MacroPlan Australia
Setting New Standards

A submission for the Victorian Retail Review prepared for the Master Grocers Australia

To be read in conjunction with the Master Grocers Australia submission February 2009

FINAL REPORT

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PREPARED FOR THE MASTER GROCERS AUSTRALIA

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Executive summary

Key Findings

The assessment in this submission demonstrates that Melbourne's growth areas and development fronts in Victoria's regional centres can deliver a network of small Local Activity Centres (LACs) that can achieve a range of sustainable community benefits including:

- An increased walkable access to supermarkets for up to 75% of the population
- The likelihood of reduced vehicle usage and reduced emissions due to the opportunity of providing a larger number of supermarkets closer to residents
- A transfer of supermarket floorspace from larger Sub-Regional and Regional centres to smaller LACs to increase opportunities for smaller supermarkets and independent grocers to maintain market share in the retail market

MacroPlan's research has demonstrated that average supermarket sizes are increasing and the proportion of the population who have walkable access to a supermarket or grocery format store is falling, particularly in new development fronts.

MacroPlan has assessed a status quo development scenario and an alternative delivery framework for LACs and market tested the sustainability of the alternative framework using a range of assumptions around the location of activity centres, incomes of residents, and market shares.

This assessment has confirmed that if national chain supermarket brands including Coles and Woolworths continue to deliver supermarkets of 3,500sqm or greater in floorspace, there will be a greater requirement for residents to travel by vehicle to access convenience retailing, particularly daily top-up shopping.

If supermarkets are continued to be delivered at an average of around 3,000sqm across Melbourne's growth areas between 2010 and 2026, the total additional number of supermarkets (and associated local activity centres) required to service residential needs will be around 30 supermarkets. This will only allow walkable access for a little more than a third of the population.

However, if the average supermarket size in LACs delivered is around 2,000sqm, the proportion of residents within a walkable catchment of a supermarket increases significantly to 75%.

Economic benefits from this outcome achievable are as follows:

- Opportunities for a network of smaller activity centres supplying local jobs
- Opportunities for a wider mix of employment within walkable catchments
- Reduced greenhouse emissions
- Reduced vehicle trips

- Greater construction expenditure and associated economic multipliers from the creation of LACs
- Reduced vehicle trip distance

A high level assessment of the overall net benefits of a more distributed alternative delivery framework for local activity centres over the period 2026 to 2051 confirms a range of economic benefits. The value of economic benefits equates to $663 million in net present value (NPV) terms or $1.4 billion in nominal terms.

Introduction

MacroPlan Australia has been commissioned by the Master Grocers Australia (the MGA) to provide advice on the sustainability of Local Activity Centre (LAC) development in Victoria's regional and metropolitan growth areas.

The MGA seeks to examine whether it is possible to deliver LACs in Victoria's regional and metropolitan growth areas in a way that maximises walkability and net community benefit.

This analysis serves as an input to the current retail review, and forms part of a submission to this review by the MGA. This submission will assist in guiding policy around the delivery of small convenience centres in existing and future development areas.

Background

There is a limited understanding of the role of local and neighbourhood centres in the retail hierarchy. Indeed there is significant disagreement on their appropriate size, the populations they should serve and the factors that drive their performance.

The traditional local centre that supplies a small supermarket and a mix of supporting speciality retailing is rarely being delivered in new fringe developments in Melbourne.

The size of neighbourhood centres has been increasing as developers and national retailers apply for larger supermarket formats in an effort to capture higher market shares in a local catchment and draw expenditure from a wider geographic area.

Full-line supermarkets are being delivered in a format greater than 3,000sqm as Coles and Woolworths provide stores that supply an expanded range of 'non-food' items to compete with discount department stores located in sub-regional and regional centres.

However, as larger supermarkets and neighbourhood centres are delivered, the distance between centres increases as there is a limit to the volume of retail floorspace that can be delivered across a particular trade area.

This trend has several negative consequences including reducing the proportion of residents who can access convenience retailing within a walkable catchment and increasing the proportion of residents who use motor vehicles to access shops.

Role of local centres

Melbourne 2030 defines a Neighbourhood Activity Centre (NAC) as a centre that provides local convenience needs and is accessible to a viable population by walking and cycling. A cap in floorspace is not listed but they are generally understood as being up to 10,000sqm in size.

The Property Council also defines a NAC in a similar framework from a sizing perspective however there is no accepted boundary between a neighbourhood centre and a local centre.

In line with the focus of this report, we have defined these centres in the following way:

- Local Activity Centre (LAC): Serving a walkable catchment of equal to or equivalent to an 800m radius. Population and expenditure pools determined by socio-demographics and residential density. Centre size between 2,500sqm and 3,500sqm depending on market shares and location. A full-line supermarket can be provided if appropriate residential densities are achieved.
- Neighbourhood Activity Centre (NAC): Serving a catchment of up to 2kms. Expected to source up to 80% of trade from a main trade area that sits at a maximum of 2kms. Size up to 5,000sqm. Greater than 5,000sqm if mixed uses can be demonstrated. Generally one full line supermarket is offered with up to 30 specialty stores.

