This document was prepared as a background report to input into the preparation of the Growth Corridor Plans.

The report represents the view of the consultant only and not the Government.

ESSENTIAL ECONOMICS

Growth Corridor Plans

Activity Centre and Employment Planning

FINAL REVISED REPORT

Prepared for

Growth Areas Authority

by

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1) Introduction

Background

This report has been commissioned by the Growth Areas Authority (the GAA) to provide advice on activity centre and employment planning in the new growth areas that have been created through Planning Scheme Amendment VC68.

Amendment VC68 expands the Urban Growth Boundary to cater for anticipated population growth over the long-term, and represents the implementation of *Melbourne @5 Million* which foresees the need to accommodate at least an additional 145,000 new households on Melbourne's fringe.

The planning process for these new urban areas involves the preparation of *Growth Corridor Plans* (GCPs) to identify the broad pattern of urban development and infrastructure delivery, and subsequently the preparation of *Precinct Structure Plans* to provide more detailed planning guidance prior to the rezoning of land for urban development.

In determining a broad allocation of land uses at the GCP level, the GAA has sought advice on an appropriate distribution of activity centres and other employment land in order to ensure that the new growth areas provide greater opportunity to serve the employment demands of the residents in these regions.

This report was initially prepared in August 2010 and has been updated to reflect additional information provided by the GAA.

Target-based approach

This assessment of the activity centre and employment requirements for the expanded growth areas has been prepared in the context of principles that have been adopted by the GAA in relation to employment self-sufficiency and the distribution of activity centres. These principles strongly encourage outcomes in which jobs and services are provided close to where people live, in order to reduce the number and length of private vehicle travel and to assist in the efficient delivery of transport and other infrastructure.

The analysis in this report aims to provide advice on how a distributed network of activity centres and employment precincts can be attained in order to meet the GAA's aspirational targets in relation to activity centre access and employment provision.

The GAA aspirations in relation to activity centre provision and employment generation can be summarised by the following set of measurable targets:

1. An overall target of **one new job for each new dwelling** to be created in the growth corridors
2. Approximately **one-third of job to be provided at the local level** (ie in local community neighbourhoods)
3. Approximately **70% of jobs to be located at the sub-regional level** (ie within approximately 5km)
4. A target for **100% employment self-sufficiency at the wider regional level** (ie within approximately 10km)
5. A target for **80-90% of all households to be within 1km of neighbourhood-level shopping facilities** that have a supermarket
6. A network of **neighbourhood and higher-order centres planned on the basis of a square mile block** (1.6km x 1.6km), and supported by a grid system of streets to reflect this pattern of development.

This report also provides a recommended structure for activity centre and employment provision in each of the Growth Corridor Plan (GCP) regions, as input to the ongoing planning for these areas of land.

It is important to appreciate that the approach that has been applied in this study differs from the traditional method whereby the demand and supply for various land markets (retail, office, industrial, etc) is analysed over a defined time period. The emphasis in this report is on establishing a *preferred pattern of urban development*, to be applied as a model when undertaking further planning for the growth area regions in order to meet the GAA targets in relation to activity centre access and employment provision. It is acknowledged that this model may need to be refined or adjusted during more detailed planning in order to account for the particular characteristics of some development precincts.

Development outcomes

The analysis has been undertaken on the basis of expected growth outcomes in the growth corridors, derived from recent analysis of the development capacity in each GCP region.

In broad terms, the growth prospects are as follows:

- Melbourne West: 70,000 to 114,000 new dwellings
- Melbourne North (Sunbury): 22,000 to 35,000 new dwellings
- Melbourne North (Hume-Mitchell-Whittlesea): 66,000 to 105,000 new dwellings
- Melbourne South-East: 30,000 to 50,000 new dwellings

A total of 188,000 to 304,000 new dwellings are expected to be built in the new growth corridors over time, noting that this is a broad estimate, and that total dwelling numbers will fluctuate over time as the land is built out and over the lifetime of the new communities that will be created.

The higher end of the range (ie 304,000 new dwellings) represents a potential upper limit to the likely development outcomes, reflecting more efficient land use while also recognising the need for conservation areas, environmental buffers, regional open space and so on.

Over the next twenty to thirty years it is possible that household sizes, the mix of dwelling types and average dwelling densities, and the extent of areas that need to be put aside for conservation and other non-urban purposes may vary significantly. Similarly, demand for industrial land and average employment densities in industrial areas may also change. The corridor plans need to allow for such variations so that sufficient flexibility is incorporated in planning for possible future infrastructure and service needs.

2) A distributed model for activity centre provision

Current performance

Analysis shows that Melbourne's existing growth areas perform poorly in terms of delivering a well-distributed network of activity centres to serve the needs of local residents. For example, while the density of supermarket-based neighbourhood centres is relatively dense in inner and middle-ring suburbs of Melbourne, a much sparser network is apparent in the growth areas, with supermarket-based centres in excess of 2-3km from each other.

The GAA is seeking to alter this pattern of centre development in the new growth areas so that residents have greater access to Local Town Centres (this term, abbreviated to LTC, is equivalent to a neighbourhood activity centre or NAC) that are supported by supermarkets as strong anchor tenants.

A network of accessible town centres

The GAA aims to encourage the development of a network of easily accessible LTCs that are well distributed across the urban area, ensuring that a high proportion of residents are within 1km of a supermarket-based centre. The principles that have been identified to deliver this pattern of town centre provision are summarised as follows:

Road patterns and the square mile neighbourhood unit:

1 It is appropriate to plan a network of LTCs on the basis of a grid of arterial roads which approximates a square mile (or approximately 1.6km). This road pattern will define 'neighbourhood units' which are approximately one square mile in size, and which need to have a high degree of access to a supermarket-based town centre.

Centre size

2 LTCs should be planned for an average floorspace provision of approximately 10,000m^2, comprising:

- A supermarket of approximately 3,000m^2 to 3,500m^2
- Specialty retail of 3,500m^2 to 4,000m^2
- Non-retail provision of approximately 3,000m^2.

These figures are intended as **broad indications** of average floorspace provision, and would be assessed in more detail when preparing PSPs. Moreover, they do not include any allocation for local employment zones (eg service business precincts) that might be planned for a location adjoining a local town centre.

Population catchments to support supermarkets

3 Identifiable population catchments of at least 8,000 persons, and preferably up to 10,000 residents, should be adopted as the basis for planning the location of supermarket-based LTCs. Analysis shows that this population target can be achieved in most neighbourhood units (ie square mile blocks) as long as residential yields are at least 15 dwellings per hectare (net developable area).

4 Where population outcomes are less than 8,000 residents, opportunities for smaller supermarket-based centres (eg supported by mid-sized supermarkets of approximately 1,500m^2) should be pursued where these are viable and where they are necessary to ensure good access to neighbourhood shopping services.

5 It should be acknowledged that while local centres with small supermarkets or large general stores may be required to ensure access to local retailing in some instances, these are not likely to provide the full array of shopping services that is intended to be provided at the neighbourhood level, and may struggle to become community focal points in the way that the GAA envisages.

6 The concentration of supermarkets at higher-order centres such as sub-regional and regional shopping centres (generally designated as Principal and Major Town Centres according to GAA terminology) should generally be discouraged where it leads to an absence of accessible supermarket provision across the urban area. However, it is acknowledged that in many cases the provision of more than one supermarket can be beneficial in helping to establish higher-order shopping roles, especially early in the development of such centres.

Specialty retailing

7 Typical specialty retail provision at LTCs is in the order of approximately 3,500m^2 to 4,000m^2 leasable area, implying that LTCs need to be planned for an average retail provision of approximately 7,000m^2 or so of retail floorspace.

8 While specialty retail provision should generally be maximised, the extent of specialty retail floorspace in individual LTCs is likely to vary around this average, depending upon the particular

features that might characterise each centre and how this might affect the opportunity to accommodate uses such as cafés and restaurants, etc. These features will need to be identified during preparation of PSPs to ensure that the full potential of each centre is realised.

Non-retail provision

9 In planning new Local Town Centres in the growth corridors, approximately 30% or more of total centre floorspace (in the order of 3,000m^2 or so of leasable area) should be set aside to accommodate non-retail uses. This allocation will assist in maximising local employment opportunities and providing a focus for local business service delivery.

10 The actual amount of non-retail provision is likely to vary, and will depend upon a range of factors relating to the retail role of the centre, the demographics of the surrounding residential workforce, the locational characteristics of the centre, its amenity and various other factors.

11 It is unlikely that every LTC will have a significant non-retail component; particular opportunities for more significant office and community service sectors will therefore need to be identified during the PSP process.

Centre design

12 Centres must be well-designed places that encourage activity and provide a range of opportunities for local business generation, residential and mixed use development, small office-home office building design, town centre spaces, outdoor dining and other factors that contribute to the vibrancy of the centre.

Provision for Higher-Order Centres

Higher-order centres, consisting of centres designated as Principal Town Centres (PTCs) and Major Town Centres (MTCs), are to be the location for the delivery of a diverse range of retail, business, entertainment, community service, civic, administrative and other commercial services.

Relevant guidance on the scale and composition of higher-order centres can be summarised as follows:

MTCs – Centre Size and Composition

1 MTCs serve sub-regional population catchments which support higher-order shopping and business services. A typical catchment size is in the order of 50,000 persons, which is sufficient to support the development of a discount department store and a range of specialty retailers.

2 Total retail provision in MTCs will vary, but an indicative figure of 55,000m^2 is provided as an average, based on the typical retail elements that characterise higher order centres. This figure might include:

- Two discount department stores (total 15,000m^2)
- Two supermarkets (total 7,000m^2)

- A range of specialty stores (total 13,000m^2)
- A bulky goods precinct (20,000m^2).

It is emphasised that the distribution of floorspace shown above is a broad guide for the purposes of establishing a benchmark for retail provision at MTCs.

3 MTCs have potential to accommodate a wide variety of non-retail uses, ranging from commercial office activities to service business and other highway-related uses. A suggested non-retail provision is approximately 25,000m^2, comprising in the order of 15,000m^2 of office and other shopfront uses, and 10,000m^2 of other commercial uses (personal services, highway services, etc).

PTCs – Centre Size and Composition

4 PTCs serve regional population catchments of approximately 150,000 or so residents, which is sufficient to support high-order retail anchors (eg department store) and a wide variety of retail specialties.

5 An indicative figure for total retail provision at a PTC is approximately 100,000m^2 of leasable floorspace, comprising:

- A department store (20,000m^2)
- Two discount department stores (15,000m^2)
- Two supermarkets (7,000m^2)
- A range of specialty stores (18,000m^2)
- A bulky goods precinct (40,000m^2).

6 PTCs have even greater potential for non-retail provision including commercial office sectors. On average, each PTC has potential to accommodate in the order of 60,000m^2 of non-retail floorspace, including (say) 25,000m^2 of office and other shopfront uses, and 35,000m^2 of other commercial/highway and service business uses.

Other uses not identified

7 These indicative allocations for higher-order centres do not include provision for substantial education and health institutions including university or other tertiary campuses, hospitals and so on. However, higher-order activity centres are the most appropriate places in which to plan for these facilities.

8 The indicative allocations also do not include consideration of employment precincts (such as service industry precincts or business parks), which might be located in close proximity to activity centres.

3) Centre requirements

Indicative outcomes for sub-regions and regions

A calculation of the expected floorspace outcomes in sub-regional and regional catchments has been made by applying the principles and centre composition described above, and is presented in Table 1 below.

The analysis is made on the basis of:

- Sub-regional catchments containing approximately 50,000 residents, and sufficient to support an MTC.
- Regional catchments of 150,000 residents, which are sufficient to support a PTC.

The main points can be summarised as follows:

1 The analysis shows that a sub-regional catchment would support approximately 76,000m^2 of retail floorspace, plus approximately 34,000m^2 of floorspace devoted to other non-retail uses.

2 Having regard for the population (50,000 residents), and the typical average per capita retail demand (2.2m^2/capita, or total demand of 110,000m^2 in the sub-region), these figures suggests that sub-regional catchments should be able to provide approximately 70% of the total retail floorspace demands generated in the catchment.

3 At the regional level total floorspace provision is approximately 273,000m^2, with a further 137,000m^2 in non-retail provision. The estimate of total regional retail provision (273,000m^2) can be compared against total retail demand by applying average per capita retail demand of 2.2m^2/capita. On this basis total retail demand is approximately 330,000m^2, so that the region provides approximately 83% of the total retail floorspace demand generated in the catchment.

4 The proposed allocation of non-retail commercial space – at 137,000m^2 – represents an average of approximately 0.9m^2/capita at the regional level, and this is broadly within the parameters identified elsewhere in this report.

Table 1.1: A Distributed Model of Activity Centre Provision

Centre type/region level	Floorspace provision
Neighbourhoods (LTCs):	
Supermarket	3,500m2
Other retail	3,500m2
Total retail	7,000m2
Non-retail	3,000m2
Total floorspace	10,000m2
Sub-regions (50,000 persons):	
Three LTCs:	
Supermarkets	10,500m2
Other retail	10,500m2
Total retail	21,000m2
Non-retail	9,000m2
Total floorspace	*30,000m2*
MTC:	
Supermarkets	7,000m2
Other retail	48,000m2
Total retail	55,000m2
Non-retail	25,000m2
Total floorspace	*80,000m2*
Sub-region summary:	
Supermarket	17,500m2
Total retail	76,000m2
Non-retail	34,000m2
Total	*110,000m2*
Regions (150,000 persons)	
Nine LTCs:	
Supermarkets	31,500m2
Total retail	63,000m2
Non-retail	27,000m2
Total floorspace	*90,000m2*
Two MTCs:	
Supermarkets	14,000m2
Total retail	110,000m2
Non-retail	50,000m2
Total floorspace	*160,000m2*
PTC:	
Supermarkets	7,000m2
Total retail	100,000m2
Non-retail	60,000m2
Total floorspace	*160,000m2*
Region summary:	
Supermarket	52,500m2
Retail	273,000m2
Non-retail	137,000m2
Total	*410,000m2*

Source: Essential Economics

Application to the growth corridors

The activity centre model has been applied to the expected development outcomes in the growth corridors to provide an indicative examination of the requirements for activity centres in each of the GCP regions.

A summary of the expected dwelling and population outcomes is shown in Table 2.

Table 1.2: Dwelling and Population Outcomes in GCP Regions

GCP Region	Dwellings	Population
Melbourne West	70,000 - 114,000	188,000 - 331,000
Melbourne North: Sunbury	22,000 - 35,000	60,000 - 102,000
Melbourne North: Hume-Mitchell-Whittlesea	66,000 - 105,000	177,000 - 304,000
Melbourne South-East	30,000 - 50,000	81,000 - 145,000
Total	**188,000 - 304,000**	**506,000 - 882,000**

Source: Essential Economics, based on GAA

The population and dwelling outcomes in Table 2 have been used to describe an applicable centre network for each growth area, based on the extent to which each region can accommodate regional, sub-regional and neighbourhood-level centre development. According to Table 2, only Melbourne West and Melbourne North (Hume-Mitchell-Whittlesea) can theoretically generate sufficient demand for a regional centre that might be designated as a PTC (requiring a catchment of 150,000 persons).

A summary of the theoretical number of centres that would be accommodated in each growth area is shown in Table 3 below. Separate calculations have been undertaken to indicate a low and high range, depending upon the range of dwelling outcomes in each growth corridor.

Note that the analysis shown in the table represents the application of a *theoretical model* for the provisions of centres of each type, and does not represent detailed analysis of the circumstances in each growth corridor (including, for example, existing residential communities that might contribute to demand for higher-order centres).

Table 1.3: Number of Centres by Type in Growth Areas

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
LOW range of dwelling development					
PTCs	1	0	1	0	2
MTCs	2	1	2	1	6
LTCs	13	4	12	6	35
HIGH range of dwelling development					
PTCs	2	0	2	0	4
MTCs	4	2	4	2	12
LTCs	22	6	20	11	59

Source: Essential Economics

Tables 4 and 5 presents a summary of the expected retail and non-retail floorspace outcomes associated with the number of new centres shown above. Table 4 presents that analysis under the Low development scenario, and Table 5 presents the analysis for the high development scenario.

Table 1.4: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2) LOW Scenario

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Retail provision					
PTCs	100,000	0	100,000	0	200,000
MTCs	110,000	55,000	110,000	55,000	330,000
LTCs	91,000	28,000	84,000	42,000	245,000
Total	*301,000*	*83,000*	*294,000*	*97,000*	*775,000*
Non-retail provision					
PTCs	60,000	0	60,000	0	120,000
MTCs	50,000	25,000	50,000	25,000	150,000
LTCs	39,000	12,000	36,000	18,000	105,000
Total	*149,000*	*37,000*	*146,000*	*43,000*	*375,000*
Total commercial space					
PTCs	160,000	0	160,000	0	320,000
MTCs	160,000	80,000	160,000	80,000	480,000
LTCs	130,000	40,000	120,000	60,000	350,000
Total	*450,000*	*120,000*	*440,000*	*140,000*	*1,150,000*

Source: Essential Economics

Table 1.5: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2) HIGH Scenario

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Retail provision					
PTCs	200,000	0	200,000	0	400,000
MTCs	220,000	110,000	220,000	110,000	660,000
LTCs	154,000	42,000	140,000	77,000	413,000
Total	*574,000*	*152,000*	*560,000*	*187,000*	*1,473,000*
Non-retail provision					
PTCs	120,000	0	120,000	0	240,000
MTCs	100,000	50,000	100,000	50,000	300,000
LTCs	66,000	18,000	60,000	33,000	177,000
Total	*286,000*	*68,000*	*280,000*	*83,000*	*717,000*
Total commercial space					
PTCs	320,000	0	320,000	0	640,000
MTCs	320,000	160,000	320,000	160,000	960,000
LTCs	220,000	60,000	200,000	110,000	590,000
Total	*860,000*	*220,000*	*840,000*	*270,000*	*2,190,000*

Source: Essential Economics

In applying a model for a distributed network of centres to serve the new growth areas on Melbourne's fringe, it is apparent that a very substantial level of retail and commercial development will need to be accommodated in order to serve the demand generated in the GCP regions.

According to the analysis presented in this report, a total of 1.15-2.19 million m^2 of additional commercial floorspace could be required, comprising 0.77-1.47 million m^2 of retail space, and 0.37-0.72 million m^2 of other commercial uses.

These are broad estimates based on the application of a theoretical centre network model; importantly, these estimates of floorspace do not include allocations for employment precincts (including those that may be located next to activity centres) and nor do they include higher-order health and education facilities that might need to be planned for in the GCP regions.

4) Employment planning

Principles to guide employment planning

The GAA have adopted a set of employment principles which are intended to guide the allocation of land within the Melbourne's future growth areas, and which form the basis for this current analysis of future employment provision in the growth corridors.

The GAA employment targets have been developed to ensure that a greater focus is placed on increasing local employment within the growth areas. This is in response to the current poor performance of existing growth areas in providing sufficient employment opportunities for local residents. As part of the preparation of new GCPs, the GAA is seeking to plan for more local employment opportunities in a wider variety of employment sectors, thus helping to sustain a more diversified and robust local economy

In preparing an employment provision model to assist the GAA in planning for employment land in the growth corridors, the following broad principles have been adopted as the basis for the analysis:

1. Total employment provision will need to be at least the number of new households expected to be accommodated in each GCP region.

2. The pattern of employment delivery will need to reflect a sophisticated and diverse economy which reflects the GAA's aspirations for the new growth areas, where a variety of employment opportunities are provided at activity centres, in dedicated industrial and business parks, in major employing institutions, and other locations.

3. Employment locations need to be well dispersed across the urban area, so that residents have an opportunity to access local employment opportunities within the neighbourhood or sub-region, where possible.

4 Land areas will need to be identified for dedicated employment provision, in the form of industrial estates, transport hubs, business or corporate parks, and so on. A failure to identify sufficient land will mean that later opportunities to provide local employment will be constrained.

5 Provision for retail and other commercial land uses in activity centres will generate opportunities for employment in LTCs, MTCs and PTCs, where they can be accommodated in the centre network. Employment estimates for these centres form part of the calculation of employment opportunity across each of the GCP regions.

6 Some types of activities do not generate demand for commercial space, and include businesses that are run at home (eg local tax accountants) or from home (eg tradespeople or building contractors). Analysis of Census data can be undertaken to example the potential for employment in the GCP regions to be generated in residential areas.

7 In more established parts of Melbourne a significant amount of employment is generated in major institutions such as higher-order education and health facilities; the potential for these types of activities to be accommodated in the growth corridors needs to be examined as part of establishing a model to provide sufficient employment provision in new growth areas.

Approach in developing an employment provision model

The preparation of a model for employment provision in the GCP regions has been undertaken with the following approach:

1 Examine current patterns of employment provision in the growth corridors, including measures such as total employment provision per household, employment self-sufficiency and occupational types.

2 Identify regions of Melbourne that reflect the aspiration that the GAA has for the growth corridors, in terms of performing well on measures such as employment self-sufficiency, the diversity of the local economy, occupational profiles, and so on. Analyse these regions in terms of employment (jobs) provision by detailed industry sector.

3 Identify the broad locations for different types of employment provision, with reference to detailed industry sectors and land use zone information. For this analysis, employment location is identified in terms of the following location categories:

- Activity centres (differentiated by retail, office/commercial, and other uses)
- Employment precincts (differentiated by light and heavy industrial uses, transport and storage businesses, and semi-commercial activities)
- Community uses (differentiated by local uses that are typically accommodated in LTCs or embedded throughout the urban area, and higher-order uses that might be stand-alone or associated with PTCs, MTCs and specialised employment areas)
- Home-based employment.

4 Examine the provision of land by zone type in the benchmark regions, and use this as a basis for assessing the density of employment generation for different types of jobs and different job locations.

5 Calculate potential employment generation at activity centres in the GCP regions, based on the floorspace outcomes associated with the activity centre model.

6 Use the preceding analysis to determine the amount of land that will be required to accommodate jobs in employment precincts, in order to reflect typical employment patterns in the benchmark regions and the likely employment densities achieved.

7 Provide commentary on the need or otherwise to accommodate other types of employment including, for example, higher-order health and education facilities, in order to meet employment targets and deliver a more sustainable employment profile.

8 Identify the preferred employment outcomes in each of the GCP regions, based on the expected dwelling and population yields.

The basis for an employment provision model

On the basis of the analysis presented in this report, the following comments are made to guide employment planning in the growth corridors:

1 Analysis of existing employment patterns across the metropolitan area suggests that a broad allocation of employment by location type is approximately as follows:

- Activity centres: 25-30%
- Employment land precincts: 40-45%
- Community uses: 25-30%
- Home-based employment: 5-10%

2 Analysis of the proposed network of activity centres shows that employment in activity centres is likely to account for approximately 20-25% or so of the total employment target in regions of 150,000 residents where a PTC can be supported. A slightly lower level of employment provision is likely to be attained in sub-regional catchments of 50,000 residents. Generally these findings support the broad distribution of employment by type described above; they also emphasise the need to ensure that sufficient land is provide to accommodate a significant number of jobs in activity centres.

3 Local level community uses such as government-based primary and secondary schools, medical centres and community centres can be identified which account for up to approximately 5% of the total employment target in a region of 150,000 residents. In order to achieve the GAA targets in relation to total employment generation, a range of other local community services will need to be accommodated in residential areas and in activity centres.

4 In particular, larger education and health establishments (eg tertiary campuses, vocational training, hospitals and specialised medical services) will need to be accommodated in planning for the new growth areas, and to ensure that over time opportunities are retained to accommodate these higher-order functions.

5 Analysis shows that the intensity of employment is much lower in the outer suburbs of Melbourne compared with the inner or middle ring suburbs, and this is due to a range of factors including the urban form (with an emphasis on single-level development rather than multi-storey development); allowances for car parking, landscaping and other land-hungry components; and provision of a stock of vacant industrial land on the fringes of the metropolitan area.

6 A significant proportion of employment is expected to occur in dedicated employment precincts containing a mix of industrial uses, transport and storage, light industry, service businesses, and manufacturing enterprises. These uses will need to be accommodated in order to achieve the employment targets, and sufficient land will have to be identified in the GCPs.

5) Employment land requirements

Application to neighbourhoods, sub-regions and regions

Estimates of employment land area requirements are summarised in Table 6 for neighbourhood, sub-regional and regional catchments, and are based on the following inputs:

- A requirement for one new job to be created for every new dwelling in the growth areas
- An expectation that 40-45% of total employment would be in activities located in employment land precincts
- An average 20 jobs/hectare employment density in employment land precincts.

The results show that significant allocations of land need to be made in order to accommodate the anticipated job requirement for employment precincts. For example: 19-22ha of employment land would be required in each neighbourhood unit (ie a square mile block) in order to accommodate the anticipated job requirements; 250-280ha of employment land would be required to serve sub-regions; and an estimated 1,070-1,205ha of land would be required for regional catchments.

Overall, while large areas of employment land might be identified in larger regional and sub-regional catchments, it is unlikely that a substantial allocation of employment land could be established in neighbourhood communities, particularly as the loss of this land for residential development would mean that these units would be unable to achieve the necessary population outcomes to support locally-based retail and office activities.

Table 1.6: Estimated Employment Land Area Requirements

Catchment/hierarchy level	Jobs in employment land	Land area requirement
Neighbourhoods	380-430	19-22ha
Sub-regions	5,000-5,600	250-280ha
Regions	21,400-24,100	1,070-1,205ha

Source: Essential Economics

Location considerations for employment land

Having regard for the typical pattern of employment land provision in Melbourne, the following matters need to be considered in terms of preferred locations for employment land precincts:

1 Employment land precincts will generally contain a mix of industrial land use zones and the Business 3 Zone, as these zones encourage the types of employment uses envisaged for these precincts. In some cases a more specific office zone (eg Business 2 Zone) might be applied for a dedicated corporate business park. Alternatively, comprehensive development zones might be applied where more flexibility is warranted.

2 The main considerations that will determine the location of employment zones include:

- The surrounding transport network and the ability to access the precinct from the major arterial road network
- Access to the rail network (where this is a relevant consideration, depending upon the type of industrial/business use)
- Location with respect to a skilled labour force
- The amenity of the area
- Opportunities for executive housing in the surrounding region
- Opportunities for synergies to be created with other uses (downstream and upstream linkages)
- Alternative use of the land (eg for residential, recreation, etc)
- Linkages with activity centres and supporting business services.

3 Small employment precincts may be suitable for a range of locally-based service industry uses and small businesses; however, these types of precincts may not be attractive for investors having regard for their need to secure end-users to fund development.

4 A network of small to medium sized employment precincts should be established where possible, and preferably along major arterial roads. These precincts may be in the order of 15-25ha in size, and could be located close to LTCs. But not every LTC would be able to support a small industrial/service business area of this type. On average, provision for one or two such precincts should be made in each sub-regional catchment.

5 More significant employment areas could be established at the sub-regional level. These precincts might be in the order of approximately 200-240ha, which would imply that a sub-regional would be served by up to 240-290ha of industrial land (ie one sub-regional node, plus up to two district-level allocations, each of which might be up to 25ha in size).

6 The location of these sub-regional employment/industrial land nodes would need to reflect a range of factors such as access to markets, transport infrastructure and so on. In some cases employment land might be located nearby a MTC serving the sub-region, although this would generally be more appropriate for higher-intensity uses such as corporate/research parks where synergies could be established with businesses in the activity centre.

7 Large employment nodes could be established in areas that have a regional catchment. These major regional nodes might be up to 600ha in size, so that a region is supported by a total of 1,200ha of employment land, consisting of:

- Up to 600ha of land in a regional employment node
- Two other precincts, each of which would be approximately 240ha (ie a total of 480ha)
- Around six district-level employment nodes, each containing approximately 20ha of employment land (ie a total of 120ha).

8 As with sub-regional employment areas, the locations would reflect the needs of industry and business, with lower-intensity land uses (eg traditional industrial activities) generally located further away from higher-order activity centres.

9 The regional land allocation of 600ha represents a very significant area of land for employment purposes. In some circumstances an option might be to split this land area into a number of smaller components to be distributed across the regional catchment. However, this would depend on other features of the region, including for example the location of significant transport infrastructure.

10 Locations for major employment nodes should also be chosen with reference to the designation of employment corridors in *Melbourne @5 Million*, which include the corridor from Avalon Airport to Donnybrook via Werribee, Melton and Melbourne Airport; and the corridor running from Caulfield to Dandenong (although noting that this corridor is not located in the GCP regions).

6) Employment planning in GCP regions

Employment targets for GCP regions

The overall employment target for each growth corridor represents the expected number of new dwellings to be developed, and therefore can be summarised as follows:

Table 1.7: Employment Targets for GCP Regions

Region	Overall jobs target
LOW Development Scenario:	
Melbourne West	70,000
Melbourne North: Sunbury	22,000
Melbourne North: Hume-Mitchell-Whittlesea	66,000
Melbourne South-East	30,000
Total	*188,000*
HIGH Development Scenario:	
Melbourne West	114,000
Melbourne North: Sunbury	35,000
Melbourne North: Hume-Mitchell-Whittlesea	105,000
Melbourne South-East	50,000
Total	***304,000***

Source: Essential Economics, based on GAA

Importantly, the GAA targets also acknowledge that smaller population catchments (neighbourhoods and sub-regions) are unlikely to achieve this level of employment self-sufficiency. In these cases, jobs should be located elsewhere within the wider region.

Distribution of employment

The expected distribution of employment by type for each GCP region is presented in Table 8, and is based on the expected broad distribution of employment by type as described earlier.

The tables show that the Melbourne-West and the Melbourne North (Hume-Mitchell-Whittlesea) GCP regions are expected to be the main focus for employment generation. These regions have potential to establish large regional catchments in the new growth areas, creating opportunities for higher-order commercial development in one or more PTCs, as well as job creation associated with regional employment nodes.

The Sunbury and South-East regions are smaller, and while the figures in Table 8 reflect an employment outcome associated with meeting the GAA target of one new job for each new dwelling, it is likely that some of these jobs will be provided outside these particular GCP regions; for example, Sunbury's employment requirements may be provided in Hume or elsewhere in the immediate region.

Table 1.8: Summary of Expected Employment Distribution

Type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Low development scenario					
Activity centre (25-30%)	17,500-21,000	5,500-6,600	16,500-19,800	7,500-9,000	47,000-56,400
Employment (40-45%)	28,000-31,500	8,800-9,900	26,400-29,700	12,000-13,500	75,200-84,600
Community (25-30%)	17,500-21,000	5,500-6,600	16,500-19,800	7,500-9,000	47,000-56,400
Home-based (5-10%)	3,500-7,000	1,100-2,200	3,300-6,600	1,500-3,000	9,400-18,800
Total	*70,000*	*22,000*	*66,000*	*30,000*	*188,000*
High development scenario					
Activity centre (25-30%)	28,500-34,200	8,750-10,500	26,250-31,500	12,500-15,000	76,000-91,200
Employment (40-45%)	45,600-51,300	14,000-15,750	42,000-47,250	20,000-22,500	121,600-13,6800
Community (25-30%)	28,500-34,200	8,750-10,500	26,250-31,500	12,500-15,000	76,000-91,200
Home-based (5-10%)	5,700-11,400	1,750-3,500	5,250-10,500	2,500-5,000	15,200-30,400
Total	*114,000*	*35,000*	*105,000*	*50,000*	*304,000*

Source: Essential Economics
Note: Figures are rounded

A key issue is that each of the GCP regions will need to generate significant levels of employment in community service sectors, and this will require planning for higher-order education and health facilities. In some of the regions potential may develop for large scale tertiary campuses or hospitals; however, even without these large-scale uses, substantial community service employment will be associated with local and sub-regional uses such as specialist medical services, independent secondary schools, aged care, council branch offices, and other uses.

Employment land requirements

Estimates of the total land area in dedicated employment precincts that is required to accommodate the expected employment levels are shown for each of the GCP regions in Table 9, and are based on the application of an average of 20 jobs per hectare in employment land.

The analysis shows that a very significant amount of land will need to be provided in dedicated employment precincts for industrial, corporate business, service industry and other uses. The total land requirement is estimated at 3,760ha to 4,230ha under the low growth scenario where 188,000 dwellings are to be accommodated in the growth areas, and up to 6,080ha to 6,845ha under the high growth scenario where 304,000 dwellings are to be accommodated.

