS. These terms are defined below. An extended glossary of the technical terms used in the LCACS is provided in Section 9.

Activity centre: Activity centres are community focal points. They include activities such as commercial, retail, higher density housing, entertainment, tourism, civic/community, higher education and medical services.

Activity centre user: Includes the residents, visitors, workers and organisations that use an activity centre for either the procurement of

goods and services, to recreate or as a location to operate their business.

Activity centre user mix: The collection of centre users who visit a centre or are located at a centre.

Activity centre purpose: An activity centre's purpose will be largely influenced by its level within the activity centre hierarchy, its user mix, accessibility and any unique location factors. The purpose of an activity centre may be defined by a number of centre characteristics including, but not limited to, its role, function and accessibility.

Strategic employment centre: These centres support a high density of jobs such as large industrial areas including Jandakot Airport, Henderson, Bibra Lake, Jandakot East and West and Latitude 32.

Strategic employment: Unlike population-driven employment results from the creation and transfer of goods and services to an external market. Again unlike population driven employment, strategic employment does not automatically occur. It results from an enterprise actively seeking to meet the needs of an external market and developing a competitive advantage in the process.

3 LCACS BACKGROUND STUDIES

The LCACS is based on a significant body of research, including:

- Employment allocation modelling that grounds the employment targets for the South West sub-region set out in Directions 2031, within the context of the City;
- Performance assessments of the City's activity centres;
- Population driven demand modelling; and
- Analysis of the City's strategic industries.

The key research outcomes are outlined in the following sections.

3.1 EMPLOYMENT ALLOCATION MODELLING

The employment allocation modelling for the City provides an analysis of the employment requirements of activity centres and strategic employment centres within the City if the City is to effectively contribute to meeting the 70% employment self-sufficiency target within Directions 2031 for the South West sub-region.

The employment allocation modelling suggests that it is more than realistic for the South-West sub-region, including the City of Cockburn, to achieve the employment outcomes set for it under Directions 2031. This is due to:

- The presence of significant strategic industrial infrastructure in all local governments;
- Relatively low projected residential population growth (comparative to other outer sub-regions);
- Significant future public and private investment in employment generating projects; and
- Significant capacity for commercial centres to expand based upon existing agglomerations of activity, available transport infrastructure, and their designated levels in the hierarchy.

The employment allocation modelling indicates potential for expansion of strategic employment at Cockburn Central Regional Centre (a Secondary Centre), Phoenix and Cockburn Coast District Centres. These centres are appropriately located in the activity centre hierarchy to develop a diverse and sophisticated range of employment industries based around servicing broader population-driven demands and integration within supply chains providing goods and services to external markets. Other lower level commercial centres will have their growth driven primarily by population expansion and thus will require sites suitable for retail and other population servicing industries.

Strategic employment centres in the City include the industrial areas of Jandakot Airport, Henderson, Bibra Lake, Jandakot East and West, and Latitude 32. These centres are forecast to contain more of the future jobs in the

City due in part to the available land at these locations, but primarily as a result of the significant industrial infrastructure and major export supply chains that flow through the City of Cockburn.

Appendix 2 contains the Employment Allocation Modelling Report for the City.

3.2 ACTIVITY CENTRE PERFORMANCE ASSESSMENTS

The City's existing activity centres (except the very small local centres) and the existing strategic employment centres were assessed based on their performance against a range of criteria including intensity, diversity, employment, accessibility, economic activation and urban form. The City's activity centres largely perform at Perth metropolitan average levels or below across the defined performance metrics (refer to **Figure 2**). Therefore, there is a clear need for improvement of activity centre performance in the future.

Of the six metrics the greatest scope for improvement across the centres is within;

- Intensity of households living within and around the centre (dwelling targets);
- Employment intensity; and
- Accessibility (pedestrian, cycle and public transport).

Appendix 3 contains the Activity Centre Performance Assessments for the City.

3.3 POPULATION DRIVEN DEMAND MODELLING

A demand assessment for floorspace in the City's activity centres and strategic employment centres based on the projected population growth and the expenditure patterns of households through to 2031 was undertaken. The modelling indicates the overall trend for economic function within the wider regional economy, and also provides an indicator of the 'reasonableness' of the scale of any future developments. It should be emphasised that the modelling is prepared through a generalised distribution of demand that does not consider detailed locational functions such as infrastructure, brand offer and local catchment conditions for each individual centre. These factors must be considered at the detailed planning stage for activity centres and may result in variations in the demand figures in **Appendix 3**.

Cockburn Central Regional Centre, the only secondary centre within the City of Cockburn, is forecast to experience particularly strong demand for commercial floorspace to 2031. This strong demand reflects the projected high population growth for the area, the centre's existing infrastructure, and the types of uses proposed in the structure plan for the centre. Cockburn Central Regional Centre has the potential to offer knowledge intensive consumer services such as education, healthcare, and strategic services to a regional, state, national or international economy.

Figure 2 Performance Assessment Outcomes

			Intensity	Diversity	Employment	Accessibility	Urban Form	Economic Activation
Commercial	Secondary Centre	Cockburn Central						
	District Centre	Phoenix						
	Neighbourhood Centre	Coolbellup				Not Assessed		
		Hamilton Hill				Not Assessed		
		Lakes Centre				Not Assessed		
	Local Centre	Atwell				Not Assessed	Not Assessed	Not Assessed
		Berrigan Drive				Not Assessed		
		Hamilton Road				Not Assessed	Not Assessed	Not Assessed
		Newmarket				Not Assessed	Not Assessed	Not Assessed
		Rockingham Road				Not Assessed		
		Barrington Street				Not Assessed	Not Assessed	Not Assessed
		Yangebup				Not Assessed	Not Assessed	Not Assessed
	Industrial	Strategic Industrial Centre	Henderson					Not Applicable
Regional Industrial Centre		Bibra Lake Industrial				Not Applicable	Not Applicable	Not Applicable
		Jandakot East				Not Applicable	Not Applicable	Not Applicable
		Jandakot West				Not Applicable	Not Applicable	Not Applicable
Specialised	Strategic Specialised Centre	Jandakot Airport				Not Applicable	Not Applicable	

Desired	Above Average	
	Average	
Poor	Below Average	

Source: Pracsys (2011)

Demand for bulky good and large format retail floorspace within the City is expected to more than double over the next twenty years. This will be a significant planning consideration for the City. **Appendix 4** contains the Population Driven Demand Modelling for the City.

3.4 STRATEGIC INDUSTRY ANALYSIS

The strategic employment analysis undertaken by the City recognises the important role strategic employment plays in activity centre networks. In contrast to population driven employment, which results from economic activity servicing the needs of a particular population, strategic employment occurs from the creation and transfer of goods to an external market. Analysis of strategic employment in the City shows that it is an important sub-region of Perth for six key strategic industries, including:

- Other transport equipment manufacturing;
- Cement, lime, plaster and concrete product manufacturing;
- Basic ferrous metal product manufacturing;
- Tertiary education;
- Basic ferrous metal manufacturing; and
- Architectural, engineering and technical services (most evidently the marine ship building and support industries for Australia's sea based petroleum, oil and gas industries).

The key areas of focus resulting from the analysis of strategic employment which should

be considered in the context of the LCACS are the understanding of roadblocks and prioritisation of resources. Understanding the nature of and potential control over roadblocks is necessary to ensure strategic industries are retained and attracted to City. In order to influence the location and growth of strategic industries in the City, resources can be allocated to reduce potential roadblocks such as land availability, development uncertainty, traffic congestion or the proliferation of inappropriate land uses in an area of influence around strategic industries. Positive actions may also be taken such as recognising the potential for strategic industry to support the goals of the City and encouraging support industries and training institutions to co-locate.

Appendix 5 contains the Strategic Industry Analysis for the City.

3.5 APPLICATION OF BACKGROUND STUDIES

The LCACS background studies provides valuable contextual and baseline information for all stakeholders, including the City, the WAPC, other State agencies and proponents of development, when planning for activity centres and strategic employments centres. **Table 4** provides a summary of how the background studies will be utilised.

TABLE 4 APPLICATION OF LCACS BACKGROUND STUDIES	
Employment Allocation Modelling	The Employment Allocation Modelling provides an indication on the South West sub-region, including the City's ability to meeting the 70% employment self-sufficiency target set within Directions 2031. The modelling will be useful for metropolitan regional planning and aid the City's economic development planning.
Activity Centre Performance Assessments	Activity Centre Performance Assessments provide a baseline assessment of the City's existing activity centres and strategic employment centres performance. This information will be valuable to the City when undertaking strategic planning for activity centres and statutory assessment processes.
Population Driven Demand Modelling	The Population Driven Demand Modelling is an indicator of the 'reasonableness' of the scale of any future proposal. The modelling also provides a basis for the preparation and consideration of future Retail Sustainability Assessments (RSA)
Strategic Industry Analysis	Strategic Industry Analysis will aid the City's economic development planning and should be used by the City to remove potential roadblocks and better allocated resources to reduce potential roadblocks for strategic industries such as land availability, development uncertainty, traffic congestion or the proliferation of inappropriate land uses in an area of influence around strategic industries.

4 LCACS PRINCIPLES

There are nine principles that form the core of the LCACS and will be used to guide all planning, decision making and investment undertaken by the City in relation to its activity centres.

These principles were established very early in the process of developing the LCACS, and therefore have driven its preparation and are reflected in all elements of the document.

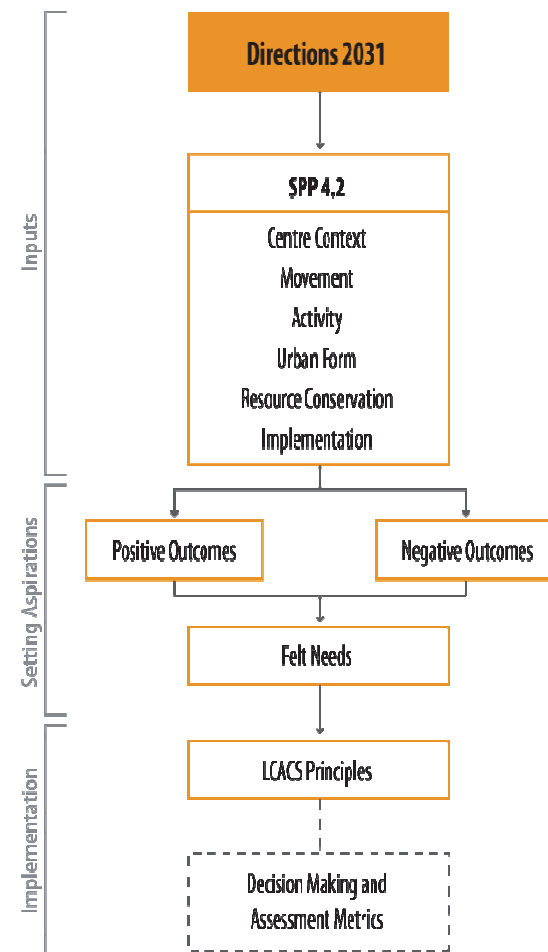
4.1 DEVELOPMENT OF PRINCIPLES

Figure 3 summarises the process in which the nine principles were developed. Much effort was invested in developing a clear understanding of the City's 'Felt Needs' that had to be addressed by the LCACS. These 'Felt Needs' emerged from an analysis of the policy objectives of Directions 2031 and SPP4.2, within the unique context of the City and its strategic objectives.

Using the policy objectives of SPP4.2, which can be grouped into six themes; **Centre Context, Activity, Movement, Urban Form, Resource Conservation** and **Implementation**, the City explored the positive and negative development outcomes associated with the six themes.

As an illustration of this process, **Table 5** provides examples of positive and negative development outcomes associated with the theme of Activity.

Figure 3 Development of LCACS Principles



These positive and negative development outcomes were synthesised into nine 'Felt Needs' for the City's activity centres. These nine 'Felt Needs' were:

1. Efficient, intense and compact centres;
2. Optimise frequency, concentration and quality of transaction;
3. Support maturation of centres;
4. Support integrity of centre network;
5. Optimise access to and within centres;
6. Match use with purpose of place;
7. Place, identity, amenity and integrity;
8. Place equity; and
9. Coherent, logical and legible places.

These 'Felt Needs' became the principles on which the LCACS was prepared and forms the core of the Strategy.

In the following section of the Strategy the nine principles, which as a whole represent the City's aspirations for its activity centres, are expressed in terms of the **Values** that underpin the principle, the **Desired Outcomes** associated with the principle and the outcomes to **Avoid or Mitigate** against.

When applying or interpreting the LCACS, the reader should always defer back to the core principles. The principles are relevant at all stages of the planning and development process.

TABLE 5 POSITIVE AND NEGATIVE DEVELOPMENT OUTCOMES RELATING TO THE THEME OF ACTIVITY

Positive development outcomes	Negative development outcomes
<ul style="list-style-type: none"> • Compact use of space • Maximising the number of user needs which are met within a centre • Maximising frequency, diversity and concentration of transactions whilst maintaining acceptable activity • Highest and best uses in strategic locations • Compelling proposition to transact across uses • Building social capital to support multiplicity of transactions • building a sense of community identity and ownership • Economies of agglomeration – supply chain efficiency 	<ul style="list-style-type: none"> • Creep of inappropriate activities into inappropriate places • Single purpose centres • Centres with large dead spaces • Centres with no resident user mix • Poor use of strategic locations • Privatised transaction experience

Clause 2.1.1 of the City's Town Planning Scheme No. 3 (TPS3) states:

*"Except to the extent that the Local Planning Strategy is inconsistent with this Scheme, determinations of the local government under the Scheme are to be **consistent with the Local Planning Strategy**".*

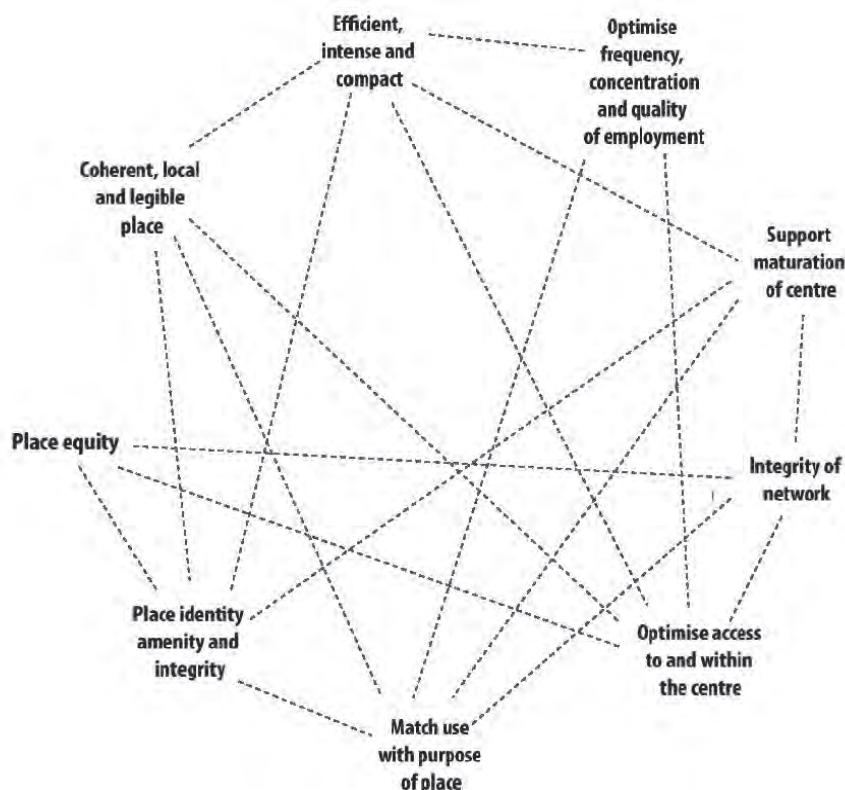
Therefore, TPS3 requires that all development demonstrate achievement (at the broadest level) of the LCACS principles. The principles provide an important sounding board where there may be disagreement in respect of the interpretation or application of TPS3 and other planning controls.

4.2 INTERRELATIONSHIPS BETWEEN PRINCIPLES

The nine principles are highly interrelated and complementary. Achieving success in terms of one principle will contribute towards success in relation to the other principles. Delivery of one principle should always be sought within the context of the others. The objective of the City will always be to maximising the delivery of each principle without detriment to another principle.

In **Figure 4** the interrelationships between the nine principles have been mapped. Principles which are complementary are shown with connections.

Figure 4 Principles Matrix



PRINCIPLE 1 – EFFICIENT, INTENSE AND COMPACT CENTRES

VALUE

The City values activity centres that have a self-perpetuating ‘energy’ and a diversity of activity appropriate to the purpose of the centre. The City recognises that this relies on functional efficiencies, enhanced by contiguous configurations of related activities, and compact urban forms.

DESIRED OUTCOMES

1. Delivery of efficient, intense and compact centres.
2. Centres that meet the full range of user needs.
3. Centres that facilitate multiple purpose trips.
4. Promotion of land use synergies which create useful spaces and character areas.
5. Activation of centres over more hours of the day.
6. Centres that are adaptable and well-staged without adversely impacting on efficiency and intensity of the centre.

AVOID/MITIGATE

1. Nodal centres with ‘dead spaces’.
2. Single use/limited function centres that are inconsistent with their purpose.
3. Centres that facilitate single purpose trips.

PRINCIPLE 2 – OPTIMISE FREQUENCY, CONCENTRATION AND QUALITY OF TRANSACTIONS

VALUE

The City recognises the need to maximise the return on scarce resources to develop centres for the benefit of all centre users. The City also wants centres to be effective in performing their purpose. To do so they should pursue opportunities for multiple, high quality transactions that are consistent with their intended purpose.

DESIRED OUTCOMES

1. Recognition and prioritisation of activities in centres that maximise the performance of the centre according to its purpose.
2. Creation of synergies between activities through concentration.
3. User satisfaction with the quality of the transactions.
4. Synergies that improve the quality of user’s transactions.

AVOID/MITIGATE

1. Allowing for activities, urban forms and movement networks that compromise the optimal frequency and quality of transactions.

PRINCIPLE 3 – SUPPORT MATURATION OF CENTRES

VALUE

The City recognises that centres need to improve, adapt and evolve to better meet the changing needs of their users.

Activity centres generally improve with time and become more productive in the way they satisfy the needs of their users. The user mix of the activity centre also becomes more diverse. The City will actively support this centre maturation.

DESIRED OUTCOMES

1. Centres that evolve with the changing needs of their users, becoming increasingly better able to satisfy the needs of a wider range of users.

AVOID/MITIGATE

1. Centres that stagnate or decrease in effectiveness of the delivery of their defined purpose.
2. Centres that are incapable or resistant to improving, adapting and evolving.

PRINCIPLE 4 – SUPPORT INTEGRITY OF THE ACTIVITY CENTRE NETWORK

VALUE

The City recognises that the needs for individual centres to improve, adapt and evolve will need to be balanced against the optimal performance of the City's activity centre network. This balance must be to the benefit of the City's residents, workers and visitors.

DESIRED OUTCOMES

1. Strong interrelationships between activity centres to the benefit of the whole network.
2. An activity centre network that builds resilience through diversity in the local economy.
3. Strong agglomeration of activity that encourages and cultivates social, cultural and business synergies.
4. Specialised activity centres that are true to their identified purpose and function.
5. Integration of the activity centre network into local, regional, national and international value chains.

AVOID/MITIGATE

1. Centres that only meet local catchment needs.
2. Centres cannibalising activity from other centres to the detriment of the overall network.
3. Compromised specialised activity centres through invasion of uncomplimentary activities, a lack of infrastructure, resources, or expansion capacity.

PRINCIPLE 5 – OPTIMISE ACCESS TO AND WITHIN CENTRES

VALUE

The City recognises that centre accessibility must be considered in terms of access to and from centres and access within centres. Accessibility is a measure of a centre user's ability to move about via all modes of transport, including walking, cycling, public transport, private vehicles and freight.

The City understands the need to balance centre accessibility with a need to safeguard the broader movement network (especially at a regional level) to protect its overall efficiency and integrity. In order to protect the efficiency and integrity of the City's movement system, accessibility needs to be considered at a regional, district and local level.

Protection of the efficiency and integrity of the movement system also requires matching activities with appropriate locations in terms of the accessibility needs of the activity and its users.

DESIRED OUTCOMES

1. Activity centres that facilitate multiple purpose/multiple occupancy trips in alignment with its defined role.
2. Activity centres that encourage active transport options for users when accessing and moving within activity centres.
3. A highly efficient movement network at the local, district and regional level.

AVOID/MITIGATE

1. Accessibility to any one centre/area or via any one transport mode that compromises the overall efficiency of the movement network.
2. Attraction of private vehicle and freight movement to an area which does not match the purpose of an area or the transport infrastructure of the area.

PRINCIPLE 6 – MATCH USE WITH PURPOSE OF PLACE

VALUE

The City recognises that activity centres will have different purposes. A centre's purpose will be largely influenced by its level within the activity centre hierarchy, its user mix and any unique location factors. A centre's purpose is often the result of external forces. An activity centre's purpose can be defined by a number characteristics including, but not limited to, its role, function and transport accessibility.

For example, small retail centres are intended for use mainly by residents on shopping visits; industrial areas intended as places for noxious classes of land uses.

The City understands the importance of recognising a centre's purposes in order to support the development of a centre along lines which improve its function. This may mean that some uses must be encouraged to achieve efficiencies of agglomeration and scale, and some need to be managed/discouraged to optimise the fulfilment of that purpose. From time to time, centres may evolve beyond their planned purpose. The planning system must be flexible and will recognise these transitions.

DESIRED OUTCOMES

1. Optimise the effectiveness and efficiency of centre performance by matching centre purpose, activity mix and infrastructure.

AVOID/MITIGATE

1. Reduced centre performance due to the mismatching of land uses and centre purpose.
2. Unnecessary or inefficient infrastructure investment within the City.
3. Problematic land use conflicts compromise the function of centres.

PRINCIPLE 7 – PLACE IDENTITY, AMENITY AND INTEGRITY

VALUE

The City values places that have a clear and positive sense of identity that users care about and in which they can invest. The public realm is an important arena for creation of a sense of identity as it is the communal space in which users can share experiences and build connections.

The City's role is to provide and facilitate investment that generates utility for the users of activity centres. The City will strive to provide the right type and level of amenity to meet the needs of the users (eg: commercial utility, enjoyment, comfort, safety). The City recognises its responsibility to balance the immediate functional needs of a centre with the need for comfortable, healthy and safe centres.

DESIRED OUTCOMES

1. Create places that provide more than just their utilitarian function.
2. Places that communities can care about.
3. Places are authentic with a sense of integrity.
4. Matching the identity and amenity of a place with its intended purpose and the user mix.

AVOID/MITIGATE

1. Planning and decision-making that has a counter-productive influence or disincentivises for the matching of amenity with a centres purpose.
2. Centres which lack a clear and positive sense of identity.

PRINCIPLE 8 – PLACE EQUITY

VALUE

The City recognises its role in balancing the economic pursuits of centres against the broader needs and aspirations of the community. The City recognises that transactions within an activity centre are not just economic, but also social and cultural. Planning will aim to support all needs in an equal way.

DESIRED OUTCOMES

1. Equitable access for all users to fulfil their required range of transactions.
2. Equitable planning that balances the needs of current centre users with future centre users.

AVOID/MITIGATE

1. Centres that exclude potential users from undertaking a range of transactions that are appropriate for that type of centre.

PRINCIPLE 9 – COHERENT, LOGICAL AND LEGIBLE PLACES

VALUE

The City recognises that there must be a clear relationship between the intended purpose of an activity centre, its urban form and its function. The urban form must facilitate a user's ability to efficiently and comfortably move to and within the centre when undertaking their transactions.

DESIRED OUTCOMES

1. The ability of all users to undertake their required transactions efficiently and pleasantly.
2. Easy transitions between nodes of an activity centre.
3. Recognition and management of the interfaces between activities and potential conflicts between activities. Layout of streets and blocks create an urban scale appropriate for centres purpose (eg: human, vehicular, etc).

AVOID/MITIGATE

1. Interfaces that act as barriers, compromising efficient operation of centres.
2. Disjointed and incongruent centre layouts, landscapes and urban forms.
3. Centres that confused, alienate, intimidate and repel users.

4.3 IMPLEMENTATION OF PRINCIPLES

Many strategies spend a great deal of time and energy focused on the definition of scope, vision and goals with little or no detail on how these may be practically implemented. The complexities of planning decision making processes, the uniqueness of every planning proposal and the ever changing context in which decisions are made, makes transitioning from vision and goals to an implementation framework very challenging. The truest test of the LCACS will be its ability to facilitate the development and ongoing refinement of statutory and strategic decision-making processes within the City that effectively deliver the defined vision and principles. Key to this will be a strong link between the nine principles and a broad performance based assessment framework that can be utilised in the City's various decision making responsibilities. This performance based assessment framework must be;

- Robust, defensible and evidence based; and
- Able to be implemented within the context of the City's available resources and competencies.

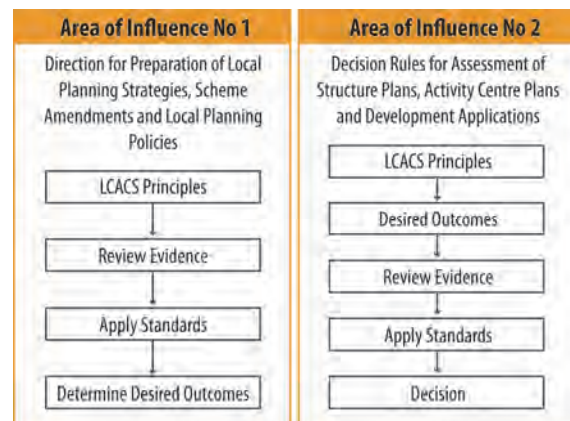
Sections 5 and 6 of the LCACS provide a comprehensive roadmap for translating the nine principles into a decision making framework.

4.3.1 AREAS OF IMPLEMENTATION

The LCACS addresses the two interrelated areas of influence available to this type of Strategy. One of these areas of influence is the production of strategic planning documents which affect activity centres and commercial/industrial areas by the City. These documents include schemes, scheme amendments, local planning policies and guidelines. Another area of influence is the assessment of structure plans, activity centre structure plans and development applications prepared by external proponents or the City.

Figure 5 describes a structure and logic flow for implementing the LCACS' nine principles through these two areas of influence using an evidenced based approach.

Figure 5 LCACS Areas of Influence



The LCACS deals firstly with the Strategy's influence on the assessment of structure plans, activity centre structure plans and development applications prepared by external proponents or the City (refer Section 5). It is appropriate to deal with this area of implementation first as the approach proposed by the LCACS has flow on implications for the City's strategic planning framework (refer Section 6). The proposed strategic planning framework is best understood once the proposed assessment framework is explained in detail.

4.3.2 ASSESSING PERFORMANCE AGAINST PRINCIPLES

Eleven areas of assessment have been established to help determine performance against the LCACS' principles. Each assessment area is a discrete area of evaluation. However, as **Figure 6** demonstrates, each of these assessment areas relate to more than one of the nine principles. This reflects the interconnectivity of the nine principles. The assessment areas of 'vision' and 'user mix' are universal across all nine principles and have a strong influence on the other assessment areas.

To demonstrate the link between the assessment areas and their relevant principles, **Table 6** provides an objective or position statement for each assessment area in terms of its delivery of the principles. These objectives or position statements will become guiding objectives for any proposal relating to activity centres or strategic employment centres.

The eleven assessment areas are particularly relevant to the LCACS' proposed approach to the assessment of structure plans, activity centre structure plans and development applications prepared by external proponents or the City. But whenever seeking to apply the LCACS principles through the strategic planning of activity centres and strategic employment centres the eleven assessment areas are still relevant. The areas of assessment should be used to provide a finer level of detail for understanding the elements and considerations for implementing the nine principles in strategic planning documents.

Figure 6 Interrelationships between LCACS Principles and Assessment Areas



TABLE 6 ASSESSMENT AREAS AS PERFORMANCE INDICATORS AGAINST LCACS PRINCIPLES

PRINCIPLES	VISION	USER MIX	ACCESS	EMPLOYMENT	INTENSITY
Principle 1 - Efficient, Intense and Compact Centres	The vision for the centre will maximise the efficiency, intensity and compactness of the centre.	The proposed user mix will complement an efficient, intense and compact centre.	Access by all modes of transport supports efficient, intense and compact centres.		The intensity of the proposal will deliver an efficient, intense and compact centre.
Principle 2 - Optimise Frequency, Concentration and Quality of Transactions	The vision for the centre will optimise frequency, concentration and quality of transactions.	The proposed user mix will inform the strategy to optimise frequency, concentration and quality of transactions.			The intensity of the proposal will optimise frequency, concentration and quality of transactions.
Principle 3 - Support Maturation of Centres	The vision for the centre will support maturation of the centre.	The proposed user mix will contribute to the centre's maturation.	Access by all modes of transport will contribute to the centre's maturation.	The level and quality of the employment proposed will contribute to the centre's maturation.	The intensity of the proposal will support maturation of the centre.
Principle 4 - Support Integrity of the Activity Centre Network	The vision for the centre will ensure the integrity of the activity centre network is maintained.	The proposed user mix supports the integrity of the activity centre network.	Access by all modes of transport will ensure the integrity of the activity centre network is maintained.	The level and quality of the employment proposed will ensure the integrity of activity centre network is maintained.	
Principle 5 - Optimise Access To and Within Centres	The vision for the centre optimises access to and within the centre.	The proposed user mix informed the proposals strategy to optimise access to and within the centre.	Access by all modes of transport will optimise access to and within the centre.		
Principle 6 - Match Use with Purpose of Place	The vision for the centre matches land use with the purpose of the place.	The proposed user mix matches the purpose of the centre.		The level and quality of the employment matches the purpose of the centre.	The intensity of the proposal matches the purpose of the centre.
Principle 7 - Place Identity, Amenity and Integrity	The vision for the centre will enhance the centres identity, amenity and integrity.	The proposed user mix has been used to guide the creation of place identity, amenity and integrity.			The intensity of the proposal will enhance the centres identity, amenity and integrity.
Principle 8 - Place Equity	The vision for the centre supports the creation of an equitable place.	The proposed user mix will support the creation of an equitable place.	Access by all modes of transport will contribute to the creation of an equitable place.	The level and quality of the employment created by the proposal will contribute to the creation of an equitable place.	
Principle 9 - Coherent, Logical and Legible Places	The vision for the centre will ensure a coherent, logical and legible centre.	The proposed user mix has been used to guide the creation of a coherent, logical and legible centre.	Access by all modes of transport will ensure a coherent, logical and legible centre.		

DIVERSITY	POPULATION DRIVEN DEMAND	LEGIBILITY AND PERMEABILITY	ACTIVATION	AMENITY AND PUBLIC REALM	ADAPTABILITY
		Legibility and permeability of the proposal will ensure an efficient, intense and compact centre.	Activation created by the proposal will ensure an efficient, intense and compact centre.		
The land use diversity will optimise frequency, concentration and quality of transactions.	The population driven demand modelling informed the strategy to optimise frequency, concentration and quality of transactions.	Legibility and permeability of the proposal optimises frequency, concentration and quality of transactions.	Activation created by the proposal will optimise frequency, concentration and quality of transactions.		
The land use diversity will support maturation of the centre.	The population driven demand modelling informed the approach to achieving centre maturation.	Legibility and permeability of the proposal will support maturation of the centre.	Activation created by the proposal will support maturation of the centre.	The level of amenity and public realm offered by the proposal will support maturation of the centre.	The adaptability of the proposed urban form supports maturation of the centre.
The land use diversity will support the integrity of the activity centre network.	The population driven demand modelling demonstrates the proposal ensures the integrity of the activity centre network.	Legibility and permeability of the proposal will ensure the integrity of the activity centre network.			The adaptability of the proposed urban form will ensure the integrity of the activity centre network is maintained.
	The population driven demand modelling informed the proposals strategy to optimise access to and within the centre.	Legibility and permeability of the proposal will optimise access to and within the centre.	Activation created by the proposal will optimise access to and within the centre.		
The land use diversity will match the purpose of the centre.	The population driven demand modelling demonstrates that the proposal matches the purpose of the centre.				The adaptability of the proposed urban form will ensure that into the future the centres will always be capable of matching use with purpose of the centre.
			Activation created by proposal will enhance the centres identity, amenity and integrity.	The level of amenity and public realm offered in the proposal will enhance the centres identity, amenity and integrity.	
The land use diversity will contribute towards creating a centre which is an equitable place.				The level of amenity and public realm offered in the proposal will contribute towards creating a centre which is an equitable place.	The adaptability of the proposed urban form will contribute towards creating a centre which is an equitable place.
		Legibility and permeability will ensure coherent, logical and legible places in the centre.	Activation created by the proposal will ensure coherent, logical and legible places in the centre.	The level of amenity and public realm offered in the proposal will ensure coherent, logical and legible places in the centre.	

5 IMPLEMENTATION THROUGH CITY'S STATUTORY PLANNING PROCESSES

One of the major areas of influence for the LCACS is the guidance of the assessment of structure plans, activity centre structure plans, detailed area plans (DAPs) and development applications within activity centres. There are three distinct levels of planning approval that need to be considered in the implementation of the LCACS. These are:

- Structure planning (district and local);
- Activity centre structure planning (or detailed area planning); and
- Development applications.

The LCACS assessment areas outlined in Section 4.2 are put to work in the City's decision making when considering proposals at these three planning approval stages. Reporting, justification and assessment of proposals against each assessment area at these three levels must ensure the implementation of the LCACS.

5.1 REPORTING FOR PROPOSALS

The LCACS proposes an assessment framework which responds to both the scale of the proposal and the importance of the centre. **Figure 7** outlines the rationale for determining the detail of reporting required against the eleven assessment areas for a proposal. **Figure 7** also gives a guide to the importance of centres in each level of the activity centre hierarchy. Though, importantly this is only a guide. Exceptions to these classifications may be appropriate.

Of importance is how **Figure 7** breaks development applications into significant and minor development applications. This recognises that some development applications can have major impacts on an activity centre. A development application due to its scale, site location, access requirements or the nature of the proposed uses may have a dramatic impact on an activity centre's overall performance against the nine LCACS principles. Section 5.6 explores the process for determining if a development application is significant or minor.

It is also important to note that a significant development application under the LCACS is different from a major development as defined by SPP4.2 (also in the LCACS glossary in Section 8). The term significant development application does not replace the term major development under SPP4.2. The significant development application classification set by the LCACS determines reporting requirements for a proposal under the LCACS, whereas a major development under SPP4.2 generally relates to the assessment process for an application and the trigger for the preparation of activity centre structure plans and retail sustainability assessments.

5.2 EXPECTATIONS, TARGETS AND IMPACTS

For each of the three levels of planning approval there are different required stages of reporting against the LCACS assessment areas. These stages represent three distinct tiers of detail.

Expectations – Involves the setting of expectations through the application of the nine principles of the LCACS and other State planning documents to the unique context of a proposal. These expectations outline the rationale for subsequent targets for the proposal.

Targets – Set the specific performance expectations for the proposal. This stage involves the specification of the data sets, assumptions, metrics, standards, evidence and key performance factors for each target.

Impact – Assessment of how well a proposal achieves or contributes towards the targets.

Table 7 provides a summary of the implications of the LCACS reporting requirements for the City’s activity centres at various levels in the activity centre hierarchy.

Section 5.7 outlines the minimum reporting requirements when documenting the **Expectations, Targets** and **Impacts** for a proposal against the eleven assessment areas.

Figure 7 Criteria for Level of Reporting on Proposals

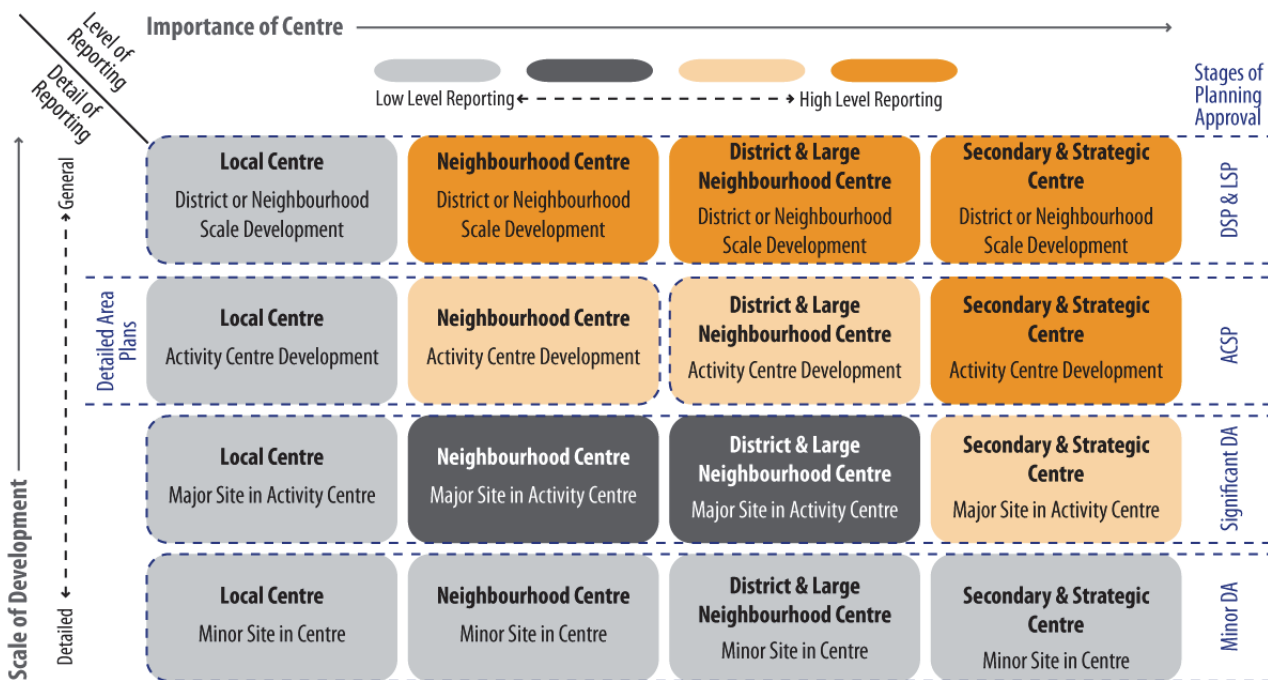


TABLE 7 STATUTORY PLANNING AND REPORTING REQUIREMENTS FOR THE CITY'S ACTIVITY CENTRES

Activity Centre	Assessment Area	District OR Local Structure Plan	Activity Centre Structure Plan (required prior to approval of a major development)	Significant Development Application	Minor Development Application
Secondary Centres					
Cockburn Central Regional Centre	Vision	N/A (structure planning for the area already completed)	Expectations	N/A	N/A
	User Mix		Expectations and Targets	Impacts	N/A
	Access		Expectations and Targets	Impacts	N/A
	Employment		Expectations and Targets	Impacts	N/A
	Intensity		Expectations and Targets	Impacts	N/A
	Diversity		Expectations and Targets	Impacts	Impacts
	Population Driven Demand		Expectations, Targets and Impacts	N/A	N/A
	Legibility and Permeability		Expectations and Targets	Impacts	N/A
	Activation		Expectations and Targets	Impacts	N/A
	Amenity and Public Realm		Expectations and Targets	Impacts	Impacts
	Adaptability		Expectations and Targets	Impacts	N/A
District Centres					
Cockburn Coast District Centre	Vision	Expectations	N/A	N/A	N/A
	User Mix	Expectations	Targets	Impacts	N/A
	Access	Expectations and Targets	Expectations and Targets	Impacts	N/A
	Employment	Expectations and Targets	Expectations and Targets	Impacts	N/A
	Intensity	Expectations	Expectations and Targets	Impacts	N/A
	Diversity	Expectations	Expectations and Targets	Impacts	Impacts
	Population Driven Demand	Expectations, Targets and Impacts	Expectations, Targets and Impacts	N/A	N/A
	Legibility and Permeability	Expectations and Targets	Expectations and Targets	Impacts	N/A
	Activation	N/A	Expectations and Targets	Impacts	N/A
	Amenity and Public Realm	Expectations and Targets	Expectations and Targets	Impacts	Impacts
	Adaptability	Expectations	Expectations and Targets	Impacts	N/A
Phoenix District Centre	Vision	N/A (established residential neighbourhood)	Expectations	N/A	N/A
	User Mix		Expectations and Targets	Impacts	N/A
	Access		Expectations and Targets	Impacts	N/A
	Employment		Expectations and Targets	Impacts	N/A
	Intensity		Expectations and Targets	Impacts	N/A
	Diversity		Expectations and Targets	Impacts	Impacts
	Population Driven Demand		Expectations, Targets and Impacts	N/A	N/A
	Legibility and Permeability		Expectations and Targets	Impacts	N/A
	Activation		Expectations and Targets	Impacts	N/A
	Amenity and Public Realm		Expectations and Targets	Impacts	Impacts
	Adaptability		Expectations and Targets	Impacts	N/A
Neighbourhood Centres (with a total shop-retail floorspace above 10,000m² NLA)					
	Vision	N/A (generally centres are within established residential neighbourhoods or the structure planning for the area is already completed)	Expectations	N/A	N/A
	User Mix		Expectations and Targets	Impacts	N/A
	Access		Expectations and Targets	Impacts	N/A
	Employment		Expectations and Targets	Impacts	N/A
	Intensity		Expectations and Targets	Impacts	N/A
	Diversity		Expectations and Targets	Impacts	Impacts
	Population Driven Demand		Expectations, Targets and Impacts	N/A	N/A
	Legibility and Permeability		Expectations and Targets	Impacts	N/A
	Activation		Expectations and Targets	Impacts	N/A
	Amenity and Public Realm		Expectations and Targets	Impacts	Impacts
	Adaptability		Expectations and Targets	Impacts	N/A

Activity Centre	District OR Local Structure Plan	Detailed Area Plans	Significant Development Application	Minor Development Application
Neighbourhood Centres (with a total shop-retail floorspace less than 10,000m ² NLA)				
Barrington Street Neighbourhood Centre Coolbellup Neighbourhood Centre Hamilton Hill Neighbourhood Centre Harvest Lakes Neighbourhood Centre Lakes Neighbourhood Centre Merevale Gardens Neighbourhood Centre Port Coogee Marina Neighbourhood Centre Russell Road Neighbourhood Centre	N/A (generally centres are within established residential neighbourhoods or the structure planning for the area is already completed)	DASP for proposals which expand centre by more than 2,000m ² shop-retail NLA AND Proposals which the City determines to be significant development applications using the Significant Development Application Criteria outlined in Figure 8 ; DAPs to address Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	DAs which expand centre by more than 2,000m ² shop-retail NLA; AND DAs which the City determines to be significant development applications using the Significant Development Application Criteria outlined in Figure 8 ; are required to report on the impacts of the proposal in terms of: <ul style="list-style-type: none">• Access• Intensity• Diversity• Legibility and Permeability• Activation• Amenity and Public Realm• Adaptability Impacts are to be reported against the Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	N/A
Local Centres				
Banjup Local Centre Hammond Park Local Centre	Structure Planning to address Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i> Reporting should cover: <ul style="list-style-type: none">• Access• Intensity• Diversity• Population Driven Demand• Legibility and Permeability• Activation• Amenity and Public Realm• Adaptability	DAPs to address Structure Planning and Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i> .	DAs which expand centre by more than 2,000m ² shop-retail NLA; AND DAs which the City determines to be significant development applications using the Significant Development Application Criteria outlined in Figure 8 ; are required to report on the impacts of the proposal in terms of: <ul style="list-style-type: none">• Access• Intensity• Diversity• Legibility and Permeability• Activation• Amenity and Public Realm• Adaptability Impacts are to be reported against the Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	N/A
All other Local Centres	N/A (generally centres are within established residential neighbourhoods or the structure planning for the area is already completed)	DAPs for proposals which expand centre by more than 2,000m ² shop-retail NLA AND Proposals which the City determines to be significant development applications using the Significant Development Application Criteria outlined in Figure 8 ; DAPs to address Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	DAs which expand centre by more than 2,000m ² shop-retail NLA; AND DAs which the City determines to be significant development applications using the Significant Development Application Criteria outlined in Figure 8 ; are required to report on the impacts of the proposal in terms of: <ul style="list-style-type: none">• Access• Intensity• Diversity• Legibility and Permeability• Activation• Amenity and Public Realm• Adaptability Impacts are to be reported against the Expectations and Targets outlined in the <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	N/A

5.3 STRUCTURE PLANNING (DISTRICT AND LOCAL)

Preparation and approval of structure plans are required for land within a Development Area set out in Schedule 11 of Town Planning Scheme No. 3 (TPS3). Structure plans provide the broad planning vision for the development of land and guide future assessment of subdivision and development applications.

Where a structure plan contains an activity centre, the structure plan report will include a section reporting against the requirements set out **Table 7** and Section 5.7. Reflecting the purpose of structure plans, the reporting should be of a high level and general in nature. Structure plans are not required to contain highly detailed descriptions and justifications of the activity centre proposal.

5.4 ACTIVITY CENTRE STRUCTURE PLANS

The LCACS and SPP4.2 require the preparation of activity centre structure plans for some activity centres. They are important strategic planning documents which guide land use, urban form, transport and infrastructure planning for larger activity centres.

5.4.1 PREPARATION OF ACTIVITY CENTRE STRUCTURE PLANS

Activity centre structure plans need to be prepared for the City's secondary centres, district centres and large neighbourhood centres, but not for smaller neighbourhood centres or local centres (refer to **Table 8**).

SPP4.2 requires that activity centre structure plans be endorsed prior to a major development (refer to Section 8 for definition of a major development) being approved within an activity centre that requires an activity centre structure planning. This is to ensure a centre's development is integrated, cohesive and accessible. In exceptional circumstances when an activity centre structure plan has not been endorsed, a major development must satisfy relevant requirements of the Model Centre Framework outlined in SPP4.2 and the LCACS.

Existing endorsed structure plans will remain effective in the interim until an activity centre structure plan is endorsed in accordance with the LCACS and SPP4.2.

The City and, where appropriate, landowners, will prepare activity centre structure plans for its secondary, district centres and larger neighbourhood centres. While preparation of activity centre structure plans for neighbourhood centres (with a total shop-retail floorspace less than 10,000m² NLA) and local centres are not required, a DAP (including design guidelines) will be required to guide the planning and development of the centre in some instances (Refer to **Table 8**). This is required to be prepared and adopted either prior to or part of any approval of a significant development application within a centre. This will enable broader planning principles to be appropriately considered and addressed as part of any significant development application.

In new urban areas activity centre structure plans should demonstrate how the centre satisfies Liveable Neighbourhoods (Element 7).

TABLE 8 ACTIVITY CENTRE STRUCTURE PLAN PREPARATION CRITERIA	
Centre Hierarchy	Approval required
Secondary Centres	WAPC and City of Cockburn
Specialised Centres	WAPC and City of Cockburn (However, Jandakot airport which is the City's only existing Specialised Centre is an exception as it is subject to Commonwealth legislation).
District Centres	WAPC (if floorspace exceeds 20,000 m2 shop-retail NLA) and City of Cockburn for all District Centres
Neighbourhood Centres with a total shop-retail floorspace above 10,000m ² NLA	City of Cockburn
Neighbourhood Centres with a total shop-retail floorspace less than 10,000m ² NLA and Local Centres	No activity centre structure plan required. However, detailed area plans are required for; proposals that expand a centre by more than 2,000 m2 shop-retail NLA OR all development within a structure plan area ie Banjup and Hammond Road Local Centre.

5.4.2 REQUIREMENTS FOR ACTIVITY CENTRE STRUCTURE PLANS

Activity centre structure plans are to be prepared in accordance with:

- The *Structure Plan Preparation Guidelines* which outline the process for the preparation of activity centre structure plans;
- SPP4.2 including the *Model Centre Framework*;
- The LCACS;
- Liveable Neighbourhoods (Element 7); and
- Any other applicable regulations.

Activity centre structure plans should encompass the whole of an activity centre. SPP4.2 provides guidance on determining activity centre boundaries. It outlines the following factors for consideration when determining an activity centre boundary:

- existing zoning in MRS or local planning scheme;
- topographical features;
- major infrastructure elements;
- walkable catchment to major public transport stops; and
- appropriate interface or transition points for a change in land use or development scale, such as rear boundaries.

Appendix 3 - Activity Centre Performance Assessments of the LCACS outlines centre boundaries for all the City's existing centres (except very small local centres). These activity centre boundaries have been prepared based on SPP4.2's approach and any proposal to vary these centre boundaries will require thorough justification.

Table 7 in Section 5.2 outlines which of the City's activity centres will require the preparation and approval of an activity centre structure plan.

Table 9 outlines the contents required in activity centre structure plans and should be read in conjunction with the SPP4.2's Model Centre Framework, **Table 7** and Section 5.7.

TABLE 9 ACTIVITY CENTRE STRUCTURE PLAN CONTENTS			
Contents required		Applicable Performance Indicators/Assessment Areas	Reporting Guide
Centre Context	1. Regional context	1.1 Consistency with the role and typical functions in Table 3 of SPP4.2.	SPP4.2
		1.2 Centre Vision (Section 5.7.3)	LCACS
		1.3 User Mix (Section 5.7.4)	LCACS
	2. Local context	2.1 Responsive to the area's natural, cultural and heritage	SPP4.2
2.2 Integration with the surrounding area.		SPP4.2	
Movement	3. Public transport infrastructure	3.1 Access (Section 5.7.5)	LCACS
	4. Walking and cycling access	(Performance criteria 3.2,4.1,4.2,5.1 and 7.1 of Table 7 of SPP4.2 must be covered of in this section)	SPP4.2
	5. Traffic assessment		
	6. Freight servicing		
	7. Centre parking strategy		
Activity	8. Estimated employment	8.1 Employment (Section 5.7.6)	LCACS
	9. Floorspace estimate by land use	9.1 Intensity (Section 5.7.7)	LCACS
		9.2 Diversity (Section 5.7.8)	LCACS
		9.3 The mix of land uses' floorspace target (Table 2 of SPP4.2).	SPP4.2
		9.4 Provision of community, civic and cultural facilities.	SPP4.2
	10. Housing density	10.1. Housing density target.	SPP4.2
11. Retail sustainability assessment or retail needs assessment (where required)	11.1 Retail scale justified in context of catchment and centre classification. 11.2 Population Driven Demand (Section 5.7.9)	SPP4.2	
Urban form	12. Urban structure and built form (including key nodes, landmarks and view lines)	12.1 Legibility and Permeability (Section 5.7.10)	LCACS
			SPP4.2
	13. Street interface	13.1 Activation (Section 5.7.11)	LCACS
		13.2 Ratio of external, street-oriented to internal (mall-based) tenancies.	SPP4.2
		13.3 Passive surveillance of streets and public spaces.	SPP4.2
		13.4 Active uses at ground floor.	SPP4.2
	14. Public spaces	14.1 Amenity and Public Realm (Section 5.7.12)	LCACS
	15. Landscaping		SPP4.2
16. Adaptability	16.1 Adaptability (Section 5.7.13)	LCACS	
Resource Conservation	17. Energy and water Conservation	17.1 Demonstrated energy-efficient building orientation and design.	SPP4.2
		17.2 Provision for water saving and re-use of water in landscaping and buildings.	SPP4.2
Implementation	18. Collaboration	18.1 Demonstrated collaboration with local government and with transport and other relevant infrastructure agencies.	SPP4.2
	19. Staging and monitoring		
	20. Use of conditions 21. Planning obligations and incentives	18.2 Effective strategy and coordination arrangements for staged implementation of the structure plan.	SPP4.2

5.5 DETAILED AREA PLANNING

DAPs provide a finer detailed level of guidance on urban form, the movement network and land use distribution within activity centres. Under SPP4.2 DAPs are the principal means by which local governments can control the planning and design of neighbourhood and local centres. The LCACS requires the preparation of DAPs for neighbourhood centres (with a total shop-retail floorspace less than 10,000m² NLA) and local centres in the following circumstances:

- Neighbourhood or local centres within structure planning areas (development areas outlined in Schedule 11 of TPS3);
- Prior to the approval of a proposal which expands an activity centre by more than 2,000m² shop-retail NLA; or
- Prior to the approval of a proposal which the City determines to be a significant development application using the Significant Development Application Criteria outlined in **Figure 8**.

DAP in these neighbourhood and local centres are to address the Expectations and Targets outlined in the *General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres*.

5.6 DEVELOPMENT APPLICATIONS

Development applications are the final planning approval process for development within activity centres. They are therefore an important part of the implementation of the LCACS.

In the case of a larger activity centre within the City (secondary, district and neighbourhood centres with a total shop-retail floorspace above 10,000m² NLA) an activity centre structure plan will have been prepared and adopted by the City and/or WAPC. Where an activity centre structure plan has been prepared, development applications will need to comply with its requirements. Where a DAP has been prepared and adopted by the City development applications will need to comply with its requirements.

The LCACS recognises that development applications can be of very different scales in terms of their impact on an activity centre. Therefore, the LCACS divides development applications into significant and minor applications. The reporting requirements for significant development applications is greater than minor development applications which reflects their potential to have a considerable impact on an activity centre's performance against the LCACS principles.

Again, it is important to note that a significant development application under the LCACS is different from a major development as defined by SPP4.2. See the LCACS glossary in Section 8 for the definition of a major development as per SPP4.2. The term significant development application does not replace the term major

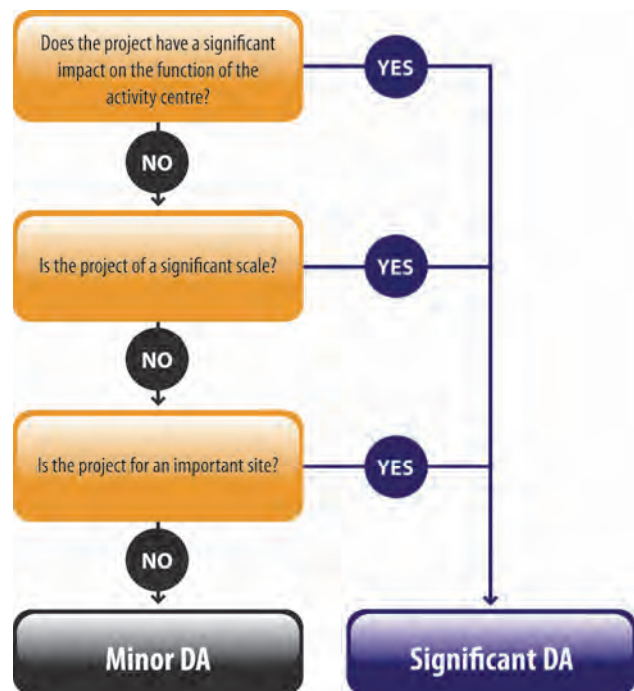
development under SPP4.2. The significant development application classification used by the LCACS determines the scale of reporting requirements for a proposal, whereas a major development under SPP4.2 generally relates to the assessment process for an application and the trigger for the preparation of activity centre structure plans and retail sustainability assessments (ie SPP4.2 requires that activity centre structure plans should be endorsed prior to a major development being approved and major developments must be referred to the WAPC for approval).

5.6.1 SIGNIFICANT DEVELOPMENT APPLICATION

The LCACS proposes a series of criteria for determining if an application is significant or minor. **Figure 8** outlines the questions that should guide the City and proponents in determining a development application's status.

The process for defining a significant development application looks to identify if the application is likely to significantly affect one or more of the LCACS' principles.

Figure 8 Significant Development Application Criteria



As per the matrix shown in **Table 7**, a significant development application will require reporting against more of the eleven assessment areas than a minor development application. The reporting against each assessment area should also be more rigorous and detailed in nature for a significant development application.

In the City's smaller activity centres (neighbourhood centres with a total shop-retail floorspace less than 10,000m² NLA and local centres) the LCACS also provides a specific threshold for determining whether a development application is significant or minor. As per **Table 7** a significant development application in smaller activity centres encompasses all proposals that expand the centre by more than 2,000m² shop-retail NLA. A threshold has been set for these centres as there will not be a requirement for the preparation and approval of an activity centre structure plan which makes assessment against the Significant Development Application Criteria questions difficult. However, the City can determine a proposal to be significant using the Significant Development Application Criteria outlined in **Figure 8**, even if the proposal does not meet the thresholds outlined in **Figure 8**.

Significant development applications in the City's smaller activity centres (neighbourhood centres with a total shop-retail floorspace less than 10,000m² NLA and local centres) only require reporting against the below assessment areas:

- Access
- Intensity
- Diversity
- Legibility and Permeability
- Activation
- Amenity and Public Realm
- Adaptability

5.7 REPORTING AGAINST ASSESSMENT AREAS

This section of the LCACS outlines the minimum reporting requirements when documenting the **Expectations, Targets** and **Impacts** of a proposal against the eleven assessment areas. It seeks to provide both the City and proponents of development within the City's activity centres with a clear understanding of the expectations flowing from LCACS.

When interpreting and implementing the LCACS it is important to note that the Strategy is unable to address all future contingencies. It is therefore essential that both the City and proponents of development maintain open channels of communication and work collaboratively towards the development of activity centres that address the LCACS principles through innovative solutions that deliver commercial outcomes for landholders.

5.7.1 GENERAL PRINCIPLES

Whilst there are specific considerations for each of the identified areas of assessment, there are some broad principles that are universal to all. Reporting and justification of a proposal shall be:

- Performance based;
- Evidence based; and
- Consistent in its use of data and assumptions.

5.7.1.1 PERFORMANCE BASED

Any proposal should be prepared and assessed using performance-based measures. This is a shift away from traditional land use based 'input' controls for activity centre development (e.g. retail floorspace caps).

5.7.1.2 EVIDENCE BASED

Any proposal to be assessed against the LCACS principles needs to be prepared based upon a logical evidence base.

5.7.1.3 CONSISTENT USE OF DATA AND ASSUMPTIONS

Data and assumptions across each of the performance areas needs to be consistently applied to enable easy assessment of the validity and reliability of any analysis.

5.7.2 CHECKLIST

When addressing each of the defined areas of assessment the broad criteria described below should be followed.

- Discussion of implications in context of vision and LCACS principles;
- Explicit and reasonable written assumptions;
- Explicit and recognised methodology;
- Explicit and recognised data sets; and
- Application and meeting of relevant standards when required.

5.7.3 VISION

It is critical for any project to define the ultimate outcome that is being sought in order to shape the direction and a path of individual initiatives within the project. The vision is an articulation of a project's future state; it should define this state in the context of all relevant LCACS principles. The vision should be owned by all major stakeholders involved in the project including landholders, major tenants, infrastructure agencies and the City.

5.7.3.1 EXPECTATIONS

When describing the vision for a project, a statement of the project context, scope and broad goals should be prepared.

Figure 9 Project Vision



Source: Pracsys 2011

5.7.3.1.1 CONTEXT

Provide a description of the current scenario and establish the drivers for the project. This should include:

- A description of the policy and strategic context for the project (e.g. Directions 2031 and sub-regional strategies, SPP4.2 etc.); and

- The sub-regional and local characteristics relevant to the project (e.g. spatial, infrastructure, demographic etc.).

Context should describe the nature of interrelationships and dependencies that will help deliver the project now and in the future.

5.7.3.1.2 SCOPE

The scope should define the parameters of the project. This essentially defines the projects boundaries (e.g., spatial, ownership/governance structures, type of uses/activities etc.). The definition of the project scope should also outline major stakeholders, their stake in the project, and the extent of their involvement in setting the vision.

5.7.3.1.3 GOALS

A statement of the vision should also establish broad overarching end-state goals. These goals should:

- Describe the desired end state that is to be achieved through the project;
- Be related to relevant LCACS principles;
- Define the lifespan for the project;
- Follow the SMART criteria (Specific, Measurable, Achievable, Relevant and Timely); and
- Be reviewable (define review period and assign responsibility for this task).

5.7.3.1.4 VISION STATEMENT

The final component of defining vision is a vision statement that provides succinct descriptions of the desired end state of the project based upon a clear understanding of the project's context, scope and goals.

The project vision statement is essential to provide a framework for assessment of all other areas of assessment, at each tier (expectations, targets and impacts). Therefore, it should be referenced throughout any project performance assessment as the basis for understanding the social, economic and environmental context of the activity centre.

5.7.4 USER MIX

Any project impacting upon the function of an activity centre needs to do so with a clear understanding of that centre's current and future users. Or in the case of a new activity centre its future user mix profile must be established. The user mix of an activity centre is a profile of residents, workers, enterprises and visitors that will interact with the centre now and into the future. The population and expenditure base of each group forms the economic base and drives the commercial vitality of the activity centre.

The user mix relates to all of the LCACS principles and has implications for the other ten assessment areas.

5.7.4.1 EXPECTATIONS

5.7.4.1.1 CONTEXT

Provide a description of the current user mix within the activity centre including consideration of:

- Workers – full time equivalent, employees within the defined activity centre;
- Residents – households living within the centre and the centre's walkable catchment as defined in SPP 4.2 and **Table 2**;
- Visitors – (day/night/overnight, local, regional, state, interstate, international); and
- Enterprises – the operations of firms, institutions and organisations located within the defined activity centre.

Figure 10 User Mix



5.7.4.1.2 SCOPE

The preparation of a user mix profile of an activity centre should consider factors including:

- The defined vision of the activity centre;
- The hierarchy of the activity centre as set out in **Table 2**;
- The function/purpose of the activity centre (social, economic etc.); and
- Maturation/change of the centre over time.

5.7.4.1.3 GOALS

A statement of the use mix goals should also establish broad overarching end-state objectives that:

- Describe the desired end state in terms of user mix;
- Be related to relevant LCACS principles;

5.7.4.2 TARGETS

5.7.4.2.1 DATA SETS

Data sets that would be appropriate to inform the preparation of the user mix profile include:

- Cockburn forecast ID (forecast.id.com.au);
- WAPC's WA Tomorrow – population growth projections (www.wapc.wa.gov.au);
- ABS census - population by destination zone/ collection district (www.abs.com.au);

- Tourism Australia/ Tourism WA - visitor profiles/ strategic plans (www.tourism.wa.gov.au);
- ANZSIC two digit job codes (www.abs.com.au);
- ABS census - journey to work/ place of usual residence (www.abs.com.au);
- ABS Counts of Australian Businesses (www.abs.com.au); and
- Number plate surveys.

5.7.4.2.2 METHODOLOGY

Existing user mix should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined.

The modelling of future user mix may be undertaken utilising a broad range of methodologies, however, at a minimum, modelling should include:

- Explicit, assumptions and referenced data sets;
- Change in user mix in time increments (as appropriate for the duration of the project life consistent with the timeframes set out in Section 5.7.3.1.3); and
- An outline of relevant users (residents, workers, visitors and enterprises) in the context of the defined project vision.

5.7.4.2.3 STANDARDS

Relevant published standards related to user mix are shown in **Table 10**. User mix profiling should address these standards and articulate how they are to be met over a given timeframe. If it is not intended that these standards are to be met then a clear justification must be given.

5.7.4.2.4 IMPLICATIONS

The relationship between user mix and the proposed change to an activity centre should be outlined. This should be addressed in the reporting of performance across each relevant assessment area.

5.7.4.3 IMPACT

5.7.4.3.1 DATA SETS

The data sets used in the impact analysis should be consistent with those used in setting the activity centre user mix targets. Any variation

from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.4.3.2 CHANGE IN STATE

The relationship between change in user mix and the proposal should be outlined in the context of the user mix targets. Any detrimental impacts upon the targets resulting from the change in user mix should be justified, with a variation to the targets proposed.

5.7.4.3.3 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project. Comment must be provided on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

	Commercial						Industrial
	Strategic Metropolitan Centres	Secondary Centres	District Centres	Specialty Centres	Neighbourhood Centres	Local Centres	Industrial Centres
Service Population (SPP 4.2)	150,000 – 300,000 persons	Up to 150,000 persons	20,000 – 50,000 persons	N/A	2,000 – 15,000 persons	N/A	N/A
Residential Density Targets per Gross Hectare	Min: 30 Desirable: 45	Min: 25 Desirable: 35	Min: 20 Desirable: 30	N/A	Min: 15 Desirable: 25	N/A	N/A

Source: SPP 4.2 – Activity Centres for Perth and Peel, Pracsys 2011

5.7.5 ACCESS

The current network of activity centres in Perth are designed to be primarily accessed by private motorised vehicles. The expectation is that activity centres within Cockburn will be accessible by alternative modes of transport to reduce the reliance of private motor vehicles. Any project impacting upon the function of an activity centre needs to assess the ability of users to access the activity centre via multiple means of transport and the ability to move about the centre on arrival.

Access relates to the following LCACS principles:

- Efficient, Intense and Compact Centres;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Optimise Access To and Within Centres;
- Place Equity; and
- Coherent, Logical and Legible Places.

5.7.5.1 EXPECTATIONS

5.7.5.1.1 CONTEXT

Provide a description of current accessibility within the activity centre including consideration of:

- Existing transport nodes;
- Node connections;
- Activity centre 'dead zones'; and
- Quality of permeability throughout centre.

Table 11 outlines the performance requirements associated with each level of the activity centre hierarchy for accessibility. When describing accessibility, reference should be made to **Table 11**.

Centre Hierarchy	Strategic Metropolitan Centres	Secondary Centres	District Centres	Neighbourhood Centres	Local Centres
Accessibility	<ul style="list-style-type: none"> • Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. • Centralised public transport interchange with scheduled interchanges. • Multiple high frequency radial bus routes and at least two high frequency cross-centre routes. • Regional road passing through the site, and multiple access points for freight vehicles. 	<ul style="list-style-type: none"> • Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. • Centralised public transport interchange. • At least 2 high frequency radial bus routes, and one high frequency cross-centre route. • A regional road passing through the site, and a clear access point for freight vehicles. 	<ul style="list-style-type: none"> • Fine grain walk and off-road cycle network providing direct and convenient access everywhere throughout the centre. • Multiple medium frequency radial bus routes. • Regional road passing through the site, and a clear access point for freight vehicles. 	<ul style="list-style-type: none"> • Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. • Focal point for bus network. 	<ul style="list-style-type: none"> • Fine grain walk and off road cycle network providing direct and convenient access everywhere throughout the centre. • Stopping / transfer point for bus network.

Source: AECOM 2011, Pracsys 2011

5.7.5.1.2 SCOPE

The accessibility of an activity centre should be designed with consideration for factors including:

- The defined vision of the centre;
- The hierarchy of the activity centre as set out in SPP 4.2; and
- Maturation/ change of the centre over time.

5.7.5.1.3 GOALS

Broad goals that outline the accessibility of an activity centre address the areas of:

- Prioritising public transport, cycling and walking;
- Transport networks efficiency and integrity;
- Walkability of catchment areas; and
- Accessibility via multiple transport modes.

5.7.5.2 TARGETS

5.7.5.2.1 DATA SETS

Data sets that would be appropriate to inform the description of accessibility include:

- Road maps;
- Public transport systems/routes; and
- Car park bays.

5.7.5.2.2 METHODOLOGY

Existing accessibility should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined.

The modelling of future accessibility may be undertaken utilising a broad range of methodologies, however, at a minimum, modelling should include:

- Explicit assumptions and referenced data sets;
- Change in accessibility in time increments (as appropriate for the duration of the project life); and
- An outline of relevant transport nodes and pathways in the context of the defined vision.

Accessibility Score

1. Rate each mode at each activity centre against the benchmarks descriptions in **Table 12**.
2. Using **Table 13** convert the accessibility levels for each mode to a score from 0 to 5.
3. Aggregate the scores of all modes to arrive at an overall accessibility score for the activity centre.
4. Using **Table 14**, convert the accessibility score to a score out of ten.