The majority of this land requirement would accommodate industrial and related uses, but recognising that industrial/employment areas generally accommodate a wide range of activities.

Table 1.9: Summary of Estimated Total Employment Land Requirements

Region	Low growth scenario	High growth scenario
Melbourne West	1,400-1,575ha	2,280-2,565ha
Melbourne North: Sunbury	440-495ha	700-790ha
Melbourne North: Hume-Mitchell-Whittlesea	1,320-1,485ha	2,100-2,365ha
Melbourne South-East	600-675ha	1,000-1,125ha
Total GCP regions	**3,760-4,230ha**	**6,080-6,845ha**

Source: Essential Economics

7) Conclusions and implications

Analysis presented in this report shows that a model for activity centre and employment planning can be prepared that will assist in achieving the GAA targets in relation to employment self-sufficiency and access to local jobs and services.

In order to ensure a network of accessible centres, residential densities will need to be maximised to achieve the minimum population catchment that is required to support a supermarket as an anchor tenant. A diversity of housing types will also help to attract different types of people and expand the opportunities for local business development. Centres will need to be well-designed with opportunities for street dining and other experiences that add to the amenity of the centre, and buildings developed in a flexible manner to encourage small offices and home offices in the vicinity of these smaller centres.

Higher-order centres such as PTCs and MTCs will become important foci for a wider variety of economic activities, and should be encouraged to attract a range of non-retail uses so that they do not become overly standardised and one-dimensional. Opportunities for high density housing should be encouraged to help make these places interesting and active over the whole of the day and into the night. While PTCs and MTCs will be important as a location for higher-order shopping, their role in convenience retailing (including supermarket provision) should not be encouraged at the expense of neighbourhood centres (LTCs) that are better-placed to provide accessible shopping locations for the surrounding community.

A wide variety of employment opportunities will need to be created if the growth corridors are to develop a sophisticated and diverse local economy. Some of this employment task will happen naturally, for example in the form of 'embedded' local community infrastructure such as schools and community hubs. However, some intervention might be required at this local level, for example to encourage residential building designs that support a home-based business sector, or to attract investment in the development of new independent schools.

Large areas of land will need to be secured through the completion of the GCPs for more significant employment precincts, and these might range from smaller district-level service business precincts of 25ha or so, up to very significant industrial estates that can accommodate industrial uses with buffer requirements. Some of the requirement for employment land will relate to higher-intensity corporate

business parks or research facilities that might be better located close to higher-order activity centres in order to generate synergies with the local business sector.

Overall, the analysis in this report provides broad support for up to approximately 5,000ha or more of employment land to be set aside during the preparation of the GCPs. Additional considerations need to be recognised for individual regions, particularly where these regions serve a wider metropolitan, state or even national role in the provision of industrial land.

A key outcome from the analysis in this report is that a major employment contribution will need to be made for a range of higher-order community uses such as major health and education facilities, and this is particularly the case for the larger regions which will need to provide a broad range of services. Typically the planning for these types of services is undertaken with input from the different levels of government, particularly at the State and Commonwealth level. This report highlights the need for early consideration of future public investment requirements so that appropriate sites can be identified for these uses. In the absence of proper planning at this early stage, it is likely that sub-optimal sites will need to be developed in the future, in locations not well-served by public transport and without the same potential to generate multiplier benefits in the surrounding region.

INTRODUCTION

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1 BACKGROUND

This report has been prepared for the Growth Areas Authority (GAA) by Essential Economics Pty Ltd, and presents an analysis of the activity centre and employment requirements for land that has been brought within the Urban Growth Area through Planning Scheme Amendment VC68 and in response to *Delivering Melbourne's Newest Sustainable Communities*. The analysis is provided as input to the preparation of new *Growth Corridor Plans* (GCPs) for these regions on Melbourne's fringe.

Assessment of the activity centre and employment requirements for the growth corridors has been prepared in the context of principles that have been adopted by the GAA in relation to employment self-sufficiency and the distribution of activity centres. These principles strongly encourage outcomes in which jobs and services are provided close to where people live, in order to reduce the number and length of private vehicle travel and to assist in the efficient delivery of transport and other infrastructure.

The analysis in this report aims to provide advice on how a distributed network of activity centres and employment precincts can be attained in order to meet GAA's aspirational targets in relation to activity centre access and employment provision.

A recommended structure for activity centre and employment provision is made for each of the Growth Corridor Plan (GCP) regions, as input to the ongoing planning for these areas of land.

1.1 Objectives

This report aims to meet the following study objectives:

1. To understand the current distribution of centres, by type and according to the retail and other commercial components of each centre.
2. To examine the opportunity to develop a *distributed system* of activity centre provision in which the local provision of shopping and other community services can be maximised while still ensuring a network of healthy and viable centres.
3. To understand the implications that this distributed system would have on higher-order shopping and business districts including Principal Town Centres (PTCs) and Major Town Centres (MTCs).
4. To identify an appropriate distributed centre hierarchy for each of the GCP regions and provide advice on the number of centres by type (PTCs, MTCs and NTCs).
5. To understand how jobs are currently provided in metropolitan Melbourne in terms of their location (eg industrial/employment zones, activity centre zones, major community uses, etc), their land usage and their distribution.

6 To assess the opportunity for employment provision at particular locations, ranging from broadhectare industrial land to smaller sub-regional and local employment hubs, activity centres, community uses and home-based employment.

7 To identify a network of employment opportunity across each of the GCP regions in a way that maximises the opportunity to meet the GAA targets for employment self-sufficiency and local job provision.

8 To provide advice on an appropriate distribution of centres and employment for planning purposes in the GCP regions.

1.2 This Report

This report is organised in three parts, as follows:

Part A: Activity Centre Planning

This part of the report looks at the ways in which a distributed network of activity centres can be developed for the growth corridors, having regard for the GAA objectives for centre accessibility. The analysis responds to the GAA's aspirations for local employment choice in activity centres, recognising that employment planning is assessed in greater detail in Part B.

Chapter 2: Typical Activity Centre Hierarchies

Chapter 3: Improving Centre Delivery in Growth Areas

Chapter 4: Supermarkets as Key Anchor Tenants for Local Town Centres

Chapter 5: Specialty Retailing and Higher Order Shopping

Chapter 6: Non-Retail Components of Activity Centres

Chapter 7: A Distributed Centre Network Model

Chapter 8: Centre Requirements in GCP Regions

Part B: Employment Planning

This part of the report assesses how employment opportunities can be generated to serve the needs of residents in the new growth areas and improve the performance of growth corridors in terms of employment self-sufficiency.

Chapter 9: Principles to Improve Employment Delivery

Chapter 10: Current Employment Patterns in Growth Areas

Chapter 11: An Aspiration for Improved Employment Delivery

Chapter 12: Employment Generation in Activity Centres

Chapter 13: Achieving Better Employment Outcomes in Growth Areas

Chapter 14: Employment Land Requirements

Part C: Centres and Employment Distribution

Part C of the report summarises the land requirements and employment outcomes in each of the GCP regions associated with an accessible activity centre network and improved employment performance.

1.3 GAA Principles and Targets

The advice and analysis presented in this report is provided in the context of principles that have been developed by the GAA in relation to employment generation and activity centre planning. These principles are currently used by the GAA in planning new urban communities, and some have been incorporated into the *Precinct Structure Planning Guidelines* (GAA, 2009). They are an important reference point for the current study.

Essentially, the GAA principles aim to improve employment and service delivery in the following ways:

- Ensure that people have a high level of access to employment opportunities that are well suited to their skills
- Provide localised employment opportunities in Local Town Centres (previously referred to as Neighbourhood Activity Centres, or NACs) in order to make these centres more diverse economic units
- Encourage as dense a distribution of viable activity centres as possible, so that people do not have to travel so far to undertake shopping and other trips
- Provide opportunities for local business development by planning local and sub-regional clusters of commercial, semi-industrial and service industries
- Ensure that sufficient land is set aside for the employment needs of each growth area, including provision for job creation at activity centres, in community uses (schools, medical centres, etc), in small and sub-regional employment clusters, and in large-scale employment/industrial nodes.

The performance of policy settings in achieving these principles can be measured in terms of the following concepts:

- *Employment self- sufficiency* is a ratio of the number of jobs in an area divided by the total number of people living in the area who are engaged in the labour market (ie including employed residents and those seeking work). A high level of employment self-sufficiency means that people in the area have potential to find a job locally, although in practice they might choose a job outside the defined area.
- *Employment self-containment* is a ratio of the number of people who both live and work in a defined local area divided by the total number of employed people in that area. A high level of

employment self-containment means that the employment opportunities in the area are well-matched to the skills of local residents. In practice it is most unlikely that all people live and work locally, especially in a metropolitan labour market where neighbouring regions are easily accessible.

The GAA aspirations in relation to activity centre provision and employment generation can be summarised as the following set of measurable targets:

1. An overall target of **one new job for each new dwelling** to be created in the growth corridors
2. Approximately **one-third of job to be provided at the local level** (ie in local community neighbourhoods)
3. Approximately **70% of jobs to be located at the sub-regional level** (ie within approximately 5km)
4. A target of **100% employment self-sufficiency at the wider regional level** (ie within approximately 10km)
5. A target for **80-90% of all households to be within 1km of neighbourhood-level shopping facilities** that have a supermarket
6. A network of **neighbourhood and higher-order centres planned on the basis of a square mile block** (1.6km x 1.6km), and supported by a grid system of streets to reflect this pattern of development.

1.4 Study Areas

The geographic coverage of this study includes all land to be brought within the Urban Growth Boundary and for which Growth Corridor Plans are being prepared. These regions include:

- Melbourne West: Wyndham Growth Area and Melton-Caroline Springs
- Melbourne North: Sunbury
- Melbourne North: Hume-Mitchell-Whittlesea
- Melbourne South-East: Casey-Cardinia

The GCP regions are shown in Figures 1.1 to 1.4.

1.5 Relationship with Other Regions

Although the focus is on employment planning and activity centre coverage within identified geographic regions, consideration is given to the existing network of centres and employment lands in metropolitan Melbourne (ie in-board), as well as the locations of town centres and employment patterns of residents who live in non-metropolitan Melbourne. For example, consideration is given to employment patterns in

the peri-urban corridors which are served by the Princes Highway (West), Western Highway, Calder Highway, Hume Freeway and Princes Highway (Gippsland).

Wider analysis of these corridors has been incorporated into a review of the activity centre and employment requirements for individual GCP regions (refer Part C).

Importantly, the principles and findings of this report are also applicable to existing growth areas as PSPs are progressively undertaken for these remaining urban development areas.

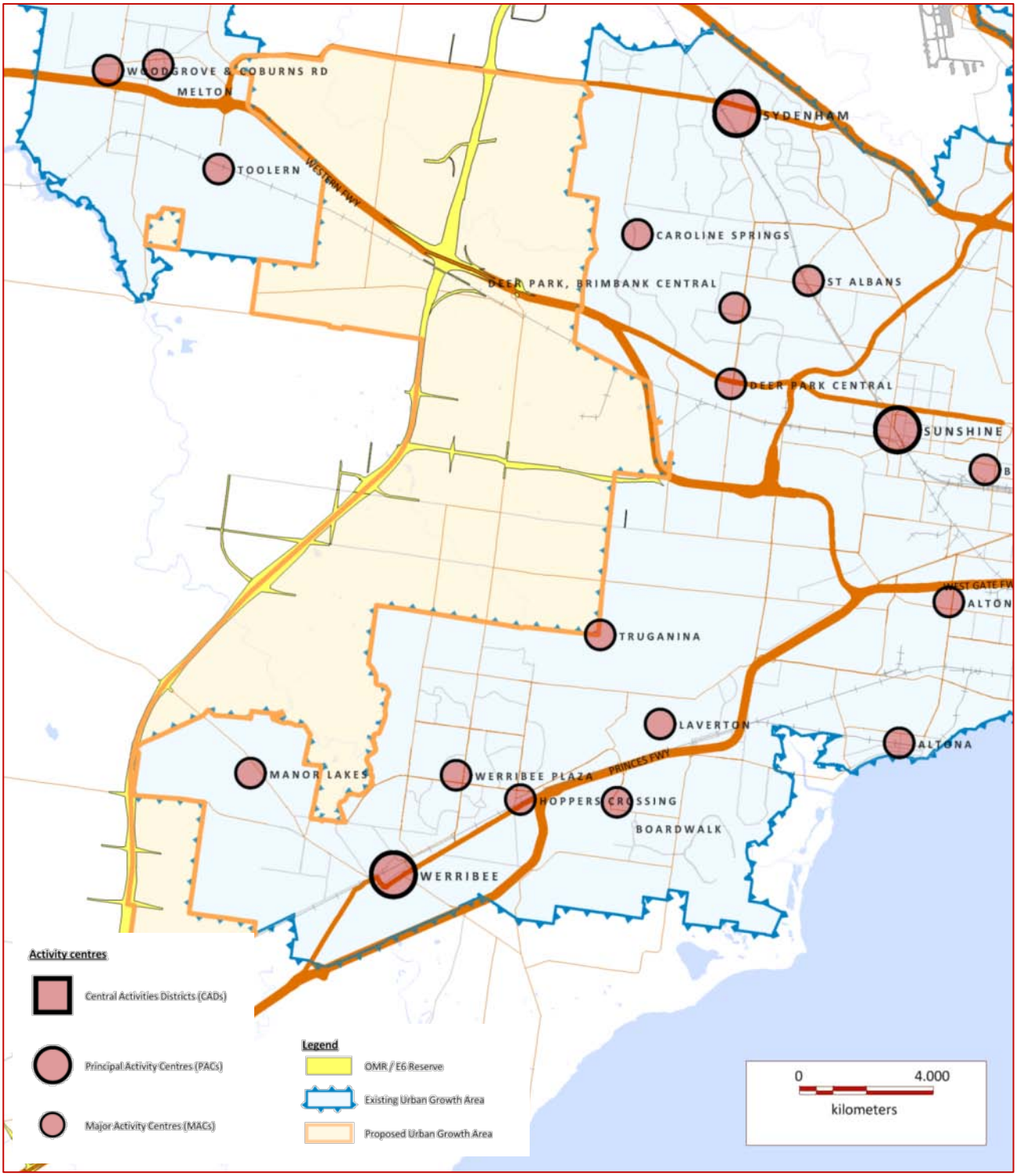
1.6 Activity Centre Classifications

In planning for the growth corridors, the GAA has adopted a classification system for activity centres that uses the following terminology:

- Central Activity Area (includes Melbourne CBD and other centres previously identified as Central Activities Districts, or CADs)
- Principal Town Centre (applies to centres previously known as Principal Activity Centres, or PACs)
- Major Town Centre (applies to centres previously known as Major Activity Centres, or MACs)
- Local Town Centre (applies to centres previously known as Neighbourhood Activity Centres, or NACs)
- Specialised Town Centre (applies to centres previously known as Specialised Activity Centres, or SACs).

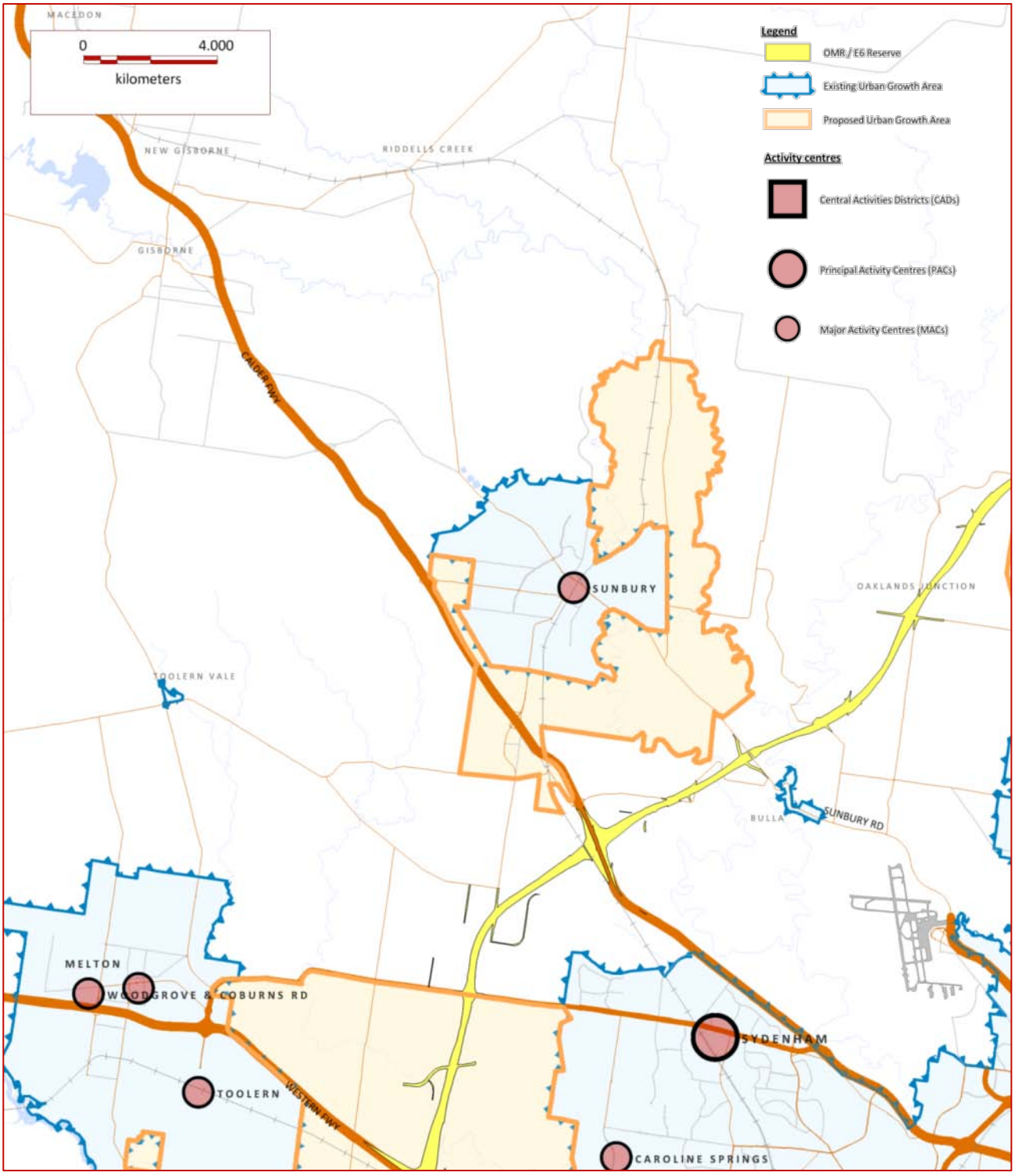
The GAA terminology is applied in this report to new centres located in the GCP regions. In describing the existing hierarchy of centres, the terminology used in *Melbourne 2030* and *Delivering Melbourne's Newest Sustainable Communities* is applied.

Figure 1.1: Melbourne West Growth Corridor



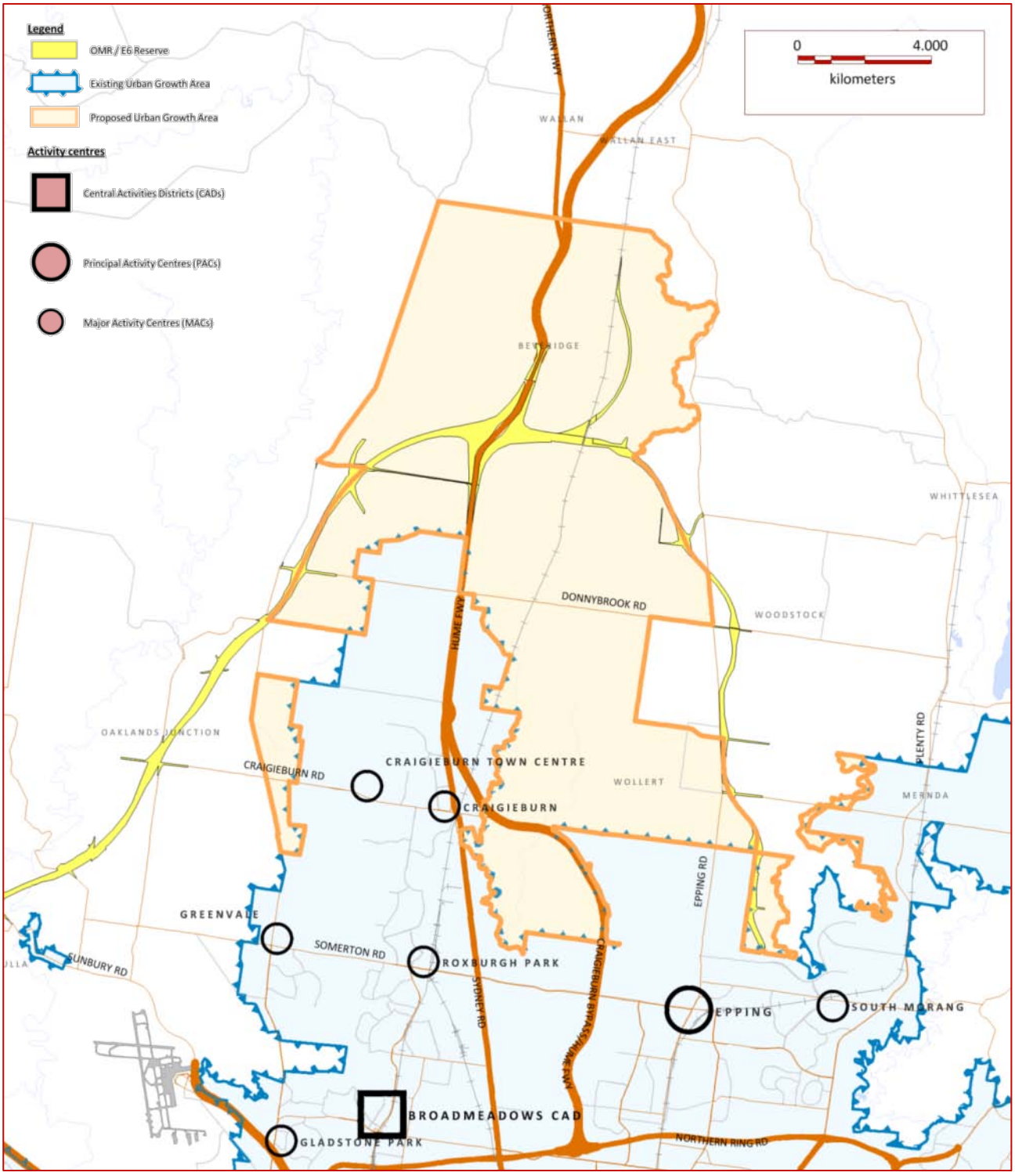
Produced by Essential Economics with MapInfo, StreetPro and Growth Areas Authority

Figure 1.2: Melbourne North (Sunbury) Growth Corridor



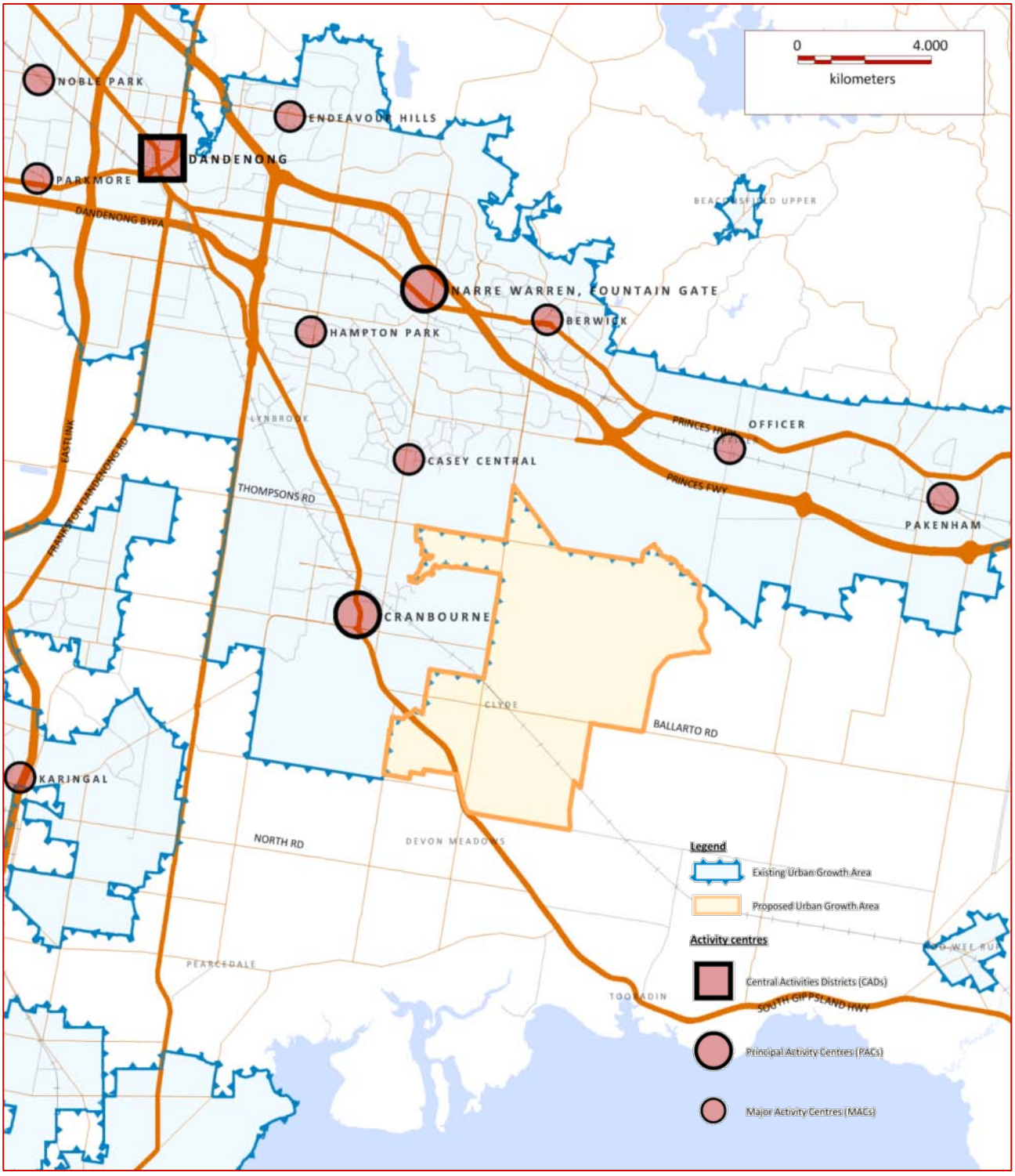
Produced by Essential Economics with MapInfo, StreetPro and Growth Areas Authority

Figure 1.3: Melbourne North (Hume-Mitchell-Whittlesea) Growth Corridor



Produced by Essential Economics with MapInfo, StreetPro and Growth Areas Authority

Figure 1.4: Melbourne South East Growth Corridor



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1.7 Expected Development Outcomes in the Growth Areas

Expectations in terms of population and dwelling growth in each of the new growth areas are based on the most recent information provided by GAA.

In broad terms, the growth prospects are as follows:

- Melbourne West: 70,000 to 114,000 new dwellings
- Melbourne North – Sunbury: 22,000 to 35,000 new dwellings
- Melbourne North – Hume-Mitchell-Whittlesea: 66,000 to 105,000 new dwellings
- Melbourne South-East: 30,000 to 50,000 new dwellings

A total of 188,000 to 304,000 new dwellings are expected to be built in the new growth areas over time, noting that this is a broad estimate, and that total dwelling numbers will fluctuate over time as the land is built out and over the lifetime of the new communities that will be created.

The higher end of the range (ie 304,000 new dwellings) represents a potential upper limit to the likely development outcomes, reflecting more efficient land use while also recognising the need for conservation areas, environmental buffers, regional open space and so on.

The analysis in this report is undertaken for the expected capacity population associated with the dwelling numbers described above, rather than for an expected population growth scenario over time. The emphasis in this approach is on ensuring that sufficient land is set aside for employment purposes (in activity centres and other employment zones) as the growth corridors are developed over time.

Over the next twenty to thirty years it is possible that household sizes, the mix of dwelling types and average dwelling densities, and the extent of areas that need to be put aside for conservation and other non-urban purposes may vary significantly. Similarly, demand for industrial land and average employment densities in industrial areas may also change. The corridor plans need to allow for such variations so that sufficient flexibility is incorporated in planning for possible future infrastructure and service needs. The figures shown above reflect likely upper and lower limits on the population, dwelling and housing capacity of the growth corridors.

PART A:
ACTIVITY CENTRE PLANNING

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2 ACTIVITY CENTRE HIERARCHIES

This Chapter identifies the typical typology and hierarchy of centres that prevails in metropolitan Melbourne, including in urban growth areas. This hierarchy can be described in different ways, depending upon whether a retail-focussed typology or a policy-based typology of centres is adopted.

This information is provided as a basis for understanding the various components of the activity centre hierarchy, and how the hierarchy can be modified to improve its geographic distribution at the neighbourhood level, as proposed by the GAA.

2.1 Typologies for Centre Hierarchies

Centre typologies are the descriptions of centre types that are used to apply planning and economic policy to activity centres. Typically, these typologies are arranged in hierarchies in order to reflect the ways in which different retail and other economic functions are aggregated to serve particular geographic areas or customer markets. As retailing is often the most significant land use and economic activity, the incidence or absence of particular higher-order anchor retail tenants (such as department stores, discount department stores, and supermarkets) are often the 'markers' that characterise the different levels in the centre hierarchy.

In the exercise of planning policy, other aspects also need to be considered, including whether any particular centres (or types of centres) are deserving of a particular focus for government investment (for example transport infrastructure), or whether private investment (for example housing development) is to be encouraged at some levels of the hierarchy. For this reason, planning authorities have developed many different versions of the centres hierarchy as the basis for planning policy.

Melbourne 2030 introduced a hierarchy for Melbourne which consists of the Melbourne Central Activities District, Principal Activity Centres (PACs), Major Activity Centres (MACs), Specialised Activity Centres (SACs) and Neighbourhood Activity Centres (NACs). More recently, six of the PACs have been re-designated as Central Activities Districts (CADs).

In Western Australia, *State Planning Policy 4.2 – Activity Centres for Perth and Peel* adopts a centres hierarchy which comprises Capital City, Primary Centres, Strategic Metropolitan Centres, Secondary Centres, Specialised Centres, District Centres, Neighbourhood Centres, and Local Centres.

The 30-Year Plan for Greater Adelaide adopts a hierarchy comprising the Adelaide City Centre, Regional Centres, Major District Centres, District Centres, Bulky Goods Centres, Specialist Centres, Neighbourhood Centres and Local Centres.

The *Metropolitan Plan for Sydney 2036* identifies *strategic centres* that consist of Global Sydney, Regional Cities, Major Centres and Specialised Centres. The Plan also identifies *local centres* that comprise Town Centres, Villages and Neighbourhood Centres.

These examples highlight the many different versions of centre hierarchies that are typically applied in developing public policy for activity centres. A particular characteristic of the Melbourne typology is the relatively few 'layers' in the hierarchy, with just six centre types (and including specialised centres which sit outside the 'hierarchy'), compared with some interstate examples having up to eight different types.

A distinction needs to be drawn between the *planning policy hierarchy*, which considers all types of land uses (including sometimes residential) and is the basis for government decision-making on investment and infrastructure delivery, and the *retail centres hierarchy*, which is more particularly associated with the current retail role of the centre in question, its geographic catchment, growth opportunities, and so on.

In this examination of Melbourne's new growth areas, each of these hierarchies needs to be considered. For example, the retail role of centres will need to be considered in terms of the distribution of supermarkets and major stores such as discount department stores (ie in terms of retail roles), while the policy hierarchy is important as new centres will need to be incorporated into the Melbourne 2030 framework (or other subsequent policy structure), and will therefore be subject to other aspects of planning policy as set out in the Victoria Planning Provisions.

The policy designation for centres will also have an important influence on public investment decisions, for example the location of major community infrastructure such as higher-order education and health services which require public funding. As the further analysis in this report shows, the locations of these major institutional services will need to be planned early in the development process so that land is set aside in appropriate locations where they can be served by public transport and other infrastructure. The alternative is for urban communities and centres to require 'retro-fitting' to accommodate these uses, in which case it is likely they will not be able to secure appropriate sites.