TABLE 12 BENCHMARK DESCRIPTIONS A-E FOR EACH TRANSPORT MODE					
Accessibility Level	Benchmark Description				
	Walk	Cycle	Public Transport	Private Car	Freight Vehicle
A	Fine grain walk network providing direct and convenient access everywhere throughout the centre	Fine grain on and off-road cycle network providing direct and convenient access everywhere throughout the centre	Centralised public transport interchange with scheduled interchanges. Multiple radial bus routes with <5mins service frequency levels in the AM peak. At least two high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located around the edge of the centre.	Clear access point to the centre from >2 directions. Designated freight access route through the centre.
B	Fine grain walk network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Fine grain cycle network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Centralised public transport interchange. At least 2 radial bus routes with <10mins service frequency levels in the AM peak. At least one high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located throughout the centre	Clear access point to the centre from 2 main directions. Designated freight access route into the centre with central turnaround point.
C	Walk network based on road network only. Disjointed connectivity due to physical barriers	Cycle network is available but disjointed. Multiple physical barriers are present where cyclists are not accommodated	At least 2 radial bus routes with <15mins service frequency levels in the AM peak.	Regional road servicing the site by passing through the centre. Fine grain network of local roads. Centralised car parks.	Clear access point to the centre from one key direction. Constrained access options within the centre
D	Walk network restricted to parts of larger grain road network	No official cycle network but cycle access possible as a road user. Mixed hierarchy of roads available. Prevalence of roundabouts	At least 2 radial bus routes with <30mins service frequency levels in the AM peak.	No regional road servicing the centre. Some connectivity of local roads. Dispersed car parks.	No clear access point into the centre for larger vehicles.
E	Very disjointed and unreliable network. Pedestrian movement generally secondary to car access	No cycle network and high speed road environment	Very limited public transport services (<3 routes or hourly services in the AM peak)	Very restricted vehicular access to and within the centre. Limited car parking	Road network does not provide for large freight vehicle access

Source: AECOM 2011

TABLE 13 ACCESSIBILITY SCORE CONVERSION TABLE	
Accessibility Level	Score
A	5
B	4
C	3
D	2
E	1
N/A	0

Source: AECOM 2011

5.7.5.2.3 STANDARDS

It was not possible to undertake quantified analysis as part of the LCACS. However, the following standards have been established.

Table 15 provides:

- Definition of a range of acceptable accessibility levels from A (excellent) to E (poor) for the five main modes of transport;
- Setting accessibility benchmarks that each mode should meet based on the activity centre type and function; and
- Proposals should rate each mode against the benchmarks to establish whether the benchmark for each mode is currently met.

5.7.5.2.4 IMPLICATIONS

Increasing demand for access to Perth City, strategic metropolitan, secondary and specialised centres may have adverse environmental and quality of life impacts due to increased peak traffic congestion. The relationship between the proposal and the access should be outlined.

TABLE 14 ACCESSIBILITY REFERENCE TABLE	
Score	Accessibility Assessment Score
0	6.0
0.5	7.2
1	8.4
1.5	9.6
2	10.8
2.5	12.0
3	13.2
3.5	14.4
4	15.6
4.5	16.8
5	18.0
5.5	19.2
6	20.4
6.5	21.6
7	22.8
7.5	24.0
8	25.2
8.5	26.4
9	27.6
9.5	28.8
10	30.0

Source: AECOM 2011

TABLE 15 TRANSPORT MODE BENCHMARKS FOR CENTRE TYPE

Centre Hierarchy	Strategic Centre	Secondary Centre	District Centre	Specialised (AIRPORT) Centre	Industrial Centre
SPP 4.2 Policy Direction	Important focus for passenger rail and high frequency bus networks	Important focus for passenger rail and/or high frequency bus networks	Focal point for bus network	Important focus for passenger rail and/or high frequency bus networks	No description
Walk	A	A	A	B	C
Cycle	A	A	A	B	C
Public Transport	A	B	C	C	C
Private Car	C	C	C	B	A
Freight Vehicle	B	C	C	A	A

Source: AECOM 2011, Pracsys 2011

5.7.5.3 IMPACTS

5.7.5.3.1 CHANGE IN STATE

The relationship between change in accessibility and the proposed changes to an activity centre should be outlined in the context of the accessibility targets. Any detrimental impact upon the targets resulting from the change in accessibility should be justified with a variation to the targets proposed.

5.7.5.3.2 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.6 EMPLOYMENT

Employment is one of the main drivers of our collective standard of urban living. Employment can be measured in terms of quantity and quality. Quantity of employment refers to the number of jobs directly situated within a defined activity centre. Quality of employment differentiates between types of jobs. Employment can be strategic or population driven and can vary in its knowledge intensity. Population-driven employment may be defined as employment resulting from economic activity servicing the needs of a particular population. Strategic employment results from economic activity focused on the creation and transfer of goods and services to an external market. Knowledge-intensity is measured by the educational requirements for the occupation. It is important to measure the quality and quantity of employment as it is a key driver for ensuring the sustainability of local economies.

Assessment of employment performance relates to the following LCACS principles:

- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Match Use with Purpose of Place; and
- Place Equity.

5.7.6.1 EXPECTATIONS

5.7.6.1.1 CONTEXT

Provide a description of the current relationships within population driven and strategic supply/ value chains (i.e. Infrastructure, relationships, key firms etc. that will drive change over time).

Table 16 outlines the performance requirements associated with each level of the hierarchy across the assessment area of employment. When describing employment, reference should be made to **Table 16**.

Centre Hierarchy	Strategic Metropolitan Centres	Secondary Centres	District Centres	Neighbourhood Centres	Local Centres
Employment	A metropolitan employment node that provides for high quality strategic employment as well as significant densities of overall employment. Employment is likely to be of high knowledge intensity.	A sub-regional employment node for higher-order population-driven employment, as well as significant densities over overall employment. Some knowledge intensive employment will occur in these centres.	A district employment node with significant densities of population-driven employment.	A local employment node with moderate levels of retail and household services employment.	A local employment node with moderate levels of convenience retail employment.

Source: Pracsys 2011

5.7.6.1.2 SCOPE

Provide a description of current employment within the activity centre including consideration of:

- Population driven employment;
- Strategic employment;
- Employment density within the activity centre; and
- Knowledge intensity.

Employment in the activity centre should consider the following factors:

- The defined vision of the centre;
- The hierarchy of the activity centre as set out in **Table 2**;
- Maturation/ change of the centre over time; and
- The employment profile of Cockburn is expressed at a maximum of five year increments to the time horizon of the proposal

5.7.6.1.3 GOALS

While the SPP4.2 stipulates that planning decisions should facilitate the generation of employment opportunities in activity centres, it provides no indication as to the appropriate level, quality and concentration of employment required at the various levels of the activity centre hierarchy.

Broad goals for employment within activity centres will include:

- Directions 2031 expectations that the sub-region will increase its employment self-

sufficiency rate to 70%, which will require 41,000 new jobs by 2031.

- Directions 2031 objective to improve the relationship between where people live and where they work, to reduce commuting times and cost and the associated impact on transport systems and the environment.

5.7.6.2 TARGETS

5.7.6.2.1 DATA SETS

Data sets that would be appropriate to inform the preparation of an employment profile include:

- Land use and Employment Survey (DoP);
- Australian National Accounts (ABS); and
- Census of Population and Housing (ABS).

5.7.6.2.2 METHODOLOGY

The existing employment profile of an activity centre should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined.

The modelling of future employment may be undertaken utilising a range of methodologies, however, at a minimum, modelling should:

- Demonstrate the relationship between the proposed activity, floorspace yields and the resulting employment;
- Quantify the anticipated change in employment quality over time (as

appropriate for the duration of the project life); and

- Quantify the anticipated change in employment density over time (as appropriate for the duration of the project life).

5.7.6.2.3 IMPLICATIONS

The relationship between employment and the proposed change to the activity centre should be outlined. This should be addressed in the reporting of performance across each relevant assessment area.

5.7.6.3 IMPACTS

5.7.6.3.1 DATA SETS

The data sets used in the impact analysis should be consistent with those used in setting the employment targets. Any variation from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.6.3.2 CHANGE IN STATE

The relationship between change in employment and the proposed changes to an activity centre should be outlined in the context of the employment targets. Any detrimental impact upon the targets resulting from the change in employment should be justified with a variation to the targets proposed.

5.7.6.3.3 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.7 INTENSITY

Any project impacting upon the function of an activity centre needs to assess intensity. Intensity refers to the propensity for financial, social, employment and other types of transactions to occur within a given area. It is an indication of the extent of development in and around an activity centre and this reflects the potential for the development to generate activity. Importantly, intensity of activity is a major determinant of overall resilience, perceived amenity and potential for economies of agglomeration within activity centres.

Intensity relates to the following LCACS principles:

- Efficient, Intense and Compact Centres;
- Optimise Frequency, Concentration and Quality of Transactions;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres; and
- Match Use with Purpose of Place.

5.7.7.1 EXPECTATIONS

5.7.7.1.1 CONTEXT

Provide a description of current intensity within the activity centre including consideration of:

- Residential density – number of dwellings within the defined activity centre boundary and walkable catchments;
- Frequency and variety of existing transactions – economic, social, recreational etc; and
- Ratio of usable floorspace to total centre area.

Table 17 outlines the performance requirements associated with each level of the hierarchy across the assessment area of intensity. When describing intensity reference should be made to the requirements set out in **Table 17**.

5.7.7.1.2 SCOPE

The intensity of an activity centre should be assessed with consideration of factors including:

- The vision of the centre;
- The hierarchy of the activity centre as set out in **Table 2**; and
- The inducement of economic, social and other types of transactions.

5.7.7.1.3 GOALS

Broad goals that outline the intensity of an activity centre are:

- The urban form should facilitate a minimum number of transactions occurring within a centre, according to the activity centre's position in the hierarchy; and
- In larger activity centres the urban form should focus the intensity of activity into the defined nodes.

TABLE 17 ACTIVITY CENTRE HIERARCHY PERFORMANCE REQUIREMENTS - INTENSITY

Centre Hierarchy	Strategic Metropolitan Centres	Secondary Centres	District Centres	Neighbourhood Centres	Local Centres
Intensity	Highly intense with significant integration of a range of residential, population-driven and strategic uses in medium/high density multiple storey sites both within the centre, and areas of influence.	Intense, with residential, sub-regional education/healthcare, retail and household services integrated with strong relationships both internally and within the defined areas of influence.	Intense levels of district education/healthcare, retail and household services within centre, with potential for significant residential densities within the areas of influence.	Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence.	Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence.

Source: Pracsys 2011

5.7.7.2 TARGETS

5.7.7.2.1 DATA SETS

Appropriate data sets to be utilised in determining intensity include:

- Perth land use and employment survey data (produced by the Department of Planning (DoP)); and
- ABS census data – defined catchment; population by collection district, destination zones – employment.

5.7.7.2.2 METHODOLOGY

Intensity should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be justified.

This methodology provides a simple estimate of intensity. Other more detailed assessments may be prepared where appropriate provided that they consider the intensity interactions between uses. There are two components for measuring intensity. These are residential density and plot ratio.

The methodology for calculating residential density is based on SPP 4.2.

- 1) Determine the walkable catchment from the application of the 'ped-shed' technique to the existing or proposed street network. The extent of the walkable catchment is 200m, 400m or 800m depending on the activity centre

hierarchy. The centroid of the walkable catchment should be a major transit node (e.g. rail station, major bus transfer station or a stop located on a high-frequency bus route).

- 2) Once the extent of the catchment has been determined, calculate the gross area within the catchment. Gross area refers to the area of zoned land under the region planning scheme (i.e. excluding the area reserved for parks and recreation, railways, primary and other regional roads and public purposes).
- 3) Using aerial photographs, census data and the City's property data, estimate the number and type of dwellings located within the walkable catchment and divide the total by the gross area to arrive at an estimate of residential density.
- 4) Using **Table 18**, convert the residential density to a score out of ten.

Plot Ratio - Ratio of floorspace to total land area

- 1) Using the DoP's latest Land Use and Employment Survey, identify the complexes that fall within the centre boundary (**Appendix 6** provides the complex numbers contained within each of the City's activity centres).
- 2) Aggregate the total occupied floorspace, of all complexes.
- 3) Aggregate the total land area, of all complexes.
- 4) Divide the total occupied floorspace by the total land area to arrive at an estimated plot ratio.

- 5) Using **Table 18**, convert the plot ratio to a score out of ten. (Please note different conversions are used for commercial and industrial centres).

Intensity score

To calculate the total intensity score of the centre, take the average of the residential density and plot ratio scores. In the case of industrial or specialised centres where residential density is not required, the total centre intensity score is equal to the plot ratio score.

5.7.7.2.3 STANDARDS

Relevant standards for activity centre intensity are shown in **Table 19** and **20**. Analysis of intensity should address these and articulate how they are to be met over the given timeframe.

Targets are set at the activity centre level. There are two targets for each hierarchical level.

1. Baseline targets: Minimal residential density targets.
2. 'Best of type' targets: desirable residential targets.

SPP 4.2 does not provide a measure or target for the intensity of other non-residential activity in and around activity centres. The LCACS has identified an additional metric as basis for evaluating the intensity of an activity centre. This is the ratio of floorspace (NLA) to total land area.

TABLE 18 INTENSITY REFERENCE TABLE			
Score	Intensity		
	Residential Density (dwellings per gross ha)	Plot Ratio	
		Commercial	Industrial
0	0	0.00	0
0.5	5	0.05	0.04
1	10	0.10	0.08
1.5	15	0.15	0.11
2	20	0.20	0.15
2.5	25	0.25	0.19
3	30	0.30	0.23
3.5	35	0.35	0.26
4	40	0.40	0.30
4.5	45	0.45	0.34
5	50	0.50	0.38
5.5	55	0.55	0.41
6	60	0.60	0.45
6.5	65	0.65	0.49
7	70	0.70	0.53
7.5	75	0.75	0.56
8	80	0.80	0.60
8.5	85	0.85	0.64
9	90	0.90	0.68
9.5	95	0.95	0.71
10	100	1.00	0.75

Source: Pracsys, 2011

TABLE 19 MINIMUM SCORES – INTENSITY	
Centre Hierarchy	Minimum Score Required
Secondary Centre	3.0
District Centre	2.25
Neighbourhood Centre	1.5
Local Centre	1.5
Strategic Industrial Centre	2.0
Industrial Centre	1.5
Strategic Specialised Centre	1.5

Source: Pracsys 2011

TABLE 20 RESIDENTIAL DENSITY TARGETS				
	Strategic Metropolitan Centre	Secondary Centre	District Centre	Neighbourhood Centre
Minimum	30	25	20	15
Desirable	45	35	30	25

Source: SPP 4.2 – Activity Centres for Perth and Peel

5.7.7.2.4 IMPLICATIONS

The relationship between intensity and the proposed change to an activity centre should be outlined.

5.7.7.3 IMPACTS

5.7.7.3.1 DATA SETS

The data sets and methodology used in the impact analysis should be consistent with those used in setting the activity centre intensity targets (outlined above). Any variation from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.7.3.2 CHANGE IN STATE

The relationship between change in intensity and the proposed changes to an activity centre should be outlined in the context of the intensity targets. Any detrimental impact upon the targets resulting from the change in intensity should be justified with a variation to the targets proposed.

5.7.7.3.3 IMPLICATIONS

If there is a change in state then describe:

- What effect this will have on the vision for the project;
- Whether this impact is justified; and
- How this will be managed in the context of the activity centre as a whole.

5.7.8 DIVERSITY

Diversity is the degree to which a variety of activities are located within an activity centre. It is important that activity centres accommodate a diverse range of uses as this enables multipurpose trips by users thereby creating more efficient, resilient and vibrant centres. Increased vibrancy can also yield positive externality benefits such as decreased crime and anti-social behaviour and also often makes centres more resistant to external market forces.

Diversity relates to the following LCACS principles:

- Optimise Frequency, Concentration and Quality of Transactions;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Optimise Access To and Within Centres;
- Match Use with Purpose of Place; and
- Place Equity.

5.7.8.1 EXPECTATIONS

5.7.8.1.1 CONTEXT

Provide a description of current diversity within the activity centre including consideration of:

- Multipurpose trips;
- Frequency and variety of transactions; and
- Employment profile.

Table 21 outlines the performance requirements associated with each level of the hierarchy for diversity. When describing diversity reference should be made to **Table 21**.

5.7.8.1.2 SCOPE

Assessment of the diversity of an activity centre should be prepared in consideration of the following factors:

- The defined vision and user mix of the centre;
- The hierarchy of the activity centre as set out in **Table 2**; and

TABLE 21 ACTIVITY CENTRE HIERARCHY PERFORMANCE REQUIREMENTS- DIVERSITY					
Centre Hierarchy	Strategic Metropolitan Centres	Secondary Centres	District Centres	Neighbourhood Centres	Local Centres
Diversity	Highly diverse mix of strategic and population-driven uses and users interacting within the centre over an extended period of the day	Diverse mix of population-driven uses and users interacting within the centre over an extended period of the day	Focused district retail and household services uses and users with a limited amount of local education and healthcare activities	Focused local retail and household services uses	Focused convenience retail activities

Source: Pracsys 2011

- Maturation/change of the centre over time.

5.7.8.1.3 GOALS

Achieve an optimal diversity of transactions (economic, social and environmental) within the centre in order to promote:

- Multiple purpose trips;
- Diversity of employment opportunities; and
- Agglomeration of Knowledge Intensive Consumer Services and strategic activity.

5.7.8.2 TARGETS

5.7.8.2.1 DATA SETS

Data sets that would be appropriate to inform the description of diversity include:

- Land Use and Employment Survey (DoP); and
- User mix profile.

5.7.8.2.2 METHODOLOGY

Existing diversity should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined. The reporting of existing and future diversity should be undertaken utilising the methodologies below:

- Explicit assumptions and referenced data sets;
- Change in diversity in time increments (as appropriate for the duration of the project life); and
- Calculation of the diversity score as described below:

Calculating mix of uses - other floorspace as a percentage of total floorspace

1. Using the DoP's latest Land Use and Employment Survey data identify the complexes that fall within the centre boundaries (**Appendix 6** provides the complex numbers contained within each of the City's activity centres).
2. Aggregate the total shop retail floorspace of all complexes.
3. Aggregate the total occupied floorspace of all centres.
4. Divide the total shop retail floorspace by the total occupied floorspace and subtract the result from one.

Using the **Table 22** convert the percentage to a score out of ten.

Calculating the diversity index - Shannon equability Index (see explanatory note on page 63)

1. Using the DoP Land Use and Employment Survey data identify the complexes that fall within the centre boundaries.
2. Aggregate the total floorspace of all complexes in all PLUC categories.
3. Calculate the proportion of each floorspace category relative to the total quantity of occupied floorspace.
4. Multiply each floorspace proportion by the natural log of itself.
5. Sum the resulting product of all PLUC categories and multiply this by -1.
6. Divide the result by the natural log of the total number of PLUC categories.
7. Using the **Table 22** convert the Shannon's Equability index to a score out of ten.

To calculate the total diversity score of the centre, take the average of the mix of uses and diversity index scores. In the case of industrial or specialised centres where mix of uses is not required, the total centre diversity score is equal to the diversity index score.

TABLE 22 DIVERSITY SCORE CALCULATION		
Score	Diversity	
	Mixed Use	Shannon's Equability Index
0	0%	0
0.5	5%	0.05
1	10%	0.10
1.5	15%	0.15
2	20%	0.20
2.5	25%	0.25
3	30%	0.30
3.5	35%	0.35
4	40%	0.40
4.5	45%	0.45
5	50%	0.50
5.5	55%	0.55
6	60%	0.60
6.5	65%	0.65
7	70%	0.70
7.5	75%	0.75
8	80%	0.80
8.5	85%	0.85
9	90%	0.90
9.5	95%	0.95
10	100%	1.00

Explanatory Notes on the Shannon Index

The Shannon index is one of many diversity indices that can be used to measure diversity in categorical data. Although it was originally used to measure biodiversity, the same methodology can be applied to determine land use or employment diversity. The formula for calculating Shannon's index is outlined below.

$$H' = - \sum p_i \ln (p_i)$$

Where

H' = the Shannon Diversity Index Score

p_i = the relative quantity of floorspace or employment in each category

Adjusting the Shannon's Index for evenness, it is possible to derive the Shannon's Equability Index which is a diversity score between zero and one. A perfectly homogeneous activity centre, (i.e. one that performs a purely retail function) would have an equitability index of zero, a perfectly heterogeneous activity centre would have an equitability index of one.

By way of Example:

Consider the following two centres: they both have a similar total floorspace but centre one has floorspace of seven different types, whereas centre two has only two floorspace categories.

As mentioned above, the Shannon's Equability Index yields a score between zero and one: a purely homogenous centre will yield a score of zero; and a perfectly heterogeneous centre, a score of one.

	PRI	MAN	STO	SER	SHP	RET	OFF	HEL	ENT	RES	UTE	Total - VFA
Centre 1	0	70	180	60	2,004	0	1,040	60	720	0	0	4,134
Centre 2	0	4,277	0	0	0	0	550	0	0	0	0	4,827

The calculation in the table below is the $p_i \ln (p_i)$ portion of the Shannon's diversity index equation. Each floorspace category is individually divided by the total available floor space – this produces the p_i 's. Each p_i is then multiplied by the natural log of itself, $p_i \ln (p_i)$. Multiplying by the natural log of itself normalises the data for comparison.

	PRI	MAN	STO	SER	SHP	RET	OFF	HEL	ENT	RES	UTE
Centre 1		-0.07	-0.14	-0.06	-0.35		-0.35	-0.06	-0.30		
Centre 2		-0.11					-0.25				

The Shannon diversity index is the sum of all p_i 's (inverted to be positive). The Shannon equability Index is a simple transformation of the diversity index; where the diversity scores is divided by the natural log of the possible number of floor space categories – in the example above, this is the natural log of eleven categories, so $\ln(11)$.

	Shannon's Diversity Index	Shannon's Equability Index
Centre 1	1.33	0.56
Centre 2	0.35	0.15

This final score is interpreted on a scale between zero and one, as described above. The valuable feature of this equation is that, mathematically, evenness in observations maximizes the index.

5.7.8.2.3 STANDARDS

The following standards should be referenced and applied when considering activity centre diversity.

TABLE 23 MIXED USE THRESHOLDS	
Threshold (Shop Retail NLA)	Ratio
Above 100,000	50%
Above 50,000	40%
Above 20,000	30%
Above 10,000	20%
Less than 10,000	N/A

Source: SPP 4.2 – Activity Centres of Perth and Peel

TABLE 24 MINIMUM SCORES - DIVERSITY	
Hierarchy	Minimum Score Required
Secondary Centre	5.25
District Centre	4.75
Neighbourhood Centre	4.75
Local Centre	3.25
Strategic Industrial Centre	3.0
Industrial Centre	3.0
Strategic Specialised Centre	2.25

Source: Pracsys 2011

5.7.8.3 IMPLICATIONS

The relationship between diversity and the proposed change to an activity centre should be outlined. This should be addressed in the reporting of performance across each relevant assessment area.

5.7.8.4 IMPACTS

5.7.8.4.1 DATA SETS

The data sets used in the impact analysis should be consistent with those used in setting the diversity targets. Any variation from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.8.4.2 CHANGE IN STATE

The relationship between change in diversity and the proposed changes to an activity centre should be outlined in the context of the diversity targets. Any detrimental impact upon the targets resulting from the change in diversity should be justified with a variation to the targets proposed.

5.7.8.4.3 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.9 POPULATION DRIVEN DEMAND

Any project impacting upon the user-mix of an activity centre should be cognisant of how changes will affect future population driven demand. This assessment is required to inform floorspace yield scenarios that are key inputs to other assessment areas including diversity, intensity, permeability and legibility and activation. The measure of population-driven demand is therefore not an end in itself and should be used as an indicator of scale across population-driven categories of expenditure (including retail, other retail, healthcare and education, entertainment etc). It should not be used to impose caps or limitations on any particular type of use.

Population driven demand relates to the following principles:

- Optimise Frequency, Concentration and Quality of Transactions;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Optimise Access To and Within Centres; and
- Match Use with Purpose of Place.

5.7.9.1 EXPECTATIONS

5.7.9.1.1 CONTEXT

Provide a description of current population driven demand within the activity centre, including consideration of:

- Expenditure by residents, workers, visitors and firms; and
- Current floorspace supply (including commentary on occupancy rates, major tenants and quality of offer).

5.7.9.1.2 SCOPE

Population driven demand for an activity centre should be prepared in consideration of the following factors:

- The defined vision of the centre.
- The hierarchy of the activity centre as set out in **Table 2**; and
- Maturation/ change of the centre over time.

5.7.9.1.3 GOALS

The broad goal that should be addressed in the assessment of population driven demand for an activity centre address is:

- Balancing the big-picture strategic objectives of the City and WAPC, with an understanding of the commercial demand drivers that will inform the investment decisions of centre owners. Reflect on the scale of floorspace required to achieve industry standard floorspace production.

5.7.9.2 TARGETS

5.7.9.2.1 DATA SETS

Data sets that would be appropriate to inform the population driven demand analysis include:

- Household Expenditure Survey (ABS);
- Census of Population and Housing (ABS);
and
- Local and State Government Population Projections (DoP and the City).

5.7.9.2.2 METHODOLOGY

Current and projected population driven demand should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined. The modelling of current and future population driven demand is calculated across the following land use categories: shop retail; other retail; office; entertainment; and service industries¹. The analysis should also distinguish between the two retail business models: bulky goods / large format retail and regular shop retail. Population driven demand may be undertaken utilising a broad range of methodologies, however, at a minimum, modelling should:

- Identify the current and future geographic catchment served by the activity centre;
- Delineate the centre's current and future trade area for each land use category;
- Estimate the future market potential for each land use category in the activity centre²;
- Estimate the future floorspace required to accommodate each land use category in the activity centre; and
- Demonstrate the relationship between the scale of the proposed development and the estimated population driven demand.

¹ These land use categories only represent commercial demand, and therefore, floor-space for public institutions (such as schools and hospitals) are not represented in the analysis. Definitions for each of the relevant land use categories have been provided as an appendix to this report.

² The most commonly used theoretical technique for estimating market potential is retail gravity modelling. Gravity models allow for the measurement of spatial interaction as a function of distance to determine the probability of a given customer patronising an activity centre and provide an approximation of trade area and sales potential for a development. This modelling technique uses the distance between a household and each activity centre and a measure of 'attractiveness' to define the probability model. Gravity modelling provides a clearer, reproducible outcome that can be easily assessed. It does not however, consider local factors including the comparative value proposition of centres

5.7.9.2.3 STANDARDS

Where appropriate the following standards should be referenced and applied when considering population driven demand.

- LCACS Thresholds - The market potential for land use in each centre expressed in terms of a range of floorspace demand (Refer to **Appendix 4 Population Demand Assessment** (pp. 26-36)
- Retail Sustainability Assessment Guidelines - SPP4.2 requires specific research to be undertaken within the activity centre structure planning process. This research, known as a Retail Sustainability Assessment is required to be completed by all activity centre structure plans or major development applications occurring within centres up to secondary centres within the hierarchy.

5.7.9.2.4 IMPLICATIONS

The relationship between population driven demand and the proposed change to an activity centre should be outlined. This should be addressed in the context of the vision for the centre.

5.7.9.3 IMPACT

5.7.9.3.1 DATA SETS

The data sets used in the impact analysis should be consistent with those used in setting the population demand targets. Any variation from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.9.3.2 CHANGE IN STATE

The relationship between change in population driven demand and the proposed changes to an activity centre should be outlined in the context of the population demand targets. Any detrimental impact upon the targets resulting from the change in population driven demand should be justified with a variation to the targets proposed.

5.7.9.3.3 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.10 LEGIBILITY AND PERMEABILITY

Activity centres are typified by high levels of internal activity and interaction, especially by pedestrians. It is important to obtain a balance between providing for vehicular access and circulation and providing for pedestrian, cyclist and public transport needs without compromising the functionality of a centre. Activity centres should have a legible layout so people can form a clear, accurate image of the place and a permeable road network which provides a greater choice of movement.

Legibility and permeability relates to the following LCACS principles:

- Efficient, Intense and Compact Centres;
- Optimise Frequency, Concentration and Quality of Transactions;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Optimise Access To and Within Centres; and
- Coherent, Logical and Legible Places.

5.7.11 EXPECTATIONS

5.7.11.1.1 CONTEXT

Provide a description of current legibility and permeability within the activity centre including assessment of the:

- Continuity and connectedness of pedestrian network;
- Continuity and connectedness of cycling network and infrastructure;
- Comfort and safety of pedestrian environment;
- Comfort and safety of cycling environment; and
- Permeability of pedestrian and cycling network.

5.7.11.1.2 SCOPE

Assessment of legibility and permeability for an activity centre should be prepared in consideration of the following factors:

- The defined vision and user mix of the centre;
- The hierarchy of the activity centre as set out in **Table 2**;
- Available and planned transport infrastructure; and
- Maturation/ change of the centre over time.

5.7.11.1.3 GOALS

Broad goals should be outlined which express the proposal's intention to address the areas of:

- A pedestrian network provided throughout the activity centre to ensure continuous and convenient access for all users;
- A cycle network or safe cycling environment provided throughout the activity centre that connects to major destinations and cycle networks in the surrounding region;
- The pedestrian environment is designed to be comfortable and safe for all users;
- The cycling environment provides safe movement for cyclists of all levels and reduces conflict between other public realm users including vehicles and pedestrians; and
- Permeable pedestrian and cycling networks.

5.7.11.2 TARGETS

5.7.11.2.1 DATA SETS

Data sets that would be appropriate to inform the description of legibility and permeability include:

- Maps/plans;
- Movement flow diagrams;
- Count of features;
- Traffic count by mode; and
- Sample typologies/graphics.

5.7.11.2.2 METHODOLOGY

Existing legibility and permeability should be defined using recognised data sets such as those outlined above. Usage of other data may be appropriate but the rationale and assumptions for their use must be clearly outlined. The modelling of future legibility and permeability may be undertaken utilising a broad range of methodologies, however, at a minimum, modelling should include:

- Explicit assumptions and referenced data sets;
- Change in performance across each of the legibility and permeability goal areas in time increments (as appropriate for the duration of the project life); and
- Assessing the legibility as described below.

When assessing legibility and permeability, the elements in **Table 25** must be taken into consideration, even if it is decided that they are not a required attribute for that type of centre. The attributes in **Table 26** are essential to the performance of an activity centre. Proponents must address the required attributes for an activity centre in relation to its position within the hierarchy. **Table 26** describes the expectations and metrics to be used when addressing each of the required attributes for an activity centre.

TABLE 25 LEGIBILITY		
Attribute	Expectation	Metric
1.1 Footpaths		
1.1.1 Existence	Are there footpaths present in each segment?	No footpath present Footpath present
1.1.2 Continuity	Are the footpaths in each segment continuous?	Footpath terminates/interrupted Footpath continuous
1.2 Walking		
1.2.1 Barriers	Are there barriers to direct walking? i.e. fences, busy roads	Barrier present No barrier present
1.2.2 Facilitators	Are there walking facilitators? i.e. crosswalks, kerb extensions	No facilitators Facilitators present
1.3 Cycle paths		
1.3.1 Existence	Are there formal cycle paths present in each segment?	No cycle path Cycle path present
1.3.2 Continuity	Are the cycle paths continuous?	Cycle path terminates/interrupted Cycle path continuous

Source: Pracsys 2011, Hames Sharley

TABLE 26 REQUIRED ATTRIBUTES – LEGIBILITY	
Hierarchy	Required Attributes
Secondary Centre	Footpaths, cycle paths
District Centre	Footpaths, cycle paths
Neighbourhood Centre	Footpaths, cycle paths
Local Centre	Footpaths
Strategic Industrial Centre	Footpaths
Industrial Centre	Footpaths
Strategic Specialised Centre	Footpaths

Source: Pracsys 2011, Hames Sharley

5.7.11.2.3 STANDARDS

Where appropriate the following standards should be referenced and applied when considering legibility and permeability.

- Liveable Neighbourhoods (WAPC, 2009)
- State Planning Policy 1: State planning policy framework (WAPC, 2006)
- State Planning Policy 3: Urban growth and settlement (WAPC, 2006)
- Development Control Policy 1.4: Functional road classification (WAPC, 1998)
- Development Control Policy 1.5: Bicycle planning (WAPC, 1998)
- Development Control Policy 1.6: Planning to support transit and transit-oriented developments (WAPC, 2006)
- Development Control Policy 1.7: General road planning (WAPC, 1998)
- Development Control Policy 2.6: Residential road planning (WAPC, 1998)
- City of Cockburn Local Planning Strategy (City of Cockburn, 1999)
- City of Cockburn Policy APD30: Access Street – Road Reserve and Pavement Standards (City of Cockburn, 2009)
- City of Cockburn Position Statement PSPD1: Access for People with Disabilities (City of Cockburn)

5.7.11.2.4 IMPLICATIONS

The relationship between legibility and permeability and the proposed change to an activity centre should be outlined, with the implications of this on the achievement of the activity centre vision addressed.

5.7.11.3 IMPACT

5.7.11.3.1 CHANGE IN STATE

The relationship between change in legibility and permeability and the proposed changes to an activity centre should be outlined in the context of the legibility and permeability standards. Any detrimental impact upon the targets resulting from the change in legibility and permeability should be justified with a variation to the targets proposed.

5.7.11.3.2 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.12 ACTIVATION

The transactions of 'users' within an activity centre (residents, visitors, workers and enterprises) provide the expenditure pools which drive the commercial vitality of office and retail tenants. The frequency and concentration of these transactions determines the economic activation of the activity centre. Transactions can be maximised by linking the users to core activity precincts, concentrating retail tenancies to encourage life and vibrancy, maximising possible modes of transport for easy access, and minimising access routes to channel traffic past shop fronts.

Activation relates to the following LCACS principles:

- Efficient, Intense and Compact Centres;
- Optimise Frequency, Concentration and Quality of Transactions;
- Support Maturation of Centres;
- Support Integrity of the Network of Activity Centres;
- Optimise Access To and Within Centres;
- Place Identity, Amenity and Integrity; and
- Coherent, Logical and Legible Places.

5.7.12.1 EXPECTATIONS

5.7.12.1.1 CONTEXT

Provide a description of current economic activation within the activity centre including consideration of the following:

Purpose of place:

- What does the activity centre represent to its user?
- What are the main destinations? Are these destination land uses located so that user will be drawn through the centre and into its core?
- Does the design of the centre maximise frequency and concentration of transactions?

Exposure and Activation:

- Is the centre designed to channel pedestrian movements (from origin to destination points) so as to maximise exposure to activated street frontages?

- Access and arrival points do not allow transport networks to bypass the centre (some congestion is good)? Do users arrive at the 'front door' of the place, not around the back?
- Are strategic sites of high exposure designed and used for appropriate activities so as to provide a visual clue of the centre's purpose.

5.7.12.1.2 SCOPE

Economic activation for an activity centre should be prepared in consideration of the following factors:

- The defined vision of the centre;
- The hierarchy of the activity centre as set out in **Table 2**; and
- Maturation/ change of the centre over time.

5.7.12.1.3 GOALS

Broad goals that outline the activation of an activity centre should consider:

- linking the residents and visitors to core activity precincts;
- connecting retail tenancies to encourage life and vibrancy;
- maximising possible modes of transport for easy access; and
- minimising access routes to channel traffic past shop fronts.

5.7.12.2 TARGETS

5.7.12.2.1 DATA SETS

Data sets that would be appropriate to inform the description of activation include:

- Vision/plan;
- Count of features (activated frontages);
- Maps; and
- Sample topography/graphics.

5.7.12.2.2 METHODOLOGY

Economic activation is benchmarked against a set of descriptions that outline the centre's purpose, vision/plan, anchor tenants, activated frontages and permeability.

Calculating purpose of place:

1. Relate each attribute at each activity centre against the benchmark descriptions in **Table 27**.
2. Aggregate the scores of all attributes and divide by the number of attributes to get an overall purpose of place score

TABLE 27 PURPOSE OF PLACE BENCHMARK DESCRIPTIONS

	Purpose of Place			Score
	Purpose	Vision/Plan	Anchor Tenants	
Very Good	The Activity Centre has a well justified economic purpose, providing for a variety of residents, workers and visitors, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which captures the Centre purpose and provides direction for future development and is supported by the necessary structures	A diverse range of anchor tenants are present, well configured and well supported by other tenants and necessary infrastructure	10
Good	The Activity Centre has a well justified economic purpose. The Activity meets the needs of limited user mix, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which provides direction for future development but lacks the governance structures to guide implementation	Diverse anchor tenant/s are present and well supported by other tenants but lack the necessary support infrastructure	8
Average	Some nodes within the centre have a well-defined purpose however these are not brought together into one coherent united vision for the Centre	An vision/plan exists for the centre however it is either out of date or only deals with part of the centre/individual landholdings	Diverse anchor tenant/s are present but not fully supported	6
Poor	The economic purpose of the centre is deteriorating (For example - where the presence of adjacent centre is cannibalising trade)	Future vision/purpose for the centre is not defined	A single type of anchor tenant is present	4
Very Poor	The centre has no economic purpose.	The future of the centre is seriously in doubt	No significant anchor tenants	2

Source: Pracsys 2011

between 1 and 10.

divide by the number of attributes to get an overall exposure between 1 and 10.

Calculating exposure:

1. Rate each attribute at each activity centre against the benchmarks descriptions in **Table 28**.
2. Aggregate the scores for all attributes and

To calculate the total economic activation score of the centre, take the average of the purpose of place and exposure scores.

TABLE 28 EXPOSURE ACTIVATION BENCHMARK DESCRIPTIONS			
	Exposure		Score
	Activated Frontages	Permeability	
Very Good	The centre has a high proportion of their streets lined by active frontages which also demonstrate a vibrant mix of activities.	The centre is easy to move through and connects well to the surroundings. The design of the centre functions as a filter, channelling pedestrians into the core and provides good physical and visual connections between buildings and the street. Pedestrian movements are channelled (from origin to destination points) so as to maximise exposure to activated street frontages. The permeability of the centre is maintained through both day and night.	10
Good	The centre has a high proportion of their streets lined by active frontages however the activity mix is predominantly retail.	The centre is relatively easy to move through and connects to the surroundings. The design of the centre provides good physical and visual connections between buildings and the street. Pedestrian movements are channelled (from origin to destination points) so as to provide good exposure to activated street frontages. The permeability of the centre is maintained through both day and night.	8
Average	Some streets within/around the centre are lined by active frontages	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. Pedestrian movements are channelled (from origin to destination points) so as to provide some exposure to activated street frontages. The permeability of key nodes within the centre is maintained through both day and night.	6
Poor	Limited active street frontages within/around the centre	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. Pedestrian movements are channelled (from origin to destination points) so as to provide limited exposure to activated street frontages. The permeability of the centre is severely constrained at certain times	4
Very Poor	No activated street frontages, inward looking, impermeable, internalised commercial environment located behind large areas of parking	The centre is relatively impermeable is with poor physical and visual connection between the buildings and the streets. Pedestrian movements are channelled (from origin to destination points) so as to provide very limited exposure to activated street frontages. The permeability of the centre is severely constrained at certain times	2

Source: Pracsys 2011

TABLE 29 TARGET SCORES FOR ECONOMIC ACTIVATION

Hierarchy	Minimum Score
Secondary centre	8
District centre	7
Neighbourhood centre	6
Local Centre	5.5

Source: Pracsys 2011

5.7.12.2.3 STANDARDS

Relevant target scores for economic activation are shown in **Table 29**. Economic activation analysis should address these and articulate how they are to be met over a given timeframe.

5.7.12.2.4 IMPLICATIONS

The relationship between economic activation and the proposed change to an activity centre should be outlined. This should be addressed in the reporting of performance across each relevant assessment area.

5.7.12.3 IMPACT

5.7.12.3.1 DATA SETS

The data sets used in the impact analysis should be consistent with those used in setting the activation targets. Any variation from these sources would require not only justification but also reinterpretation of the targets with alternative data.

5.7.12.3.2 CHANGE IN STATE

The relationship between change in activation and the proposed changes to an activity centre should be outlined in the context of the activation targets. Any detrimental impact upon the targets resulting from the change in activation should be justified with a variation to the targets proposed.

5.7.12.3.3 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.13 AMENITY AND PUBLIC REALM

The planning and design of an activity centre should encourage users to interact in public spaces by enhancing the amenity and public realm. To achieve this it is important to have a clear understanding of an activity centre's vision and its current and future users. The quality of an activity centre's amenity and public realm will strongly influence the frequency and quality of interactions occurring in public spaces.

Amenity and public realm relates to the following LCACS principles:

- Support Maturation of Centres;
- Support Integrity of the Activity Centre Network;
- Place Identity, Amenity and Integrity;
- Place Equity; and
- Coherent, Logical and Legible Places.

5.7.13.1 EXPECTATIONS

5.7.13.1.1 CONTEXT

Provide a description of current amenity and public realm within the activity centre including consideration of:

- The level of actual and perceived safety;
- The presence of active street fronts in non-residential areas;
- The interaction between public realm and residential land uses;
- Access to the natural environment; and
- The overall aesthetic attractiveness and range of experiences offered to users.

5.7.13.1.2 SCOPE

The amenity and public realm of an activity centre should be prepared with consideration of factors including:

- The vision and user mix of the activity centre;
- The hierarchy of the activity centre as set out in **Table 2**; and
- Maturation/ change of the activity centre over time.

5.7.13.2 TARGETS

5.7.13.2.1 DATA SETS

Data sets that would be appropriate to inform the description of amenity and public realm include:

- Plans of staged development;
- Count of features;
- Sample typologies and graphics;
- Shadow diagrams;
- View-shed analysis; and
- Other relevant plans and diagrams.

5.7.13.2.2 METHODOLOGY

Certain attributes are essential to the performance of an activity centre in terms of

amenity and public realm. The following methodology is to be used to measure these essential attributes:

- Measure the attributes of the centre according to the criteria outlined in **Table 30**;
- Aggregate the scores for each segment and divide by the number of segments to give a value between zero and one for each attribute; and
- Aggregate the scores of all attributes and divide by the number of attributes to get an overall amenity score between zero and one.

Based upon the methodology outlined above, activity centres should achieve a minimum

TABLE 30 AMENITY BENCHMARK		
Item	Definition	Measurement
1. Street trees		
1.1. Existence	Are there street trees present?	Most lots have a tree = 1 OR in the case of super lots trees should be delivered every 5-7m of frontage Around 50% lots have a tree = 0.5 Very few (<25%) lots have a tree = 0
2. Recreational destinations		
2.1. Park	Are there one or more parks present within or adjacent to the activity centre?	No park = 0 One park = 0.5 More than one park = 1
2.2. Playground	Is there a publically accessible playground present within or adjacent to the activity centre?	No playground = 0 One playground = 0.5 More than one playground = 1
2.3. Outdoor recreation facilities	Are there any outdoor recreation facilities present within or adjacent to the activity centre? i.e. cricket nets, skatepark	No facilities = 0 One facility = 0.5 More than one facility = 1
3. Other amenities		
3.1. Picnic facilities	Are there picnic facilities within the park within or adjacent to the activity centre? i.e. tables, BBQ's, shelters	No facilities = 0 One facility = 0.5 More than one facility = 1

Source: Hames Sharley 2011

amenity score as shown in **Table 31**.

Amenity attributes that cannot be easily quantified but must be considered are:

- Actual and perceived safety;
- Active street fronts;
- Social inclusion;
- Natural landscapes; and
- Aesthetic attractiveness and interest.

All activity centres in the hierarchy must demonstrate they have addressed each of the five attributes described in **Table 32**, as appropriate to the type of centre.

5.7.13.2.3 STANDARDS

In addition where appropriate or required, reference should be made to the following planning instruments:

- Liveable Neighbourhoods (WAPC, 2009);
- State Planning Policy 1: State planning policy framework (WAPC, 2006);
- State Planning Policy 3: Urban growth and settlement (WAPC, 2006);
- Development Control Policy 1.6: Planning to support transit and transit-oriented developments (WAPC, 2006);
- Designing Out Crime Planning Guidelines (WAPC, 2006);
- City of Cockburn Local Planning Strategy (City of Cockburn, 1999); and
- City of Cockburn Position Statement PSPD1: Access for People with Disabilities (City of Cockburn).

TABLE 31 AMENITY MINIMUM SCORES		
Hierarchy	Required	Minimum Score
Secondary Centre	Street trees	1
	Park	1
	Playground	1
	Outdoor recreation facilities	1
	Picnic facilities	1
District Centre	Street trees	1
	Park	0.5
	Playground	1
	Outdoor recreation facilities	1
	Picnic facilities	1
Neighbourhood Centre	Street trees	1
	Park	0.5
	Playground	0.5
	Outdoor recreation facilities	0.5
	Picnic facilities	0.5
Local Centre	Street trees	1
	Park	0.5
Strategic Industrial Centre	Street trees	1
	Small park	0.5
	Picnic facilities	0.5
Industrial Centre	Street trees	1
	Small park	0.5
	Picnic facilities	0.5
Strategic Specialised Centre	Street trees	1
	Park	0.5

Source: Pracsys 2011, Hames Sharley 2011

5.7.13.2.4 IMPLICATIONS

The relationship between changes in amenity and public realm, the proposed change to an activity centre and potential impacts on user mix and vision should be outlined. Where appropriate the impact of specific initiatives should be discussed and justified.

TABLE 32 AMENITY AND PUBLIC REALM ATTRIBUTES		
Attribute	Expectation	Metric
Actual and perceived safety	The public realm must be designed using CPTED principles to maximise actual and perceived safety and orderliness.	<ul style="list-style-type: none"> Permanent lighting must be provided to all pedestrian and cycling networks and other areas of the public realm within activity centres. The location, orientation and detail of the built environment must facilitate passive surveillance to the public realm. To achieve this each building must incorporate openings (i.e. windows, balconies) which overlook or provide views to the public realm unimpeded by fences or other built structures. Rubbish disposal infrastructure must be provided for all activity centres of a District level and above. Buildings should be designed to avoid creating small alcoves capable of facilitating lurking activity due to their size, orientation and incapable of passive surveillance.
Active street fronts	Non-residential land uses within activity centres at all levels of the hierarchy designed to maximise activity between the public realm and land uses and induce interest and maximise economic and social transactions.	<ul style="list-style-type: none"> Buildings other than residential-only developments must be sited and orientated to provide an active interface with the pedestrian realm rather than set back or wrapped in car parking or other inactive uses. 50% of the building frontage should be wholly visually permeable (i.e. free of partial or complete obstructions, including blinds, curtains and advertising).
Social Inclusion	Support the creation and improvement of an environment which provides opportunities for safe, comfortable social interaction options for all users.	<ul style="list-style-type: none"> Encourage and support: <ul style="list-style-type: none"> Cafes and restaurants; Community facilities (libraries, free WIFI, meeting halls, etc); Town squares; Shared or semi-public spaces such as community gardens, sporting/hobby clubs, or religious venues; and Parks which provide space for passive recreation, sporting equipment/facilities or equipment supportive of dog/pet exercise.
Natural Landscape	Provide access to the natural environment to offer relief from the built environment and be supportive of physical and mental health benefits gained from restorative environments.	<ul style="list-style-type: none"> Soft landscaping, including trees, shrubs, lawn and natural vegetation, provided to the public realm at a rate which provides views of soft landscaping in all parts of the public realm.
Aesthetic Attractiveness and Interest	The public realm will be overall aesthetically attractive and provide a range of pleasant and interesting sensory experiences for users.	<ul style="list-style-type: none"> Street furniture, paving and other hard landscaping elements should be of high quality finishes, hardwearing and capable of reasonably easy and inexpensive maintenance.

Source: Pracsys 2011, Hames Sharley 2011

5.7.13.3 IMPACT

5.7.13.3.1 CHANGE IN STATE

The relationship between change in amenity and public realm and the proposed changes to an activity centre should be outlined in the context of the amenity and public realm targets. Any detrimental impact upon the targets resulting from the proposal should be justified with a variation to the targets proposed.

5.7.13.3.2 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

5.7.14 ADAPTABILITY

A challenge to the planning of activity centres is how to deliver the LCACS principles, whilst not consigning an activity centre to an end state that is irrelevant to the needs of the time. Many if not all successful activity centres move through significant periods of maturation in which their function, users, infrastructure and context change dramatically. Recognising this, implementation of the LCACS should insure that the activity centres are readily capable of adapting or of being adapted to meet the changing needs of its user mix.

5.7.14.1 EXPECTATIONS

Outline specific initiatives that may enhance the adaptability of the activity centre, or conditions that may inhibit future activity. It is important to ensure that any condition or restraint deemed necessary, only intervene with a centre's future adaptability to the smallest possible degree. Generally activity centre plans should seek to be as adaptive as possible wherever this can be achieved.

5.7.14.1.1 CONTEXT

Outline reasoning behind any conditions (e.g. caveats, prescriptive built form requirements, management and tenure arrangements etc.) that may restrict the ability of the activity centre to adapt to a change in context.

5.7.14.1.2 SCOPE

Assessment of the adaptability of an activity centre should consider the implications of initiatives across all assessment areas, particularly the achievement of the overarching vision.

5.7.14.2 TARGETS

5.7.14.2.1 STANDARDS

- Any constraints/initiatives need to be directly related to the vision and the underlying principles of the LCACS.
- Any constraints that are included have a time revision or expiry attached to them.

5.7.14.3 IMPACT

5.7.14.3.1 CHANGE IN STATE

The relationship between change in adaptability and the proposed changes to an activity centre should be outlined in the context of the adaptability targets. Any detrimental impact upon the targets resulting from the change in adaptability should be justified with a variation to the standards proposed.

5.7.14.3.2 IMPLICATIONS

If there is a change in state then describe what effect this will have on the vision for the project, comment on whether this impact is justified, and how this will be managed in the context of the activity centre as a whole.

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6 IMPLEMENTATION THROUGH THE CITY'S STRATEGIC PLANNING PROCESSES

The other area of influence of the LCACS is through the preparation of strategic planning documents by the City. These documents include local planning strategies, schemes, scheme amendments, local planning policies and guidelines.

The LCACS sets the strategic vision and broad framework to guide the planning and development of the City's activity centres and to help guide planning for other commercial and industrial areas, including strategic employment centres. However, it is not the only strategic document that will affect activity centres and strategic employment centres. In the life of the LCACS, new local planning strategies will be prepared, scheme amendments proposed to extend or introduce new activity centres, and the preparation of local planning policies that affect the development, subdivision, or use of land within activity centres. In order to implement the LCACS, all of the City's strategic planning must give due consideration to the LCACS. Wherever relevant its nine principles should be adopted and used to guide the City's work. The eleven areas of assessment should be used to provide a finer level of detail for understanding the elements and considerations for implementing the nine principles in strategic planning documents.

This section of the report outlines the City's strategic planning framework and the processes that will implement the LCACS.

6.1 LOCAL PLANNING STRATEGIES

The LCACS is a local planning strategy which forms a major component of the local strategic planning framework for the City. The LCACS sits below the City's 2002 Local Planning Strategy (LPS), which was produced in support of the then draft TPS3. The 2002 LPS sets out the long-term planning directions for the municipality and provides the rationale for the zones and other provisions of TPS3.

The LPS is under ten years old and is considered to reflect the contemporary planning issues facing the City and still provides relevant guidance for the City's strategic planning. A review of the 2002 LPS is forecast within the next five years. A consolidation of the TPS3 is currently underway (2011/12) with the intent that the Scheme consolidation will enable a further five years of operation of TPS3.

The review of the 2002 LPS would involve the detailed consideration of many related issues, including detailed consideration of the prevailing State Planning Framework. The updated Strategy would provide for the future planning direction of the City out to a 15 to 20 year horizon. The review may involve the preparation of other strategies, which focus on specific issues which are critical to the future planning of the City.

Until the review of the 2002 LPS and the preparation of other local planning strategies have been undertaken, the LCACS will be read in conjunction with the 2002 LPS.

Figure 11 provides an overview of how generally the LCACS fits within the wider strategic planning framework.

The LCACS to some degree relies on the development of complementary strategies to achieve full implementation of its vision. The performance of activity centres is intrinsically related to issues of transport, housing and economic development. The long term achievement of Directions 2031, SPP4.2 and the LCACS vision for activity centres will rely on a comprehensive and well integrated set of strategic planning documents.

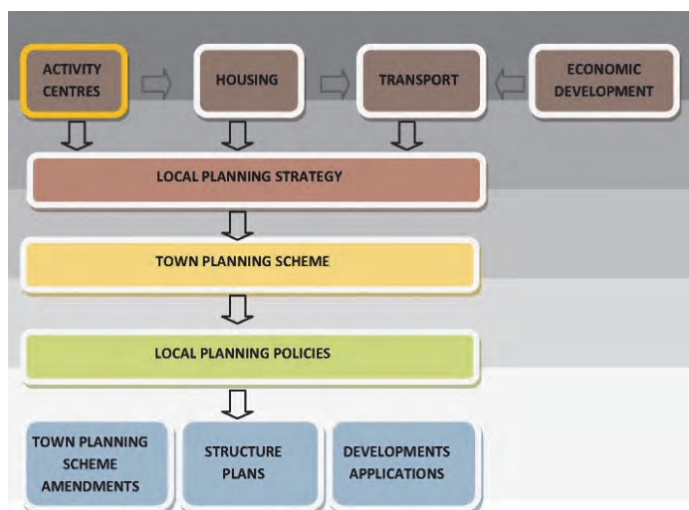
6.1.1 LCACS AND TRANSPORT

The efficient transport of people and goods is a core requirement for maintaining the integrity of the activity centre network and success of individual centres. Directions 2031, SPP4.2 and the LCACS all aspire to improve and ensure the continued efficiency of Perth's movement network. Two principles embedded in all three of the previously mentioned documents are

achieving a greater balance between public and private transport modes and improved coordination of land use and transport planning. The future preparation of a transport infrastructure strategy for the City will be an essential part of delivering these aspirations. This transport infrastructure strategy will be particularly important to enable the City to undertake planning and make decisions which ensures transport infrastructure matches land use activity.

The overall objective of the transport infrastructure strategy would be to ensure different activities are orientated towards appropriate locations in terms of the accessibility needs of the activity and its users. In order to achieve the better integration of land use and transport planning, an in-depth understanding of current and future transport networks (across all modes) is required, with accessibility profiles of centres, and strategic employment areas being prepared.

Figure 11 Local Strategic Planning Framework



This improved understanding of the current and future transport networks across the City would aid in the implementation of the LCACS, in particular the following principle:

- Principle 4 – Support Integrity of the Network of Activity Centres
- Principle 5 – Optimise Access To and Within Centres
- Principle 6 – Match Use with Purpose of Place

6.1.2 LCACS AND HOUSING

Housing affordability and choice are significant issues across Perth and the City of Cockburn. Another major planning issue is how to provide for enough housing for the significant population growth expected in Perth over the few decades. Under Directions 2031, SPP4.2 and the LCACS, activity centres will play an important part in addressing these housing issues. Activity centres are highly accessible, well serviced and should offer high levels of amenity, making them the most suitable locations future housing provision. SPP4.2 introduced residential density targets for the walkable catchments of a centre and many of the LCACS principles relate to the provision of higher density housing and affordable housing within and around the City's activity centres. These principles include:

- Principle 1 – Efficient, Intense and Compact centres
- Principle 2 – Optimise Frequency, Concentration and Quality of Transactions
- Principle 3 – Support Maturation of Centres
- Principle 5 – Optimise Access To and Within Centres
- Principle 8 – Place Equity

In order to achieve the delivery of more housing choice, affordable housing options and greater densities around our activity centres, complementary strategic planning for housing is required. There are various strategic planning approaches which can be adopted by local governments to address housing issues. These may include local housing strategies or strategic plans for individual neighbourhoods.

The City undertook the Phoenix Revitalisation Strategy between 2006 and 2009. The Strategy provides a framework for improvements to the Phoenix District Centre, supporting its evolution into a mixed use hub for office, residential, retail, entertainment, cultural, civic activities. The Strategy also looked at opportunities for urban infill across the surrounding suburbs of Spearwood and a portion of Hamilton Hill, which resulted in amendments to TPS3 to allow more urban infill. Preparation of the Revitalisation Strategy included a comprehensive community consultation program.

In early 2011 the City resolved to commence the preparation of a Revitalisation Strategy for the remaining portion of Hamilton Hill. A detailed community consultation process for the Revitalisation Strategy has now been complete and the Strategy is expected to be finalised in mid 2012. The City is likely to continue the preparation of these revitalisation strategies within the City's established and well connected suburbs in order to deliver more housing choice, affordable housing options and greater densities around our activity centres.

It will be appropriate that the City complement these revitalisation strategies through appropriate analysis and consideration of housing issues as part of the City's revised LSP.

It is also appropriate that the City as part of its continued preparation of revitalisation strategies, investigate the need for DAPs for established neighbourhood and local centres within the study areas. DAPs should be prepared by the City in consultation with landowners when deemed necessary by a revitalisation strategy in order to deliver the improvements.

6.1.3 LCACS AND ECONOMIC DEVELOPMENT

Creation of new jobs within activity centres and our strategic employment centres is a key objective of Directions 2031, SPP4.2 and the LCACS. The background studies for the LCACS suggest that it is more than realistic for the South-West sub-region, including the City of Cockburn to achieve the employment outcomes set for it under Directions 2031. However, even though the City appears to be able to achieve its employment self-sufficiency target, achieving growth in the strategic employment which is knowledge intensive and export orientated should still remain a key objective for the City.

Strategic employment, unlike population-driven employment, results from the creation and transfer of goods and services to an external market. Again, unlike population driven employment, strategic employment does not automatically occur. It results from an enterprise actively seeking to meet the needs of an external market and developing a competitive advantage in the process. The presence of strategic employment within a local economy is critical to the long-term prosperity and resilience of an economy; as:

- There is no 'saturation point' to strategic employment (whereas there is only so much population-driven activity that a particular population needs or can afford);
- A diverse range of economic activity servicing external markets diversifies

the risk associated with downturns in a single market;

- Strategic economic activity tends to include higher 'value-added' activities that are more likely to result in greater flow-on benefits to the local economy;
- Strategic economic activity tends to result in higher wage-productivity for employees and significant business opportunities for small to medium enterprises.

Understanding the characteristics, needs and future growth opportunities of major strategic employers within the City is essential for Cockburn if the City is to play a proactive role in the future economic development of these industries. The key areas of focus for the City should be:

- Understanding of roadblocks; and
- Prioritisation of resources

In order to create a more balanced activity centre network across Perth and to deliver the LCACS principles to Support Maturation of Centres, Support Integrity of the Activity Centre Network and Place Equity, continued growth of strategic employment opportunities within the City is necessary. An economic development strategy will be an important part of gaining an understanding of roadblock and the prioritisation of resources to support the continued growth of strategic employment within the City.

6.2 TOWN PLANNING SCHEME NO 3

TPS3, which was gazette in 2002, includes land use and development provisions guided by the vision and objectives of the 2002 LPS. As is the case for the 2002 LPS, it will be necessary to review TPS3 within the next five years. The review of TPS3 would occur in conjunction with the update of the 2002 LPS.

As an important element of the local planning strategy framework, the LCACS will form one of the major strategic planning inputs into the TPS3 review.

There are a number of discrete areas of TPS3 that are particularly relevant to the implementation of the LCACS and SPP4.2. These areas are discussed below and it is recommended that these areas be covered by an omnibus amendment to TPS3 prior to a formal and more extensive review.

6.2.1 LAND USE DEFINITIONS

The land use definitions included in Schedule 1 of TPS3 should be reviewed to reflect contemporary land uses and business models. In particular development of a new definition for bulky goods business models is required to appropriately deal with the negative externalities of this growing business model.

Appendix 7 contains a detailed report into bulky goods definitions and decision rules. The findings of this report should be used to inform a future review of land use definitions within TPS3.

6.2.2 ZONES

TPS3's commercial zones generally accord with the commercial zones set out in SPP4.2 and the Model Scheme Text. However, there are a number of matters relating to TPS3's commercial zones which require attention.

6.2.2.1 BULKY GOODS

A review of the permissibility of land uses within the various commercial zones of TPS3 is required. A review of the permissibility of bulky goods is particularly appropriate considering the requirements of SPP4.2 and the current permissibility for this type of land use under TPS3 zones. Bulky goods are displayed and sold from retail showrooms that typically comprise extensive display and storage areas with direct vehicle access and car parking. Bulky goods retailing does not include the sale of food, clothing or personal effects goods.

SPP4.2 outlines a number of principles for the control of bulky goods development by the responsible authority, in this case the City of Cockburn. These principles include:

- Promotion of clusters of bulky goods retail adjacent to, or in close proximity to activity centres and the regional road and public transport networks. This is in order to maximise the use of infrastructure, including the shared use of car parking, limit the number of car trips, and economically support other activity centre business.

- Avoid the encroachment of bulky goods retail in industrial zones.
- Avoid development of bulky goods retail in an ad-hoc manner or as ribbon development along regional roads is discouraged.
- Access and urban design controls should be applied to development of bulky goods retail so as not to interfere with traffic flow and safety, or detract from the amenity of public transport or the locality.
- Local planning schemes and planning decision-making for bulky goods retail should include consideration of land requirements based on demonstrated future floorspace needs and the need to retain affordable industrial land.

Under TPS3 bulky goods are currently a permitted use within all of the City's industry zones and therefore amending TPS3 land use permissibility for bulky goods retail (through modifications to the Land Use Table) is necessary.

The review should be informed by:

- A needs assessment for future bulky goods development which uses up-to-date demand modelling for bulky goods to identify the future land-take requirements for bulky goods development.
- An audit of the land available for the development of bulky goods under TPS3.

- Identification of suitable location for future bulky goods development which meets the needs of the business model and the principles of the LCACS, ie accessibility, exposure, proximity to activity centres.

Refer to **Appendix 7** for a detailed report into bulky goods definitions and decision rules. The findings of which should be used to inform a future review of commercial zones within TPS3.

6.2.2.2 STRUCTURE PLAN AND DAP ADOPTION WITHIN CENTRE ZONES

As per the Model Scheme Text, TPS3 provides for the adoption of structure plans and DAPs within Development Areas set out in Schedule 11. The provisions set out the purpose, essential requirements, scope and approval processes for structure plans and DAPs. These provisions make compliance with an adopted structure plan or DAPs a statutory obligation under TPS3.

Most of the City's activity centres do not lie within Development Areas and therefore there is no ability for the City to formally adopt an activity centre structure plan or DAP over these centres under TPS3. As such it is appropriate that an amendment to TPS3 be prepared to include provisions for adopting structure plans and DAPs over land zoned local centre, district centre and mixed business. This would allow the City to adopt structure plans and DAPs over its existing activity centres on 'centre' zoned land which landowners would be obliged to comply with when subdividing and development land.

6.2.2.3 RESIDENTIAL DEVELOPMENT IN CENTRE ZONES

Review of the permissibility of residential land uses in centre zones, particularly the local centre zone, is required. There is development pressure, particularly in the City's smaller centres, to develop whole centres, or large portions of centres for residential development. This pressure arises when the current to short term demand for commercial and retail floorspace does not warrant the immediate development of the land for these uses. This phenomenon threatens the future efficiency of the activity centre network and the ability of future residents to access goods and services.

Currently under TPS3 grouped and multiple dwellings are a permissible use within the district and local centre zones and single dwellings area a discretionary use. It is recommended that TPS3 be amended so that all residential uses, excluding caretaker's dwellings are a discretionary use within the local and district centre zone. To help guide the City in determining the appropriateness of applications for residential land uses in the local and distinct centre zone, the City should prepare a local planning policy. The local planning policy should outline the instances in which residential land uses in local and district centre zones should be supported and conversely not supported. The policy should take into consideration:

- Accessibility of current and future residents to other commercial and retail land uses;
- Projected future demand in the locality for commercial and/or retail uses;

- The ability of the proposal to be retrofitted in the future to accommodate commercial land uses.
- The intensity of the residential development. Higher density residential development is more preferable to lower density development.

In addition the policy should provide guidance for adaptable building design requirements which the City can use to ensure development proposals can accommodate future commercial land uses when demand increases.

6.2.2.4 EXTENT OF CENTRE ZONES

Review of the extent of centre zones in light of employment allocation modelling, population driven demand modelling and future activity centre structure planning may be necessary. A review of a centre zone boundary would most likely be triggered as an outcome of an activity centre structure plan or a significant development proposal. This review is not seen as necessary at present and will not form part of the future omnibus amendment to implement the LCACS.

6.2.2.5 RESTRICTED USE PROVISIONS

TPS3 Schedule 3 – Restricted Uses contains a number of restrictive use provisions which relate to activity centres. A number of these provisions restrict the expansion of certain land uses. These provisions appear to be based on restricting competitive rather than proper planning consideration. A review of all restrictive use provisions in Schedule 3 that relate to activity centres should be undertaken with the

objective of removing all anticompetitive restricted use provisions that do not relate to valid planning considerations.

6.2.3 PARKING WITHIN ACTIVITY CENTRES

SPP4.2 states that for land within the boundary of an activity centre, the responsible authority should set upper limits to car parking in view of opportunities for reciprocal and shared parking, availability of on-street or other public parking and the need for land efficiency.

As a guide, the maximum rate of car parking applied in activity centres should be two bays per 100m² for showrooms and offices and 4-5 bays per 100m² for shops. Minimums may also be required, however, there should be flexibility for developers to provide less or no parking on-site and contribute cash-in-lieu towards facilities and services for common-use parking, public transport and alternative transport modes.

TPS3 parking provisions set out in Section 5.9.5 to 5.9.9 should be reviewed in light of these upper limit car parking requirements.

6.3 LOCAL PLANNING POLICIES

The City has only adopted one local planning policy under TPS3 which specifically relates to activity centres. This policy is *APD36 Shopping Centres and Service Stations*. A second local planning policy adopted by the City which is likely to become increasingly relevant to the planning of activity centres is *APD31 Detailed Area Plans*. Detailed Area Planning over smaller centres such as neighbourhood and local centres is likely to become more common as DAPs are the principal means by which local governments can control the planning and design of these centres under SPP4.2 and the LCACS. A position statement has also been prepared outlining the City's requirements for landscape plans within Industrial, Commercial and Mixed Business Zones.

The two existing local planning policies and position statements relevant to activity centres are summarised in **Table 33**. The table also includes commentary on potential updates to the policies required in order to implement the LCACS.

To implement the LCACS' Principle 7 – Place Identity, Amenity and Integrity and provide further detail on public realm and amenity expectations outlined in **Table 2 - Activity Centre Typical Functions and Characteristics**, the LCACS recommends an investigation into the need for a Percent For Art Local Planning Policy, consistent with the goals of the 2009 Public Art Strategy, and a Public Realm Investment Local Planning Policy. This

investigation will culminate in the preparation of a policy if decided necessary.

6.4 GUIDELINES, MODELS, AND PROCEDURAL DOCUMENTS

In order to support the implementation of the LCACS through the strategic and statutory planning processes and decision making it is recommended that the City develop an internal procedural guideline. This document would be used by staff to aid their decision making and to inform any changes to the process for receiving, processing, assessing, referring for comment and approving proposals within activity centres.

It is also recommended that the City prepare and adopt a position statement to support the implementation of the LCACS by the City. The position statement would formally recognise the principles, objectives and considerations of the LCACS and clarify for stakeholders, both within the City and external, how the LCACS will be implemented.

The LCACS proposes the preparation of a position statement rather than a local planning policy for two reasons:

1. The LCACS, as a local planning strategy, already provides a statutory device for implementing the City's aspirations and objectives for activity centres; and
2. The LCACS provides adequate detail for implementing its principles through the City's strategic and statutory planning processes and decision making.