2.2 Retail Centres Hierarchy

The retail hierarchy normally applied in retail-economic analysis and retail planning consists of the following elements, noting that this classification system refers only to the retail role and function of centres:

- ***CBD*** – Forms the highest level in the hierarchy, containing major flagship department stores, and a wide range of specialised retail stores. Serves the whole metropolitan area as well as attracting visits from regional Victoria, interstate and overseas.
- ***Super regional*** – A major shopping destination typically incorporating more than one department store, one or more discount department stores, supermarket(s) and a wide range of retail specialty traders. Examples include Chadstone, Southland, and Highpoint, all of which are in excess of 120,000m^2. These centres each serve very large parts of the metropolitan area.

- ***Regional*** – A major shopping destination typically containing a department store, discount department store(s), supermarkets and an extended range of retail specialties in fashion, homewares, and other shop types. Centres vary from 50,000m^2 (a small example) to 100,000m^2 or so.

- ***Sub-regional*** – A medium sized shopping centre typically containing at least one discount department store, major supermarket(s) and a range of specialty shops. Centres can be as small as 15,000m^2, and as large as 50,000m^2 or more.

- ***Large neighbourhood centre*** – A centre with at least one (and sometimes two) full-line supermarket(s) as anchor tenant, and supported by a range of specialty stores, mostly offering convenience shopping and some comparison goods (eg limited apparel). Typically comprise at least 8,000m^2 or so of retail floorspace, and can be up to around 15,000m^2.

- ***Neighbourhood centre*** – A centre with one supermarket which might be a full-line store or a smaller format, and a limited range of convenience-related specialty shops. Usually contains approximately 3,000-7,000m^2 of retail floorspace.

- ***Local centre*** – A small collection of shops usually serving the day-to-day needs of the immediate residential catchment.

- ***Homemaker or bulky goods centre*** – A collection of traders with a particular focus on the sale of electrical, hardware, furniture, bedding and other home furnishings. Centre sizes vary from small precincts with just 10,000m^2, to large integrated centres of more than 50,000m^2.

2.3 Activity Centres Hierarchy

The centre hierarchy that applies to the designation of activity centres in Melbourne 2030 consists of the following levels:

- ***Melbourne Central Activities District*** – The Melbourne CAD is the premier location for major business services, retailing, commercial office headquarters, state government administration, entertainment and other functions which typically serve the whole metropolitan area.

- ***Central Activities Districts*** – Six centres are designated as CADs, following the preparation of the *Melbourne @5 Million* update to *Melbourne 2030*. CADs are intended to perform a CBD-type role at strategic locations outcome of Melbourne's traditional business centre, and reflect a more poly-centric ideal of business development across the urban area. The six CADs are Box Hill, Broadmeadows, Dandenong, Footscray, Frankston and Ringwood.

- ***Principal Activity Centre*** – A total of 20 centres are designated as PACs, and are expected to play an important role as a focus for retail, commercial activity, administrative functions, entertainment, and residential development. PACs are well-served by public transport and are a priority for government investment and to stimulate private investment.

- ***Major Activity Centre*** – These are similar to PACs in terms of the diversity of land uses that are expected to develop, and in terms of the expectation of strong public transport delivery. However, they serve smaller catchments, and can therefore be differentiated mostly in terms of scale. A total of 94 MACs are identified across Melbourne.

- ***Specialised Activity Centre*** – These are important economic precincts that provide a mix of economic activities that generate high numbers of work and visitor trips, and are typically associated with major research, health or transport infrastructure (eg Melbourne Airport). They do not necessarily have a focus on retailing or general commercial office activities.

- ***Neighbourhood Activity Centres*** – These centres have a more limited mix of uses and are important in providing easily accessible local services including grocery and convenience shopping, and local services. Neighbourhood centres are anchored by supermarkets or varying size, with full-line stores being the main distinguishing feature of the larger and more successful neighbourhood centres.

As noted in section 1.6, the GAA has adopted slightly different terminology to describe the range of centres to be planned in the growth corridors, with PACs and MACs being replaced by Principal Town Centres (PTCs) and Major Town Centres (MTCs), respectively, and neighbourhood centres (NACs) now referred to as Local Town Centres (LTCs).

2.4 Conclusion

Advice to GAA on the activity centre requirements in the new Growth Areas will need to have regard for the ways in which centres are typically organised in terms of the retail hierarchy and the planning policy hierarchy as expressed in *Melbourne 2030* and *Melbourne @5 Million*.

The particular elements that are most relevant to this study relate to the potential to accommodate a network of Local Town Centres (LTCs) to serve local demand for retail and other services, and the need to establish higher order centres (PTCs and MTCs) to be the focus for a much wider range of higher-order retailing and business services. In some regions, specialised centres (STCs) may be designated to reflect particular economic roles, for example in the delivery of transport infrastructure, as centres of research and industry, and so on.

3 IMPROVING CENTRE DELIVERY IN GROWTH AREAS

The GAA is seeking to develop a network of easily accessible town centres in Melbourne's growth areas. These centres are intended to act as community focal points for shopping, business services, entertainment, and community facilities. They are to be the location for significant local employment generation and to provide opportunities for small business development.

The emphasis is on a *distributed* system of retail and commercial provision rather than the concentration of such uses (only) in higher-order centres. This distribution of activity is intended to increase the accessibility of centres, reduce the number of vehicle kilometres travelled and encourage non-motorised forms of transport, including walking and cycling.

This Chapter provides broad discussion and analysis of how a distributed centre network might be achieved, and includes:

- A summary of the GAA's aspirations in relation to activity centre delivery, as described in the *Precinct Structure Planning Guidelines*
- A summary of how the activity centre network currently operates in Melbourne (including in growth areas), and how this pattern might be applied or changed in the new growth corridors
- General principles of centre distribution as the basis for activity centre delivery.

The following Chapters 4 to 6 provide further analysis of particular aspects of centre delivery, including the role of supermarkets as anchors for LTCs, opportunities for specialty shops and non-retail provision, and the form and role of higher-order centres (PTCs and MTCs) in the network. Subsequently, Chapter 7 presents a summary of how a distributed centre network might operate in the GCP regions.

3.1 GAA Principles for Activity Centres

Precinct Structure Planning Guidelines have been prepared by the GAA to assist in the process of planning "*diverse, compact and well connected communities that are affordable and rich in jobs, transport access, services and culture*" (PSP Guidelines, p2). The guidelines deal with all aspects of the PSP planning process, providing an integrated planning approach to ensure delivery of infrastructure, housing, jobs, green spaces, and community facilities, and to assist with the implementation of the PSPs and the subsequent planning permit process.

The PSP Guidelines are based on a set of seven overarching objectives:

1 To establish a sense of place and community

2 To create greater housing choice diversity and affordable places to live

3 To create highly accessible and vibrant activity centres

4 To provide for local employment and business activity

5 To provide better transport choices

6 To respond to climate change and increase environmental sustainability

7 To deliver accessible, integrated and adaptable community infrastructure.

In relation to activity centres and employment, Objectives 3 and 4 include the following directives (among others):

- PSPs are to identify a clear hierarchy of centres reflecting existing framework plans and *Melbourne 2030*
- Higher-order centres are to have a high employment density and/or frequent visitors, such as substantial office developments, retailing and community facilities
- The location of activity centres is to encourage the use of public transport
- Local town centres are to be a focus of the whole community providing residents with convenient access to local shops, services, meeting places and jobs
- Activity centres are to be designed for a vibrant mix of land uses including housing, shops, offices and community facilities.

More detailed direction on how to prepare a PSP is given in Volume 2 of the Guidelines, which also includes Standards to be applied in relation to various aspects of the PSP process. Relevant directions and standards include the following:

- A 1.6km (mile) road grid is to be applied for arterial roads, although this is to be adjusted where necessary to reflect local conditions (eg creeks and other topographical features).
- Neighbourhood-level centres are to be located on connector streets, with direct access to at least one arterial road.
- Activity centres are to be located where they maximise access to the public transport system, with higher order centres located on the Principal Public Transport Network (PPTN) and neighbourhood-level centres served by local bus routes.
- Homes designed for working from home are to be concentrated adjacent to activity centres.
- Housing across a precinct should achieve an average density of at least 15 dwellings per net residential hectare, but with a range of lot sizes on offer. The higher densities should be focussed in and around activity centres and public transport routes.

- Opportunities for affordable and social housing should be identified in and around activity centres.
- Employment uses that have a high employment density and/or frequent visitors (eg offices, retailing, and some community facilities) are to be located in activity centres. The more substantial office developments, retailing and community facilities should be located in higher-order activity centres.
- Commercial and industrial activities are the main components of land designated for employment purposes, although complementary residential neighbourhoods may be included where appropriate.
- Land within a walkable catchment of an activity centre should incorporate mixed-use development.
- Activity centres are to have a variety of land uses and a range of business sizes that have main street frontage, including retail, office, housing, recreation and entertainment, community services and civic uses.
- 80-90% of households should be within 1km of an activity centre of sufficient size to allow for provision of a supermarket.
- Large-format restricted retail stores are located within activity centres, but away from the highest intensity uses.
- Opportunities are provided for small business in and adjacent to activity centres, including in conjunction with a dwelling.

PSPs are to include:

- An **activity centres plan** showing the location of proposed activity centres within the precinct.
- An **activity centres table** setting out the type of centre, indicative floorspace and the role of each activity centre.
- An **employment plan** showing the location of employment, including in activity centres, community hubs and designated employment areas, and referring to employment types and job density. Relationships with regional employment areas should also be shown.
- An **employment table** setting out the expected job yield in the precinct, space requirements for different employment types and numbers of jobs expected to be generated.
- A **travel to work statement** explaining how residents are likely to travel to work.

3.2 Current Centre Delivery

In planning for the activity centre network in the GCP regions, an expectation is that the distribution of centres should be improved compared with the ways in which centres are currently planned.

The distribution of neighbourhood-level activity centres in existing growth areas is highlighted in the series of maps presented as Figures 3.1 to 3.6. These maps depict the *Melbourne 2030* activity centre hierarchy (including the changes in *Melbourne @5 Million*), and use the terminology from these existing policy documents. Although *Melbourne 2030* does not identify locations of neighbourhood centres (NACs), these have been identified on the basis of the locations of supermarkets. Note that as the NACs have been identified by the consultant on the basis of the extent to which local supermarkets serve a neighbourhood grocery shopping role, this may not necessarily align with local designations specified in relevant activity centres strategies. For example, NACs have not been designated for centres containing very small independent groceries (eg Foodwise, IGA Friendly Grocer), but do include some instances where a mid-sized supermarket (usually an IGA or Supa IGA) provides a strong supermarket anchor.

The analysis provides a comparison between the centre distributions in the middle-ring suburbs of Melbourne (refer Figure 3.1 Inner Southern Suburbs and Figure 3.2 Inner Northern Suburbs) and those found in outer suburbs (refer Figure 3.3 to Figure 3.6).

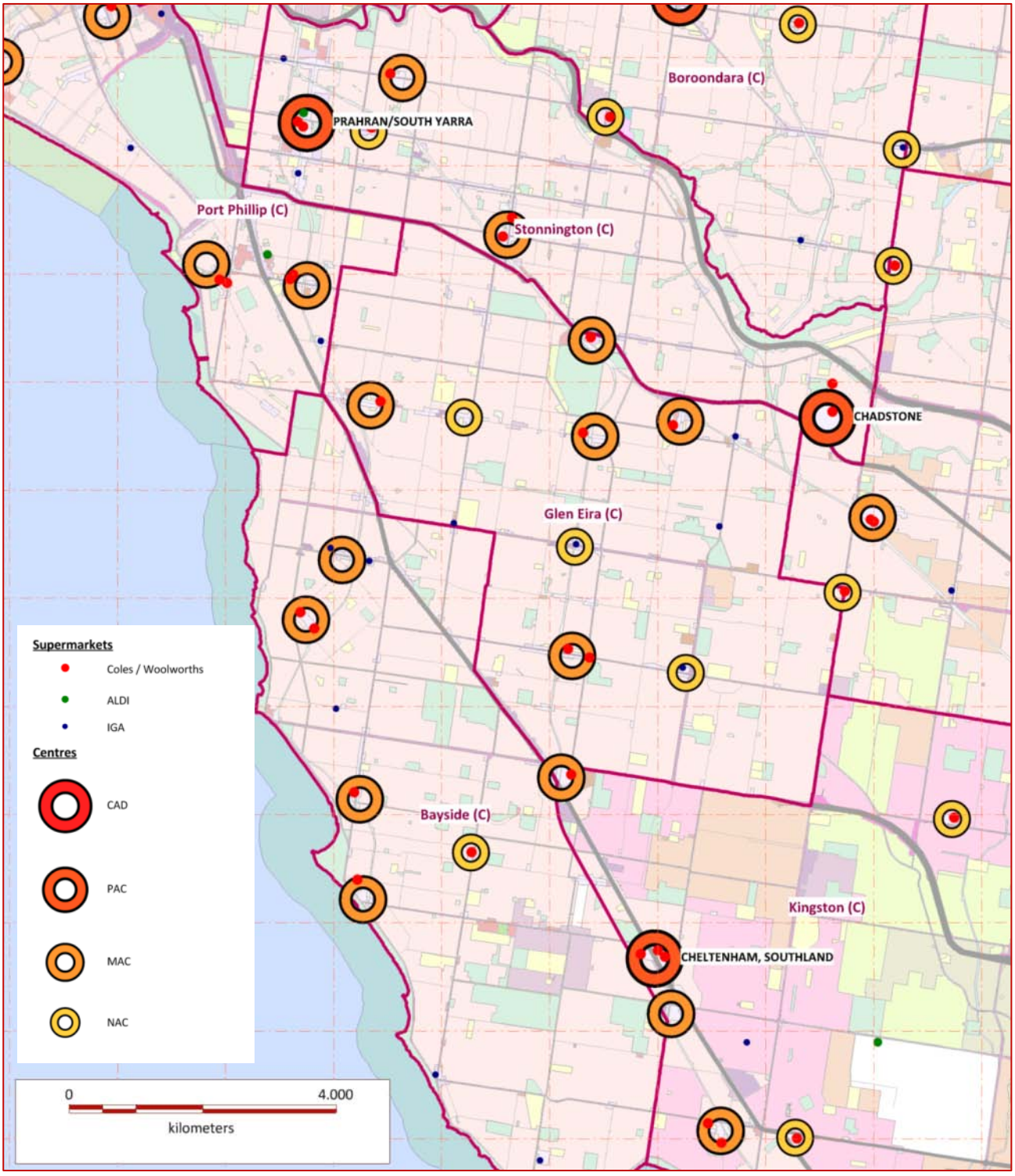
The maps are shown at the same scale in order to highlight the much more dense distribution of activity centres (including NACs) in the middle ring suburbs when compared against outer suburban locations. A 1.6km gird has been added to show the intended pattern of arterial road provision (in a theoretical sense) as described in the PSP Guidelines.

Of particular relevance are the following aspects of the current pattern of centre provision:

- Melbourne's middle suburbs have a much denser pattern of activity centre provision overall, with almost all of these centres supported by one of the main supermarket brands (Coles or Woolworths) or an ALDI store. In some cases a strong independent supermarket (IGA) is the anchor tenant for NACs in these suburbs.
- The distance between centres in these middle ring suburbs averages only approximately 1km to 2km, with relatively few regions exhibiting a more sparse distribution of centres, except where industrial or other non-residential land is located.
- Even with this dense distribution of centres, some of the higher-order centres (PACs and MACs) have more than one supermarket, suggesting that an even more distributed network of NACs might be achieved if these higher-order centres had a lesser role in providing supermarket services.
- In comparison, outer Melbourne has a much less dense network of centres, with large parts of Hume, Casey, Wyndham and Melton-Brimbank (as the examples shown in Figures 3.3 to 3.6) without convenient supermarket facilities. In some parts of these existing growth areas, the distance between major (ie full-line) supermarkets is well in excess of 2km.

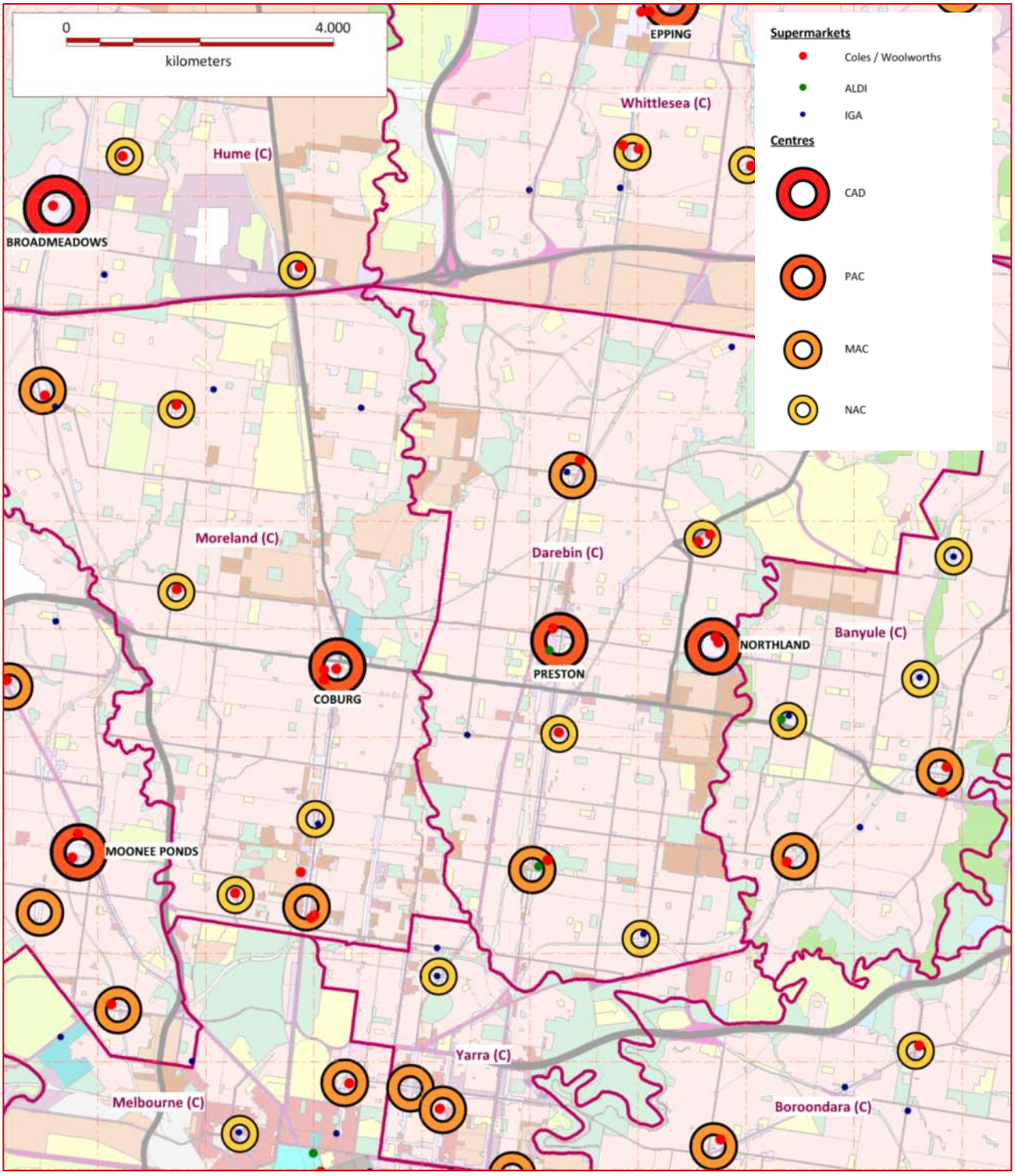
Overall, the mapping analysis shows how existing growth areas fail to provide an easily accessible network of centres that is well distributed across the urban area. The GAA's intention is to ensure that in planning future growth areas, a more distributed network is achieved which provides improved access to local grocery shopping (supported by a supermarket) and also provides a greater opportunity for local employment.

Figure 3.1: Centre Distribution Inner South



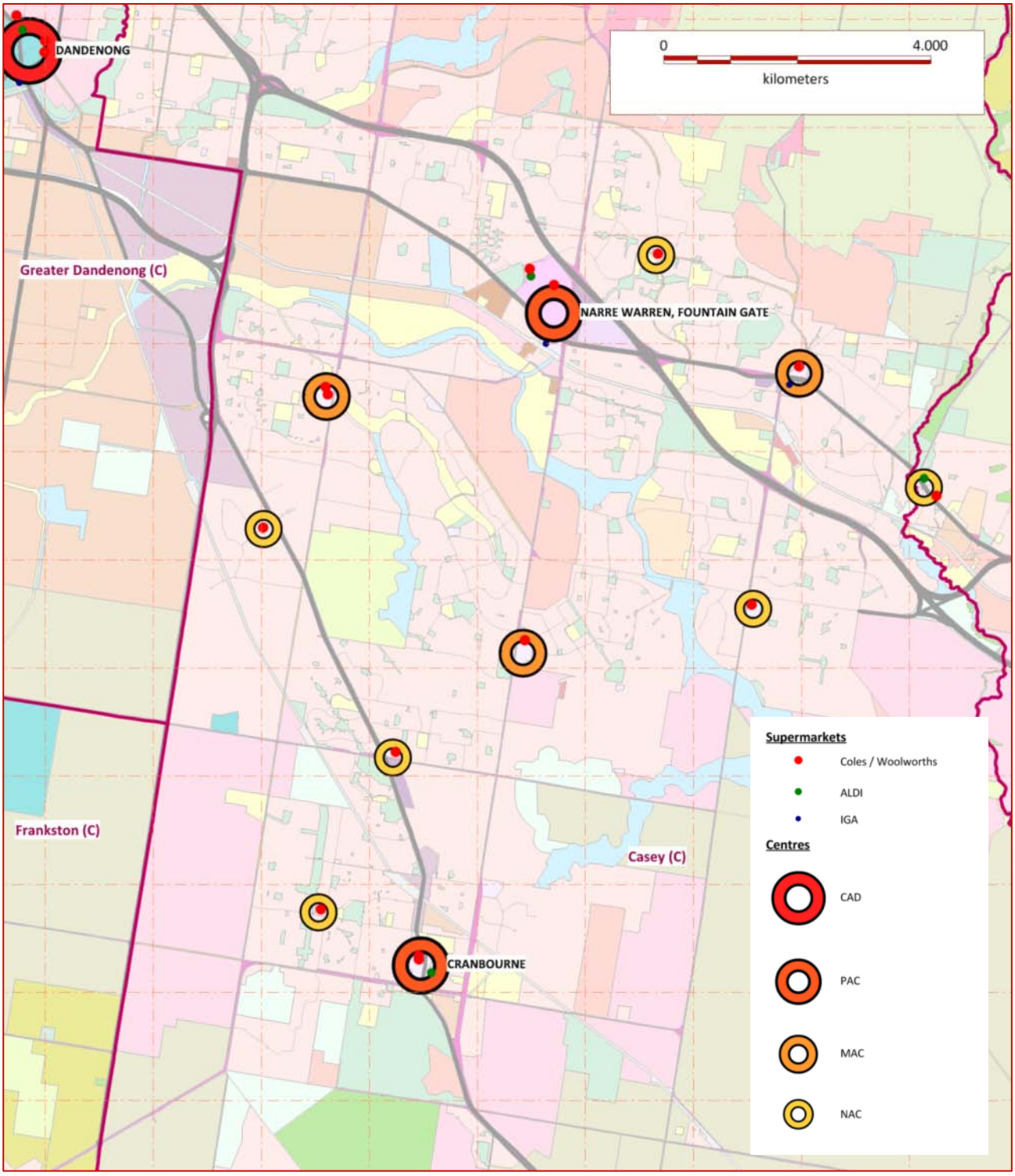
Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.vic

Figure 3.2: Centre Distribution Inner North



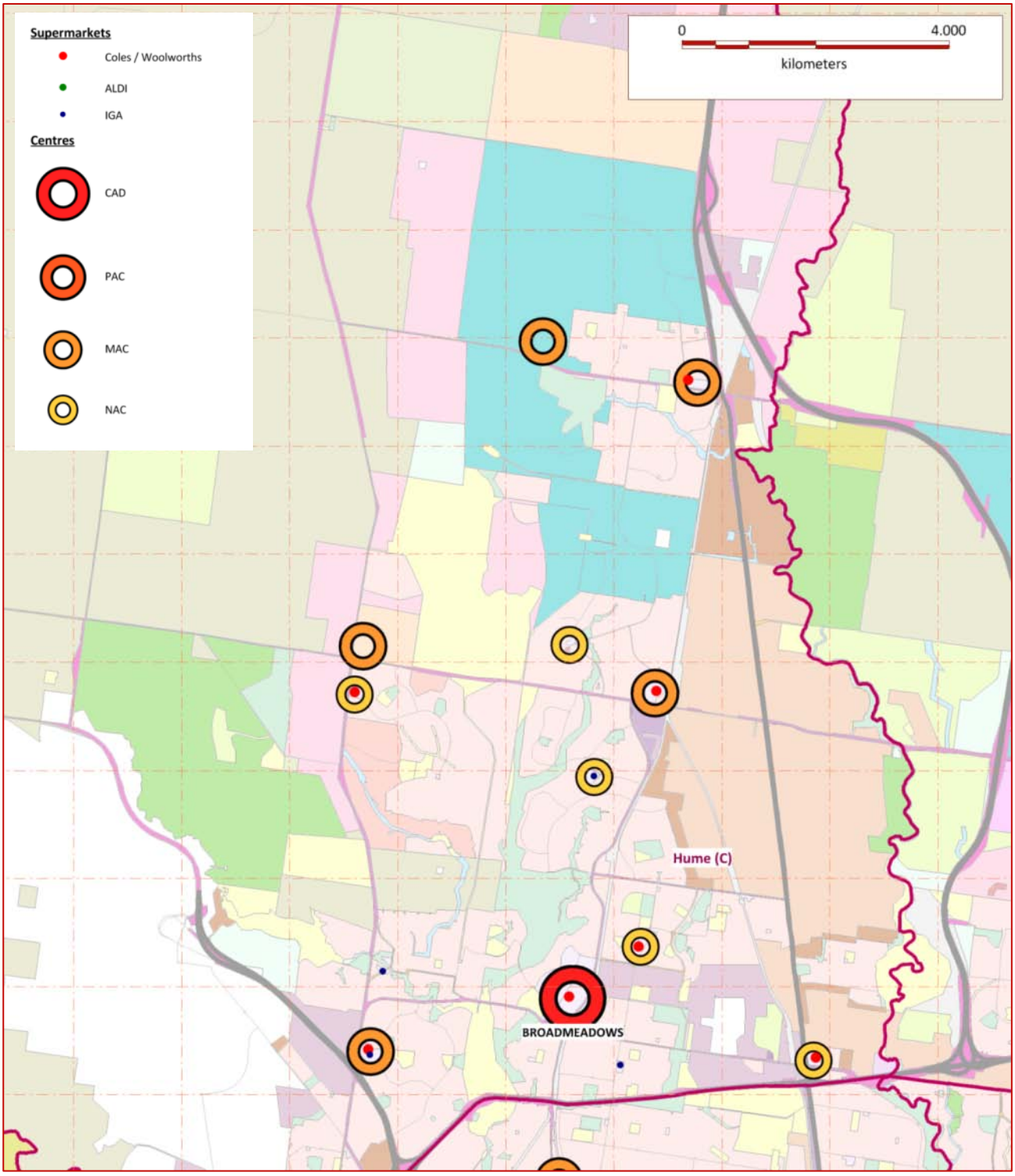
Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.Vic

Figure 3.3: Centre Distribution Outer South-East



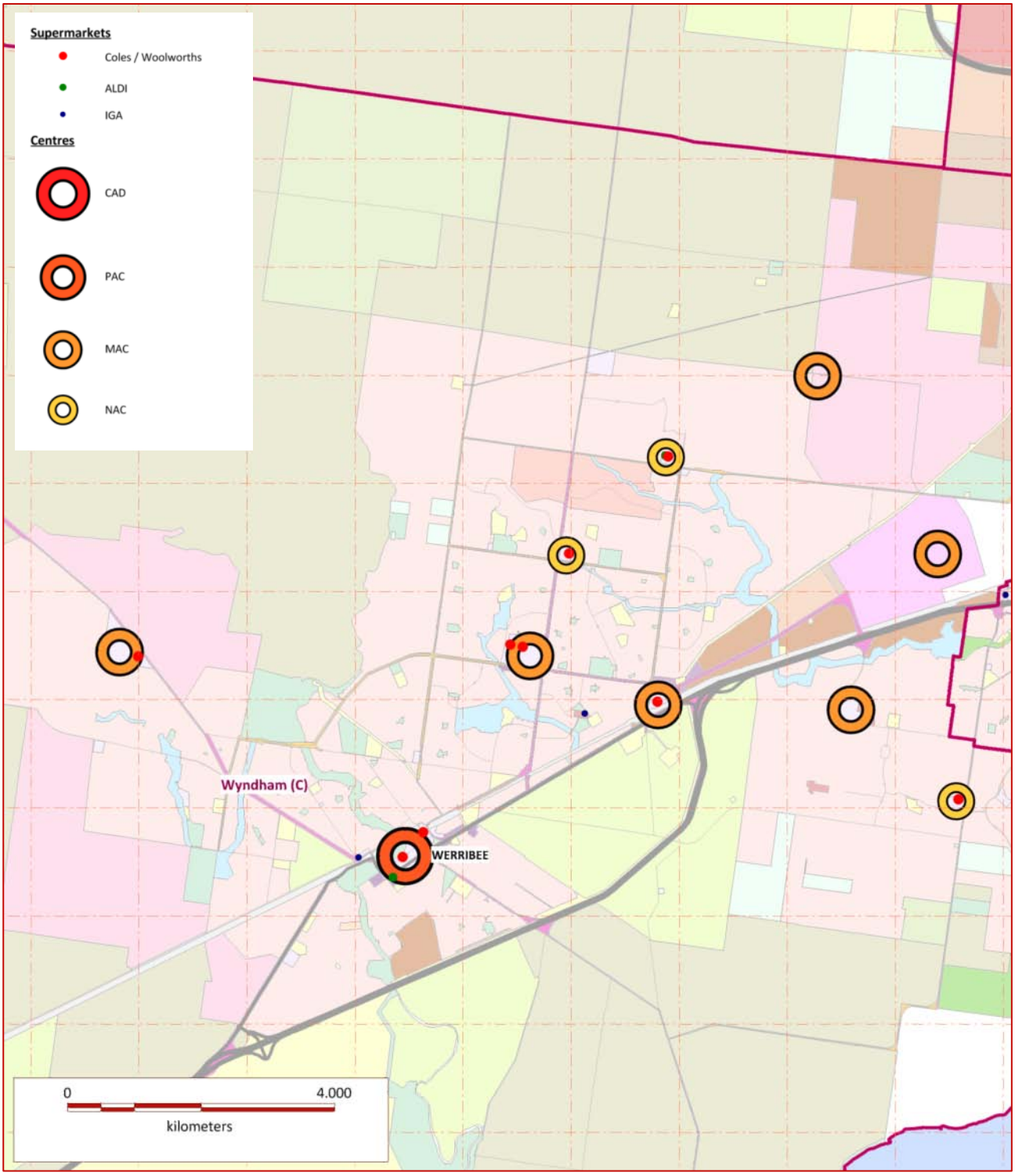
Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.Vic

Figure 3.4: Centre Distribution Hume



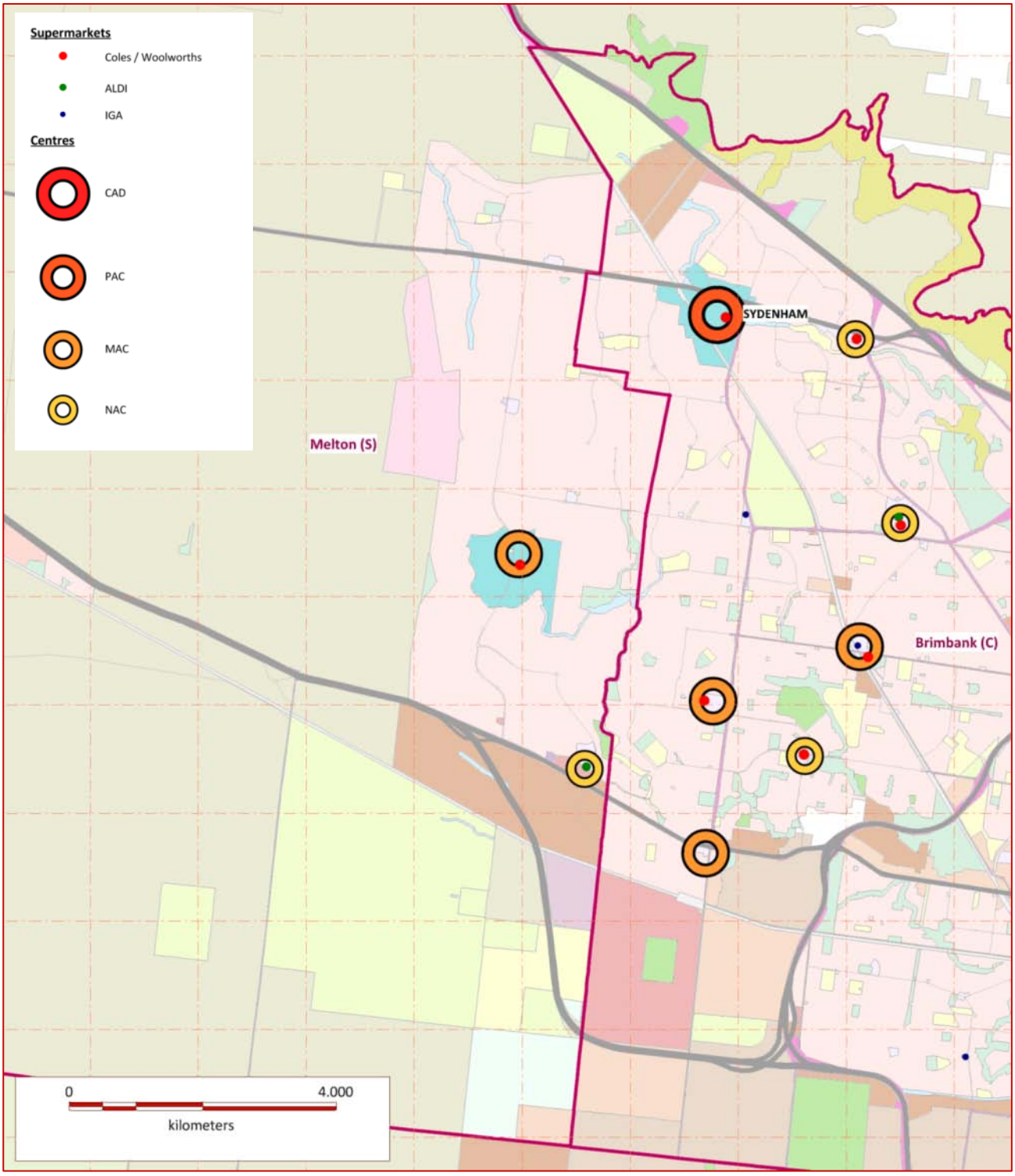
Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.Vic

Figure 3.5: Centre Distribution Wyndham



Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.Vic

Figure 3.6: Centre Distribution Melton-Brimbank



Produced by Essential Economics with MapInfo, StreetPro and with Zone Information from Land.Vic

3.3 A Basis for a Distributed Network

Having regard for the directions and standards that are contained in the GAA's Precinct Structure Planning Guidelines, and the current patterns of centre provision in the middle ring suburbs compared with the existing growth areas, the following principles can be identified as being an appropriate basis upon which to plan for a distributed network of centres which maximises access to neighbourhood retail provision:

1 The centre network should be planned on the basis of a grid of arterial roads which approximates a square mile (or approximately 1.6km), having regard for the directions in the PSP Guidelines.