TABLE 33 LOCAL PLANNING POLICY REVIEW		
Local Planning Policy	Summary of Policy	Required Updates
APD36 Shopping Centres and Service Stations	<p>The Policy was first adopted in 2002 in order to assist Council in the evaluation of proposals for shopping centres and service stations and decision making process.</p> <p>The Policy requires that proposals to develop or redevelop shopping centres within the City be assessed in accordance with Network City: Community Planning Strategy for Perth and Peel, Liveable Neighbourhoods Edition 4 and all State Planning Policies. The policy also requires that proposals demonstrate consistency with the principles and specifications contained in Liveable Neighbourhoods and all relevant State Planning and the 2002 Local Commercial Strategy.</p>	<p>The Policy should be reviewed and potentially rescinded or all references to shopping centres removed.</p> <p>The LCACS proposes the City prepare and adopt a position statement on activity centres to provide direction on the implementation of the LCACS by the City.</p>
APD31 Detailed Area Plans	<p>The Policy was first adopted in 2001 to ensure adequate planning and design considerations are incorporate into DAPs for the purpose of achieving responsive development outcomes where unique circumstances apply or particular outcomes are to be achieved.</p> <p>The Policy requires that DAP's incorporate provisions or specify requirements dealing with a number of matters wherever applicable. These matters include</p> <ul style="list-style-type: none"> • Site Planning (setbacks and dwelling orientation) • Open Space • Street or Public Edge • Safety • Parking and Access • Sustainability (Solar passive orientation and natural ventilation of buildings) • Noise • Character • Landscaping • Consultation 	<p>The Policy is quite comprehensive in its coverage of the matters to be considered by a DAP. The Policy in its current state could be used to guide the preparation of the DAPs for neighbourhood or local centre. However, the Policy should still be updated in light of the LCACS to ensure implementation of the Strategy.</p>
PSPD 8 Landscape Standards for Industrial, Commercial and Mixed Use Development.	<p>The Position Statement specifies Council's requirements for the details to be included on landscape plans and to specify the required form of landscaping.</p> <p>The Policy specifies that applicant must comply with very basic landscaping standards that include landscaped area not less than 10% of total lot area, retention or planting and maintaining one tree every four car parking spaces.</p>	<p>The Position Statement should be reviewed to reflect the public realm and amenity aspirations for activity centres outlined in the LCACS, particularly Principle 7 – Place Identity, Amenity and Integrity.</p>

To aid external stakeholders and proponents implement the LCACS at all level of planning approval it is recommended that the City develop another set of guidelines specifically for external stakeholders.

To assist proponents of development within the City's smaller activity centres in interpreting the requirements of the LCACS it is also proposed that the City prepare a model DAP for neighbourhood and local centres and *General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres*.

The model DAP would support landowners in interpreting the LCACS by providing a demonstration of the physical implications of the Strategy's principles and objectives. The model DAP should be complimented with explanatory text.

The preparation of *General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres* will provide an easy to use and generally universally applicable set of expectations and target (as outlined in Section 5.7) for the City's smaller activity centres. This is necessary for smaller centres as it may not be feasible for smaller scale developments to undertake the detailed and specialised reporting required by Section 5.7. Also the expectations and targets for these smaller centres will general be the same across the City. The guidelines will allow proponents in smaller centres to apply the general expectations and target to the subject centre and report on the unique impacts of their proposal in terms of these general expectations and targets.

6.5 LCACS ACTION PLAN

TABLE 34 ACTIONS FOR CITY TO IMPLEMENT LCACS				
Actions	Stakeholders	Priority	Timeframe	Relevant Area of Strategic Plan
Strategic Planning Framework				
Review the LPS (Appendix 8 provides a suggested scope of works for review of LPS).	City of Cockburn Lead Department: Planning Services Department	Medium	5 years	Governance Excellence
Prepare and adopt a transport infrastructure strategy (Appendix 8 provides a suggested scope of works for preparation of integrated transport strategy).	City of Cockburn Lead Department: Infrastructure Services Department Support Departments: Planning Services Department and Engineering Services Department	High	1-2 years	Transport Optimisation Infrastructure Development
Prepare and adopt an economic development strategy to aid the City removing roadblock and prioritisation of resources to support continued economic development within the City (Appendix 8 provides a suggested scope of works for preparation of integrated transport strategy).	City of Cockburn Lead Department: Finance Department Support Departments: Planning Services Department	High	1-2 years	Employment and Economic Development
Continue the preparation of revitalisation strategies within the City's established and well connected suburbs in order to deliver more housing choice, affordable housing options and greater densities around our activity centres. Revitalisation strategies will investigate the need for DAPs for neighbourhood and local centres within the study area and will prepare DAPs in consultation with land owners when deemed necessary to deliver improvements.	City of Cockburn Lead Department: Planning Services Department	High	Ongoing	Demographic Planning Infrastructure Development
Town Planning Scheme No 3				
Comprehensive review of TPS3.	City of Cockburn Lead Department: Planning Services Department	Medium	5 years	Governance Excellence
Prepare and adopt an amendment to TPS3 to include provisions for adopting structure plans and DAPs over land zoned local centre, district centre and mixed business.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Review land use definitions included in Schedule 1 of TPS3 to reflect contemporary land uses and business model, particularly for bulk goods.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Review the permissibility of commercial land uses for the various commercial zones within TPS3, particularly bulk goods in industrial zones and residential land uses in centre zones,	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Review TPS3 parking provisions set out in Section 5.9.5-5.9.9 in light of the upper limit car parking requirements set out in SPP4.2.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Review Schedule 3 – Restricted Uses of TPS3 with the objective of removing all anticompetitive restricted use provisions that do not relate to valid planning considerations.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence

Policies and Guidelines				
Review <i>APD36 Shopping Centres and Service Stations, APD31 Detailed Area Plans and PSPD 8 Landscape Standards for Industrial, Commercial and Mixed Use Development.</i>	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department and Parks and Environment Department	High	1-2 years	Governance Excellence
Prepare Local Planning Policy to guide development of residential land uses in centre zones.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department.	High	1-2 years	Governance Excellence
Investigate the preparation of a Percent For Art Local Planning Policy, consistent with the Goals of the 2009 Public Art Strategy	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department and Community Services Department	High	1-2 years	Governance Excellence Lifestyle and Aspiration Achievement
Investigate the preparation of a Public Realm Investment Local Planning Policy	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department, Community Services Department and Parks and Environment Department	High	1-2 years	Governance Excellence Lifestyle and Aspiration Achievement
Prepare <i>General Guidelines on the Expectations and Targets for Neighbourhood and Local Centres</i>	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Develop guidelines for proponents and external stakeholders to aid them implement of the LCACS.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Prepare a model DAP for a neighbourhood or local centre with explanatory text to demonstrate LCACS objectives for these centres.	City of Cockburn Lead Department: Planning Services Department Support Departments: Development Services Department	Medium	2-4 years	Governance Excellence
Activity Centre Structure Plans				
Facilitate the preparation and adoption of an overarching activity centre structure plan for Cockburn Central Regional Centre and Phoenix District Centre.	City of Cockburn Lead Department: Planning Services Department WAPC, PTA, Landcorp and Major Landowners	Medium	2-4 years	Governance Excellence Infrastructure Development
Internal Processes				
Develop an internal procedural guideline to aid the City implement the LCACS through the processing and assessment of strategic and statutory planning application.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence
Prepare and adopt a Position Statement to support the implementation of the LCACS by the City.	City of Cockburn Lead Department: Planning Services Department Support Department: Development Services Department	High	1-2 years	Governance Excellence

6.6 OWNERSHIP OF STRATEGY

The successful implementation of the LCACS will require the City, including the following internal departments:

- Planning Services Department;
- Development Services Department;
- Infrastructure Services Department; and
- Engineering Services Department

to take ownership of the Strategy and give due regard to it in all relevant works and decision making. Wherever applicable its nine principles should be adopted and used to guide the City's work.

The WAPC will also play an important part in the implementation of the LCACS. Under SPP4.2 the WAPC is responsible for approving activity centre plans for strategic, secondary and district centres and *major developments*. The City will request the WAPC adopt the LCACS in accordance with Regulation 12B of the *Town Planning Regulations*. The WAPC should pay due regard to the Strategy and apply its

principles when making decisions that directly relate to activity centres within the City of Cockburn.

6.7 REVIEW MECHANISMS

The LCACS should be reviewed by the City in its fifth year of operation, subsequent to its adoption by the City. This review should consider;

- the experience of the City, WAPC, proponents and the Cockburn community with the application and outcomes of the LCACS;
- the City's current aspirations for the area;
- the current State and Federal Government policy context; and
- contemporary trends and conditions including business models, consumer demands, industry trends, employment conditions and requirements, and housing and transport issues.

7 DEFINITIONS

Activity centre: Activity centres are community focal points. They include activities such as commercial, retail, higher density housing, entertainment, tourism, civic/community, higher education, and medical services.

Activity centre boundary: Activity centre boundaries are determined by the City of Cockburn for the purpose of:

- identifying the extent of applicability of the SPP4.2 Activity Centres for Perth and Peel and the LCACS;
- estimating the growth potential and land use mix of an activity centre; and
- managing the interface between centre-scaled development and adjacent land.

Factors to be considered when determining an activity centre boundary may include:

- existing zoning in MRS or local planning scheme;
- topographical features;
- major infrastructure elements;
- walkable catchment to major public transport stops; and
- appropriate interface or transition points for a change in land use or development scale, such as rear boundaries.

Activity centre hierarchy: The hierarchy is a strategic planning framework used to guide the long term planning for and development of Perth's activity centres.

The core aim of the hierarchy is to cause the optimum distribute of activity centres to meet

community needs by enabling employment, goods and services to be accessed efficiently and equitably by Perth's populace.

Another important element of the hierarchy is to provides certainty for public and private investment in activity centres.

An activity centre position in the hierarchy helps to define a centre's anticipated purpose.

Activity centre user: Includes the residents, visitors, workers and organisations that use an activity centre for either the procurement of goods and services, employment, to recreation or as a location to operate their business.

Activity centre use mix: The collection of centre users who visit a centre or are located at a centre.

Activity centre purpose: An activity centre's purpose will be largely influences by its level within the activity centre hierarchy, its user mix, accessibility and any unique location factors. The purpose of an activity centre may be defined by a number of centre characteristic including, but not limited to its role, function, transport accessibility, amenity and sense of place.

Economies of agglomeration: Describes the benefits that firms obtain when locating near each other. It refers to efficiencies that result from close proximity to suppliers, competitors, customers, labour and technology sources. Agglomeration economies exist when production is cheaper because of a clustering of economic activity. Agglomeration environments are fertile

breeding grounds for innovation. Cities form and grow to exploit economies of agglomeration.

Employment quality: Quality of employment describes the nature of employment (strategic, population driven and/or knowledge intensive).

Employment knowledge-intensity: a measure of the educational requirements for the occupation.

Gross hectare: The area of zoned land under the region planning scheme. ie. excluding the area reserved for parks and recreation, railways, primary and other regional roads and public purposes.

High quality transactions: A transaction is the exchange of items of value between users, such as information, goods, services, and money. High quality transactions often involved social interactions or the transfer of knowledge.

Intensity: refers to the propensity with which financial, social, employment and other types of transactions occur within a given area. There are two components for measuring intensity. These are residential density and plot ratio for commercial and industrial land uses.

Major development (as per SP4.2):

Development of any building or extension/s to an existing building where the building or extensions are used or proposed to be used for shop-retail purposes and where the shop-retail NLA of the:

- proposed building is more than 10000m²; or
- extension/s is more than 5000 m².

It is important to note that Major Development is not the same as significant development under the LCACS.

Net lettable area (NLA): The area of all floors in the internal finished surfaces of permanent walls but excluding:

- all stairs, toilets, cleaners cupboards, lift shafts and motor rooms, escalators, tea rooms, and plant rooms, and other service areas;
- lobbies between lifts facing other lifts serving the same floor;
- areas set aside as public space or thoroughfares and not for the exclusive use of occupiers of the floor or building; and
- areas set aside for the provision of facilities or services to the floor or building where such facilities are not for the exclusive use of occupiers of the floor or building

Public realm: Includes all those parts of the built and natural environment where the public has free and unrestricted access. It encompasses all the streets, plazas, parks, public infrastructure and the 'public/private' spaces where public access is unrestricted.

Aspects of privately owned space such as the bulk and scale of building facades, or gardens that are visible from the public realm, can contribute to the quality and functionality of the public realm.

These areas must offer the community a safe, attractive, usable and inviting space to carry out all reasonable public activities. These public activities may include meeting people, public performances, milling or loitering.

Retail sustainability assessments (RSA): Assesses the potential economic and related effects of a significant retail expansion on the network of activity centres in a locality. It addresses such effects from a local community access or benefit perspective, and is limited to considering potential loss of services, and any associated detriment caused by a proposed development. Competition between businesses of itself is not considered a relevant planning consideration.

Shannon's Equability Index: Used to measure diversity (e.g. land use or employment diversity) in categorical data. Shannon's Equability Index is a diversity score between zero and one. A perfectly homogeneous activity centre, (i.e. one that performs a purely retail function) would have an equitability index of zero, a perfectly

heterogeneous activity centre would have an equitability index of one.

Strategic employment centre: These centres support a high density of jobs outside of the City's commercial focused activity centres and include large industrial areas, such as Jandakot Airport, Henderson, Bibra Lake, Jandakot East and West, and Latitude 32.

Strategic employment: Unlike population-driven employment strategic employment results from the creation and transfer of goods and services to an external market. Again unlike population driven employment, strategic employment does not automatically occur. It results from an enterprise actively seeking to meet the needs of an external market and developing a competitive advantage in the process.

Supply chain efficiency: Outputs achieved by the supply chain relative to the resources used. Improved efficiency comes from achieving improved outputs using the same or fewer resources.

Walkable catchment: Derived from application of the 'ped-shed' technique to the existing or proposed street network in the boundaries of the centre plan. ie. The:

- extent of the walkable catchment is either 200m, 400m or 800m depending on centre type (outlined in **Table 2**); and
- Walkable catchment is measured from rail stations, major bus transfer stations or stops located on high-frequency bus routes.

APPENDIX 1 LCACS POLICY CONTEXT

REGIONAL PLANNING CONTEXT

STATE PLANNING STRATEGY

The State Planning Strategy (SPS), first published in 1997, and provides the basis for long-term State and regional land use planning within Western Australia. It sets out the key principles, strategies and actions relating to environment, community, economy, infrastructure and regional development which should guide all future planning decisions.

The following strategies and actions from the SPS directly relate to the formulation of the LCACS:

Strategy	Actions
<p>Build a sense of community through the design of accessible settlements and public facilities.</p>	<p>Give greater emphasis to:</p> <p>Ensuring that urban design considerations in the Liveable Neighbourhoods: Community Design Code for residential land maximises the potential to foster a strong sense of community, and an accessible safe built environment. (WAPC, LG)</p> <p>Promoting mixed uses of land in communities, especially through the location of housing in commercial centres. (WAPC, LG)</p> <p>Monitoring and promoting to private developers and others world best practice in the area of accessible urban design which assists in the development of a sense of community and vibrant neighbourhoods. (WAPC)</p>
<p>Provide flexibility in the planning system to meet the needs of small business.</p>	<p>Give greater emphasis to:</p> <p>Ensuring that town planning schemes allow for the development of small businesses in close proximity to residential areas. (WAPC, LG)</p> <p>Ensuring that town planning schemes contain flexible provisions so that land can be used for a variety of compatible purposes. (WAPC, LG)</p> <p>New strategic action:</p> <p>Incorporate in town planning schemes the location of Business Parks (with access to high quality telecommunications and good public transport) close to residential areas for the use of small businesses and local residents. (WAPC, LG, DOCAT)</p> <p>Provide for mixed-use areas. (WAPC, LG)</p>
<p>Provide for the likely growth of downstream processing and value adding industries.</p>	<p>Give greater emphasis to:</p> <p>Investigating strategic industry sites accessible to regional centres and ensuring that they are incorporated into regional plans and/or statutory region schemes. (WAPC, DRD, Development Commissions, LandCorp, DOCAT, LG)</p> <p>Ensuring that regional plans and statutory schemes protect access corridors to industrial sites, buffer zones and transport infrastructure and identify essential infrastructure such as waste management. (WAPC, LG, DME)</p>

Strategy	Actions
Make allowance for the needs of new industries and technologies.	<p>Support action to:</p> <p>Identify future business opportunities in each of the regions and indicate infrastructure and land use planning requirements. (LG, Development Commissions)</p> <p>Give greater emphasis to:</p> <p>Encouraging local governments to prepare town planning schemes which adopt a merits based approach for considering manufacturing and industrial development. (WAPC, LG)</p> <p>Investigating strategic sites for the location of additional Technology Parks to accommodate a range of emerging new businesses. (DOCAT, WAPC)</p> <p>New strategic actions:</p> <p>Establish an industry taskforce to investigate state of the art technologies which would minimise the impact of industrial development on the environment and provide a competitive advantage to WA industry. (WA Technology and Industry Advisory Council)</p>
Integrate land use and transport planning.	<p>Give greater emphasis to:</p> <p>Ensuring that development occurs in a manner which maximises benefits for existing and planned strategic transport infrastructure. (WAPC, Transport)</p>
Plan for balanced travel.	<p>New strategic actions:</p> <p>Provide incentives for efficient transport modes such a walking, cycling, public transport and high occupancy vehicles. (WAPC, Transport, MRWA)</p>

DIRECTIONS 2031 AND BEYOND: METROPOLITAN PLANNING BEYOND THE HORIZON

Directions 2031 and beyond: Metropolitan planning beyond the horizon ("Directions 2031") is the latest spatial planning framework for Perth and Peel and outlines the planning vision and direction that will guide the planning of the City to 2031 and beyond.

The Strategy recognises the benefits of a more consolidated city, which include;

- A reduced overall need for travel;
- Supports the use of public transport, cycling and walking for access to services, facilities and employment; and
- A more energy efficient urban form.

The Strategy aims to provide for different lifestyle choices, vibrant nodes for economic and

social activity and a more sustainable urban transport network. Directions 2031 states that thought the role and function of centres will vary depending on their catchment, centres should generally:

- provide services, employment and activities that are appropriate for and accessible to the communities they support;
- be integrated with and encourage the efficient operation of the transport network, with particular emphasis on promoting public transport, walking and cycling and reducing the number and length of trips;
- be designed based on transit oriented development principles;
- **provide opportunities as places to live** through higher density housing and

Appendix 1

the development of social and cultural networks;

- encourage the agglomeration of economic activity and cultivation of business synergies; and
- support the development of local identity and sense of place.

STATE PLANNING POLICY NO. 4.2 ACTIVITY CENTRES FOR PERTH AND PEEL

State Planning Policy No. 4.2 – Activity Centres for Perth and Peel ("SPP4.2") replaces the *Metropolitan Centres Policy*. The main purpose of SPP4.2 is to specify broad requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

Other purposes of SPP4.2 include the integration of activity centres with public transport; ensuring they contain a range of activities to promote community benefits through infrastructure efficiency and economic benefits of business clusters; and lower transport energy use and associated carbon emissions. The policy also reflects the WAPC intention to encourage and consolidate residential and commercial development in activity centres so that they contribute to a balanced network.

SPP4.2 makes limited reference to industrial areas or the Strategic Industrial Centres outlined in Directions 2031. The Policy only recommends the circumstances in which retail and office

development within industrial zones should be allowed.

STATE PLANNING POLICY NO. 3 – URBAN GROWTH AND SETTLEMENT

State Planning Policy No. 3 – Urban Growth and Settlement ("SPP3") sets out the principles and considerations which apply to planning for sustainable urban growth and settlements patterns in Western Australia. The SPP3 recognises that the State is undoing rapid growth and change, which is expected to continue. SPP3 acknowledges that the spread of urban development intensifies pressures on valuable land and water resources, imposes costs in the provision of infrastructure and services, increases dependence on private cars and creates potential inequities for those living in the outer suburbs where job opportunities and services are not so readily available.

In regard to the planning of activity centre the policy requires the local planning strategies;

- Build on existing communities with established local and regional economies, concentrate investment in the improvement of services and infrastructure and enhance the quality of life in those communities.
- To promote the development of a sustainable and liveable neighbourhood form that reduces energy, water and travel demand while ensuring safe and convenient access to employment and services by all modes, provides choice and affordability of housing and creates

an identifiable sense of place for each community.

DEVELOPMENT CONTROL POLICY 1.6 – PLANNING TO SUPPORT TRANSIT USE AND TRANSIT ORIENTATED DEVELOPMENT

Development Control Policy 1.6 – Planning to Support Transit Use and Transit Orientated Development ("DC1.6") encourages the integration of land use and transport planning, through the promotion of higher residential densities and mixed use developments within the walkable catchments of transit facilities. Transport orientated development provides an alternative to car-based suburban and urban fringe development. The purpose of this type of development is to reduce car dependence; to increase accessibility for those without access to

private cars; to reduce congestion on the road network and the demand for new road space; to reduce fuel consumption and air pollution; and to provide quality diverse and affordable forms of housing and development. DC1.6 applies to all areas of the state, within transit precincts.

LOCAL PLANNING CONTEXT

LOCAL PLANNING STRATEGY

The City of Cockburn's Local Planning Strategy ("LPS") sets out the long-term planning directions for the municipality and provides the rationale for the zones and other provisions of the TPS3. The LPS sets out the City's general aims and intentions for future long-term growth and change. The following strategies from the LPS directly relate to the formulation of the LCACS:

	Strategy
Transport	Maximise development near public transport routes.
	Minimise trip lengths in order to maximise local convenience and minimise the environmental impacts of private care users.
	Encourage cycling by defining and implementing cycle networks and promoting the provision of end-of-trip facilities.
Commercial Development	Implement a system of centres ranging from regional to district and neighbourhood centres to be the focus of commercial and community activity.
Industrial Development	Make adequate provision for industrial development.
	Investigate strategic sites for the location of Technology Parks.
	Encourage existing industry to adopt state of the art technologies to minimise environmental impacts.
Employment	Promote service sector employment by ensuring an adequate provision of appropriately zoned land for office and small business development.
	Promote increased employment self-sufficiency by providing appropriately zoned land for businesses in accessible locations.
	Improve the appearance of industrial areas in order to promote their potential to attract new businesses.

APPENDIX 2 EMPLOYMENT ALLOCATION MODELLING





**CITY OF COCKBURN
EMPLOYMENT ALLOCATION MODELLING
FEBRUARY 2012**

DISCLAIMER

This report has been prepared for **the City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 EXECUTIVE SUMMARY

The employment allocation modeling for the City of Cockburn provides an analysis of the employment requirements of activity centres within the City, if it is to effectively contribute to meeting the 70% employment self-sufficiency target set within Directions 2031 and Beyond – Spatial Framework for Perth and Peel for the South West sub-region. The modeling outlines two scenarios based upon high and low projections of population growth.

The outcomes of the model suggest that it is more than realistic for the South-West sub-region to achieve the employment outcomes set for it under both the low and high growth population scenarios. This is due to:

- The presence of significant strategic industrial infrastructure in all local governments
- Relatively low projected residential population growth (comparative to other outer sub-regions)
- Significant future public and private investment in employment generating projects (including Latitude 32 and the second port)
- Significant capacity for commercial centres to expand based upon existing agglomerations of activity, available transport infrastructure, and their designated levels in the hierarchy

This will allow the model to provide strong, well reasoned and analytically supported employment targets for the City's activity centres. These will provide guidance in the preparation of Activity Centre Structure Plans and inform local economic development strategies.

Summary tables of the employment requirements of major commercial and industrial centres within the City of Cockburn is shown in Figures 1 and 2.

Figure 1: Scenario One

Activity Centre	Population Driven Employment	Strategic Employment	Total Employment
Bibra Lake	6,294	1,070	7,364
Cockburn	1,468	529	1,996
Cockburn Coast	419	-	419
Henderson	4,180	3,999	8,178
Hope Valley Wattleup	3,459	1,491	4,950
Jandakot	3,203	146	3,349
Jandakot Airport	1,324	1,631	2,955
North Coogee	278	15	292
Spearwood	1,301	92	1,393
Total	21,925	8,972	30,896

Figure 2: Scenario Two

Activity Centre	Population Driven Employment	Strategic Employment	Total Employment
Bibra Lake	8,361	1,685	10,046
Cockburn	2,268	971	3,239
Cockburn Coast	575	-	575
Henderson	7,142	6,296	13,437
Hope Valley Wattleup	6,799	2,347	9,147
Jandakot	4,785	230	5,015
Jandakot Airport	2,002	2,568	4,570
North Coogee	390	23	413
Spearwood	1,617	77	1,694
Total	33,940	14,197	48,136

2 INTRODUCTION

2.1 PURPOSE

The release by the Department of Planning of Directions 2031 and Beyond – Spatial Framework for Peel has signaled a significant change in the State’s approach to planning for Activity Centres. For the first time the proximity of a residential population to jobs has been expressly dealt with through the setting of sub-regional employment self-sufficiency targets (the percentage of jobs in an area available to that areas workforce). These targets recognise the current incongruence between Perth’s settlement patterns, and the location of quality employment, with population growth mostly occurring in the outer sub-regions, whilst quality employment is mostly centralised around the CBD and key infrastructure.

For these employment figures to be truly relevant at an LGA and activity centre planning level a method is required that links broader sub-regional employment targets to specific activity centres within a sub-region. Utilising the projected sub-regional residential population at a defined time in the future (2031), the employment self-sufficiency target for the sub-region at this time, the position in the hierarchy of individual activity centres, and an in-depth knowledge of existing economic activity, Pracsys has modeled the top-down employment allocations required for the City of Cockburn to support the employment targets of the South-West sub-region.

2.2 SCOPE

This analysis is top-down. It does not pre-empt demand for commercial and industrial activity but instead provides the City of Cockburn with a scenario that will achieve the sub-regional targets set for the South-West.

The analysis conducted provides a breakdown of employment at each major activity centre within the City of Cockburn based upon the function of that employment – i.e. population driven or strategic. This work will be matched with a bottom-up analysis of demand conducted as part of the Population Driven Demand Analysis report.

Key top-down variables considered within this analysis includes:

- Population;
- Employment self sufficiency;
- Employment self containment;
- Activity centre maturity;
- Land constraints; and
- Infrastructure investment.

3 CONTEXT

3.1 POLICY

After much deliberation, the Western Australian Planning Commission and Department of Planning released the final versions of Directions 2031 & Beyond Metropolitan Planning Beyond The Horizon (August 2010), and the State Planning Policy 4.2 – Activity Centres for Perth and Peel. At the same time, the Department released two draft documents for comment, the Outer Metropolitan Perth & Peel - Sub-regional Strategy (August 2010) and the Central Metropolitan Perth - Sub-regional Strategy (August 2010). The purpose of the new policies is to bring the broad principles and intentions of Network City (released 2004) into the statutory planning framework.

3.1.1 Directions 2031 and Beyond

Directions 2031 is the new strategic plan for the future of the Perth and Peel region which replaces the previous government's Network City. Directions 2031 and Beyond outlines the growth policy, targets and staging for each of the city's six sub-regions.

One of the primary objectives of Directions 2031 and Beyond is to achieve a more balanced distribution of population, dwellings and employment across the metropolitan area. This involves:

- Improving the employment self sufficiency of the outer sub-regions
- Increasing distribution of new residents and dwellings to the central sub-region

While Directions 2031 broadly aligns with high level aspirations of Network City, it adopts a more realistic and more targeted approach to the growth of the City, particularly in relation to infill development.

3.1.2 SPP4.2 Activity Centres for Perth and Peel

Designed to replace the existing Metropolitan Centres Policy, SPP 4.2 Activity Centres for Perth and Peel specifies the requirements for the planning and development of new centres and the redevelopment and renewal of existing centres in the Perth and Peel region.

Performance Metrics

One of the greatest short comings of the Metropolitan Centres Policy was the over reliance on a single development control, that being retail floorspace. While the retail floorspace levels in the policy were intended as a guide they were interpreted as retail floorspace maxima for each level of a hierarchy of centres. By focusing on a single metric (retail floorspace), at the expense of other outcomes sought, the policy has failed.

There are four principles for sustainable Activity Centres that are broadly encompassed within the new Draft Activity Centres Policy. These include:

- Activity Centres with diverse offerings and users are desirable for an economically, environmentally and socially sustainable city
- Activity Centres need to perform a role in providing both quantity and quality employment as appropriate for its position in the defined hierarchy
- Activity Centres should be vibrant and intense places of an appropriate scale
- Activity Centres need to be accessible to a wide user mix utilising different modes of transport.

Activity Centres Hierarchy

The Activity Centre hierarchy is the organisation of Activity Centres within the Perth and Peel region according to function. According to the WAPC, the hierarchy “provides a strategic planning framework to guide state government and public authorities in the preparation of long term capital investment programs and to promote more private investment, particularly in primary centres”.

Figure 3: Activity Centre Hierarchy for Perth and Peel

Level	Function
Perth Central Area	Perth Capital City is the largest of the activity centres, providing the most intensely concentrated development in the region. It has the greatest range of high order services and jobs, and the largest commercial component of any activity centre.
Strategic Metropolitan Centre	Strategic metropolitan centres are the main regional activity centres. They are multipurpose centres that provide a diversity of uses. These centres provide the full range of economic and community services necessary for the communities in their catchments.
Secondary Centre	Secondary centres share similar characteristics with Strategic metropolitan centres but generally serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city's economy, and provide essential services to their catchment populations.
District Town Centre	District centres have a greater focus on servicing the daily and weekly needs of residents. Their relatively smaller scale catchment enables them to have a greater local community focus and provide services, facilities and employment opportunities that reflect the particular needs of their catchments.
Neighborhood Centre	Neighborhood centres provide for daily and weekly household shopping needs, community facilities and a small range of other convenience services.

Source: SPP 4.2 Activity Centres for Perth and Peel

4 EMPLOYMENT ALLOCATION

Directions 2031 outlines the new hierarchy of Activity Centres in the Perth and Peel area. This hierarchy nominates the role each centre should play within the network and identifies which centres should assume a strategic role, and which should perform a purely population driven function. The hierarchy nominates a limited number of Strategic Metropolitan Centres, based around infrastructure, and large enough to produce productivity increases from agglomeration. The role of these centres is not only to provide a full range of population driven amenity but also to play a greater role in the provision of high-order Knowledge Intensive Export Oriented (KIEO) jobs, services and facilities to the sub-region to reduce the growing pressure and congestion in the Perth Central Area. These centres should provide an alternative strategic employment location to the CBD, maximise leverage from transport infrastructure and begin to address the economic, social and environmental costs associated with extensive commuting.

The new Activity Centre Policy requires that evidence of overall centre performance be presented on a range of dimensions including centre diversity, activity intensity, accessibility and employment. In particular, the Activity Centres Policy requires that employment outcomes are achieved by centre developments to drive the 'suburbanisation' of jobs in line with the sub-regional self-sufficiency targets set out in the Directions 2031 document. This link between sub-regional outcomes and individual centre planning is a new and important feature of the planning environment.

Giving consideration to the strategic objectives of both Directions 2031 and the Activity Centres Policy for Perth and Peel, Pracsys has undertaken extensive economic modelling to

translate high level sub-region population and employment targets into specific employment generation targets for the Activity Centres in the City of Cockburn

4.1 PRINCIPLES AND APPROACH

There are a number of principles which are central to the development of the methodology for the employment allocation modelling.

4.1.1 Principles

Employment Self Sufficiency

Employment Self Sufficiency (ESS) and Employment Self Containment (ESC) are important measures of economic sustainability because they show how a location can generate sufficient jobs to cater for the employment needs of the residential population – in industries that earn sufficient export income to sustain the local retail/consumer-services economy for the benefit of residents.

A key objective of the development of the South West Sub-Region must be to create a sufficient number of diverse local jobs within the district, to provide residents with the opportunities to work locally. The South West Sub-Region is characterised by a net outward commute of workers from the region. These workers either trade-off longer commute distances for the amenity and/or affordability of a residence or they are unable to find the appropriate quality of work in their local area to match their occupation or skill level.

Employment Quality

The two main drivers of our collective standard of urban living are how and where we work

and reside. Of the principles put forward in Directions 2031, a priority must be strategies that deliver local jobs. A fundamental challenge as we enter into an information-based economy, is that a greater proportion of the population is moving into knowledge intensive occupations that are less transactional in nature. By contrast the employment profile of many of Perth's Activity Centres (particularly those in the middle and outer sub-regions) is proving to be dominated by retail and consumer services (transactional based) activity. The result is an erosion of the variety of industry types and occupations, resulting in a mono-cultural retail and consumer services employment base in the middle and outer sub-regions, with knowledge intensive export orientated employment centralised within the inner sub-region. Consequently, residents are forced to commute outside their sub-region to access high quality employment.

Improving the employment quality of the outer sub-regions is necessary to lift the employment self-sufficiency and self-containment of each sub-region to a sustainable level (economically, environmentally and socially).

In defining employment quality it is necessary to distinguish between activities (and their resulting employment) that are population-driven; and those that are KIEO in nature. Population driven employment includes areas such as retail, consumer services and basic producer services. These can be found in various configurations in commercial/retail centres (e.g. regional shopping centres), institutional centres (e.g. acute care hospitals, teaching universities); and so-called industrial centres (eg: regional industrial centres).

In essence, population driven activity will exist to a large extent with the introduction of a population. This type of employment can be maximised through economic activation, but for the large part requires little planning beyond basic spatial allocation.

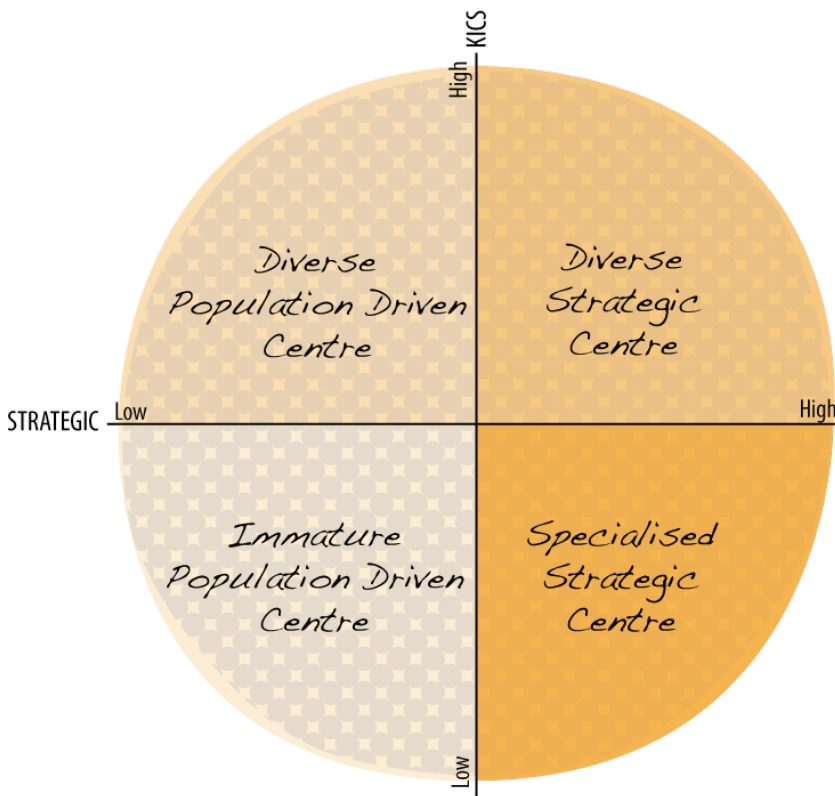
KIEO employment refers to high-quality knowledge-intensive jobs where the application or creation of knowledge opens up global markets for local outputs (eg: 'driver' export industries, legal and financial services, technology research and development). A lack of attention to the development of this type of employment outside the Perth Central Area has manifested itself in the current disparity of employment within the sub-regions. Low employment self-sufficiency and self-containment are symptoms of such trends.

Activity Centre Maturity

The economic maturity of a centre is defined by the quality, not quantity of activity. Immature centres are those typified by low productivity population-driven activity whilst mature centres are characterised by high productivity activity, 'creating' wealth through the export of goods or services. The matrix in Figure 4 outlines the four degrees of activity centre maturity, based upon the proportions of Knowledge Intensive Consumer Services (KICS) and Knowledge Intensive Export Oriented (KIEO) employment.

An immature population driven centre, services the basic consumer/producer needs of its catchment. Characterised by low concentrations of KICS and strategic employment, these centres require either an increasing catchment or increasing expenditure levels to drive growth. Eventually

Figure 4: Activity Centre Maturity Matrix



Source: Pracsys 2010

growth will be constrained as either market forces limit growth or statutory controls limit specific land-uses (in particular retail).

A diverse population driven centre services both the basic consumer/producer needs and the high level consumer needs of its catchment. Characterised by high concentrations of KICS and low concentrations of strategic employment, maturation to a diverse population driven level occurs as a result of a combination of consumption-based growth and a shift in focus to intensity, diversity, employment and connectivity.

A diverse strategic centre services the high level consumer/producer needs of its catchment. Through the creation and export of goods and services, these centres provide economic leadership for the urban environment, attracting wealth and providing resilient support to the city. Some centres achieve this level of maturity through the benefit of natural competitive advantages. Others need to develop it through targeted initiatives that support knowledge creation, innovation systems, technology and commercial development and efficient supply chains.

Specialised strategic centres are characterised by high levels of strategic employment and low levels of KICS employment. Like diverse strategic centres, some achieve this level of maturity through the benefit of natural competitive advantages. Others need to develop it through targeted initiatives that support knowledge creation, innovation systems, technology and commercial development and efficient supply chains.

The target maturity level for a centre must be considered in the context of the Activity Centres Policy. Not all centres are required to reach the highest level of maturity. For secondary centres and below, maturation beyond a diverse population driven level is unnecessary and in most cases undesirable as it would detract from the growth and maturation of higher order centres. Furthermore, different types of centres will follow different maturation paths. Industrial centres will typically mature from an immature population driven centre to a specialised strategic centre as it is not the function of industrial centres to provide knowledge intensive consumer services. In contrast, commercial centres will typically

mature from immature population driven to diverse population driven and ultimately diverse strategic centres.

The Perth activity centres in the outer Sub-regions are most often immature population driven centres. More mature and diverse centres lie within the Central Sub-region, having matured over decades and benefiting from the effective density of a city's centralised employment characteristics. In order to achieve the employment self-sufficiency targets set for the outer sub-regions, activity centres in these sub-regions will have to mature faster than the natural rate which will require a targeted effort from both the private and public sector.

Employment Gravity

Gravity modelling is a modified version of Issac Newton's Law of Gravitation that can be used to predict the movement of people, information and commodities between geographic locations. The theory holds that, the attraction between two objects is proportional to their mass (i.e. larger places are more attractive to people, ideas and commodities than smaller places) and inversely proportional to their respective distance (i.e. places in close proximity have a greater attraction).

Applied to the employment challenge of the North West Sub-Region, gravity modelling has been used to predict the distribution of employment to the activity centres network. As different types of employment have different drivers and different location requirements, two different variations of the gravity model have been adopted.

Population Driven Employment

Population driven employment develops in direct response to population growth, as such its location will be largely determined by the location of population growth, as well as centre hierarchy levels and maturity. The attractiveness of a centre (i) to the jobs required for a population (j) is determined by the formula following.

Figure 5: Population Driven Employment Gravity

$$G_{ij} = \frac{PD_i}{d_{ij}^2}$$

Where G_{ij} is the attractiveness of centre i to the jobs required for population j

PD_i is a measure of the population driven importance of centre i which is determined by the centre's level in the hierarchy and maturity

d_{ij} is the distance between centre i and population j

Once applied to all centres and all units of population, the probability of the population driven jobs required for a local population, being located at each centre can be determined.

Strategic Employment

The location decisions of strategic industries are more complex. Rather than being driven by population growth, they are determined by a range of other factors such as agglomeration economies. Agglomeration economies are powerful forces that help explain the positive externalities that are generated from the "clustering" of economic activity. Agglomeration economies can cause a location with some small comparative advantage to become a place with a large concentration of

diverse activity. While some small comparative advantage (such as population driven amenity, availability of land or proximity to value chains) initially attracts businesses and households to the location, this original group then becomes the factor that attracts other businesses and households to that location. There are three main reasons why firms would choose to locate in close proximity to other firms in the same industry;

- Forward and backward linkages - geographic proximity of customers (forward linkages) and of suppliers (backward linkages)
- Knowledge spillover - geographic proximity facilitates the transfer of knowledge
- Labour market pooling - concentration of related firms generates a pool of specialised labour

The effect of agglomeration economies is reflected in the gravity model, with strategic employment more likely to develop or relocate to areas with existing strategic agglomerations. The attractiveness of strategic jobs to a centre (i) from centre (k) is determined by the formula following.

Figure 6: Strategic Employment Gravity

$$G_{ik} = \frac{Strat_i \times Strat_k}{d_{ik}^2}$$

Where G_{ik} is the attractiveness of centre i to strategic jobs from centre k;

$Strat_i$ and $Strat_k$ is a measure of the strategic importance of centres i and k which is determined by the centre's level in the hierarchy and maturity;

d_{ij} is the distance between centre i and centre k

Once applied to all centres, the probability of strategic employment located at each centre can be determined.

4.1.2 Approach

The new Activity Centre Policy requires that evidence of overall centre performance be presented on a range of dimensions including centre diversity, activity intensity, accessibility and employment. In particular, the Activity Centres Policy requires that employment outcomes are achieved by centre developments to drive the 'suburbanisation' of jobs in line with the sub-regional self-sufficiency targets set out in the Directions 2031 document. This link between sub-regional outcomes and individual centre planning is a new and important feature of the planning environment.

The approach adopted consisted of five stages which were as follows.

Stage 1: Sub-Region Targets

Based on the expressed population, housing and employment profile in Directions 2031 and Beyond, the population driven and strategic employment growth required to achieve the employment self sufficiency targets were determined.

Stage 2: Activity Centres Network Target

Determine the quantity of population driven and strategic employment to be developed within the Sub-Regions activity centre network with consideration for trends

Stage 3: Model Development

Applying the principles of employment gravity, an employment allocation model was developed for the South West Sub-Region.

Stage 4: Scenario Development

Using the employment allocation model, scenarios were developed for the future development of the activity centres network in the South West Sub-Region in the context of the identified opportunities and constraints.

4.2 ASSUMPTIONS

Quantitative economic analysis relies upon certain assumptions about the variables used in the analysis. The extent to which these assumptions hold true in the market, will affect the validity of the results. The following general assumptions underpin the employment allocation analysis for the South West Sub-Region.

4.2.1 Employment Quality

An indicator of the adequacy of a sub-region's ability to service its catchment population is the calculation of the ratio of population-driven employment to Sub-Region population. In the case of the South West Sub-Region the ratio is 0.23 population-driven jobs per resident. This is comparatively high compared to other outer Sub-Regions (Figure 7).

Figure 7: Population-Driven Employment Per Resident by Type

	Consumer/ Producer Jobs Per Resident	Knowledge Intensive Consumer Jobs Per Resident	Total Population Driven Jobs per Resident
Central	0.410	0.089	0.498
North West	0.151	0.035	0.186
South West	0.198	0.036	0.234
North East	0.223	0.040	0.262
South East	0.146	0.031	0.176
Peel	0.199	0.036	0.235

Source: ABS Census of Population and Housing 2006 and Pracsys Analysis 2010

Given the below average performance of the Sub-Region, it was assumed that the level of population driven employment per resident would increase to 0.25 jobs per resident by 2031. The drivers of this increase may include:

- The increase in local employment opportunities should coincide with an increase in the employment self-containment which will assist in reducing expenditure leakage from the sub-region
- A correction in the current under supply of retail activity which resulted from floorspace restrictions that were imposed under the previous activity centres
- Growth in high order population driven employment associated with key sites including Murdoch University Rockingham Campus

The increase would be comprised of a 6% increase in the level of consumer and producer jobs per resident and 12% increase in the level of knowledge intensive consumer services jobs per resident. The balance of the employment required to achieve the ESS targets set by Directions 2031 will be strategic.

4.2.2 Centre-based Employment

Centre based employment refers to employment in both retail activity centres and industrial centres. Currently an estimated 60% of the employment in the South West Sub-region is located within Activity Centres. The balance is comprised of:

- Home-based business (3.7%)
- Other decentralised employment (36.3%)

Different employment types have different locational requirements and therefore some employment types are more likely than others to develop within activity centres.

Figure 8: Proportion of Centre Employment Activity by Type

	Centre based CS/PS employment	Centre based KICS employment	Centre based Strategic employment	Total Centre based employment
Central	68%	49%	74%	67%
North West	57%	40%	53%	54%
South West	61%	36%	69%	60%
North East	50%	26%	52%	47%
South East	43%	18%	38%	39%
Peel	62%	41%	58%	59%

Source: ABS Census of Population and Housing 2006 and Pracsys Analysis 2011

For the purposes of this analysis it was assumed that the proportion of strategic employment located in activity centres remains constant. However the proportion of Knowledge Intensive Consumer Services employment located in centres will increase to 40 per cent. Similarly, the proportion of consumer and producer service located in centres will increase to 65 per cent. Overall the proportion of employment located in centres is assumed to increase in the period to 2031, consistent with the objectives of Directions 2031 and Beyond and SPP 4.2 Activity Centres for Perth and Peel.

4.2.3 Centre Types

For the purpose of this analysis it has been assumed that employment is not transferrable between centres of different types. For example employment allocated to a commercial centre cannot be reallocated to an industrial centre and vice versa. While there are some employment types that could locate in either type of centre, these are the exception rather than the norm. The implications of this is that the employment profile of the sub-region will remain skewed toward the development of industrial type activity centres.

4.3 CENTRE MATURATION

Based on analysis of the Perth Activity Centre Network, the threshold employment breakdown for each stage of activity centre maturation has been determined. These thresholds are outlined in Figure 9.

Figure 9: Centre Maturation Thresholds

	Minimum KICS (%)	Maximum KICS (%)	Minimum Strategic (%)	Maximum Strategic (%)
Immature Population Driven Centre	0	7	0	20
Diverse Population Driven Centre	7	100	0	93
Diverse Strategic Centre	7	80	20	93
Specialised Strategic Centre	0	80	20	100

Source: Pracsys Analysis 2010

4.3.1 Other

In addition to the above, many assumptions have been made throughout the analytical process regarding the maturity and scale of individual centres. As such, it is important to note that employment allocations detailed within this report represent only a few of many alternatives for how the employment targets for the sub-region may be achieved in the network of activity centres, and, given a different set of assumptions the resulting allocation may be quite different. The purpose of this modelling is to provide an insight into the implications and consequences of alternative interventions and therefore it is important that modelling is regularly reviewed and updated and the stakeholders continue to provide up to date information to ensure the assumptions hold true.

4.4 RESULTS

This section summarises the results of the employment allocation modelling.

4.5 SCENARIO 1

Scenario One assumes a low population growth based on the projections published in the Directions 2031 and Beyond. Figure 10 outlines the implications of the population growth scenario on the employment requirements for the South West Sub-Region. Approximately 40,800 additional jobs are required in the sub-region by 2031, of which approximately 13,900 need to be knowledge intensive export orientated in nature.

Figure 10: Scenario One – South West Sub-Region Employment Requirements

Characteristic	2006	2031	Difference
Residents	181,971	278,000	96,029
Labour Force	85,797	133,000	47,203
Total Jobs	52,152	93,000	40,848
Population-Driven Jobs	43,584	69,500	25,916
Strategic Jobs	9,567	23,500	13,933
Employment Self Sufficiency	61%	70%	
Population-Driven Jobs Per Resident	0.23	0.25	
Job Gap	33,645	40,000	

Source: ABS Census of Population and Housing, Directions 2031 Spatial Framework for Perth and Peel, and Pracsys Analysis 2010

Figure 11 outlines the implications for Activity Centre based employment with the South West sub-region. Of the 40,800 new jobs required, approximately 27,699 need to be developed within the Sub-Region’s network of Activity Centres.

Figure 11: Scenario One – South West Sub Region Activity Centre Based Employment

Employment Type	Current Centre Based	Future Centre Based	Gap
Consumer and Producer Services	22,003	37,947	15,944
Knowledge intensive Consumer Services	2,380	4,448	2,068
Strategic (KIEO) Employment	6,651	16,338	9,686
Total	31,034	58,733	27,699

Source: ABS Census of Population and Housing and Pracsys Analysis 2010

4.5.1 City of Cockburn Commercial Centres

The assumption that employment is not transferrable between centres of different types, allows for commercial and industrial centres to be examined in isolation. The term industrial centres refers to all traditional industrial activity centres as well as all specialised strategic centres.

Figure 12 summarises the commercial activity centres employment targets for the City of Cockburn for Scenario One. It shows that approximately 2,303 additional jobs will need to be created in commercial centres by 2031.

Figure 12: Scenario One – City of Cockburn Major Commercial Centre Employment Targets

Activity Centre	Estimated Employment 2006	Target Employment 2031	Gap
Cockburn	481	1,996	1,515
Spearwood	1,024	1,393	369
Cockburn Coast	0	419	419
Total	1,505	3,808	2,303

Source: ABS Journey to Work 2006 AND Pracsys Analysis 2010

The employment land required for each centre has been estimated based on the employment targets for each centre, indicative employment profiles and by applying an average floorspace to employee ratio and the maximum allowable plot ratio of 1:1 (Figure 13). Please note these estimates do not include allowances for roads or public open space etc.

Figure 13: Scenario One – Commercial Activity Centre Land Requirements

Activity Centre	Estimated net employment land required (Ha)
Cockburn	8.79
Spearwood	6.63
Cockburn Coast	2.01
Total	17.43

Source: Pracsys Analysis 2010

It is estimated that, under scenario one, a total of approximately 17.43 ha of net employment land will be required at major commercial centres in the City of Cockburn by 2031. Estimated employment land areas are based on indicative employment profiles and as such may be subject to change following the preparation of a detailed economic development strategy. Wherever possible, modelling has considered the land constraints of both existing and planning activity centres, however it should be noted that some of the employment targets may be unable to be accommodated within the existing parameters and as such will require either an expansion of the activity centre boundary or changes to the existing planning controls to allow for greater density of development.

4.5.2 Industrial Centres

Figure 14 summarises the industrial activity centre employment targets for the City of Cockburn under scenario one. It shows that approximately 14,505 additional jobs will need to be created in existing and new industrial centres by 2031.

Figure 14: Scenario One – City of Cockburn Industrial Activity Centre Employment Targets

Activity Centre	Estimated Employment 2006	Target Employment 2031	Gap
Jandakot Airport	1,002	2,955	1,953
Henderson	3,807	8,178	4,371
Bibra Lake	5,350	7,364	2,014
Jandakot Industrial Area	954	3,349	2,395
Latitude 32 (Hope Valley Wattleup)	617	4,950	4,333
North Coogee	853	0	- 561
Total	12,583	27,088	14,505

The employment land required for each centre has been estimated based on the employment targets for each centre, indicative employment profiles and by applying an average floorspace to employee ratio and assuming a plot ratio of 1:1 (Figure 15).

Figure 15: Scenario One – Industrial Activity Centre Land Requirements

	Estimated net developable land required (ha)
Jandakot Airport	26.99
Henderson	41.52
Bibra Lake	48.95
Jandakot Industrial Area	22.02
Latitude 32 (Hope Valley Wattleup)	32.05
North Coogee	2.07
Total	173.60

Source: Pracsys Analysis 2010

It is estimated that, under scenario one, approximately 173.6 Ha of employment land will be required within industrial centres in the City of Cockburn by 2031.

4.6 SCENARIO 2

Scenario Two is based on the high population growth scenario. This reflects a future where Perth experiences significant population-growth pressures beyond that anticipated within Directions 2031, with these pressures translating to increased demand for settlement within the South West Sub-Region and is consistent with the “connected city” scenario for the sub-region outlined in the Outer metropolitan Perth and Peel sub-regional strategy. Figure 16 outlines the implications of the high population growth scenario on the employment requirements for the South West Sub-Region. Approximately 94,300 additional jobs are required in the sub-region by 2031, of which approximately 27,400 need to be knowledge intensive export orientated in nature.

Figure 16: Scenario Two – South West Sub-Region Employment Requirements

Characteristic	2006	2031	Difference
Residents	181,971	437,705	255,734
Labour Force	85,797	209,406	123,609
Total Jobs	52,152	146,427	94,275
Population-Driven Jobs	43,584	109,426	65,842
Strategic Jobs	9,567	37,000	27,433
Employment Self Sufficiency	61%	70%	
Population-Driven Jobs Per Resident	0.23	0.25	
Job Gap	33,645	62,979	

Source: ABS Census of Population and Housing, Directions 2031 Spatial Framework for Perth and Peel, and Pracsys Analysis 2010

Figure 17 details the current and future Activity Centre based employment profiles for the South West sub-region under Scenario Two. Of the 94,275 new jobs required, approximately 61,439 need to be developed within the Sub-Region’s network of Activity Centres.

Figure 17: Centre Based Employment Scenario Two

Employment Type	Current Centre Based	Future Centre Based	Gap
Consumer and Producer Services	22,003	59,747	37,744
Knowledge intensive Consumer Services	2,380	7,003	4,623
Strategic (KIEO) Employment	6,651	25,723	19,072
Total	31,034	92,473	61,439

Source: ABS Census of Population and Housing and Pracsys Analysis 2010

4.6.1 Commercial Centres

Figure 18 summarises the commercial activity centre employment targets for the City of Cockburn for Scenario Two. It shows that 4,003 additional jobs will need to be created in existing and new commercial centres by 2031 under Scenario Two. This is an additional 1,700 jobs than what is required under Scenario One.

Figure 18: Scenario Two - Commercial Centres Employment Targets

Activity Centre	2006	2031	Gap
Cockburn	481	3,239	2,758
Spearwood	1,024	1,694	670
Cockburn Coast	0	575	575
Total	1,505	5,508	4,003

Source: ABS Journey to Work 2006 and Pracsys Analysis 2010

The employment land required for each centre has been estimated based on the employment targets for each centre, indicative employment profiles and by applying an average floorspace to employee ratio and the maximum allowable plot ratio (Figure 19). Please note these estimates do not include allowances for roads or public open space. etc.

Figure 19: Scenario Two – City of Cockburn Commercial Activity Centre Land Requirements

Activity Centre	Estimated net developable land required (ha)
Cockburn	14.32
Spearwood	8.02
Cockburn Coast	2.76
Total	25.1

Source: Pracsys Analysis 2010

It is estimated that, under scenario two, a total of approximately 25.1ha of employment land will be required at commercial centres in the City of Cockburn by 2031. This is approximately 7.67 ha more than the required under scenario one. Estimated employment land areas are based on indicative employment profiles and as such may be subject to change following the preparation of a detailed economic development strategy. Wherever possible, modelling has considered the land constraints of both existing and planning activity centres, however it should be noted that some of the employment targets may be unable to be accommodated within the existing parameters and as such will require either an expansion of the activity centre boundary or changes to the existing planning controls to allow for greater density of development.

4.6.2 Industrial Centres

Figure 20 summarises the industrial activity centre employment targets for Scenario Two. It shows that approximately 30,046 additional jobs will need to be created in existing and new industrial centres by 2031 under scenario two. This is an additional 15,541 jobs than the required under scenario one.

Figure 20: Scenario Two – City of Cockburn Industrial Activity Centre Employment Targets

Activity Centre	2006	2031	Gap
Jandakot Airport	1,002	4,570	3,568
Henderson	3,807	13,437	9,630
Bibra Lake	5,350	10,046	4,696
Jandakot Industrial Area	954	5,015	4,061
Latitude 32 (Hope Valley Wattleup)	617	9,147	8,530
North Coogee	853	413	- 440
Total	12,583	42,629	30,046

Source: ABS Journey to Work 2006 and Pracsys Analysis 2010

Figure 21 details the estimated net developable land required at each activity centre to accommodate the employment targets under Scenario Two.

Figure 21: Scenario Two – City of Cockburn Industrial Activity Centre Land Requirements

Activity Centre	Estimated developable land required (ha)
Jandakot Airport	41.82
Henderson	68.42
Bibra Lake	66.87
Jandakot Industrial Area	32.99
Latitude 32 (Hope Valley Wattleup)	59.56
North Coogee	2.92
Total	272.58

Source: Pracsys Analysis 2010

It is estimated that, under Scenario Two, approximately 272.58 ha of employment land will be required at industrial centres in the City of Cockburn by 2031. This is approximately 98.98 ha more than the required under scenario one.

APPENDIX 3 CENTRE PERFORMANCE ASSESSMENT





CITY OF COCKBURN

**ACTIVITY CENTRE PERFORMANCE
ASSESSMENTS**

MARCH 2012

DISCLAIMER

This report has been prepared for **the City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 INTRODUCTION

A significant paradigm shift has occurred in activity centre planning in the Perth Metropolitan Area with the release of Directions 2031 and Beyond – Spatial Framework for Perth and Peel, and State Planning Policy 4.2 – Activity Centres for Perth and Peel (SPP 4.2). This shift has seen a move in focus away from land-use based ‘input’ controls for activity centre development (e.g. retail floorspace caps) to performance-based measures of activity. In particular SPP 4.2 introduces a focus on six broad principles of activity centre performance considered essential for the development of vibrant, sustainable, resilient centres. These principles are:

- Intensity – the interactions between different uses facilitated by the centre
- Diversity – the range of activities contained within a centre
- Employment – the quantity and quality of jobs found in a centre
- Accessibility – the ability of users to access a centre, and to freely move about a centre
- Economic Activation – the ability of a centre to facilitate transactions
- Urban Form – The appropriateness of the physical environment for its user mix

Future activity centre plans will need to address performance across these areas. The City of Cockburn can assist in facilitating this by providing a baseline measure of each major activity centre’s performance within the LGA across these measures as part of its Local Commercial and Activity Centres Strategy. This report provides activity centre scorecards for these major centres within the City.

2.0

2 SCOPE

This report seeks to provide a standardised methodology and baseline measure of activity centre performance within the City of Cockburn across the areas of intensity, diversity, employment, accessibility, urban form and economic activation. These report cards do not seek to provide direction as to how centres may improve their scores, nor to assess how centres will perform upon expansion of activities, or introduction/improvement of infrastructure (these will need to be addressed during the preparation of individual Activity Centre Plans).

3 ASSESSMENT CRITERIA

SPP 4.2 Activity Centres for Perth and Peel articulates an activity centre hierarchy for Perth and Peel. In the preparation of this document the criteria for performance at each level of the hierarchy has been augmented, with greater detail and metrics being applied to each of the six principles. Figure 1 outlines the performance requirements associated with each level of the hierarchy, across the areas of intensity, diversity, employment and accessibility.

Figure 1: Activity Centre Hierarchy Performance Requirements

Performance Criteria		Strategic Metropolitan centres	Secondary centres	District centres	Neighbourhood centres	Local centres
Intensity	Description	Highly intense with significant integration of a range of residential, population-driven and strategic uses in medium/high density multiple story sites both within the centre, and areas of influence	Intense, with residential, sub-regional education/healthcare and education, retail and household services integrated with strong relationships both internally and within the defined areas of influence	Intense levels of district education/healthcare, retail and household services within centre, with potential for significant residential densities within the areas of influence	Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence	Moderate levels of local retail/household services within centre with potential for incremental increases in residential densities within centre and defined areas of influence
	Metric/Assessment Criteria	Chapter 7.2				
Diversity	Description	Highly diverse mix of strategic and population-driven uses and users interacting within the centre over an extended period of the day	Diverse mix of population-driven uses and users interacting within the centre over an extended period of the day	Focused district retail and household services uses and users with a limited amount of local education and healthcare activities	Focused local retail and household services uses	Focused convenience retail activities
	Metrics/Assessment Criteria	Chapter 7.3				
Employment	Description	A metropolitan employment node that provides for high quality strategic employment as well as significant densities of overall employment	A sub-regional employment node for higher-order population-driven employment, as well as significant densities over overall employment	A district employment node with significant densities of population-driven employment	A local employment node with moderate levels of retail and household services employment	A local employment node with moderate levels of convenience retail employment
	Metrics/Assessment Criteria	Chapter 7.4				

Performance Criteria		Strategic Metropolitan centres	Secondary centres	District centres	Neighbourhood centres	Local centres
Accessibility	Description	Fine grain walk and offroad cycle network providing direct and convenient access everywhere throughout the centre, Centralised public transport interchange with scheduled interchanges, multiple high frequency radial bus routes and at least two high frequency cross-centre routes, regional rd passing through the site, and multiple access points for freight vehicles	Fine grain walk and offroad cycle network providing direct and convenient access everywhere throughout the centre, Centralised public transport interchange. a least 2 high frequency radial bus routes, and one high frequency cross-centre route. A regional road passing through the site, and a clear access point for freight vehicles	Fine grain walk and offroad cycle network providing direct and convenient access everywhere throughout the centre. Multiple medium frequency radial bus routes, regional rd passing through the site, and a clear access point for freight vehicles	N/A	N/A
	Metrics/Assessment Criteria	Chapter 7.5				

Source: Pracsys 2011

The performance parametres for economic activation and urban form are different, in that desired characteristics are consistent across all levels of the hierarchy, with scale the differentiating factor. Details of the performance requirements for economic activation and urban form are outlined in sections 4.6 and 4.7 respectively.

4 METHODOLOGY

Based upon the requirements of Directions 2031 and Beyond and the Activity Centres Policy, a series of metrics for evaluating each of the four principles for sustainable Activity Centres has been developed, with targets identified for each metric at each level of the Activity Centres hierarchy. Metrics for measuring these include those proposed within the draft policies, as well as additional sustainability principles selected for their reliability, ease of calculation using existing data sets and the ease of application of targets. As new data sets become available, both the metrics and targets may be updated to remain as relevant as possible.

There are two targets for each hierarchical level:

Target	Description
Baseline target	Based on the average level achieved at each level of the Activity Centres hierarchy (except in the case of intensity where it represents minimum residential density targets set in SPP 4.2)
"Best of Type" Target	Based on regional, national and international examples of Best Practice by centres at each level in the Activity Centres hierarchy (except in the case of intensity targets where it represents desirable residential targets set in SPP 4.2)

The results of the metrics have been aligned to a simple scoring system. This system allows centres to be scored based on current performance across the four principles and also identifies the score required to achieve the average and "Best of Type" levels for its current level in the centres hierarchy. The rationale behind this model recognises average performance for an Activity Centre as being the minimum level to be achieved. Therefore the stated averages should be considered as thresholds which a centre needs to exceed. 'Best of Type' has been included for each

principle to give guidance as to what the top-performing Centre within each level currently achieves.

The scoring system does not assume that every centre needs to score 10/10 to be successful. It instead is a continuum within which the score appropriate for an Activity Centre, based upon its position in the hierarchy, may be substantially lower, based upon the average by Centres at the same level in the hierarchy.

While the four principles are relevant to all centres, centres with different functions perform different roles and thus have very different requirements. Consequently, sustainability targets will vary across different centre functions. Centre functions may also change over time as a centre matures and other activity becomes increasingly viable and attractive.

4.1 ACTIVITY CENTRE BOUNDARIES

Development and ongoing assessment of activity centre performance within the City of Cockburn requires a clear understanding of the spatial parameters of each centre. The boundaries that define the activity centres in Perth have not been reviewed for several years, meaning that activity occurring just outside the centre boundary is not accommodated within centre planning.

Under SPP 4.2 Activity Centres for Perth and Peel, the definition of centre boundaries will fall to the determination of local governments through the required preparation of a Centre Plan. However, without an overarching set of clear decision rules as to how boundaries are determined, and how they may change over

time, defining activity centres and consistently applying controls and targets across all centres at each level of the hierarchy will be challenging.

When reviewing centre boundaries, a number of factors must be considered:

- The centre's ability to accommodate growth within the existing boundaries
- The centre's ability to accommodate a diverse range of use within the existing boundaries
- The need to maintain an intense concentration of activity
- Intra-centre mobility and inter-centre accessibility

The steps undertaken by Hames Sharley in the setting of activity centre boundaries is outlined below:

Setting the central node:

- The public transport stop nearest to the commercial centre area, in most cases a bus stop, was located using Transperth maps. The central node was located equal distance between the bus stops servicing passengers going in each direction.

Determining walkable catchment:

- Secondary and District Centres have a 400 m walkable catchment;
- Neighbourhood and Local Centres have a 200 m walkable catchment; and
- The walkable catchment was measured along streets and other pedestrian access paths (such as pedestrian access ways).

Determining centre boundaries:

- The commercial centre always included;
 - All residential lots within the walkable catchment;
 - Non-residential, non-commercial centre areas included if they are within or partially within the walkable catchment area (also improves diversity);
 - Residential lots beyond the walkable catchment included if they are considered a more appropriate boundary for the centre, e.g. access is still directly and easily walkable and inclusion will result in the boundary being located at the end of a street block rather than terminating in the middle. The direction the residential lot faces was also considered, e.g. a lot on the edge of the walkable catchment was excluded if it faced onto a different street, but included if oriented towards the walkable catchment and other lots within the activity centre.
 - Area in the maps shown as 'Expanded activity centre' is showing the area which can be included if pedestrian links are improved from the central node to the surrounding activity centre. This is only shown if a) there appears to be the potential to easily create/improve a pedestrian link (e.g. through a shopping centre car park which is currently fenced on one side) and b) there would otherwise be large residential areas excluded from the activity centre despite a very close proximity to the central node.

4.2 INTENSITY

Intensity refers to the concentration of use of land, labour, capital and enterprise within and around an Activity Centre. It is an indication of the extent of development in and around an Activity Centre and this reflects the potential for the development to generate activity.

4.2.1 Metrics

Residential Density

The only explicit measure of intensity within the Policy is that it sets minimum and desirable residential density targets for the walkable catchment of Activity Centres.

Figure 2: Residential Density Targets

	Strategic Metropolitan Centre	Secondary Centre	District Centre	Neighbourhood
Minimum	30	25	20	15
Desirable	45	35	30	25

Source: SPP 4.2 Activity Centres for Perth and Peel

Activity Intensity

The Activity Centres Policy does not provide a measure or target for the intensity of other non-residential activity in and around Activity Centres. Pracsys has therefore identified an additional metric as a basis for evaluating the intensity of an Activity Centre. This is the ratio of floorspace (NLA) to total land area.

One of the challenges in applying this metric is that the spatial units at which data is collected do not necessarily accord with activity centre boundaries. For consistency, this analysis adopts the total land area associated with DoP's Land Use and Employment survey data, however it is strongly recommended that the

City encourage DoP to amend their spatial boundaries (both Complexes and Destination Zones) to better align with activity centre boundaries.

There are also challenges in using the metropolitan average to set the minimum performance targets:

- Generally speaking the current level of activity centre intensity is very low in the Perth Metropolitan Area
- There is no consistent set of criteria for determining activity centre boundaries and therefore the current analysis has been based on the boundaries set by the WAPC. This creates inconsistencies in the comparison of floorspace to land area ratios.
- The current performance in relation to floorspace to land area ratios is inconsistent with the hierarchy. That is, District Centres currently perform better than secondary centres and both neighbourhood and local centres perform on par with secondary centres.

To overcome this, the minimum for intensity for secondary centres has been benchmarked against two Central sub-region activity centres which reflect the aspirations the City has for the development of its Secondary Centres and better reinforces the activity centres hierarchy for the City. The benchmark centre adopted are Subiaco and Leederville.

4.3 DIVERSITY

Diversity is the degree to which a variety of activity types are located within an Activity Centre. The Metropolitan Centres Policy has historically overemphasised the role of retail

activity within Activity Centres promoting the development of relatively homogenous, retail-centric Activity Centres to the exclusion of other activities such as, health, education, entertainment and other commercial/office activity.

Improving activity diversity within centres is important because:

- More diverse centres will enable multipurpose trips by centre users, thus reducing total private vehicle kilometres travelled;
- The co-location of complementary activities will yield positive externality benefits including productivity gains;
- More diverse centres are more resistant to external market forces and macroeconomic fluctuations;
- Knowledge intensive producer services and knowledge-based export orientated activity tend to seek high amenity areas providing a diverse range of quality consumer and producer services.

Diversity targets should form the basis of future planning for the Activity Centres within the City of Cockburn. Developing a Business Case for retail floorspace expansion should include an understanding of the commercial implications of integrating different land uses. It must be understood that the role of any proponent is not to generate the full range of diverse activity, but to act in encouraging land use diversity within its own holdings, seek partnerships with other landholders to encourage diversity, and to advocate for appropriate planning controls to minimise barriers to commercially viable diversity.

4.3.1 Metrics

Mixed Use Threshold

The major metric defined within the Activity Centres Policy related to diversity as the “mix of uses”. This is related to the ratio of total proposed commercial floorspace (other than shop retail) to total commercial floorspace within the boundaries of the Activity Centre. Within the proposed policy this metric appears to be an absolute, with no consideration for variations in market demands for different uses driving different timing for delivery to market.

Figure 3: Mixed Use Threshold

Thresholds (Shop Retail NLA)	Ratio
Above 100,000	50%
Above 50,000	40%
Above 20,000	30%
Above 10,000	20%
Less than 10,000	N/A

Source: SPP 4.2 Activity Centres for Perth and Peel

Diversity Index

One of the implications of the diversity measure identified in SPP 4.2 Activity Centre for Perth and Peel is that the outcomes achieved may not be that which is ultimately desired. A centre with 50% shop retail and 50% bulky goods retail while it would meet the requirements of this metric, can hardly be considered diverse. To add grain to this absolute measure, Pracsys has examined all activity centres in Perth and applied an ecological diversity technique to calculate an index of diversity (between 0 and 1) for each centre. The measure accounts for richness, which is the number of different types of uses in the activity centre and equitability, which is the evenness of the distribution floorspace amongst the different types.

4.4 EMPLOYMENT

The two main drivers of our collective standard of urban living are how and where we work and reside. A fundamental challenge in economic activity, as we enter into an information-based economy, is that a greater proportion of the population is moving into knowledge intensive occupations that are less transactional in nature. By contrast the employment profile of many of the City's Activity Centres is proving to be dominated by retail and consumer services (transactional based) activity. The result is an erosion of the variety of industry types and occupations, resulting in a mono-cultural retail and consumer services employment base in the middle and outer sub-regions, with knowledge intensive export orientated employment centralised within the inner sub-region. Consequently, residents are forced to commute outside their sub-region to access high quality employment.

One of the primary objectives of Directions 2031 and Beyond is to achieve a more balanced distribution of population, dwellings and employment across the metropolitan area. Activity centres are priority locations for employment generating activities and the improvement of the employment concentration, quality and diversity within Activity Centres is important to lift the employment self sufficiency and self containment of the South West Sub-Region to a sustainable level (economically, environmentally and socially). In order to achieve the employment self sufficiency target, the activity centres in the South West sub-region will have to mature faster than the natural rate which will require targeted effort from both the private and public sector.

4.4.1 Metrics

While the Activity Centres Policy stipulates that planning decisions should facilitate the generation of employment opportunities in Activity Centres, it provides no indication as to the appropriate level, quality and concentration of employment required at the various levels of the Activity Centres hierarchy.

Employment Quality:

Employment quality reflects the employment in sectors which are involved in the direct creation of wealth through the creation of, or provision for, goods and services that can be traded either interstate or internationally – this is compared to occupations that are a response to local demand for services such as education, health and retail.

A local government area whose economy is well balanced will have a significant proportion of employment in strategic sectors; doing so, induces the inflow of wealth from outside the local government, creates jobs, and lays the foundation for a sustainable, and reliable, service sector for the local economy.

Employment quality is measured as the percentage of employment, within a centre, which is strategic; that is, employment that is a knowledge intensive produce service or export oriented.

Knowledge intensive producer services are knowledge employment related to the consumption transactions of a population. They include areas such as education, healthcare and professional services etc.

Export orientated employment is employment directly related to the export of goods and services to an external market. It includes

export segments of industries across the spectrum of an economy that generates goods and services. The remaining employment categories are consumer services, producer services and knowledge intensive consumer services.

Centres are scored based on the level of employment quality compared to the average and the best of type for centres within the same category (i.e. Local, Neighbourhood, District or Secondary).

Employment Density:

Employment densities vary considerably across different land use categories and industry sectors; however, within each of these categories and sectors, employment densities have expanded and contracted over time as a result of technological advancements and changing work practices. These factors have affected industrial and office / commercial uses differently.

For instance, the improvement in technology has significantly reduced the demand for labour within the high end Industrial and manufacturing sectors – as capital equipment has replaced an increasing number of functions within the production process.

Office and commercial uses have been moving in the opposite direction – becoming denser – as premium land becomes more expensive.

In general, this is encouraged, as the conglomeration of these activities yield benefits to society from sources such as: increased spatial activation, improved opportunity for public transport infrastructure, the more efficient and immediate exchange of information between businesses and so on.

Employment Density is measured as jobs per hectare, with the entire footprint of the complex included in the measurement – not just the commercial or office floorspace; therefore for larger centres such as Cockburn Central, the area allowed for parking will have a detrimental effect on their scores.

Employment density signals a centres efficient or inefficient use of space, but also its maturity and vibrancy within the community.

4.5 ACCESSIBILITY

The current network of Activity Centres in Perth is designed to be primarily accessed by private motorised vehicles. Driven significantly by high oil prices, transport costs make up an increasing proportion of a household's expenditure. This is likely to increase further into the future resulting in the current accessibility arrangements of Activity Centres becoming unsustainable in the long term. Other changes such as extended retail trading hours, increased employment and residential density, and rising transport costs will all effect the accessibility requirements of centres. Growth in expenditure available to centres is unlikely to be able to be sustainably driven by continued expansion of catchments. Access by alternative modes will therefore be essential to the commercial viability of centres into the future.

4.5.1 Metrics

For this project it has not been possible to undertake quantified analysis. Therefore the following strategic approach has been taken:

- Definition of a range of acceptable accessibility levels from A (excellent) to E (poor) for the five main transport modes:

- Walking;
- Cycling;
- Public transport (train, bus);
- Private car; and
- Freight vehicle.
- Setting accessibility benchmarks that each mode should meet based on the centre type and function. For example:
 - Accessibility expectations for pedestrians in a commercial-based activity centre will always be higher than those in an industrial centre; or
 - Locations with a more strategic role will have a higher benchmark for public transport accessibility than a small neighbourhood centre.
- Rating each mode at each activity centre against the benchmarks to establish whether the benchmark for each mode is currently met. In some cases the benchmark can be exceeded – this mainly occurs where access by private car is very easy and therefore becomes the dominant mode at the expense of pedestrian connectivity and cycling safety.
- Calculation of an overall accessibility score for each activity centre out of 10.

Figure 4 shows the benchmarks assigned to the centre types associated with the five centres included in this review. For comparison purposes the benchmark characteristics for the “Strategic” centre category, have also been included.

Figure 4: Transport Mode Benchmarks for Centre Types

Centre Type	Strategic	Secondary	District	Specialised (AIRPORT)	Industrial
SPP 4.2 Policy Direction	Important focus for passenger rail and high frequency bus networks	Important focus for passenger rail and/or high frequency bus networks	Focal point for bus network	Important focus for passenger rail and/or high frequency bus networks	No description
Walk	A	A	A	B	C
Cycle	A	A	A	B	C
Public Transport	A	B	C	C	C
Private Car	C	C	C	B	A
Freight Vehicle	B	C	C	A	A

Figure 5 shows the benchmark descriptions for each mode from A to E.

Figure 5: Benchmark Descriptions A-E for Each Transport Mode

Accessibility Level	Description Guide				
	Walk	Cycle	Public Transport	Private Car	Freight Vehicle
A	Fine grain walk network providing direct and convenient access everywhere throughout the centre	Fine grain on and off-road cycle network providing direct and convenient access everywhere throughout the centre	Centralised public transport interchange with scheduled bus routes with <5mins service frequency levels in the AM peak. At least two high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located around the edge of the centre.	Clear access point to the centre from >2 directions. Designated freight access route through the centre.
B	Fine grain walk network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Fine grain cycle network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Centralised public transport interchange. At least 2 radial bus routes with <10mins service frequency levels in the AM peak. At least one high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located throughout the centre	Clear access point to the centre from 2 main directions. Designated freight access route into the centre with central turnaround point.
C	Walk network based on road network only. Disjointed connectivity due to physical barriers	Cycle network is available but disjointed. Multiple physical barriers are present where cyclists are not accommodated	At least 2 radial bus routes with <15mins service frequency levels in the AM peak.	Regional road servicing the site by passing through the centre. Fine grain network of local roads. Centralised car parks.	Clear access point to the centre from one key direction. Constrained access options within the centre
D	Walk network restricted to parts of larger grain road network	No official cycle network but cycle access possible as a road user. Mixed hierarchy of roads available. Prevalence of roundabouts	At least 2 radial bus routes with <30mins service frequency levels in the AM peak.	No regional road servicing the centre. Some connectivity of local roads. Dispersed car parks.	No clear access point into the centre for larger vehicles.
E	Very disjointed and unreliable network. Pedestrian movement generally secondary to car access	No cycle network and high speed road environment	Very limited public transport services (<3 routes or hourly services in the AM peak)	Very restricted vehicular access to and within the centre. Limited car parking	Road network does not provide for large freight vehicle access

4.6 URBAN FORM

Urban form refers to the spatial and physical imprint of an urban system. Extensive research in the field has established the basic relationships between the built environment and:

- Livability
- Productivity and economic efficiency
- Transportation behavior

The Activity Centres policy identifies the urban form characteristics that tend to be associated with successful activity centres. Based on SPP 4.2, three measures of urban form have been developed into a coherent framework to apply to Activity Centre assessments. These are outlined below.

- Legibility (footpath existence/continuity, barriers/facilitators to walking, cycle path presence)
- Amenity (street trees, recreational destinations, other amenities)

All attributes are measured at the street level and given a score of poor, average or good.

The average of all attributes equates to a score for each item. The sum of the score for all items equate to the centres overall urban form score. A value of less than 3.5 is poor, between 3.5 and 6.5 is medium and greater than 6.5 is good.

4.7 ECONOMIC ACTIVATION

Population driven economic activation of a place is determined by the frequency and concentration of transactions that occur there. The people present at any place at any point in time constitute the 'users' of the place. The users can be characterised as residents, visitors or local workers. The population and expenditure base of each group forms the economic base of the place and drives the commercial vitality of office and retail tenants.

Activating the Activity Centres involves linking the residents and visitors to core activity precincts, concentrating retail tenancies to encourage life and vibrancy, maximising possible modes of transport for easy access, and minimising access routes to channel traffic past shop fronts.

These principles are outlined below.

Purpose of Place

- Address the question – what does the Activity Centre represent to its target user population (residents, workers, visitors)?
- Enhance land economics by using design to maximise frequency and concentration of transactions

Access – Arrival Points

- Decisions about access begin 5km from the place
- Do not allow transport networks to bypass the place – does the design funnel people and traffic into the core?
- Congestion and mix of transport nodes is good

- Arrive at the “front door” of the place, not around the back

Origins – Car Parking and Transport Nodes

- Parking is the driver of pedestrian movement
- Strategic distribution of car parks and transport nodes will maximise pedestrian movement
 - Location is more important than numbers
 - Space the car parks around the centre
- Street parking is important for commercial areas
 - Charge no fees
 - Relax time limits

Exposure – Pedestrian Movement

- Economic activation is driven by frequency and concentration of transactions
- Channel movements
 - Concentrate transactions by pushing people past as many shop windows as possible
 - Rents and sales are directly related to pedestrian traffic (eg: Butcher will pay three-times the rent to be at supermarket entry)
- Minimise possible routes from origin to destination points (eg: car park to main attraction) as architectural “permeability” is not always a good thing

Destinations – Major attractions

- Identify main destination – what will bring users into the core?
- Assess user behaviour
 - Number of visits
 - Timing of visits (time of day, seasonality)
- Give major destinations special treatment
 - Understand what they need
 - Build the centre around them
- Amplify the impact of attractions by creating support amenity and infrastructure to maximize frequency, length of stay and expenditure

Control – Strategic Sites

- Tenure control is vital for overall development success – which sites (supporting what uses) must stay in public ownership?
- Identify active frontages and take control of key sites
- Corner sites drive uses on either side
- Not all areas in a place need to be active – be selective
- Have a plan and stick to it

The two main output attributes, purpose of place and exposure have been developed into a coherent framework to apply to Activity Centre assessments (Figure 6).

Attributes are measured at the street level and given a score of ranging from very poor to very good.

Figure 6: Economic Activation Benchmark Descriptions

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Very Good	The Activity Centre has a well justified economic purpose, providing for a variety of residents, workers and visitors, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which captures the Centre purpose and provides direction for future development and is supported by the necessary structures	A diverse range of anchor tenants are present, well configured and well supported by other tenants and necessary infrastructure	The centre has a high proportion of their streets lined by active frontages which also demonstrate a vibrant mix of activities.	The centre is easy to move through and connects well to the surroundings. The design of the centre functions as a filter, channelling pedestrians into the core and provides good physical and visual connections between buildings and the street. The permeability of the centre is maintained through both day and night.
Good	The Activity Centre has a well justified economic purpose. The Activity meets the needs of limited user mix, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which provides direction for future development but lacks the governance structures to guide implementation	Diverse anchor tenant/s are present and well supported by other tenants but lack the necessary support infrastructure	The centre has a high proportion of their streets lined by active frontages however the activity mix is predominantly retail.	The centre is relatively easy to move through and connects to the surroundings. The design of the centre provides good physical and visual connections between buildings and the street. The permeability of the centre is maintained through both day and night.
Average	Some nodes within the centre have a well-defined purpose however these are not brought together into one coherent united vision for the Centre	An vision/plan exists for the centre however it is either out of date or only deals with part of the centre/ individual landholdings	Diverse Anchor tenant/s are present but not fully supported	Some streets within/around the centre are lined by active frontages	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. The permeability of key nodes within the centre are maintained through both day and night.
Poor	The economic purpose of the centre is deteriorating (For example - where the presence of adjacent centre is cannibalising trade)	Future vision/purpose for the centre is not defined	A single type of anchor tenant is present	Limited active street frontages within/around the centre	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. The permeability of the centre is severely constrained at certain times
Very Poor	The centre has no economic purpose.	The future of the centre is seriously in doubt	No significant anchor tenants	No activated street frontages, inward looking, impermeable, internalised commercial environment	The centre is relatively impermeable is with poor physical and visual connection between the buildings and the streets. The permeability of the centre is severely constrained at certain times

Figure 7 shows the benchmarks assigned to the centres hierarchy.

Figure 7: Target Score for Economic Activation

Hierarchy	Minimum Score
Secondary Centre	8
District Centre	7
Neighbourhood Centre	6
Local Centre	5.5

5 SCORECARDS - COMMERCIAL AND INDUSTRIAL CENTRES

The following Activity Centre Scorecards provide an oversight of the performance of major activity centres in the City of Cockburn. These scores are the result of extreme modelling of activity centre performance metrics utilising the methodology described in Chapter 4.

Centre: Cockburn Central

Hierarchy: Secondary Centre

Description:

Cockburn Central is a relatively new transit oriented activity centre located approximately 23km from the Perth CBD. The centre is anchored by Gateways Shopping Centre, and is supported by LandCorp's mixed use development Cockburn Central. The centre continues to develop and evolve its character, with a major expansion of Gateways Shopping Centre planned for 2012 and the completion of the LandCorp development anticipated for 2018. A major development in the relocation of head quarters of the Fire and Emergency Services Authority of Western Australia to Cockburn is set to occur in 2011.

Figure 7: Cockburn Central Core Residential Density Assessment

Cockburn Central Regional Centre - Core				
Walkable Catchment:	400 m			
Gross Area:	41.02 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
5.4 dwellings/ha	25 dwellings/ha	35 dwellings/ha	801 dwellings	1,211 dwellings
224 dwellings	1,025 dwellings	1,435 dwellings		

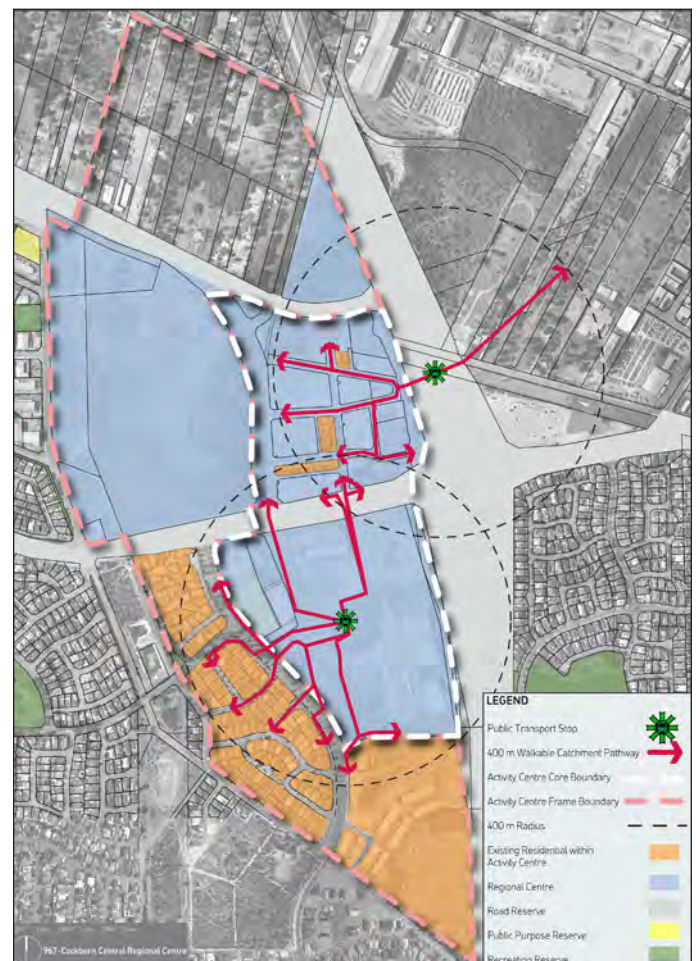
Source: Hames Sharley (2011)

Figure 8: Cockburn Central Frame Residential Density Assessment

Cockburn Central Regional Centre - Frame				
Walkable Catchment:	800 m			
Gross Area:	90.54 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
5.8 dwellings/ha	25 dwellings/ha	35 dwellings/ha	1,739 dwellings	2,644 dwellings
525 dwellings	2,263 dwellings	3,168 dwellings		

Source: Hames Sharley (2011)

Figure 9: Cockburn Central Spatial Context



Source: Hames Sharley (2011)

Intensity:

Cockburn Central is located in a relatively new suburban area. At present, the urban form consists predominantly of low density single dwellings in the south-west of the centre, with high density multiple unit developments in the north-east, close to the train station. Figure 9 outlines the walkable catchments of the centre. The designation of both a core and frame for the centre recognises the anticipated inter-relationship between the Activity Centre and its surrounds, however where feasible, new development should be actively encouraged to locate with the activity centre core.

Analysis of the catchment indicates that the current residential density is 5.6 dwellings per gross hectare for the centre core and 5.8 for the frame. The ratio of floorspace to total land area of Cockburn Central is currently 0.19.

This translates to an overall intensity score of 1.00 which is below the minimum score of 3.00 and below the desired score for a Secondary Centre.

Diversity:

Cockburn Central currently performs poorly in relation to the "Mix of Uses" threshold (Tables 3 SPP 4.2) with a deficit of 3,803sqm of other floorspace. Cockburn Central's current diversity index is 0.36 indicating that the centre is relatively homogenous.

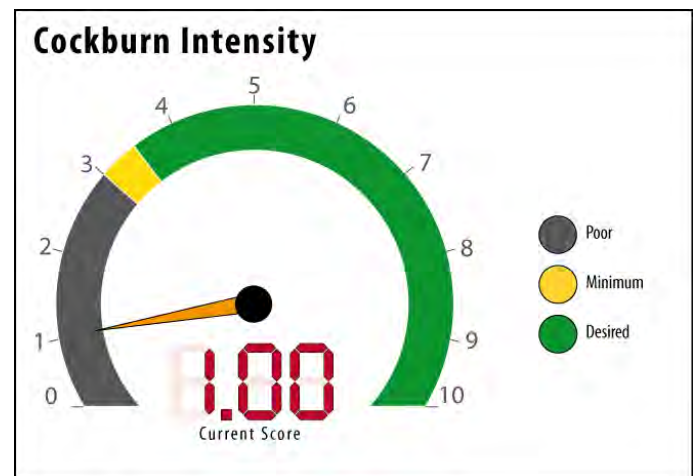
This translates to an overall diversity score of 2.75, which is below the average score of 5.25 and below the best of type score for a Secondary Centre.

Employment:

Cockburn Central currently accommodates 946 employment opportunities, which equates to an employment density of 40.86 jobs per hectare. Approximately 9% of the jobs are knowledge intensive or export orientated (KIEO).

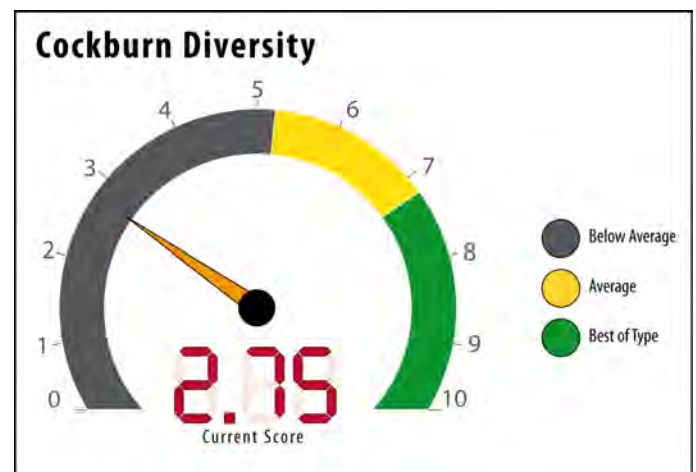
This translates to an overall employment score of 1.75, which is below the average score of 2.75 and below the best of type score for a Secondary Centre.

Figure 10: Cockburn Central Intensity Performance



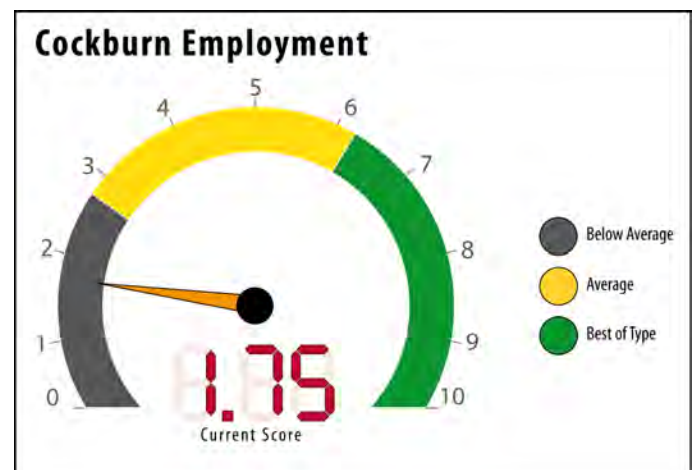
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Figure 11: Cockburn Central Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Figure 12: Cockburn Central Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Accessibility:

Figure 13 outlines the results of the Accessibility Assessment for Cockburn Central.

Figure 13: Cockburn Accessibility Assessment

	Performance	Benchmark
Walk within the centre	D	A
Walk to the centre	D	A
Cycle to the centre	E	A
Public Transport to the centre	B	B
Private Car to the centre	B	C
Freight Vehicle to the centre	A	C

Source: AECOM (2011)

Cockburn Central fails to meet the strategic benchmarks for walking to and within the centre, achieving a rating of D for both measures. The walk network is restricted to parts of larger grained road network. There is no fine grained road network available and some roads are without footpaths. Car parks have no provision for pedestrians. Activities within the centre are highly dispersed.

Cockburn Central fails to meet the cycling benchmark, rating an E. There is no cycle network within the centre and there is a high speed road environment. Although a PSP runs through the site it does not provide any opportunity to access activities.

Cockburn Central meets the benchmark for public transport provision. There is a major public transport interchange within the centre and high frequency bus routes direct to the shopping centre.

Cockburn Central exceeds the benchmarks set for private car and freight vehicle access. This is because very good access is provided to and from the regional road network, and the local access arrangements have been created predominantly to provide for vehicle access. Exceeding these benchmarks is not considered to be a positive value as it generally only occurs where the walking and cycling performance is low. Secondary centres should be aiming to improve their walking and cycling accessibility further by somewhat reducing the ease with which private cars can access the site

This translates to an overall accessibility score of 6, which is below the benchmark score of 8.25 for a Secondary Centre.

Figure 14: Cockburn Central Accessibility Performance



Source: AECOM (2011)

Urban Form:

Figure 15 outlines the results of the Urban Form Assessment for Cockburn Central.

Figure 15: Cockburn Central Urban Form Assessment

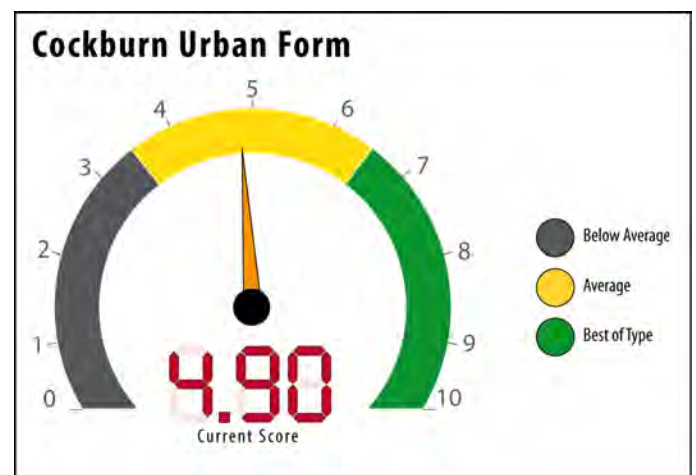
Cockburn Central Centre	Legibility					
	Footpaths		Walking		Cyclepaths	
Area (ha) 140.49	Existence	Continuity	Barriers	Facilitators	Existence	Continuity
Total:	10	4	16	12	1	1
Attribute score:	0.42	0.17	0.67	0.50	0.04	0.04
Item score:	0.31					
Cockburn Central Centre	Amenity					
	Street trees	Recreational destinations			Other amenities	
Area (ha) 140.49	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)
Total:	5	0.5	0	0	0	0
Attribute score:	0.21	0.50	0.00	0.00	0.00	0.00
Item score:	0.12					

Source: Hames Sharley (2011)

The overall score of medium for this centre was due to the very high score for development potential. Legibility and amenity both scored poorly. The poor score for amenity was due to a lack of all amenities except for one park and some street trees. The poor score for legibility was due to a complete lack of footpaths through some sections of the centre. Some footpaths also scored poorly for continuity due to current construction activities.

This translates to an overall Urban Form score of 4.9, which equates to a medium performance level.

Figure 16: Cockburn Central Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 17 outlines the results of the Economic Activation Assessment for Cockburn Central.

Figure 17: Cockburn Central Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Average	Average	Average	Poor	Poor

Source: Pracsys (2011)

Cockburn Central is anchored by an enclosed mall, (Gateways Shopping Centre), and is supported by LandCorp’s mixed use development Cockburn Central. Demand analysis suggests that the centre is trading well indicating that the centre has a well justified economic purpose. The future plan for the centre is outlined in various structure plans for individual nodes within the centre however these are not brought together into one coherent united vision for the Centre.

Some nodes within the centre do not address the surrounding street network at all. The shopping centre, like all mall based centres is selectively permeable, and while the mall itself is relative easy to move through there are poor physical and visual connections between many buildings and streets, poor connections to the surrounding environment and the permeability of the centre is severely constrained outside of retail trading hours.

This translates to an overall Economic Activation score of 5.0, which equates to a below target performance level.

Figure 18: Cockburn Central Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Cockburn Central typifies an immature, population-driven centre in that it is relatively homogenous, with low densities, and currently low quality population-driven employment. The centre’s diversity and intensity scores will clearly improve with planned further development of LandCorp land adjacent to the train station, and the imminent arrival of FESA to the activity centre.

Centre: Phoenix

Hierarchy: District Centre

Description:

Phoenix is a large district centre located along Rockingham Road. The Centre is anchored by the Phoenix Park Shopping Centre. The City of Cockburn Public Offices and Council Chambers are located adjacent to the shopping centre.

Figure 19: Phoenix Residential Density Assessment

Phoenix District Centre				
Walkable Catchment:	400 m			
Gross Area:	38.59 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
9.1 dwellings/ha	20 dwellings/ha	30 dwellings/ha	417 dwellings	803 dwellings
353 dwellings	770 dwellings	1,155 dwellings		

Source: Hames Sharley (2011)

Figure 20: Phoenix Spatial Context



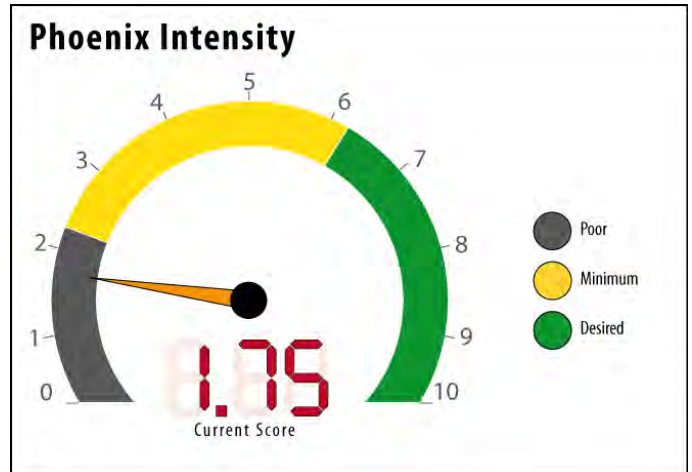
Source: Hames Sharley (2011)

Intensity:

Phoenix is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 20 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 9.1 dwellings per gross hectare. The ratio of floorspace to total land area of Phoenix is currently 0.30.

This translates to an overall intensity score of 1.75, which is below the average score of 2.25 and below the best of type score for a District Centre.

Figure 21: Phoenix Intensity Performance



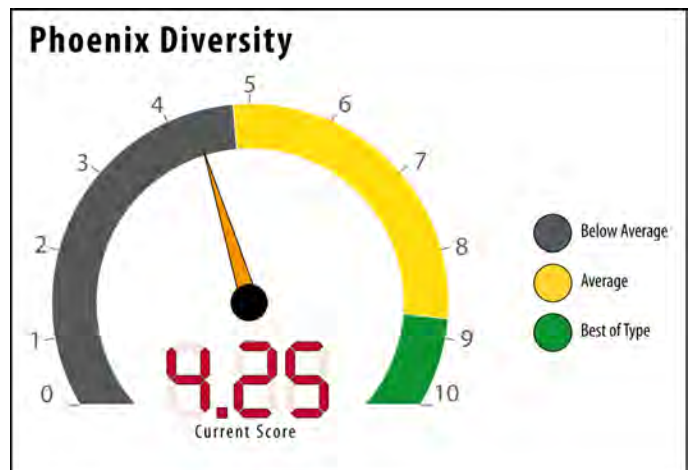
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Phoenix currently performs well in relation to the “Mix of Uses” threshold (Tables 3 SPP 4.2) with a surplus of 3,237 sqm of other floorspace. Phoenix’s current diversity index is 0.53 indicating that the centre is relatively diverse.

This translates to an overall diversity score of 4.25, which is below the average score of 4.75 and below the best of type score for a District Centre.

Figure 22: Phoenix Diversity Performance



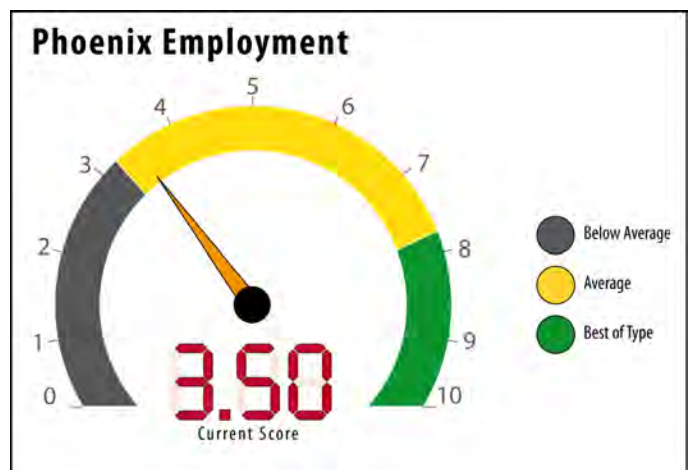
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Phoenix currently accommodates 1,065 employment opportunities, which equates to an employment density of 100 jobs per hectare. Approximately 12% of the jobs are knowledge intensive or export orientated (KIEO).

This translates to an overall employment score of 3.5, which is above the average score of 3.25 and below the best of type score for a District Centre.

Figure 23: Phoenix Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Accessibility:

Figure 24 outlines the results of the accessibility assessment for Phoenix

Figure 24: Phoenix Accessibility Assessment

	Performance	Benchmark
Walk within the centre	C	A
Walk to the centre	C	A
Cycle to the centre	C	A
Public Transport to the centre	C	C
Private Car to the centre	A	C
Freight Vehicle to the centre	B	C

Source: AECOM 2011

Phoenix fails to meet the strategic benchmarks for walking to and within the centre and for cycling to the centre, achieving a rating of C for each measure. The walk network is restricted to the larger grained road network, however most centre access is designed for vehicles within car parking environments. Car parks have no provision for pedestrians.

There is no cycle network within the centre and there is a high speed road environment.

Phoenix meets the benchmark for public transport provision. There are sufficient public transport services along the major roads to meet this strategic category.

Phoenix exceeds the benchmarks set for private car and freight vehicle access. This is because very good access is provided to and from the regional road network, and the local access arrangements have been created predominantly to provide for vehicle access. Exceeding these benchmarks is not considered to be a positive result, as it generally only occurs where the walking and cycling performance is low. District centres should be aiming to improve their walking and cycling accessibility further by somewhat reducing the ease with which private cars can access the site

This translates to an overall accessibility score of 7, which is below the benchmark score of 8 for a District Centre.

Figure 25: Spearwood Accessibility Performance



Source: AECOM (2011)

Urban Form:

Figure 26 outlines the results of the Urban Form Assessment for Phoenix.

Figure 26: Spearwood Urban Form Assessment

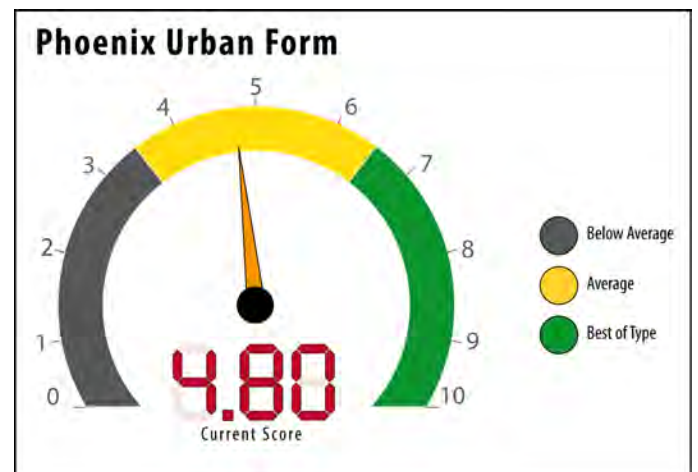
Phoenix District Centre	Legibility					
	Footpaths		Walking		Cyclepaths	
Area (ha) 38.59	Existence	Continuity	Barriers	Facilitators	Existence	Continuity
Attribute score:	0.63	0.50	0.80	0.75	0.00	0.00
Item score:						0.45
Phoenix District Centre	Amenity					
	Street trees	Recreational destinations			Other amenities	
Area (ha) 38.59	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)
Attribute score:	0.30	1.00	1.00	0.50	0.00	0.00
Item score:						0.47

Source: Hames Sharley (2011)

Scores for legibility, amenity and development potential were all medium, although development potential is likely to be significantly lower than the value shown in the short-term due to the low score for vacant land. Within the amenity attributes, outdoor recreation facilities, picnic facilities and street trees were lacking. Included in the outdoor recreation facilities score was a bowling club, which is not publically accessible, but included as it is easily accessible to the general public for incidental use.

This translates to an overall Urban Form score of 4.8, which equates to a medium performance level.

Figure 27: Spearwood Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 28 outlines the results of the Economic Activation Assessment for Phoenix.

Figure 28: Spearwood Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Good	Poor	Average	Very Poor	Very Poor

Source: Pracsys 2011

Phoenix is anchored by an enclosed mall, (Phoenix Park Shopping Centre), and is supported by the City of Cockburn Public Offices and Council Chambers. Demand analysis suggests that the centre is trading well indicating that the centre has a well justified economic purpose.

Some nodes within the centre do not address the surrounding street network at all. The shopping centre, like all mall based centres is selectively permeable, and while the mall itself is relatively easy to move through there are poor physical and visual connections between many buildings and streets, poor connections to the surrounding environment and the permeability of the centre is severely constrained outside of retail trading hours.

This translates to an overall Economic Activation score of 4.00, which equates to a below target performance level.

Figure 29: Spearwood Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Phoenix District Centre typifies suburban population-driven centre anchored by a traditional box-retail offer. In-fill of residential activity will be required for Phoenix to increase its intensity score to a desired level, whilst continued diversification through the delivery of knowledge intensive consumer services (eg. healthcare, education) will be required to improve the employment performance.

Centre: Barrington Street

Hierarchy: Neighbourhood Centre

Description:

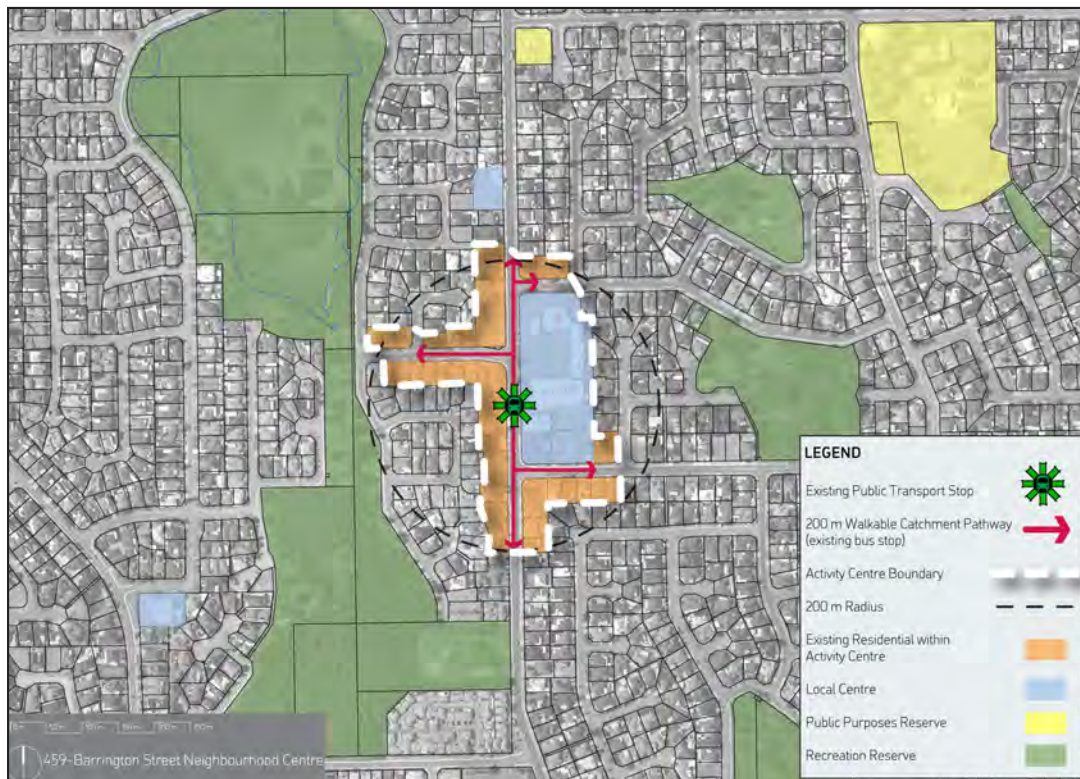
Barrington Street is a large neighbourhood centre located on Rockingham Road in Spearwood.

Figure 30: Barrington Street Residential Density Assessment

Barrington Street Neighbourhood Centre				
Walkable Catchment:	200 m			
Gross Area:	7.37 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
7.5 dwellings/ha	15 dwellings/ha	25 dwellings/ha	522 dwellings	907 dwellings
55 dwellings	577 dwellings	962 dwellings		

Source: Hames Sharley (2011)

Figure 31: Barrington Street Spatial Context



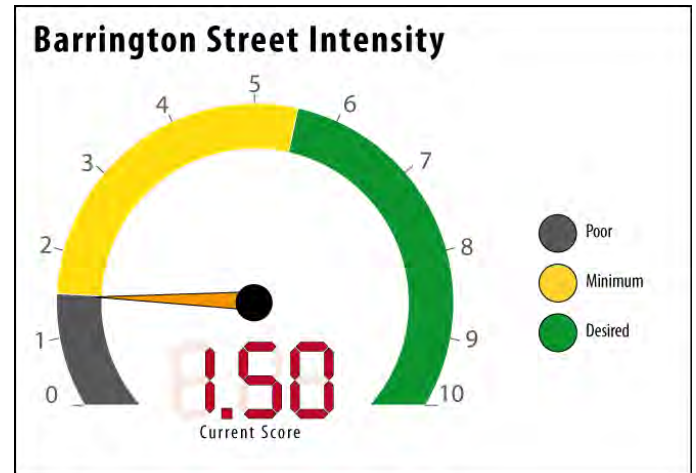
Source: Hames Sharley (2011)

Intensity:

The Barrington Street centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 91 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 7.5 dwellings per gross hectare. The ratio of floorspace to total land area of the Barrington Street centre is currently 0.27.

This translates to an overall intensity score of 1.50, which is equal to the average score of 1.50 and below the best of type score for a Neighbourhood Centre.

Figure 32: Barrington Street Intensity Performance



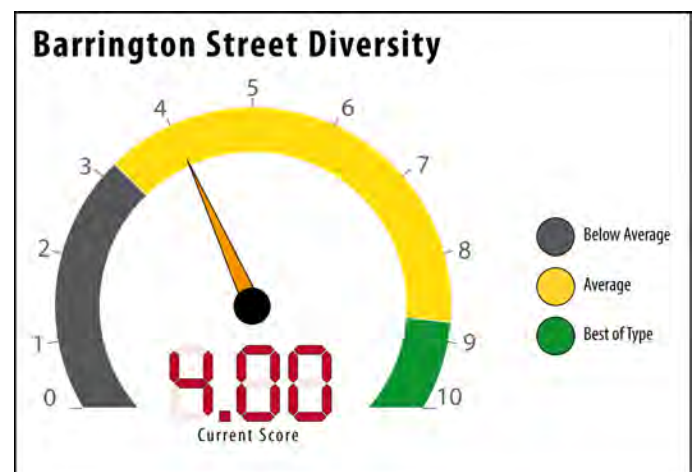
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Barrington Street is a Neighbourhood Centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. Barrington Street’s current diversity index is 0.47 indicating that the centre is relatively diverse.

This translates to an overall diversity score of 4.00, which is above the average score of 3.25 and below the best of type score for a Neighbourhood Centre.

Figure 33: Barrington Street Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Barrington Street currently accommodates 197 employment opportunities, which equates to an employment density of 91.2 jobs per hectare. As a Neighbourhood Centre, Barrington Street is not expected to accommodate any strategic employment.

This translates to an overall employment score of 2.25, which is above the average score of 1.25 and below the best of type score for a Neighbourhood Centre.

Figure 34: Barrington Street Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

Barrington Street largely performs effectively as a neighbourhood centre with average performance across intensity, diversity and employment measures.

Centre: Coolbellup

Hierarchy: Neighbourhood Centre

Description:

Coolbellup is a large neighbourhood centre located on the corner of Coolbellup Avenue and Cordelia Avenue in Coolbellup.

Figure 35: Coolbellup Residential Density Assessment

Coolbellup Neighbourhood Centre				
Walkable Catchment:	200 m			
Gross Area:	29.70 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
6.0 dwellings/ha	15 dwellings/ha	25 dwellings/ha	265 dwellings	562 dwellings
180 dwellings	445 dwellings	742 dwellings		

Source: Hames Sharley (2011)

Figure 36: Coolbellup Spatial Context



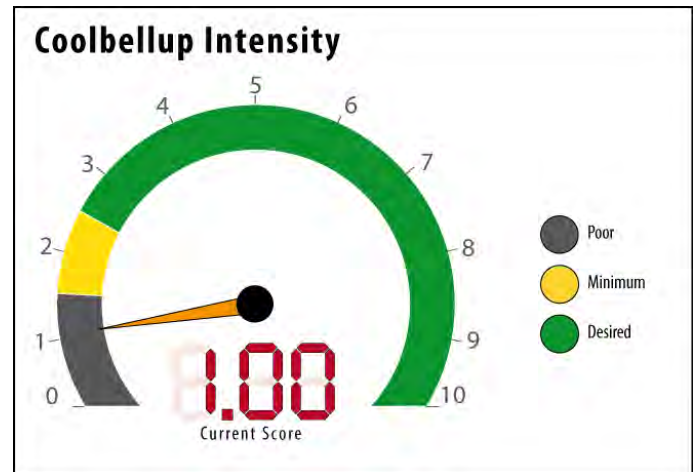
Source: Hames Sharley (2011)

Intensity:

Coolbellup is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 31 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 6.0 dwellings per gross hectare. The ratio of floorspace to total land area of Coolbellup is currently 0.17.

This translates to an overall intensity score of 1.00, which is below the average score of 1.50 and below the best of type score for a Neighbourhood Centre.

Figure 37: Coolbellup Intensity Performance



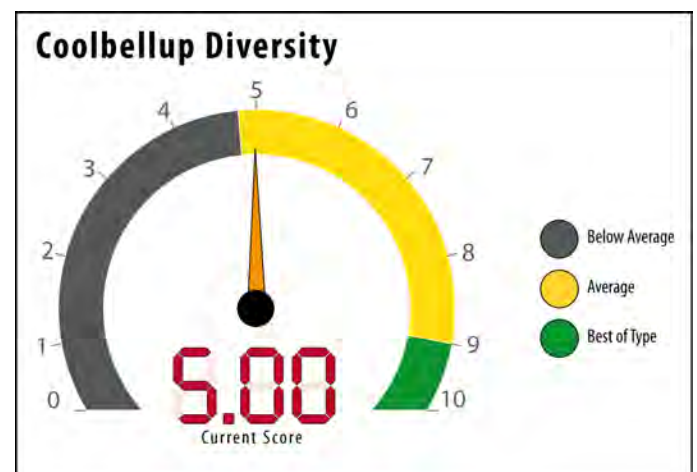
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Coolbellup is a neighbourhood centre the "Mix of Uses" threshold (Tables 3 SPP 4.2) is not applicable. Coolbellup's current diversity index is 0.58 indicating that the centre is relatively diverse.

This translates to an overall diversity score of 5.00, which is above the average score of 4.75 and below the best of type score for a Neighbourhood Centre.

Figure 38: Coolbellup Diversity Performance



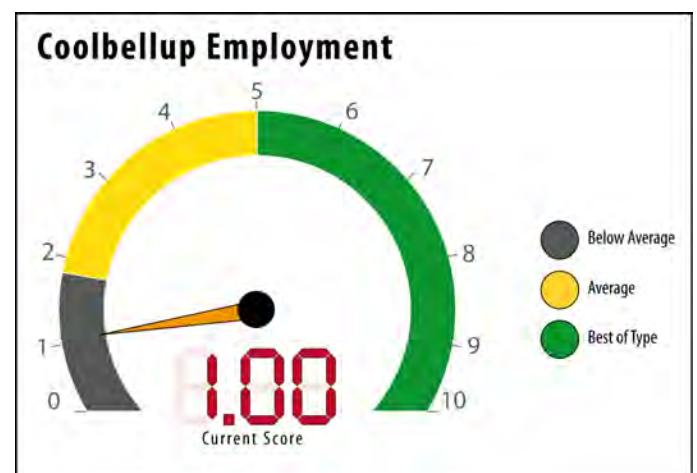
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Coolbellup currently accommodates 143 employment opportunities, which equates to an employment density of 43.33 jobs per hectare. As Coolbellup is a neighbourhood centre, it is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.00, which is below the average score of 1.75 and below the best of type score for a Neighbourhood Centre.

Figure 39: Coolbellup Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Urban Form:

Figure 35 outlines the results of the Urban Form Assessment for Coolbellup.

Figure 40: Coolbellup Urban Form Assessment

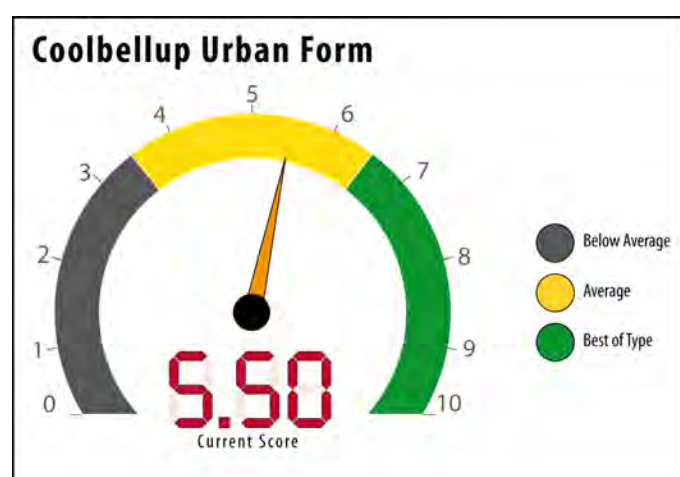
Coolbellup Neighbourhood Centre	Legibility					
	Footpaths		Walking		Cyclepaths	
Area (ha) 29.7	Existence	Continuity	Barriers	Facilitators	Existence	Continuity
Attribute score:	0.75	0.63	0.67	0.83	0.00	0.00
Item score:						0.48
Coolbellup Neighbourhood Centre	Amenity					
	Street trees	Recreational destinations			Other amenities	
Area (ha) 29.7	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)
Attribute score:	0.50	1.00	1.00	1.00	0.00	1.00
Item score:						0.75

Source: Hames Sharley (2011)

Scores for legibility and development potential were assessed to be medium, while the score for amenity was high due to the good supply of parks, playgrounds, outdoor recreation facilities and picnic facilities within and adjacent to the activity centre. Street trees and water bodies were the only amenity attributes which scored lower than 'good'. Footpaths were present in all but one segment. Footpath continuity was an issue in more than half of the segments measured. Some walking barriers exist within the pedestrian network. The majority of these were busy roads, with one fence barrier. Most segments were provided with assisted pedestrian crossings (pram ramps, traffic islands). There were no cycle paths present in the activity centre.

This translates to an overall Urban Form score of 5.50, which equates to a medium performance level.

Figure 41: Coolbellup Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 42 outlines the results of the Economic Activation Assessment for Coolbellup.

Figure 42: Coolbellup Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Poor	Poor	Average	Poor	Poor

Source: Pracsys 2011

Coolbellup Neighbourhood centre consists of an enclosed mall, anchored by an IGA supermarket, the Coolbellup Public Library and the Coolbellup Hotel. Demand analysis suggests that the centre may be under trading indicating that the centre’s economic purpose which prompted the original development may have changed. Furthermore the future vision/purpose for the centre is not defined.

The centre, which is located in the middle of at grade parking, does not address the surrounding street network at all. The centre, like all mall based centres is selectively permeable, and while the mall itself is relative easy to move through there are poor physical and visual connections between buildings and streets, poor connections to the surrounding environment and the permeability of the centre is severely constrained outside of retail trading hours.

This translates to an overall Economic Activation score of 3.33, which equates to a below target performance level.

Figure 43: Coolbellup Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Coolbellup is largely under performing as a neighbourhood centre with below average performance across intensity, employment and economic activation measures.

Centre: Hamilton Hill

Hierarchy: Neighbourhood Centre

Description:

Hamilton Hill is a large neighbourhood centre located on the corner of Winterfold Road and Carrington Street in Hamilton Hill.

Figure 44: Hamilton Hill Residential Density Assessment

Hamilton Hill Neighbourhood Centre				
Walkable Catchment:	200 m			
Gross Area:	11.91 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
12.6 dwellings/ha	15 dwellings/ha	25 dwellings/ha	29 dwellings	148 dwellings
150 dwellings	179 dwellings	298 dwellings		

Source: Hames Sharley (2011)

Figure 45: Hamilton Hill Spatial Context



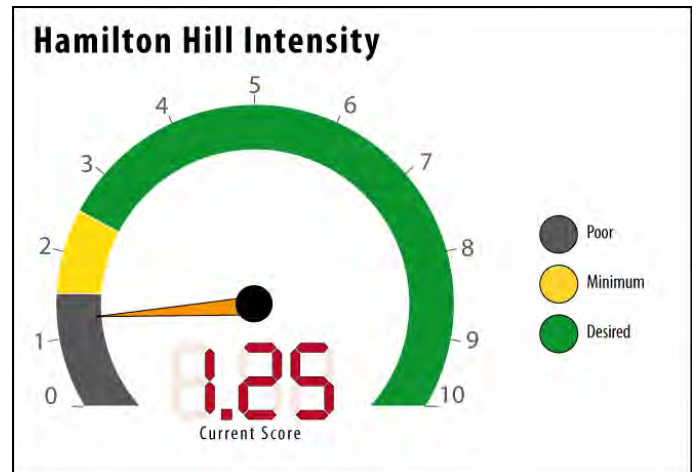
Source: Hames Sharley (2011)

Intensity:

The Hamilton Hill Neighbourhood Centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 40 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 12.6 dwellings per gross hectare. The ratio of floorspace to total land area of the Hamilton Hill Tavern is currently 0.19.

This translates to an overall intensity score of 1.25, which is below the average score of 1.50 and below the best of type score for a Neighbourhood Centre.

Figure 46: Hamilton Hill Intensity Performance



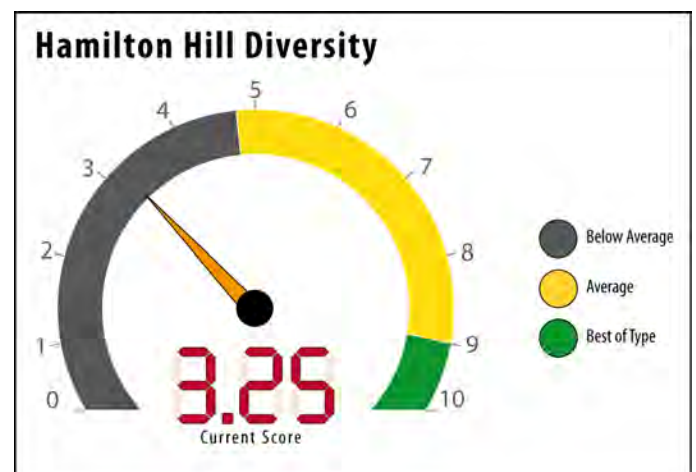
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Hamilton Hill is a neighbourhood centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. The Hamilton Hill’s current diversity index is 0.43 indicating that the centre is relatively homogenous.

This translates to an overall diversity score of 3.25, which is below the average score of 4.75 and below the best of type score for a Neighbourhood Centre.

Figure 47: Hamilton Hill Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Hamilton Hill currently accommodates 162 employment opportunities, which equates to an employment density of 55 jobs per hectare. As a Neighbourhood Centre, the Hamilton Hill is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.25, which is below the average score of 1.75 and below the best of type score for a Neighbourhood Centre.

Figure 48: Hamilton Hill Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Urban Form:

Figure 49 outlines the results of the Urban Form Assessment for Hamilton Hill.

Figure 49: Hamilton Hill Urban Form Assessment

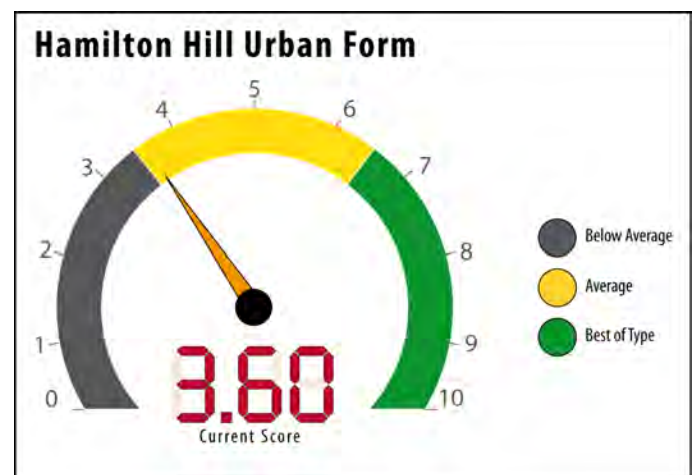
Hamilton Hill Neighbourhood Centre	Legibility					
	Footpaths		Walking		Cyclepaths	
Area (ha) 21.52	Existence	Continuity	Barriers	Facilitators	Existence	Continuity
Attribute score:	0.67	0.17	0.67	0.67	0.00	0.00
Item score:						0.36
Hamilton Hill Neighbourhood Centre	Amenity					
	Street trees	Recreational destinations			Other amenities	
Area (ha) 21.52	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)
Attribute score:	0.33	0.00	0.00	0.00	0.00	0.00
Item score:						0.06

Source: Hames Sharley (2011)

The amenity for the Hamilton Hill Neighbourhood Centre score is very low. There are a small number of recreational destinations and other amenities in the centre for the private use of housing developments which were not included in the score as they are not publically accessible. Street trees are all of a very small size and therefore provided little amenity. Poorest scores were attained for cycle path existence, amenities other than street trees and footpath continuity. The centre has high development potential due to the large amounts of vacant land available.

This translates to an overall Urban Form score of 3.60, which equates to a medium performance level.

Figure 50: Hamilton Hill Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 51 outlines the results of the Economic Activation Assessment for Hamilton Hill.

Figure 51: Hamilton Hill Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Good	Poor	Average	Very Poor	Very Poor

Source: Pracsys 2011

Hamilton Hill Neighbourhood centre consists of an open mall, anchored by an IGA supermarket. Demand analysis suggests that the centre is trading well indicating that the centre has a well justified economic purpose, however the future vision/ purpose for the centre is not defined.

The centre, which is located in the middle of at grade parking, does not address the surrounding street network at all. The centre, is incredibly fragmented and while the mall itself is relative easy to move through there are poor physical and visual connections between other buildings and streets and poor connections to the surrounding environment.

This translates to an overall Economic Activation score of 4.00, which equates to a below target performance level.

Figure 52: Hamilton Hill Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Hamilton Hill largely under performs as a neighbourhood centre with below average performance across intensity, diversity, employment and economic activation measures.

Centre: Lakes Neighbourhood Centre

Hierarchy: Neighbourhood Centre

Description:

Lakes Shopping Centre is a large neighbourhood centre located on North Lake Road in South Lake.

Figure 53: Lakes Neighbourhood Centre Residential Density Assessment

Lakes Neighbourhood Centre				
Walkable Catchment:	200 m			
Gross Area:	7.78 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
0 dwellings/ha	15 dwellings/ha	25 dwellings/ha	117 dwellings	195 dwellings
dwellings	117 dwellings	195 dwellings		

Source: Hames Sharley (2011)

Figure 54: Lakes Neighbourhood Centre Spatial Context



Source: Hames Sharley (2011)

Intensity:

The Lakes Neighbourhood Centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 54 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 0 dwellings per gross hectare. The ratio of floorspace to total land area of the Lakes Neighbourhood Centre is currently 0.18.

This translates to an overall intensity score of 0.75, which is below the average score of 1.50 and below the best of type score for a Neighbourhood Centre.

Diversity:

As Lakes Neighbourhood Centre is a Neighbourhood Centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. The centres diversity index is 0.41 indicating that the centre is relatively diverse.

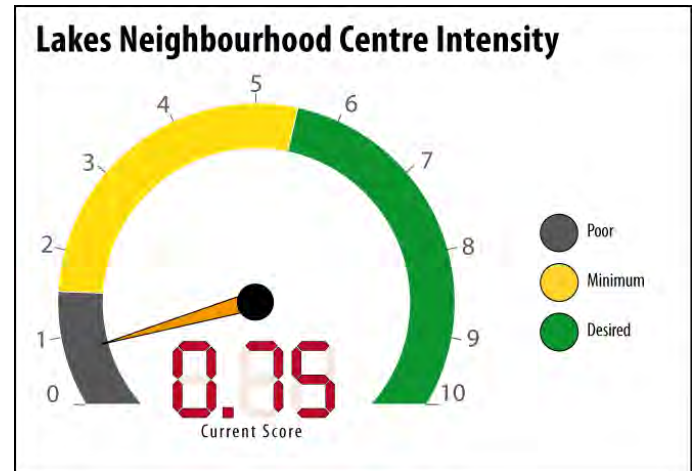
This translates to an overall diversity score of 3.00, which is below the average score of 3.25 and below the best of type score for a Neighbourhood Centre.

Employment:

Lakes Neighbourhood Centre currently accommodates 369 employment opportunities, which equates to an employment density of 75.3 jobs per hectare. As a Neighbourhood Centre, Lakes Neighbourhood Centre is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.75, which is above the average score of 1.25 and below the best of type score for a Neighbourhood Centre.

Figure 55: Lakes Neighbourhood Centre Intensity Performance



Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Figure 56: Lakes Neighbourhood Centre Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Figure 57: Lakes Neighbourhood Centre Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Urban Form:

Figure 58: Lakes Neighbourhood Centre Urban Form Assessment

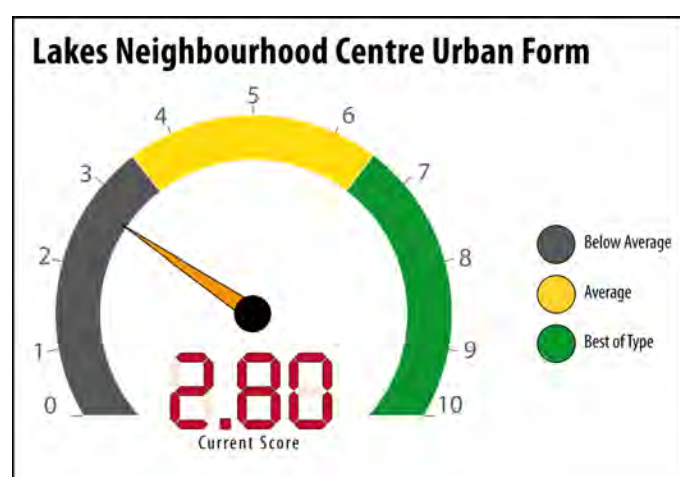
Lakes Neighbourhood Centre	Legibility						
	Footpaths		Walking		Cyclepaths		
Area (ha) 7.78	Existence	Continuity	Barriers	Facilitators	Existence	Continuity	
Total:	2.5	0.5	0	2	0	0	
Attribute score:	0.83	0.17	0.00	0.67	0.00	0.00	
Item score:							0.56
Lakes Neighbourhood Centre	Amenity						
	Street trees	Recreational destinations			Other amenities		
Area (ha) 7.78	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)	
Total:	2.5	0	0	0	0	0	
Attribute score:	0.83	0.00	0.00	0.00	0.00	0.00	
Item score:							0.28

Source: Hames Sharley (2011)

The score for legibility was medium, while the scores for amenity and development potential were poor. The development potential score was zero because no residential areas or other vacant or developable land was present within the centre boundary. The only attribute in the amenity category scoring higher than zero was street trees, which were well provided compared to the other centres analysed. While most segments had a footpath, continuity was an issue in all but one segment. A number of barriers to walking were present: segments 1 and 3 were busy roads, while segment 2 was separated from the Activity Centre by a differing grade, with limited access points. There were no cycle paths present in this activity centre.

This translates to an overall Urban Form score of 2.80, which equates to a poor performance level.

Figure 59: Lakes Neighbourhood Centre Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 60 outlines the results of the Economic Activation Assessment for Lakes Neighbourhood Centre.

Figure 60: Lakes Neighbourhood Centre Economic Activation Assessment

Score	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
	Good	Poor	Poor	Very Poor	Very Poor

Source: Pracsys 2011

Lakes Neighbourhood Centre consists of a single enclosed mall anchored by a Coles supermarket. Demand analysis suggests that the centre is trading well indicating that the centre has a well justified economic purpose, however the future vision/purpose for the centre is not defined.

The centre which is located in the middle of extensive at grade parking, does not address the surrounding street network at all. A barrier of street trees shields the rear of the centre from adjacent residential development. The centre, like all mall based centres is selectively permeable, and while the mall itself is relative easy to move through there are poor physical and visual connections between buildings and streets, poor connections to the surrounding environment and the permeability of the centre is severely constrained outside of retail trading hours.

This translates to an overall Economic Activation score of 3.67, which equates to a medium performance level.

Figure 61: Lakes Neighbourhood Centre Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Lakes Neighbourhood Centre largely under performs as a neighbourhood centre with below average performance across intensity, diversity, urban form and economic activation measures.

Centre: Atwell

Hierarchy: Local Centre

Description:

Atwell is a large local centre located on Waters Avenue in Atwell.

Figure 62: Atwell Residential Density Assessment

Atwell Local Centre				
Walkable Catchment:	200 m			
Gross Area:	16.62 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
5.2 dwellings/ha	15 dwellings/ha	25 dwellings/ha	162 dwellings	329 dwellings
87 dwellings	249 dwellings	416 dwellings		

Source: Hames Sharley (2011)

Figure 63: Atwell Spatial Context



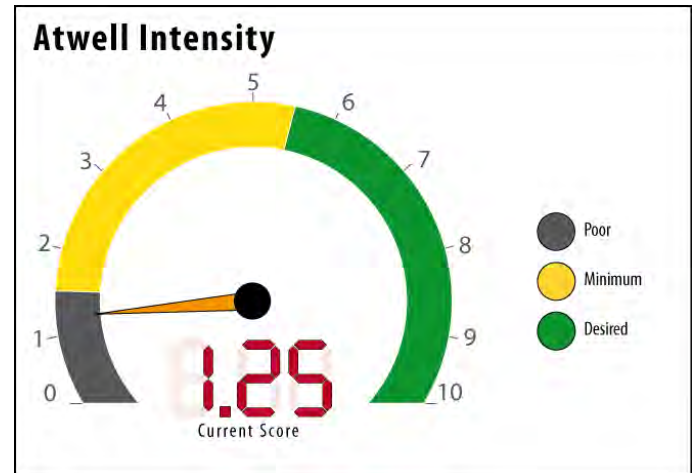
Source: Hames Sharley (2011)

Intensity:

The Atwell local centre is located in a relatively new suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 63 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 5.2 dwellings per gross hectare. The ratio of floorspace to total land area of the Atwell local centre is currently 0.23.

This translates to an overall intensity score of 1.25, which is below the average score of 1.50 and below to the best of type score for a Local Centre.

Figure 64: Atwell Intensity Performance



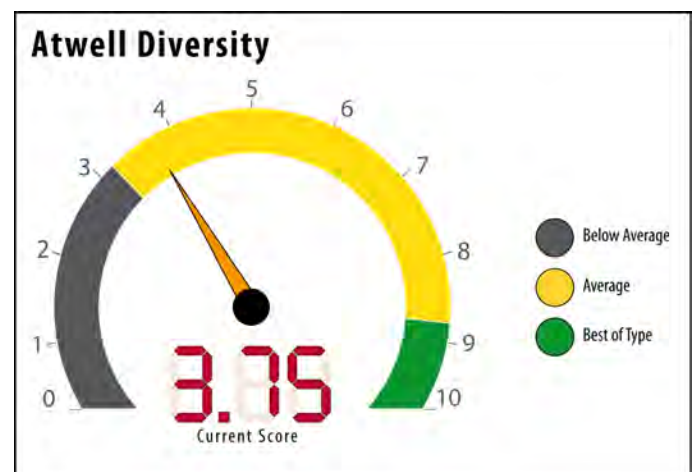
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Atwell is a Local Centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. The Atwell’s current diversity index is 0.42 indicating that the centre is relatively homogenous.

This translates to an overall diversity score of 3.75, which is above the average score of 3.25 and below the best of type score for a Local Centre.