2 In order to ensure that 80-90% of households are within 1km of supermarket grocery services, each square mile grid (ie an area bounded by arterial roads) should have a supermarket as an anchor for a Local Town Centre. These square mile grids can be considered as 'neighbourhood units' for the purposes of local area planning.

3 Local centres with small supermarkets or large general stores may be required to ensure access to local retailing in some instances, but these are not likely to provide the full array of shopping services that is intended to be provided at the neighbourhood level, and may struggle to become community focal points in the way that the GAA envisages.

4 The provision of supermarket-based centres should be maximised in terms of the geographic spread in order to ensure high levels of accessibility. However, these centres need to be active and viable community hubs with a range of land uses and employment opportunities, and this commercial reality needs to be considered in assessing the locations of centres in the network.

5 Centres must be well-designed places that encourage activity and provide a range of opportunities for local business generation, residential and mixed use development, small office-home office building design, town centre spaces, outdoor dining and other factors that contribute to the vibrancy of the centre.

6 Residential yields in growth areas will need to be sufficiently high to ensure that population levels in each neighbourhood unit are large enough to support a supermarket-based centre.

7 If a more distributed network of centres is to be achieved by encouraging a dense pattern of supermarket distribution, the implications for higher-order centres including PTCs and MTCs needs to be understood. For example, the current pattern in outer suburbs is for these sub-regional and regional shopping centres to contain at least two supermarkets (noting that this is not always the case), yet the emphasis on higher-order centres in the existing growth areas might be one of the contributing factors which has lead to the current sparse distribution of supermarket-based centres serving residential neighbourhoods. A key issue here is the extent to which planning regulations might be able to influence the location decisions of supermarket operators and centre developers.

The considerations described above form the basis for further examination of the opportunity to deliver a distributed centre network model. Subsequent chapters provide analysis of various aspects of centre delivery, from supermarket catchment analysis to opportunities for non-retail provision.

4 SUPERMARKETS AS ANCHOR TENANTS

An analysis of the ways in which a distributed network of supermarkets can be achieved is necessary to identify an appropriate centre network model, as supermarkets are the essential anchor tenants for Local Town Centres (LTCs) providing convenience shopping services to the surrounding community.

The importance of the supermarket sector is shown by the fact that approximately 70-75% of total expenditure on food and groceries in Australia is currently directed to supermarkets, according to analysis of ABS Retail Industry Survey data. This market dominance in a key convenience retail sector means that the ability to accommodate a supermarket operator is a critical factor in designing an appropriate network of neighbourhood shopping centres.

In addition to capturing a high share of the food and grocery sector, supermarkets are also important because this expenditure is concentrated in a single store, and therefore attracts large numbers of visits. For example, a typical full-line supermarket with sales of around $30 million would be expected to attract well over half a million shop visits per annum, on the basis of an average expenditure per visit of forty dollars. This high visitation provides support for a wide range of specialty retail tenants, from green grocers to newsagents, as well as non-retail tenants such as banks and real estate agents.

This chapter presents analysis of the supermarket sector in Melbourne, and includes consideration of:

- The existing pattern of supermarket distribution
- Key benchmarks which determine supermarket locations
- Analysis of how supermarket catchments can be provided in growth areas
- Implications for a network of distributed LTCs
- Implications for higher-order centres.

The discussion and analysis is based on the existing supermarket industry in Melbourne, which is dominated by Coles and Woolworths, with ALDI and IGA-branded stores having a lesser role. However, it is important to acknowledge that the retail sector is a dynamic one, and opportunities will emerge over time for new industry entrants and changes in the way in which people undertake their supermarket and other grocery shopping.

4.1 Existing Distribution of Supermarkets

The current distribution of full-line supermarkets in Melbourne has been mapped and is shown thematically in Figure 4.1. The map shows the number of Coles and Woolworths/Safeway supermarkets in each square mile grid (1.6km^2) that has been overlaid across the metropolitan area, and is based on a

store location database held by Essential Economics, which has subsequently been cross-checked against data provided by GAA. The analysis is current as at August 2010, and so some newer stores may not be included in the database.

Essentially, the map examines the extent to which a distributed pattern of full-line supermarkets is currently achieved whereby at least one supermarket is located in a square mile block.

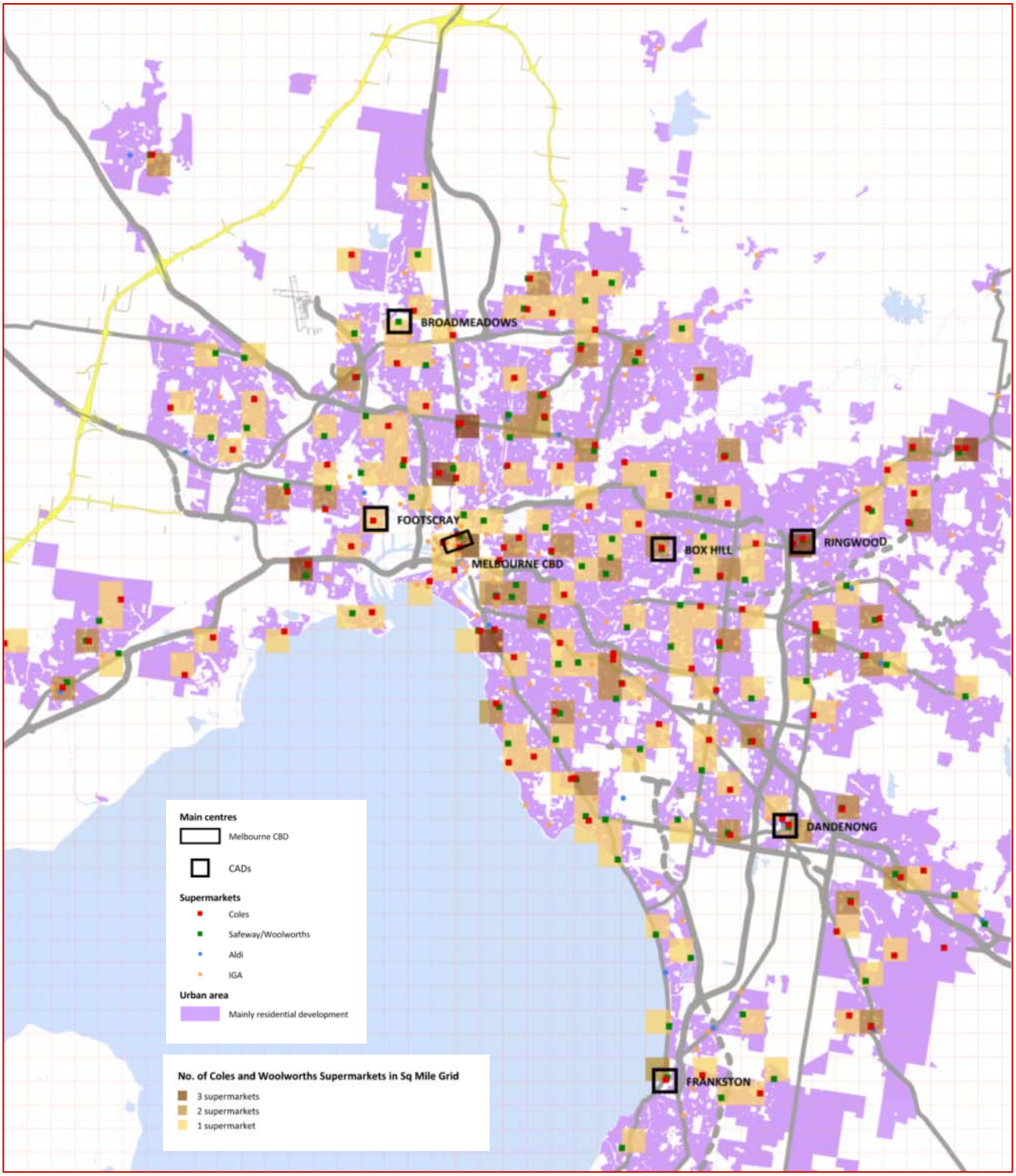
The main findings are as follows:

- Generally the distribution of major supermarkets is less dense than one store per square mile
- Relatively very few parts of Melbourne have even three or four contiguous blocks in which a full-line store is located, although to some extent this reflects the pattern of urban development, in which not all land is used for residential purposes
- However, the incidence of two and three supermarkets per square mile is relatively high, particularly in the middle ring suburbs
- In these middle suburbs, the density of supermarket provision becomes quite close to one per square mile, especially if the second and third supermarkets in each grid square are distributed to adjoining squares, and if non-residential land is ignored.

Overall, the mapping analysis indicates that a higher density of supermarkets could be achieved, particularly where population densities are similar to (or higher than) middle ring suburbs (noting that these suburbs typically average approximately 12-15 dwellings per hectare when measured in gross terms), and where opportunities for a geographic spread of supermarkets is emphasised over the concentration of two or more stores in each centre.

Nonetheless, further analysis is required to examine population outcomes in growth areas and the extent to which supermarket catchments can be created on this pattern of square mile neighbourhood units.

Figure 4.1: Numbers of Major Supermarkets in Square Mile Grids



Produced by Essential Economics with MapInfo and StreetPro and information from GAA

4.2 Key Benchmarks for Supermarket Provision

Analysis of the potential to create suitable catchments to support supermarket provision serving neighbourhood units can be undertaken with respect to relevant benchmarks relating to the size of the catchment in population and expenditure terms, and the opportunity for a supermarket to serve the local demand.

In this regard, a critical benchmark is that a full-line supermarket typically requires a population catchment of approximately 8,000-10,000 persons in an easily-definable catchment to be supportable. Smaller population catchments can sustain other supermarket models (eg mid-sized Supa IGA stores of 1,500m^2), but these smaller stores generally fill holes in the supermarket network rather than providing a focus for neighbourhood shopping.

It is relevant to note that neighbourhood shopping strips have been experiencing a revival in established parts of Melbourne over recent years, and this reflects the popularity of outdoor dining and cafés, an emphasis on high quality food products (at delis and other specialised food stores) and a general move away from a standardised shopping centre experience. While these trends are not apparent to the same degree in outer parts of Melbourne, where the typical under-cover shopping centre format still prevails, it would be expected that similar opportunities for a local shopping experience might eventuate over time, and this lends support for a network of strong neighbourhood centres serving localised catchments.

Supermarket capacity analysis for neighbourhood units

A broad supermarket capacity analysis can be undertaken to show the basis of the supermarket catchment benchmark, based on typical measures in relation to average expenditure on food and groceries, market shares achieved, and trading performance.

This analysis is presented in Table 4.1, and shows that a store of 3,000m^2 (this being a minimum for full-line supermarket shopping) would achieve average sales of $7,870/m^2 with a catchment population of 8,000 residents, and up to $9,840/m^2 with a catchment of 10,000 residents. This analysis is based on a market share of 70% of available spending at supermarkets.

These figures represent healthy trading averages for stores of this size in growth areas, with the national average currently in the order of $8,500-9,000/m^2 for new supermarkets. However, most supermarkets are planned for larger floorplates, with typical turnover performance in the order of $30 million per annum or more.

Table 4.1: Supermarket Capacity Analysis for Neighbourhood Supermarket Provision

Item	Population = 8,000	Population = 10,000
Food and Grocery (F&G) expenditure /cap	$4,250 /cap	$4,250 /cap
Total FG expenditure	$34.0 m	$42.5 m
FG expenditure directed to supermarkets, %	75%	75%
Total supermarket FG expenditure	$25.5 m	$31.9 m
Market share achieved (% retained locally)	70%	70%
Total retained supermarket FG expenditure	$17.9 m	$22.3 m
Plus general merchandise @6%	$1.3 m	$1.6 m
Plus liquor @10%	$2.1 m	$2.7 m
Total supermarket turnover potential generated locally	$21.3 m	$26.6 m
Plus turnover from beyond study area	10%	10%
Total supermarket turnover potential	$23.6 m	$29.5 m
Indicative size – full-line supermarket	3,000 m2	3,000 m2
Average trading level	$7,870 /m2	$9,840 /m2

Source: Essential Economics

Of course, the analysis in Table 4.1 is intended only as a guide; the actual store performance would depend upon many factors, including the layout, design and location of the store; the location and competitive position of other stores in the surrounding area; the road pattern and ease of access to the store; and other factors. All of these factors would interplay to influence the likely market share achieved by the store in question. In the example, a market share of 70% is applied – this figure presupposes that the centre is well-located and well-designed as an attractive shopping destination for the surrounding community.

The overall conclusion is that supermarket catchments of approximately 8,000 residents may struggle to sustain a full-line supermarket, while a catchment of 10,000 persons would be able to support a store achieving typical trading benchmarks.

Achieving population catchments

Assuming that the supermarket network is located on a square mile grid of arterial roads, analysis can be undertaken to determine the extent to which this pattern of urban development might accommodate a population of more than 8,000 residents.

It is relevant to examine the current pattern of housing development in Melbourne to assess the extent to which population catchments of this size are already achieved in established suburbs, having regard to existing housing density.

The analysis is shown thematically in Figure 4.2, which identifies square mile blocks across Melbourne in which the usual resident population (as calculated by *mesh-block* data produced by the ABS for 2006) exceeds 8,000 residents. The analysis shows that residential densities that deliver 8,000 residents for each square mile are achieved in the Melbourne CBD, in some inner eastern suburbs (eg parts of the City of Yarra), in some middle southern suburbs (eg parts of Bayside, Stonnington and Glen Eira), and in some inner north suburbs (parts of Moreland and Darebin). Outside these areas, relatively few square mile blocks achieve the benchmark of 8,000 persons.

The analysis shows quite clearly that a more sustainable pattern of urban development needs to be encouraged across Melbourne, including in the growth areas. This is emphasised in *Delivering Melbourne's Newest Sustainable Communities*, which highlights the challenge in accommodating Melbourne's growing population in established suburbs through higher density development along transport corridors and infill development; and through a more sustainable model of urban development on Melbourne's fringe.

Figure 4.3 provides additional analysis of housing density, based on usual resident information from the ABS Population and Housing Census 2006 at the *mesh-block* level. This analysis is based on gross land areas including non-residential uses.

It is important to appreciate that that recent PSPs have achieved and sometimes exceeded the benchmark of 8,000-10,000 residents in a square mile block. This is partly due to a requirement through the PSP planning stage to deliver an average of 15 dwellings per hectare, and partly due to efficiencies in land use planning such that net developable land yields are in some cases close to 80% of the total identified land area within some PSPs. An increase in average dwelling density also reflects a more general shift in the community's expectations and a greater willingness to accept a smaller house lot in return for more attractive public spaces and open space provision. Examples of higher-density dwelling outcomes for individual PSPs are shown in Table 4.2.

Analysis of the potential residential yields from square mile residential blocks (or neighbourhood units) is presented in Table 4.2, which shows that the number of residents in each neighbourhood unit is likely to be in the range 7,000 to 9,200 residents, depending upon the efficiency of land use, the housing density, and the average household size (which will fluctuate over time as the growth areas are developed).

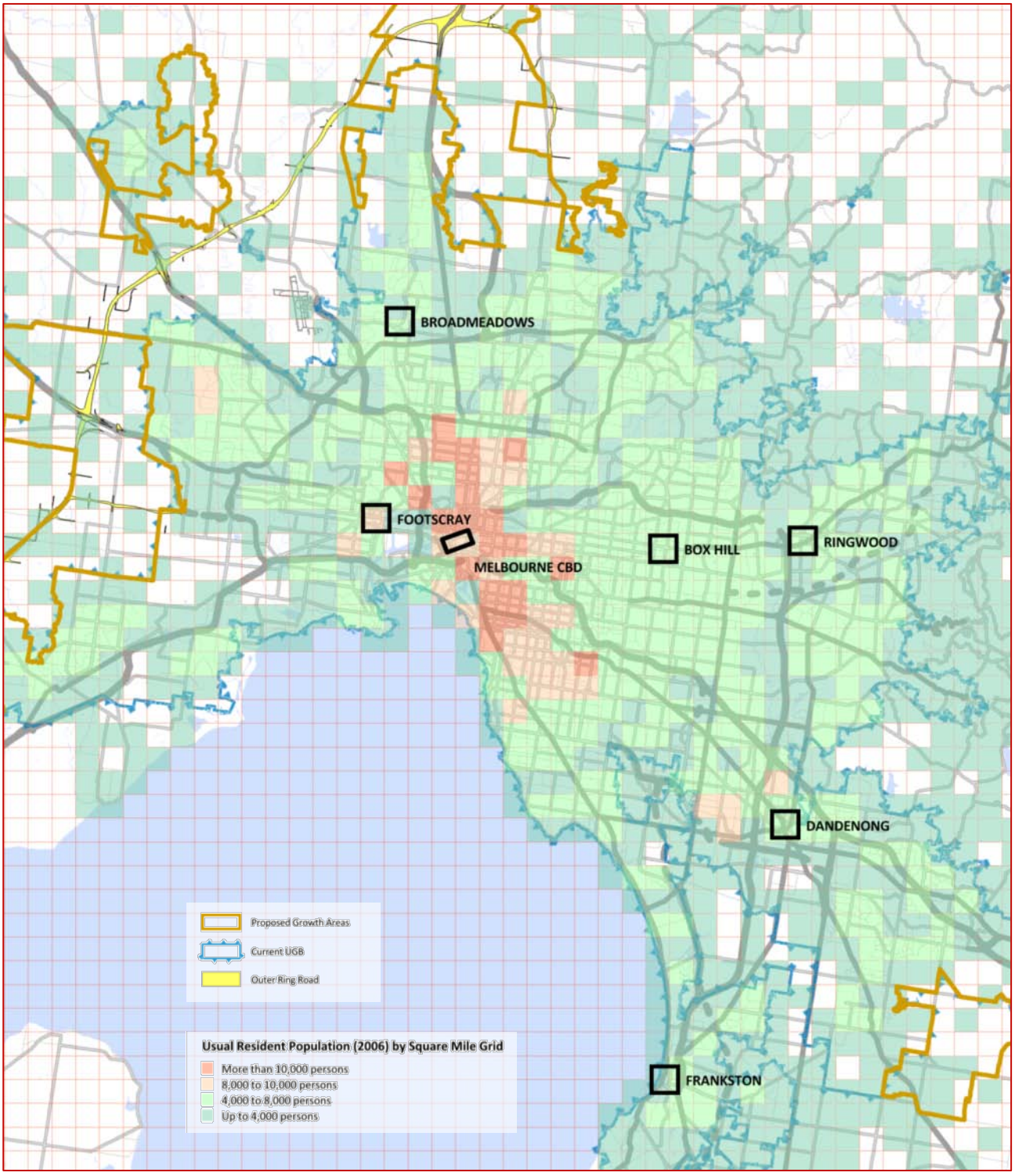
Table 4.2: Potential Residential and Population Yields in GCP Regions

Factor	Measure	Example/note
Square mile block (1.6km2) land area ('neighbourhood unit')	256 hectares	
Percentage net developable land area	65-75%	Melton North – 84% Cranbourne East – 80% Craigieburn R2 – 78%
Net developable hectares	166-192 hectares	
Average yield	15 dwellings / hectare	Aurora – 18.6 dw/ha Cranbourne West – 17.1 dw/ha Epping NE – 15.5 dw/ha
Yield per neighbourhood unit	2,490 – 2,880 dwellings	
Average household size	2.8 – 3.2 persons per household	
Population outcomes	6,970 – 9,220 persons	

Source: Essential Economics

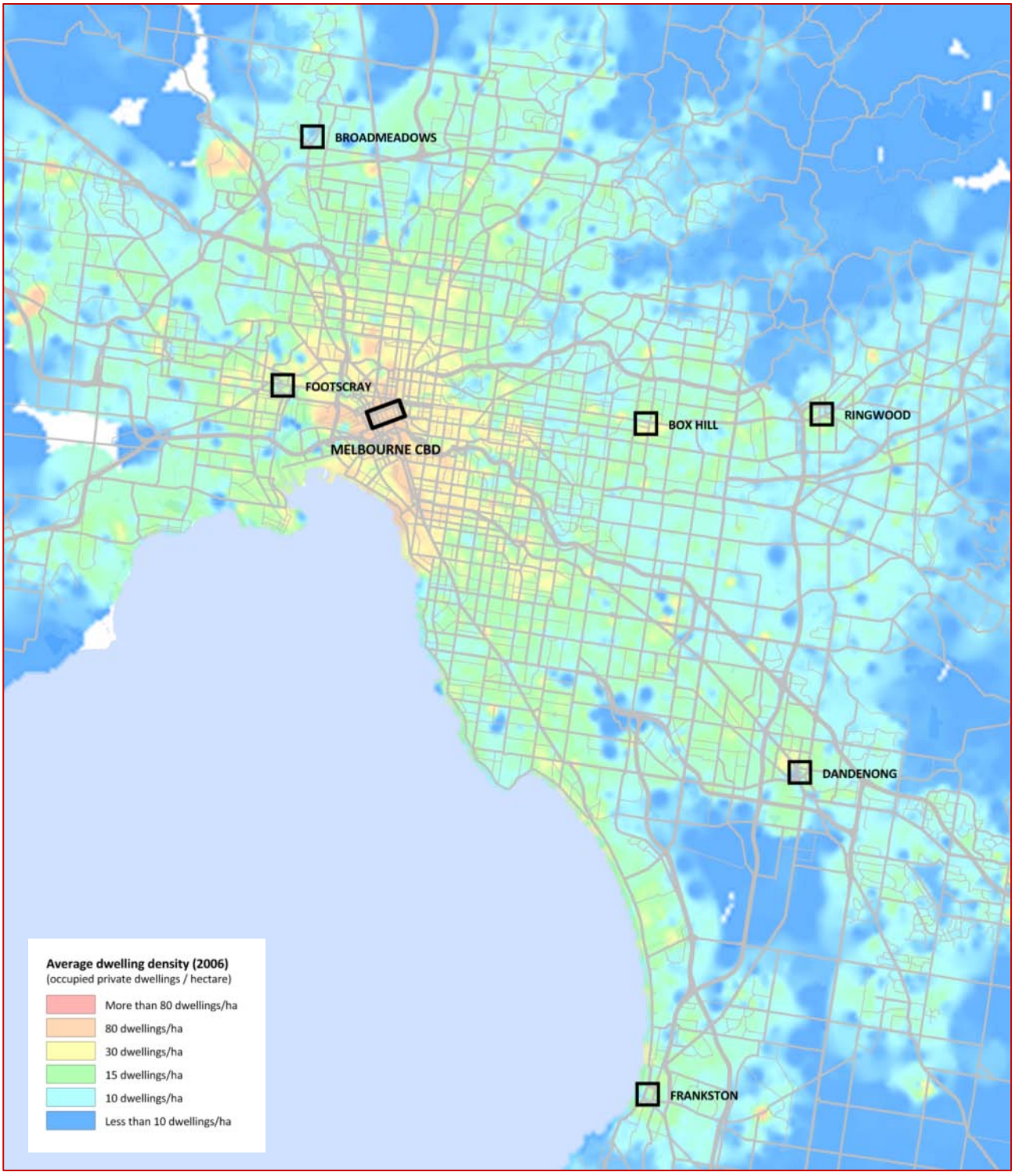
The conclusion from this analysis is that residential yields in new PSP areas must be maximised in order to ensure a strong network of viable neighbourhood centres supported by full-line supermarkets.

Figure 4.2: Population in Square Mile Grids in Melbourne



Prepared by Essential Economics with MapInfo, StreetPro and ABS Meshblock data (Usual Residents Profile 2006)

Figure 4.3: Average Dwelling Density (Occupied Private Dwellings per Hectare)



Prepared by Essential Economics with MapInfo, StreetPro and ABS Meshblock data (Usual Residents Profile 2006)

The analysis in this section shows that a theoretical 'neighbourhood unit' has some potential to achieve a population threshold of 8,000-10,000 residents in order to support a strong supermarket as an anchor for an LTC. However, it is unlikely that every neighbourhood unit would achieve the population threshold, and this would be due to a wide range of factors such as the particular characteristics of the land (topography, environmental constraints, etc), the use of some parts of the land for non-residential uses, differences in average household size, and so on. In some cases the opportunity to establish a strong supermarket trader might be affected by the existing distribution of supermarkets or the location of a higher-order centre in the surrounding region. On the other hand, some communities might be developed at a higher density than shown in the example in Table 4.2, particularly where opportunities for townhouse and apartment living can be identified.

These detailed aspects will need to be considered further when undertaking detailed planning at the PSP stage.

Overall, the analysis supports measures that increase residential and population yields so that the opportunity to achieve a dense distribution of full-line supermarkets is maximised.

4.3 Role of Supermarkets in Higher-Order Centres

The analysis in the preceding section provides broad support for the concept of a square mile grid of arterial roads providing sufficient population, in most cases, to support a network of full-line supermarkets as the basis for Local Town Centres. However, the analysis recognises the potential for some LTCs to have smaller supermarket models where other factors might limit the supportable supermarket floorspace.

One factor that might limit the ability to achieve a grid-based model built around square mile neighbourhood units is the influence of higher-order centres that have more than one full-line supermarket. This is a relatively frequent occurrence in Melbourne, as shown by the existing supermarket network in Figures 3.1 to 3.4 (pp21-24) and in Figure 4.1 (p31). Centres with two or more supermarkets are generally associated with sub-regional and regional shopping precincts: broadly defined as MTCs and PTCs in terms of the terminology adopted by the GAA.

A number of factors need to be considered in the context of supermarket development in higher-order centres:

- Grocery shopping is inelastic:

  The extent of retail spending on food and groceries in any definable area is highly inelastic compared with other retail sectors, and so the provision of a second supermarket in a higher-order centre effectively substitutes an opportunity to provide a supermarket elsewhere in the surrounding community. A third supermarket takes away two opportunities to improve the geographic distribution of neighbourhood supermarket provision.

The implication is that, in order to maximise access to supermarket facilities at the local level, the concentration of multiple supermarkets at higher-order centres should be avoided.

- Supermarkets help establish higher-order roles:

  The provision of more than one supermarket is often an important factor in supporting the role of a sub-regional shopping centre, particularly early on in its development. As noted earlier in this chapter, each supermarket brings half a million or so new customers to a shopping centre each year, and this customer traffic provides the basis for attracting other higher-order uses such as department stores, discount department stores and specialty retailers.

  As centres become more established for higher-order specialty shopping and critical mass is achieved, supermarkets become less important in generating visitation, particularly in attracting browsing shoppers looking for clothing, homewares and other non-food retail types. In regional shopping centres, for example, the higher-order role is determined by the presence of major non-food anchors such as department stores and discount department stores, and by the number and variety of specialty stores. The supermarkets have a fairly minor role in the overall centre context.

  At a later stage in their development, often the size of the centre is a constraint on the performance of supermarkets, as people would rather access a supermarket where car parking is plentiful and close to the supermarket entrance.

- Regulating supermarket provision through the planning system is difficult:

  When viewed in the context of helping to establish a distributed activity centre network, the presence of more than one supermarket at a higher-order centre is not a preferred outcome, even though it helps to establish a higher-order role for MTCs and PTCs.

  It is relevant to consider how planning controls might be implemented in order to influence outcomes in this regard. One method might be by stipulating the number of supermarkets for which a permit would be issued, or the maximum supermarket floorspace that can be developed in a centre; these controls might be implemented in a schedule to a zone or as conditions to a development plan overlay.

  However, controls of this type go against a general preference to allow the market system to determine planning outcomes and competition between operators, and are unlikely to generate support at the State government level.

  A more appropriate response might be to concede that in some cases higher-order centres might accommodate more than one supermarket, but to ensure that in these instances sufficient opportunity is made (at least in terms of the provision of zoned land) for other neighbourhood centres to establish in the surrounding area and compete as locations for supermarket shopping. While the opportunity for these centres to accommodate major supermarket chains might be limited in the short-term, over time these alternative shopping destinations might become more attractive for convenience shopping.

- Different combinations of supermarket provision:

  The considerations described above are most relevant in instances where higher-order centres accommodate each of the two major supermarket brands (ie Coles and Woolworths). Examples also exist where a single operator has more than one supermarket in a centre.

  The impact on the distribution of supermarket-based LTCs is likely to be less significant where different combinations of supermarket brands are involved. For example, the incorporation of a Woolworths and an ALDI store at a sub-regional or regional shopping centre is likely to have much less effect on the location of other full-line supermarkets (ie other Woolworths and Coles stores) because ALDI generates a lower turnover from a wider catchment. Similarly, the inclusion of an IGA-branded supermarket would also have less effect on the opportunity for establishing a full-line store elsewhere in the area.

- Geographic catchment areas for supermarkets in higher-order centres:

  In general terms, while a MTC or a PTC serves an extended geographic region overall (and especially in terms of non-food shopping), it also serves as a neighbourhood centre for the immediate catchment, and especially in its supermarket and grocery shopping role. However, it is generally the case that this neighbourhood catchment is larger (in geographic terms) than would be applied to an LTC. This is certainly the case where a higher-order centre has more than one supermarket, but it also occurs more generally because of the opportunity for people in the wider regional or sub-regional catchment to combine supermarket shopping with other types of purchases.