Figure 65: Atwell Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

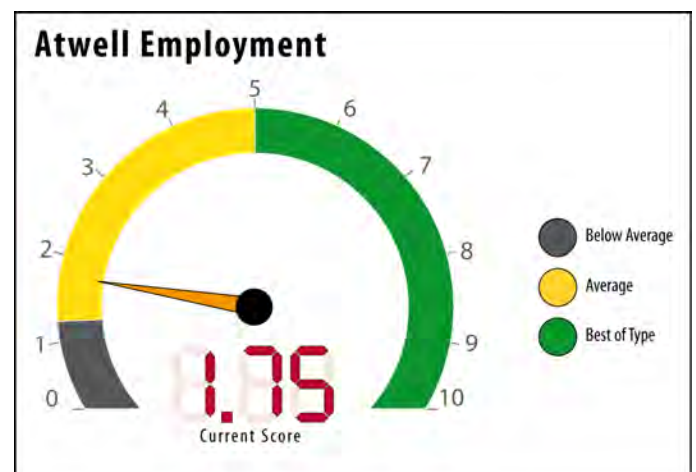
Atwell currently accommodates 137 employment opportunities, which equates to an employment density of 70.6 jobs per hectare. As a Local Centre, Atwell is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.75, which is above the average score of 1.25 and below the best of type score for a Local Centre.

Conclusion:

Atwell largely performs effectively as a neighbourhood centre with average performance across intensity, diversity and employment measures.

Figure 66: Atwell Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Centre: Berrigan Drive

Hierarchy: Local Centre

Description:

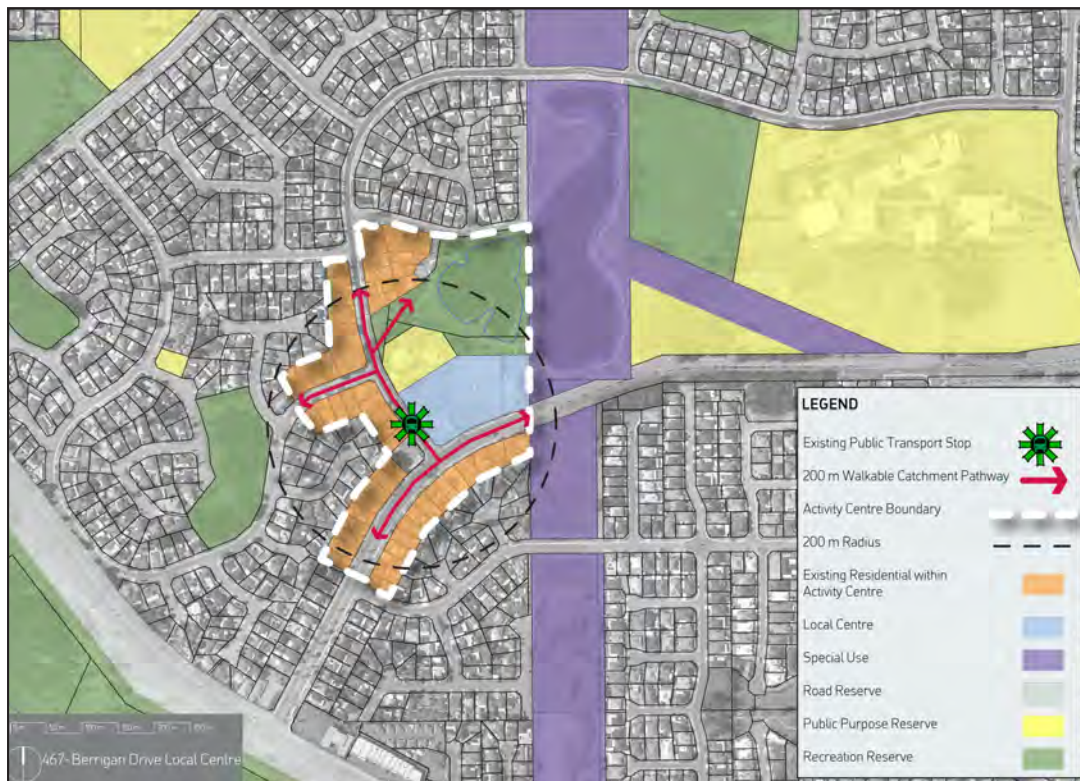
Berrigan Drive is a small local centre located on Berrigan Drive in South Lake.

Figure 67: Berrigan Drive Residential Density Assessment

Berrigan Drive Local Centre				
Walkable Catchment:	200 m			
Gross Area:	11.05 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
5.7 dwellings/ha	15 dwellings/ha	25 dwellings/ha	103 dwellings	213 dwellings
63 dwellings	166 dwellings	276 dwellings		

Source: Hames Sharley (2011)

Figure 68: Berrigan Drive Spatial Context



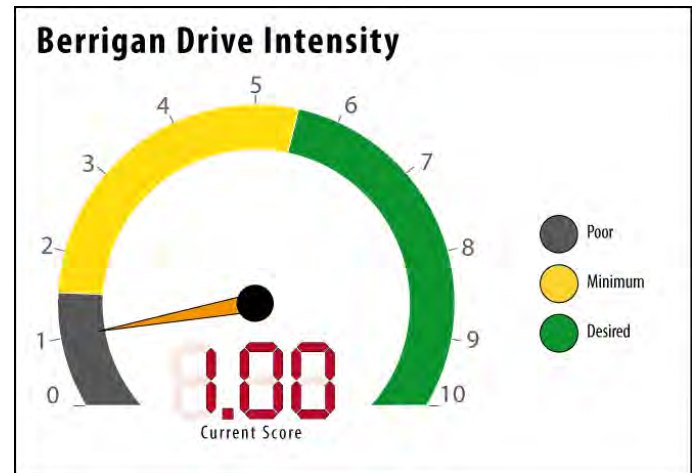
Source: Hames Sharley (2011)

Intensity:

The Berrigan Drive centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 63 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 5.7 dwellings per gross hectare. The ratio of floorspace to total land area of the Berrigan Drive centre is currently 0.19.

This translates to an overall intensity score of 1.00, which is below the average score of 1.50 and below the best of type score for a Local Centre.

Figure 69: Berrigan Drive Intensity Performance



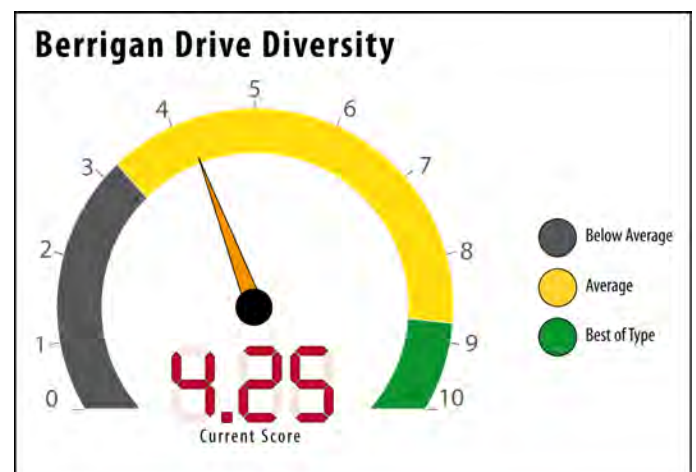
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Berrigan Drive is a Local Centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. Berrigan Drive’s current diversity index is 0.46 indicating that the centre is relatively diverse.

This translates to an overall diversity score of 4.25, which is above the average score of 3.25 and below the best of type score for a Local Centre.

Figure 70: Berrigan Drive Diversity Performance



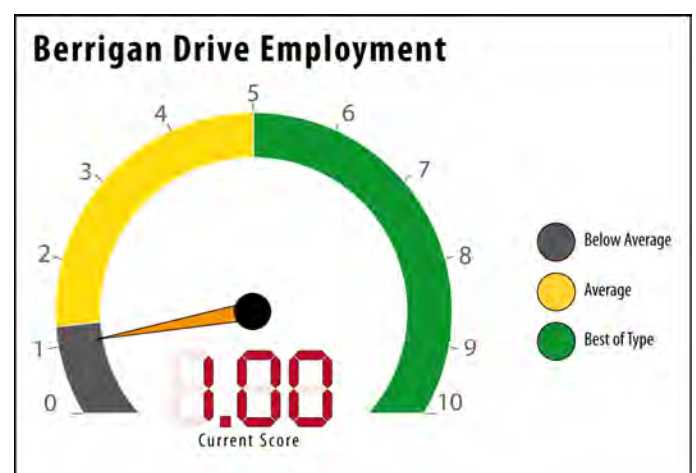
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Berrigan Drive currently accommodates 108 employment opportunities, which equates to an employment density of 48.5 jobs per hectare. As a Local Centre, Berrigan Drive is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.00, which is below to the average score of 1.25 and below the best of type score for a Local Centre.

Figure 71: Berrigan Drive Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Urban Form:

Figure 72 outlines the results of the Urban Form Assessment for Berrigan Drive.

Figure 72: Berrigan Drive Urban Form Assessment

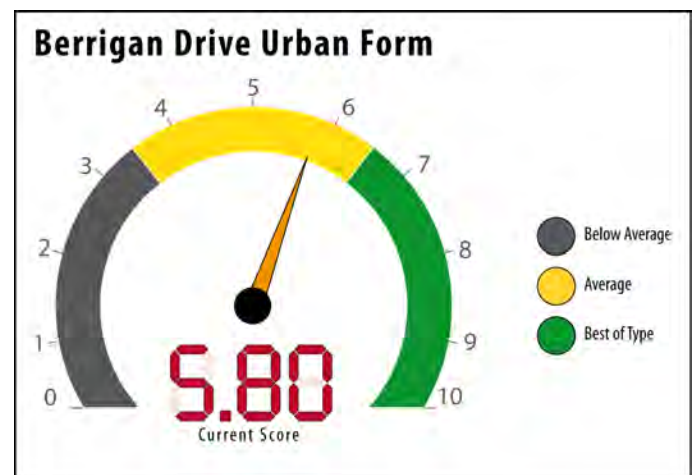
Berrigan Drive Local Centre	Legibility						
	Footpaths		Walking		Cyclepaths		
Area (ha) 11.05	Existence	Continuity	Barriers	Facilitators	Existence	Continuity	
Attribute score:	0.67	0.42	0.67	0.50	0.17	0.00	
Item score:							0.40
Berrigan Drive Local Centre	Amenity						
	Street trees	Recreational destinations			Other amenities		
Area (ha) 11.05	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)	
Attribute score:	0.46	1.00	1.00	0.50	1.00	0.00	
Item score:							0.66

Source: Hames Sharley (2011)

Scores for legibility was medium, while the scores for amenity and development potential were high. Short-term development potential is likely to be significantly lower than the score indicates as there was no vacant land recorded, and the land recorded as underdeveloped is largely occupied by recently built dwellings. Amenity was high due to the presence of two parks, playgrounds, some cricket nets and a feature of visual interest. Additional playgrounds and outdoor recreation equipment were present but not publically accessible. Street trees were absent in several segments, and not well provided in most segments. The low legibility score was due to a lack of footpaths in some segments and poor footpath continuity. One cycle path was present in the centre, however it was not continuous.

This translates to an overall Urban Form score of 5.80, which equates to a medium performance level.

Figure 73: Berrigan Drive Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 74 outlines the results of the Economic Activation Assessment for Berrigan Drive.

Figure 74: Berrigan Drive Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Poor	Poor	Poor	Very Poor	Very Poor

Source: Pracsys 2011

Berrigan Drive Local Centre consists of a single open mall, anchored by an IGA supermarket. Demand analysis suggests that the centre may be under trading indicating that the centres economic purpose which prompted the original development may have changed. Furthermore the future vision/purpose for the centre is not defined.

The centre, which is located in the middle of at grade parking, does not address the surrounding street network at all. Like all enclosed mall based centres it is selectively permeable, and while the mall itself is relative easy to move through there are poor physical and visual connections between the shopping centre and the surrounding area.

This translates to an overall Economic Activation score of 3.0, which equates to a medium performance level.

Figure 75: Berrigan Drive Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Berrigan Drive largely performs effectively as a neighbourhood centre with average performance across diversity and urban form measures. There is scope for improvement of the centres intensity, employment and economic performance.

Centre: Hamilton Road

Hierarchy: Local Centre

Description:

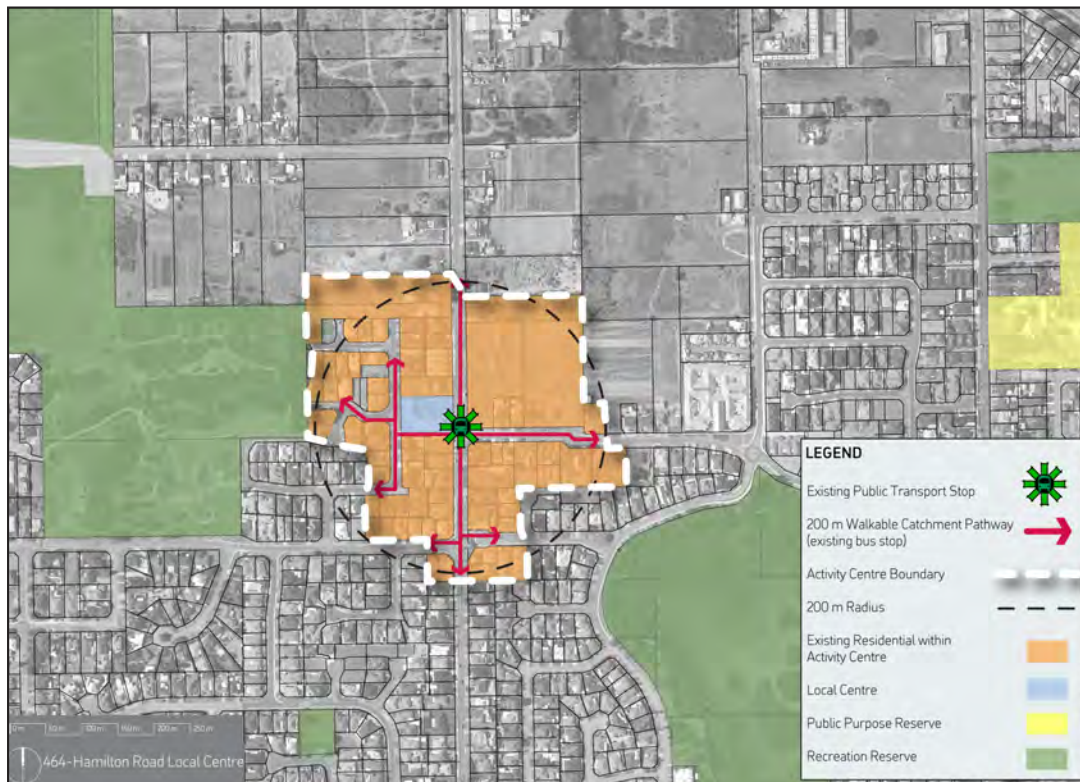
Hamilton Road is a small local centre located on Hamilton Road in Coogee.

Figure 76: Hamilton Road Residential Density Assessment

Hamilton Road Local Centre				
Walkable Catchment:	200 m			
Gross Area:	13.00 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
8.5 dwellings/ha	15 dwellings/ha	25 dwellings/ha	84 dwellings	214 dwellings
111 dwellings	195 dwellings	325 dwellings		

Source: Hames Sharley (2011)

Figure 77: Hamilton Road Spatial Context



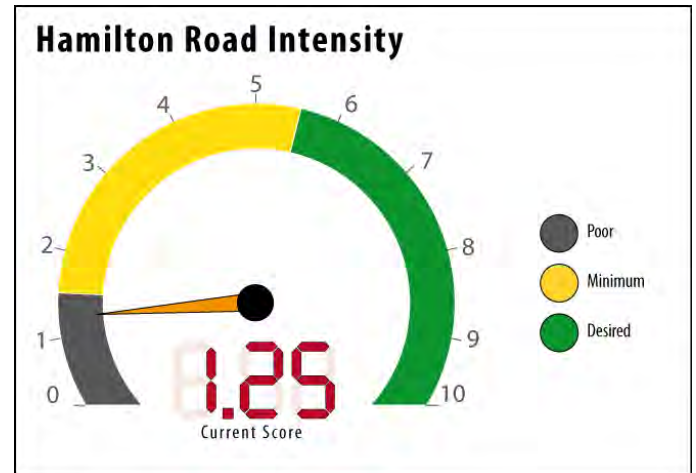
Source: Hames Sharley (2011)

Intensity:

The Hamilton Road Local Centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 77 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 8.5 dwellings per gross hectare. The ratio of floorspace to total land area of the Hamilton Road centre is currently 0.23.

This translates to an overall intensity score of 1.25, which is below the average score of 1.50 and below the best of type score for a Local Centre.

Figure 78: Hamilton Road Intensity Performance



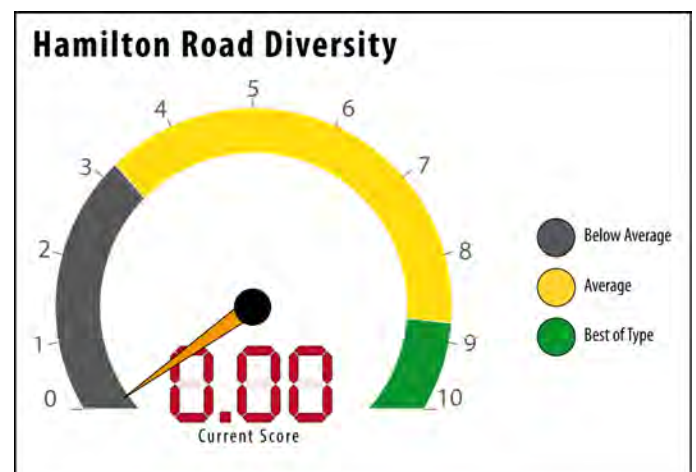
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Hamilton Road is a Local Centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. Hamilton Road’s current diversity index is 0 indicating that the centre is comprised entirely of shop retail activity.

This translates to an overall diversity score of 0, which is below the average score of 3.25 and below the best of type score for a Local Centre.

Figure 79: Hamilton Road Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Hamilton Road currently accommodates 56 employment opportunities, which equates to an employment density of 144 jobs per hectare. As a Local Centre, Hamilton Road is not expected to accommodate any strategic employment.

This translates to an overall employment score of 3.50, which is above the average score of 1.25 and below the best of type score for a Local Centre.

Figure 80: Hamilton Road Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

Hamilton Road is a centre composed entirely of shop-retail activity. This is reflected in its diversity score of 0. Improvement of this score will require the introduction of other consumer-services activity such as healthcare, offices, education or entertainment.

Centre: Newmarket

Hierarchy: Local Centre

Description:

Newmarket is a large local centre located on Hampton Road in North Coogee.

Figure 81: Newmarket Residential Density Assessment

Newmarket Local Centre				
Walkable Catchment:	200 m			
Gross Area:	17.42 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
9.2 dwellings/ha	15 dwellings/ha	25 dwellings/ha	101 dwellings	275 dwellings
160 dwellings	261 dwellings	435 dwellings		

Source: Hames Sharley (2011)

Figure 82: Newmarket Spatial Context



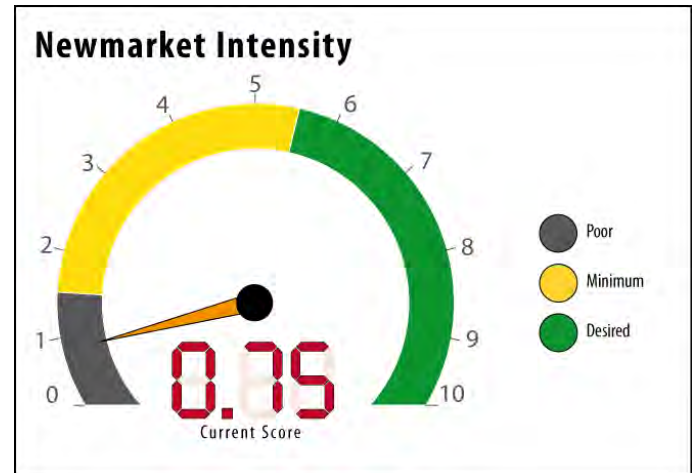
Source: Hames Sharley (2011)

Intensity:

The Newmarket Local Centre is located in a transitioning suburb. At present, the urban form consists predominantly of low density single dwellings. Figure 82 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 9.2 dwellings per gross hectare. The ratio of floorspace to total land area of the Newmarket Local Centre is currently 0.14.

This translates to an overall intensity score of 0.75, which is below the average score of 1.50 and below the best of type score for a Local Centre.

Figure 83: Newmarket Intensity Performance



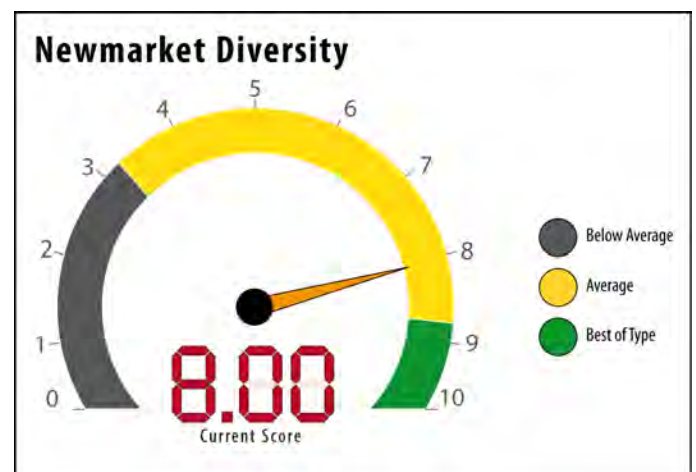
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Newmarket is a Local Centre the "Mix of Uses" threshold (Tables 3 SPP 4.2) is not applicable. The centres diversity index is 0.75 indicating that the centre is very diverse.

This translates to an overall diversity score of 8, which is above the average score of 3.25 and below the best of type score for a Local Centre.

Figure 84: Newmarket Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

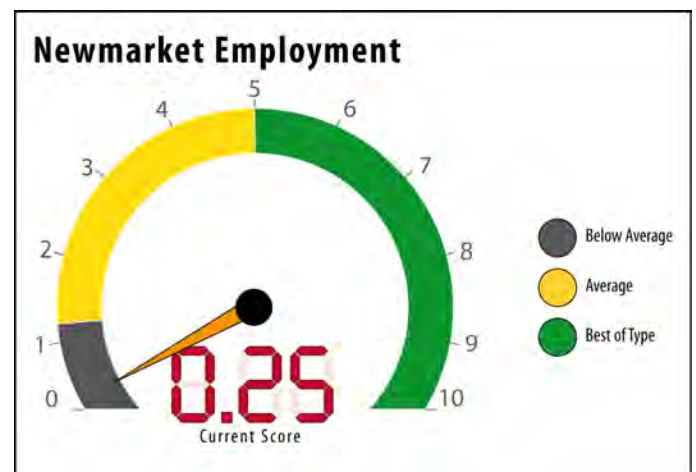
Newmarket Local Centre currently accommodates 947 employment opportunities, which equates to an employment density of 0.5 jobs per hectare. As a Local Centre, Newmarket is not expected to accommodate any strategic employment.

This translates to an overall employment score of 0.25 which is below the average score of 1.25 and below the best of type score for a Local Centre.

Conclusion:

Newmarket Local Centre largely under performs as a local centre with below average performance across intensity and employment measures.

Figure 85: Newmarket Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Centre: Rockingham Road

Hierarchy: Local Centre

Description:

Rockingham Road is a large Local Centre located on Rockingham Road in Hamilton Hill.

Figure 86: Rockingham Road Residential Density Assessment

Rockingham Road Local Centre				
Walkable Catchment:	200 m			
Gross Area:	8.47 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
11.9 dwellings/ha	15 dwellings/ha	25 dwellings/ha	27 dwellings	111 dwellings
101 dwellings	128 dwellings	212 dwellings		

Source: Hames Sharley (2011)

Figure 87: Rockingham Road Spatial Context



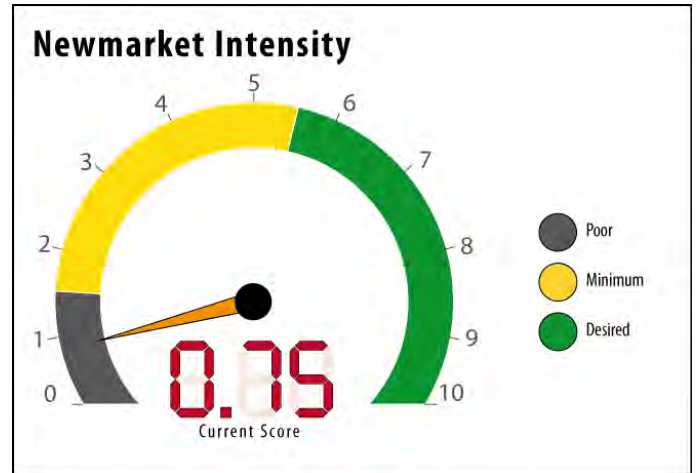
Source: Hames Sharley (2011)

Intensity:

The Rockingham Road Local centre is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 87 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 11.9 dwellings per gross hectare. The ratio of floorspace to total land area of the Rockingham Road local centre is currently 0.26.

This translates to an overall intensity score of 1.75, which is above the average score of 1.50 and below the best of type score for a Local Centre.

Figure 88: Rockingham Road Intensity Performance



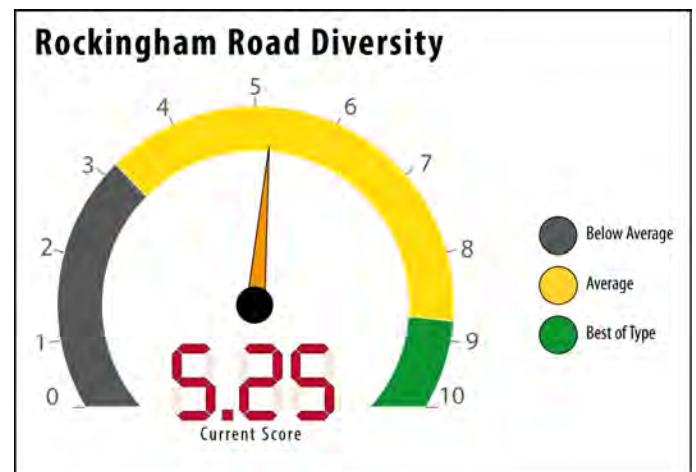
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Rockingham Road is a Local Centre the "Mix of Uses" threshold (Tables 3 SPP 4.2) is not applicable. Rockingham Road's current diversity index is 0.54 indicating that the centre is relatively diverse.

This translates to an overall diversity score of 5.25, which is above the average score of 3.25 and below the best of type score for a Local Centre.

Figure 89: Rockingham Road Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Rockingham Road currently accommodates 104 employment opportunities, which equates to an employment density of 68 jobs per hectare. As a Local Centre, Rockingham Road is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.50, which is above the average score of 1.25 and below the best of type score for a Local Centre.

Figure 90: Rockingham Road Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Urban Form:

Figure 91 outlines the results of the Urban Form Assessment for Rockingham Road.

Figure 91: Rockingham Road Urban Form Assessment

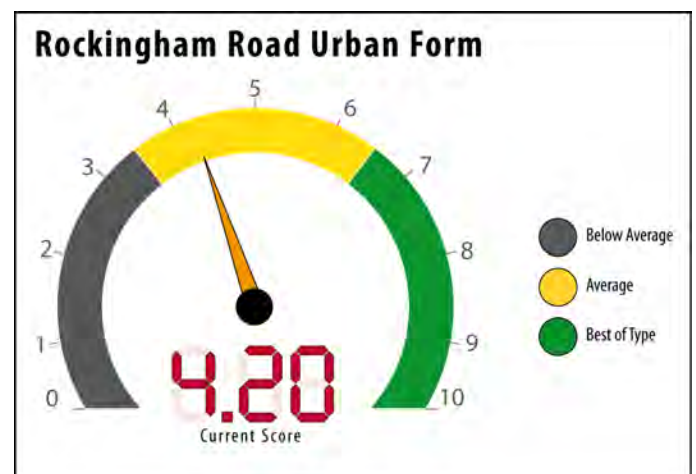
Rockingham Road Local Centre	Legibility						
	Footpaths		Walking		Cyclepaths		
Area (ha) 8.47	Existence	Continuity	Barriers	Facilitators	Existence	Continuity	
Attribute score:	0.83	0.50	0.67	0.33	0.00	0.00	
Item score:							0.39
Rockingham Road Local Centre	Amenity						
	Street trees	Recreational destinations			Other amenities		
Area (ha) 8.47	Existence	Park (n)	Playground (n)	Outdoor recreation facilities (n)	Feature of visual interest (n)	Picnic facilities (n)	
Attribute score:	0.75	0.50	1.00	1.00	0.00	0.00	
Item score:							0.54

Source: Hames Sharley (2011)

Scores for legibility and amenity were medium, while the score for development potential was poor due to the little available vacant or underdeveloped land. The highest score was attained for amenity, with the presence of a park, playground, outdoor recreation facilities and street trees contributing. Footpath continuity was an issue for all street segments measured, but most street segments measured were provided with a footpath. There were no cyclepaths present in the activity centre.

This translates to an overall Urban Form score of 4.20, which equates to a medium performance level.

Figure 92: Rockingham Road Urban Form Performance



Source: Hames Sharley (2011)

Economic Activation:

Figure 93 outlines the results of the Economic Activation Assessment for Rockingham Road.

Figure 93: Rockingham Road Economic Activation Assessment

	Purpose of Place			Exposure	
	Purpose	Vision/Plan	Anchor Tenants	Activated Frontages	Permeability
Score	Poor	Poor	Poor	Very Poor	Very Poor

Source: Pracsys 2011

Rockingham Road Local Centre consists of a single open strip mall, anchored by an IGA supermarket, and adjacent mixed business. Demand analysis suggests that the centre may be under trading indicating that the centres economic purpose which prompted the original development may have changed. Furthermore the future vision/purpose for the centre is not defined.

The centre, which is located in the middle of at grade parking, does not address the surrounding street network at all, however the open configuration of the centre does provide a more active frontage than many enclosed malls. The centre, like all open mall based centres is highly permeable, and while the mall itself is relative easy to move through there are poor physical and visual connections between the shopping centre, adjacent mixed business and to the surrounding area.

This translates to an overall Economic Activation score of 3.00, which equates to a below target performance level.

Figure 94: Rockingham Road Economic Activation Performance



Source: Pracsys (2011)

Conclusion:

Rockingham Road largely performs effectively as a neighbourhood centre with average performance across intensity, diversity, employment and urban form measures. There is significant scope for improving the economic activation of the centre.

Centre: Yangebup

Hierarchy: Local Centre

Description:

Yangebup is a local centre located on the corner of Swallow Drive and Moorhen Drive in Yangebup.

Figure 95: Yangebup Residential Density Assessment

Yangebup Local Centre				
Walkable Catchment:	200 m			
Gross Area:	9.84 ha			
Residential Density				
Existing	Targets		Shortfall	
	Minimum	Desirable	Minimum	Desirable
5.6 dwellings/ha	15 dwellings/ha	25 dwellings/ha	87 dwellings	182 dwellings
55 dwellings	142 dwellings	237 dwellings		

Source: Hames Sharley (2011)

Figure 96: Yangebup Spatial Context



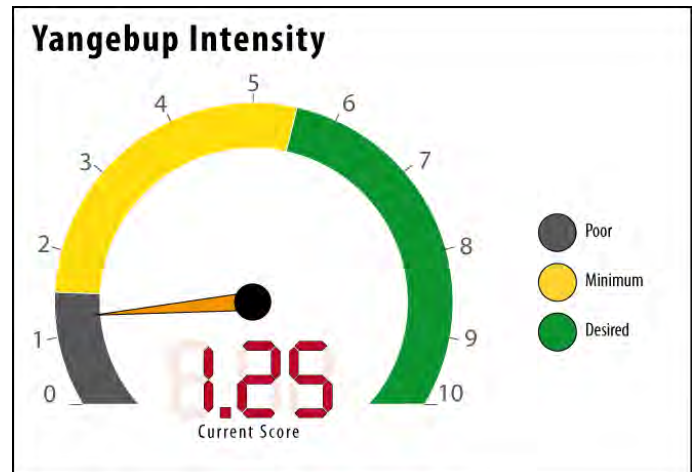
Source: Hames Sharley (2011)

Intensity:

Yangebup is located in a relatively established suburban area. At present, the urban form consists predominantly of low density single dwellings. Figure 96 outlines the walkable catchment of the centre. Analysis of the catchment indicates that the current residential density is 5.6 dwellings per gross hectare. The ratio of floorspace to total land area of Yangebup is currently 0.22.

This translates to an overall intensity score of 1.25, which is below the average score of 1.50 and below the best of type score for a Local Centre.

Figure 97: Yangebup Intensity Performance



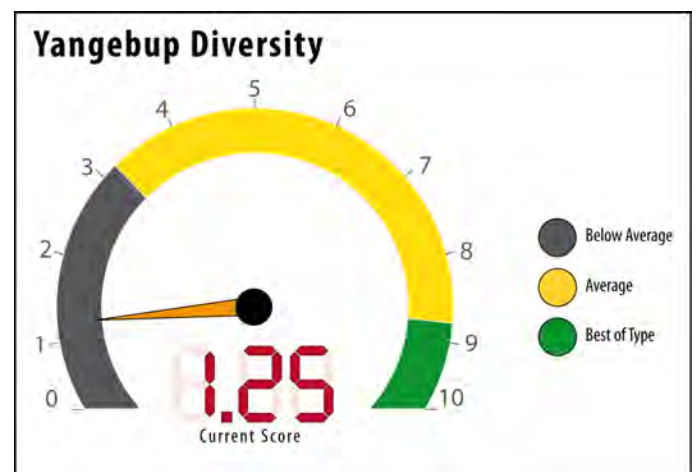
Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

As Yangebup is a local centre the “Mix of Uses” threshold (Tables 3 SPP 4.2) is not applicable. Yangebup’s current diversity index is 0.15 indicating that the centre is relatively homogenous.

This translates to an overall diversity score of 1.25, which is below the average score of 3.25 and below the best of type score for a Local Centre.

Figure 98: Yangebup Diversity Performance



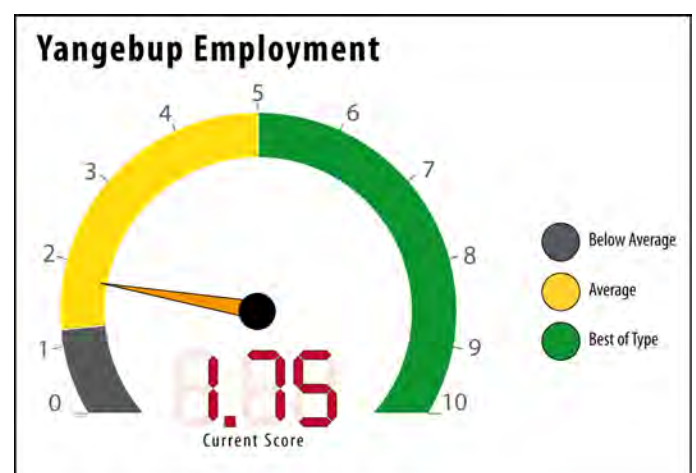
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Yangebup currently accommodates 68 employment opportunities, which equates to an employment density of 76.4 jobs per hectare. As Yangebup is a Local Centre, it is not expected to accommodate any strategic employment.

This translates to an overall employment score of 1.75 which is above the average score of 1.25 and below the best of type score for a Local Centre.

Figure 99: Yangebup Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

Yangebup performs relatively well as a local centre in both its intensity and employment. It performs below average in regards to diversity due to a lack of alternative activities to retail being located at the site.

Centre: Bibra Lake Industrial Area

Hierarchy: Industrial Centre

Description:

Bibra Lake is a well-established major light industrial area.

Figure 100: Bibra Lake Industrial Area Spatial Context



Source: Hames Sharley (2011)

Intensity:

The ratio of floorspace to total land area of Bibra Lake Industrial Area is currently 0.14. This translates to an overall intensity score of 1.5, which is equal to the average score of 1.5 and below the best of type score for a Regional Industrial Centre.

Figure 101: Bibra Lake Industrial Intensity Performance

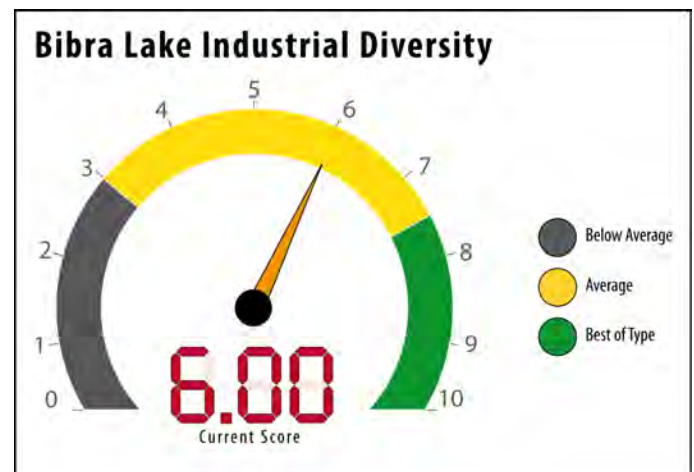


Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Bibra Lake Industrial Area's current diversity index is 0.63 indicating that the centre is relatively diverse. This translates to an overall diversity score of 6, which is above the average score of 3 and below the best of type score for a Regional Industrial Centre.

Figure 102: Bibra Lake Industrial Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Bibra Lake Industrial Area currently accommodates 5,421 employment opportunities, which equates to an employment density of 9.21 jobs per hectare. Approximately 19% of the jobs are knowledge intensive or export orientated (KIEO).

Figure 103: Bibra Lake Industrial Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

The Bibra Lake Industrial Area performs well across intensity and diversity metrics. Underperformance in the employment metric is a result of the population-driven nature of activity at the Centre.

Centre: Henderson

Hierarchy: Strategic Industrial Centre

Description:

The AMC complex at Henderson is home to about 90 specialist companies and businesses. As the centre for the state's oil & gas industry servicing, shipbuilding sector, and as a marine and defence services hub, the AMC complex plays an important role in the State's economic performance. The AMC is divided into four main precincts:

- The Fabrication Precinct (including the Common User Facility)
- The Shipbuilding Precinct
- The Technology Precinct
- The Support Industry Precinct

Figure 104: Henderson Spatial Context

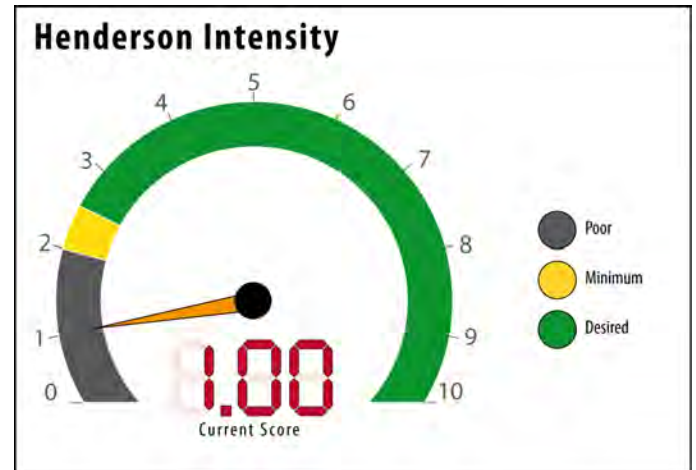


Source: Hames Sharley (2011)

Intensity:

The ratio of floorspace to total land area of Henderson is currently 0.11. This translates to an overall intensity score of 1, which is below the average score of 2 and below the best of type score for a Strategic Industrial Centre.

Figure 105: Henderson Intensity Performance

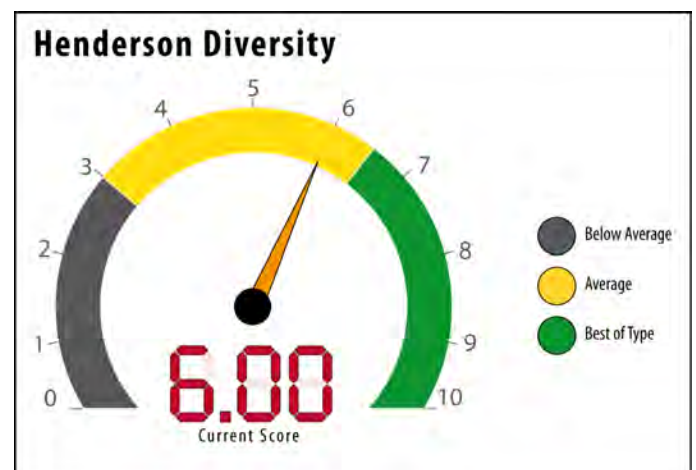


Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Henderson’s current diversity index is 0.62 indicating that the centre is very diverse. This translates to an overall diversity score of 6, which is above the average score of 3 and below the best of type score for an Strategic Industrial Centre.

Figure 106: Henderson Diversity Performance

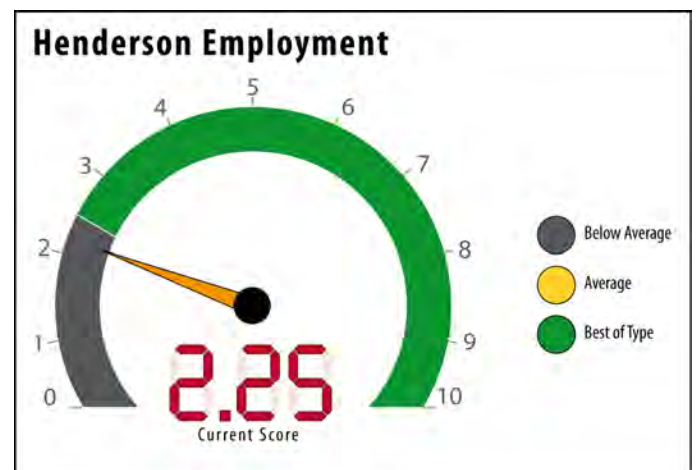


Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Henderson currently accommodates 5,294 employment opportunities, which equates to an employment density of 14 jobs per hectare. Approximately 20% of the jobs are knowledge intensive or export orientated (KIEO). This may seem low given the strategic nature of activity within the Centre, however the induced high productivity trades activity resulting from this 20% is highly significant. This will be explored further in later bodies of work within the LCACS.

Figure 107: Henderson Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Accessibility:

Figure 108: Henderson Accessibility Assessment

	Performance	Benchmark
Walk within the centre	E	C
Walk to the centre	N/A	C
Cycle to the centre	E	C
Public Transport to the centre	E	C
Private Car to the centre	A	A
Freight Vehicle to the centre	A	A

Source: AECOM 2011

Henderson fails to meet the strategic benchmarks for walking within the centre and for cycling to the centre, achieving a rating of E. The walk network to the centre was given a “not applicable” score because there is no walkable catchment around the Henderson site at the current time.

There is no cycle network within the centre; however it would be physically possible to undertake a cycling trip to this site using the existing road network.

Henderson fails to meet the benchmark for public transport provision. There are insufficient public transport services along the major roads to meet this strategic category.

Henderson meets the benchmarks set for private car and freight vehicle access. This is because very good access is provided to and from the regional road network, and the local access arrangements have been created predominantly to provide for vehicle access.

This translates to an overall accessibility score of 5.25, which is below the benchmark score of 7.25 for an Industrial Centre.

Figure 109: Henderson Accessibility Performance



Source: AECOM (2011)

Conclusion:

Based upon the defined metrics, Henderson is performing well as a strategic industrial centre. The average intensity measure indicates that there is significant opportunity for increased density of activity throughout the strategic industrial area.

Centre: Jandakot East

Hierarchy: Regional Industrial Centre

Description:

Jandakot East is an emerging light industrial centre located to the south of Jandakot Airport.

Figure 110: Jandakot East Spatial Context

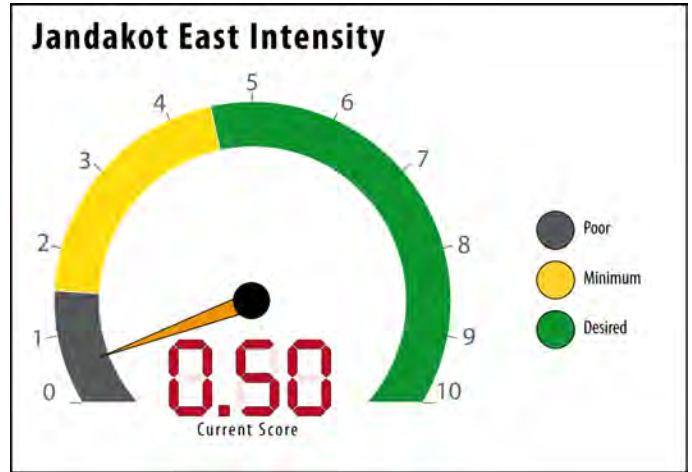


Source: Hames Sharley (2011)

Intensity:

The ratio of floorspace to total land area of Jandakot East is currently 0.07. This translates to an overall intensity score of 0.50, which is below the average score of 1.50 and below the best of type score for a Regional Industrial Centre.

Figure 111: Jandakot East Intensity Performance

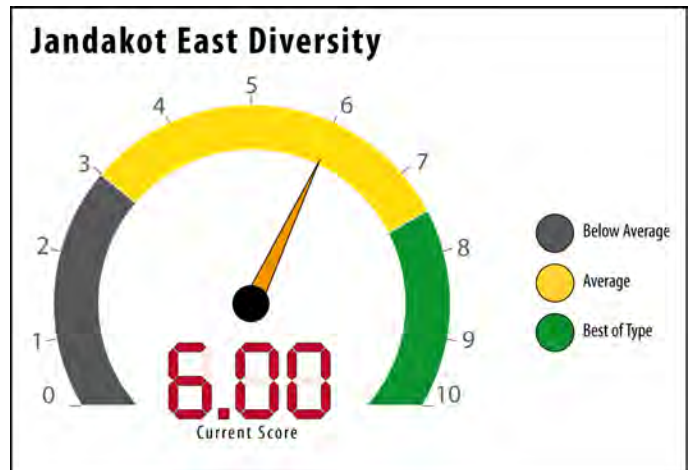


Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Jandakot East’s current diversity index is 0.65 indicating that the centre is relatively diverse. This translates to an overall diversity score of 6.00, which is above the average score of 3.00 and below the best of type score for a Regional Industrial Centre.

Figure 112: Jandakot East Diversity Performance



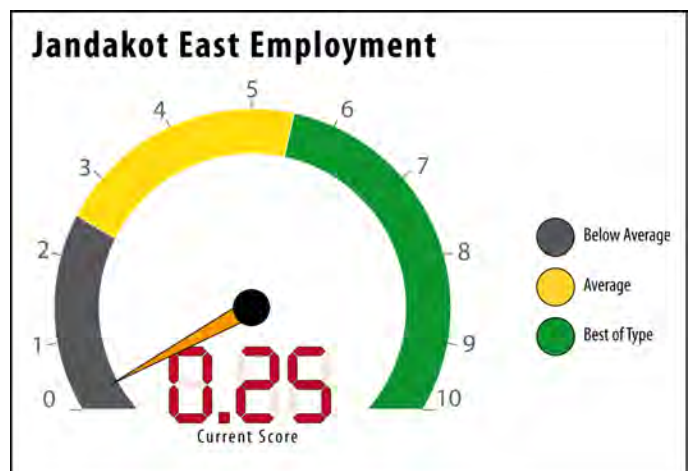
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Jandakot East currently accommodates 2,269 employment opportunities, which equates to an employment density of 7.24 jobs per hectare. Approximately 22% of the jobs are knowledge intensive or export orientated (KIEO).

This translates to an overall employment score of 0.25, which is above the average score of 2.50 and below the best of type score for a Regional Industrial Centre.

Figure 113: Jandakot East Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

The Jandakot East performs well in employment metrics however significant opportunity exists for intensification of activity through utilisation of more land within the centre. Under performance in the employment metric is also associated with the low intensity of activity.

Centre: Jandakot West

Hierarchy: Regional Industrial Centre

Description:

Jandakot West is a light industrial centre located to the west of Cockburn Central.

Figure 114: Jandakot West Spatial Context

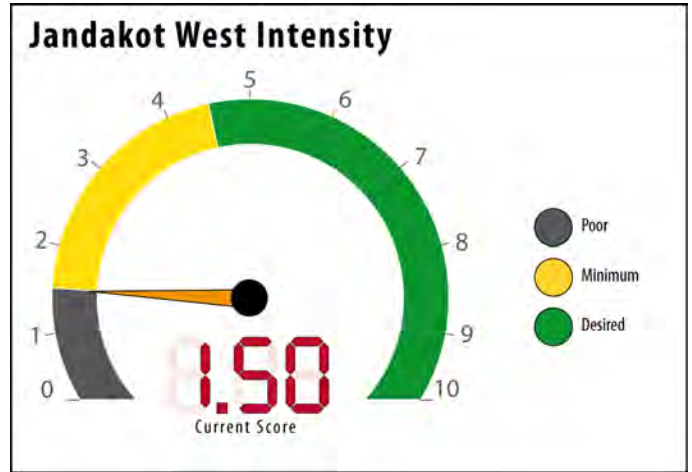


Source: Hames Sharley (2011)

Intensity:

The ratio of floorspace to total land area of Jandakot West is currently 0.12. This translates to an overall intensity score of 1.50, which is equal to the average score and below the best of type score for a Regional Industrial Centre.

Figure 115: Jandakot West Intensity Performance

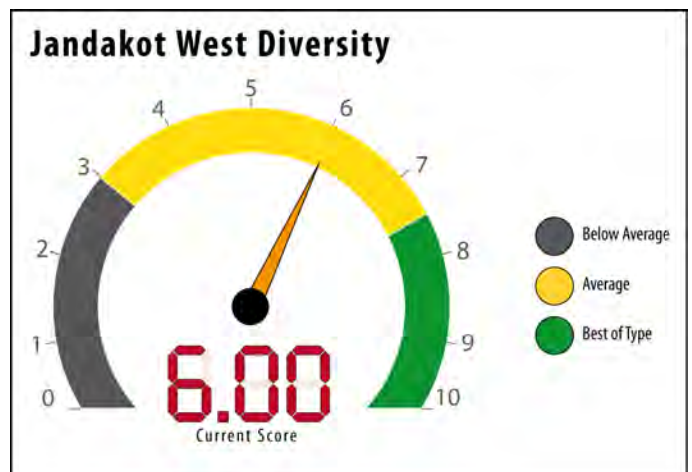


Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Jandakot West’s current diversity index is 0.6 indicating that the centre is relatively diverse. This translates to an overall diversity score of 6.00 which is above the average score of 3.00 and below the best of type score for a Regional Industrial Centre.

Figure 116: Jandakot West Diversity Performance



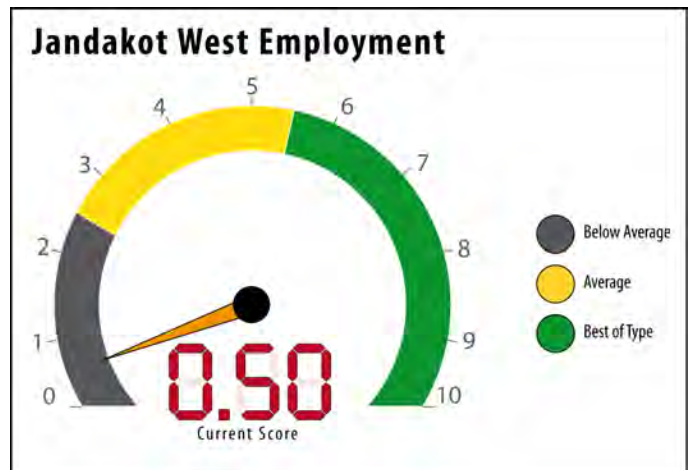
Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Jandakot West currently accommodates 921 employment opportunities, which equates to an employment density of 10.94 jobs per hectare. Approximately 17% of the jobs are knowledge intensive or export orientated (KIEO).

This translates to an overall employment score of 0.05, which is below the average score of 2.50 and below the best of type score for a Regional Industrial Centre.

Figure 117: Jandakot West Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Conclusion:

The Jandakot West performs well in diversity metrics however significant opportunity exists for intensification of activity through utilisation of more land within the centre. Under performance in the employment metric is also associated with the low intensity of activity.

Centre: Jandakot Airport

Hierarchy: Strategic Specialised Centre

Description:

Jandakot Airport is a general aviation airport that covers 6.22 km² including 4 km² of Banksia woodlands. The airport is operated and maintained by Jandakot Airport Holdings who purchased a 50 year lease in 1998.

The airport provides a base for essential service organisations such as the Royal Flying Doctor Service, Department of Environment and Conservation Forest and Bushfire Patrol, Fire and Emergency Services Authority of Western Australia (FESA) emergency helicopter and the WA Police Air Support. Jandakot is also an important training base for international airline pilots. The economic analysis contained in the Jandakot Airport Master Plan suggests that the total employment within the estate could potentially reach 4,700.

Figure 118: Jandakot Airport Spatial Context

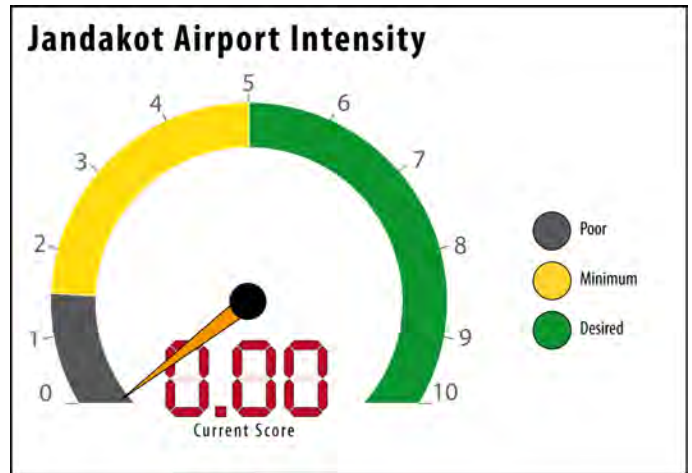


Source: Hames Sharley (2011)

Intensity:

The ratio of floorspace to total land area of Jandakot Airport is currently 0.01. This translates to an overall intensity score of 0, which is below the average score of 1.50 and below the best of type score for a Specialised Centre.

Figure 119: Jandakot Airport Intensity Performance

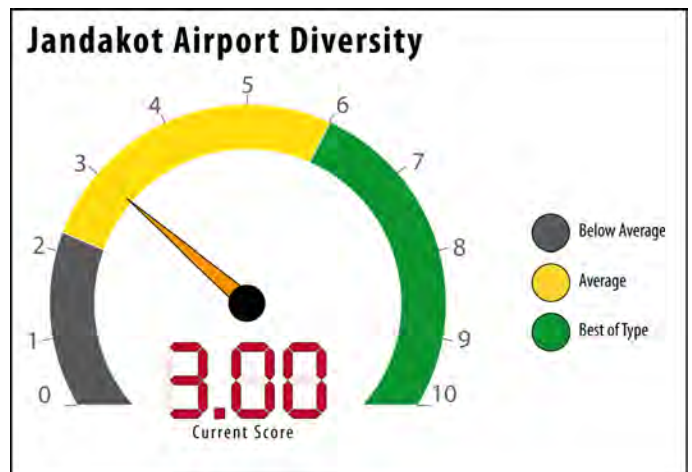


Source: Pracsys (2011), Hames Sharley (2011) and DoP Land Use and Employment Survey (2008)

Diversity:

Jandakot Airport’s current diversity index is 0.34 indicating that the centre is relatively specialised. This translates to an overall diversity score of 3.00, which is above the average score of 2.25 and below the best of type score for a Specialised Centre.

Figure 120: Jandakot Airport Diversity Performance



Source: Pracsys (2011) and DoP Land Use and Employment Survey (2008)

Employment:

Jandakot Airport currently accommodates 682 employment opportunities, which equates to an employment density of 1.19 jobs per hectare. Approximately 20% of the jobs are knowledge intensive or export orientated (KIEO).

This translates to an overall employment score of 2.00, which is below the average score of 3.50 and below the best of type score for a Specialised Centre.

Figure 121: Jandakot Airport Employment Performance



Source: Pracsys (2011), DoP Land Use and Employment Survey (2008) and ABS Census of Population and Housing (2006)

Accessibility:

Figure 122: Jandakot Airport Accessibility Assessment

	Performance	Benchmark
Walk within the centre	D	B
Walk to the centre	N/A	C
Cycle to the centre	E	B
Public Transport to the centre	E	C
Private Car to the centre	B	B
Freight Vehicle to the centre	A	A

Source: AECOM 2011

Jandakot Airport fails to meet the strategic benchmarks for walking within the centre and for cycling to the centre, achieving a rating of D for walking within the centre. Activities are widely spaced however it would be physically possible to walk between the sites, although unlikely. The walk network to the centre was given a “not applicable” score because there is no walkable catchment around the Jandakot Airport site at the current time.

There is no cycle network within the centre and very limited catchment. A rating of E was assigned for cycling to the centre. There is a very poor on-road cycling environment which would be considered unsuitable.

Jandakot Airport fails to meet the benchmark for public transport provision. There are no services in AM peak and only limited services throughout the rest of the day. Therefore there are insufficient public transport services to meet this strategic category.

Jandakot Airport meets the benchmarks set for private car and freight vehicle access. This is because reasonable access is provided to and from the regional road network, and the local access arrangements have been created predominantly to provide for vehicle access. Access may be constrained in future due to the need to cross the freight rail line, and because there is only one way in and out of the centre.

This translates to an overall accessibility score of 4.25, which is below the benchmark score of 7.75 for a Strategic Specialised Centre.

Figure 123: Jandakot Airport Accessibility Performance



Source: AECOM (2011)

Conclusion:

Jandakot’s role as a strategic specialised centre hanging off a major piece of transport infrastructure means that it’s performance is likely to require elements of both commercial and industrial centres. In this sense the development of Jandakot should address the considerable underperformance in diversity of activity. Inclusion of developments such as the \$80m General Electric Technology and Learning Centre will improve this score significantly. The intensity score is very low due to centre boundary issues associated with airport land.

6 CONCLUSION

Commercial activity centres within the City of Cockburn largely perform at Perth metropolitan average levels or below (Figure 124) across the defined performance metrics of:

- Intensity
- Diversity
- Employment
- Accessibility
- Urban Form
- Economic Activation

Figure 124: City of Cockburn Commercial activity centres summary table

			Intensity	Diversity	Employment	Accessibility	Urban Form	Economic Activation
Commercial	Secondary Centre	Cockburn Central						
	District Centre	Phoenix						
	Neighbourhood Centre	Coolbellup				Not Assessed		
		Hamilton Hill				Not Assessed		
		Lakes Neighbourhood Centre				Not Assessed		
	Local Centre	Atwell				Not Assessed	Not Assessed	Not Assessed
		Berrigan Drive				Not Assessed		
		Hamilton Road				Not Assessed	Not Assessed	Not Assessed
		Newmarket				Not Assessed	Not Assessed	Not Assessed
		Rockingham Road				Not Assessed		
Barrington Street					Not Assessed	Not Assessed	Not Assessed	
	Yangebup				Not Assessed	Not Assessed	Not Assessed	
Industrial	Strategic Industrial Centre	Henderson					Not Applicable	Not Applicable
	Regional Industrial Centre	Bibra Lake Industrial				Not Applicable	Not Applicable	Not Applicable
		Jandakot East				Not Applicable	Not Applicable	Not Applicable
		Jandakot West				Not Applicable	Not Applicable	Not Applicable
Specialised	Strategic Specialised Centre	Jandakot Airport				Not Applicable	Not Applicable	

Desired	Above Average	
	Average	
Poor	Below Average	

This reflects the need for centres to continue to mature if optimal levels of performance are to be achieved, or centres are to be able to support future growth. Overall it is suggested that there is appropriate scale and levels in the hierarchy (SPP 4.2) attributed to most centres. However, with significant development still being undertaken within Cockburn Central, the performance of the designated Secondary Centre will likely improve across all measures.

Of the six metrics the most scope for improvement across many centres is within the intensity of households living within and around the centre, and the diversity of activity contained within centres. This is an opportunity for these centres as increased intensity and diversity will:

- Provide opportunities for greater expenditure capture from an expanded local catchment
- Make the provision of public transport infrastructure and social services potentially more efficient and effective
- Allows for expansion in viable high amenity uses (especially entertainment and hospitality) as users are readily integrated into the site for longer periods of the day, with the opportunity for multiple purpose trips

Industrial centres within the City of Cockburn also perform to the most at poor to average level for their designated levels in the SPP 4.2 hierarchy, with the potential for expansion of intensity within these Centres also representing the largest opportunity for improvement. In this case this is potentially due to the presence of un-utilised or under-utilised land in these areas.

In the case of all centres expansion of uses, or change in configuration of uses will result in changes to the performance metrics of centre. Activity Centre Plans should address both what these changes will be, and how performance will ultimately be maintained or enhanced. Further work during the preparation of the LCACS will occur in the development of statutory decision rules addressing performance of activity centres within the City of Cockburn.

APPENDIX 1: HOW TO CALCULATE CENTRE PERFORMANCE

7.1 INTRODUCTION

The object of this paper is to present the detailed methodologies which underpin the activity centre performance assessments. Using the conversion table below the results of each methodology can be converted into a score from 1 to 10 to allow for the comparison in centre performance to the identified benchmarks.

Figure 125: Conversion Table

Score	Diversity		Intensity			Employment			Accessibility	Urban Form
	Mixed Use	Shannon's Equibility Index	Residential Density	Plot Ratio (Commercial)	Plot Ratio (Industrial)	Jobs per Hectare (Commercial)	Jobs per Gross Hectare (Industrial)	Percentage of Total Employment that is strategic	Accessibility	Urban Form
0	0%	0	0	0.00	0	0	0	0.0%	6.0	0.00
0.5	5%	0.05	5	0.05	0.04	10	5	2.5%	7.2	0.05
1	10%	0.10	10	0.10	0.08	20	10	5.0%	8.4	0.10
1.5	15%	0.15	15	0.15	0.11	30	15	7.5%	9.6	0.15
2	20%	0.20	20	0.20	0.15	40	20	10.0%	10.8	0.20
2.5	25%	0.25	25	0.25	0.19	50	25	12.5%	12.0	0.25
3	30%	0.30	30	0.30	0.23	60	30	15.0%	13.2	0.30
3.5	35%	0.35	35	0.35	0.26	70	35	17.5%	14.4	0.35
4	40%	0.40	40	0.40	0.30	80	40	20.0%	15.6	0.40
4.5	45%	0.45	45	0.45	0.34	90	45	22.5%	16.8	0.45
5	50%	0.50	50	0.50	0.38	100	50	25.0%	18.0	0.50
5.5	55%	0.55	55	0.55	0.41	110	55	27.5%	19.2	0.55
6	60%	0.60	60	0.60	0.45	120	60	30.0%	20.4	0.60
6.5	65%	0.65	65	0.65	0.49	130	65	32.5%	21.6	0.65
7	70%	0.70	70	0.70	0.53	140	70	35.0%	22.8	0.70
7.5	75%	0.75	75	0.75	0.56	150	75	37.5%	24.0	0.75
8	80%	0.80	80	0.80	0.60	160	80	40.0%	25.2	0.80
8.5	85%	0.85	85	0.85	0.64	170	85	42.5%	26.4	0.85
9	90%	0.90	90	0.90	0.68	180	90	45.0%	27.6	0.90
9.5	95%	0.95	95	0.95	0.71	190	95	47.5%	28.8	0.95
10	100%	1.00	100	1.00	0.75	200	100	50.0%	30.0	1.00

7.2 INTENSITY

7.2.1 Residential Density - Dwellings per gross hectare

The methodology for calculating residential density is based on SPP 4.2 Activity Centre for Perth and Peel.

- 1) Determine the walkable catchment from the application of the 'ped-shed' technique to the existing or proposed street network. The extent of the walkable catchment is 200 m, 400 m or 800 m depending on centre hierarchy. The centroid of the walkable catchment should be a major transit node i.e. rail station, major bus transfer station or a stop located on high-frequency bus route.
- 2) Once the extent of the catchment has been determined, calculate the gross area within the catchment. Gross area refers to the area of zoned land under the region planning scheme i.e. excluding the area reserved for parks and recreation, railways, primary and other regional roads and public purposes.
- 3) Using aerial photographs and census data, estimate the number and type of dwellings located within the walkable catchment and divide the total by the gross area to arrive at an estimate of residential density.
- 4) Using the reference table provided, convert the residential density to a score out of ten.

7.2.2 Plot Ratio - Ratio of floorspace the total land area

- 1) Using the DoP Land use and employment survey data, identify the complexes that fall within the centre boundary.
- 2) Aggregate the total occupied floorspace of all complexes.
- 3) Aggregate the total land area of all complexes.
- 4) Divide the total occupied floorspace by the total land area to arrive at an estimated plot ratio.
- 5) Using the reference table provided, convert the plot ratio to a score out of ten. Please note different conversions are used for commercial and industrial centres.

7.2.3 Intensity score

To calculate the total intensity score of the centre, take the average of the residential density and plot ratio scores. In the case of industrial or specialised centres where residential density is not required, the total centre intensity score is equal to the plot ratio score.

7.3 DIVERSITY

7.3.1 Mix of Uses - Other floorspace as a percentage of total floorspace

- 1) Using the DoP Land use and employment survey data, identify the complexes that fall within the centre boundary.
- 2) Aggregate the total shop retail floorspace of all complexes.
- 3) Aggregate the total occupied floorspace of all complexes.
- 4) Divide the total shop retail floorspace by the total occupied floorspace and subtract the result from one.
- 5) Using the reference table provided, convert the percentage to a score out of ten.

7.3.2 Diversity Index - Shannon Equability Index

- 1) Using the DoP Land use and employment survey data, identify the complexes that fall within the centre boundary.
- 2) Aggregate the total floorspace of all complexes in all PLUC categories.
- 3) Calculate the proportion of each floorspace category relative to the total number of quantity of occupied floorspace.
- 4) Multiply each floorspace proportion by the natural log of itself.
- 5) Sum the resulting product of all PLUC categories and multiply this by -1.
- 6) Divide the result by the natural log of the total number of PLUC Categories.

- 7) Using the reference table provided, convert the Shannon's Equability Index to a score out of ten.

7.3.3 Diversity score

To calculate the total diversity score of the centre, take the average of the mix of uses and diversity indexes scores. In the case of industrial or specialised centres where mix of uses is not required, the total centre diversity score is equal to the diversity index score.

7.4 EMPLOYMENT

7.4.1 Employment Density - Jobs per Gross Hectare

- 1) Using the DoP Land use and employment survey data, identify the complexes that fall within the centre boundary.
- 2) Aggregate the total employment of all complexes.
- 3) Aggregate the total land area of all complexes.
- 4) Divide the total employment by the total occupied floorspace to arrive at an estimated employment density.
- 5) Using Figure 125, convert the employment density to a score out of ten. Please note different conversions are used for commercial and industrial centres.

7.4.2 Employment Quality - Strategic employment percentage

- 1) Take national level employment by industry data and segment into three categories (Consumer, Producer and Export) based on final use, using the Input Output tables prepared by the ABS.
- 2) Cross tabulate 3 digit employment by industry data with 4 digit ANZSCO occupation data to determine what proportion of jobs each industry are knowledge intensive.
- 3) Aggregate the proportion of jobs in each industry which are export orientated with the proportion that are knowledge intensive producer services to arrive at an estimate of the proportion of employment in each industry which is strategic.

- 4) Using ABS Census 2006 Journey to work data identify the destination zone/s that fall within the centre boundary.
- 5) Multiply the proportion of employment in each industry which is strategic against the 3 digit industry profile for the relevant destination zone to arrive at an estimate of the percentage of centre employment that is strategic.
- 6) Using Figure 125, convert the Strategic Employment percentage to a score out of ten.

7.4.3 Employment score

To calculate the total employment score of the centre, take the average of the employment density and strategic employment scores.

7.5 ACCESSIBILITY

7.5.1 AECOM Accessibility Score

- 1) Rate each mode at each activity centre against the benchmarks descriptions in Figure 126.

Figure 126: Benchmark Descriptions A-E for Each Transport Mode

Accessibility Level	Description Guide				
	Walk	Cycle	Public Transport	Private Car	Freight Vehicle
A	Fine grain walk network providing direct and convenient access everywhere throughout the centre	Fine grain on and off-road cycle network providing direct and convenient access everywhere throughout the centre	Centralised public transport interchange with scheduled interchanges. Multiple radial bus routes with <5mins service frequency levels in the AM peak. At least two high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located around the edge of the centre.	Clear access point to the centre from >2 directions. Designated freight access route through the centre.
B	Fine grain walk network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Fine grain cycle network providing direct and convenient access to most locations throughout the centre with the exception of locations separated by a physical barrier such as railway line, river, or Freeway	Centralised public transport interchange. At least 2 radial bus routes with <10mins service frequency levels in the AM peak. At least one high frequency cross-centre PT routes.	Regional road servicing alongside the site, but not passing through the centre. Fine grain network of local roads. Car parks located throughout the centre	Clear access point to the centre from 2 main directions. Designated freight access route into the centre with central turnaround point.
C	Walk network based on road network only. Disjointed connectivity due to physical barriers	Cycle network is available but disjointed. Multiple physical barriers are present where cyclists are not accommodated	At least 2 radial bus routes with <15mins service frequency levels in the AM peak.	Regional road servicing the site by passing through the centre. Fine grain network of local roads. Centralised car parks.	Clear access point to the centre from one key direction. Constrained access options within the centre
D	Walk network restricted to parts of larger grain road network	No official cycle network but cycle access possible as a road user. Mixed hierarchy of roads available. Prevalence of roundabouts	At least 2 radial bus routes with <30mins service frequency levels in the AM peak.	No regional road servicing the centre. Some connectivity of local roads. Dispersed car parks.	No clear access point into the centre for larger vehicles.
E	Very disjointed and unreliable network. Pedestrian movement generally secondary to car access	No cycle network and high speed road environment	Very limited public transport services (<3 routes or hourly services in the AM peak)	Very restricted vehicular access to and within the centre. Limited car parking	Road network does not provide for large freight vehicle access

Source: AECOM 2011

- Using the conversion table below, convert the accessibility levels for each mode to a score from 0 to 5.

Figure 127: Accessibility Score Conversion Table

Accessibility Level	Score
A	5
B	4
C	3
D	2
E	1
N/A	0

Source: AECOM 2011

- Aggregate the scores for all modes to arrive at an overall accessibility score for the centre.
- Using Figure 125, convert the accessibility score to a score out of ten.

7.6 URBAN FORM

7.6.1 Legibility

- 1) Measure each attribute by segment (with the exception of 1.1 which should be measured by segment side) based on Figure 128.
- 2) Aggregate the scores for each segment and divide by the number of segments to give a value between 0 and 1 for each attribute.
- 3) Aggregate the scores for all attributes and divide by the number of attributes to get and overall legibility score between 0 and 1.

7.6.2 Amenity

- 1) Measure each attribute by centre (with the exception of 2.1 which should be measured by segment) based on Figure 129.
- 2) Aggregate the scores for each segment and divide by the number of segments to give a value between 0 and 1 for each attribute.
- 3) Aggregate the scores for all attributes and divide by the number of attributes to get and overall amenity score between 0 and 1.

Figure 128: Legibility

Item	Definition	Measurement
1.1 Footpaths		
1.1.1 Existence	Are there footpaths present in each segment?	No footpath present = 0, Footpath present = 1
1.1.2 Continuity	Are the footpaths in each segment continuous?	Footpath terminates/interrupted = 0, Footpath continuous = 1
1.2 Walking		
1.2.1 Barriers	Are there barriers to direct walking? i.e. fences, busy roads	Barrier present = 0, No barrier present = 1
1.2.2 Facilitators	Are there walking facilitators? i.e. crosswalks, kerb extensions	No facilitators = 0, Facilitators present = 1
1.3 Cyclepaths		
1.3.1 Existence	Are there formal cyclepaths present in each segment?	No cyclepath = 0, Cyclepath present = 1
1.3.2 Continuity	Are the cyclepaths continuous?	Cyclepath terminates/interrupted = 0, Cyclepath continuous = 1

Source: Hames Sharley 2011

Figure 129: Amenity

Item	Definition	Measurement
2.1 Street trees		
2.1.1 Existence	Are there street trees present?	Most lots have a tree = 1 or in the case of super lots, trees should be delivered every 5-7m of frontage, Around 50% lots have a tree = 0.5, Very few (<25%) lots have a tree = 0
2.2 Recreational destinations		
2.2.1 Park	Are there one or more parks present within or adjacent to the activity centre?	No park = 0, One park = 0.5, More than one park = 1
2.2.2 Playground	Is there a publically accessible playground present within or adjacent to the activity centre?	No playground = 0, One playground = 0.5, More than one playground = 1
2.2.3 Outdoor recreation facilities	Are there any outdoor recreation facilities present within or adjacent to the activity centre? i.e. cricket nets, skatepark	No facilities = 0, One facility = 0.5, More than one facility = 1
2.3 Other amenities		
2.3.1 Feature of visual interest	Is there a feature of visual interest present that can be viewed from the road or any part of the activity centre?	No feature of visual interest = 0, Feature of visual interest present = 1
2.3.2 Picnic facilities	Are there picnic facilities within the park within or adjacent to the activity centre? i.e. tables, BBQ's, shelters	No facilities = 0, One facility = 0.5, More than one facility = 1

Source: Hames Sharley 2011

7.6.3 Development Potential

- 1) Measure each item by centre based on Figure 130.
- 2) Aggregate the scores for all attributes and divide by the number of attributes to get and overall development potential score between 0 and 1.

Figure 130: Development Potential

Item	Definition	Measurement
3.1 Vacant developable land	Is there vacant developable land present?	Measure the area of vacant land within the centre. Convert to a percentage of the total centre area (a value between 0 and 1).
3.2 Underdeveloped land	Is there underdeveloped land present?	Measure the area of underdeveloped land within the centre, i.e. lots which have single houses with less than 50% land taken up. Convert to a percentage of the total centre area (a value between 0 and 1).

Source: Hames Sharley 2011

7.6.4 Urban Form Score

To calculate the total urban form score of the centre, take the average of the legibility, amenity and development potential scores. Using Figure 125, convert the Urban Form score to a score out of ten.

7.7 ECONOMIC ACTIVATION

7.7.1 Purpose of Place

- 1) Rate each attribute at each activity centre against the benchmarks descriptions in Figure 131.

Figure 131: Purpose of Place Benchmark Descriptions

	Purpose of Place			Score
	Purpose	Vision/Plan	Anchor Tenants	
Very Good	The Activity Centre has a well justified economic purpose, providing for a variety of residents, workers and visitors, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which captures the Centre purpose and provides direction for future development and is supported by the necessary structures	A diverse range of anchor tenants are present, well configured and well supported by other tenants and necessary infrastructure	10
Good	The Activity Centre has a well justified economic purpose. The Activity meets the needs of limited user mix, as appropriate for its level in the hierarchy	An current vision/plan exists for the centre which provides direction for future development but lacks the governance structures to guide implementation	Diverse anchor tenant/s are present and well supported by other tenants but lack the necessary support infrastructure	8
Average	Some nodes within the centre have a well-defined purpose however these are not brought together into one coherent united vision for the Centre	An vision/plan exists for the centre however it is either out of date or only deals with part of the centre/ individual landholdings	Diverse Anchor tenant/s are present but not fully supported	6
Poor	The economic purpose of the centre is deteriorating (For example - where the presence of adjacent centre is cannibalising trade)	Future vision/purpose for the centre is not defined	A single type of anchor tenant is present	4
Very Poor	The centre has no economic purpose.	The future of the centre is seriously in doubt	No significant anchor tenants	2

Source: Pracsys 2011

7.7.2 Exposure

- 1) Rate each attribute at each activity centre against the benchmarks descriptions in Figure 132.

Figure 132: Purpose of Place Benchmark Descriptions

	Exposure		Score
	Activated Frontages	Permeability	
Very Good	The centre has a high proportion of their streets lined by active frontages which also demonstrate a vibrant mix of activities.	The centre is easy to move through and connects well to the surroundings. The design of the centre functions as a filter, channelling pedestrians into the core and provides good physical and visual connections between buildings and the street. The permeability of the centre is maintained through both day and night.	10
Good	The centre has a high proportion of their streets lined by active frontages however the activity mix is predominantly retail.	The centre is relatively easy to move through and connects to the surroundings. The design of the centre provides good physical and visual connections between buildings and the street. The permeability of the centre is maintained through both day and night.	8
Average	Some streets within/around the centre are lined by active frontages	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. The permeability of key nodes within the centre is maintained through both day and night.	6
Poor	Limited active street frontages within/around the centre	Some nodes within the centre are easy to move through and connect to the surroundings. The design of these provides good physical and visual connections between buildings and the street. The permeability of the centre is severely constrained at certain times	4
Very Poor	No activated street frontages, inward looking, impermeable, internalised commercial environment	The centre is relatively impermeable is with poor physical and visual connection between the buildings and the streets. The permeability of the centre is severely constrained at certain times	2

Source: Pracsys 2011

7.7.3 Economic Activation Score

To calculate the total economic activation score of the centre, take the average of all scores for each attribute of purpose of place and exposure. Using Figure 125, convert the Economic Activation score to a score out of ten.

5 CONCLUSIONS

Current modeling distributes employment based upon the existing breakdown between industrial and commercial activity. This preferences the further development of industrial centres over commercial centres if the modeling is to be taken as a cap, which it is not intended to be so. The figures outlined in the report represent the minimum employment figures required under the two population scenarios to achieve the employment self-sufficiency targets set within Directions 2031 and Beyond – Spatial Framework for Perth and Peel. They therefore represent minimum rather than maximum land requirements under these scenarios.

The assumptions around the breakdown of industrial and commercial activity however should be tested as the future continuation of a City employment profile dominated by industrial activity may not be either sustainable nor desirable. This also needs to be examined in the context of the employment challenges of surrounding sub-regions, in particular the South-East and Peel sub-regions.

In regards to the breakdown of population-driven versus strategic employment, it is clear that the larger and more strategically oriented industrial areas will bear the burden of future strategic employment growth, with Henderson, Wattleup Hope Valley and Jandakot attracting approximately 80% of future centre-based strategic employment growth.

The lack of higher-order commercial centres (based upon the SPP 4.2 Activity Centre Hierarchy) results in a limited allocation of strategic employment to City of Cockburn commercial centres. In the case of Cockburn Central this does not necessarily match with the types of activities being attracted to the site

(in particular the FESA head office). This may indicate that a disparity between the ultimate functioning of Cockburn Central and its level in the hierarchy.

APPENDIX 4 POPULATION DEMAND ASSESSMENT





CITY OF COCKBURN
POPULATION DRIVEN DEMAND ANALYSIS
FEBRUARY 2012

DISCLAIMER

This report has been prepared for **the City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 INTRODUCTION

The City of Cockburn's Local Commercial and Activity Centre's Strategy will need to balance the big-picture strategic objectives of both the City and the WAPC, with an understanding of the commercial demand drivers that will inform the investment decisions of Centre owners.

To achieve this, a clear understanding of the population-driven demand likely to be experienced across a variety of land-use categories and business models, is required. The analysis described in this report seeks to provide the City with this understanding.

When reviewing these preliminary numbers, City officers should be aware that the current distribution of available expenditure has been estimated using a gravity model that assumes expenditure patterns based upon proximity, and scale of offer. The model has been adjusted to address the specific issues needing to be addressed by the city. Specifically the management of scale of neighbourhood and local centres, and the distribution of demand for bulky goods / large format retail has been addressed.

2 CONTEXT

The purpose of this chapter is identify the key trends affecting the economic structure of certain population driven industries in the City of Cockburn and the broader Perth Metropolitan Area. These trends will underpin the key assumptions in the subsequent demand modeling.

2.1 RETAIL INDUSTRY

Retail is highly a dynamic sector constantly evolving as new products, formats, concepts and fashions emerge to meet every changing consumer preferences. The two industry trends identified as being the most applicable to the City of Greater Geraldton are:

- Large Format Retail
- Online Retailing

2.1.2 Large Format Retailing

This retail format emerged in the United States, pioneered by Wal-Mart, in the late 1980's. Extensive internationalization has occurred in the last two decades, with the model gaining popularity in Australia in the last decade.

The format is characterized by single storey freestanding retail property with a floorplate typically ranging from 1,000 sqm to 30,000sqm. A product of a car based society, these retailers tend to be surrounded by at grade parking and typically locate at highly visible locations at major intersections or adjacent to highways. As a result of the requirement for large areas of relatively cheap land many large format retailer develop outside of activity centres.

As a business model, large format retail has financially been very successful, however it has created numerous challenges for planners and

policy makers, including:

- Accessibility and traffic management issues
- Low quality environments and urban design outcomes
- Poor integration with the activity centres network
- Declining competition and emerging monopoly/duopolies in the specific areas of the retail market
- Erosion of industrial land

Understanding that the continued financial success of the business model is likely to drive its proliferation, intervention is necessary in order to ameliorate these negative effects and properly plan for large format retail.

The consequences for the City of Cockburn of this is the potential for continued proliferation of this business type, with subsequent activity leaking from major activity centres. Management of this type of activity requires a significant change in planning paradigm, with increased focus on the business model of retailers rather than the stock being held.

2.1.3 Online Retail

Online Retailing has received extensive coverage in the Australian media recently particularly in the lead up to Christmas 2011. Following lackluster Christmas sales in 2010, Retail Majors began lobbying the Australian government to apply GST to goods purchased online. This was rejected on the basis that the cost of implementation would outweigh any benefits.

In mid 2011, a draft report by the Australian Productivity Commission on the Economic Structure and performance of the Australian Retail Industry further fueled debated. The Commission considers that total online sales account for 6 per cent of total retail sales in Australia. This equates to around \$12.6 billion in 2010. It is assumed that approximately a third of online sales are sourced from overseas. Relative to other countries Australia also appears to lag in its development of online retailing. There is general consensus among analysts that online sales from Australia will grow strongly in the short term with the roll out of the National Broadband Network facilitating an increase in e-commerce both locally and globally.

In parallel with the increasing level of online retail activity is the emergence of hybrid retailers, that is, firms that employ both electronic and physical channels and exploit the synergies between them. This model typically combines the searchability, accessibility and flexibility of e-commerce, with the proximity and efficiency of a traditional activity centre based store. While this model will not suit all retailers, this shift will help balance and maintain or reduce to leakage of retail expenditure the percentage of retail sales captured by domestic businesses.

Planning for expansion of commercial activity needs to be cognisant of the trend towards online retailing (especially with the introduction of the NBN), with appropriate feedback mechanisms in place to revise the supply of retail over time as the need for retail floorspace changes.

2.2 ENTERTAINMENT RECREATION AND CULTURE INDUSTRY

The entertainment, recreation and culture industries are highly innovation and constantly evolving. The three industry trends identified as being the most applicable to the City of Cockburn are:

- Technological Innovation
- Liquor Licensing Reform
- Cultural Homogenisation

2.2.1 Technological Innovation

Technological innovation has resulted in a boom in content and a variety of new media and format over the past decade. Consequently, traditional entertainment offerings are under increased competition from product substitutes. Digital home entertainment now allows users to access a comparable value proposition while removing the requirement to travel and the restriction of trading hours. Consequently, entertainment goods that have traditionally been consumed in the public realm are now increasingly being consumed in the private realm, (or in the public realm on personal devices). This potentially translates into a decline in demand for large scale commercial entertainment offerings.

The impact of digital migration continues to vary geographically due in large part to the relative availability and affordability of broadband and mobile infrastructure. The roll out of the National Broadband Network in Australia is set to will facilitate an increase in access to online entertainment and in turn increase digital migration.

Planning for expansion of entertainment needs to be cognisant of digital migration (especially with the introduction of the NBN), with appropriate feedback mechanisms in place to revise the supply of entertainment floorspace over time as consumer needs change.

2.2.2 Liquor Licensing Reform

Western Australian liquor laws were modified in 2007 to better reflect community expectations regarding the way alcohol is purchased and consumed. A key component of the reform package was the introduction of Small bar licenses. According to the Small Bar Association of Western Australia "The Small bar concept is seen as a way to reduce alcohol related harm because of the reduced numbers of patrons, smaller premises, uniqueness of the concept and the prospect of greater licensee control over the operation."

While the up take of the new licences was slow initially, the Perth metropolitan 45 licenses have been approved in the Perth Metropolitan area since the introduction. Local governments play a pivotal role initially in the liquor licensing application process however as the priorities of local governments vary so to does the ease and expediency with which applications are processed and approved. Understanding how the delivery of a diversified entertainment value proposition can support the development of vibrant activity centres, the City should seek to encourage this development through the provision of streamlined and transparent processes which are clearly aligned with the vision and objectives of the City's Commercial Strategy.

2.2.3 Homogenisation of Culture

Homogenisation of culture refers to the process by which cultures converge and become increasingly standardised. Debate in sociology proposes that globalisation leads to homogenisation of culture through media and cultural imperialism. Standardisation of cultural products, ignoring the influence of local circumstances, in turn leads to a standardisation of consumer preferences and behaviour leading to further erosion of cultural diversity.

The City should be cognisant of these effects and, where possible plan for nodes of unique activity to promote a wider and more diverse cultural offering to residents.

3 METHODOLOGY

The demand analysis conducted by Pracsys measured the current, and projected the future pool of demand, across the following land-use categories: shop retail; other retail; office; entertainment; and service industries¹.

The analysis also distinguished between the two retail business models: bulky goods / large format retail and regular shop retail.

As presented in Figure 1, each business model is measured by floor space, which is then divided into floor space category, based on Perth Land-Use Categories (PLUC); bulky goods / large format retail is defined as comprising service, shop retail, office, storage and other retail; whereas a combination of shop retail, office, entertainment and other retail constitute regular retail; the percentage of each land-use category attributed to each business model depends on the type of activity being conducted.

Regular retail refers to the most common type of retail offering: characterized by its proximity to its regular customers base and the small-to-medium scale of goods on offer.

Bulky goods and large format retail refers to the sale by retail, wholesale or auction of (or for the hire or display of) goods that are of such size, shape, weight, or volume as to require:

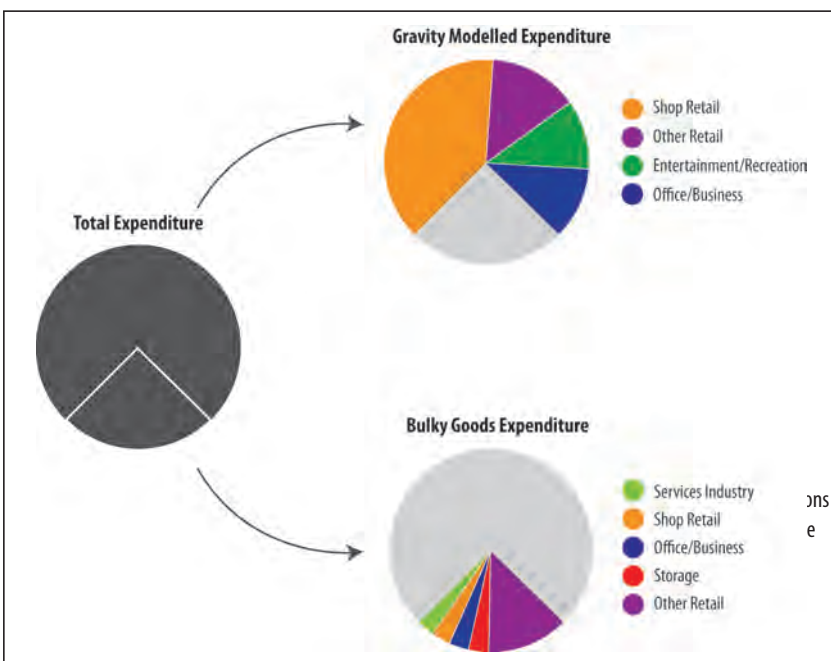
- A minimum floor space of 500 m²
- A large area for handling, display or storage, and / or
- Direct vehicular access to the site of the building or place by members of the public, for the purpose of loading and unloading the items into their vehicles after purchase or hire.

This may include the sale of a wide variety of goods; cater for an individual market, or the sale of bulky and durable goods. The sale of food or clothing is an incidental part of the business and does not include supermarkets.

Retail expenditure, minus bulky goods / large format retail, was then allocated across all metropolitan complexes. The calculation of the attraction, or gravity, which exists between each Centre and the centroid of each census collection district, determined the distribution of expenditure among centres – derived from straight-line distance and floor space area.

The proceeding methodology first describes the calculation of total expenditure for the main trade area; followed by the calculation of the bulky goods / large format retail component. The bulky goods / large format retail component is then subtracted from the expenditure pool – to be allocated outside of the retail gravity model. Finally the supply

Figure 1: Breakdown of total Expenditure



Source: Pracsys, 2011

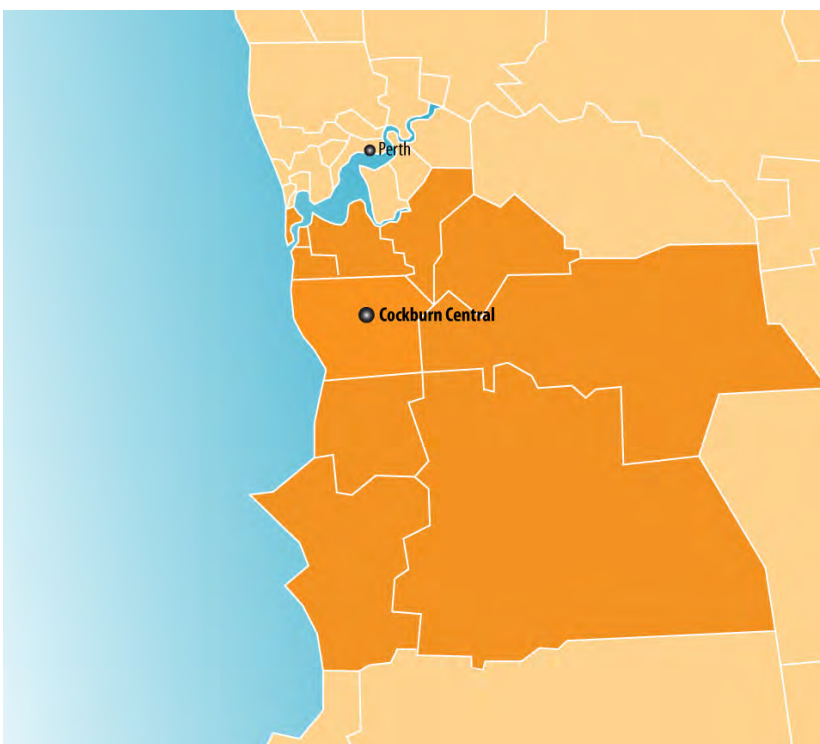
side is populated with centres, according to size and distance from the main trade area. Regular retail is distributed according to the retail gravity model, whilst bulky goods / large format retail is presented as an approximate total floor space.

4 DEMAND

In this analysis, residential population alone comprises the demand side of the model; this is because the number of, and disparity among, activity centres would render consideration of workers and visitors impractical and would run the risk of double counting, therefore overestimating demand. It is presumed that individual demand assessments for centres would model visitors and workers expenditure in detail.

The following is a description of the methodology used, and assumptions made, to estimate expenditure: first for total expenditure, and secondly, for bulky good and large format retail. Subtracting bulky good / large format retail expenditure from total expenditure isolates the percentage of expenditure on regular shop retail.

Figure 2: Main Trade Area



Source: Pracsys, 2011

4.1 CATCHMENT

Figure 2 defines the main trade area considered in the emanating from Cockburn Central Regional Centre. Cockburn Central was chosen because of both its status in the Activity Centre Hierarchy and its location just off Kwinana Freeway, meaning that it will have the largest catchment area of all centres in Cockburn. The trade area can be expected to rationalise over time.

4.2 DWELLINGS

Catchment is not measured in terms of people, but instead, dwellings. Dwellings are used because they are the best available unit for measuring expenditure, through the ABS household expenditure survey – which defines expenditure based on income, per household. The location and number of dwellings is measured at the census collection district level².

Within Cockburn

The number of dwellings in Cockburn was last recorded in entirety during the 2006 ABS census. Figure 3 outlines the methodology for the modeling the population projection. Modelling was based on WA Tomorrow 2012 Projections (a mid-line growth in alignment with Band C was used). The projection for the City of Cockburn was converted to dwellings using the estimated average household size for the South West Sub-Region identified in Directions 2031. The resulting total was comparable to the Connected City dwelling supply identified in the Draft Outer Metropolitan Perth and Peel Sub-region Strategy.

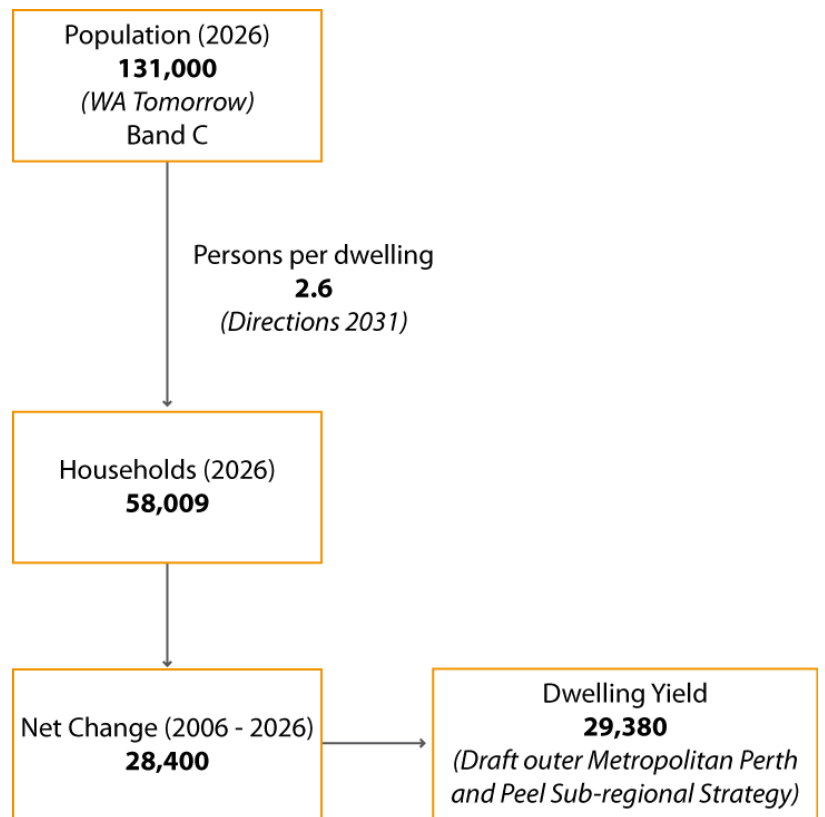
² ABS Census of Population and Housing (2006)

To estimate how the growth would be distributed spatially within the City, the areas of growth identified in the draft strategy were compared to the Forecast .id projections prepared for the City of Cockburn. For areas not specifically identified in the Draft Strategy, the forecast .id estimates were used. For those areas specifically identified in the draft strategy, the draft strategy estimates were adopted and adjusted downwards to balance with the total dwelling estimates derived from WA Tomorrow. The adopted dwelling projections for each suburb are included as appendix to this report.

Remainder of the Catchment

The residential dwelling units that do not fall within the City of Cockburn form the remaining study area. For these dwellings, 2006 ABS census data is used for the baseline and modelling of subsequent periods was based on WA Tomorrow Projections (Band C). The projections for the balance of catchment were converted to dwellings using the estimated average household sizes identified in Directions 2031. The spatial distribution was assumed to be constant.

Figure 3: Modelling Methodology



Source: Pracsys, 2011

4.3 SOCIO-ECONOMIC PROFILE (CURRENT AND FORECAST)

Figure 4 summarises the socio-economic characteristics of the City of Cockburn relative to Perth. This data is from the 2006 Census, with the 2011 Census data due for release later in 2012.

Figure 4: City of Cockburn Socio-economic Characteristics

	Cockburn (LGA)	Perth (SD)
Total Population	74,472	1,445,076
Median Age	34	36
Median Household Income	1,102	1,086
Average Household Size	2.7	2.5
Labourforce Participation Rate	64.6%	62.8%
Unemployment Rate	3.2%	3.63%
Families with kids <15 years	42.8%	39.6%

Source: ABS Census of Population and Housing (2006)

The city's population has a median weekly household income of \$1,102 per household. This compares with the average for the Perth metropolitan region of \$1,086 per household. This slightly higher than average income together with a higher average household size will most likely translate above average demand. The unemployment rate is lower than the Perth average and the participation rate slightly higher. The City has a lower proportion of families with children relative to the Perth average. The City is also slightly younger than the Perth average – 34 years, as compared with a Perth average of 36.

Generally the following relationships exist between demographic characteristics and demand:

- Income is a significant factor in determining demand. Household with higher income levels tend to demand a great quantum and quality of goods.
- Life cycle and generational differences translate into difference demand patterns. Both the types and quantum of goods demanded with vary as households transition through the different stages of the life cycle. For example young individuals or couples without children form smaller households and typically spend less on home-related items and more on entertainment. In contrast, families form larger households and expenditure related to children, home-related goods, and food will increase significantly.

The City's relatively young population, above-average earnings and strong attachment to the labour force means that demand can be expected to relatively strong. It should be noted that the City of Cockburn has a high proportion of dwellings that are in the process of being purchased (i.e. homes under mortgage). This will mean that retail demand in the main trade area can be expected to be sensitive to movements in interest rates.

Relative to the current population in the sub-region the future demographic of the catchment is likely to be:

- More affluent
- Older
- In smaller households with fewer children
- Tertiary educated
- In high quality knowledge intensive jobs

While the increasing affluence of the catchment will translate into increased demand across, the trend toward smaller households with fewer children will weaken demand, particularly for some categories.

4.4 DEMAND

The expenditure profile of residents varies across Australia and is primarily determined by level of income. The Household Expenditure Survey defines the expenditure patterns of households by level of income. The survey averages expenditure patterns into income dependent quintiles. The City of Cockburn’s household income profile was, on average, equivalent with a third quintile income. Within the wider catchment area the median household has an expenditure profile in the fourth quintile.

Figure 5: Household Expenditure Income Quintiles

	First	Second	Third	Fourth	Fifth
Mean gross household income per week	434	1,038	1,448	2,054	3,975

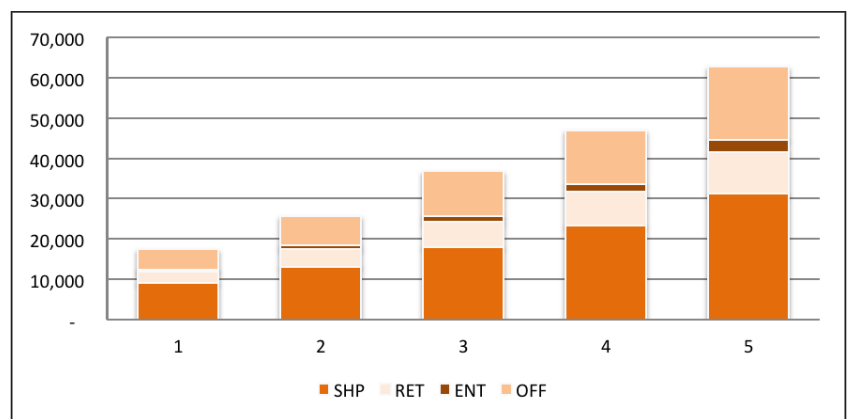
Source: ABS 2009-2010 Household Expenditure Survey

Average income within the catchment was collected at the ABS census collection district level from the ABS 2006 census, escalated to 2009 dollars based on average wage growth in the State and was then allotted to an expenditure quintile, according to the ABS Household Expenditure Survey (2009-10). All past data sets have been adjusted for inflation, up to the current period; however future inflation is not considered in this model – all figures are stated in 2012 Australian dollars.

To align average expenditure over an array of miscellaneous goods and services with demand for a specific floor space category required that each good, or service, be matched to the floor space category most suited to its delivery. In this fashion, the measurement of household expenditure (through the Household Expenditure Survey) is matched with the measurement of floor space (through the Perth Land-Use Categories).

The average expenditure on each floor space category, by income quintile is represented in Figure 6.

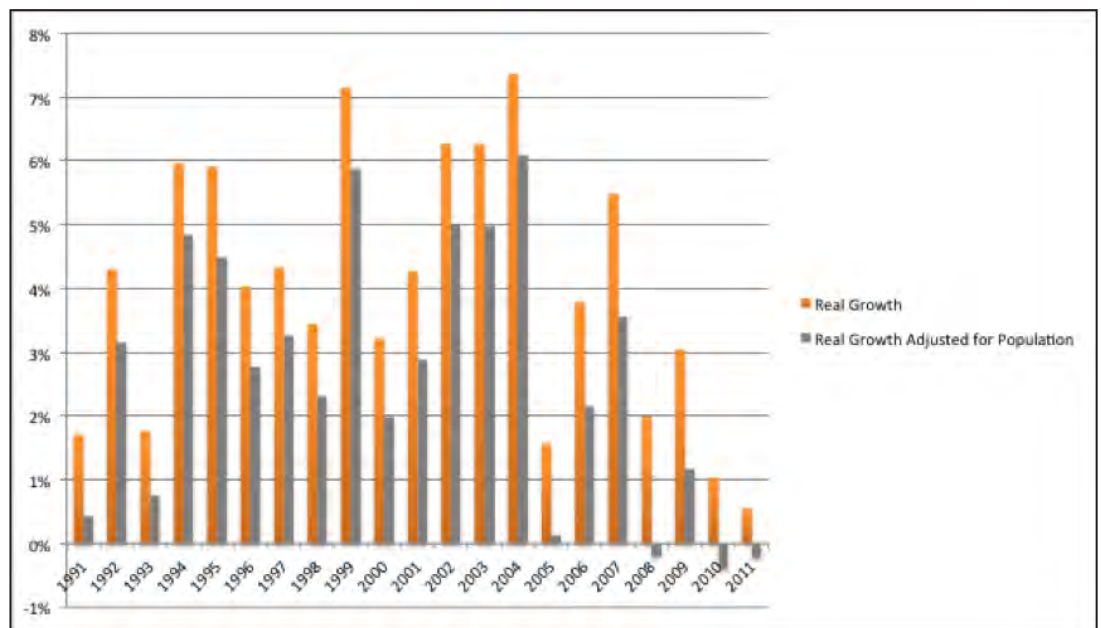
Figure 6: Annual Expenditure, by PLUC Category and Income Quintile



Source: Pracsys analysis; ABS 2004 Household Expenditure Survey

Incomes and retail-expenditure have shown strong growth over the last 20 years. Figure 7 outlines the average annual growth in retail turnover in Australia from 1991 to 2011. To 2008, retail turnover had increased by about 3.8% pa in real terms (2.68% per annum when adjusted for population growth) with most of this growth on comparison goods rather than convenience goods. Recent weak economic conditions however have caused poor consumer confidence, resulting in retail turnover levels falling to the lowest in nearly thirty years.

Figure 7: Average Annual Growth in Retail Turnover in Australia (1991 - 2011)



Source: Pracsys analysis; ABS 2004 Household Expenditure Survey

Based on these historical growth rates, and understanding the assumption of continued economic prosperity that underpins the State governments WA Tomorrow Populations, a real expenditure growth rate of 1.5% (adjusted for population growth) for has been assumed for the regular retail sector and 2.5% above for the bulky goods sector. 1.5% growth above CPI has also been assumed for all other categories, which reflects a conservative estimate of future real growth in GDP per capita. The growth rate beyond 2016 should be treated with caution owing to the difficulty in forecasting on a range of variables. Expenditure growth estimates beyond 2016 are modelling estimates only and will require verification in the future. Planning for expansion of floorspace needs to be cognisant of industry trends such as digital migration (especially with the introduction

of the NBN), with appropriate feedback mechanisms in place to revise the supply floorspace over time as consumer needs and preferences change.

Current and future expenditure levels for the main trade area are derived by multiplying the anticipated number of households by the average spend per household.

4.5 BUSINESS MODELS

The preceding calculation of the total expenditure pool does not identify toward which business model the expenditure is directed; to improve accuracy, expenditure distribution among the centers in the study area has to accommodate the demand for alternative type of business models.

The following is a description of the methodology used, and assumptions made, to calculate the percentage of total expenditure spent on bulky good and large format retail, within Cockburn. This yields the sum of expenditure to be subtracted from the total expenditure pool and allocated separate from the retail gravity model.

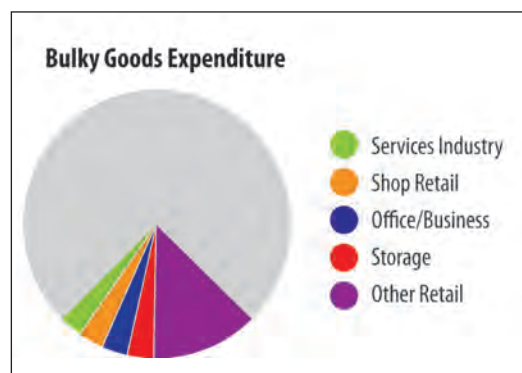
4.5.1 WASLUC to PLUC, Percentage of Total Floor Space, in Cockburn, that is Bulky or Large Format.

To determine the percentage of floor space, in Cockburn, designated as bulky goods / large format retail requires detailed information on the activities of the business and floor space area. The best available information for this purpose is the West Australian Standard Land-Use Categories (WASLUC). Floor space was classified as bulky large format if it met the following criteria:

- The business is involved in retail, wholesale or hire
- The sale of clothing is an incidental part of the business
- The floor space of the business is greater than 500 m².

The sum of floor space classified as belonging to bulky good / large format retail is then summed, according to PLUC categories, as displayed in Figure 8.

Figure 8: Composition of Bulky Goods and Large Format Retail by PLUC Category



Source: Pracsys, 2011

4.5.2 Estimation of Percentage of Expenditure of Bulky Goods or Large Format Business Model

No measurement of what customers buy is detailed enough to determine what business model they use to buy it; the estimation of expenditure on bulky goods / large format is instead to be inferred from information that is measurable. To infer the amount consumers are spending on this business model requires an assumption regarding floor space productivity – as total floor space is measurable, estimating total turnover is straightforward.

4.5.3 Assumptions

A number of assumptions were made in order to model the demand for bulky goods / large format retail; these are:

- Turnover of the bulky goods / large format business model is equivalent to the expenditure that residents spend on it (i.e. there is no leakage)

- Floor space productivity for the following floor space types was set in the modeling, as follow:
 - Shop retail – \$3,250 / m²
 - Other retail – \$2,250 / m²
 - Storage – \$750 / m²
 - Service – \$1,500 / m²
 - Office – \$4,000 / m²

4.5.4 Removal from Total Pool of Expenditure, across the Main Trade Area

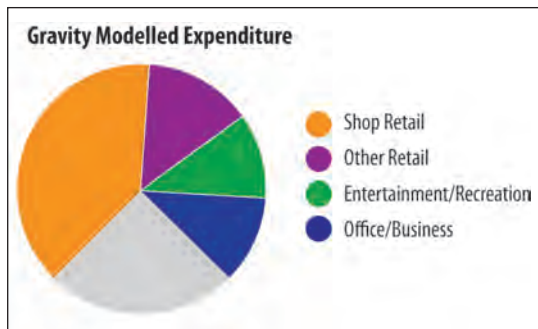
The proportion of total expenditure on bulky goods large format retail is assumed to be consistent throughout the main trade area (i.e. consumers in the main trade area will spend approximately as much as people in Cockburn).

The expenditure capture of this business model is approximately 28% of total expenditure, in Cockburn. This reflects the relatively lower productivity, per square metre, of bulky good and large format retail, compared to regular retail.

5 SUPPLY SIDE ASSUMPTIONS

The supply side of the model represents all of those centres to which the expenditure of the main trade area is directed. Regular retail expenditure will be distributed among the centres on the supply side, via the retail gravity model across the four land use categories displayed in Figure 9. The following assumptions were made in the estimation of current supply across Perth Land-Use Categories.

Figure 9: Composition of Regular Retail by PLUC Category



Source: Pracsys, 2011

Inclusion of Centres

All centres within Cockburn were included; within the study area (Refer to Figure 2 on Page 7) all centres above 5,000 sqm of floor space are included; and beyond the study area, centres above 10,000 sqm are included.

However, there is a significant degree of uncertainty surrounding the future competitive environment. This is particularly so in relation to the development of new centres as residential population growth in the area continues. To account for this uncertainty, the leakage of expenditure from the catchment has been assumed to increase over time (Figure 10).

Figure 10: Expenditure Leakage over Time

	2011	2016	2021	2026
Expenditure Leakage	10%	10%	15%	20%

Source: Pracsys 2011

Within Cockburn

In the City of Cockburn, future supply of floor space within centres was based upon the Centre profiles provided by the City's officers. Expansion of floor space beyond that on-the-ground currently was taken into account within the model includes:

- Cockburn Central – expansion of the amount of shop floor space from 33,000 sqm to 50,000 sqm by the year 2016; and a further expansion to 75,000 sqm of 2021.
- The development at Cockburn Coast is assumed to produce 10,000 sqm of shop floor space by 2016, and 22,000 sqm of shop floor space by 2021.
- A number of proposed and planned local and neighbourhood centres, highlighted by the City of Cockburn are also included in the analysis, with expected yields listed in the appendix to this report.

Bulky Goods

The current floor space of bulky goods / large format retail in Cockburn is 591,740 sqm, or approximately 57% of commercial floor space.

Figure 11: Cockburn Bulky Goods Large Format Retail Mix

	Bulky good and Large Format retail Floorspace	Bulky good and Large Format retail Expenditure
STO	82%	69%
SER	54%	37%
SHP	3%	2%
RET	75%	61%
OFF	7%	4%

Source: Pracsys, 2012

Figure 11 shows the relative proportion of floor space and expenditure that is defined as bulky goods / large format retail, in the City of Cockburn. Interpreting these results shows that only 3% of shop retail is classified as bulky goods / large format retail, whereas over 80% for storage and 75% for other retail falls under this retail business model.

6 RETAIL DEMAND GRAVITY MODEL

Retail demand gravity analysis was used to estimate expenditure capture for the four commercial floor space categories (shop retail, other retail, entertainment and office) associated with the regular shop retail business model. For centers, revenue can be derived from one of three sources:

- Growth in available expenditure either as a result of population growth or as a result of growth in real expenditure (over and above inflation).
- Increasing the rate of expenditure capture, relative to existing offerings.
- Reduction of expenditure leakage from the Main Trade Area.

Gravity models allow for the measurement of spatial interaction as a function of distance, to determine the probability of a given customer patronising a centre. They provide an approximation of trade area and sales potential for a development. This modeling technique uses the distance between a household and each centre, and a measure of 'attractiveness', to define the probability model. The 'attractiveness' of a centre has been defined by total floor space and distance has been calculated by measuring straight-line distances between each centre and population. The formula used for the calculation of this attractiveness is shown in Figure 12.

Figure 12: Retail Gravity Model

$$P_{ij} = \frac{\frac{A_i}{D_{ij}^B}}{\sum_{j=1}^n \frac{A_i}{D_{ij}^B}}$$

Where:

P_{ij} = Probability of customer living in collection district i shopping at centre j .

A_i = Size of the store / in square feet.

D_{ij} = Distance from collection district i to shopping centre j .

B = Parameter reflecting sensitivity of customers to distance

i = Collection districts ($i = 1, \dots, m$)

j = Centres ($j = 1, \dots, n$)

Distance represents the cost associated with the journey to that centre. Area behaves as a proxy for the amenity offered by the centre. Area is separated into types, according to the Planning and Land Use Categories (PLUC); of which, we are interested in current supply of floor space for shop retail, other retail, office, and entertainment.

The formulae in Figure 11 is rigid in its prescription of the relative weighting for the costs (distance) and benefits (floor space): it implies that the cost of travel increases exponentially with distance, but that amenity is linearly constant with regard to area.

This is an assumption that may not best reflect the influence of these two factors on the consumer's decisions, within the main trade area. For example, the conglomeration of activity may mean that as area increases, the

attractiveness of the centre increases, but at an increasing rate. Similarly the relationship with distance may not be extreme in a highly car dependent neighbourhood, such as Cockburn, where preferences for driving are higher and alternative modes of transport, less accessible.

The retail gravity formulae used in this analysis has been refined to include an exponent on the measurement of area. The exponents reflect the supposed preferences for larger shopping centres (a sort of size premium).

One major weakness in the retail gravity model still unaddressed is the extent to which the trip decision is inherently costly; that is, there is a certain fixed cost involved in getting the consumer launched on any journey. To compensate for this, the analysis has included an inertial constant into the calculation of distance. The gravity formula is now represented by Figure 13.

Figure 13: Retail Gravity Model with Exponent on Area and Inertial Constant

$$P_{ij} = \frac{\frac{A_i^\alpha}{c + D_{ij}^\beta}}{\sum_{j=1}^n \frac{A_i^\alpha}{c + D_{ij}^\beta}}$$

Where:

a = Parameter reflecting sensitivity of customers to centre size

c = inertial Constant

The inertial constant improves predictions of the model by weakening, but by no means removing, the direct relationship between place of residence and shopping centre.

This eliminates the scenarios where all consumers frequent only the closest shop – even though it lacks the amenity provided by a further but in reality, more attractive, shopping centre. Within the analysis:

- the exponent for area, a is: 1.1;
- the exponent for distance B is: 2.5; and
- the inertial constant, c is; 1.0.

The inertial constant quite literally translates to one kilometer worth of journey time as the equivalent effort required commencing a journey. It is included to reflect the cost of the next best alternative – i.e. not embarking on a journey. As the effort to get started is going to be generally the same for most trips, for most people, it is assume to be constant.

The retail gravity model provides a clearer, reproducible outcome that can be more easily assessed. It does not, however, consider local factors including the comparative value proposition of centres (e.g. the presence of an ‘anchor’ attractor that draws significant market share), the brand preference of users, or the efficiency of transport networks (e.g. in some cases it may be easier for customers to access a centre that lies physically further away).

7 MAJOR COMMERCIAL CENTRES RESULTS

While the Activity Centres Policy aims to promote the rapid maturation of Activity Centres, it is essential to understand the effect of market potential on Activity Centre development.

The analysis conducted by Pracsys considers the relative merit of proposed uses within each activity centre based upon assumptions of population expenditure and benchmark turnover for the offerings. The purpose of this assessment is to provide the City of Cockburn with a broad insight into the demand for the offerings based on medium-long term economic trends. The analysis does not constitute an assessment of the viability of individual businesses as each enterprise develops individual value propositions based upon an individual business model.

Also, the model does not represent a complete insight into short-term market drivers that may impact upon businesses. Decision makers should not consider the results of the analysis literally (i.e. exact levels of expenditure at exact years), but instead utilise the results as an indication of the overall economic functionality of the centres within regional economy.

The market potential for land use in each centre is expressed in terms of a level of floorspace demand. An excess in demand over supply does not necessarily represent a case for the further expansion of supply, but simply indicates that at that level of the supply the activity will likely be achieving floor space productivities in excess of the benchmark levels.

The results must also be considered in the context of:

- the physical capacity of each centre to deliver these yields;
- the built form aspirations for the each centre; and
- the employment and residential density targets implied in Directions 2031 and Beyond and SSP 4.2 Activity Centres for Perth and Peel.

Of all centres included in the analysis Cockburn Central Regional Centre and Phoenix District Centre and Phoenix Mixed Business Area are the largest activity centres in Cockburn comprising 59% of total shop floor space, 67% of total retail floor space, 36% of office and 20% of entertainment; therefore, emphasis has been given to these centers. Results for the remainder of the complexes can be found in Appendix 1 of this report.

7.1 INTERPRETING RESULTS

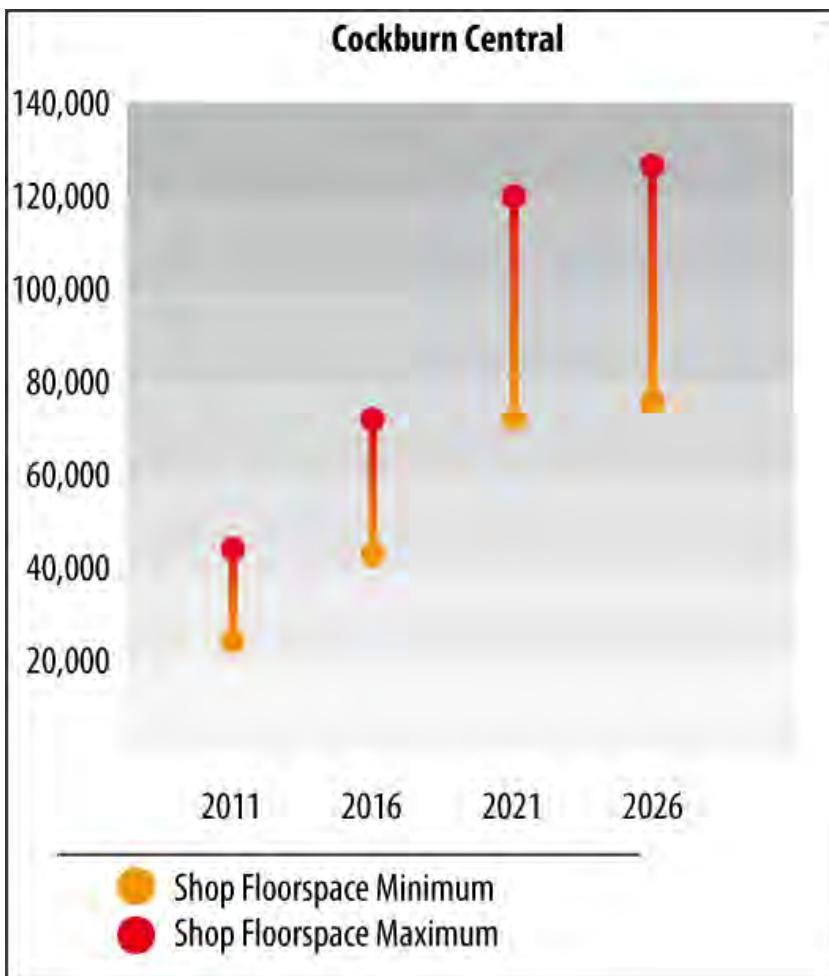
The following results represent population driven demand for commercial offerings by floor space category. They do not represent – for categories such as office and business or entertainment, culture and recreation – the optimal public provision of facilities.

7.1.1 Cockburn Central

Cockburn Central has been designated a 'Secondary Centre within SPP 4.2 – Activity Centres for Perth and Peel. The Policy's description of the functioning of a Secondary Centre includes:

“Secondary centres share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city’s economy, and provide essential services to their catchments”.

Figure 14: Projected Cockburn Central Shop Retail Floor space Demand



Source: Pracsys, 2011

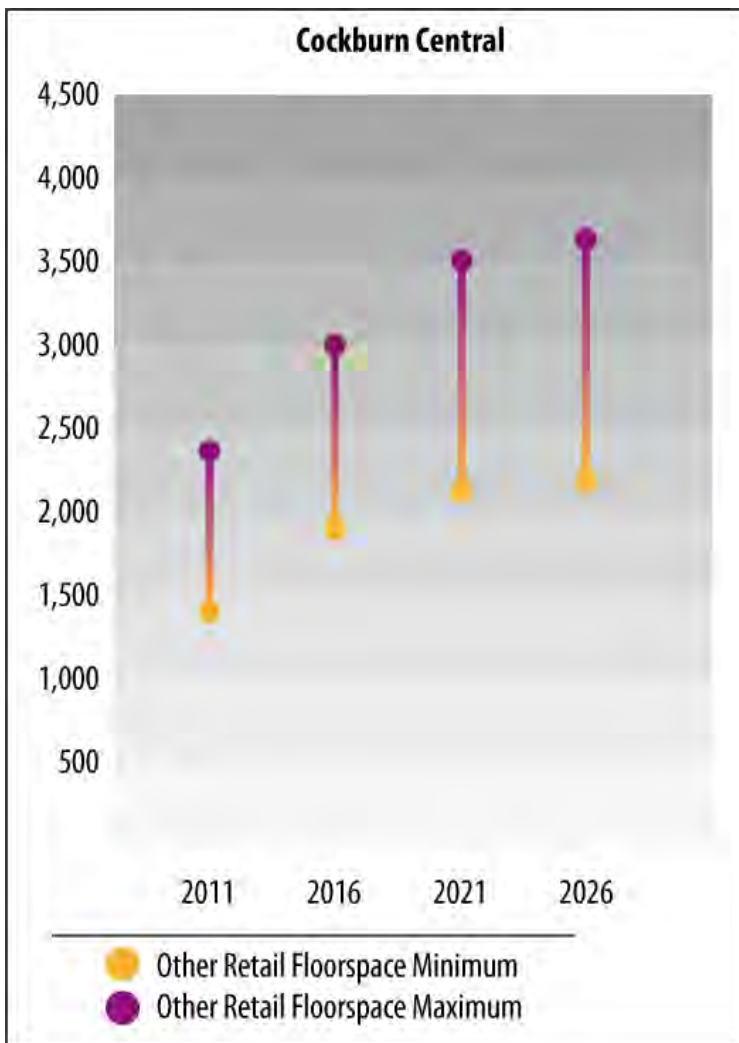
Essentially the Policy describes Cockburn Central’s role as providing high-level consumer services (including retail) to a population catchment that includes all of the City of Cockburn. The Centre is expected to perform well in the delivery of knowledge intensive consumer services, and should potentially contain small agglomerations of strategic activity that services a regional, statewide, or national market.

Presently Cockburn Central has a total floor space of 44,000 sqm; comprised of 33,000 sqm of shop retail, 6,000 sqm of other retail and 1,200 sqm of entertainment floor space. Based upon the current demand analysis conducted by Pracsys, the estimated floor space requirement for the year 2031 is between 48,673 sqm and 81,121 sqm – depending on floor space productivity.

The outcomes of Shop-Retail demand analysis for Cockburn Central are shown in Figure 14. The range of floor spaces recognises that retail operators require a minimum level of productivity (turnover per sqm) to ensure the viability of the business. These targets will vary for different retail types and brands. Based on estimated rates of retail expenditure capture, a range for future floor space requirements has been constructed using a minimum floor space productivity of \$4,500 / sqm, and a maximum floor space productivity of \$7,500 / sqm.

Figure 15 outlines the projected demand for Other Retail floorspace within Cockburn Central. It is recognised that the integration of significant amounts of large format/ bulky goods retail within the centre will be a challenge, with the adjacent Jandakot Industrial Area potentially being more appropriate. Alternatively a 'bulky goods precinct' may be possible on the outskirts of Cockburn Central.

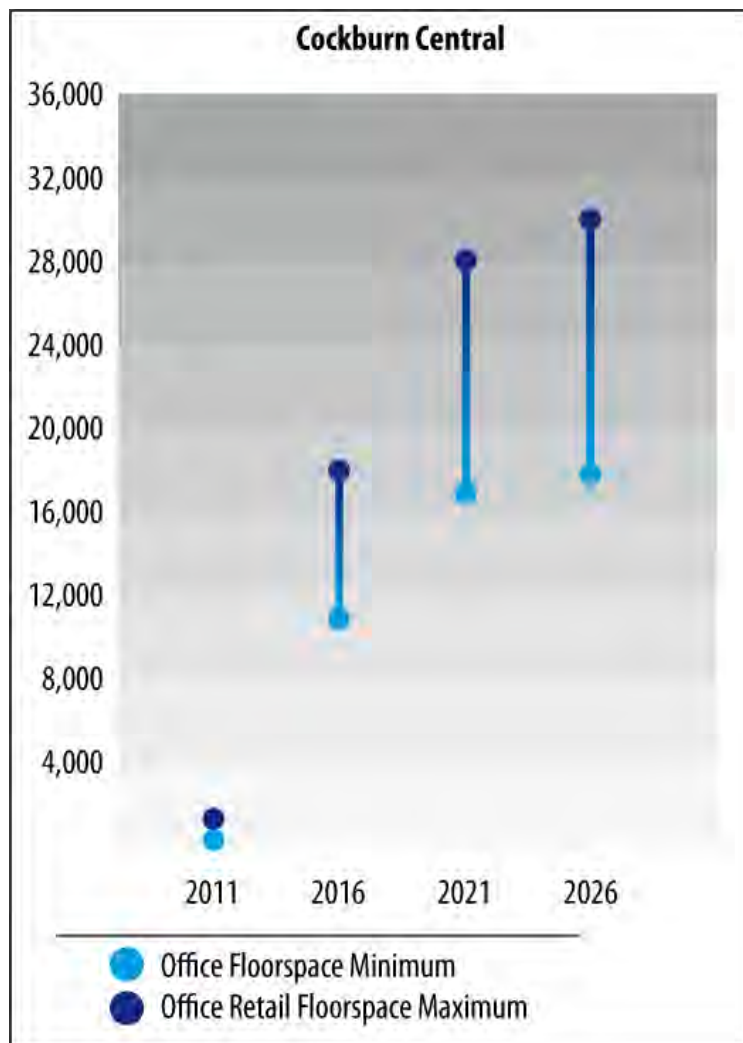
Figure 15: Projected Cockburn Central Other Retail Floor space Demand



Source: Pracsys, 2011

Figure 16 outlines the anticipated market potential of Office Business activity within Cockburn Central. Whilst the overall level of office floorspace projected is relatively low, it should be noted these only deal with population-driven demand, with strategic activity to be dealt with separately in later studies.

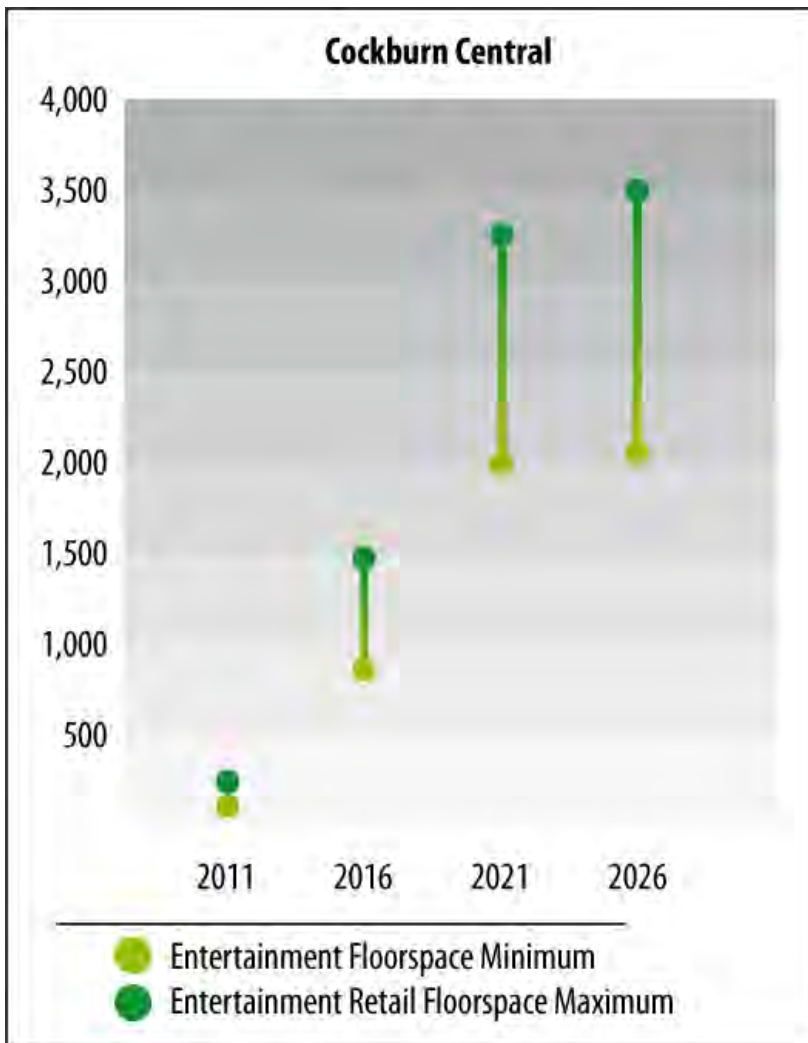
Figure 16: Projected Cockburn Central Office Business Floor space Demand



Source: Pracsys, 2011

Figure 17 outlines the anticipated market potential of entertainment activity within Cockburn Central. Significant growth is projected in this land-use as a greater spread of workers, residents and visitors access the Activity Centre for a diverse range of uses.

Figure 17: Projected Cockburn Central Entertainment Floor space Demand



Source: Pracsys, 2011

7.2 PHOENIX

Phoenix has been designated within SPP 4.2 as a District Centre. The Policy describes the role of a District Centre as follows:

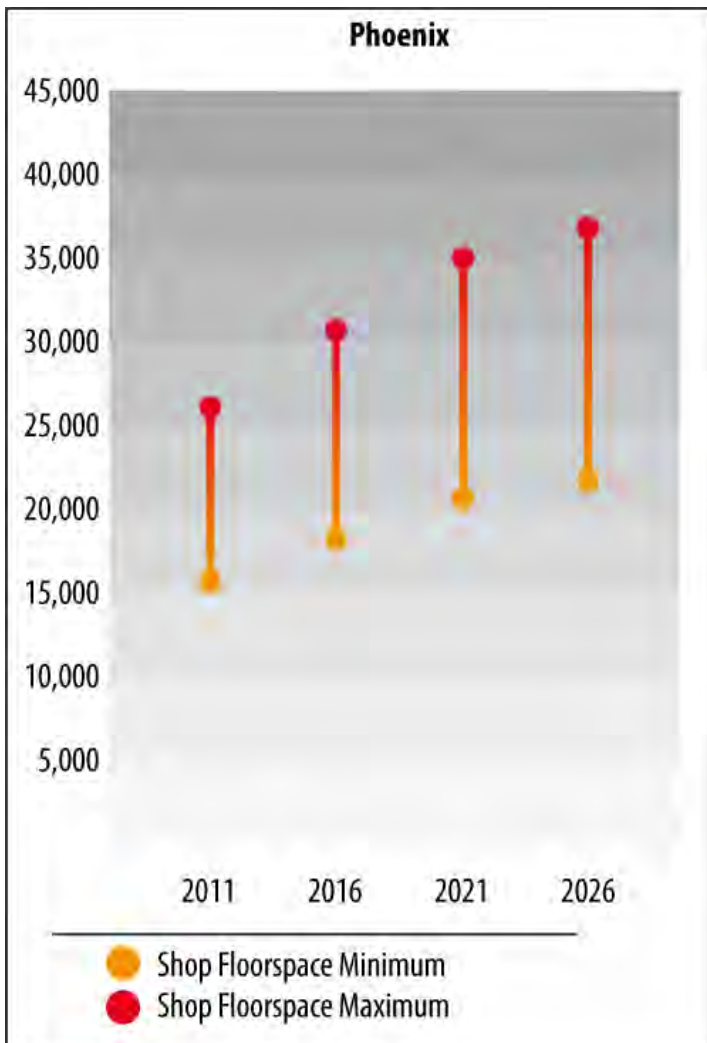
“District centres have a greater focus on servicing the daily and weekly needs of residents. Their relatively smaller scale catchment enables them to have a greater local community focus and provide services, facilities and job opportunities

that reflect the particular needs of their catchments.”

This description is in alignment with the current activities of Phoenix, with the City’s offices providing for a greater diversity of employment than would otherwise be anticipated. The current floor space of Phoenix is 33,000 sqm, comprised of 20,000 sqm of shop floor space and 5,000 sqm of office floor space.

Once again, based on estimated rates of retail expenditure capture, a range for future floor space requirements has been constructed for Phoenix, using a minimum floor space productivity of \$4,500 per sqm, and a maximum floors pace productivity of \$7,500 per sqm. The resultant ranges of shop retail demand are shown in Figure 18.

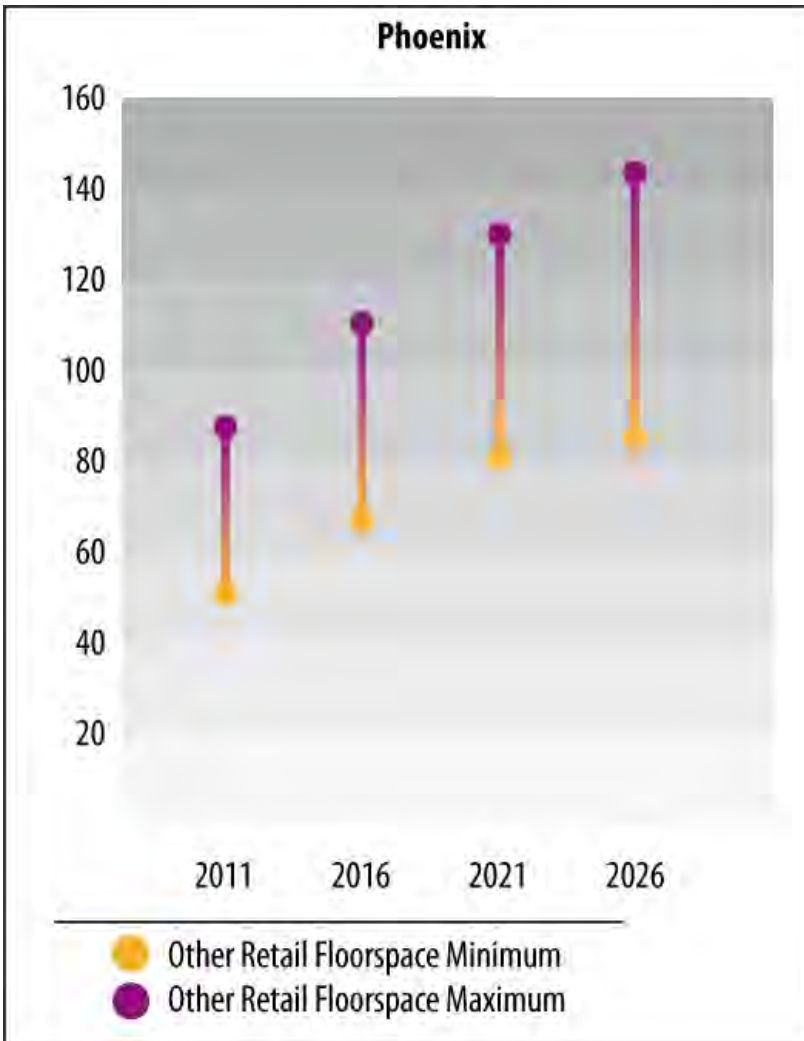
Figure 18: Projected Phoenix Shop Retail Floor space Demand



Source: Pracsys, 2011

Figure 19 outlines the projected demand for Other Retail floorspace within Phoenix. The limited offer for this type of retail recognises that other Centres are likely to have a more compelling location for this car-based activity.