In summary, higher-order centres are often the location for more than one supermarket, and this is mainly due to their importance in generating a large number of customers. As centres grow and mature, other factors such as the range and depth of offer in non-food shopping become more important factors in their success as shopping destinations.

In this context it is unlikely that the incidence of more than one supermarket in a MTC or PTC could be avoided; indeed, if such development were controlled through the planning process, it may delay the establishment of higher-order shopping roles for centres that are designated as MTCs or PTCs. An appropriate planning response might therefore be to ensure that opportunities for providing supermarkets in residential suburbs surrounding MTCs and PTCs are retained to some degree (ie by nominating centres and zoning land for LTCs), to avoid a situation where supermarkets are too sparsely provided.

4.4 Conclusion

Overall, the analysis supports the following principles when planning the centre network in the GCP regions:

1 Residential yields should be maximised, with an average of 15 dwellings per hectare considered a minimum standard.

2 Identifiable population catchments of at least 8,000 persons, and preferably closer to 10,000 residents, should be adopted as the basis for planning the location of supermarket-based neighbourhood activity centres.

3 Where population outcomes are less than 8,000 residents, opportunities for smaller supermarket-based centres (eg supported by mid-sized supermarkets of approximately 1,500m^2) should be pursued where these are viable and where they are necessary to ensure good access to neighbourhood shopping services.

4 The concentration of supermarkets at higher-order centres such as sub-regional and regional shopping centres (MTCs and PTCs) should generally be discouraged where it leads to an absence of accessible supermarket provision across the urban area. However, it is acknowledged that in many cases the provision of more than one supermarket can be beneficial in helping to establish higher-order shopping roles, especially early in the development of such centres.

5 A general provision of no more than two supermarkets (eg up to approximately 7,000-8,000m^2 of supermarket floorspace) at MTCs and PTCs should be the aim for higher-order centres, although acknowledging that this outcome is difficult to enforce through the planning system.

6 Generally, higher-order centres (MTCs and PTCs) serve a neighbourhood grocery shopping role for a slightly larger geographic catchment, and this needs to be considered in locating nearby LTCs to ensure that all centres are viable and attractive shopping destinations.

5 SPECIALTY RETAILING

Although the ability to secure a major supermarket operator is the basis for establishing a distributed network of accessible neighbourhood activity centres, the inclusion of a wide range of specialty retailers is also important to ensure a well-functioning centre that provides a strong community focus for the surrounding residential area and retains spending that would otherwise escape to more distant locations.

This chapter presents analysis of the opportunity for specialty retail provision at LTCs and at higher-order centres, including:

- A summary of typical retail specialty provision at LTCs
- Identification of factors which help to maximise specialty retail provision
- Examination of retail specialty provision at higher-order centres
- Implications for the centre network.

5.1 Specialty Retail Provision at LTCs

Specialty retail floorspace provision in neighbourhood activity centres varies considerably in Melbourne, from instances where supermarkets are the dominant tenant with few other traders, to other examples (particularly in inner or middle suburbs) where a very wide range of retail specialties is evident.

Official measures of retail floorspace by centre location are not collected in Victoria, and so a variety of sources need to be considered when providing estimates of average retail specialty provision.

For example, information from economic and planning consultants Urbis (Urbis Retail Averages 2004) shows that shopping centres with a single supermarket as anchor tenant have average total retail floorspace provision of approximately 6,300m^2, comprising a supermarket of approximately 3,500m^2 and specialties of 2,800m^2.

The data collected by Urbis refers specifically to single ownership shopping centres for which data can be collected, rather than for strip centres where properties are owned by multiple entities. It also ignores some retail and non-retail uses which may be located outside the shopping centre property boundary. For this reason it might be considered as a lower limit for average floorspace provision.

Other information collected by Essential Economics for various retail and activity centre studies shows that total retail floorspace can vary considerably, with some neighbourhood centres as large as 15,000m^2 or more where they have a particular niche role in retail segments such as clothing, furniture, café and restaurant dining, and other activities.

In the absence of any definitive information, an appropriate average to be adopted in planning for new neighbourhood centres on the urban fringe is for total retail provision to average approximately 7,000m^2, consisting of approximately 3,000m^2 to 3,500m^2 of supermarket floorspace and 3,500m^2 to 4,000m^2 of other retail provision.

These figures are provided as a ***broad indication*** of centre size; the actual amount of floorspace to be planned for will vary, as determined during more detailed PSP planning where the size of the centre catchments can be analysed more fully.

5.2 Maximising Specialty Retail Opportunities

As noted above, some LTCs have a very significant provision of non-supermarket retailing, and this helps to establish a diverse range of retail traders and maximise employment generation. In principle, a more significant provision of specialty retailing is to be encouraged in neighbourhood centres.

However, the opportunity to establish a significant specialty retail provision at all LTCs in the centre network is limited by a number of factors, including the following:

- Higher-order centres (PTCs and MTCs) have much greater depth and range of retail offer, and represent substantial competition in non-food sectors for LTCs in the surrounding area.
- Higher-order centres are usually located on more exposed sites which are known throughout the community, have more passing traffic and can be marketed more easily. By their nature, they serve more significant geographic catchments.
- In the outer suburbs, travel to work patterns tend to be in-bound towards central Melbourne. Shopping trips are often made in conjunction with these trips, to much larger regional and super-regional shopping destinations. A radial transport network emphasises this pattern of travel.
- Not all centres can offer an equally attractive setting for café and dining provision, as some will simply be more appealing for these types of entertainment-based activities. Particular centres will therefore emerge as having a niche role in delivering particular types of retail traders or particular shopping experiences.
- The aggregation of a number of traders selling similar goods and services helps to establish a critical mass in that product category, and this means that for residents in the region a centre can be associated as an appropriate place to shop for that type of merchandise. The ability to generate critical mass in this way sometimes occurs in neighbourhood centres, but is more challenging simply because of the smaller size of the centre.

In summary, while the opportunity to establish a wide range of specialty shops in neighbourhood centres is limited, opportunities should be taken where possible. These opportunities may not be present in every centre, but are likely to occur where a centre has particularly appealing characteristics, such as an attractive setting adjacent to a local park or creek, or where a centre is particularly well-located with respect to regional travel routes. Often the niche roles that some centres have – in selling bridal wear, for example – simply emerge over time as the centre develops, and just can't be planned for. The

underlying conclusion is that sufficient land should be set aside so that the possibility for niche roles to develop is not overly constrained.

5.3 Retail Provision in Higher-Order Centres

Retail Provision at MTCs

Total retail provision at MTCs varies considerably, particularly as this classification is used for some sub-regional shopping centres, as well as others that have a more significant regional role. Nevertheless, some broad parameters can be identified to support a centre's designation for higher-order retailing and other activities.

At the most basic level, the opportunity for a significant level of higher-order specialty retail shopping usually coincides with a centre's accommodation of a discount department store (DDS) as the main non-food anchor tenant. The provision of a DDS simply reflects the fact that a centre has potential to serve a larger population catchment, as a DDS relies on a substantially larger catchment (in population terms) than a supermarket.

Typical catchment sizes vary considerably, depending upon the nature of the competition, the road network and other factors. However, a general rule is that a core catchment of approximately 40,000 to 50,000 persons is required to support a DDS and the associated specialty retail that is accommodated in a sub-regional centre.

For the purposes of this analysis, typical retail floorspace provision at a sub-regional centre, or MTC, is approximately 55,000m^2 of leasable area, consisting of two discount department stores, two supermarkets, a range of specialty stores, and a bulky goods precinct. This description is intended only to provide a broad example of how an MTC might be composed in retail floorspace terms.

An indication of retail provision by type for an MTC is presented in Table 5.1.

Table 5.1: Retail Floorspace Provision at MTCs

Use component	Floorspace
Discount department store (2x)	15,000 m2
Supermarkets (2x)	7,000 m2
Specialty retail	13,000 m2
Bulky goods	20,000 m2
Total	**55,000 m2**

Source: Essential Economics

Retail Provision at PTCs

Retail provision in PTCs also varies considerably, depending on the retail role of the centre, its competitive position, the location of other higher-order centres, and other factors. For the purpose of this analysis, a PTC is defined as a large regional centre with capacity to accommodate a department store (noting, however, that the department store is not always a feature of large regional centres).

A typical size for a PTC is approximately 100,000m^2 of retail floorspace, and containing one department store, two (or sometimes three) discount department stores, two supermarkets, a range of specialty stores, and a bulky goods precinct, as summarised in Table 5.2 (and noting that this description is simply provided as a general example of the retail components of a PTC).

Catchment sizes for PTCs vary considerably, depending upon the nature of the competition, the road network and other factors. However, a general rule is that a definable catchment of 150,000 persons or more is required to support a department store and the associated specialty retail that is located in a large regional centre.

Table 5.2 is intended only as a broad indication of potential uses at a PTC; for example, it is not clear whether a department store chain would seek a site in outer Melbourne, or indeed whether new market entrants or new formats would be candidate uses at the time that a new PTC was to be developed.

Table 5.2: Assumed Retail Floorspace Provision at PTC

Use component	Floorspace
Department store	20,000 m2
Discount department stores	15,000 m2
Supermarkets	7,000 m2
Specialty retail	18,000 m2
Bulky goods	40,000 m2
Total	**100,000 m2**

Source: Essential Economics

5.4 Conclusion

The analysis in this section provides support for the following principles in relation to specialty retail provision in the GCP areas:

1 Typical specialty retail provision at LTCs is in the order of approximately 3,500m^2 to 4,000m^2 leasable area, implying that LTCs need to be planned for an average retail provision of approximately 7,000m^2 of retail floorspace.

2 While specialty retail provision should generally be maximised, the extent of specialty retail floorspace in individual LTCs is likely to vary around this average, depending upon the particular features that might characterise each centre and how this might affect the opportunity to accommodate uses such as cafés and restaurants, etc. These features may need to be identified during preparation of PSPs to ensure that the full potential of each centre is realised.

3 Total retail provision in MTCs will vary, but an indicative figure of 55,000m^2 is provided as an average, based on the typical retail elements that characterise higher-order centres. This figure includes supermarket provision of approximately 7,000m^2 (ie two supermarkets)

4 An indicative figure for total retail provision at a PTC is approximately 100,000m^2 of leasable floorspace, including 7,000m^2 of supermarket floorspace. A centre of this type would serve a wide regional catchment of approximately 150,000 persons or more.

6 NON-RETAIL COMPONENTS OF ACTIVITY CENTRES

In addition to retail floorspace provision, a centre network also needs to accommodate the range of non-retail activities that typically locate in activity centres, and which make important contributions to local employment generation.

The principles that are contained in the *PSP Guidelines* include support for a wide diversity of business types to be accommodated in LTCs and in higher order centres, as a means by which the wider employment targets can be met.

This chapter presents analysis of current non-retail floorspace in activity centres, and uses this information as a basis for recommending an appropriate target for non-retail provision in LTCs and higher-order centres in the GCP regions.

6.1 Current Patterns of Non-Retail Development

A variety of datasets have been examined to develop an appropriate benchmark for the provision of non-retail floorspace at activity centres. These datasets range from partial data in selected centres in Melbourne, to more complete interstate examples such as the *Adelaide Retail Database* and the *Perth Commercial and Industrial Land Use Survey*.

Office Provision in Melbourne

A range of property market research reports have been examined to identify the current stock of office floorspace across Melbourne, in order to contribute to this analysis of the office floorspace requirements that should be planned in activity centres.

Analysis by Charter Keck Cranmer has been used in this instance, as it also provides a breakdown of office floorspace by region, which can be used to derive estimates of average per capita provision.

The CKC Research Insight Report (*Victorian Property Market Overview*, October 2009) states that Melbourne's total office market comprises 8.3 million m^2 of floorspace (net leasable area), with around 5.2 million m^2 in the Central City (ie the CBD, St Kilda Rd, Southbank, Docklands), and the remaining 3.1 million m^2 located in suburban areas.

A previously published *Research Insight* report by CKC (March 2007) identified total stock at the time of 7.64 million m^2 across Melbourne as a whole, with an estimated 4.9 million m^2 in the Central City. This report also provided a breakdown by region across Melbourne, and has been used to pro-rata the total estimates for 2009 across Melbourne's regions. The information is shown in Table 6.1.

Table 6.1: Average Office Provision per Capita by Region

Region	Office provision	Distribution %	Population 2009	Average provision m2/cap
Central City	5.20 million m2	63%	41,360	125.7
City Fringe	1.01 million m2	12%	187,840	5.4
Inner East	0.69 million m2	8%	274,230	2.5
North and West	0.29 million m2	3%	1,434,180	0.2
Outer East	0.84 million m2	10%	835,480	1.0
South East	0.28 million m2	3%	1,118,580	0.3
Total	**8.30 million m2**	**100%**	**3,891,670**	**2.1**

Source: Charter Keck Cramer; Essential Economics

The analysis shows that office floorspace provision averages approximately 2.1m^2 per capita across Melbourne, which is similar to the average retail provision of approximately 2.2m^2/cap. Importantly, average provision varies considerably, from 126m^2/cap in the Central City and 5.4m^2 /cap in the Inner Fringe, to just 0.3m^2 /cap in the south-east and 0.2m^2/cap in north and western Melbourne.

The very low concentration of dedicated office space in outer suburbs reflects a number of current realities of the Melbourne office market:

- Inner suburbs are well-served by a radial public transport system, so that workers can easily travel to work from a wide employment 'catchment'
- Businesses are able to secure sites in inner suburbs that have a high degree of exposure, which is important for flagship developments accommodating business headquarters
- Businesses are attracted to places where a highly-skilled office workforce is located nearby, and this is particularly the case for business which have specialised skill requirements
- There is a perception that outer areas of Melbourne are not suitable for large dedicated office development, and this favours established office markets
- To attract financing, office projects need to secure pre-commitments for a significant share of the building, and this is often difficult in 'untested' markets on the fringe.

To some degree the opportunities in outer Melbourne are growing, as highlighted for example by the successful development at University Hill Bundoora and other smaller projects near Melbourne Airport. In other parts of Melbourne, for example Dandenong, Broadmeadows, or Footscray, government intervention will be important to help leverage new private sector investment. Certainly the opportunity for large-scale office development in the new growth areas is likely to be a longer-term prospect.

A critical factor in this analysis is that the office accommodation database held by CKC (and other property research firms) is limited in scope, and only includes dedicated commercial office buildings of 1,000m^2 or more. A range of locations are also excluded, including:

- Small offices of less than 1,000m^2, of the type usually seen in neighbourhood activity centres (real estate agents, banks, accountants, tax agents, etc)

- Public buildings such as municipal offices or dedicated government departments (but only where the building is exclusively a public use)
- Office accommodation in industrial areas, for example where there might be 2,000m^2 of office space associated with a factory of 10,000m^2 – this is a significant factor in outer areas of Melbourne.

In summary, the data is only partially relevant in establishing appropriate benchmarks with which to plan the new growth areas, mainly because it ignores the very important components associated with local-level demand for street-front office space.

With the inclusion of this type of commercial demand, a broad target for office space provision in the growth areas might reflect an average of approximately 1m^2/capita, and this compares with existing average provision for dedicated office space of 0.2-0.3m^2/capita at present.

Other Melbourne Datasets

Other reports have examined, in a limited sense, the typical provision of retail and other land uses in neighbourhood centres.

For example, Deep End undertook some work in relation to planning for neighbourhood centres in the Craigieburn R2 precinct. Their finding, by looking at case studies of neighbourhood centres on the fringe of Melbourne, was that non-retail uses (principally shopfront commercial uses such as tax accountants and real estate agents) accounted for just 10% of single-ownership centres.

In work undertaken by Essential Economics for GAA in relation to the Hume and Casey-Cardinia growth areas, an allocation of approximately 15% was provided for neighbourhood centres. This figure varied depending upon location and the individual prospects for office development, and also reflected an expectation that non-retail allocations would be greater than has been typical in past developments.

Analysis of the activity centre database in Casey (drawn from an old activity centre database prepared by Ratio consultants) indicates that the proportion of floorspace in retail and non-retail uses varies considerably across centres. Some selected results are shown in Table 6.2 below.

Table 6.2: Floorspace Breakdown, Selected Centres, Casey

Selected centres	Retail floorspace %	Office floorspace %	Other non-retail floorspace %	Total
Regional centres:				
Cranbourne Park	92%	1%	7%	100%
Cranbourne Town Centre	39%	19%	42%	100%
Westfield Fountain Gate	85%	4%	11%	100%
Berwick Business Park	60%	4%	36%	100%
Sub-regional centres:				
Berwick Village	33%	21%	46%	100%
Endeavour Hills SC	93%	5%	2%	100%
Neighbourhood centres:				
Hampton Park	55%	15%	30%	100%
Thompsons Parkway	80%	14%	6%	100%
Tooradin	34%	0%	66%	100%
Pearcedale	57%	0%	43%	100%

Source: Casey Activity Centre Database 2001
Note: Other non-retail includes community uses, recreation, personal services, etc

The general theme is that single-ownership undercover centres tend to have relatively low provision of commercial office floorspace, although entertainment and other uses are provided in these centres. Interestingly, a number of centres in the Casey data have a very wide distribution of land uses and substantial non-retail provision. Hampton Park, for example, has 13,000m^2 of retail floorspace, but also 3,500m^2 of commercial office uses, 3,500m^2 of community type uses and 2,500m^2 of entertainment and leisure floorspace. Total floorspace, including other uses, is approximately 24,000m^2.

Another example comes from recent work undertaken in Boroondara (*Retail and Commercial Activity Centre Strategy*, Essential Economics, 2010). The results of this study are shown in Table 6.3, and highlight the substantial non-retail role of centres in Boroondara, across the hierarchy of centre types.

It is important to recognise the very special role that centres in Boroondara have in accommodating a wide range of commercial office businesses, generally serving the needs of the white-collar workforce across much of eastern Melbourne. This distribution of floorspace by type represents the very top-end of what might be achieved in terms of non-retail floorspace provision.

Table 6.3: Floorspace Distribution, Centres in Boroondara, 2010

Centre type	Retail	Office	Shopfront commercial	Other non-retail	Total
PAC	32%	49%	8%	12%	100%
MAC	30%	50%	8%	12%	100%
NAC-1	47%	37%	7%	10%	100%
NAC-2	36%	29%	18%	17%	100%
NAC-3	35%	31%	21%	13%	100%
Local	21%	32%	33%	14%	100%
Enterprise corridors	12%	51%	8%	29%	100%
Total	**27%**	**43%**	**12%**	**18%**	**100%**

Source: Essential Economics

Overall, there is limited data available to generate definitive findings in relation to commercial office provision in activity centres in Melbourne. Certainly this provides strong support for the implementation of the Census of Land Use and Employment (CLUE) or a similar survey to capture land use provision across metropolitan Melbourne.

Interstate Data

Interstate databases include surveys undertaken in the following metropolitan locations:

- Adelaide, where a Retail Database was prepared in 2007 and included all retail and related commercial uses in business zones in activity centres throughout the metropolitan region
- Perth, where an ongoing Commercial Land Use Survey has been prepared over a number of years. The most recent full data that can be accessed is from 1997, but geographically-coded data from 2008 is expected to become available shortly.

Adelaide Retail Database

Analysis of floorspace provision by land use type and by centre type (ie retail hierarchy role) for metropolitan Adelaide is shown in the following Table 6.4.

Table 6.4: Floorspace Distribution by Land Use and by Centre Type

Centre type	Retail	Shopfront office	Gov/public services	Other	Total
CBD	80%	13%	2%	6%	100%
Super regional	87%	3%	0%	9%	100%
Regional	87%	7%	2%	4%	100%
Subregional	81%	11%	2%	6%	100%
Large neighbourhood	78%	15%	2%	6%	100%
Small neighbourhood	83%	12%	3%	3%	100%
Homemaker	85%	10%	1%	4%	100%

Source: Adelaide Retail Database 2007; Essential Economics

The analysis shows that retail floorspace constitutes the substantial majority of floorspace covered in the survey, accounting for over 80% of floorspace in neighbourhood centres. Importantly, however, this dataset is only intended to provide coverage of retail and related land uses in activity centre zones, and it excludes major commercial office buildings where office is the only land use. For example, the database does not include the major commercial office uses in the Adelaide CBD.

Nonetheless, the results show that office floorspace provision in neighbourhood centres (ie the basis for the GAA centres model) is typically in the order of 10-15%, and this aligns well with the analysis previously undertaken by Essential Economics for the GAA. In these centres, the likelihood of having major commercial office buildings is very low.

Perth Commercial Land Use Survey

The Western Australian Planning Commission undertakes a detailed audit of commercial floorspace as part of the Commercial Land Use survey. The last completed survey was in 2008, although at the time of writing (August 2010) data is not fully available in a form that can be coded to the hierarchy of retail centres. The last survey where the full dataset is available for use by Essential Economics is in 1997, and selected results are shown in Table 6.5.

Overall, the Perth data shows that centres have potential to accommodate a wide range of land uses, including commercial office. For example, the data shows that 27% of land uses in district centres (these approximate large neighbourhood centres) comprise office and other business uses.

Perth also conducts an industrial land use survey, and this shows that of the 9.64 million m^2 of occupied floorspace in industrial zones, approximately 9% is occupied by retail land uses, and 12% is occupied by office and business land uses.

More up-to-date information is currently being collated (as at August 2010). Some preliminary data from the 2008 database shows:

- Occupied land in commercial zones totals approximately 10.1 million m^2
- Retail/shop land uses in commercial zones comprise 3.3 million m^2, or 32% of occupied floorspace
- Office and business land uses total 3.35 million m^2, or 33% of occupied floorspace
- Occupied industrial land comprises 14.9 million m^2
- Retail land uses account for 1.1 million m^2 of industrial land, or 7% of total occupied industrial land
- Office/business land uses account for 2.3 million m^2 of industrial land, or 16% of total occupied industrial land.

Table 6.5: Selected Employment and Floorspace Data, Perth 1997

Location	Shop/retail	Office/ business	Other	Total occupied
Floorspace % share				
Perth CBD and West Perth	11%	55%	34%	100%
Strategic Regional Centres	44%	21%	36%	100%
Other regional centres	59%	22%	20%	100%
District centres	53%	21%	26%	100%
remaining complexes	44%	20%	37%	100%
Total	*34%*	*33%*	*33%*	*100%*
Employment % share				
Perth CBD and West Perth	12%	67%	22%	100%
Strategic Regional Centres	44%	34%	22%	100%
Other regional centres	60%	27%	13%	100%
District centres	57%	27%	16%	100%
remaining complexes	50%	28%	22%	100%
Total	*36%*	*44%*	*20%*	*100%*
Floorspace per capita m^2				
Perth CBD and West Perth	0.25	1.21	1.18	2.64
Strategic Regional Centres	0.40	0.19	0.50	1.09
Other regional centres	0.26	0.10	0.14	0.50
District centres	0.46	0.18	0.31	0.95
remaining complexes	0.67	0.30	0.73	1.70
Total	*2.04*	*1.98*	*2.86*	*6.88*
Floorspace per employee m^2				
Perth CBD and West Perth	31.3	26.8	51.8	32.7
Strategic Regional Centres	37.6	23.0	60.2	37.7
Other regional centres	32.7	26.9	53.3	33.7
District centres	32.8	26.1	57.1	34.8
remaining complexes	32.8	26.1	61.9	37.3
Total	*33.4*	*26.2*	*56.4*	*34.9*

Source: Perth Commercial Land Use Survey 1997, Planning WA

Urbis Retail Averages

Information collated from shopping centre owners by Urbis Pty Ltd (Retail Averages, Supermarket Centres, 2004 edition) indicates that retail uses account for approximately 87% of total floorspace in centres of this type across Australia.

The proportion of non-retail uses at these centres is similar for single-supermarket centres and double-supermarket centres. Typical non-retail uses include entertainment facilities, banks, shops selling auto accessories (these are not usually included in a definition of retailing), insurance agents, post offices, and lotto kiosks.

It would be expected that this dataset represents an under-allocation of non-retail uses, as it is concerned only with managed shopping centre developments and would not account for other land uses that often locate in proximity to undercover shopping centres.

6.2 Non-Retail Development at LTCs

Analysis of available data cannot identify a consistent benchmark to allocate floorspace to non-retail uses in LTCs or in higher-order centres. For example, in some neighbourhood centres in Melbourne (and in interstate examples) non-retail floorspace can occupy more than 50% of total occupied floorspace, and sometimes much higher. Other examples indicate a much lower allocation of non-retail floorspace, for example representing just 10% of the total space in a managed shopping centre.

Clearly a wide range of factors area at play to determine the mix of uses in activity centres, and these factors include:

- The population catchment (noting that the 'catchment' for non-retail activities might be more extensive than the retail catchment, particularly in LTCs)
- The characteristics of the local workforce, and in particular the numbers of professionals and small-business owners in the surrounding area
- The location of government administration services, health facilities, and other community uses
- The location of service business and semi-industrial precincts in or adjoining activity centres
- Whether the centre is designed as a single-ownership shopping "mall", or a more diverse collection of properties that has evolved over time
- The amenity of a centre and whether it has a range of eating establishments (cafes, restaurants etc), surrounding parkland, and other features that might make the centre a more attractive place to set up a small business.

Another important consideration is that it is rarely the case that in a collection of neighbourhood centres in a region, each of them has a substantial non-retail component. That is, there may be one or two neighbourhood centres where the majority of non-retail activities are undertaken.

Overall, the analysis in this chapter suggests that LTCs should be planned to accommodate an average of approximately 3,000m^2 of non-retail floorspace, representing an average of approximately 30% or so of total floorspace (retail plus non-retail) at an LTC.

It is acknowledged that the distribution of non-retail activities is likely to be uneven; for example, some centres may have a lower non-retail provision, while other centres in a region might be more conducive to accommodating commercial and/or community services, and may need to be planned for more than 3,000m^2 of floorspace devoted to such uses.

An average provision of 3,000m^2 of non-retail floorspace would imply a total provision of approximately 10,000m^2 of leasable space at each LTC, on average.

A key issue is how to plan for an eventual non-retail component that may not be supportable in the short-term as the surrounding neighbourhood matures. While planning issues such as this are not the focus of this report, it is acknowledged that in most cases interim land uses will need to be established to secure longer-term land supply. Potential responses might include the designation of car parks as a location for future commercial office development, or the construction of flexibly-designed buildings

that can be converted from residential to office use. These issues will need to be considered during the preparation of PSPs.

6.3 Non-Retail Development at Higher-Order Centres

Non-Retail Provision at MTCs

As described in the preceding section, a range of data sources have been reviewed to understand the typical provision of commercial office and other uses at large activity centres. The relevant data includes:

- Research reports on office floorspace provision across Melbourne
- Examination of particular centres in Melbourne where full survey data on land uses is available
- Analysis of the Adelaide Retail Database which includes an audit of all retail centres and has limited information on non-retail shopfront uses
- Analysis of the Perth Commercial Land Use Survey, which represents a full land use audit of commercial zones in metropolitan Perth, including retail and non-retail uses.

These datasets show that non-retail provision in higher-order retail centres can vary considerably, from just 10-15% in a stand-alone, single-ownership centre, to 50% or more in a multi-ownership, main street style centre (and particularly where the centre has evolved over time). The analysis is described in more detail in section 6.1.

For the purposes of this assessment, a typical MTC is estimated to contain approximately 25,000m^2 of floorspace devoted to non-retail uses such as commercial office, service business, community uses, and so on. This represents an overall average of approximately 30% of total floorspace provision at each MTC, noting that average retail provision is estimated at approximately 55,000m^2.

The distribution of non-retail floorspace by type would be likely to range between each centre, but may comprise 15,000m^2 of office and other shopfront uses, and 10,000m^2 of other commercial uses (personal services, highway services, etc).

Overall, a typical MTC is estimated to accommodate 80,000m^2 of leasable floorspace, comprising 55,000m^2 of retail floorspace and 25,000m^2 of non-retail floorspace.

It is emphasised that these figures are provided as an average indication of total retail and commercial floorspace, and centres will evolve with varying degrees of commercial development. Some MTCs might have a particular role as an office development location, for example where synergies with local industrial, research or other economic activities can be established, or where housing development is particularly attractive for business owners and an office workforce. Other examples of MTCs might be more heavily weighted to retail activities, supported by a more limited range of service businesses and local office uses.

Non-Retail Provision at PTCs

A variety of datasets (as described elsewhere in this report) indicate that non-retail provision in higher-order retail centres varies from just 10-15% in a stand-alone, single-ownership centre, to 50% or more in a multi-ownership, main street style centre (and particularly where the centre has evolved over time).

For the purposes of this assessment, a typical PTC in the GCP regions is estimated to contain approximately 60,000m^2 of floorspace devoted to non-retail uses, and this includes commercial office, government administration, entertainment and recreation, some service business and other uses. This represents approximately 35% of total floorspace provision at the PTC, noting that average retail provision is estimated at approximately 100,000m^2.

The distribution of non-retail floorspace by type would vary between each centre depending upon its particular characteristics, but an indicative distribution might be 25,000m^2 of office and other shopfront uses, and 35,000m^2 of other commercial/highway and service business uses.

Note that these broad indications of floorspace provision are intended to represent the range of uses that would normally locate in activity centres; they do not include provision for other major land uses such as higher-order education and health institutions which might potentially locate in a principal or major town centre, and nor do they include dedicated employment areas (service business precincts or business parks, for example) that might be planned close to or adjoining a higher-order centre. Further discussion on these matters is provided in Part B of this report.

Overall, a typical 'model' PTC is estimated to accommodate 160,000m^2 of leasable floorspace, comprising 100,000m^2 of retail floorspace and 60,000m^2 of non-retail floorspace.

As with the floorspace targets for MTCs (refer above) these figures are provided as an average indication of total retail and non-retail development, and it is acknowledged that some PTCs might have a greater non-retail element compared with others that are mainly shopping destinations.

An important further consideration is that the existing policies contained in *Melbourne @5 Million*, for example the designation of CADs, are designed to help build up a local office market in centres that are generally relatively close to the growth areas (although it is noted that Melbourne West is served only by a CAD at Footscray). The successful establishment of the CADs as office locations will assist in changing a current perception that outer areas of Melbourne are not suitable locations for office development. The CADs will also provide a potential employment location for higher-order office jobs that is closer than the Melbourne CBD or inner city office markets.

6.4 Conclusion

The analysis in this chapter provides support for the following principles in relation to non-retail provision in the GCP areas:

1 In planning new neighbourhood activity centres in the growth corridors, approximately 30% or more of total centre floorspace (or approximately 3,000m^2 or so of leasable area) should be devoted to non-retail uses, on average. This allocation would assist in maximising local employment opportunities and providing a focus for local business service delivery.

2 In many cases interim land uses will need to be identified (for example car parking or flexibly-designed residential buildings) so that future opportunities for non-retail uses can be secured for the longer-term.

3 The actual amount of non-retail provision is likely to vary, and will depend upon a range of factors relating to the retail role of the centre, the demographics of the surrounding residential workforce, the locational characteristics of the centre, its amenity and various other factors.

4 It is unlikely that every LTC will have a significant non-retail component; opportunities for more significant office and community service sectors will therefore need to be identified during the PSP process.

5 MTCs have potential to accommodate a much wider variety of non-retail uses, ranging from commercial office activities to service business and other highway-related uses. A typical non-retail provision is approximately 25,000m^2, comprising in the order of 15,000m^2 of office and other shopfront uses, and 10,000m^2 of other commercial uses (personal services, highway services, etc).

6 PTCs have even greater potential for non-retail provision including commercial office sectors. On average, each PTC is likely to accommodate up to 60,000m^2 of non-retail floorspace, including (say) 25,000m^2 of office and other shopfront uses, and 35,000m^2 of other commercial/highway and service business uses.

7 These indicative allocations for higher-order centres do not include provision for substantial education and health institutions including university or other tertiary campuses, hospitals and so on. However, higher-order activity centres are the most appropriate places in which to plan for these facilities.

8 The indicative allocations also do not include consideration of employment precincts (such as service industry precincts or business parks), which might be located in close proximity to activity centres.

7 A DISTRIBUTED CENTRE NETWORK MODEL

This chapter brings together the preceding analysis to identify a set of principles which are intended to guide the location and composition of activity centres in the GCP regions.

7.1 A Network of Accessible Town Centres

GAA aims to encourage the development of a network of easily accessible town centres (LTCs) which are well distributed across the urban area, ensuring that a high proportion of residents are within 1km of a supermarket-based centre.

The principles that have been identified to deliver this pattern of town centre provision are summarised as follows:

Road patterns and the square mile neighbourhood unit:

1 It is appropriate to plan a network of local town centres on the basis of a grid of arterial roads which approximates a square mile (or approximately 1.6km). This road pattern will define 'neighbourhood units' which are approximately one square mile in size, and which need to have a high degree of access to a supermarket-based town centre.

Centre size

2 LTCs should be planned for an average floorspace provision of approximately 10,000m^2, comprising:

- A supermarket of approximately 3,000m^2 to 3,500m^2
- Specialty retail of 3,500m^2 to 4,000m^2
- Non-retail provision of approximately 3,000m^2.

These are intended as broad indications of average floorspace provision, and would be assessed in more detail when preparing PSPs. Moreover, they do not include any allocation for local employment zones (eg service business precincts) that might be planned for a location adjoining a town centre.

Population catchments to support supermarkets

3 Identifiable population catchments of at least 8,000 persons, and preferably up to 10,000 residents, should be adopted as the basis for planning the location of supermarket-based neighbourhood activity centres. Analysis shows that this population target can be achieved in most neighbourhood units (ie square mile blocks) as long as residential yields are at least 15 dwellings per hectare.

4 Where population outcomes are less than 8,000 residents, opportunities for smaller supermarket-based centres (eg supported by mid-sized supermarkets of approximately 1,500m^2) should be pursued where these are viable and where they are necessary to ensure good access to neighbourhood shopping services.

5 It should be acknowledged that while local centres with small supermarkets or large general stores may be required to ensure access to local retailing in some instances, these are not likely to provide the full array of shopping services that is intended to be provided at the neighbourhood level, and may struggle to become community focal points in the way that the GAA envisages.

6 The concentration of supermarkets at higher-order centres such as sub-regional and regional shopping centres (MTCs and PTCs) should generally be discouraged where it leads to an absence of accessible supermarket provision across the urban area. However, it is acknowledged that in many cases the provision of more than one supermarket can be beneficial in helping to establish higher-order shopping roles, especially early in the development of such centres.

Specialty retailing

7 Typical specialty retail provision at LTCs is in the order of approximately 3,500m^2 to 4,000m^2 leasable area, implying that LTCs need to be planned for an average retail provision of approximately 7,000m^2 of retail floorspace.

8 While specialty retail provision should generally be maximised, the extent of specialty retail floorspace in individual LTCs is likely to vary around this average, depending upon the particular features that might characterise each centre and how this might affect the opportunity to accommodate uses such as cafés and restaurants, etc. These features will need to be identified during PSP planning to ensure that the full potential of each centre is realised.

Non-retail provision

9 In planning new neighbourhood activity centres in the GCP regions, approximately 30% or more of total centre floorspace (or approximately 3,000m^2 or so of leasable area) should be devoted to non-retail uses, on average. This allocation will assist in maximising local employment opportunities and providing a focus for local business service delivery.

10 The actual amount of non-retail provision is likely to vary, and will depend upon a range of factors relating to the retail role of the centre, the demographics of the surrounding residential workforce, the locational characteristics of the centre, its amenity and various other factors.

11 It is unlikely that every LTC will have a significant non-retail component; opportunities for more significant office and community service sectors will therefore need to be identified during the PSP process.

Centre design

12 Centres must be well-designed places that encourage activity and provide a range of opportunities for local business generation, residential and mixed use development, small office-

home office building design, town centre spaces, outdoor dining and other factors that contribute to the vibrancy of the centre.

7.2 Provision for Higher-Order Centres

Higher-order centres, consisting of centres designated as PTCs and MTCs, are to be the location for the delivery of a diverse range of retail, business, entertainment, community service, civic, administrative and other commercial services.

Relevant guidance on the scale and composition of higher-order centres can be summarised as follows:

MTCs – Centre Size and Composition

1 MTCs serve sub-regional population catchments which support higher-order shopping and business services. A typical catchment size is in the order of 50,000 persons, which is sufficient to support the development of a discount department store and a range of specialty retailers.

2 Total retail provision in MTCs will vary, but an indicative figure of 55,000m^2 is provided as an average, based on the typical retail elements that characterise higher order centres. This figure comprises:

- Two discount department stores (15,000m^2)
- Two supermarkets (7,000m^2)
- A range of specialty stores (13,000m^2)
- A bulky goods precinct (20,000m^2).

3 MTCs have potential to accommodate a wide variety of non-retail uses, ranging from commercial office activities to service business and other highway-related uses. A typical non-retail provision is approximately 25,000m^2, comprising in the order of 15,000m^2 of office and other shopfront uses, and 10,000m^2 of other commercial uses (personal services, highway services, etc).

PTCs – Centre Size and Composition

4 PTCs serve regional population catchments of approximately 150,000 or so residents, which is sufficient to support high-order retail anchors (eg department store) and a wide variety of retail specialties.

5 An indicative figure for total retail provision at a PTC is approximately 100,000m^2 of leasable floorspace, comprising:

- A department store (20,000m^2)
- Two discount department stores (15,000m^2)
- Two supermarkets (7,000m^2)
- A range of specialty stores (18,000m^2)

- A bulky goods precinct (40,000m^2).

6 PTCs have even greater potential for non-retail provision including commercial office sectors. On average, each PTC is likely to accommodate up to 60,000m^2 of non-retail floorspace, including (say) 25,000m^2 of office and other shopfront uses, and 35,000m^2 of other commercial/highway and service business uses.

Other uses not identified

7 These indicative allocations for higher-order centres do not include provision for substantial education and health institutions including university or other tertiary campuses, hospitals and so on. However, higher-order activity centres are the most appropriate places in which to plan for these facilities.

8 The indicative allocations also do not include consideration of employment precincts (such as industrial estates, service industry precincts or business parks), which might be located in close proximity to activity centres.

7.3 Summary of Floorspace Outcomes

A calculation of the expected floorspace outcomes in sub-regional and regional catchments has been made by applying the principles and centre composition described above, and is presented Table 7.1 below.

The analysis is made on the basis of:

- Sub-regional catchments containing approximately 50,000 residents, and sufficient to support a MTC.
- Regional catchments of 150,000 residents, which are sufficient to support a PTC.

Note that this allocation does not include the potential provision of very small local centres and individual stores, for example milk bars or general stores attached to petrol stations and so on.

Overall, the analysis shows that a sub-regional catchment would support approximately 76,000m^2 of retail floorspace, plus approximately 34,000m^2 of floorspace devoted to other non-retail uses.

Having regard for the population (50,000 residents), and the typical average per capita retail demand (2.2m^2/capita, or total demand of 110,000m^2 in the sub-region), these figures suggests that sub-regional catchments should be able to provide approximately 70% of the total retail floorspace demands generated in the catchment. Total supermarket provision would be 17,500m^2, representing an average provision of 0.35m^2/capita, which accords with current industry averages.

At the regional level total floorspace provision is approximately 273,000m^2, with a further 137,000m^2 in non-retail provision. At this regional level, approximately 23% of total retail provision is proposed to be located in LTCs (ie 63,000m^2 at LTCs as a proportion of the total 273,000m^2), with further retail provision

in local centres. This accords with other work undertaken by Essential Economics which suggests that LTCs typically accommodate 25% or so of total retail expenditure, on average.

The estimate of total retail provision in a regional catchment (273,000m^2) can be compared against total retail demand by applying average per capita retail demand of 2.2m^2/capita. On this basis total retail demand is approximately 330,000m^2, so that the region provides approximately 83% of the total retail floorspace demands generated in the catchment. Of course, it is important to appreciate that escape spending may be greater than 10%, with centres also generating sales from residents outside the region.

Supermarket provision at the regional level would be 52,500m^2, which represents an average provision of 0.35m^2/capita. This is similar to the current average provision across Australia.

The proposed allocation of non-retail commercial space – at 137,000m^2 – represents an average of approximately 0.9m^2/capita at the regional level, and this is broadly within the parameters identified in section 6.1 of this report.

Table 7.1: Summary of Activity Centre Provision

Centre type/region level	Floorspace provision
Neighbourhoods (LTCs):	
Full-line supermarket	3,500m2
Other retail	3,500m2
Total retail	*7,000m2*
Non-retail	3,000m2
Total floorspace	*10,000m2*
Sub-regions (50,000 persons):	
Three LTCs:	
Supermarkets	10,500m2
Other retail	10,500m2
Total retail	*21,000m2*
Non-retail	9,000m2
Total floorspace	*30,000m2*
MTC:	
Supermarkets	7,000m2
Other retail	48,500m2
Total retail	*55,000m2*
Non-retail	25,000m2
Total floorspace	*80,000m2*
Sub-region summary:	
Supermarket	17,500m2
Total retail	*76,000m2*
Non-retail	34,000m2
Total floorspace	*110,000m2*
Regions (150,000 persons)	
Nine LTCs:	
Supermarkets	31,500m2
Total retail	*63,000m2*
Non-retail	27,000m2
Total floorspace	*90,000m2*
Two MTCs:	
Supermarkets	14,000m2
Total retail	*110,000m2*
Non-retail	50,000m2
Total floorspace	*160,000m2*
Region summary:	
Supermarket	52,500m2
Total retail	*273,000m2*
Non-retail	137,000m2
Total floorspace	*410,000m2*

Source: Essential Economics

8 CENTRE REQUIREMENTS IN GCP REGIONS

This Chapter presents a broad assessment of the theoretical activity centre requirements associated with the indicative dwelling development that is expected to occur in each of the regions for which corridor plans are being prepared. The process in undertaking this analysis is to determine the extent to which each of the GCP regions contain regional, sub-regional and neighbourhood catchments, and then apply the centre development principles described in Section 7.1.

8.1 Population Outcomes

The estimated population outcomes for each growth corridor have been prepared with reference to indicative dwelling yields and population outcomes as provided by the GAA.

As shown in Table 8.1, the GCP regions have capacity to deliver approximately 188,000 to 304,000 new dwellings as they are developed, with the expected population outcomes in the order of 506,000 to 882,000 new persons.

Of course, these figures are intended only as a broad indication of potential dwelling and population outcomes, as the number of households and dwellings will change over time as the new growth areas are settled, as the population in each growth area ages and as the average household size changes over time.

Table 8.1: Dwelling and Population Outcomes in GCP Regions

GCP Region	Dwellings	Population
Melbourne West	70,000 - 114,000	188,000 - 331,000
Melbourne North: Sunbury	22,000 - 35,000	60,000 - 102,000
Melbourne North: Hume-Mitchell-Whittlesea	66,000 - 105,000	177,000 - 304,000
Melbourne South-East	30,000 - 50,000	81,000 - 145,000
Total	**188,000 - 304,000**	**506,000 - 882,000**

Source: Essential Economics, based on GAA

Importantly, over time it is possible that household sizes, the mix of dwelling types and average dwelling densities, and the extent of areas that need to be put aside for conservation and other non-urban purposes may vary significantly. The corridor plans need to allow for such variations so that sufficient flexibility is incorporated in planning for possible future infrastructure and service needs. The figures shown in Table 8.1 above reflect likely upper and lower limits on the population, dwelling and housing capacity of the growth corridors.

Table 8.1 shows that the largest growth area in terms of population is expected to be the Melbourne West region, which has potential to accommodate up to 331,000 new residents as it is developed. An important point to note is that the South-East growth area, which has been a significant contributor to

urban growth over recent years, is expected to have less significant growth due to land development constraints.

8.2 Applying the Activity Centre Planning Principles

The population and dwelling outcomes in Table 8.1 have been used to describe an applicable centre network for each growth area, based on the extent to which each region can accommodate regional, sub-regional and neighbourhood-level centre development. The applicable 'triggers' for the accommodation of a centre at each level in the hierarchy are as follows (refer Chapter 7):

- Principal Town Centre: 150,000 persons
- Major Town Centre: 50,000 persons
- Local Town Centre: 8,000-10,000 persons

The figures in Table 8.1 show that only Melbourne West and Melbourne North (Hume-Mitchell-Whittlesea) can theoretically generate sufficient demand for a PTC.

It is important to appreciate that this exercise is undertaken at a theoretical level, and when undertaking more detailed analysis, consideration will need to be undertaken to account for existing parts of the urban area which might form part of a suitable catchment for a PTC or a MTC.

The analysis identifies the number of each type of centre, and also presents an assessment of an indicative floorspace allocation, based on the indicative centre composition presented in Chapter 7. The results are shown below in the subsequent sections 8.3 and 8.4.

8.3 Numbers of Centres by Type

A summary of the theoretical number of centres that would be accommodated in each growth area is shown in Table 8.2 below, based on the methodology described above. Separate calculations have been undertaken to indicate a low and high range, depending upon the range of dwelling outcomes in each growth area.

Table 8.2: Number of Centres by Type in Growth Areas

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
LOW range of dwelling development					
PTCs	1	0	1	0	2
MTCs	2	1	2	1	6
LTCs	13	4	12	6	35
HIGH range of dwelling development					
PTCs	2	0	2	0	4
MTCs	4	2	4	2	12
LTCs	22	6	20	11	59

Source: Essential Economics

The analysis shows that the growth corridors are expected to generate significant development of neighbourhood-level centres, with almost 60 required under the high capacity development scenario. Under this scenario, twelve MTCs will also need to be provided.

Lower levels of development are expected in Sunbury and the South-East region, with only one MTC in each region under the low growth scenario, and two in each region under the high development scenario.

8.4 Floorspace Provision by Centre Type

Tables 8.3 and 8.4 presents a summary of the expected retail and non-retail floorspace outcomes associated with the number of new centres shown in the preceding section. Table 8.3 presents that analysis under the Low development scenario, and Table 8.4 presents the analysis for the high development scenario.

The analysis is based on the anticipated 'typical' centre provision for each centre type (refer Chapter 7).

Table 8.3: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2) LOW Scenario

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Retail provision					
PTCs	100,000	0	100,000	0	200,000
MTCs	110,000	55,000	110,000	55,000	330,000
LTCs	91,000	28,000	84,000	42,000	245,000
Total	*301,000*	*83,000*	*294,000*	*97,000*	*775,000*
Non-retail provision					
PTCs	60,000	0	60,000	0	120,000
MTCs	50,000	25,000	50,000	25,000	150,000
LTCs	39,000	12,000	36,000	18,000	105,000
Total	*149,000*	*37,000*	*146,000*	*43,000*	*375,000*

Source: Essential Economics

Table 8.4: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2) HIGH Scenario

	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Retail provision					
PAC	100,000	0	100,000	0	200,000
MAC	220,000	55,000	165,000	110,000	550,000
Town Centre	168,000	49,000	119,000	63,000	399,000
Total	*488,000*	*104,000*	*384,000*	*173,000*	*1,149,000*
Non-retail provision					
PAC	60,000	0	60,000	0	120,000
MAC	100,000	25,000	75,000	50,000	250,000
Town Centre	72,000	21,000	51,000	27,000	171,000
Total	*232,000*	*46,000*	*186,000*	*77,000*	*541,000*
Total commercial space					
PTCs	160,000	0	160,000	0	320,000
MTCs	160,000	80,000	160,000	80,000	480,000
LTCs	130,000	40,000	120,000	60,000	350,000
Total	*450,000*	*120,000*	*440,000*	*140,000*	*1,150,000*

Source: Essential Economics

Table 8.5: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2) HIGH Scenario

Centre type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Retail provision					
PTCs	200,000	0	200,000	0	400,000
MTCs	220,000	110,000	220,000	110,000	660,000
LTCs	154,000	42,000	140,000	77,000	413,000
Total	*574,000*	*152,000*	*560,000*	*187,000*	*1,473,000*
Non-retail provision					
PTCs	120,000	0	120,000	0	240,000
MTCs	100,000	50,000	100,000	50,000	300,000
LTCs	66,000	18,000	60,000	33,000	177,000
Total	*286,000*	*68,000*	*280,000*	*83,000*	*717,000*
Total commercial space					
PTCs	320,000	0	320,000	0	640,000
MTCs	320,000	160,000	320,000	160,000	960,000
LTCs	220,000	60,000	200,000	110,000	590,000
Total	*860,000*	*220,000*	*840,000*	*270,000*	*2,190,000*

Source: Essential Economics

The analysis shows that the GCP regions can be anticipated to support a very significant level of retail and commercial development, as summarised below:

- Low scenario
  - Retail provision: 775,000m^2
  - Non-retail provision: 375,000m^2
  - Total commercial space: 1,150,000m^2
- High scenario
  - Retail provision: 1,473,000m^2
  - Non-retail provision: 717,000m^2
  - Total commercial space: 2,190,000m^2

8.5 Average Retail Provision Per Capita

A summary of average retail provision under each growth scenario and for each GCP region is shown in Table 8.5. These figures point to a number of key conclusions:

1 Most of the regions are expected to support relatively high average retail provision per capita, indicating that they provide a significant share of total retail demand.

2 In each region, the provision of retail floorspace is less than the total average demand of approximately 2.2m^2/capita, but this reflects the fact that people will continue to shop outside the region (for example in central Melbourne) for a share of their retail purchases.

3 Regions that are sufficiently large to accommodate a number of MTCs or PTCs achieve higher levels of retail provision, and this reflects the fact that these higher-order centres will continue to be a main focus for a large share of the total retail provision in each region.

4 The figures in Table 8.5 might under-estimate the potential total local retail provision, as the analysis does not consider individual stores such as milk bars, local centres, shops associated with petrol stations, and so on.

5 It is important to appreciate that the analysis presented in Table 8.5 is based on the application of a *theoretical model* of activity centre provision in which a standardised size of centres is applied. In actual fact the size of centres will vary, with some LTCs being smaller where catchments are confined, while some MTCs or PTCs might be larger if the population in the surrounding sub-region supports it. These aspects of more detailed centre planning will be undertaken during preparation of individual PSPs.

Table 8.6: Average Retail Provision by Region and Development Scenario

Region	Low	High
Melbourne West	1.60	1.73
Melbourne North: Sunbury	1.38	1.49
Melbourne North: Hume-Mitchell-Whittlesea	1.66	1.84
Melbourne South-east	1.20	1.29
Total	**1.53**	**1.67**

Source: Essential Economics

8.6 Conclusion

In applying a model for a distributed network of centres to serve the new growth areas on Melbourne's fringe, it is apparent that a very substantial level of retail and commercial development will need to be accommodated in order to serve the demand generated in the growth corridors.

According to the analysis presented in this chapter, a total of 1.15-2.19 million m^2 of additional commercial floorspace could be required, comprising 0.77-1.47 million m^2 of retail space, and 0.37-0.72 million m^2 of other commercial uses.

These are broad estimates based on the application of a theoretical centre network model; importantly, these estimates of floorspace do not include allocations for employment precincts (including those that may be located next to activity centres) and nor do they include higher-order health and education facilities that might need to be planned for in the GCP regions.

PART B:
EMPLOYMENT PLANNING

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9 PRINCIPLES TO IMPROVE EMPLOYMENT DELIVERY

The GAA have adopted a set of employment principles which are intended to guide the allocation of land within the Melbourne's future growth areas, and which form the basis for this current analysis of future employment provision in the Growth Corridors.GCP regions.

The GAA employment targets have been developed to ensure that a greater focus is placed on increasing local employment within the growth areas.

9.1 GAA Employment Targets and Principles

A broad set of targets has been developed by the GAA to assist in planning for Melbourne's growth corridors.areas. These targets relate to:

- The extent to which the number of local jobs that are generated in or near newly developing residential suburbs meets the requirements of the local population (ie *employment self-sufficiency*):
  - 1 new job to be created at the regional level (approximately within 10km) for every new household
  - An aspirational target of 100% self-sufficiency at the regional level
  - A target of 70% of jobs to be located within a surrounding 'sub-region' (ie within approximately 5km)
  - Approximately 30% of jobs to be provided within the surrounding 'neighbourhood area' (defined on the basis of the square mile grid of arterial roads).
- The extent to which the provision of local jobs is matched to the incoming residents so that people work locally (ie *employment self-containment*):
  - A target of 50% of new growth area residents taking up jobs within the surrounding region.
- Improvements in *employment diversity*, and particularly the balance of white-collar and blue-collar employment in growth areas:
  - Attract a more diverse working population into growth areas, so that the ratio of white-collar to blue-collar employment approaches the metropolitan average of approximately 75:25
  - Encourage a progressive alignment between the growth corridors and metropolitan Melbourne as a whole with respect to a range of employment indicators such as the proportion of the employed resident labour force in managerial and professional positions, the proportion of the employed resident labour force with higher education qualifications, and so on.

- High levels of *access to employment and services*, with 80-90% of all residents within 1km of a supermarket-based LTC, and ensuring an appropriate distribution of sub-regional and major employment nodes.

9.2 The Basis for an Employment Provision Model

The principles described in Section 9.1 above form an appropriate basis for developing a model that provides an appropriate level of employment in the growth area regions. Essentially, the model will need to respond to the following matters:

- Total employment provision will need to be at least the number of new households expected to be accommodated in each growth corridor.
- The pattern of employment delivery will need to reflect a sophisticated and diverse economy which reflects the GAA's aspirations for the new growth corridors, where a variety of employment opportunities are provided at activity centres, in dedicated industrial and business parks, in major employing institutions, and other locations.
- Employment locations need to be well dispersed across the urban area, so that residents have an opportunity to access local employment opportunities within the neighbourhood or sub-region, where possible.
- Land areas will need to be identified for dedicated employment provision, in the form of industrial estates, transport hubs, business or corporate parks, and so on. A failure to identify sufficient land will mean that later opportunities to provide local employment will be constrained.
- Activity centre floorspace estimates have been prepared in Part A, and will generate opportunities for employment in LTCs, MTCs and PTCs, where they can be accommodated in the centre network. Employment estimates for these centres form part of the calculation of employment opportunity across each of the GCP regions.
- Some types of activities are not location-specific, and include businesses that are run at home (eg local tax accountants) or from home (eg tradespeople or building contractors). Analysis of Census data can be undertaken to example the potential for employment in the growth corridors to be generated in residential areas.
- In more established parts of Melbourne a significant amount of employment is generated in major institutions such as higher-order education and health facilities; the potential for these types of activities to be accommodated in the growth corridors needs to be examined as part of establishing a model to provide sufficient employment provision in new growth areas.

9.3 Methodology for Employment Analysis

The following analysis is presented in subsequent chapters in order to develop a model for employment provision in the GCP regions:

1 Examine current patterns of employment provision in the growth corridors, including measures such as total employment provision per household, employment self-sufficiency and occupational types.

2 Identify regions of Melbourne that reflect the aspiration that the GAA has for the new growth areas, in terms of performing well on measures such as employment self-sufficiency, the diversity of the local economy, occupational profiles, and so on.

3 Analyse these regions in terms of employment (jobs) provision by detailed industry sector.

4 Identify the broad locations for different types of employment provision, with reference to detailed industry sectors and land use zone information. For this analysis, employment location is identified in terms of the following locational categories:

- Activity centres (differentiated by retail, office/commercial, and other uses)
- Employment precincts (differentiated by light and heavy industrial uses, transport and storage businesses, and semi-commercial activities)
- Community uses (differentiated by local uses that are typically accommodated in LTCs or embedded throughout the urban area, and higher-order uses that might be stand-alone or associated with PTCs, and STCs)
- Home-based employment.

5 Examine the provision of land by zone type in the benchmark regions, and use this as a basis for assessing the density of employment generation for different types of jobs and different job locations.

6 Calculate potential employment generation at activity centres in the GCP regions, based on the floorspace provisions described in Part A.

7 Use the preceding analysis to determine the amount of land that will be required to accommodate jobs in employment precincts, in order to reflect typical employment patterns in the benchmark regions and the likely employment densities achieved.

8 Provide commentary on the need or otherwise to accommodate other types of employment including, for example, higher-order health and education facilities, in order to meet employment targets and deliver a more sustainable employment profile.

9 On the basis of the results of this analysis, identify the preferred employment outcomes in each of the GCP regions, based on the expected dwelling and population yields.

An important consideration is that the estimates of required employment land relate to a range of types of activities, including industrial activities as well as corporate business parks, research estates, and so on.

10 CURRENT EMPLOYMENT PERFORMANCE

This chapter describes the current pattern of employment provision across Melbourne, and includes analysis of Journey to Work patterns, and employment performance as measured by employment self-sufficiency. The analysis also identifies the current employment profile in the existing growth areas, as a basis for the further assessment of the new GCP regions.

10.1 Metropolitan Context

Growth areas for metropolitan Melbourne were identified in Melbourne 2030, and consist of the following broad regions:

- Wyndham
- Melton-Caroline Springs
- Hume-Whittlesea
- Casey-Cardinia.

Growth Area Framework Plans were prepared in collaboration with local governments to guide the allocation of land uses in each of these regions. However, analysis by GAA and others (for example, refer GAA discussion paper *Real Employment Choice in Melbourne's Growth Areas – Key Principles, June 2009*) have identified that these regions generally perform poorly in terms of local employment provision, in particular with the under-provision of employment opportunity and lack of planning to secure land for employment uses.

The preparation of Growth Corridor Plans is now commencing for the new growth areas on Melbourne's fringe, and these areas are now the focus of planning efforts to redress the recognised deficiencies in the previous form and structure of urban development in Melbourne. Planning for these areas is intended to emphasis the sustainable delivery of employment choice to serve residents in the new growth areas.

This is the context in which the analysis presented in Part B of this report examines the role of activity centres, dedicated employment land, community facilities, and home based employment opportunities in contributing to employment choice in the new growth areas.

To assist in reviewing the performance of the existing growth areas, analysis is undertaken for the following local government areas which constitute the main growth area regions:

- Melbourne West: Melton (S) and Wyndham (C)
- Melbourne North: Hume (C) and Whittlesea (C)

- Melbourne South-East: Cardinia (S) and Casey (C)

These LGAs are referred to as the Growth Area LGAs to avoid confusion with the regions now designated for GCPs.

10.2 Employment Self-Sufficiency

The employment profile for the Growth Area LGAs is shown in Table 10.1, which presents employment data from the 2006 Census showing the number of residents in each LGA who worked or sought work in 2006 (ie the resident labourforce), and the number of jobs located in the LGA.

The analysis highlights the significant gap between the number of residents seeking work, and the actual number of jobs located in each municipality.

The employment gap ratio represents the number of jobs available locally for each resident seeking to work. Other than the City of Hume, which contains a number of significant employment areas and performs well on this measure, the Growth Area LGAs provide far less jobs than the Melbourne benchmark of 0.86 jobs per resident.

Note that even at the metropolitan level the employment provision ratio does not reach 1:1 for a number of reasons:

- The analysis includes unemployed people, which never falls to zero
- The Journey to Work data does not fully account for the location of all jobs in each region
- Some jobs are taken up by people travelling into Melbourne from other parts of Victoria.

Table 10.1: Growth Area LGAs Employment Provision Performance, 2006

Growth Area LGA	Residential labourforce*	Local jobs	Employment gap	Employment provision ratio
Melton (S)	39,410	11,510	27,900	0.29
Wyndham (C)	56,610	36,590	20,010	0.65
Melbourne West	***96,020***	***48,100***	***47,910***	***0.50***
Hume (C)	66,000	64,340	1,660	0.97
Whittlesea (C)	58,760	32,110	26,650	0.55
Melbourne North	***124,770***	***96,450***	***28,310***	***0.77***
Cardinia (S)	28,400	13,810	14,590	0.49
Casey (C)	106,320	42,460	63,870	0.40
Melbourne South-East	***134,720***	***56,270***	***78,450***	***0.42***
Total Growth Area LGAs	**355,500**	**200,820**	**154,680**	**0.56**
Metro Melbourne	1,780,830	1,539,220	241,610	0.86

Source: ABS Census 2006
Note: * Labourforce includes employed persons and those seeking work, as per previous GAA analysis

Among the growth areas, the South-East and West perform particularly poorly, with approximately one job for every two workers in the West and even fewer in the South-East.

10.3 Employment Provision per Household

The GAA employment principles include an overall direction that each new household (assumed to be equivalent to an occupied private dwelling) in the growth areas will require one new job to support it. In view of this principle, it is appropriate to compare employment provision against the number of occupied dwellings (or households) in each LGA in metropolitan Melbourne.

Table 10.2 presents this data for each of the growth area regions and provides similar data for broader regions in Melbourne, representing the variety of urban form and built environment:

- Inner Melbourne is defined as the City of Melbourne and adjoining inner municipalities that are characterised by a dense urban form with significant employment opportunities
- Middle Melbourne comprises a ring of LGAs across the middle regions of Melbourne that have a widely varied structure and range of uses
- Outer Melbourne incorporates the fringes of Melbourne and includes the Growth Area LGAs.

Analysis shows that the average employment provision across Melbourne is approximately 1.2 jobs per household, but that municipalities on the fringe often have a much lower average provision, ranging from 0.64 jobs per household in the South-East, to 1.13 jobs per household in the North.

Employment provision varies significantly between Inner Melbourne and the Middle and Outer areas. For example, if the Hume LGA is excluded from Outer Melbourne then the employment provision in Outer Melbourne falls to 0.88 jobs per household. Both Middle and Outer Melbourne have far fewer jobs per household than Inner Melbourne, which has 4.37 jobs for every local household.

Table 10.2: Growth Area LGAs Employment Provision per Dwelling, 2006

Growth Area LGA	Total Occupied Dwellings	LGA Workforce	Employment Per Dwelling
Melbourne West	61,863	48,104	0.78
Melbourne North	85,169	96,451	1.13
Melbourne South-East	87,889	56,268	0.64
Total Growth Area LGAs	***234,921***	***200,823***	***0.85***
Melbourne Statistical District	1,283,524	1,539,219	1.20
Inner Melbourne	95,982	419,264	4.37
Middle Melbourne	706,925	666,982	0.94
Outer Melbourne	480,617	452,973	0.94

Source: ABS Census 2006

In summary, the analysis shows that the average provision of employment per dwelling in Melbourne is 1.2, whereas the GAA target is for one job to be created in the growth area regions for each new

dwelling. This suggests that the actual employment task would require more than one job to be created for each new household, and it implies that the GAA target in relation to employment generation should be seen as a minimum requirement in order to meet the employment needs of future residents.

10.4 Employment Profile in Growth Areas

The structure and diversity of employment by occupational type has been identified as another issue with the existing growth areas. Table 10.3 (refer p79) presents analysis of Census data showing the occupational structure for the growth areas LGAs and selected regions of Melbourne.

The growth area LGAs are fairly similar in terms of their occupation profile, with the West and North having a higher proportion of machine operators, while the South-East has more managers. The growth areas generally have a 'blue collar' workforce profile in comparison with benchmarks in more established parts of Melbourne.

Attempts to develop a more diverse employment structure in future growth areas will assist in increasing the attractiveness of these regions to a wide section of the population, as well as assisting in making the regions more attractive for a wider variety of business. This will in turn allow more residents to find local employment and create a more robust economic environment.

10.5 Conclusion

The current Growth Area LGAs generally perform poorly in terms of providing jobs for local residents seeking work. This under-provision has been cited as a major factor undermining the sustainability of previous growth area development. Some growth areas generate as few as 0.6 jobs per household, compared to a Melbourne average of 1.2 jobs per household.

In preparing new Growth Corridor Plans, GAA are seeking to plan for more local employment opportunities in a wider variety of employment sectors, thus helping to sustain a more diversified and robust local economy.