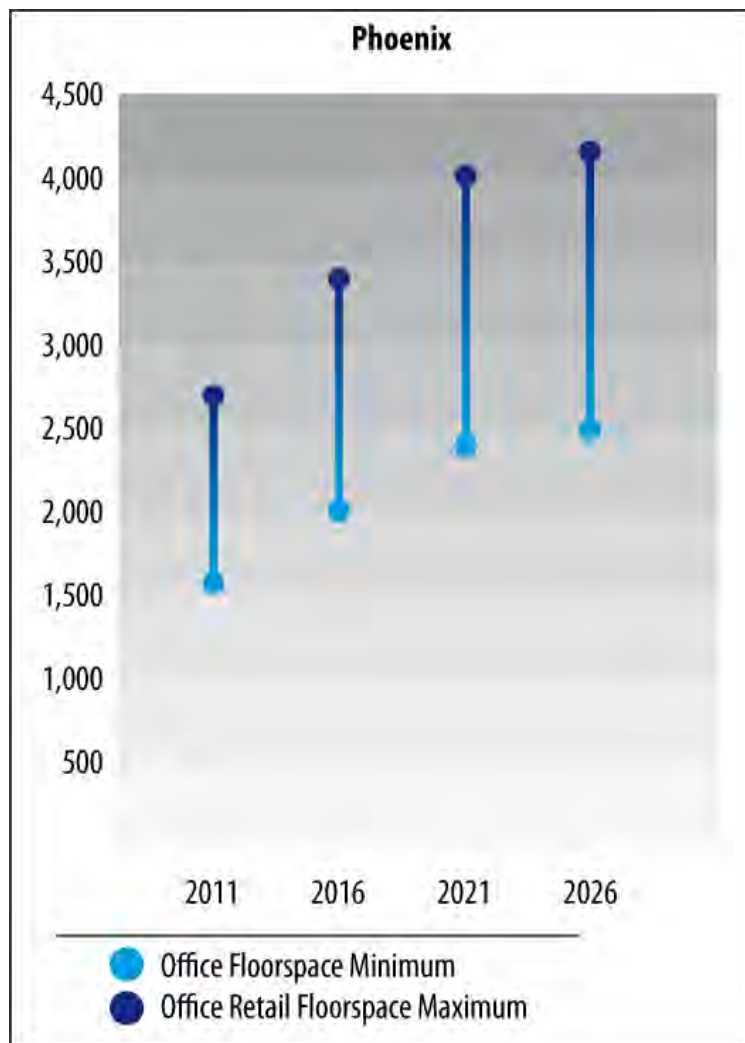
Figure 19: Projected Phoenix Other Retail Floor space Demand



Source: Pracsys, 2011

Figure 20 outlines the anticipated market potential of Office Business activity within Phoenix. This anticipates a significant increase in KICS office uses (e.g. accountants, real estate agents, local small businesses).

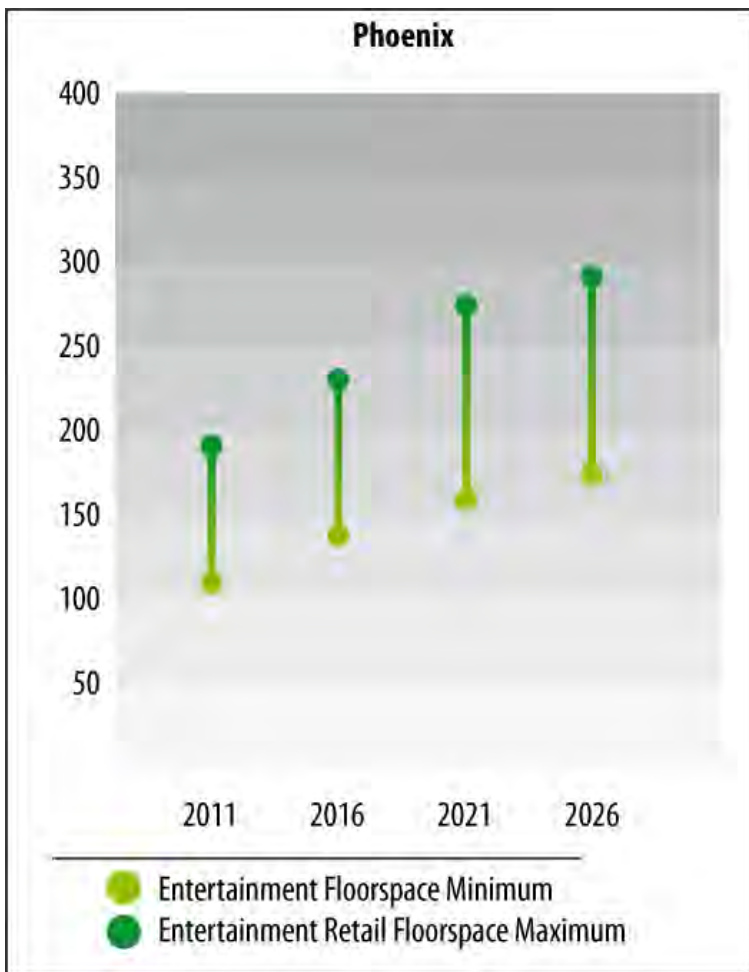
Figure 20: Projected Phoenix Office Floor Space Demand



Source: Pracsys, 2011

Figure 21 outlines the anticipated market potential of entertainment activity within Phoenix. Growth in this area will be contingent upon the amenity proposition that is developed for the Centre, as well as growth in a residential catchment in close proximity to the Centre.

Figure 21: Projected Phoenix Entertainment Floor space Demand



Source: Pracsys, 2011

8 BULKY GOODS / LARGE FORMAT FLOORSPACE PROJECTION

Demand for bulky good and large format retail floor space is expected to double over the next twenty years – assuming the current split of expenditure between the two business models remains at current levels – as shown in Figure 22.

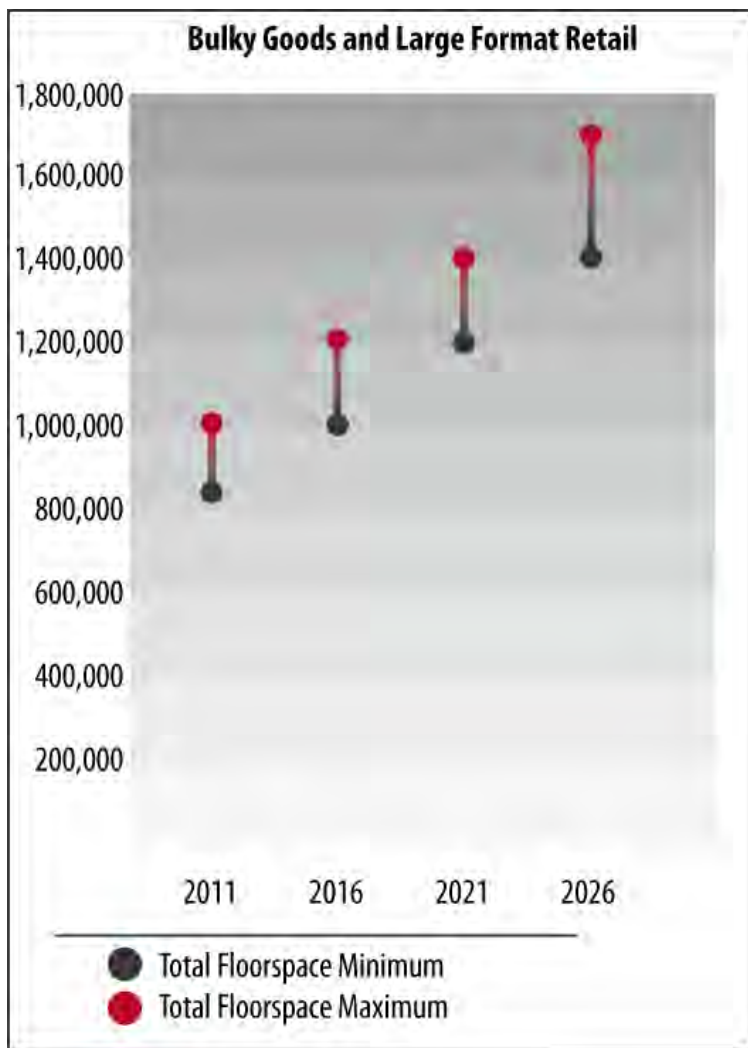
Figure 22: Projected Demand for Bulky Goods / Large Format Retail at current expenditure split

	2011	2016
SHP	274,041	334,570
RET	39,712	48,473
STO	496,743	586,574
SER	11,744	14,333
OFF	33,543	40,947
Total	855,783	1,024,897
	2021	2026
SHP	401,385	477,393
RET	58,144	69,139
STO	684,182	793,051
SER	17,191	20,441
OFF	49,120	58,409
Total	1,210,021	1,418,433

Source: Pracsys, 2011

As consumption patterns change, it is likely that more of the retail functions traditionally held within an activity centre will transition to a bulky good and large format retail business model. Figure 23 depicts the demand for floor space over a range of possible scenarios; with a minimum of 28% of expenditure and a maximum of a 50% increase in expenditure levels in bulky good and large format retail (a breakdown of demand by floor space category is provided as an appendix to this report).

Figure 23: Projected Demand for Bulky Goods / Large Format Retail



Source: Pracsys, 2011

As the City of Cockburn grows and matures, it's activity centres and floor space allocation may also evolve; as such, demand for bulky goods / large format floor space may change over time to reflect a composition, perhaps analogous to the current mix within the City of Stirling, as shown in Figure 24.

Figure 24: Stirling Bulky Goods / Large Format Retail land-use mix

Percentage Bulky good and Large Format retail	
STO	54%
SER	45%
SHP	7%
RET	52%
OFF	13%

Source: Pracsys, 2011

The City of Stirling has the Osborne Park industrial area, which has evolved over the past twenty years from industrial, to bulky and large format, to a mix of regular retail. Something similar to this may be considered the expected trajectory for bulky goods / large format retail in Cockburn. A similar maturation process will, over time, have similar effects on the composition of this business model: the removal of industrial land in favor of storage and other retail, itself eventually replaced by shop retail and office space.

This expenditure is separate to that quoted as "other retail" under each of the preceding commercial activity centres. It's future distribution therefore will be based upon the decision rules outlined in LCACS.

9 RESULTS FOR NEIGHBORHOOD, LOCAL AND INDUSTRIAL CENTRES

The recently released SPP 4.2 – Activity Centres for Perth and Peel defines Neighborhood Centres by the following two paragraphs:

“Neighbourhood centres are important local community focal points that help to provide for the main daily to weekly household shopping and community needs. They are also a focus for medium density housing. There are also many smaller local centres such as delicatessens and convenience stores that provide for the day-to-day needs of local communities.

Neighbourhood and local centres also play an important role in providing walkable access to services and facilities for communities. These centres should be recognised in local planning strategies, and also in structure plans for new urban areas.”

These centres can provide much of the local amenity that defines a local community, and also perform an important economic function in providing for the local convenience retail needs of residents. On occasion Neighborhood and Local Centres can also develop specific niche economic functions based around agglomerations of small business activities.

The projected demand for convenience retail offer within the City’s local and neighborhood centres are included in Appendix 1.

10 CONCLUSION

The analysis conducted within this report provides an indication of the 'boundaries of probable development' for each of the City of Cockburn's Activity Centres, given a defined demand and supply scenario. This modeling can assist the City in supporting statutory decisions as long as the assumptions of the modeling hold true. In particular it will be essential to reconsider the user mix of each of the precincts within the Centre, as well as the evolving vision and practical reality of each precinct as time progresses.

The proposed Decision Rules outlined in Chapter eight seek to provide a practical framework for decision makers to utilise the modeling described in this report. They aim to balance the strategic objectives of the City of Cockburn with the practical realities of encouraging investment within Centres. The least desirable outcome from this work is the stifling of the development of desirable activity and investment due to inflexible rules and the arbitrary use of floorspace projections that are only meant to provide an range of reasonable demand for activity, based upon currently relevant assumptions.

APPENDIX 1: ACTIVITY CENTRE FLOOR SPACE BREAKDOWN

	Cockburn Central Secondary Centre			
	2011	2016	2021	2026
SHP	24,328-40,547	43,169-71,948	72,398-120,663	76,312-127,186
RET	1,471-2,452	1,830-3,050	2,101-3,502	2,202-3,670
OFF	623-1,038	11,054-18,424	17,052-28,420	18,001-30,002
ENT	166-276	857-1,429	2,001-3,335	2,106-3,511
Total	26,588-44,313	56,911-94,851	93,552-155,921	98,621-164,368

	Cockburn Coast District Centre			
	2011	2016	2021	2026
SHP	0-0	6,952-11,587	17,959-29,932	19,108-31,846
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	125-208	301-502	491-819
Total	0-0	7,077-11,795	18,260-30,434	19,599-32,665

	Phoenix District Centre and Phoenix Mixed Business Area			
	2011	2016	2021	2026
SHP	15,864-26,440	18,890-31,483	21,231-35,385	22,508-37,513
RET	54-89	68-113	80-133	85-142
OFF	1,666-2,777	2,064-3,440	2,406-4,011	2,558-4,264
ENT	114-190	142-237	165-275	175-292
Total	17,697-29,496	21,163-35,272	23,882-39,803	25,326-42,210

	Barrington Street Neighbourhood Centre			
	2011	2016	2021	2026
SHP	2,465-4,108	3,020-5,033	3,492-5,821	3,767-6,278
RET	0-0	0-0	0-0	0-0
OFF	166-277	213-355	257-428	278-463
ENT	53-88	68-114	82-136	88-147
Total	2,684-4,473	3,301-5,501	3,831-6,385	4,133-6,888

Coolbelup Neighbourhood Centre				
	2011	2016	2021	2026
SHP	2,235-3,725	2,603-4,338	2,844-4,739	2,957-4,928
RET	0-0	0-0	0-0	0-0
OFF	109-181	130-217	147-245	153-255
ENT	225-374	272-453	305-508	317-529
Total	2,568-4,280	3,005-5,008	3,295-5,492	3,427-5,712

Hamilton Hill Neighbourhood Centre				
	2011	2016	2021	2026
SHP	2,984-4,973	3,488-5,813	3,839-6,399	4,014-6,691
RET	54-90	66-110	76-127	80-134
OFF	125-209	151-252	172-287	180-301
ENT	75-125	92-153	104-173	109-181
Total	3,238-5,397	3,797-6,329	4,192-6,986	4,384-7,306

Harvest Lakes Neighbourhood Centre				
	2011	2016	2021	2026
SHP	0-0	3,202-5,337	3,584-5,973	3,802-6,337
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	3,202-5,337	3,584-5,973	3,802-6,337

Lakes Neighbourhood Centre				
	2011	2016	2021	2026
SHP	4,699-7,832	5,512-9,186	6,078-10,129	6,410-10,683
RET	155-258	192-320	222-370	235-392
OFF	156-261	189-316	216-361	229-381
ENT	18-30	22-36	25-41	26-44
Total	5,028-8,380	5,915-9,858	6,540-10,901	6,900-11,500

Merevale Gardens Neighbourhood Centre				
	2011	2016	2021	2026
SHP	0-0	4,791-7,985	9,223-15,372	9,786-16,310
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	4,791-7,985	9,223-15,372	9,786-16,310

Port Coogee Marina Neighbourhood Centre				
	2011	2016	2021	2026
SHP	0-0	3,108-5,180	3,571-5,951	3,841-6,401
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	3,108-5,180	3,571-5,951	3,841-6,401

Russell Road Neighbourhood Centre				
	2011	2016	2021	2026
SHP	0-0	2,189-3,649	2,864-4,774	3,461-5,768
RET	0-0	76-127	102-171	124-207
OFF	0-0	0-0	0-0	0-0
ENT	0-0	73-121	97-162	118-196
Total	0-0	2,338-3,897	3,064-5,106	3,703-6,171

Atwell Local Centre				
	2011	2016	2021	2026
SHP	1,805-3,008	2,106-3,509	2,290-3,817	2,401-4,001
RET	0-0	0-0	0-0	0-0
OFF	56-94	68-113	77-128	80-134
ENT	0-0	0-0	0-0	0-0
Total	1,861-3,102	2,173-3,622	2,367-3,945	2,481-4,135

Banjup Local Centre				
	2011	2016	2021	2026
SHP	0-0	662-1,103	727-1,211	762-1,270
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	662-1,103	727-1,211	762-1,270

Berrigan Drive Local Centre				
	2011	2016	2021	2026
SHP	1,712-2,853	2,006-3,343	2,218-3,696	2,363-3,938
RET	0-0	0-0	0-0	0-0
OFF	77-128	93-155	107-178	114-190
ENT	105-176	129-216	147-246	157-262
Total	1,894-3,157	2,228-3,713	2,472-4,120	2,634-4,390

Bibra Lake Local Centre				
	2011	2016	2021	2026
SHP	674-1,123	782-1,304	856-1,427	900-1,501
RET	0-0	0-0	0-0	0-0
OFF	90-150	107-179	121-202	128-213
ENT	0-0	0-0	0-0	0-0
Total	763-1,272	889-1,482	977-1,629	1,028-1,714

Churchill Avenue				
	2011	2016	2021	2026
SHP	0-0	340-566	392-653	422-703
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	340-566	392-653	422-703

Forrest Road Local Centre				
	2011	2016	2021	2026
SHP	225-375	264-440	292-487	307-511
RET	0-0	0-0	0-0	0-0
OFF	13-21	15-25	17-29	18-31
ENT	0-0	0-0	0-0	0-0
Total	238-396	279-466	310-516	325-542

Glen Iris Local Centre				
	2011	2016	2021	2026
SHP	0-0	1,122-1,870	1,227-2,045	1,288-2,146
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	1,122-1,870	1,227-2,045	1,288-2,146

Hamilton Road Local Centre				
	2011	2016	2021	2026
SHP	551-919	684-1,140	801-1,335	871-1,451
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	551-919	684-1,140	801-1,335	871-1,451

Hammond Park Local Centre				
	2011	2016	2021	2026
SHP	0-0	596-993	684-1,140	736-1,227
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	596-993	684-1,140	736-1,227

Lakefront Avenue Local Centre				
	2011	2016	2021	2026
SHP	0-0	0-0	0-0	0-0
RET	0-0	0-0	0-0	0-0
OFF	10-16	12-20	14-23	15-24
ENT	11-18	13-22	15-26	16-27
Total	20-34	25-42	29-49	31-51

Latitude32 East Local Centre				
	2011	2016	2021	2026
SHP	0-0	562-937	648-1,080	701-1,168
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	562-937	648-1,080	701-1,168

Latitude 32 West Local Centre				
	2011	2016	2021	2026
SHP	0-0	557-929	645-1,075	697-1,162
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	557-929	645-1,075	697-1,162

Lyon Road Local Centre				
	2011	2016	2021	2026
SHP	500-834	610-1,017	689-1,149	735-1,225
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	500-834	610-1,017	689-1,149	735-1,225

Memorial Hall Local Centre and Memorial Hall Business Area				
	2011	2016	2021	2026
SHP	660-1,101	779-1,299	867-1,445	913-1,522
RET	34-56	42-70	49-82	52-87
OFF	58-96	71-118	82-136	86-143
ENT	32-54	40-66	46-76	48-80
Total	784-1,307	932-1,554	1,043-1,739	1,100-1,833

Murial Court Local Centre				
	2011	2016	2021	2026
SHP	0-0	742-1,236	818-1,363	868-1,447
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	742-1,236	818-1,363	868-1,447

New Market Local Centre				
	2011	2016	2021	2026
SHP	6,602-11,003	7,778-12,963	8,624-14,373	9,066-15,109
RET	445-741	544-907	621-1,035	650-1,083
OFF	2,902-4,837	3,539-5,898	4,054-6,756	4,273-7,122
ENT	410-684	504-839	575-959	605-1,009
Total	10,360-17,266	12,364-20,607	13,874-23,124	14,594-24,323

Rockingham Road Local Centre (North)				
	2011	2016	2021	2026
SHP	1,067-1,778	1,260-2,101	1,403-2,339	1,480-2,466
RET	57-94	71-118	82-137	87-145
OFF	71-118	87-145	100-167	106-176
ENT	197-328	242-404	278-464	294-490
Total	1,391-2,318	1,660-2,767	1,864-3,106	1,967-3,278

Rockingham Road Local Centre (South) and Mell Road Business Area				
	2011	2016	2021	2026
SHP	314-523	350-583	416-694	504-840
RET	14-23	17-29	22-37	27-45
OFF	116-193	146-244	186-311	227-379
ENT	117-195	147-245	185-309	223-372
Total	561-935	660-1101	809-1350	981-1637

	Southwell Local Centre			
	2011	2016	2021	2026
SHP	167-279	197-328	218-363	228-381
RET	0-0	0-0	0-0	0-0
OFF	21-34	25-42	29-48	30-51
ENT	0-0	0-0	0-0	0-0
Total	188-313	222-370	246-411	259-431

	Spinaker Heights Local Centre			
	2011	2016	2021	2026
SHP	0-0	715-1,192	802-1,337	849-1,415
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	715-1,192	802-1,337	849-1,415

	St. Paul's Local Centre			
	2011	2016	2021	2026
SHP	191-318	222-371	244-406	254-424
RET	0-0	0-0	0-0	0-0
OFF	17-29	21-35	24-40	25-41
ENT	0-0	0-0	0-0	0-0
Total	208-347	244-406	268-446	279-465

	Stratton Street Local Centre			
	2011	2016	2021	2026
SHP	59-99	70-116	77-129	81-135
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	59-99	70-116	77-129	81-135

	Tony Ales Local Centre			
	2011	2016	2021	2026
SHP	490-817	573-955	626-1,043	657-1,095
RET	103-172	127-212	145-241	151-252
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	593-989	700-1,167	771-1,284	808-1,347

Watsons Local Centre				
	2011	2016	2021	2026
SHP	0-0	770-1,283	887-1,478	955-1,592
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	0-0	770-1,283	887-1,478	955-1,592

Winterfold Road Local Centre				
	2011	2016	2021	2026
SHP	103-171	120-199	131-219	137-228
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	103-171	120-199	131-219	137-228

Yangebup Local Centre				
	2011	2016	2021	2026
SHP	1,142-1,903	1,350-2,250	1,495-2,492	1,572-2,620
RET	0-0	0-0	0-0	0-0
OFF	59-99	73-121	84-139	88-147
ENT	0-0	0-0	0-0	0-0
Total	1,201-2,002	1,423-2,372	1,579-2,631	1,660-2,766

Yangebup South Local Centre				
	2011	2016	2021	2026
SHP	402-670	476-794	528-880	556-927
RET	0-0	0-0	0-0	0-0
OFF	0-0	0-0	0-0	0-0
ENT	0-0	0-0	0-0	0-0
Total	402-670	476-794	528-880	556-927

	Bibra Industrial Centre			
	2011	2016	2021	2026
SHP	3,214-5,356	3,561-5,934	4,151-6,919	4,887-8,146
RET	2,016-3,360	2,506-4,176	3,061-5,101	3,635-6,058
OFF	11,099-18,499	13,724-22,873	16,636-27,727	19,663-32,772
ENT	1,157-1,928	1,434-2,389	1,734-2,891	2,038-3,397
Total	17,485-29,142	21,224-35,373	25,583-42,638	30,224-50,373

	Henderson Industrial Centre			
	2011	2016	2021	2026
SHP	138-230	171-284	198-330	214-357
RET	279-465	361-602	435-725	470-783
OFF	8,909-14,849	11,443-19,071	13,749-22,915	14,959-24,931
ENT	101-168	130-217	156-259	169-281
Total	9,427-15,712	12,105-20,175	14,537-24,229	15,812-26,353

	Jandakot East Industrial Centre			
	2011	2016	2021	2026
SHP	0-0	0-0	0-0	0-0
RET *	0-0	0-0	0-0	0-0
OFF	4,813-8,021	5,775-9,624	6,538-10,896	6,873-11,455
ENT	341-568	417-695	467-779	490-817
Total	5,154-8,589	6,192-10,219	7,005-10,896	7,363-12,272

* All retail assumed to be located within the Tony Ales Local Centre

	Jandakot West Industrial Centre			
	2011	2016	2021	2026
SHP	1,057-1,762	1,244-2,073	1,377-2,295	1,464-2,440
RET	119-199	148-247	171-286	182-303
OFF	2,568-4,280	3,114-5,190	3,583-5,972	3,821-6,369
ENT	127-212	157-262	179-299	191-318
Total	3,872-6,453	4,663-7,772	5,311-8,851	5,658-9,430

APPENDIX 2: PLANNING LAND USE CATEGORY DEFINITIONS

Storage / Distribution

Any land use activity which involves the storage, warehousing or wholesaling of goods usually conducted from large structures, or involving large bulky goods, but does not include activities that attract general retail trade activities.

Service Industry

This category includes service industries offering a range of services. The scale and environmental impact of such activities require their separation from other land uses. These services include film processing, cleaning, motor vehicle and other repair services, and other servicing activities, including some construction activities.

Shop / Retail

Any activity which involves the sale of goods from a shop located separate to and/or in a shopping centre other than those included in category 6 – Other Retail.

Other retail

Many of these activities normally are not accommodated in a shopping centre. By virtue of their scale and special nature, the goods of these activities separate them from the Shop/Retail category (e.g. car sales yard, carpet showroom).

Office /business

Administrative, clerical, professional and medical offices are activities which do not necessarily require the land area/floor space or exposure of other land uses. Although

offices require building and parking facilities, these needs are quite distinct from those of commercial uses and service industries.

Health/ welfare / community services

Includes government, government-subsidised and non-government activities which provide the community with a specific service, such as hospitals, schools, personal services and religious activities.

Entertainment / recreation / culture

Activities which provide entertainment, recreation and culture for the community and which occur in building and / or on land, such as passive and active sports venues, museums, amusements, gambling services, hotels and the like.

APPENDIX 3: NEW AND PROPOSED CENTRES

Year	Complex Name	SHP	RET	OFF	ENT	TOTAL
2011	Russell Road Neighbourhood Centre	-	-	-	-	-
2016	Russell Road Neighbourhood Centre	5,000	400	-	400	5,000
2021	Russell Road Neighbourhood Centre	5,000	400	-	400	5,000
2026	Russell Road Neighbourhood Centre	5,000	400	-	400	5,000
2011	Churchill Avenue	-	-	-	-	-
2016	Churchill Avenue	500	-	-	-	500
2021	Churchill Avenue	500	-	-	-	500
2026	Churchill Avenue	500	-	-	-	500
2011	Glen Iris Local Centre	-	-	-	-	-
2016	Glen Iris Local Centre	1,500	-	-	-	1,500
2021	Glen Iris Local Centre	1,500	-	-	-	1,500
2026	Glen Iris Local Centre	1,500	-	-	-	1,500
2011	Merevale Gardens Neighbourhood Centre	-	-	-	-	-
2016	Merevale Gardens Neighbourhood Centre	6,000	-	-	-	1,500
2021	Merevale Gardens Neighbourhood Centre	10,000	-	-	-	1,500
2026	Merevale Gardens Neighbourhood Centre	10,000	-	-	-	1,500
2011	Cockburn Central Regional Centre	33,617	5,896	2,311	1,272	44,673
2016	Cockburn Central Regional Centre	50,000	5,896	2,311	1,272	61,056
2021	Cockburn Central Regional Centre	75,000	5,896	2,311	1,272	86,056
2026	Cockburn Central Regional Centre	75,000	5,896	2,311	1,272	86,056
2011	Cockburn Coast District Centre	-	-	-	-	-
2016	Cockburn Coast District Centre	10,000	-	-	1,000	10,000
2021	Cockburn Coast District Centre	22,000	-	-	2,000	22,000
2026	Cockburn Coast District Centre	22,000	-	-	3,000	22,000
2011	Watson Local Centre	-	-	-	-	-
2016	Watson Local Centre	1,000	-	-	-	-
2021	Watson Local Centre	1,000	-	-	-	-
2026	Watson Local Centre	1,000	-	-	-	-
2011	Hammond Park Local Centre	-	-	-	-	-
2016	Hammond Park Local Centre	1,000	-	-	-	-
2021	Hammond Park Local Centre	1,000	-	-	-	-
2026	Hammond Park Local Centre	1,000	-	-	-	-
2011	Harvest Lake Neighbourhood Centre	-	-	-	-	-
2016	Harvest Lake Neighbourhood Centre	4,500	-	-	-	-
2021	Harvest Lake Neighbourhood Centre	4,500	-	-	-	-
2026	Harvest Lake Neighbourhood Centre	4,500	-	-	-	-

Year	Complex Name	SHP	RET	OFF	ENT	TOTAL
2011	Murial Court Local Centre	-	-	-	-	-
2016	Murial Court Local Centre	1,000	-	-	-	-
2021	Murial Court Local Centre	1,000	-	-	-	-
2026	Murial Court Local Centre	1,000	-	-	-	-
2011	Banjup Local Centre	-	-	-	-	-
2016	Banjup Local Centre	1,000	-	-	-	-
2021	Banjup Local Centre	1,000	-	-	-	-
2026	Banjup Local Centre	1,000	-	-	-	-
2011	Lyon Rd Local Centre	1,000	-	-	-	-
2016	Lyon Rd Local Centre	1,000	-	-	-	-
2021	Lyon Rd Local Centre	1,000	-	-	-	-
2026	Lyon Rd Local Centre	1,000	-	-	-	-
2011	Port Coggee Marina Neighbourhood Centre	-	-	-	-	-
2016	Port Coggee Marina Neighbourhood Centre	4,500	-	-	-	-
2021	Port Coggee Marina Neighbourhood Centre	4,500	-	-	-	-
2026	Port Coggee Marina Neighbourhood Centre	4,500	-	-	-	-
2011	Latitude 32 West Local Centre	-	-	-	-	-
2016	Latitude 32 West Local Centre	1,000	-	-	-	-
2021	Latitude 32 West Local Centre	1,000	-	-	-	-
2026	Latitude 32 West Local Centre	1,000	-	-	-	-
2011	Latitude32 East Local Centre	-	-	-	-	-
2016	Latitude32 East Local Centre	1,000	-	-	-	-
2021	Latitude32 East Local Centre	1,000	-	-	-	-
2026	Latitude32 East Local Centre	1,000	-	-	-	-
2011	Spinaker Heights Local Centre	-	-	-	-	-
2016	Spinaker Heights Local Centre	1,000	-	-	-	-
2021	Spinaker Heights Local Centre	1,000	-	-	-	-
2026	Spinaker Heights Local Centre	1,000	-	-	-	-

APPENDIX 4: BULKY GOODS DEMAND

Current Expenditure	2006	2011	2016	2021	2026
SHP	185,090	274,041	334,570	401,385	477,393
RET	26,824	39,712	48,473	58,144	69,139
STO	375,019	496,743	586,574	684,182	793,051
SER	7,935	11,744	14,333	17,191	20,441
OFF	22,654	33,543	40,947	49,120	58,409
Total	617,522	855,783	1,024,897	1,210,021	1,418,433

50% Increase in Expenditure	2006	2011	2016	2021	2026
SHP	277,635	411,061	501,854	602,077	716,089
RET	40,236	59,568	72,710	87,216	103,709
STO	375,019	496,743	586,574	684,182	793,051
SER	11,902	17,616	21,500	25,786	30,662
OFF	33,981	50,315	61,420	73,679	87,614
Total	738,773	1,035,303	1,244,058	1,472,940	1,731,124

APPENDIX 5 STRATEGIC EMPLOYMENT ANALYSIS





**CITY OF COCKBURN
STRATEGIC INDUSTRY ANALYSIS
FEBRUARY 2012**

DISCLAIMER

This report has been prepared for **the City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 INTRODUCTION

1.1 CONTEXT

The City of Cockburn plays a number of critical roles in the strategic regional supply chains of Perth. This is due to the presence of significant knowledge-intensive, export-oriented infrastructure (e.g. Henderson Marine Complex and Jandakot Airport). The reports focuses specifically on developing an understanding of the influence of these strategic activities on Cockburn's strategic and commercial centres now, and into the future.

1.2 STRATEGIC EMPLOYMENT

Public sector strategies, business plans and impact statements often focus on the quantum of jobs required (or purported to be generated) rather than the quality of industries and jobs; this is due to the:

- Disparity between the location of jobs and workforce settlement patterns in Perth (focusing attention on employment quantity)
- Available local employment data (primarily ABS census 2006) providing easy access to quantity information whilst quality requires significantly more analysis
- Difficulty in defining what is a 'quality' job, especially given that perceptions of quality are often subjective, and that what is quality employment in one area, may not be in another
- Difficulty in understanding how 'quality' jobs influence local economies

It is, however, critical to have a basic understanding of employment quality within an area, if one is going to seek to influence

future economic development. There are inherent differences in characteristics between different types of employment, in particular the differences between population-driven and strategic employment.

Population-driven employment is employment generated by activity servicing the needs of a particular population¹. By contrast strategic employment results from the creation and transfer of goods and services to an external market. Employment resulting from this activity may be distinct, in industries where there is little or no local demand (e.g. iron ore/ uranium mining), or in the same industries as population-driven activity but with a different focus (e.g. manufacture of food/wine, higher education). Strategic employment does not automatically occur. It results from an enterprise actively seeking to meet the needs of an external market and developing a competitive advantage in the process. Strategic employment is therefore highly variable across different locations.

The presence of strategic employment within a local economy is critical to the long-term prosperity and resilience of an economy; as:

- There is no 'saturation point' to strategic employment (whereas there is only so much population-driven activity that a particular population needs/can afford)
- A diverse range of economic activity servicing external markets diversifies the risk associated with downturns in a single market
- Strategic economic activity tends to include higher 'value-added' activities that are more likely to result in greater flow-on benefits to the local economy

- Strategic economic activity tends to result in high wage-productivity for employees and significant business opportunities for small to medium enterprises
- Industry profile indicators – that estimate particular industry characteristics based upon available information

1.3 BASIS FOR ANALYSIS

The analysis of the strategic employment in the City of Cockburn is designed to provide the statistical basis to underpin the development of high-productivity, high-growth industries in key targeted areas. This analysis may be used to inform the City's economic development criteria, and assist in the designation of strategic industries. The analysis focuses on three components:

- Knowledge intensity
- Final use (Market)
- Comparative advantage

Based upon this analysis, six key strategic industries integral to the continued development of strategic employment within the City of Cockburn are identified and examined in greater detail. In examining the current strategic employment characteristics of these industries, Pracsys has identified and considered a number of input and output indicators that provide an insight of the strategic employment profile of the City.

These indicators can be broken down into three categories:

- Input indicators – that provide an indication of local enterprise's ability to attract inputs required to be competitive
- Output indicators – the broadly estimate the results of local enterprise's activities

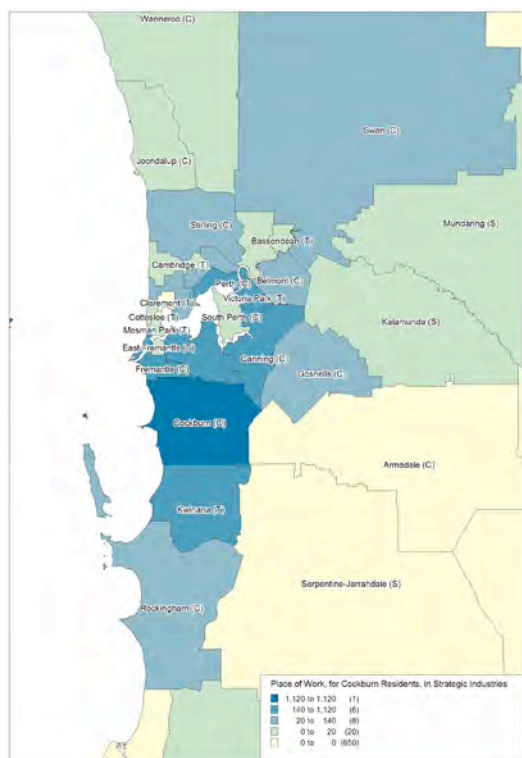
Modelling described within this report assumes that through analysis of these indicators it is possible to estimate the direct and wider economic benefits of local enterprise's strategic activity within the City of Cockburn. Beyond an understanding of the economic benefits associated with these industries, these indicators are designed to promote a better understanding of the industries themselves and can be used to facilitate better planning and support for these industries. The application for these indicators is outlined in Chapter 5.

2 SUB-REGIONAL STRATEGIC EMPLOYMENT

The South-West Sub-Region of Perth encompasses the Cities of Cockburn, Kwinana and Rockingham. It is uniquely located within the industrial supply chains of Perth, with the inclusion of the Kwinana Industrial Area, Henderson Marine Cluster, Rockingham Strategic Metropolitan Centre, and Jandakot Airport within its borders, and the Perth CBD, Fremantle Port, Welshpool Logistics hub, and the Perth Domestic and International Airports in close proximity. This is reflected in the comparative strength of the sub-region's strategic employment relative to other outer sub-regions (Figure 1).

Unique amongst Perth's outer sub-regions is the strength of employment self sufficiency² and employment self containment³ within the

Figure 1: Strategic Industry Workers Residing in the City of Cockburn's Place of Work



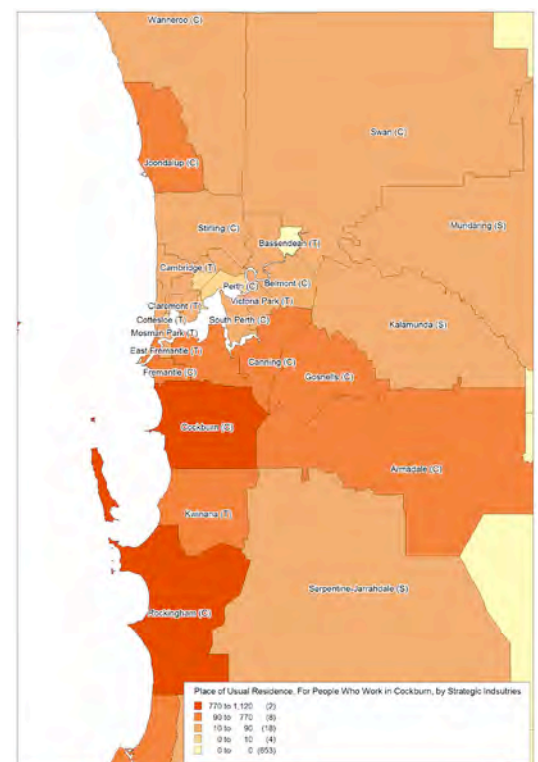
Source: ABS Census (2006) Pracsys Modelling (2011)

South-West, with 0.63 jobs for every worker (63% employment self sufficiency), and 42% of the sub-region's workers living and working locally.

The workplace of Cockburn residents working in strategic jobs is shown in Figure 1. It emphasises the strong relationship between Cockburn strategic worker's place of work and place of residence; with the City of Cockburn being the predominant place of work, followed by surrounding LGAs and the Perth CBD.

Conversely the place of residence of people working in strategic jobs in the City of Cockburn is shown in Figure 2. This emphasises the importance of the Cities of Cockburn and Rockingham as sources of labour for enterprises located within the City of Cockburn.

Figure 2: Place of Residence of Strategic Workers Employed within the City of Cockburn



Source: ABS Census (2006) Pracsys Modelling (2011)

3 CITY OF COCKBURN'S STRATEGIC ACTIVITY

The Pracsys employment hierarchy classifies employment on two characteristics, final use and knowledge intensity. While there are a number of measures for knowledge intensity, the Pracsys methodology focuses on the percentage of an industry's labour force that is engaged in "knowledge-intensive" occupations. "Knowledge-intensive" occupations are as measured by the educational requirements for the occupation.

Figure 3 summaries the employment profiles of each local government area in the South West Sub-Region.

Figure 3: Comparisons of Strategic Employment within SW Sub-Region LGAs

	Rockingham	Cockburn	Kwinana	Total	State	National
Consumer Services ⁴	36.9%	28.5%	18.7%	31.7%	25.6%	32.3%
Producer Services ⁵	28.4%	43.0%	45.5%	37.4%	31.4%	34.8%
Knowledge Intensive Consumer Services ⁶	23.8%	9.7%	7.2%	12.5%	18.8%	13.5%
Knowledge Intensive Producer Services ⁷	9.5%	12.0%	14.5%	10.9%	17.8%	13.5%
Export Orientated ⁸	4.5%	6.7%	14.1%	7.4%	6.4%	5.8%

Source: ABS Census (2006) Pracsys Modelling (2011)

Using this methodology, the term "strategic employment" is used to refer to the sum of the export orientated and knowledge intensive producer services categories. Overall, the economy of the South West Sub-Region is over represented in strategic employment. Key candidates for economic development would be industries with high strategic employment at the local level, or those characterised by a high percentage of strategic employment at the State level, but low percentage of strategic employment at the sub-region level.

Within the South-West Sub-Region, the City of Cockburn LGA has the largest concentration of

employment with 21,697 jobs in 2006 (Figure 4). In absolute terms, it also has the highest number of strategic jobs with 4,066 jobs (19% of total jobs).

Figure 4: Comparisons of Strategic Employment within SW Sub-Region LGAs

Comparison of Strategic Employment in the SW-Sub Region			
	Rockingham	Cockburn	Kwinana
Strategic Employment	2,280	4,066	3,205
Total Employment	19,095	21,697	11,150
Percentage Strategic Employment	12%	19%	29%

Source: ABS Census (2006) Pracsys Modelling (2011)

3.1 STRATEGIC INDUSTRIES BY EMPLOYMENT

Figure 5 outlines the industry segments (based upon 3-digit Australian New Zealand Industry Classifications 2006) that have the most jobs considered 'strategic' in nature. The largest of these is Other Transport Equipment Manufacturing' due to the agglomerations of marine manufacturing enterprises located at Henderson (including the Australian Marine Complex). Other major industry segments directly involved in the creation and exportation of goods and services to external markets that include significant numbers of strategic jobs includes:

- Basic Ferrous Metal Product Manufacturing
- Basic Ferrous Metal Manufacturing
- Cement, Lime, Plaster and Concrete Manufacturing

Key export support industries employing significant numbers of strategic workers include:

- Architectural, Engineering and Technical Services
- Management and Related Consulting Services

Figure 5: City of Cockburn Industries Employing Strategic Workers

Strategic Employment by Industry				
Three Digit ANZSIC		No. of Jobs that are Strategic in Industry X in Cockburn	No. of Jobs that are strategic in Industry X in Perth and Peel	Percentage of Perth and Peel Jobs in Industry X in Cockburn
1	Other Transport Equipment Manufacturing	537	885	61%
2	Architectural, Engineering and Technical Services	236	6,135	4%
3	Manufacturing, nfd	219	2,625	8%
4	Local Government Administration	155	3,371	5%
5	School Education	154	4,926	3%
6	Basic Ferrous Metal Product Manufacturing	145	794	14%
7	Basic Ferrous Metal Manufacturing	107	743	14%
8	Management and Related Consulting Services	103	1,661	6%
9	Electricity Distribution	102	324	31%
10	Grocery, Liquor and Tobacco Product Wholesaling	101	2,120	5%
11	Road Freight Transport	90	1,880	5%
12	Meat and Meat Product Manufacturing	87	703	12%
13	Residential Building Construction	77	2,584	3%
14	Cafes, Restaurants and Takeaway Food Services	70	2,596	3%
15	Cement, Lime, Plaster and Concrete Product Manufacturing	68	366	19%

Source: ABS Census (2006) Pracsys Modelling (2011)

3.2 COMPARATIVE ADVANTAGE

The concept of comparative advantage is not a new one. It was originally developed by David Ricardo in the early 19th century. Essentially, a location has a comparative advantage over another if, in producing a good or service; it can do so at a relatively lower opportunity cost in terms of the forgone alternatives that could be produced.

The purpose of analysing comparative advantage is to:

- a) Identify industries in which a location has created and sustained a comparative advantage, so that the advantage may be leveraged further; and

- b) Identify industries in which a location does not currently have a comparative advantage but whose structure is such that if an advantage was developed it would have an increased likelihood of being sustained.

Two techniques to assist in the identification of an areas comparative advantage are:

- Employment concentration analysis
- Shift share analysis

3.2.1 Employment Concentration Analysis

Employment concentration analysis compares the local economy to a reference economy, in the process attempting to

identify specialisations in the local economy. This is an indicator of existing or emerging agglomerations, and can be used to identify areas where economic development initiatives may strengthen agglomerations and ultimately facilitate the development of knowledge intensive export orientated clusters. ECFs are determined by the quantity of employment by ANZSIC industry category within a specified area, as a percentage of total employment. This ratio is then compared to the percentage of total State employment in the same industry category divided by total State employment.

$$\frac{\frac{X_a}{X_t}}{\frac{Y_a}{Y_t}} = ECF$$

X_a = Industry A Employment in the City of Cockburn
 X_t = Total Employment in the City of Cockburn
 Y_a = Industry A Employment in WA
 Y_t = Total Employment in WA

If an industry's ECF is greater than 1, the State average, it can be assumed that some portion of the industry's production is exported out of the area. For example, an ECF of 3.0 would indicate that employment in this particular industry is three times more concentrated in the region than for the State as a whole.

Figure 6 shows the employment concentration factors of the industries at the 3-digit ANZSIC level within the City.

Figure 6: City of Cockburn Employment Concentration Factors

Employment Concentration Factor				
	Three Digit ANZSIC	Cockburn	WA Total	ECF
1	Other Transport Equipment Manufacturing	1,907	3,741	16.35
2	Electricity Distribution	406	2,280	7.69
3	Cement, Lime, Plaster and Concrete Product Manufacturing	308	1,998	6.65
4	Basic Ferrous Metal Product Manufacturing	181	1,194	6.54
5	Basic Ferrous Metal Manufacturing	407	3,495	5.03
6	Warehousing and Storage Services	210	1,925	4.71
7	Structural Metal Product Manufacturing	352	3,963	3.83
8	Meat and Meat Product Manufacturing	281	3,167	3.83
9	Polymer Product Manufacturing	196	2,687	3.15
10	Motor Vehicle and Motor Vehicle Part Manufacturing	150	2,227	2.91

Source: ABS Census (2006) Pracsys Modelling (2011)

It is immediately obvious that the City of Cockburn is a significant manufacturing centre within the Perth and Peel Region, with Other Transport Equipment Manufacturing being 16 times the average Perth concentration.

3.2.2 Strategic Industry Shift Share Analysis

Shift-share analysis techniques assess employment growth in a region by industry and differentiate between the growth attributable to the state economy, the industry mix and local factors. It is a useful method for

identifying an area's economic drivers and its competitiveness. The underlying purpose of this technique is to assist local planners in identifying and documenting changes in their local employment in a way that enables them to support business and council in making informed decisions. Ideally, shift-share analysis will contribute to the designation of key industries and provide a signpost for the formation of local industry networks.

Figure 7 outlines the results of the shift share analysis for the City of Cockburn between 2001 and 2006. Due to changes in the Australian New Zealand Industry Classifications over this time, industry names are slightly different.

Figure 7: City of Cockburn Strategic Industry Shift Share Analysis

Shift Share						
	State Shift ⁹	Industry Shift ¹⁰	Differential Shift ¹¹	Shift Share	Industry Type	Description
Machinery and Equipment Manufacturing	2,633	-371	215	2,477	4	Local firms outperforming in a low growth industry
Electricity and Gas Supply	378	8	149	535	1	Local firms outperforming in a high growth industry
Construction Trade Services	1,135	134	6	1,275	1	Local firms outperforming in a high growth industry
Non-Metallic Mineral Product Manufacturing	472	-63	15	424	4	Local firms outperforming in a low growth industry
Metal Product Manufacturing	1,290	85	-118	1,257	2	Local firms underperforming in a high growth industry
Food Retailing	1,428	-119	94	1,403	4	Local firms outperforming in a low growth industry
Business Services	1,195	-35	218	1,378	4	Local firms outperforming in a low growth industry
Education	1,250	39	55	1,344	1	Local firms outperforming in a high growth industry

Source: ABS Census (2001), ABS Census (2006) Pracsys Modelling (2011)

Based on the result of the analysis it is possible to classify industry into one of four types.

- Type 1 - Local firms outperforming in a high growth industry
- Type 2 - Local firms underperforming in a high growth industry
- Type 3 - Local firms underperforming in a low growth industry
- Type 4 - Local firms outperforming in a low growth industry

In shift-share analysis, the best targets for economic development are typically those where the differential shift has the largest effect on growth (i.e. Type 1 Industries). In addition, some industries may be targeted for investment even if their differential shift is low or negative; however the industry as a whole is experiencing high growth (i.e. Type 2 Industries).

The results of the above analysis reveal a number of key drivers and areas of competitiveness in the Cockburn economy. A number of strategic industries experienced growth well above the state average, a large proportion of this was the result of the comparative advantage of the City of Cockburn. These sectors include Machinery and Equipment Manufacturing, Non-Metallic Mineral Product Manufacturing, Metal Product Manufacturing, and Business Services.

3.3 STRATEGIC INDUSTRY ANALYSIS CONCLUSIONS

Based upon the analysis of strategic employment described in sections 3.1-3.3, six key strategic industries integral to the continued development of strategic employment within the City of Cockburn have been identified. These are:

- Other Transport Equipment Manufacturing
- Cement, Lime, Plaster and Concrete Product Manufacturing
- Basic Ferrous Metal Product Manufacturing
- Tertiary Education
- Basic Ferrous Metal Manufacturing
- Architectural, Engineering and Technical Services

These industries have each been profiled in greater detail in Chapter 4.

4 STRATEGIC INDUSTRY PROFILES

As per the foregoing analysis, six key strategic industries integral to the continued development of strategic employment within the City of Cockburn are identified and examined in greater detail. In examining the current strategic employment characteristics of these industries, Pracsys has identified and considered a number of input and output indicators that provide an insight of the strategic employment profile of the City.

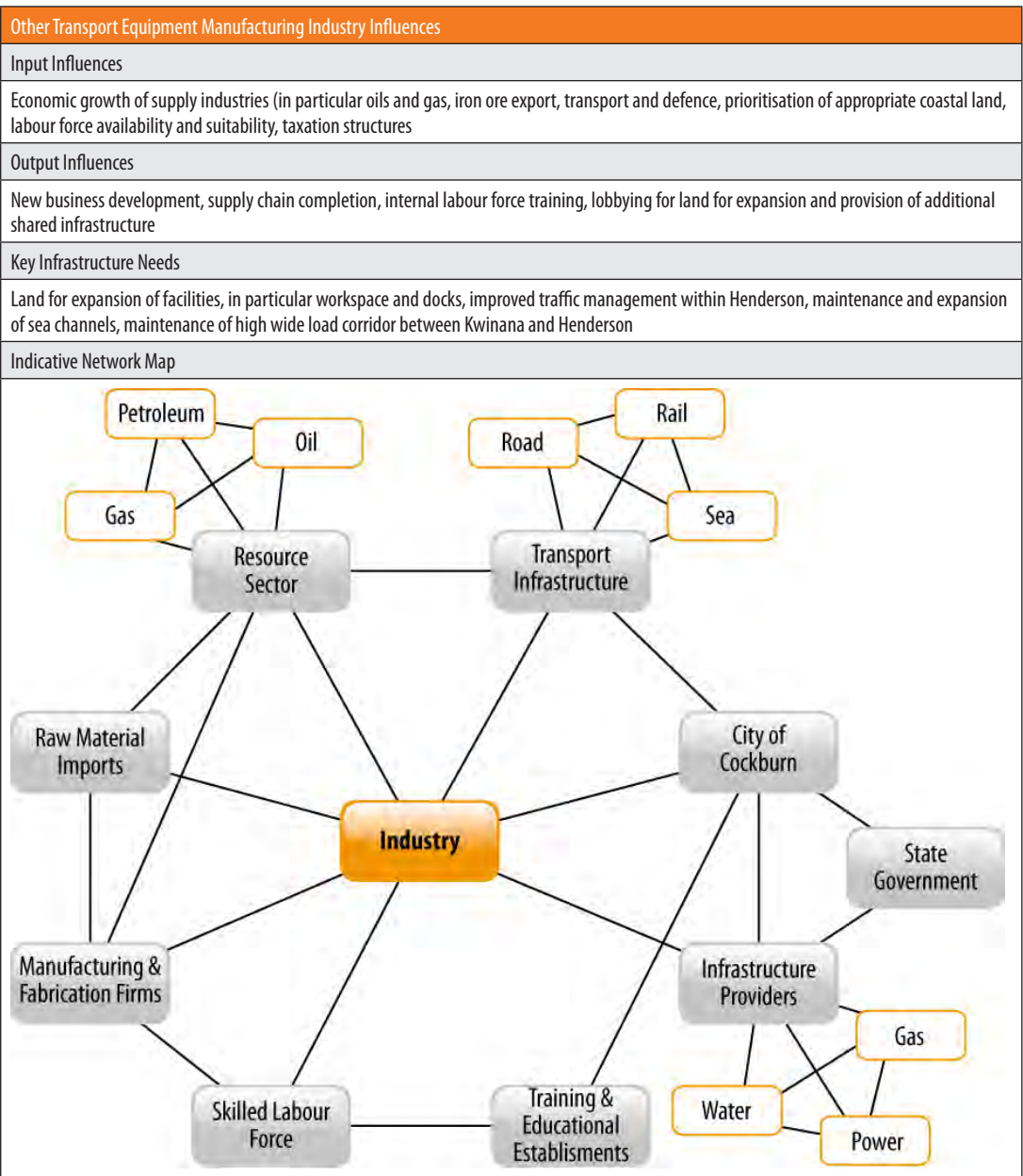
These indicators can be broken down into three categories:

- Input indicators – that provide an indication of local enterprise’s ability to attract inputs required to be competitive
- Output indicators – the broadly estimate the results of local enterprise’s activities
- Industry profile indicators – that estimate particular industry characteristics based upon available information

Based upon these indicators, and through consultation with local firms, the key influences on each strategic industry have been identified. A detailed description of the types of influence on strategic industries has been included in Appendix 1. The results of this analysis have been collated to provide an economic profile for each of the six strategic industries. These profiles are intended to provide the City an “at a glance reference” for the characteristics, needs and future growth opportunities of major strategic employers within the City.

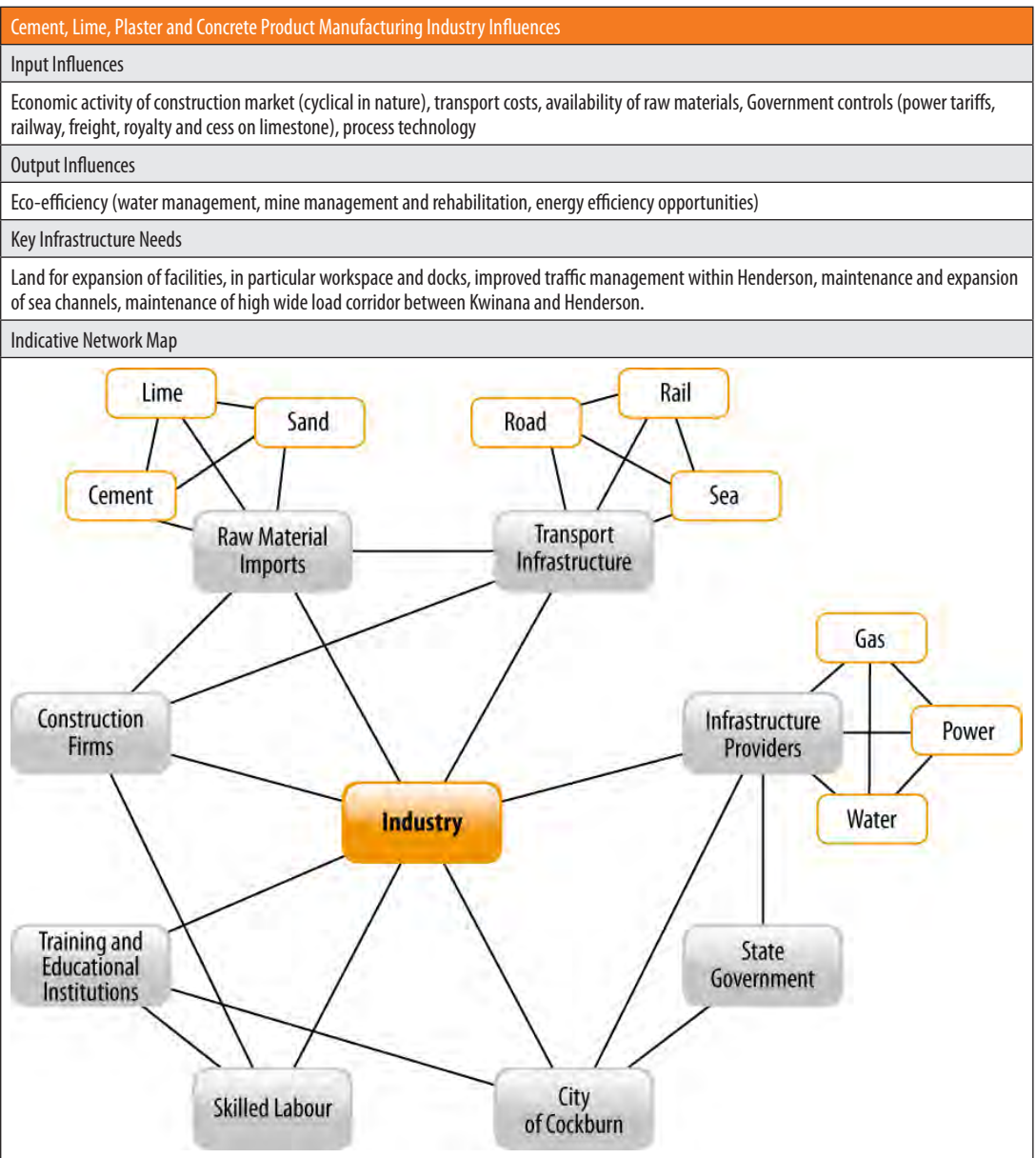
Other Transport Equipment Manufacturing Industry Profile					
Industry Description					
Other transport equipment manufacturing encompasses a range of activities including shipbuilding and repair services and aircraft manufacturing and repair services, both of which have a presence in the City due to infrastructure located within the Henderson ship-building precinct (including the Australian Marine Complex) and Jandakot Airport. Major firms either fully or partially operating within the City include; Austal Image, Austal Ships Pty Ltd, Strategic Marine Pty Ltd, and WA Shipwrighting Pty Ltd.					
Industry Profile Indicators					
Employment Within Cockburn		1,919			
Percentage Full time Employees ¹²		89%			
Education Profile					
Bachelor Degree Level, nfd		Advanced Diploma	Diploma	Certificate III	Other or N/A
8%	3%	3%	42%	44%	
Employment Concentration Factors		16.4			
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
2,633	-371	215	2,477	4	Local firms outperforming in a low growth industry
Employment Self Containment		26%			
Output Indicators ¹³					
Export ¹⁴		\$67,994,384			
Output ¹⁵		\$974,684,749			
Gross Value Added ¹⁶		\$137,073,237			
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
8%	1%	70%	0%	20%	
Average Weekly Income (\$AUD 2006) ¹⁷		\$979			

Source: Pracsys (2011) after ABS Census of Population and Housing



Cement, Lime, Plaster and Concrete Product Manufacturing Industry Profile					
Industry Description					
Cement, lime, plaster and concrete product manufacturing encompasses the manufacture of all related products. The significant presence of this industry within the City is primarily related to the presence of a single firm, Cockburn Cement. Whilst there is significant community debate as to the desirability of this industry given perceived negative externalities (especially air pollution) the activities and markets that this firm operates in make it a significant strategic activity.					
Industry Profile Indicators					
Employment Within Cockburn	311				
Percentage Full time Employees	89%				
Education Profile					
Bachelor Degree Level, nfd	Advanced Diploma	Diploma	Certificate III	Other or N/A	
7%	2%	3%	22%	66%	
Employment Concentration Factors	5.4				
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
472	-63	15	424	4	Local firms outperforming in a low growth industry
Employment Self Containment	25%				
Output Indicators					
Export	\$519,802				
Output	\$212,782,477				
Gross Value Added	\$65,863,371				
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
5%	0%	78%	0%	17%	
Average Weekly Income (\$AUD 2006)	\$1,172				

Source: Pracsys (2011) after ABS Census of Population and Housing



Basic Ferrous Metal Product Manufacturing Industry Profile					
Industry Description					
Basic ferrous metal product manufacturing relates to activities including iron and steel casting, and steel pipe and tube manufacturing. The presence of this industry in the City is significant due to the dominant export component of the overall industry (as shown in the export output indicator). Activities in this industry segment are often included in engineering and fabrication businesses and are predominately found within Henderson and Bibra Lake in the City of Cockburn. Significant firms within this industry include Vassallo's Wrought Iron, Wrought Iron Works, and Jandakot Metal Industries.					
Industry Profile Indicators					
Employment Within Cockburn			183		
Percentage Full time Employees			91%		
Education Profile					
Bachelor Degree Level, nfd	Advanced Diploma	Diploma	Certificate III	Other or N/A	
3%	4%	5%	35%	52%	
Employment Concentration Factors			5.1		
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
472	-63	15	424	4	Local firms outperforming in a low growth industry
Employment Self Containment			20%		
Output Indicators					
Export			\$8,942,125		
Output			\$83,307,989		
Gross Value Added			\$17,199,999		
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
74%	0%	21%	0%	5%	
Average Weekly Income (\$AUD 2006)			\$1,039		

Source: Pracsys (2011) after ABS Census of Population and Housing

Basic Ferrous Metal Product Manufacturing Industry Influences
Input Influences
Economic growth of ferrous metal supply industries, standard of process technology, access infrastructure, power, water supply. Skilled labour, like many other industries is in high demand, and there appears to be a shortage of skilled workers to cater to current demand.
Output Influences
<ul style="list-style-type: none"> - Costs: water, wastewater discharge and wastewater treatment, maintenance. Cost of water is not just the cost of purchase, but includes, handling, heating, holding, treating, and discharging - often a 20-30 X multiplier - Energy consumption - energy and water costs are linked eg. reducing hot water for cleaning saves heating costs - Wastes - wastewater treatment often results in the generation of prescribed wastes, which are costly to dispose of <ul style="list-style-type: none"> - carbon footprint - drops when energy use is prevented or saved and may soon be worth \$20 per tonne CO2 or more. - increased productivity - improved public image - increased staff morale/engagement - Improved occupational health and safety - Logistical improvements
Key Infrastructure
Significant development of road and rail infrastructure to allow for greater volume of inputs and outputs. Telecommunications and other basic infrastructure (power, gas, water) expansion and relocation of mains in closer proximity to producing firms.
Indicative Network Map
<pre> graph TD Industry[Industry] --- RawMaterial[Raw Material Imports (Europe)] Industry --- SkilledLabour[Skilled Labour Force] Industry --- Transport[Transport Providers] Industry --- Mining[Mining Companies] Industry --- CityCockburn[City of Cockburn] Industry --- CityPerth[City of Perth] Infrastructure[Infrastructure Providers] --- Water[Water] Infrastructure --- Gas[Gas] Infrastructure --- Power[Power] Transport --- Road[Road] Transport --- Sea[Sea] Transport --- Rail[Rail] Mining --- RioTinto[Rio Tinto] Mining --- Fort[Fort] Mining --- BHP[BHP] RawMaterial --- Industry SkilledLabour --- Industry Transport --- Industry Mining --- Industry CityCockburn --- Industry CityPerth --- Industry Infrastructure --- RawMaterial Infrastructure --- SkilledLabour Infrastructure --- Transport Infrastructure --- Mining Infrastructure --- CityCockburn Infrastructure --- CityPerth Water --- Infrastructure Gas --- Infrastructure Power --- Infrastructure Road --- Transport Sea --- Transport Rail --- Transport RioTinto --- Mining Fort --- Mining BHP --- Mining </pre>

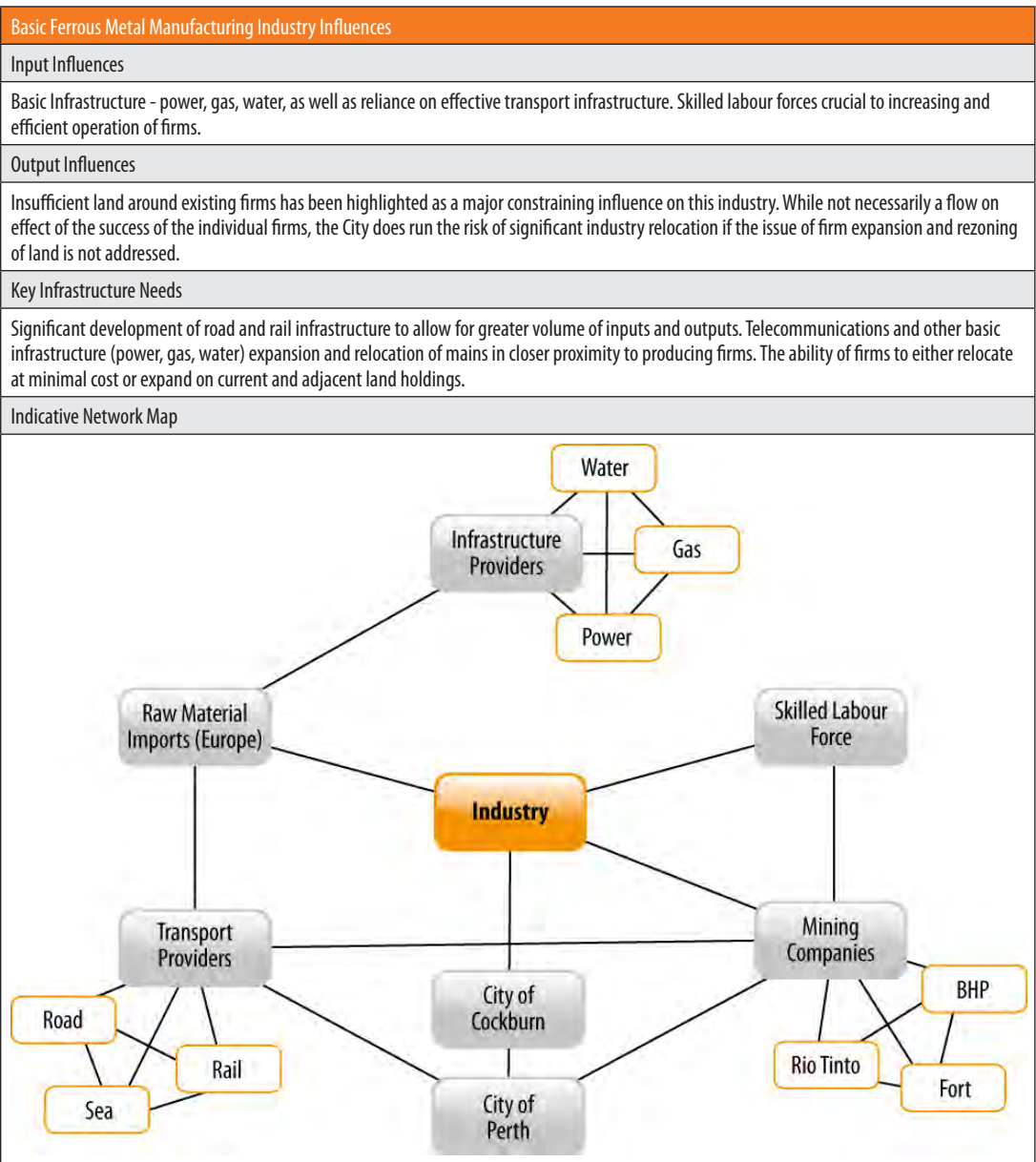
Tertiary Education Industry Profile					
Industry Description					
Tertiary education related to activities both within the higher education and technical and vocational education and training. This sector was included based upon the understanding of a burgeoning workforce training precinct within the Jandakot (including the recently announced \$80M GE Technology and Skills Training Centre, as well as flight training at the airfield itself). The proximity of Murdoch University (and the greater Murdoch Activity Centre) at the border of Cockburn and the City of Melville has meant that activity at this site has also been included in this analysis as it will be integral to the future economic development of the City.					
Industry Profile Indicators					
Employment Within Region	1,706				
Percentage Full time Employees	65%				
Education Profile					
Bachelor Degree Level, nfd	Advanced Diploma	Diploma	Certificate III	Other or N/A	
13%	9%	3%	12%	63%	
Employment Concentration Factors	3.2				
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
1,250	39	55	1,344	1	Local firms outperforming in a high growth industry
Employment Self Containment	-				
Output Indicators					
Export	\$648,210				
Output	\$8,565,139				
Gross Value Added	\$6,496,142				
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
24%	27%	32%	8%	9%	
Average Weekly Income (\$AUD 2006)	\$882				

Source: Pracsys (2011) after ABS Census of Population and Housing

Tertiary Education Industry Influences
<p>Input Influences</p> <p>Less complex than other industries due to the intellectual nature of its product - basic infrastructure needs to cater for any educational establishment, water, power, gas, transport. Skilled teachers do not appear to be in any shortage.</p>
<p>Output Influences</p> <p>Aside from students, there are little output influences this industry generates. There may be future problems around Jandakot airport due to encroaching residential development, however there have been no conflicts between residential and commercial groups as yet.</p>
<p>Key Infrastructure</p> <p>Significant development of road and rail infrastructure to allow for greater volume of inputs and outputs. Telecommunications and other basic infrastructure (power, gas, water) expansion and relocation of mains in closer proximity to producing firms. Development of student infrastructure is also vital to development - in addition to enhanced road and rail capacity the development of accommodation in the form of hotels / motels / hostels in proximity to training establishments.</p>
<p>Indicative Network Map</p> <pre> graph TD Industry[Industry] --- IP[Infrastructure Providers] Industry --- AI[Accommodation Industry] Industry --- Transperth[Transperth] Industry --- JAH[Jandakot Airport Holdings] Industry --- PA[Perth Airport] Industry --- OTEI[Other Tertiary Educational Institutions] Industry --- CC[City of Cockburn (land)] Industry --- DE[Dept. of Immigration Dept. of Education] IP --- Power[Power] IP --- Water[Water] IP --- Gas[Gas] AI --- Hotels[Hotels] AI --- Hostels[Hostels] AI --- Motels[Motels] JAH --- PA </pre>

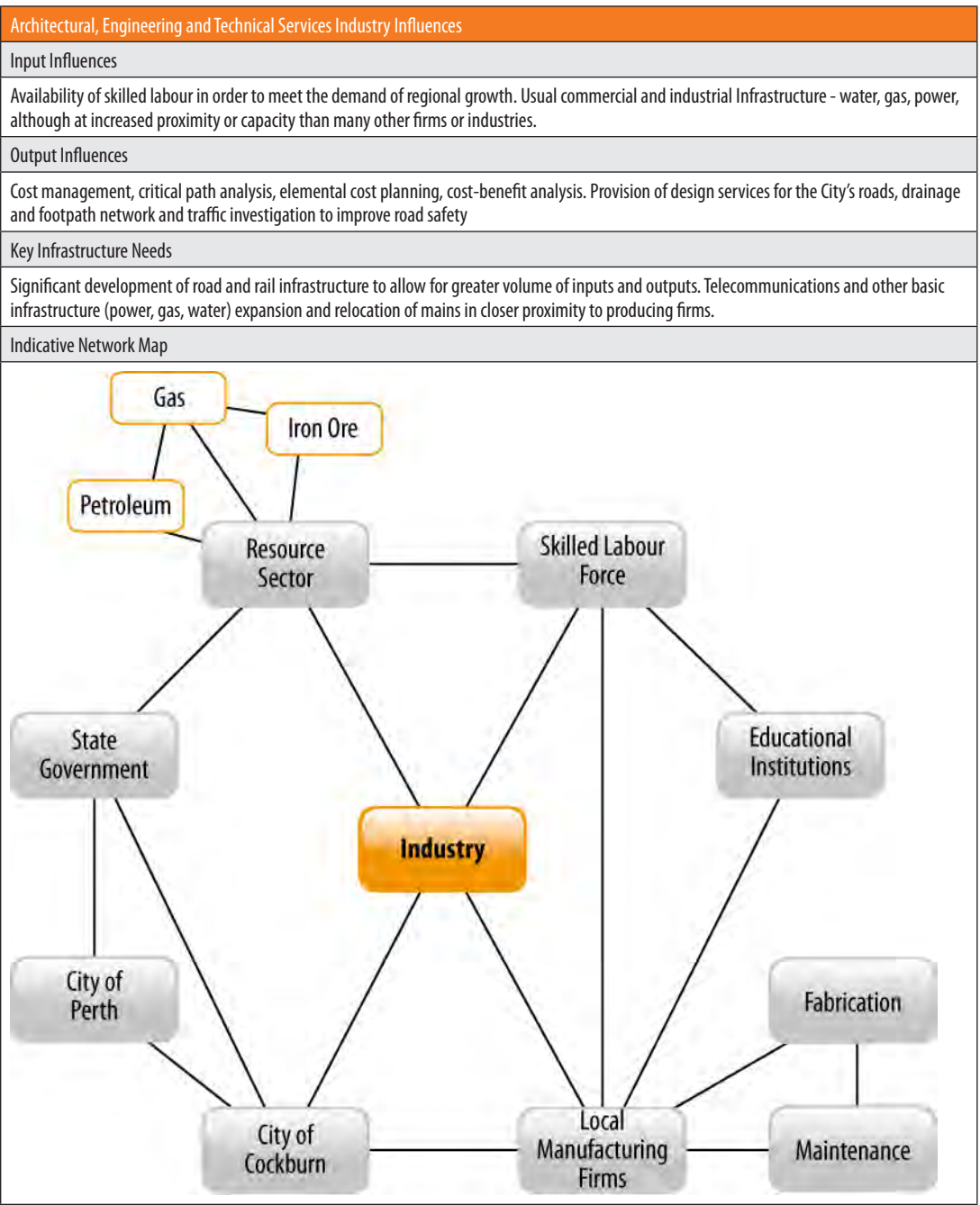
Basic Ferrous Metal Manufacturing Industry Profile					
Industry Description					
Basic ferrous metal manufacturing includes activities such as iron smelting and steel manufacturing. These presence of these activities in the City are significant due to the dominant export component of the overall industry (as shown in the export output indicator). Significant firms located partially or fully within the City, whose activities include this industry segment include: Bradken, Growth Asia Australia Pty Ltd, W.D. Moore & Co.					
Industry Profile Indicators					
Employment Within Cockburn			410		
Percentage Full time Employees			87%		
Education Profile					
Bachelor Degree Level, nfd	Advanced Diploma	Diploma	Certificate III	Other or N/A	
4%	2%	2%	33%	59%	
Employment Concentration Factors			4.1		
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
N/A	N/A	N/A	N/A	N/A	N/A
Employment Self Containment			29%		
Output Indicators					
Export			\$20,034,270		
Output			\$186,646,315		
Gross Value Added			\$38,535,516		
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
12%	0%	74%	0%	14%	
Average Weekly Income (\$AUD 2006)			\$966		

Source: Pracsys (2011) after ABS Census of Population and Housing



Architectural, Engineering and Technical Services Industry Profile					
Industry Description					
Architectural, engineering and technical services includes activities such as architectural, surveying and mapping, engineering design and consulting, scientific and testing and analysis services. Only a small proportion of these activities are directly involved in exporting services, however they are critical in assisting client firms in the production of their export products and services. Significant firms located partially or fully in the City, whose activities include this industry segment include: Property Genesis Architects, and McCallum Roland					
Industry Profile Indicators					
Employment Within Cockburn			414		
Percentage Full time Employees			75%		
Education Profile					
Bachelor Degree Level, nfd	Advanced Diploma	Diploma	Certificate III	Other or N/A	
22%	8%	8%	16%	46%	
Employment Concentration Factors	0.7				
Shift Share Analysis					
State Shift	Industry Shift	Differential Shift	Shift Share	Industry type	Description
N/A	N/A	N/A	N/A	N/A	N/A
Employment Self Containment					
Output Indicators					
Export	\$4,187,686				
Output	\$96,781,491				
Gross Value Added	\$33,600,855				
Input Indicators					
Knowledge Intensity					
Exports	Consumer Services	Producer Services	KICS	KIPS	
4%	2%	39%	2%	53%	
Average Weekly Income (\$AUD 2006)	\$1,011				

Source: Pracsys (2011) after ABS Census of Population and Housing



5 LCACS IMPLICATIONS

5.1 CONTEXT

Understanding the characteristics, needs and future growth opportunities of major strategic employers within the City is essential for Cockburn, if the City is to play a proactive role in the future economic development of these industries. High-level analysis of major strategic employers located within the city has been augmented with the outcomes of interviews with strategic employers. This analysis does not predicate the development of an in-depth economic development strategy for the City, but instead provides guidance to be considered in the preparation of the ultimate decision rules to be included within the Local Commercial and Activity Centres Strategy. The distinction between activities reasonably considered within the LCACS and an Economic Development Strategy is shown in Figure 7.