Table 10.3: Occupational Structure, 2006

Area	Managers	Professionals	Technicians and Trades Workers	Community and Personal Service Workers	Clerical & Admin Workers	Sales Workers	Machine Operators And Drivers	Labourers	Total
Melton (S)	10.4%	16.1%	15.0%	13.2%	12.5%	13.3%	7.8%	11.6%	11,423
Wyndham (C)	12.0%	14.5%	14.1%	7.5%	13.3%	11.2%	15.4%	12.1%	36,316
Melbourne West	***11.6%***	***14.9%***	***14.3%***	***8.8%***	***13.1%***	***11.7%***	***13.6%***	***12.0%***	***47,739***
Hume (C)	11.4%	13.5%	15.9%	7.9%	15.0%	10.0%	13.8%	12.4%	63,788
Whittlesea (C)	11.2%	17.6%	15.8%	8.0%	13.6%	11.2%	10.5%	12.2%	31,840
Melbourne North	***11.4%***	***14.8%***	***15.9%***	***7.9%***	***14.5%***	***10.4%***	***12.7%***	***12.4%***	***95,628***
Cardinia (S)	16.5%	14.0%	15.3%	9.3%	12.6%	10.5%	7.3%	14.5%	13,736
Casey (C)	11.9%	16.6%	14.4%	9.2%	13.5%	15.8%	7.2%	11.4%	42,202
Melbourne South-East	***13.0%***	***15.9%***	***14.6%***	***9.3%***	***13.3%***	***14.5%***	***7.2%***	***12.1%***	***55,938***
Total Growth Area LGAs	**11.9%**	**15.2%**	**15.2%**	**8.5%**	**13.8%**	**11.9%**	**11.4%**	**12.2%**	**199,305**
Total Melbourne SD	13.4%	24.1%	12.3%	8.2%	17.1%	10.6%	6.3%	8.1%	1,527,660
Inner Melbourne	15.4%	34.5%	7.8%	6.8%	22.5%	6.9%	2.1%	4.0%	416,586
Middle Melbourne	12.7%	23.2%	12.9%	9.0%	15.5%	12.1%	6.5%	8.1%	661,433
Outer Melbourne	12.4%	15.8%	15.5%	8.3%	14.3%	11.9%	10.0%	11.7%	449,641

Source: ABS Census 2006

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11 EMPLOYMENT DISTRIBUTION MODEL

This Chapter presents analysis of employment provision by type and by location across various parts of Melbourne, in order to develop the basis for an employment provision model for the GCP regions.

11.1 Approach

Existing employment patterns across Melbourne have been examined with reference to the number of jobs created by type and by locational category. This has been done at three levels:

1. Census data has been examined to identify the typical extent to which people work from home (ie home-based employment)
2. Detailed industry data has been examined and categorised by type to indicate the broad location of employment (as described below)
3. Industry data by type has been categorised according to use type and examined with respect to the area of land in different land use zones, in order to provide an assessment of employment density by location.

The analysis uses data from the following sources:

- ABS Census 2006 – ANZSIC06 Industry of Employment Journey To Work data
- ABS Census 2006 – Occupation and Workforce Data
- Metropolitan Melbourne Planning Zone Cadastre.

Information from the *Metropolitan Perth Commercial and Industrial Land Use and Employment Survey* has also been used to assist in allocating employment type within certain planning zones – for example in indicating the broad share of employment in industrial zones that is used for commercial office, retail and other uses.

In order to examine employment data for each Melbourne LGA, a standard set of employment and land use categories has been developed, as follows:

- Activity centre:
  - Retail
  - Office/commercial
  - Services/other

- Employment land:
  - Light industry/service business
  - Heavy industry/manufacturing
  - Transport and storage
  - Semi-commercial/corporate
- Community uses:
  - Local health, community and education sectors typically generated in neighbourhoods or embedded in residential areas
  - Larger-scale health, community and education facilities that are typically located on stand-alone sites or associated with higher-order activity centres
- Home based employment.

These categories were selected to represent the major zone types that are relevant for employment purposes. For example, activity centre type uses occur in a selection of Business zones, while employment/industrial uses mainly occur on Industrial land and Business 3 zoned land.

Both the Journey to Work (JTW) data and planning zone information has been re-classified using these employment zone type categories, to enable the combination of the two spatial data sources.

In addition to this employment-based analysis, estimates have been made of the extent to which the floorspace guidelines presented in Part A would generate employment in retail and office activities.

Journey to Work Industry Data

In order to provide a workable and realistic benchmark, very significant (and non-replicable) employment generation precincts, such as the Melbourne CBD, airports, major universities (Melbourne/Parkville, Monash at Clayton, and Latrobe at Bundoora), and major military facilities have been removed from the employment data.

Home-based employment (classified by industry type) has also been removed and is examined separately (refer section 11.2), and the remaining employment data (by LGA) distributed into employment zone categories.

Planning Zones

Very significant employment areas (eg Melbourne CBD, major University campuses, Port of Melbourne, etc) have been removed from the GIS-based planning information before the area of zoned land in each LGA has been calculated and subsequently categorised according to planning zone type. As the planning zones do not precisely correlate to the employment zone categories, data from the Perth Commercial and Industrial Land Use and Employment Survey has been used to calibrate the results.

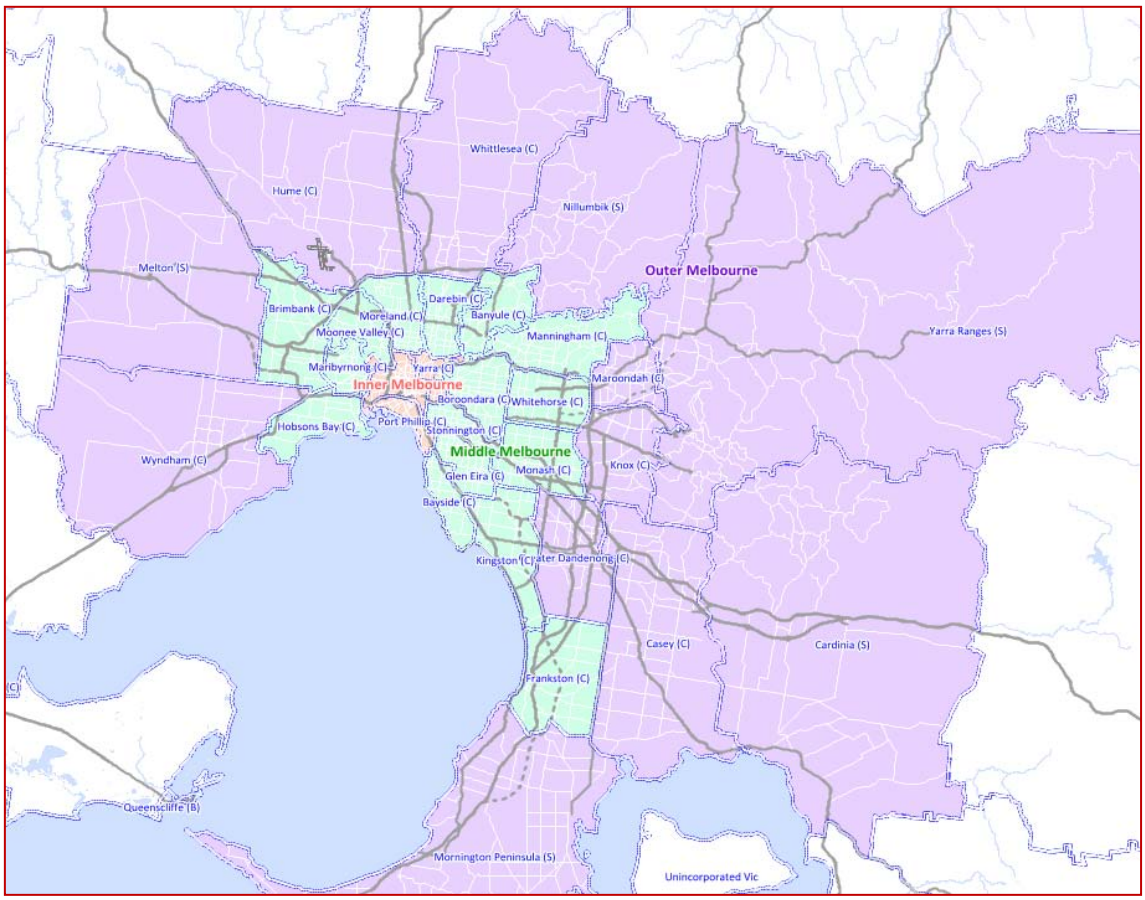
The two data sources have then been combined to generate the number of jobs per hectare of employment zone type land (ie employment intensity).

Melbourne Urban Area Classification

The employment intensity analysis has been constructed at the LGA level in order to allow for comparisons with the existing growth area LGAs. However, for the benchmarking exercise the metropolitan area was aggregated by broad urban region, consisting of Inner, Middle and Outer Melbourne. This structure is intended to represent the three distinct urban forms that distinguish Melbourne:

- **Inner Melbourne** incorporates the high density CBD and bayside areas of Melbourne
- **Middle Melbourne** includes the band of LGAs that extend from Hobson Bay in the west through Moreland in the North to Kingston in the South. These middle ring LGAs include industrial areas as well as a range of residential densities from higher densities around activity centres to low-density residential areas near the green wedges. This structure is considered to be the most appropriate as a representation of a sustainable suburban area, with high levels of employment self-sufficiency and a diverse occupation structure.
- **Outer Melbourne** represents the LGAs on the outer fringe of Melbourne and includes all of the existing growth areas. These LGAs are characterised by low levels of employment self-sufficiency, a more blue-collar workforce and high car dependency. These areas are the type of urban form that the employment targets are aiming to alter through the development of the future growth areas.

Figure 11.1: Metropolitan Melbourne – Inner, Middle and Outer LGAs



Source: ABS, MapInfo and Essential Economics

11.2 Home-Based Employment

According to data from the ABS Census 2006, approximately 5.2% of people in metropolitan Melbourne worked from home, and this represents the best estimate of home-based employment. Estimates of home-based employment are presented in Table 11.1, while the same information is mapped graphically in Figure 11.2.

Table 11.1: Estimated Proportion of Home-Based Employment – Worked from Home (2006)

Location	% of employed persons who worked from home
Inner Melbourne	3.2%
Middle Melbourne	5.5%
Outer Melbourne	5.5%
Total Melbourne SD	**5.2%**

Source: ABS Census of Population and Housing 2009, Journey to Work data, Method of Travel to Work.

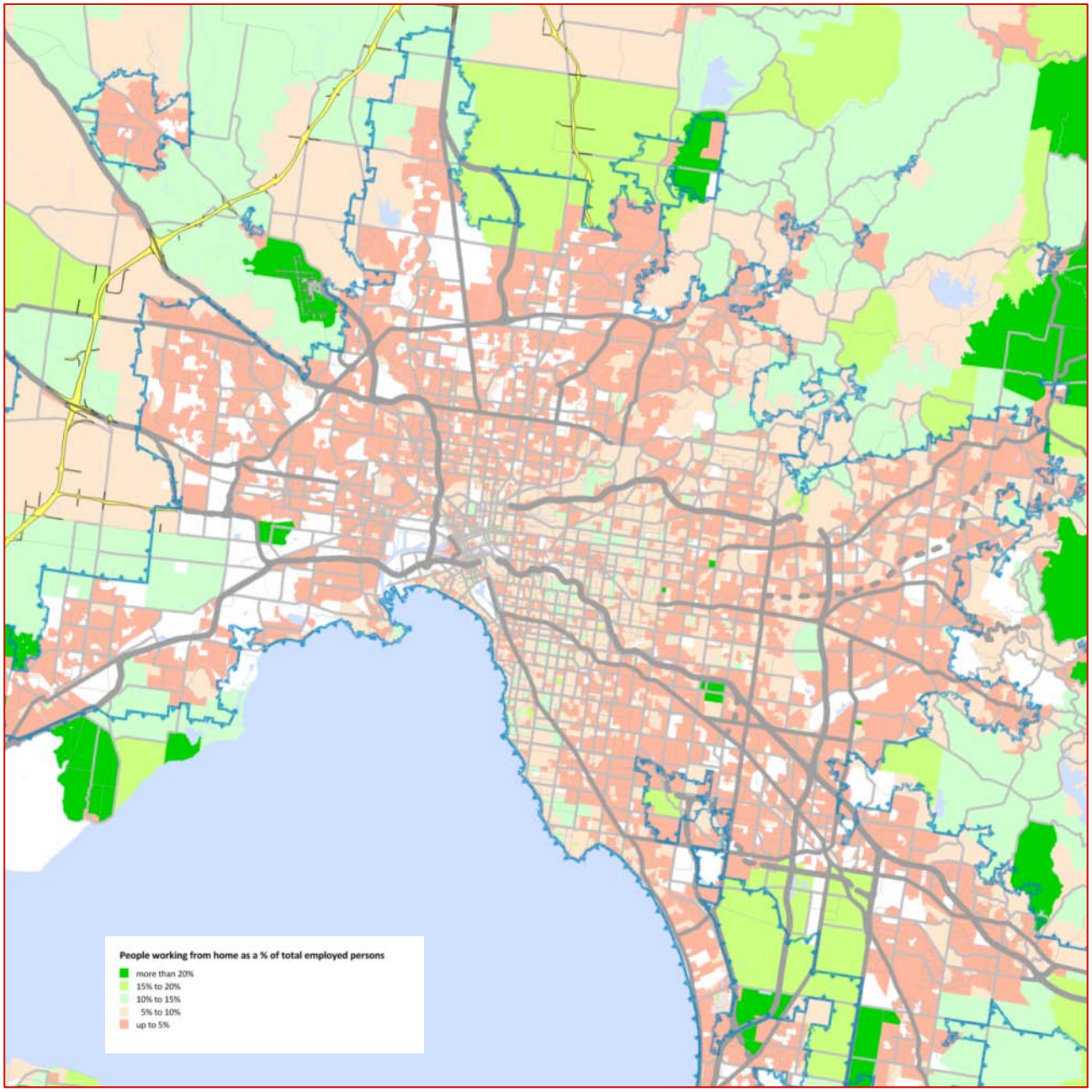
As shown in Figure 11.2, the extent of home-based employment varies considerably across Melbourne, accounting for up to 15% of employed residents in parts of the inner eastern suburbs and an even higher proportion in the outer fringes of Melbourne. Note that the high level of home-based employment outside the urban area is associated with agricultural employment in these locations.

In addition to Census data that refers to people who state that they worked from home on the day of the Census, it is also relevant to consider people who stated that they had no fixed place of work. Some of these people are likely to be tradespeople and contractors who should be considered as 'home-based employees' for the purpose of this analysis of employment location in the GCP regions.

Detailed analysis of Journey to Work data shows that approximately 4.6% of the total number of employed people in Victorians could not be coded to a work location because they stated that they had no fixed place of work. However, the extent to which this represents other forms of home-based employment is not known, and the data is not available for particular geographic locations.

Overall, the conclusion to be made is that approximately 5-10% of total employment in the growth corridors might be generated by home-based businesses or by people who use their residence as a base for employment purposes. This estimate is incorporated into the employment model.

Figure 11.2: Working From Home, ABS Census 2006



Prepared by Essential Economics with ABS Census 2006

11.3 Detailed Industry Profile by Broad Location

Journey to work data showing detailed employment by industry sector and by location (ie LGA) has been analysed in order to identify the proportion of employment generated in different employment locations. As noted in Chapter 9, the broad locational categories include Activity centres, Employment areas, and Community uses. More detailed sub-components of these area types are used in the analysis, as shown in Table 11.2 below.

The employment data from the Census 2006 has been classified by four-digit industry codes (ANZSIC2006) and then assigned to location categories. For example, employment in detailed retail sectors (eg 'fruit and vegetable retailing') is allocated to the *Activity centres – retail* location category, while employment in 'higher education' is allocated to the *Large-scale community - education* location category.

An important consideration is that some of the local community uses are typically 'embedded' throughout the urban area, for example associated with provision of primary schools, maternal child and health centres, and so on.

Table 11.2: Employment Distribution by Location Type

Location type	Inner Melbourne	Middle Melbourne	Outer Melbourne	Metropolitan Melbourne
Activity Centres	***32.6%***	***24.9%***	***25.9%***	***28.3%***
- Retail	13.3%	15.6%	17.8%	15.2%
- Office/commercial	16.3%	7.1%	5.8%	10.6%
- Other/Service	3.0%	2.1%	2.3%	2.5%
Employment	***38.4%***	***43.5%***	***42.8%***	***41.2%***
- Light Industry	2.8%	4.9%	5.3%	4.1%
- Heavy/large scale Industry	9.8%	20.4%	22.2%	16.5%
- Transport/storage	7.5%	12.6%	12.0%	10.3%
- Corporate/professional[1]	18.5%	5.6%	3.3%	10.4%
Community	***26.0%***	***28.1%***	***24.2%***	***26.2%***
Local Community	*10.0%*	*14.0%*	*15.0%*	*12.6%*
- Health	2.6%	3.4%	3.2%	3.0%
- Community	4.1%	4.4%	4.2%	4.2%
- Education	3.3%	6.2%	7.6%	5.3%
Large Scale Community	*14.3%*	*13.5%*	*8.2%*	*12.4%*
- Health	5.3%	5.8%	3.8%	5.0%
- Community	5.7%	4.3%	3.2%	4.6%
- Education	3.3%	3.4%	1.2%	2.8%
Other Community	*1.7%*	*0.7%*	*1.1%*	*1.2%*
Other[2]	***3.1%***	***3.5%***	***7.1%***	***4.3%***
Total Employment	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Essential Economics; ABS Census of Population and Housing 2006 (Journey to Work)
Note: 1 includes industry sectors which located in Melbourne CBD (ie activity centre) but which are more likely to locate in dedicated business parks when in suburban locations
2 'Other' refers to resource industries, dispersed highway-related activities, etc

The figures in Table 11.2 show that the distribution of employment by type is broadly similar in middle ring suburbs and in outer suburbs of Melbourne, but with the following main differences:

- Employment in retailing is higher in outer Melbourne (noting that this may reflect the lower employment base in outer suburbs)
- Employment in office and business sectors in activity centres is slightly lower in outer Melbourne
- Employment in higher-order education, health and community facilities is substantially lower in outer Melbourne.

A broad principle is that the employment profile in the GCP regions should be planned to reflect a mature and diverse economic region such as that typified by the middle ring suburbs of Melbourne.

On the basis of the information presented in this section, the following broad distribution of employment by location should be adopted when planning for jobs in the growth corridors:

- Activity centres: (including retail and commercial services, shopfront offices and other uses) — 25-30% of total employment
- Employment precincts: (including industrial areas, corporate/business parks, service business precincts) — 40-45% of total employment
- Community uses: (including local services that are embedded in residential areas or located adjoining activity centres, and higher-order uses that need to be planned for MACs and PACs) — 25-30% of total employment
- Home-based employment: — 5-10% of total employment

In relation to the employment precincts, the analysis suggests that the majority of the employment requirement is in industry types that would typically locate in land that is placed in industrial zones (ie Industrial 1, Industrial 2, Industrial 3 and Business 3). Approximately 10-15% of the total jobs requirement in employment precincts would be for corporate or business park activities that might require a Business 2 zone or other land use designation.

11.4 Employment Generation in Activity Centres

Opportunities for employment generation in activity centres can be analysed with reference to the floorspace allocations for different centre types as presented in Chapter 7 (refer Part A).

Estimates of employment generation in activity centres (LTCs, MTCs, and PTCs) are based on the following approach:

1. Specify the components of each type of centre in terms of supermarket floorspace, other specialty retail floorspace, and non-retail floorspace
2. Identify an average employment-floorspace ratio (ie square metres per job) that is applicable for each use at each centre type
3. Calculate total employment generation according to the floorspace allocations that are described in Chapter 7 (refer Part A).

Employment-floorspace ratios are applied at the following rates:

- Supermarket floorspace: 25m^2/job for all centre types
- Other retail floorspace: ranging from 45m^2/job at town centres to 50m^2/job for MACs and PACs to account for bulky goods floorspace provision
- Non-retail uses: average 30m^2/job, representing a combination of office uses (typically generating employment at 20m^2/job) and other less intensive uses.

The analysis has been undertaken separately for neighbourhood, sub-regional and regional catchments, which are broadly defined as population catchments of 8,000-10,000 persons, 50,000 persons and 150,000 persons, respectively.

Neighbourhood catchments

Employment outcomes for individual neighbourhoods are summarised in Table 11.3 below, based on the expected activity centre components set out in Part A of this report.

The analysis shows that each LTC is expected to generate approximately 310 jobs in the retail sector and in other related commercial activities such as shopfront offices, business services and so on. The non-retail employment estimates might also include some employment related to entertainment and local community uses that are typically provided at LTCs.

Table 11.3: Estimated Employment Outcomes at LTCs

Location and type	Floorspace, m2	Average employment	Jobs
Supermarket	3,500	25	140
Other retail	3,500	45	80
Total retail	7,000	30	220
Non-retail	3,000	30	100
Total	**10,000**	**35**	**320**

Source: Essential Economics

Sub-regional catchments

Estimated employment outcomes for sub-regional catchments are summarised in Table 11.4, based on the expected number, type and size of activity centres as described in Part A.

According to the analysis, sub-regional catchments can support three LTCs and an MTC, and these centres are expected to generate approximately 3,020 jobs in the retail sector and in other related commercial activities such as shopfront offices, business services and so on.

Total non-retail employment is estimated at 1,130 jobs, with most of these jobs located in the MTC.

Table 11.4: Estimated Employment Outcomes at Town Centres, Sub-Regions

Location and type	Floorspace, m2	Average employment	Jobs
Four LTCs			
Supermarket	10,500	25	420
Other retail	10,500	45	230
Total retail	21,000	32	650
Non-retail	9,000	30	300
Total	***30,000***	***32***	***950***
MTC			
Supermarket	7,000	25	280
Other retail	48,000	50	960
Total retail	55,000	44	1,240
Non-retail	25,000	30	830
Total	***80,000***	***39***	***2,070***
Total			
Supermarket	17,500	25	700
Other retail	58,500	49	1,190
Total retail	76,000	40	1,890
Non-retail	34,000	30	1,130
Total	***110,000***	***36***	***3,020***

Source: Essential Economics

Regional catchments

Estimated employment outcomes for regional catchments of 150,000 residents are summarised in Table 11.5, and are based on the expected number, type and size of activity centres as described in Part A.

According to the analysis, regional catchments can support nine LTCs, two MTCs and one PTC, and these centres are expected to generate approximately 11,150 jobs in the retail sector and in other related commercial activities such as shopfront offices, business services and so on.

Total retail employment is estimated at 6,580 jobs, with a further 4,570 jobs in non-retail sectors.

These estimates can be compared against the relevant targets that the GAA has set in relation to overall employment creation, and against the broad range of employment distribution identified in section 11.3 above.

A regional catchment of 150,000 residents implies a community of approximately 47,000-54,000 households, depending on the average household size (with these figures calculated on the basis of an average 2.8-3.2 persons per dwelling). With a stated employment target of one new job for every household, this represents the broad range of anticipated employment to be provided within a regional catchment in the growth corridors.

The analysis in Table 11.5 indicates total activity centre employment of approximately 11,150 jobs, which represents 21-24% of the total employment target (47,000-54,000 jobs, as described above). Thus, the analysis of potential employment in activity centres serving regional catchments is broadly in line with the preferred distribution of employment as shown in Section 11.3, in which activity centres are expected to generate approximately 25-30% of the total number of jobs in a region. Note that the analysis does not include consideration of the provision of local centres, which would contribute to locally-generated employment opportunities located in activity centres.

Table 11.5: Estimated Employment Outcomes at Activity Centres, Regions

Location and type	Floorspace, m2	Average employment	Jobs
Nine LTCs			
Supermarket	31,500	25	1,260
Other retail	31,500	45	700
Total retail	63,000	32	1,960
Non-retail	27,000	30	900
Total	*90,000*	*31*	*2,860*
Two MTCs			
Supermarket	14,000	25	560
Other retail	96,000	50	1,920
Total retail	110,000	44	2,480
Non-retail	50,000	30	1,670
Total	*160,000*	*39*	*4,150*
PTC			
Supermarket	7,000	25	280
Other retail	93,000	50	1,860
Total retail	100,000	47	2,140
Non-retail	60,000	30	2,000
Total	*160,000*	*39*	*4,140*
Total			
Supermarket	52,500	25	2,100
Other retail	220,500	49	4,480
Total retail	273,000	41	6,580
Non-retail	137,000	30	4,570
Total	*410,000*	*37*	*11,150*

Source: Essential Economics

Summary

This analysis of the potential employment generation capacity of activity centres in neighbourhood, sub-regional and regional catchments shows that centres are expected to make a significant contribution to total employment creation, particularly where higher-order MTCs and PTCs can be supported.

At the regional level, total activity centre employment is estimated at approximately 24% of the target employment requirement, and this is slightly below the broad guidelines indicated by the analysis of benchmark regions as presented in Section 11.3.

11.5 Employment in Community Facilities

The industry-based analysis presented in section 11.3 shows that employment in community facilities that provide education, health and other community services accounts for approximately 25-30% of total employment in the benchmark regions.

The detailed analysis shows that this figure of 25-30% is made of up approximately 15% employment in local-level community facilities, plus another 10-15% or so associated with large-scale facilities such as specialist medical and research centres, hospitals, tertiary education and training facilities, and so on.

Most of the employment in local level community services will eventuate as facilities such as primary and secondary schools, general practitioners in local medical centres, maternal and child health centres, and so on. This aspect of community service employment provision will essentially be 'embedded' within the residential community, for example as designated sites (eg for schools) or in facilities that are provided close to or within neighbourhood activity centres (eg local medical services).

An estimate of employment in these local community services can be made at the neighbourhood unit level, based on typical employment generation for the individual services that are normally provided in residential communities. A summary of this employment generation potential is presented in Table 11.6 below; showing that employment generation in local community services is estimated at approximately 140 jobs in each 'neighbourhood unit'.

Table 11.6: Employment Generation in Local Community Facilities

Type of facility	Basis for employment calculation	Employment estimate (per neighbourhood unit)
Medical centre	Five practitioners @ three employees per practitioner	15
Community centre	One centre per neighbourhood unit @ ten employees per centre	10
Childcare centre	One centre with 100 places @ 20 employees per centre	20
Kindergarten	One centre @ 5 employees	5
Primary school	One school @ 40 employees per school	40
Secondary school	One school per three neighbourhood units, each with 90 employees	30
Retirement/aged care	150 ILUs plus aged care @ 20 employees	20
Total		**140**

Source: Essential Economics; Growth Areas Authority

At the regional level, employment in local community services is estimated at approximately 2,100 jobs. This estimate is based on an expectation that each of the activity centres in a regional catchment (whether they are LTCs, MTCs, or PTCs) serve equivalent neighbourhoods for which similar community services are provided. On the basis that neighbourhood level services are provided for a population of 10,000 persons, this implies a total of fifteen 'neighbourhood units'. The estimate of 2,100 jobs is calculated on the basis of 140 jobs serving each of these neighbourhood units. Given the distribution of activity centres (with a region supporting one PTC, two MTCs and nine LTCs), the level of provision of community services in the PTC and MTCs would be greater than provided in each LTC.

With an employment task at the regional level of approximately 47,000-54,000 jobs (refer section 11.4), this provision for local community service employment represents a very low 4-4.5% of the total employment target, and is well below the expected allocation of 25-30% as identified in section 11.3.

Clearly a wide range of community-related employment opportunities will need to be planned for, in addition to the local services described in Table 11.6. Some of these additional opportunities might relate to other local-level services that are not fully represented in the neighbourhood analysis; examples of these types of activities include independent primary and secondary schools, sub-regional medical facilities, local council branches, specialist medical consultants such as psychologists, physiotherapists, and so on. A selection of these additional services might need to be planned for in LTCs, although many of these functions would be 'embedded' in residential communities, or accommodated in higher-order centres such as MTCs and PTCs.

In addition to the local-level facilities not accounted for in Table 11.6, a significant additional contribution to total regional employment in community services relates to large-scale facilities such as hospitals, tertiary campuses, and other more specific functions that serve wide regional catchments. These higher-order community facilities represent 10-15% of the total employment task in identified regions, and will need to be planned for if the employment targets are to be met, and if a mature and well-serve economic structure is to be attained.

Importantly, strong policy support exists for major education and health services to be provided in PTCs and, to a lesser extent, MTCs. This kind of public sector investment can also be a critical factor in leveraging more significant private sector investment in the commercial office and other professional sectors.

While governments are wary of committing to large public sector projects that only be required in the medium to long term, the opportunity for future developments of this kind need to be considered now when setting aside land to accommodate the full range of activities likely to be demanded by the community. In the absence of planning for the eventual delivery of these kinds of services, the danger is that these types of large institutions will be developed on stand-alone sites where public transport services are lacking and where the economic multiplier benefits (in the form of opportunities for linkages with other sectors of the economy) are lower.

In broad terms, the industry sector analysis in section 11.3 implies that a regional catchment would provide approximately 11,700 to 16,000 jobs in the community service sectors, based on the overall employment target (47,000-54,000) and the typical share of employment in these sectors (25-30%).

With identified employment opportunities of 2,100 jobs, this suggests that another 9,600-14,000 or so additional community service jobs will need to be provided in a regional catchment in the GCP regions.

11.6 Employment Intensity

Analysis of employment intensity for different employment location categories has been prepared by combining Journey to Work data (as shown in Table 11.2) with information on the area of land in planning zones that typically accommodate different types of uses.

The information can be used to examine the intensity of employment generation in terms of the number of jobs generated per hectare of land. The results of this analysis are summarised in Table 11.8, and

highlight the significant variation in employment intensity across Melbourne, with generally a much higher rate of employment generation per hectare of zoned land in Inner areas of Melbourne compared with outer regions.

Table 11.7: Jobs per Hectare of Zoned Land by Location Category

Employment Zone Type	Inner Melbourne	Middle Melbourne	Outer Melbourne
Activity centre – retail/office/other	191	96	54
Employment/industrial areas	35	18	3
Community – health/education/other	272	91	41

Source: ABS Census 2006, Victorian Planning Zone data, Essential Economics

The analysis shows that overall employment intensity declines sharply across all types of employment location when comparing Inner Melbourne with other regions, noting that these figures exclude the employment associated with Melbourne CBD and other major employment destinations (eg the University precincts, Port, etc).

Of particular importance in this analysis are the estimates of employment intensity for Employment/industrial areas, as this data can be used to provide an estimate of land area requirements to accommodate the future employment targets in the GCP regions (refer Chapter 12).

The figures for the middle ring suburbs (ie Middle Melbourne) provide a good reference point in comparison with those for outer suburbs, particularly as these middle regions perform well on measures such as employment self-sufficiency and employment diversity.

According to the analysis, employment density in Employment/industrial areas in Outer Melbourne is just 3 jobs per hectare, on average. This very low intensity of use reflects the method used in the analysis, which compares employment against zoned land reserves (and so includes vacant land) and relies on a geospatial accordance which often is not able to be obtained in outer parts of Melbourne. This figure of 3 jobs per hectare of gross land area should not be used as an indication of a preferred model of employment provision. More detailed analysis of particular industrial estates suggests that employment intensity is in the order of 15-20 jobs per hectare of gross industrial land.

While employment intensities for community type land uses follow the overall trend of decreasing in employment intensity in outer areas, the rate of decline is much less than other categories, and this is likely to be because facilities such as schools, hospitals and medical centres have a more standardised development form than other employment generators.

The intensity of activity centre employment in Middle Melbourne is generally approximately twice that for outer areas, and this is likely to be due to factors such as more multi-storey development, and less provision for large-format uses such as bulky goods compared with outer areas.

These employment intensity estimates are based on zoned land calculations rather than floorspace estimates. Therefore a major factor – particularly with the retail and industrial type land uses – is that

easements, landscaping, open space provision, car parking provision and other activities are likely to occupy a larger proportion of sites in outer areas.

This more dispersed urban form is widely acknowledged to stem from the greater dependence on car travel that has been 'built' into the outer areas. This is the type of urban profile that the GAA has identified and is specifically seeking to address in the future growth area plans. Therefore a more dense urban form is likely to be more suitable in achieving these objectives.

The Middle Melbourne LGA employment intensity benchmarks are the preferred urban structure for the future growth areas, with the Inner Melbourne figures being an unrealistic target, while the Outer Melbourne benchmarks are characteristic of the urban form the GAA is seeking to avoid replicating.

Estimates of land area requirements are presented in Chapter 12, with the focus on ensuring that sufficient land area is set aside for future employment land precincts.

11.7 Conclusion

On the basis of the analysis presented in this Chapter, the following comments are made to guide employment planning in the GCP regions:

1 Analysis of existing employment patterns across the metropolitan area suggests that a broad allocation of employment by location type is approximately as follows:

- Activity centres: 25-30%
- Employment land precincts: 40-45%
- Community uses: 25-30%
- Home-based employment: 5-10%

2 Separate analysis of the proposed network of activity centres (as described in Part A) shows that employment in neighbourhood and higher-order centres is likely to account for approximately 24% or so of the total employment target in regions of 150,000 residents where a PTC can be supported. A slightly lower level of employment provision is likely to be attained in sub-regional catchments of 50,000 residents.