The key areas of focus resulting from the Strategic Employment Analysis that should be considered in the production of the LCACS are:

- Understanding of roadblocks
- Prioritisation of resources

These areas contain a number of considerations for council elected members and officers in the preparation of the LCACS.

5.2 UNDERSTANDING OF ROADBLOCKS

Each industry has evolving needs to remain competitive in increasingly globalised supply chains. This strategic industry profile provides a broad insight into a number of potential future roadblocks that may not only limit the ability of each industry to continue to expand, but that may ultimately lead to industries seeking alternative locations.

How the City of Cockburn deals with potential roadblocks largely depends upon whether the ability of Council to assert control over the roadblock.

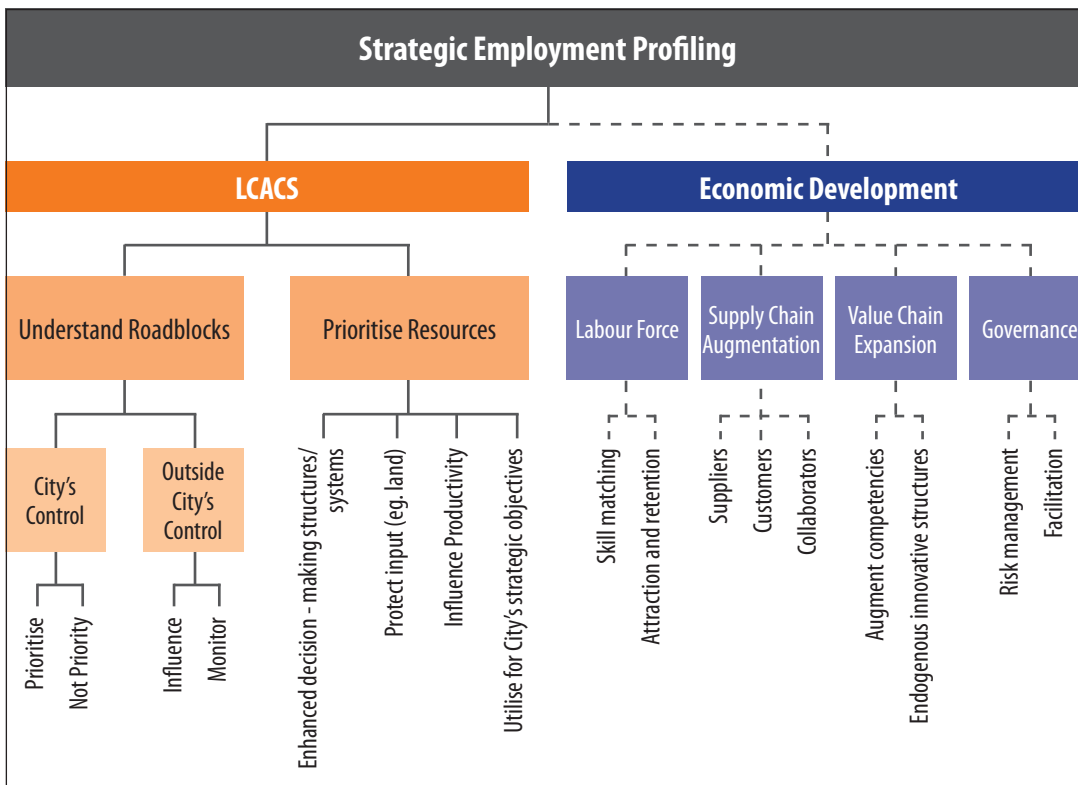
The majority of the development roadblocks for strategic industries within the Cockburn area revolve primarily around the need to either develop new or expand existing infrastructure necessary for firm growth. Priority was given by all industry representatives to the need for transport infrastructure improvement - in particular road and rail development to service new and existing key industries.

Road connections to and from the Jandakot airport site require significant improvement if firms there are to expand, especially to cater for increased demand of their services. This would also cater to the development of additional student accommodation facilities located in close proximity to the training establishments around the airport. Road connections in and around the Henderson Industrial area have also been identified as being needed to be addressed. Complaints have been made in the past few months about the number and severity of accidents involving key intersections, that would be better serviced by the instillation of either traffic lights or roundabouts.

Telecommunications, while not as large an issue as transport infrastructure, are an issue in the Henderson industrial area, where firms appear to be suffering significant delays in establishing adequate commercial telecommunications facilities. While capacity appears not to be an issue once the facilities are established, the significant initial delays result in substantial economic lose for growing firms.

For manufacturing firms, both the quantity and availability of gas, power and water have been criticized as being insufficient for their needs.

Figure 8: Strategic Employment Profiling



Source: Pracsys 2011

Currently, some firms are using bottled gas in order to maintain fabrication facilities, which they see as being an unsustainable practice. Similarly, water is being imported by some firms due to inadequate local supply, again an unsustainable practise for many key fabrication and manufacturing firms in the area. Power, while less of a constraint than gas and water, has been identified as being a key constraint due to the limits of the existing infrastructure.

Outside of infrastructure requirements, the two most pressing constraints on business development appear to be the inability for existing firms to expand outside of their current land holdings, due to locational constraints, and the limited availability of a skilled labour force in various specialised roles. Due to high demand for their services and products, many firms are finding the need to expand in order to compete more effectively within their Industry. Many firms located within the Henderson industrial area are finding it difficult to expand due to the constraints of their current location. The diminishing availability of skilled labour within the industries reflects a wider shortage within the State, and is not necessarily reflective of the performance or reputation of firms within the Cockburn area.

5.2.1 Within the City's Control

Roadblocks within the City's direct control need to be considered in the broader context of the City's ultimate strategic objectives. Using techniques including cost-benefit analysis, roadblocks determined to have a significantly detrimental impact on these objectives should be actively dealt with, largely through the effective prioritisation of resources (discussed in 6.2).

5.2.2 Outside of the City's Control

The City essentially has three options for roadblocks outside of their immediate control.

- The first is to ignore the problem, recognising it to be ultimately in the jurisdiction of another government or agency (or the private sector)
- The second is to actively attempt to influence the management or removal of the roadblock through activities including education, lobbying, and network development
- The final option is to actively monitor the situation. This includes ensuring that up-to-date, accurate information is available to relevant parties to ensure that the best possible decisions are made

5.3 PRIORITISATION OF RESOURCES

The immediate opportunities available to the City in intervening in the strategic economies present within Cockburn are to a large extent based upon decisions related to resource allocation. Actions may include:

- Enhanced decision-making structures/systems
- Protection of essential inputs
- Influence productivity factors
- Utilisation of strategic activity to support the City's objectives

The suggestion of prioritisation is made with recognition based on principle of equitable treatment to proponents.

5.3.1 Enhanced Decision-Making Structure/Systems

Activities within this category may mean streamlining decision-making processes for defined strategic activities, the allocation of specific human and financial resources to ensure efficient project identification, approval and (potentially) support. Often strategic projects are slowed during approval processes due to the complexity of projects, and their difficulty in fitting within Planning Scheme Zoning Tables. Ensuring there is adequate flexibility in statutory decision processes to ensure that appropriate strategic projects are dealt with efficiently and effectively is a key area that may be enhanced through the LCACS process. In particular, ensuring that any potential blockers of strategic projects are included within City policy documents rather than the District Planning Scheme will ensure that appropriate changes may efficiently be made.

5.3.2 Protection of Essential Inputs

Working with identified strategic industries the City may make decisions to protect particular assets under its control for future use by that industry (based upon a thorough business case). This may include insistence within Activity Centre plans for the reservation of lands for particular purposes.

5.3.3 Influence Productivity Factors

Factors such as traffic congestion or the proliferation of inappropriate uses around industries may incrementally influence the productivity of strategic activities. Council has the opportunity to proactively recognise these factors (potentially before firms themselves

realise) and to ensure that the LCACS and supporting policies positively influences these factors.

5.3.4 Utilisation of Strategic Activity to Support the City's Objectives

Rather than simply focusing on the needs of strategic industry, there is also significant potential for this activity to support the overall goals of the City. This may be through activities such as the attraction of head offices, support industries, relevant training institutions, suppliers, or customers to major activity centres, the celebration of appropriate industries as part of the City's identity, etc.

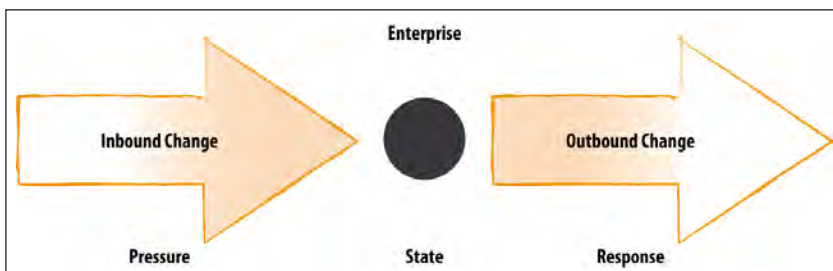
5.4 ENHANCED BUSINESS ENVIRONMENT

A common initiative of the public sector in supporting strategic industries is to examine options in decreasing their taxation and compliance burdens. At a local government level this may be through preferential land rates or decreases in application fees, subsidised or free access to council resources including land. If not managed very carefully this may lead to the attraction of enterprises based solely upon lower input costs. This can leave local economies vulnerable to subsidisation from competing areas, with firms moving to the next offer. It is recommended that any subsidisation only be considered as part of a full economic development strategy where very targeted outcomes are being sought in the context of a fully thought out strategy for future development of the local economy.

APPENDIX 1: KEY INFLUENCES ON STRATEGIC INDUSTRIES

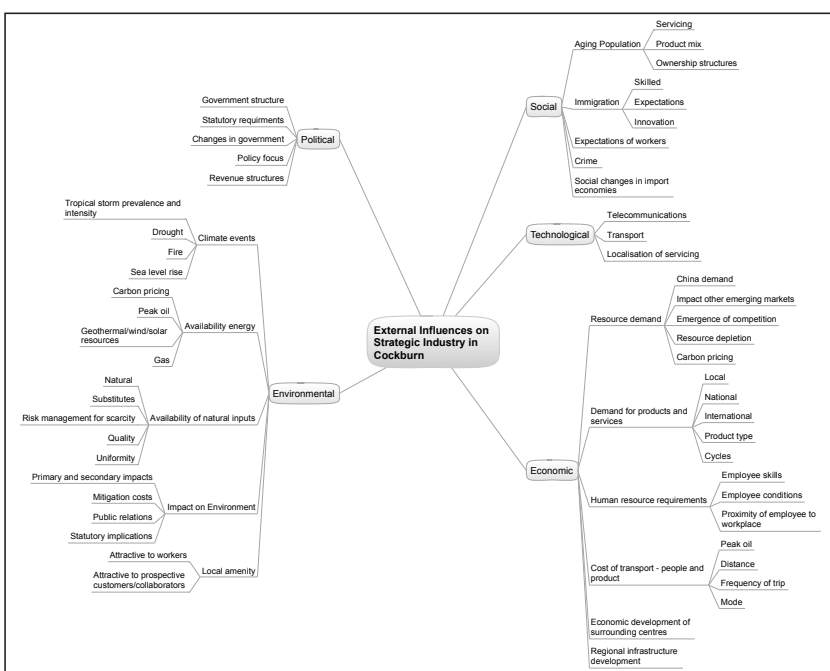
Influences impacting upon the prosperity of strategic enterprise activities within the City of Cockburn can be grouped into inbound and outbound influences (Figure 9). Inbound influences are those that impact upon an enterprise, but over which they have little or no control. Outbound influences by contrast are those that an enterprise exerts on its environment to assist in the achievement of its goals.

Figure 9: Inbound and Outbound Influences



Source: Pracsys 2011

Figure 10: In-Bound Influences on Strategic Industry in Cockburn



Source: Pracsys 2011

6.1 IN-BOUND INFLUENCES

Whilst some in-bound influences will be specific to individual enterprises and industries, many are relevant to all. Figure 9 outlines a sample of in-bound influences that will impact upon the future productivity and success of many, if not all, of Cockburn's strategic industries. Most of the highlighted in-bound influences highlighted by the strategic Industries fall under the technological or economic categories, for example the need for enhanced infrastructure and opportunities for expansion to cater to commercial growth. These influences fall across five broad categories (STEEP categories):

- Social
- Technological
- Economic
- Environmental
- Political

It is important for firms, and for the City of Cockburn to understand external inputs that will impact upon strategic businesses as, although they are largely out of their control, successful recognition and response is critical.

The primary concern for most of the strategic industries within the city appears to be the need for additional expansion of pre-existing fabrication infrastructure, in particular water and gas, transport infrastructure. In particular road and rail links, and the instillation of new infrastructure requirements such as telecommunications facilities, as well as the ability to either relocate or expand in their current location.

6.2 OUTBOUND INFLUENCES

The influence that a firm may exert on external agencies/markets/enterprises is greatly dependent upon the many individual factors that make up a business (e.g. strategy, culture and operations).

APPENDIX 2: END NOTES

- 1 Population Driven activity is oriented to meeting all of the needs of that population including; retail and hospitality, construction and industrial services, civic, healthcare and education, and the business-to-business supply chains that service these industries. This type of activity will largely occur in the presence of a population, with the overall level of employment resulting dependent upon factors including:
 - Macro-economic conditions (e.g. GDP growth, CPI levels, interest rates)
 - Local unemployment rate
 - Local household income
 - Constraints on local activity (e.g. availability of land, statutory planning policies, taxation structures)
 - Ability of enterprises to capture expenditure
- 2 Employment self sufficiency is defined as the percentage of jobs available in an area comparative to the local labourforce of that same area
- 3 Employment self containment is defined as the percentage of workers in an area working in jobs within that same area.
- 4 Consumer services employment refers to lower productivity employment related to the consumption transactions of a population. It includes industries such as retail and hospitality
- 5 Producer services employment refers to lower productivity employment related to the business-to-business transactions of an area. It includes areas such as low-skill trades, office supplies, administration support, etc.
- 6 Knowledge intensive consumer services (KICS) refer to knowledge employment related to the consumption transactions of a population. It includes areas such as education, healthcare and professional services etc
- 7 Knowledge intensive producer services (KICS) refer to knowledge employment related to business-to-business transactions of an area. It includes areas such as logisitics, professional services, consultancies etc
- 8 Export orientated employment refers to employment directly related to the export of goods and services to an external market. It includes export segments of industries across the spectrum of an economy that generates goods and services
- 9 State Shift refers to the share of local job growth that can be attributed to growth in the state economy. In Shift Share analysis the first step is to examine the State Shift, or the number of jobs lost or gained in the City if total employment in the City had changed at the same rate as overall total state employment.
- 10 Industry Shift refers to the share of local job growth that can be attributed to the City unique mix of industries. In Shift Share analysis the second step is to examine the Industry Shift, or the number of jobs lost or gained in the City if the employment in each industry had changed at the same rate as total employment in each industry in the State.

- 11 Differential shift refer to the share of local job growth that can be attributed to factors unique to the City of Cockburn.
- 12 The percentage of full time employees, by strategic industry, is based on a cross tabulation of 2006 ABS Census data for workers in the City of Cockburn at the three digits ANZSIC level of employment, and employee labour force status.
- 13 The following output indicators (export, output and GVA) are taken from the Australian National Accounts: input-output tables. The industries do not perfectly align with the strategic industries, so far defined by ANZSIC categories, and therefore have to be matched to the most similar (which is practically identically in most cases).
- From the National Account data we can extract total export, output, and gross value added for each industry; as well as the number of full-time employees per industry – combining the two yields the state wide aggregate value for: export per full time employee; output per full time employee; and a GVA per full time employee, by selected industry.
- For Cockburn the values for export, output and gross value added is calculated by multiplying the number of full-time employees in a given industry, by the relevant national accounts ratio aforementioned.
- 14 In the national accounts, exports consist of transactions in goods and services (sales, barter, gifts or grants) from residents to non-residents.
- 15 Gross output represents the total value of sales by producing enterprises (their turnover) in an accounting period, before subtracting the value of intermediate goods used up in production.
- 16 Gross value added (GVA) is a measure in economics of the value of goods and services produced in an area, industry or sector of an economy. In national accounts GVA is output minus intermediary consumption; it is a balancing item of the National accounts production account
- GVA is an accounting balancing item that represents how you have combined your intermediary goods with skill, and knowledge to produce a final good, or service, which is of greater value than the sum of the intermediary goods used in the process. The output is what you receive for the final product, the costs are the intermediary goods that you have to pay, (capital and labour). GVA is equivalent to profit; profits tell you how efficiently you have combined your inputs in order to generate an output.
- 17 The average weekly income is derived from ABS 2006 Census data, and has not been adjusted forward for inflation or augmented in any way.

APPENDIX 3: REVIEW OF KEY INFRASTRUCTURE

Kwinana Freeway

The Kwinana Freeway is a major arterial road in Perth, Western Australia, linking Perth with the southern suburbs and then further on towards Mandurah, a distance of 78 kilometres (48 mi). It runs parallel with the Mandurah railway line, providing one of the major arterial commuter routes for the Perth southern suburbs.

Roe Highway

The Government of Western Australia is committed to the extension of Roe Highway, linking Kwinana Freeway to Stock Road. It is primarily used for heavy haulage, unlike the Kwinana Freeway which is primarily a piece of commuter infrastructure.

Cockburn Station

Cockburn Station is the largest commuter hub in the city of Cockburn, trains running along the Mandurah Railway line and a fleet of busses running along Kwinana freeway shuttle people into the City of Perth (located 20 kilometres to the North) and down to Mandurah. Cockburn Central Station, along with Bull Creek Station and Murdoch Station, connects employees living in the southern suburbs with their jobs in Perth; and in doing so, reduces congestion on roads and relieves strain on infrastructure such as Kwinana Freeway.

Mandurah Railway Line

The Perth-Mandurah railway line is one of the most critical pieces of commuter infrastructure within the Perth Metropolitan region, given the residential concentration south of the Perth CBD. It links Mandurah, a key residential area and tourism destination, and industrial zones

such as Kwinana with commercial districts such as Cockburn and Canning using a reliable, high-speed public transport system.

Western Trade Coast

The Western Trade Coast is made up of the coastal land from the south of Perth down to Cockburn Sound. LandCorp has described it as 'Australia's gateway to the global industry and trade with the economics of China and South-East Asia'. The Western Trade Coast includes clusters of strategic assets: Rockingham Industrial Zone, the Australian Marine Complex and Latitude 32 Industrial Zone.

Henderson Industrial Area

The Henderson Industrial Area is the critical pivot point for industrial and commercial activity within in City of Cockburn. It collocates several diverse and complimentary industries together, including the facilities of the Australian Marine Complex and the likes of Austal ship builders.

Australian Marine Complex (Henderson)

The Australian Marine Complex (AMC) is located 23 kilometres south of Perth and houses the largest marine industry in Australia; and is described as a 'world class centre for excellence for the manufacturing, fabrication, assembly, maintenance and technology servicing the marine, defence, oil and gas and resource industry'.

Jandakot Airport

Jandakot Airport is located 18 kilometres south of Perth, is the busiest airfield and largest aviation training base in Australia. It is an 'air work' airport, as compared to passenger transport. Non-aviation related tenants operate at the airport site, including accommodation and a waste water recycling operation; with a non-aviation development area of 150 hectares we expect more businesses to locate here in the future.

Figure 11: Key Infrastructure in Cockburn



Source: Pracsys 2011

**APPENDIX 6 INVENTORY OF CITY OF COCKBURN
CENTRES AND THEIR 2008 LAND USE AND
EMPLOYMENT SURVEY COMPLEX NUMBERS**

Appendix 6

Cockburn Activity Centres		2008 Land Use and Employment Survey Complex No.
Secondary Centres		
1	Cockburn Central Regional Centre	967 *
District Centres		
2	Cockburn Coast District Centre	N/A ****
3	Phoenix District Centre	450
Neighborhood Centres		
4	Barrington Street Neighbourhood Centre	459
5	Coolbellup Neighbourhood Centre	454
6	Hamilton Hill Neighbourhood Centre	457
7	Harvest Lakes Neighbourhood Centre	N/A ****
8	Lakes Neighbourhood Centre	955
9	Merevale Gardens Neighbourhood Centre	N/A ****
10	Port Coogee Marina Neighbourhood Centre	N/A ****
11	Russell Road Neighbourhood Centre	N/A ***
Local Centres		
12	Atwell Deli	960 **
13	Atwell Local Centre	960 ** & 191**
14	Banjup Local Centre	N/A ****
15	Berrigan Drive Local Centre	467
16	Bibra Lake Local Centre	452
17	Bolderwood Deli	192 **
18	Churchill Avenue	54 **
19	Fairbairn Road Deli	Not included in survey
20	Forrest Road Local Centre	455
21	Glen Iris Local Centre	Not included in survey
22	Hamilton Road Local Centre	464
23	Hammond Park Local Centre	N/A ****
24	Hammond Road Deli	Not included in survey
25	Lakefront Avenue Local Centre	463 *
26	Latitude 32 East Local Centre	N/A ****
27	Latitude 32 West Local Centre	N/A ****
28	Lyon Road Local Centre	N/A ***
29	Memorial Hall Local Centre	456
30	Murial Court Local Centre	N/A ****
31	Newmarket Local Centre	410 **
32	Rockingham Road Local Centre (North)	458
33	Rockingham Road Local Centre (South)	461
34	Southwell Local Centre	460
35	Marvell Avenue Local Centre	192 ** & 54**
36	Spinaker Heights Local Centre	N/A ****
37	St Paul's Local Centre	953
38	Stratton Street Local Centre	447
39	Watsons Local Centre	N/A ****
40	Tony Ales Local Centre	60
41	Winterfold Road Local Centre	398 **

42	Yangebup Local Centre	453
43	Yangebup South Local Centre	8735
Other Centres		
Specialised Centres		
44	Jandakot Airport Industrial Area	8553
Strategic Employment Centres		
45	Bibra Lake Industrial Centre	59
46	Henderson Industrial Centre	64 *
47	Jandakot East Industrial Centre	61 **
48	Jandakot West Industrial Centre	60
49	Latitude 32 Industrial Centre	65 *
Mixed Business Centres		
50	Beeliar Road*	468 **
51	Mell Road	94
52	North Lake Road (North)	Not included in survey
53	North Lake Road (South)	468 **
54	Phoenix	450
55	Memorial Hall	58
56	Verna Court	N/A ***
Miscellaneous		
57	Favazzo Place	

Notes

* Centre is larger than identified in 2008 Survey and includes land not contained within the Complex No.

** Centre only includes part of Complex.

*** Centre was not developed at time of 2008 Survey.

**** Proposed centre which was not developed at time of preparation of 2011 LCACS.



APPENDIX 7 BULKY GOODS DEFINITION AND DECISION RULES





CITY OF COCKBURN

**BULKY GOODS DEFINITIONS AND
DECISION RULES**

BRIEFING NOTE

FEBRUARY 2012

DISCLAIMER

This report has been prepared for **the City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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v 1.0	Bulky Goods Definitions	Jason McFarlane	Jason McFarlane	9 June 2011
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ACTIVITY CENTRES POLICY CONTEXT

BULKY GOODS RETAILING AND MIXED BUSINESS

- 1) The responsible authority should ensure that shop-retail uses are located in a pedestrian friendly urban environment. In general, bulky goods retailing is unsuited to the walkable catchment or the core of activity centres given their size and car-parking requirements, low employment densities and need for freight vehicle access.
- 2) Bulky goods are displayed and sold from retail showrooms that typically comprise extensive display and storage areas with direct vehicle access and car parking. Bulky goods retailing does not include the sale of food, clothing or personal effects goods.
- 3) The responsible authority should promote clusters of bulky goods retail adjacent to, or in close proximity to activity centres and the regional road and public transport networks. This should maximise the use of infrastructure, including the shared use of car parking; limit the number of car trips; and economically support other activity centre business.
- 4) The encroachment of bulky goods retail into residential and industrial zones should be avoided. Furthermore, locating such development in an ad hoc manner or as ribbon development along regional roads is discouraged. Bulky goods retail should be developed with access and urban design controls so as not to interfere with traffic flow and safety, or detract from the amenity of public transport or the locality.
- 5) Local governments should review the land use permissibility of bulky goods retail to reduce its potential dispersal throughout industrial zones. Such development should be directed to selected Mixed Business or equivalent zones with suitable road and public transport access. Local planning schemes and planning decision-making for bulky goods retail should include consideration of land requirements based on demonstrated future floorspace needs and the need to retain affordable industrial land.
- 6) The preferred sequence of suitable locations is:
 - a) Edge-of-centre sites integrated with, but not within, the walkable catchment or core activity centre precincts.
 - b) Where it is demonstrated that sufficient suitable sites in or adjacent to activity centres are not available, out-of-centre mixed business or equivalent zones integrated with established and well-located bulky-goods nodes.
 - c) In limited circumstances where it is demonstrated that sufficient suitable sites in or adjacent to activity centres or within or integrated with existing bulky-goods nodes are not available, other out-of-centre mixed business or equivalent zones.

NEGATIVE EXTERNALITIES

The negative effects of treating bulky goods and large format retail as an equivalent land use to industrial or general retail are:

- Erosion of industrial land
- Additional traffic volume due to the increase in single-purpose car trips
- Economic under-performance of traditional activity centres

In order to ameliorate these negative effects and properly plan for bulky goods and large format retail they should be recognised as a land use in their own right. The next section analyses the land use definitions which currently include bulky goods and large format retail as well as a selection of definitions specific to bulky goods and/or large format retail.

REVIEW OF DEFINITIONS

Definitions for bulky goods, showrooms and others land use categories which address bulky goods and/or large format retail were reviewed for the following:

- Model Scheme Text
- City of Cockburn
- City of Belmont
- City of Canning
- City of Joondalup
- City of Melville
- City of Perth
- City of Stirling
- City of Wanneroo
- Town of Victoria Park
- Midland Redevelopment Authority
- New South Wales Standard Instrument
- South Australia
- Bulky Goods Retailers Association (Australian Industry Group)
- Shopping Centre Council of Australia

A selection of the definitions reviewed and comments on their justification and implications is presented below. See Appendix 1: Reviewed Definitions for a full list of definitions reviewed.

SHOWROOMS

In most planning schemes examined bulky goods came under the definition of 'showroom'. The definition used in the Model Scheme Text is:

'Showroom' means premises used to display, sell by wholesale or retail, or hire, automotive parts and accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies, swimming pools or goods of a bulky nature.

This definition is currently used by the City of Cockburn and a number of the local authorities, including the City of Belmont, City of Stirling and the Midland Redevelopment Authority. The key points to note about this definition are:

- The definition relies on the use of example goods to illustrate what is expected of the land use;
- The inclusion of 'goods of a bulky nature' in the definition does not limit the use to these goods;
- The absence of any exclusions within the definition; and
- Access and loading of the goods is not addressed.

A number of other local authorities used a variant of the following definition used by the City of Joondalup:

'Showroom' means premises providing large floor space used for the displaying of goods and which may involve the sale by wholesale or retail, or hire of such goods, being goods generally of a bulky nature and without limiting the generality

of the forgoing including automotive parts and accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies and second hand goods. The term does not include the sale of foodstuff, liquor or beverages, items of personal adornment, magazines, books, newspapers, paper products and medicinal or pharmaceutical products.

Key points to note about this definition:

- This definition partially relies on the use of example goods to illustrate what is expected of the land use;
- The definition primarily relies on the goods sold being of a bulky nature, this limiting the land use to this use;
- Specific goods are excluded from the definition; and
- Access and loading of the goods is not addressed.

The City of Perth was the only local authority which defined 'showroom' very differently:

'Showroom' means premises in which goods are displayed and in which the predominant use is not the sale of goods.

Rather, their definition for 'shop' encompassed bulky goods and large format retail:

'Shop' means premises used to:

- sell goods by retail;*
- hire goods; or*
- provide services of a personal nature, including a hairdresser or beauty therapist, but does not include premises otherwise defined in these land use definitions, such as a convenience store.*

The reasons for this are likely to be the much higher density urban form and comparative costs of large floor areas in the City of Perth naturally prevent the establishment of bulky goods retail with warehouses attached and car-based retail developments.

SPECIFIC DEFINITIONS

Warehouse Retail Outlet

The City of Belmont recently trialled a new definition to encompass bulky goods and large format retail, 'warehouse retail outlet':

A discount department store or other large store that;

- has a minimum sales area of 2,500 square metres; and*
- is a single operator within a stand-alone single building not physically or functionally connected to any other building or market; and*
- the single building and required car parking is contained on one single green title lot; and*
- may organise product lines into different sections but may not combine separate operators, recognised businesses, tenants or stalls into one large floor area.*

The outlet may include the sale of a wide variety of goods or cater for an individual market. The sale of food must be an incidental part of the business and this definition does not include supermarkets."

This definition can be seen as overly restrictive and somewhat counterproductive due to the requirements to establish the premises on a single lot in a stand-alone building, prevent

reciprocal car parking arrangements and regulate the organisation of the interior of the building and company setup. There are several useful points about this definition:

- The requirement for a minimum sales are recognises that bulky goods and/or large format retail are only an issue once they reach a certain physical size; and
- The flexibility in the type of goods an establishment is able to stock – only food is partially excluded, and the land use can be any combination of bulky goods and large format retail.

Bulky Goods

New South Wales have a definition specifically for bulky goods:

Bulky goods are a building or place used primarily for the sale by retail, wholesale or auction of (or for the hire or display of) bulky goods, being goods that are of such size or weight as to require:

- a) *a large area for handling, display or storage, or*
- b) *direct vehicular access to the site of the building or place by members of the public for the purpose of loading or unloading such goods into or from their vehicles after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing unless their sale is ancillary to the sale or hire or display of bulky goods.*

This definition excludes some forms of large format retail, in particular, those including clothes and those selling non-bulky goods. The risk of excluding large format retail without introducing a separate definition is the

continued proliferation of large format retail within industrial land. Given discount clothes warehouse retail is currently of increasing popularity, this would not adequately deal with the present issues. A minimum floor area is also not included. This may have the effect of excluding bulky goods retailers suitable for traditional activity centres which do not have a negative effect on the centre performance, do not take up an inordinate amount of floor space, and do not require space for parking and loading vehicles. A number of such developments are already established in traditional activity centres such as Booragoon and Whitfords. The key useful points about this definition are:

- Addressing the access and transport issue for users; and
- Ensuring bulky goods specifically are included in the definition.

The Bulky Goods Retailers Association of Australia (BGRA) use a definition very similar to the one above, but also includes a list of example goods. This is useful for prospective developers as it provides certainty and reduces the need to clarify their particular type of retail with the local authority.

The Shopping Centre Council of Australia define bulky goods as:

Bulky goods sales means a building or place used primarily for the sale by retail, wholesale or auction, the hire or the display of goods or materials, which are of such size, shape or weight to require:

- (a) *a minimum floor space of 500 sq m, and*
- (b) *a large area for handling, display or storage, and/or*

- (c) *direct vehicular access to the site of the building or place by members of the public, for the purpose of loading and unloading the items into their vehicles after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing, unless the sale of such items is ancillary to the sale of bulky goods and constitutes no more than 10 percent of the total floor space.*

This definition is again very similar to that used by New South Wales and the BGRA, however it also uses a minimum floor area to differentiate between bulky goods retail activity which does not require a large floor area and that which does. The other key difference is the requirement for ancillary items to be no more than 10 percent of the total floor space. While this gives certainty to the meaning of ancillary, it may be difficult and time-consuming to assess and enforce.

DEFINITION FRAMEWORK

In view of the definitions reviewed above, it is proposed that the following are addressed by a new definition for bulk goods and large format retail:

Definition to encompass bulky goods and large format retail

Justification:

- An inclusive definition will allow for business models which have crossover between bulky goods and large format retail and will allow these businesses to respond to market demand adjustments in a timely manner without needing to apply for a change of use;

Implications:

- Measures need to be taken to ensure bulky goods and/or large format retail are permitted in activity centres where appropriate, for example:
 - o Only a small floor area is required for the display of bulky goods and no warehouse function is required, therefore ensuring activity centres do not underperform;
 - o Large format retail for goods of a non-bulky nature, and therefore suitable for transport via active transport modes (i.e. public transport, walking, cycling) can be accommodated within an activity centre without taking up a disproportional amount of floor space and the location contributes to reducing single-purpose car trips.

Definition to exclude clothing and food aside from incidental sales

Justification:

- Clothing can be sold through a large format retail business model, but is a good that is shopped for on a more frequent basis than other large format retail goods, such as small electrical, textiles and pet supplies.
- Clothing and food retail is appropriate to a traditional activity centre.
- Allowing incidental sales of clothing and food is reasonable as it will allow appropriate business activity, e.g. a textiles retailer also selling costumes, or IKEA selling Swedish food.
- Pet food is not considered food in this context (see WASAT 47, 2008).

Implications:

- Appropriately controlling discount clothing outlets outside of the bulky goods definition will need to be considered.

Build a floor space cap into the new definition

Justification:

- Ensure bulky goods and/or large format retail are only permitted within activity centres where they take up an appropriate amount of floor space, contribute to the diversity of the centre and do not cause underperformance of the centre.
- Allow business models which are categorised as bulky goods and/or large

format retail to be classified as shops if they are under the floor space cap.

Implications:

- Determining the floor space cap is difficult and likely to disadvantage some retailers. Careful tracking of the effect of the cap will be required to determine its appropriateness.
- Other definitions, for example, 'shop' and 'showroom', may also need to be amended to ensure all bulky goods and/or large format retail fall into the new definition and are excluded from other definitions.

Include measures to address access and loading

Justification:

- Ensure adequate access for personal vehicles, goods delivery and loading is provided.

Implications:

- This may only be necessary if a warehouse function is included.

Exclude the requirement for information on internal organisation of premises or using a percentage floor area for exclusions from the definition

Justification:

- Many applicants will not have this information available when they are applying for a DA. Requiring this information at the DA stage is somewhat onerous and is likely to protract the process of applying for a DA, which may in turn have ramifications for the applicant's business viability.

- DAs will be easier and quicker for Planning Officers to assess.
- Business operators will be able to respond to market demand and supply changes without risking breaching their development approval as a result of changing the internal layout of their premises.

Implications:

- The definitions of 'ancillary' and 'incidental' need to be examined and adjusted if necessary to ensure these are able to effectively control goods being sold that are not bulky or appropriate to large format retail, in particular, food and clothing.

Exclude the requirement for the development housing the bulky goods and/or large format retail to be on a single or green title lot

Justification:

- This is in opposition to the objective to reduce the need for single-purpose car trips and car parking requirements by allowing for reciprocal parking arrangements.

Implications:

- Will make the car parking requirements more difficult to assess and may require the applicant to provide additional information about their business operation. However, as the end result is likely to favour them, i.e. lower car parking requirement and improved business exposure, it can be considered justified.

Include examples of common types of bulky goods

Justification:

- This will provide certainty to prospective developers and reduce the need to clarify with Planning Officers whether the nature of their business is bulky goods and/or large format retail or not.

Implications:

- There is a small risk some prospective developers will assume their business operation is not included in the definition when it is in fact bulky goods and/or large format retail potentially leading to application for the incorrect land use or a breach of DA. However, this is not considered to be an issue as this can occur for any land use.

PROPOSED DEFINITION

It is anticipated that the new Bulky Goods and Large Format Retail definition will replace the existing 'showroom' definition entirely, although whether an amended 'showroom' definition based on a business to business model of operation might be useful should be considered.

The proposed new definition is detailed below:

Bulky goods and large format retail means premises providing large floor space used for the sale by retail, wholesale or auction of (or for the hire or display of) goods that are of such size, shape, weight or volume as to require:

- (a) a minimum floor space of 500 m²;
- (b) a large area for handling, display or storage; and/or
- (c) direct vehicular access to the site of the building or place by members of the public, for the purpose of loading and unloading the items into their vehicles after purchase or hire;
- (d) window coverings;
- (e) appliances or electronic equipment;
- (f) home entertainment goods;
- (g) lighting and electric light fittings;
- (h) curtains and fabric;
- (i) bedding and manchester;
- (j) party supplies;
- (k) animal and pet supplies;
- (l) camping and outdoor recreation supplies;
- (m) garden plants (primarily in an indoor setting);
- (n) office equipment and stationery supplies;
- (o) baby equipment and accessories;
- (p) sporting, fitness and recreational equipment and accessories;
- (q) homewares;
- (r) children's play equipment.

This may include the sale of a wide variety of goods, cater for an individual market, or the sale of bulky and durable goods. The sale of food or clothing must be an incidental part of the business and this definition does not include supermarkets.

Examples

The following are examples of goods that may be available or on display at bulky goods and large format retail outlets:

- (a) automotive parts and accessories;
- (b) furniture;
- (c) floor coverings;

POLICY CONSIDERATIONS FOR BULKY GOODS AND LARGE FORMAT RETAIL PRECINCTS

- Agglomeration of outlets or establishment of retail centres
- Appropriate parking provision and encouraging reciprocal parking arrangements
- Provision of streetscaping (i.e. footpaths, shade trees, cycle paths, other landscaping) to facilitate movement between loose agglomerations of Bulky Goods and Large Format Retail outlets and improve the general amenity of the area
- Address building setbacks and frontages to avoid creating a 'sea of carparks'
- Address built form using design guidelines so a minimum quality is established
- Consider the proximity of Bulky Goods and Large Format Retail outlets to public transport
- Specific guidelines for setbacks, orientation, car park/access area location and general amenity where the zone is adjacent to residential or other sensitive land use.

7.0

LAND USE TABLE

Currently, the City of Cockburn permits the land use 'showroom' in the following zones:

- Regional Centre
- Mixed Business
- Light and Services Industry
- Industry
- District Centre (Discretionary)

It is recommended that the new definition is listed in the land use table in the following way:

- Mixed Business
- Special Use Zone
- Light and Services Industry (Discretionary)
- Regional Centre (Discretionary)
- District Centre (Discretionary)
- Business Zone (Discretionary)

The objectives of this zoning arrangement are:

- Encourage the land use in zones considered appropriate due to:
 - o Their location in relation to traditional activity centres and other land uses; and
 - o Proximity to appropriate transport infrastructure.
- Prevent further establishment of the land use in zones considered inappropriate;
- Provide certainty for prospective applicants; and
- Provide suitable flexibility to permit the land use in other designated zones where its appropriateness can be demonstrated.

Where the City is allowed to exercise discretion in granting planning approval the decision rules governing this require further consideration.

CASE STUDIES

CITY OF BELMONT

- In Amendment 55 to their Local Planning Scheme No. 14, City of Belmont introduced a new land-use definition to accommodate large format and bulky goods retail within their City, 'Warehouse Retail Outlet'.
- LPS No. 14 listed the use in the zoning table as 'not permitted' in all zones but allowed consideration of the use in a specifically designated precinct.
- LPS No. 15 does not currently allow consideration of the use anywhere within the City.
- Comment from the City stated that work on the land use halted when SPP 4.2 was released in August 2010 and they are still waiting for WAPC to provide comment in writing.

MAKRO WAREHOUSE PTY LTD AND CITY OF MANDURAH [2005] WASAT 7

- The case being heard was an appeal of an application of cessation direction by the City of Mandurah.
- A development of 16 tenancies was granted planning consent as a showroom development in 2002.
- Under City of Mandurah's Town Planning Scheme No. 4, 'Showroom' means any building or part of a building used or intended for use for the purpose of displaying or offering for wholesale or retail sale, automotive spare parts, carpets, large electrical appliances, furniture, hardware or goods of a bulky nature.

- Makro Warehouse were given planning approval to operate their business from one the tenancies in 2002. This was under the understanding that around 20% of their floor area would be taken up by the sale of non-conforming, 'incidental' goods. It is important to note that around this time the original showroom development approval was revised to show 6 rather than 16 tenancies.
- On receipt of complaints regarding Makro Warehouse's business operations, the City investigated and found that the vast majority of goods offered for sale were not compliant with the definition of a showroom development.
- The SAT upheld the decision of the City and dismissed the application for review.

MIDLAND REDEVELOPMENT AUTHORITY

- MRA uses a 'showroom' definition to cater for bulky goods and large format retail, defined as:
'means premises used to display, sell by wholesale or retail, or hire, automotive parts and accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies, swimming pools or goods of a bulky nature'
- Rather than providing a zoning table with permissible, discretionary and not permissible land uses, MRA provide a category of compatible land uses, 'Category 2: Services and Light Industry', within which 'showroom' is a listed use. The MRA area is divided into precincts and the categories listed as 'preferred uses' or

'potential uses'. A use not listed may be allowed if it can be justified but may only be approved by the MRA Board. Category 2 uses, and therefore 'Showroom' are a preferred use within Precincts 2 and 4 and a potential use within Precinct 3.

- Design Guidelines for each precinct clearly define relatively stringent criteria for attaining a minimum quality standard for all developments within the precinct.
- This effectively designates an area on the activity centre fringe for bulky goods and large format retail and has resulted in a number of agglomerations of showroom developments in these precincts.

APPENDIX 1: REVIEWED DEFINITIONS

Model Scheme Text

'Showroom' means premises used to display, sell by wholesale or retail, or hire, automotive parts and accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies, swimming pools or goods of a bulky nature.

'Incidental use' means a use of premises which is ancillary and subordinate to the predominant use.

'Predominant use' means the primary use of premises to which all other uses carried out on the premises are subordinate, incidental or ancillary.

City of Cockburn

Currently bulky goods are categorised under the definition for 'showroom', which is as in the Model Scheme Text.

City of Belmont

Bulky goods are included in the 'showroom' definition, which is as in the Model Scheme Text.

A new category was introduced to deal with Large Format Retail and Bulky Goods, 'Warehouse Retail Outlet', defined as:

A discount department store or other large store that;

- (i) has a minimum sales area of 2,500 square metres; and*
- (ii) is a single operator within a stand alone single building not physically or functionally connected to any other building or market; and*

(iii) the single building and required car parking is contained on one single green title lot; and

(iv) may organise product lines into different sections but may not combine separate operators, recognised businesses, tenants or stalls into one large floor area.

The outlet may include the sale of a wide variety of goods or cater for an individual market. The sale of food must be an incidental part of the business and this definition does not include supermarkets."

City of Canning

'Retail establishment' means any building where goods of a bulky or non-bulky character, not normally purchased on daily basis, are kept for display or sale by retail or wholesale and the area for display and sale is not less than 500 m².

'Showroom' means a building or part of a building wherein goods are displayed and offered for sale by wholesale or by retail, excluding the sale of foodstuffs, liquor or beverages; items of clothing or apparel, fabrics, footwear, magazines, newspapers, books and paper products; medicinal or pharmaceutical products; china, glassware or domestic hardware; items of personal adornment, small electrical goods of a domestic nature; toys and generally items of a cash and carry nature related to daily household and recreation needs and consumption.

City of Joondalup

'Showroom' means premises providing large floor space used for the displaying of goods and which may involve the sale by wholesale or retail, or hire of such goods, being goods generally of a bulky nature and without limiting the generality of the forgoing including automotive parts and

accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies and second hand goods. The term does not include the sale of foodstuff, liquor or beverages, items of personal adornment, magazines, books, newspapers, paper products and medicinal or pharmaceutical products.

City of Melville

'Showroom' means any building or part of a building used or intended for use for the purpose of displaying or offering for sale by wholesale or retail, automotive spare parts, carpets, large electrical appliances, furniture, hardware or goods of a bulky nature but does not include the sale by retail of foodstuffs, liquor or beverages, items of clothing or apparel, magazines, newspapers, books or paper products, china, glassware or domestic hardware, or items of personal adornment.

City of Perth

'Showroom' means premises in which goods are displayed and in which the predominant use is not the sale of goods.

'Shop' means premises used to:

- (a) sell goods by retail;*
- (b) hire goods; or*
- (c) provide services of a personal nature, including a hairdresser or beauty therapist, but does not include premises otherwise defined in these land use definitions, such as a convenience store.*

City of Stirling

Currently bulky goods are categorised under the definition for 'showroom', which is as in the Model Scheme Text.

City of Wanneroo

'Showroom' means premises wherein goods are displayed and may be offered for sale or hire excluding the sale of foodstuffs, liquor or beverages, items of clothing or apparel (except as hereinafter stipulated in this definition) or personal adornment, magazines, books, newspapers or paper products, and medicinal or pharmaceutical products unless assembled or manufactured on the premises. The term includes the sale of secondhand clothing or apparel by welfare and charitable agencies with the approval of Council.

Town of Victoria Park

Same as for City of Wanneroo, above.

Midland Redevelopment Scheme

Currently bulky goods are categorised under the definition for 'showroom', which is as in the Model Scheme Text.

New South Wales

Bulky goods are a building or place used primarily for the sale by retail, wholesale or auction of (or for the hire or display of bulky goods, being goods that are of such size or weight as to require:

- a) a large area for handling, display or storage, or*
- b) direct vehicular access to the site of the building or place by members of the public*

for the purpose of loading or unloading such goods into or from their vehicles after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing unless their sale is ancillary to the sale or hire or display of bulky goods.

South Australia

Bulky goods outlet or retail showroom means premises used primarily for the sale, rental, display or offer by retail of goods, other than foodstuffs, clothing, footwear or personal effects goods, unless the sale, rental, display or offer by retail of the foodstuffs, clothing, footwear or personal effects goods is incidental to the sale, rental, display or offer by retail of other goods;

Examples—

The following are examples of goods that may be available or on display at bulky goods outlets or retail showrooms:

- (a) *automotive parts and accessories;*
- (b) *furniture;*
- (c) *floor coverings;*
- (d) *window coverings;*
- (e) *appliances or electronic equipment;*
- (f) *home entertainment goods;*
- (g) *lighting and electric light fittings;*
- (h) *curtains and fabric;*
- (i) *bedding and manchester;*
- (j) *party supplies;*
- (k) *animal and pet supplies;*
- (l) *camping and outdoor recreation supplies;*

- (m) *hardware;*
- (n) *garden plants (primarily in an indoor setting);*
- (o) *office equipment and stationery supplies;*
- (p) *baby equipment and accessories;*
- (q) *sporting, fitness and recreational equipment and accessories;*
- (r) *homewares;*
- (s) *children's play equipment.*

The Bulky Goods Retailers Association (BGRA)

Bulky Goods means a building or place used primarily for the sale by retail; wholesale or auction of (or for the hire or display of) goods that are such size, shape or weight as to require:

- (a) *a large area for handling, display or storage, or*
- (b) *direct vehicular access to the site of the building or place by members of the public, for the purpose of loading and unloading the items into their vehicle after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing unless their sale is ancillary to the sale of bulky goods.*

Products that are deemed to comply as bulky goods are (but not limited to);

- *Automotive parts and accessories;*
- *Camping, outdoor equipment and recreation supplies;*
- *Electric light fittings;*
- *Equestrian, pet supplies;*
- *Floor and/or window coverings;*

- *Furniture, bedding, furnishings, fabrics, manchester and homewares;*
- *Household appliances, household electrical goods, home entertainment goods;*
- *Party supplies;*
- *Swimming pools, equipment and accessories;*
- *Office equipment supplies;*
- *Baby equipment, children's play equipment and accessories;*
- *Sporting, cycling, fitness equipment & accessories; and*
- *Trade supplies including building products, timber and hardware, landscaping supplies, and the like in predominantly indoor and/or enclosed buildings.*

Shopping Centre Council of Australia

Bulky goods sales means a building or place used primarily for the sale by retail, wholesale or auction, the hire or the display of goods or materials, which are of such size, shape or weight to require:

- (a) a minimum floor space of 500 sq m, and*
- (b) a large area for handling, display or storage, and/or*
- (c) direct vehicular access to the site of the building or place by members of the public, for the purpose of loading and unloading the items into their vehicles after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing, unless the sale of such items is ancillary to the sale of bulky goods and constitutes no more than 10 percent of the total floor space.*

APPENDIX 8 PROPOSED SCOPE OF WORKS

Appendix 8



City of Cockburn

LCACS Suggested Scope of Future Works

November 2011



Disclaimer

This report has been prepared for **The City of Cockburn**. The information contained in this report has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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Title: Strategic Plan

Purpose:

The purpose of the Strategic Plan is to express the economic and community development aspirations of the City of Cockburn into a succinct set of goals as the basis for planning and facilitating commercial, retail and industrial activity in activity centres and strategic employment centres. The City can then allocate transport, road and community infrastructure funding to guide the development of centres in pursuit of these goals.

<p>Scope of Work:</p> <ul style="list-style-type: none"> • Confirm the mission of the City of Cockburn with respect to its community and economic development goals • Set out employment and community service delivery initiatives in pursuit of these goals expressed against the centres hierarchy • Identify infrastructure requirements to implement these initiatives 	<p>Critical Success Factors:</p> <ul style="list-style-type: none"> • Clear understanding of the role of the City on achieving goals • The scope of activities possible for the City to achieve the goals • The ability of the city to attract complementary resources (particularly infrastructure) from other agencies and the private sector • Clear performance reporting and strategy review mechanisms • The ability to combine strategic initiatives with statutory provisions required to implement them, where appropriate
<p>Required Competencies:</p> <ul style="list-style-type: none"> • Skills in development facilitation outside of normal town planning paradigms • Strategic planning skills within civil engineering context • High levels of numeracy and experience with performance measurement • Strong project management skills 	<p>Delivery Mechanisms:</p> <ul style="list-style-type: none"> • Alignment with development goals and plans of State Government agencies (particularly DoP) • Innovative governance models to combine funding from multiple sources on specific activity centre locations (eg: roads, light rail, water/electricity, etc) • Long term implementation panning with annual milestones • Long term resourcing plans endorsed by Councils



Economic Development Strategy

Purpose:

An economic development strategy for the City of Cockburn takes the analysis of strategic industry, employment and infrastructure undertaken as part of LCACS, and identifies specific opportunities for the City to actively intervene in the local economy. These opportunities should align with the City's strategic plan, as well as State Government employment objectives outlined in Directions 2031. Based upon the analysis performed in LCACS, it is clear that the South-West Sub-Region (and as a consequence the City of Cockburn) is highly likely to achieve and exceed the employment self-sufficiency targets outlined in Directions 2031. The strategy therefore needs to focus on improving the quality of jobs available within the City, and the employment self-containment of the sub-region.

<p>Scope of Work:</p> <p>The Strategy should consider a number of specific areas including:</p> <ul style="list-style-type: none"> • Scope of the Strategy • Economic context (much drawn from LCACS work) • Vision statement • Specific measurable performance goals and milestones related to the vision • Key areas for intervention • The City's leverage points (control, influence and monitor) • Engagement of key stakeholders • Resourcing requirements (financial and human, internal and external) • Accountability and feedback systems • Governance structures for negotiation, delivery and oversight 	<p>Critical Success Factors:</p> <p>The Economic Development Strategy should be a focused piece of work that identifies critical pathways for the City to influence the local economy. Based upon this critical success factors include:</p> <ul style="list-style-type: none"> • A clearly articulated vision for the future City of Cockburn Economy • Goals flowing from the vision that are measurable, realistic and accountable • Internal City structures that are empowered to manage risks associated with economic development initiatives • Identification of projects that will make a significant difference to the local economy of the City of Cockburn • Proactive engagement with key public and private sector economic agents • Successful attraction of investment, capital, and in-kind support for initiatives for identified projects • The development of structures that are able to identify and act upon opportunities as they arise over the life of the project
<p>Required Competencies:</p> <p>Successful preparation, delivery and implementation of the project will require input from internal or external resources with the following competencies:</p> <ul style="list-style-type: none"> • Accessing, analysing and interpreting economic data from a range of sources • Setting of strategic frameworks and targeted goals with a supported evidence base • Proactive engagement with private sector stakeholders as partners • Development of governance structures able to deliver on articulated goals 	<p>Indicative Resourcing and Costs:</p> <p>Private consultancy engagement on an Economic Development Strategy of this nature would typically require \$40K-\$100K of consultant time, and take between 4-12 months.</p>



Community Development Strategy

Purpose:

The community development plan will address the performance and expectations of a number of the principles identified within LCACS focused on the delivery of community infrastructure, spaces and equitable centres. These principles include:

- Optimise access to and within centres
- Place identity amenity and integrity
- Place equity

<p>Scope of Work:</p> <p>The Community Development Plan will need to address six major areas. These are:</p> <ul style="list-style-type: none"> • Audit of the current supply of community services and infrastructure • Model future community services and infrastructure demand • Augmentation of modeling with consultation to ascertain specific requirements, gaps, and demand • Analysis of gaps between and current supply and future demand (in quantum and spatially) • Articulation of goals, milestones and deliverables for the provision of future community infrastructure throughout the City's Activity Centres • Development of a strategy for inclusion of required infrastructure within the City's Activity Centres including oversight, governance, position for negotiation with landowners and allocation of responsibility for delivery 	<p>Critical Success Factors:</p> <ul style="list-style-type: none"> • A clear understanding of required future hard and soft community infrastructure requirements within the City of Cockburn • Articulation of key urban design, land-use planning, and built form outcomes sought to facilitate positive community benefits • A clear schedule of responsibility for delivery of projects • Performance parameters for successful infrastructure delivery
<p>Required Competencies:</p> <p>Successful preparation, delivery and implementation of the project will require input from internal or external resources with the following competencies:</p> <ul style="list-style-type: none"> • Project management and facilitation • Land use planning • Strategy development • Development of performance-based metrics • Community infrastructure demand modeling • Understanding of statutory options for delivery of initiatives 	<p>Indicative Resourcing and Costs:</p> <p>Private consultancy engagement on a community Development Strategy of this nature would typically require \$75K-\$120K of consultant time, and take between 6-12 months.</p>



Housing Strategy

Purpose:

Overarching Objectives

- Provide for implementation of housing targets for each activity centres.
- Identify housing needs within the City of the current and projected future population.
- Promote social, environmental and economic sustainability in all aspects of the strategy.

City of Cockburn Objectives

- Provide for housing that is affordable for low as well as high incomes.
- Provide for a diverse range of medium to high density housing types, sizes and tenure within activity centres.
- Provide a framework for development of housing within and outside activity centres, with the emphasis on development/redevelopment within activity centres.

Implementation Objectives

- Enable development of crown land for housing and supportive infrastructure within activity centres (e.g. venues for recreation, community facilities and programs, public open space, public amenities, transport infrastructure, etc).
- Ensure housing is prioritised within areas of high urban quality and amenity.
- Provide a framework for development and assessment of housing within activity centres (to include form based codes).
- Provide a framework for delivery of affordable housing initiatives.

How it interrelates with other work:

- Sits under the Strategic Plan.
- Community Development Strategy to flow on from the Housing Strategy in order to provide necessary support infrastructure for higher density development within activity centres.
- Housing Strategy to be integrated with Transport Infrastructure Strategy to ensure transport within, to and from activity centres is equitable for all users and provides access to important facilities.
- Housing targets, types, tenure and sizes to be considered in the commercial/retail activity centres structure plans and integration of residential and commercial land uses investigated.
- TPS No. 3 to be revised in accordance with the objectives of the Housing Strategy.


Scope of Work:

- Identify housing needs within the City through demographic and market analysis.
- Identify priority areas for new housing based on existing urban quality and amenity, capacity to provide high quality and amenity, land available for development/redevelopment (public and private ownership) and activity centre type.
- Develop a range appropriate housing typologies for activity centres, informed by local place values and character, required density and type of activity centre – considering the need to incorporate residential and commercial uses within activity centres.
- Investigate the current and future need for affordable housing and a range of different housing types, to cater for current population and to attract future population.
- Working with relevant government agencies and private organisations, develop a framework and delivery mechanisms for new housing development and affordable housing.
- Develop a staged strategy for meeting the housing targets in the City, including:
 - Promoting and encouraging development within activity centres;
 - A governance system for development and assessment of new housing types;
 - Recommend local infrastructure improvements that are required to make infill housing development successful (e.g. public open space needs, community facilities, transport infrastructure).
- Consult with the community in an interactive manner to address their concerns and desires to ensure each activity centre maintains its own sense of place and gains community support.

Critical Success Factors:

- Develop a delivery mechanism for affordable housing.
- The Housing Strategy must be developed in conjunction with the Transport and Community Strategies and must be able to inform activity centre structure plans.
- Provide a strong but flexible assessment framework for new housing, especially infill housing, in activity centres.
- Be geared towards encouraging and facilitating new housing development while considering the needs and wants of the existing community and maintaining a local sense of place.

Required Competencies:

- Understanding of the local housing market influences and trends
- Knowledge of development of residential and mixed use building products
- Understanding of SPP 4.2
- Proven record in successfully implementing planning strategies
- Ability to provide innovative solutions

Delivery Mechanisms:

- Can be completed internally if expertise exists or by tendering to qualified consultants.
- Collaboration with Department of Housing and other appropriate government and private organisations to develop a delivery framework for affordable housing (e.g. Foundation Housing).

Range of costs

- Fixed tender cost.

Indicative timeframe

- 6 – 12 months (but must have overlap with the Transport and Community Strategies).



Transport Infrastructure Strategy

Purpose:

Private consultancy engagement on a Transport Infrastructure Strategy will typically be a fixed tender cost (requiring potentially engineering and planning inputs), and take between 6 and 18 months.

<p>Scope of Work:</p> <p>The Strategy should consider a number of specific areas including:</p> <ul style="list-style-type: none"> • Scope of the Strategy • Examination of the future network demands across areas including roads, freight and passenger rail, public transport, and pedestrian and cycle ways, • Demand analysis for each component of infrastructure by user type (residents, workers, visitors and enterprises) • Network analysis of user behavior with identification of barriers to optimal network performance • Assessment of the opportunities and constraints pertaining to inter and intra-accessibility within the activity centre network • Preparation of specific performance-based metrics for accessibility • Identification of priority projects to be considered by the City and major infrastructure stakeholders • Identification of delivery strategies for achieving a multi-nodal activity centre network envisioned by the principles of LCACS 	<p>Critical Success Factors:</p> <ul style="list-style-type: none"> • A whole-of-network approach that considered commercial, industrial and specialised activity centres within and surrounding the City • Solutions-based approach that supports the principles outlined in LCACS, and proactively identifies opportunities to deliver positive outcomes for the users of activity centres • Demand modeling that considers an integrates the Murdoch activity centre with the City’s network • Multi-nodal approach that aims to positively influence changes in user behavior through effective substitution of private motor vehicles to alternative transport options
<p>Required Competencies:</p> <p>Successful preparation, delivery and implementation of the project will require input from internal or external resources with the following competencies:</p> <ul style="list-style-type: none"> • Multi-nodal transport network demand modeling and planning • Delivery mechanisms for achievement of desired performance • Production of performance parametres for assessment of 3rd party proposals that will potentially impact upon activity cetnre accessibility 	<p>Indicative Resourcing and Costs:</p> <p>Private consultancy engagement on an Transport Infrastructure Strategy will typically require \$ _ to \$ _ woth of consultant time, and take between _ and _ months</p>



Major Activity Centre Plans

Purpose:

Successful implementation of LCACS will require early, targeted activity centre structure planning for major commercial activity centres likely to experience significant future growth in the short-medium term. These Centres include:

- Cockburn Central Regional Centre
- Phoenix District Centre
- Cockburn Coast District Centre

<p>Scope of Work:</p> <p>The scope of work for Activity Centre Plans is well defined within LCACS. The complicating factor with the identified centres is the establishment of a project management structure that considers the aspirations of individual stakeholders in the formulation of a coherent vision against which activity centre performance can be assessed. This will require significant consultation and facilitation to be included in the scope of works beyond that described in LCACS.</p>	<p>Critical Success Factors:</p> <ul style="list-style-type: none"> • Facilitation of potentially disparate aspirations of landholders with the production of an Activity Centre Plan and vision with the principles of LCACS and SPP 4.2 • Ability to achieve certainty where possible over timelines for infrastructure investment, major development intentions, and surrounding population growth • Establishment of governance and implementation mechanisms for oversight of the developed plan, monitoring of activity centre performance, and triggering the revision of the plan if required
<p>Required Competencies:</p> <p>Successful preparation, delivery and implementation of the project will require input from internal or external resources with the following competencies:</p> <ul style="list-style-type: none"> • Project management and facilitation • Land use planning • Strategy development • Urban economics • Civil and traffic engineering • Community infrastructure planning • Residential development 	<p>Indicative Resourcing and Costs:</p> <p>Private consultancy engagement on an Activity Centre Plan of this nature would typically require \$180K-\$300K of consultant time, and take between 9-18 months.</p>