3 Generally these findings support the broad distribution of employment by type described above; they also emphasise the need to ensure that sufficient land is provide to accommodate a significant number of jobs in activity centres.

4 Local level community uses such as government-based primary and secondary schools, medical centres and community centres can be identified which account for up to approximately 5% of the total employment target in a region of 150,000 residents. In order to achieve the GAA targets in relation to total employment generation, a range of other local community services will need to be accommodated in residential areas and in activity centres.

5 In particular, larger education and health establishments (eg tertiary campuses and hospitals) will need to be accommodated in planning for the new growth corridors, and to ensure that over time opportunities are retained to accommodate these higher-order functions.

6 Analysis shows that the intensity of employment is much lower in the outer suburbs of Melbourne compared with the inner or middle ring suburbs, and this is likely to be due to a range of factors including the urban form (with an emphasis on single-level development rather than multi-storey development); allowances for car parking, landscaping and other land-hungry components; and provision of vacant stocks of industrial land on the fringes of the metropolitan area.

7 A significant proportion of employment is expected to occur in dedicated employment precincts containing a mix of industrial uses, transport and storage, light industry and service businesses, and manufacturing enterprises. These uses will need to be accommodated in order to achieve the employment targets, and sufficient land will have to be identified in the GCPs.

12 EMPLOYMENT LAND REQUIREMENTS

This Chapter presents analysis of the requirement for dedicated employment land in order to meet the employment targets that have been set by the GAA, including an aspirational target of 100% employment self-sufficiency at the regional level, and an overall target of one new job per household.

The approach in assessing the need for employment land provision is to estimate the employment requirement at the sub-regional and regional level, having regard for the anticipated distribution of employment by type (refer Chapter 11), and then calculate land area requirements with reference to the employment intensity typically achieved in benchmark regions.

Comment is also provided in relation to the preferred locations for employment land provision, having regard for the GAA intention to maximise local employment opportunities.

Importantly, this analysis of employment land requirements includes a variety of activities ranging from heavy industry to service business and corporate office parks. Analysis in chapter 11 suggests that approximately 85-90% of the land requirement would be for uses that would normally be placed in one of the industrial zones rather than an office or mixed use zone.

It is also important to acknowledge that the methodology used in this analysis is to identify the demand for employment land arising from the residential population in the growth areas. This approach means that the metropolitan-wide requirements for employment land to secure Melbourne's competitive advantage as an industrial location are essentially ignored. These wider employment land demands are considered separately in Part C for each of the GCP regions.

12.1 Employment Requirements for Employment Land

Dedicated employment land precincts are expected to accommodate approximately 40-45% of the total employment generation in the growth areas, in order to reflect the distribution of employment across more established parts of the metropolitan area (refer Chapter 11).

The requirement for employment generation in employment land precincts can be calculated with respect to the employment targets for neighbourhoods, sub-regions and regional catchments (refer Chapter 9), and this analysis is summarised in Table 12.1 below.

Table 12.1: Job Creation in Employment Precincts

Factor	Measure
Neighbourhoods:	
Population*	9,000 persons
Households (jobs target) - @ 2.8 pph	3,200 jobs
Neighbourhood jobs target - @ 30% employment	960 jobs
Distribution in employment land precincts (40-45%)	380 – 430 jobs
Sub-regions:	
Population	50,000 persons
Households (jobs target) - @ 2.8 pph	17,900 jobs
Sub-regional jobs target - @ 70% employment	12,530 jobs
Distribution in employment land precincts (40-45%)	5,000 – 5,600 jobs
Regions:	
Population	150,000 persons
Households (jobs target) - @ 2.8 pph	53,600 jobs
Regional jobs target - @ 100% employment	53,600 jobs
Distribution in employment land precincts (40-45%)	21,400 – 24,100 jobs

Source: Essential Economics
Note: * Population outcomes in neighbourhood catchments likely to range 8,000-10,000

The main results are as follows:

- Neighbourhoods need to provide sufficient employment land to accommodate approximately 380-430 jobs
- Sub-regions need to provide sufficient employment land to accommodate an estimated 5,000-5,600 jobs
- Regional catchments need to provide sufficient land to accommodate an estimated 21,400-24,100 jobs

The analysis shows that a significant provision of land will need to be set aside for dedicated employment precincts if the GAA targets are to be met.

12.2 Estimates of Employment Land Requirement

Based on the employment requirements set out in Section 12.1, estimates of land area requirements can be made with reference to an appropriate estimate of employment intensity (ie numbers of jobs per gross hectare).

Estimates of existing employment intensity for employment/industrial land are presented in section 11.6, and show that an average of 35 jobs/hectare is evident in employment precincts in Inner Melbourne, while in the middle ring suburbs the average is approximately 18 jobs/hectare. In Outer Melbourne employment intensity levels are much lower, at 3 jobs/hectare, although this figure is unlikely to be a true reflection of the actual density of employment achieved in these locations.

Another important consideration is that the estimates in section 11.6 are made on the basis of zoned land area (ie excluding road zones and other non-developable land), whereas the broad allocations applicable to growth area planning need to be made on gross land areas, which includes land that will be set aside for internal roads, landscaping and so on.

Overall, an appropriate figure to be adopted when planning new growth areas is an average of 20 jobs per hectare of gross land. This will provide sufficient land supply to ensure that a stock of vacant land can be retained over time to accommodate new uses, while also reflecting an expectation that development will be more land-efficient than is the case in the existing growth areas.

Estimates of employment land area requirements are summarised in Table 12.2 for neighbourhood, sub-regional and regional catchments. The results show that significant allocations of land need to be made in order to accommodate the anticipated job requirement for employment precincts. For example, the analysis shows that 19-22ha of employment land would be required in each neighbourhood unit (ie a square mile block) in order to accommodate the anticipated job requirements. In sub-regions the employment land requirement is estimated at 250-280ha, and for regional catchments an estimated 1,070-1,205ha of land would be required.

Overall, while large areas of employment land might be identified in larger regional and sub-regional catchments, it is unlikely that a substantial allocation of employment land could be established in neighbourhood communities, particularly as the loss of this land for residential development would mean that these units would be unable to achieve the necessary population outcomes to support NAC-based retail and office activities.

Further commentary on how these employment land allocations might be located is provided in section 12.3.

Table 12.2: Estimated Employment Land Area Requirements

Catchment/hierarchy level	Jobs in employment land	Land area requirement
Neighbourhoods	380-430	19-22ha
Sub-regions	5,000-5,600	250-280ha
Regions	21,400-24,100	1,070-1,205ha

Source: Essential Economics

12.3 Locations for Employment Land

As noted above, it is unlikely that significant areas of employment land would be able to be identified to serve every neighbourhood unit; indeed, this would not be recommended, as it would take up land for residential development which is required to achieve the necessary population yields.

Having regard for the typical pattern of employment land provision in Melbourne, the following matters need to be considered in terms of the preferred locations for employment land precincts:

- Employment land precincts will generally contain a mix of industrial land use zones and the Business 3 Zone, as these zones encourage the types of employment uses envisaged for these precincts. In some cases a more specific office zone (eg Business 2 Zone) might be applied for a dedicated corporate business park.
- The main considerations that will determine the location of employment zones include:
  - The surrounding transport network and the ability to access the precinct from the major arterial road network
  - Access to the rail network (where this is a relevant consideration, depending upon the type of industrial/business use)
  - Location with respect to a skilled labour force
  - The amenity of the area
  - Opportunities for executive housing in the surrounding region
  - Opportunities for synergies to be created with other uses (downstream and upstream linkages)
  - Linkages with activity centres and supporting business services.
- Small employment precincts may be suitable for a range of locally-based service industry uses and small businesses; however, these types of precincts may not be attractive for investors having regard for their need to secure end-users to fund development.
- A network of small to medium employment precincts should be established where possible, and preferably along major arterial roads. These precincts may be in the order of 15-25ha in size, and could be located close to LTCs. But not every LTC would be able to support a small industrial area of this type. On average, provision for one or two such precincts should be made in each sub-regional catchment.
- More significant employment areas could be established at the sub-regional level. These precincts might be in the order of approximately 200-240ha, which would imply that a sub-regional would be served by up to 240-290ha of industrial land (ie one sub-regional node, plus up to two district-level allocations, each of which might be up to 25ha in size).
- The location of these sub-regional employment/industrial land nodes would need to reflect a range of factors such as access to markets, transport infrastructure and so on. In some cases

employment land might be located nearby a MTC serving the sub-region, although this would generally be more appropriate for higher-intensity uses such as corporate/research parks where synergies could be established with businesses in the activity centre.

- Large employment nodes could be established in areas that have a regional catchment. These major regional nodes might be up to 600ha in size, so that a region is supported by a total of 1,200ha of employment land, consisting of:
  - Up to 600ha of land in a regional employment node
  - Two other precincts, each of which would be approximately 240ha (ie a total of 480ha)
  - Around six district-level employment nodes, each containing approximately 20ha of employment land (ie a total of 120ha).
- As with sub-regional employment areas, the locations would reflect the needs of industry and business, with lower-intensity land uses (eg traditional industrial activities) generally located further away from higher-order activity centres.
- The regional land allocation of 600ha represents a very significant area of land for employment purposes. In some circumstances it might be more practical to split this land area into a number of smaller sections to be distributed across the regional catchment.

Locations for major employment nodes should also be chosen with reference to the designation of employment corridors in *Melbourne @5 Million*, which include the corridor from Avalon Airport to Donnybrook via Werribee, Melton and Melbourne Airport; and the corridor running from Caulfield to Dandenong (although noting that this corridor is not located in the growth areas).

12.4 Conclusions

In summary, this analysis of job targets for employment precincts, and the associated land area requirements, shows that a very significant allocation of land for employment purposes will need to be made in order to help meet the GAA's employment targets.

Employment precincts will need to be distributed across the growth areas in order to maximise accessibility from surrounding residential communities. Nonetheless, most of the employment land will need to be focussed on sub-regional and regional employment nodes in order to create economic efficiencies and critical mass for a range of industrial and related businesses.

13 EMPLOYMENT REQUIREMENTS IN GCP REGIONS

This Chapter presents a broad assessment of the theoretical job provision and land requirements associated with the indicative dwelling development that is expected to occur in each of the GCP regions. The process in undertaking this analysis is to apply the GAA principles as they relate to job targets and employment land requirements needed to meet the expected dwelling outcomes in each region.

13.1 Population Outcomes

Dwelling capacity and the associated population outcomes for each of the GCP regions are summarised in Table 13.1 below.

Table 13.1: Dwelling and Population Outcomes in Growth Corridors

GCP Region	Dwellings	Population
Melbourne West	70,000 - 114,000	188,000 - 331,000
Melbourne North: Sunbury	22,000 - 35,000	60,000 - 102,000
Melbourne North: Hume-Mitchell-Whittlesea	66,000 - 105,000	177,000 - 304,000
Melbourne South-East	30,000 - 50,000	81,000 - 145,000
Total	**188,000 - 304,000**	**506,000 - 882,000**

Source: Essential Economics, based on GAA

Over the next twenty to thirty years it is possible that household sizes, the mix of dwelling types and average dwelling densities, and the extent of areas that need to be put aside for conservation and other non-urban purposes may vary significantly. Similarly, demand for industrial land and average employment densities in industrial areas may also change. The corridor plans need to allow for such variations so that sufficient flexibility is incorporated in planning for possible future infrastructure and service needs. The figures shown in Table 13.1 above reflect likely upper and lower limits on the population, dwelling and housing capacity of the growth corridors.

13.2 Employment Targets for Each Growth Corridor

The GAA has an overall target of one new job for each new dwelling in the growth areas, to be applied across the whole of the GCP region. However, the GAA targets also acknowledge that smaller population catchments (neighbourhoods and sub-regions) are unlikely to achieve this level of employment self-sufficiency. In these cases, jobs should be located elsewhere within the wider region.

A summary of the overall employment targets applicable to each corridor is presented in Table 13.2 for both the low development and the high development scenarios. The analysis is based on the application of the overall GAA target, and other considerations associated with the locations of these jobs are provided in Part C.

Overall, the analysis shows that 188,000 new jobs will need to be created in the GCP regions in order to meet the employment target under the low growth scenario, rising to an additional 304,000 jobs under the high growth scenario.

Table 13.2: Employment Targets for GCP Regions

Region	Overall jobs target
LOW Development Scenario:	
Melbourne West	70,000
Melbourne North: Sunbury	22,000
Melbourne North: Hume-Mitchell-Whittlesea	66,000
Melbourne South-East	30,000
Total	**188,000**
HIGH Development Scenario:	
Melbourne West	114,000
Melbourne North: Sunbury	35,000
Melbourne North: Hume-Mitchell-Whittlesea	105,000
Melbourne South-East	50,000
Total	**304,000**

Source: Essential Economics, based on GAA

13.3 Distribution of Employment by Type

The expected distribution of employment by type for each GCP region is presented in Table 13.3 for the Low growth scenario, and in Table 13.4 for the High growth scenario. These estimates are based on the broad distribution of employment by type as shown in section 11.3 of this report.

Table 13.3: Employment Distribution – Low Growth Scenario

Type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Activity centre (25-30%)	17,500-21,000	5,500-6,600	16,500-19,800	7,500-9,000	47,000-56,400
Employment (40-45%)	28,000-31,500	8,800-9,900	26,400-29,700	12,000-13,500	75,200-84,600
Community (25-30%)	17,500-21,000	5,500-6,600	16,500-19,800	7,500-9,000	47,000-56,400
Home-based (5-10%)	3,500-7,000	1,100-2,200	3,300-6,600	1,500-3,000	9,400-18,800
Total	**70,000**	**22,000**	**66,000**	**30,000**	**188,000**

Note: Figures are rounded

Table 13.4: Employment Distribution – High Growth Scenario

Type	Melbourne West	Melbourne North: Sunbury	Melbourne North: Hume-Mitchell-Whittlesea	Melbourne South-East	Total
Activity centre (25-30%)	28,500-34,200	8,750-10,500	26,250-31,500	12,500-15,000	76,000-91,200
Employment (40-45%)	45,600-51,300	14,000-15,750	42,000-47,250	20,000-22,500	121,600-13,6800
Community (25-30%)	28,500-34,200	8,750-10,500	26,250-31,500	12,500-15,000	76,000-91,200
Home-based (5-10%)	5,700-11,400	1,750-3,500	5,250-10,500	2,500-5,000	15,200-30,400
Total	**114,000**	**35,000**	**105,000**	**50,000**	**304,000**

Source: Essential Economics
Note: Figures are rounded

The tables show that the Melbourne-West and the Melbourne North (Hume) growth corridors are expected to be the main focus for employment generation. These regions have potential to establish large regional catchments in the new growth areas, creating opportunities for higher-order commercial development in one or more PTCs, as well as job creation associated with regional employment nodes.

The Sunbury and South-East regions are smaller, and while the figures in Table 13.4 reflect an employment outcome associated with meeting the GAA target of one new job for each new dwelling, it is likely that some of these jobs will be provided outside these particular corridors; for example, Sunbury's employment requirements may be provided in Hume or elsewhere in the immediate region. Further commentary on this aspect is provided in Part C.

A key issue that has been raised in section 11.5 is that each of the GCP regions will need to generate significant levels of employment in community service sectors, and this will require planning for higher-order education and health facilities. In some of the regions potential may develop for large scale tertiary campuses or hospitals; however, even without these large-scale uses, substantial community service employment will be associated with local and sub-regional uses such as specialist medical services, independent secondary schools, aged care, council branch offices, and so on.

13.4 Employment Land Requirements

Estimates of the total land area in dedicated employment precincts that is required to accommodate the expected employment levels are shown for each of the GCP regions in Table 13.5, and are based on the application of an average of 20 jobs per hectare in employment land.

The analysis shows that a very significant amount of land will need to be provided in dedicated employment precincts for industrial, corporate business, service industry and other uses. The total land requirement is estimated at 3,760ha to 4,230ha under the low growth scenario where 188,000 dwellings are to be accommodated in the growth areas, and up to 6,080ha to 6,845ha under the high growth scenario where 304,000 dwellings are to be accommodated. As noted elsewhere in this report, the majority of this land requirement would reflect industrial and related uses, with perhaps 10-15% associated with service business or corporate office activities.

Employment land requirements are most significant in the Melbourne West and Melbourne North (Hume) regions, and this reflects the expected pattern of urban development, as well as the more significant land requirements to accommodate regional-level employment nodes.

Table 13.5: Estimated Total Employment Land Requirements, GCP Regions

Region	Low growth scenario	High growth scenario
Melbourne West	1,400-1,575ha	2,280-2,565ha
Melbourne North: Sunbury	440-495ha	700-790ha
Melbourne North: Hume-Mitchell-Whittlesea	1,320-1,485ha	2,100-2,365ha
Melbourne South-East	600-675ha	1,000-1,125ha
Total Growth Corridors GCP regions	**3,760-4,230ha**	**6,080-6,845ha**

Source: Essential Economics

13.5 Conclusion

This analysis shows that the GCP regions will need to be planned to accommodate very significant expansion of growth in employment if the GAA targets are to be met in relation to total job creation and employment self-sufficiency.

Under the indicative model for employment provision, which is based on consideration of existing patterns of employment provision in more established economic regions of Melbourne, a significant share of employment will be created in activity centres, totalling 47,000-56,400 jobs under the low growth scenario and 76,000-91,200 jobs under the High growth scenario. Analysis of the expected floorspace outcomes from Part A indicate that these levels of employment provision should be achieved in the identified centres, but only if opportunities for local business development are maximised through appropriate implementation strategies. These opportunities relate to good centre design, the inclusion of flexible mixed-use zones around activity centres, attracting a diverse population that includes wealthy people looking to start new businesses, and other economic development measures to stimulate local business development and employment growth. The prospects for accommodating this level of activity centre employment may be more limited in the Sunbury and South-East Growth Corridor, which have less opportunity to attract higher-order uses. In these cases, the GAA will need to ensure that other employment opportunities are available in nearby regions.

The analysis is based on an expectation that approximately 5-10% of jobs are created in home-based businesses. This reflects existing patterns of job provision, and should be achievable, as long as homes are appropriately designed to attract the range of people that might consider setting up a small business in the growth area regions.

Analysis of the employment land requirements associated with the jobs growth targets shows that a very considerable amount of land will need to be set aside to accommodate industrial uses, corporate business parks, service industry, and a range of other uses which by their nature do not generally locate in the core of activity centres. These employment precincts will need to be suitably located and well designed in order to attract a wide range of businesses and to ensure that the employment growth targets are met.

An important consideration arising from this analysis is the ability for the growth corridors to accommodate the range of community type uses that is typically provided in more established parts of Melbourne, including the higher-order health and education uses which represent a considerable share of total employment. The key issue here is that although these uses may not be supportable until the growth areas are fully developed, these facilities will need to be planned for early in the development process, so that suitable sites can be retained to accommodate them within higher-order activity centres rather than on stand-alone sites. The ability to secure these major community uses appears to be the main challenge in meeting the GAA employment targets for the growth area regions.

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PART C:
CENTRES AND EMPLOYMENT DISTRIBUTION

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14 EMPLOYMENT PLANNING IN GROWTH CORRIDORSGCP REGIONS

This Chapter presents a summary of the findings in this report as they relate to each of the growth area regions, and includes advice in relation to:

- Broad estimates of employment generation by location type
- Numbers of activity centres likely to be supportable
- Broad estimates of employment land requirement
- Other local considerations that might affect employment outcomes, employment land requirements, and other aspects of activity centre and employment planning.

It is emphasised that this analysis is undertaken at a theoretical level, and more detailed analysis will need to be undertaken in each corridor (and in the component PSPs) to establish employment and activity centre requirements, having regard for the road layout, existing centres of employment, and other factors.

14.1 Melbourne West Growth Corridor

Employment generation

Melbourne West is expected to accommodate 70,000-114,000 new dwellings, and this represents the employment growth target.

Estimates of employment by location are summarised in the table below.

Table 14.1: Employment Distribution – Melbourne West

Type	Low	High
Activity centre (25-30%)	17,500-21,000	28,500-34,000
Employment (40-45%)	28,000-31,500	45,500-51,500
Community (25-30%)	17,500-21,000	28,500-34,000
Home-based (5-10%)	3,500-7,000	5,500-11,500
Total	**70,000**	**114,000**

Source: Essential Economics
Note: Figures are rounded

Activity centre distribution

The Melbourne West region has potential to develop as a regional catchment with the inclusion of one or possibly two PTCs to serve the outer west growth corridor. Under the high development scenario potential may exist for two PTCs to be established, having regard for expected population outcomes (up to 331,000 persons).

A recommended distribution of activity centres, with a summary of floorspace, is shown in Tables 14.2 and 14.3.

Table 14.2: Number of Centres by Type in Growth Corridors

Centre Type	Low	High
PTCs	1	2
MTCs	2	4
LTCs	13	22

Source: Essential Economics

Table 14.3: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2)

Centre type	Low	High
Retail provision		
PAC	100,000	100,000
MAC	110,000	220,000
Town Centre	98,000	168,000
Total	308,000	488,000
Non-retail provision		
PAC	60,000	60,000
MAC	50,000	100,000
Town Centre	42,000	72,000
Total	152,000	232,000
Total commercial space		
PAC	160,000	160,000
MAC	160,000	320,000
Town Centre	140,000	240,000
Total	460,000	720,000

Source: Essential Economics

Employment land requirements

Estimates of employment land requirements are summarised in the table below.

Table 14.4: Estimated Total Employment Land Requirements, Melbourne West

Region	Low growth scenario	High growth scenario
Land requirement	1,400-1,575ha	2,280-2,565ha

Source: Essential Economics

Considerations

The following comments are relevant in planning for activity centres and employment in the Melbourne West region:

- The region is expected to be the most significant growth area in population terms, and this will generate a substantial population base upon which to deliver regional-level services and employment nodes.
- The analysis suggests that one PTC will be needed under the low growth scenario and two under high growth scenario.
- The implementation of major transport infrastructure projects, including the outer metropolitan ring road (OMR) and regional rail link, will be important factors in contributing to demand for employment land in this region.
- The amount of employment land that is required may be slightly greater than indicated in the analysis, as opportunities may eventuate to serve wider metropolitan demands for industrial land, particularly with the development of the outer metropolitan ring road (OMR).
- Consideration needs to be given to planning for higher-order community services such as health precincts, higher education campuses and other major institutional uses. This is particularly relevant for a region that has potential to incorporate one or more PTCs, and where the closest identified CAD is Footscray. In the absence of planning for these facilities it is likely that sub-optimal sites will need to be developed in the future, in locations that are not as well served by transport and other infrastructure.

14.2 Melbourne North: Sunbury Growth Corridor

Employment generation

Sunbury is expected to accommodate 22,000-35,000 new dwellings, and this represents the overall target for the provision of new jobs. Estimates of employment by location type are summarised in Table 14.5 below.

Table 14.5: Employment Distribution – Sunbury

Type	Low	High
Activity centre (25-30%)	5,500-6,500	9,000-10,500
Employment (40-45%)	9,000-10,000	14,000-16,000
Community (25-30%)	5,500-6,500	9,000-10,500
Home-based (5-10%)	1,000-2,000	2,000-3,500
Total	**22,000**	**35,000**

Source: Essential Economics
Note: Figures are rounded

Activity centre distribution

Analysis in Part A shows that a network of centres is expected to be accommodated in Sunbury, consisting of one or two MTCs and a number of smaller LTCs. Total floorspace is estimated to range from 120,000-220,000m^2, although noting that more detailed analysis will be required to confirm these estimates.

With only limited opportunity to accommodate higher-order activity centre provision, it may be difficult to achieve the identified floorspace and employment targets. In this case, other opportunities in the surrounding region – for example in Hume or in Melton – will need to be identified to provide additional employment opportunity to serve Sunbury residents. The anticipated travel to work patterns will need to be identified during more detailed preparation of PSPs.

Table 14.6: Number of Centres by Type in Growth Corridor

Centre Type	Low	High
PTCs	0	0
MTCs	1	2
LTCs	4	6

Source: Essential Economics

Table 14.7: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2)

Centre type	Low	High
Retail provision		
PTC	0	0
MTC	55,000	110,000
LTC	28,000	42,000
Total	83,000	152,000
Non-retail provision		
PTC	0	0
MTC	25,000	50,000
LTC	12,000	18,000
Total	37,000	68,000
Total commercial space		
PTC	0	0
MTC	80,000	160,000
LTC	40,000	60,000
Total	120,000	220,000

Source: Essential Economics

Employment land requirements

Estimates of employment land requirements to achieve the GAA targets are summarised in the table below.

Table 14.8: Estimated Total Employment Land Requirements, Sunbury

Region	Low growth scenario	High growth scenario
Land requirement	440-495ha	700-790ha

Source: Essential Economics

Considerations

The following comments are relevant in planning for activity centres and employment in Sunbury:

- The region is the smallest of the growth areas, and sits outside the metropolitan area; this means that the prospects for the town to achieve the GAA targets which imply almost 100% employment self-sufficiency are limited.
- The addition of approximately 220,000m^2 of new floorspace in activity centres represents a very significant increase over current levels, and may reflect an optimistic expectation in terms of commercial office development in particular.
- The inclusion of a new MTC (or possibly two) will need to be assessed carefully in terms of scale, location and timing. In particular, the potential implications for the existing town centre will need to be analysed.
- Sunbury is not known as an industrial land node, as it does not have the same underlying attractiveness in terms of market linkages, transport infrastructure and so on. The actual employment/industrial land allocation may therefore be less than indicated in Table 14.8.
- If employment opportunities are not able to be generated in Sunbury itself, nearby regions will need to generate the necessary jobs in addition to their underlying employment requirement if the GAA's targets are to be achieved (ie one job for every new dwelling).

14.3 Hume-Mitchell-Whittlesea Growth Corridor

Employment generation

Melbourne North (Hume-Mitchell-Whittlesea) is expected to accommodate 66,000-105,000 new dwellings, and this represents the overall target for the provision of new jobs.

Estimates of employment by location type are summarised in Table 14.9 below.

Table 14.9: Employment Distribution – Melbourne North (Hume-Mitchell-Whittlesea)

Type	Low	High
Activity centre (25-30%)	16,500-20,000	26,500-31,500
Employment (40-45%)	26,500-29,500	42,000-47,500
Community (25-30%)	16,500-20,000	26,500-31,500
Home-based (5-10%)	3,500-6,500	5,500-10,500
Total	**66,000**	**105,000**

Source: Essential Economics
Note: Figures are rounded

Activity centre distribution

According to the analysis in Part A, the Melbourne North corridor, like the Western Corridor, has potential to develop as a regional catchment served by at least one and possibly two PTCs, as shown in Table 14.10.

Table 14.10: Number of Centres by Type in Growth Corridor

Centre Type	Low	High
PTCs	1	2
MTCs	2	4
LTCs	12	20

Source: Essential Economics

Total activity centre floorspace provision associated with this activity centre network is estimated to range from an additional 440,000m^2 (low scenario) to an additional 840,000m^2 (high scenario). The high end of this range would be associated with the successful inclusion of two PTCs which accommodates a range of retail, commercial office, business services, community and other uses.

Table 14.11: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2)

Centre type	Low	High
Retail provision		
PTC	100,000	200,000
MTC	110,000	220,000
LTC	84,000	140,000
Total	294,000	560,000
Non-retail provision		
PTC	60,000	120,000
MTC	50,000	100,000
LTC	36,000	60,000
Total	146,000	280,000
Total commercial space		
PTC	160,000	320,000
MTC	160,000	320,000
LTC	120,000	200,000
Total	440,000	840,000

Source: Essential Economics

Employment land requirements

Estimates of employment land requirements to achieve the GAA targets are summarised in Table 14.12 below.

Table 14.12: Estimated Total Employment Land Requirements, Melbourne North

Region	Low growth scenario	High growth scenario
Land requirement	1,320-1,485ha	2,100-2,365ha

Source: Essential Economics

Considerations

The following comments are relevant in planning for activity centres and employment in the Melbourne North (Hume-Mitchell-Whittlesea) region:

- The region will contain a significant population that will consist of a regional catchment, potentially supporting up to two designated PTCs.
- Other factors need to be considered in planning for centres and employment in the Hume region, including:
  - The location of the OMR which will help to ensure a high degree of access to metropolitan markets
  - The existing national role of the Hume corridor as one of the most important industrial regions and its location on the most significant freight route in Victoria

- Population growth levels in the hinterland to the north, which will require additional employment land to support employment requirements
- The need to provide employment opportunities to residents in Sunbury, which may not be successful in generating one new job for each new household
- The designation of land for an intermodal hub, which is essentially a piece of metropolitan infrastructure and therefore would be in excess of the employment land requirements identified in this analysis.

- When these factors are taken into account, the amount of employment land that is required may be substantially larger than indicated in the analysis. A recommended total employment land allocation for the Melbourne North corridor is in the order of approximately 2,500ha or more.
- Planning for major education and health institutions will need to be considered in the region, particularly if a PTC (or two) is designated in the corridor. Suitable sites served by public transport will need to be identified and secured for long-term planning if the GAA employment targets are to be met.

14.4 Melbourne South-East Growth Corridor

Employment generation

Melbourne South-East is expected to accommodate 30,000-50,000 new dwellings, and this represents the overall target for the provision of new jobs.

Estimates of employment by location are summarised in Table 14.13.

Table 14.13: Employment Distribution – Melbourne South-East

Type	Low	High
Activity centre (30-35%)	7,500-9,000	12,500-15,000
Employment (40-45%)	12,000-13,500	20,000-22,500
Community (25-30%)	7,500-9,000	12,500-15,000
Home-based (5-10%)	1,500-3,000	2,500-5,000
Total	**30,000**	**50,000**

Source: Essential Economics
Note: Figures are rounded

Activity centre distribution

According to the analysis in Part A, the Melbourne South-East Corridor has potential to develop a network of centres consisting of up to two MTCs and a number of smaller LTCs. Total floorspace is estimated to range from 140,000-270,000m^2 (although noting that more detailed analysis will be required to confirm these estimates).

Table 14.14: Number of Centres by Type in Growth Corridor

Centre Type	Low	High
PTCs	0	0
MTCs	1	2
LTCs	6	11

Source: Essential Economics

Table 14.15: Broad Estimate of Floorspace Provision by Type and by Centre Hierarchy (m^2)

	Low	High
Retail provision		
PTC	0	0
MTC	55,000	110,000
LTC	42,000	77,000
Total	97,000	187,000
Non-retail provision		
PTC	0	0
MTC	25,000	50,000
LTC	18,000	33,000
Total	43,000	83,000
Total commercial space		
PTC	0	0
MTC	80,000	160,000
LTC	60,000	110,000
Total	140,000	270,000

Source: Essential Economics

Employment land requirements

Estimates of employment land requirements to achieve the GAA targets are summarised in Table 14.16.

Table 14.16: Estimated Total Employment Land Requirements, Melbourne South-East

Region	Low growth scenario	High growth scenario
Land requirement	600-675ha	1,000-1,125ha

Source: Essential Economics

Considerations

The following comments are relevant in planning for activity centres and employment in the Melbourne South-East corridor:

- The maximum population outcome (at 145,000 persons) is just below the threshold for the establishment of a PTC. However, other factors to consider include the location of nearby centres in the existing growth area.

- A critical issue is whether the network of centres includes one MTC or two, and this will depend to a large degree on the location of rail access to the region, and opportunities to serve residential catchments in the current growth areas.
- The corridor is in close proximity to very significant tracts of land that have been designated for employment purposes; nonetheless, this designation reflects the very poor performance of the south-east region in providing sufficient locally-available employment land.
- Although the industrial land market in the region is relatively weak, it is expected that interest in the development of major new estates will intensify as in-board opportunities are exhausted and as the local employment demands grow.
- The development of a new container port at Westernport in the longer-term is likely to generate additional demand for industrial and other employment land, and this may need to be reflected in land allocations in the South-East Corridor (although noting that a very substantial allocation of vacant and future industrial land has already been made in Dandenong South and in Hastings).
- The amount of employment land required may exceed the level indicated in Table 14.16, in order to provide sufficient land to serve existing residential communities and to reflect the wider strategic opportunities described above. In particular, the long-term role of Thompsons Road means that this is likely to be developed for a range of industrial and highway-related activities.