A full-line supermarket is defined as 2,500sqm + in this study however, the supply of a supermarket as small as 1,500sqm would still generate strong market shares if well located by providing a full range of food retailing.

Clearly the policy framework would also encourage a mix of uses at smaller NACs or LACs. However, it should be recognised that these other uses are likely to only be provided later in the development cycle.

Can small Activity Centres work?

Given the uncertainty in the retail hierarchy in relation to the role of local and neighbourhood centres and the potential negative consequences of expansion in the size of neighbourhood centres, MacroPlan has assessed whether there is an opportunity to deliver local centres delivered in walkable catchments according to a market sizing and locational assessment.

Several factors influence whether a network of local centres can be delivered in a distribution that provides walkable access to the majority of residents including:

- Resident expenditure pools and in particular the expenditure pool for supermarket floorspace (supermarkets act as a key anchor for local centres) which varies significantly based on demographics
- The size of the supermarket delivered and the commensurate impacts on market shares from the local expenditure (consumers perceive that larger supermarkets provide a discounted offer relative to smaller independent supermarkets)
- The dwelling densities and associated population within the walkable catchment
- The location and access to the centre by motorists (i.e. motorists residing in the local catchment and passing trade) including whether the centre is located on an 'in-board' or high exposure location

All of these factors influence the expenditure pool a local centre can capture and the relative size and number of local centres that can be delivered.

MacroPlan has undertaken an assessment of the relative volume of retail floorspace that can be delivered if centres are delivered in a framework that provides walkable access for the majority of residents (with walkable access defined as an 800 metre equidistant journey).

Clearly there are a number of constraints to the achievement of an equidistant walkable catchment including local road design, riparian corridors that reduce access and other barriers including schools, parks and community facilities. However, this exercise is designed to illustrate what can be delivered under a policy direction that encourages a walkable distribution of centres.

For this exercise, a number of assumptions on land yields and lot numbers (including commensurate population assumptions) have been made and these are listed in the report. Three scenarios for market shares were created to illustrate how the location of a centre and the achievement of market shares are important in influencing development potential.

- Scenario 1 (Low market share – 20% of the local expenditure pool for supermarket + a small pool of expenditure from beyond the trade area = 10% of total turnover): An inboard local centre situated on a local road with limited passing traffic.
- Scenario 2 (medium market share – 30% of the local expenditure pool for supermarket + a slightly larger pool of expenditure from beyond the trade area = 12% of total turnover): A centre situated on an arterial with the ability to encourage multi-purpose commuting and capture some passing trade from outside its local walkable catchment.
- Scenario 3 (high market share – 55% of the local expenditure pool for supermarket + a pool of expenditure from beyond the trade area = 20% of total turnover): A centre situated on the corner of two arterials that provides a wider mix of uses later in the development cycle by virtue of its location (i.e. local office and some medium or higher density housing. The supply of these other components would only occur later in the development cycle.

Using an assumed walkable catchment with an 800 metre radius MacroPlan calculated a yield of 201 hectares of developable land (gross) and 141 hectares net (assuming a 70% residential development yield).

According to these assumptions a number of variations in supermarket and convenience retailing are supportable in Victoria's regional and metropolitan growth areas in a walkable catchment. It is important to note that Melbourne's metropolitan growth areas do not have significant variations as its residents are of similar socio-economic characteristics. However, regional growth areas are expected to have lower dwelling yields due to its rural nature and

GROWTH AREA - CASEY

Casey Growth Area has been used as an example of the different volumes of floorspace achievable for supermarket and specialty stores depending on development yield in Melbourne's growth areas. Under Scenario 1, if a development yield of 15 dwellings per hectare is achieved in gross terms (which equates to 21 dwellings per hectare net) a total of up to 1,460sqm of supermarket floorspace (and 630sqm of specialty) is supportable. The table below reveal supportable supermarket and specialty retailing floorspace for each scenario for Casey Growth Area.

Table 1. Development potential by scenario (Casey Growth Area)

	Supermarket		Specialty	
	15 dwellings per hectare	17 dwellings per hectare	15 dwellings per hectare	17 dwellings per hectare
Scenario 1	820	929	540	612
Scenario 2	1,461	1,656	628	712
Scenario 3	2,357	2,672	967	1,096

Source: MacroPlan Australia (2009).

The analysis reveals that under Scenario 3 and a dwelling yield of 17 dwellings per hectare (gross) a full-line supermarket (i.e. greater than 2,500sqm) could be delivered to the majority of residents within a walkable distance. This full line supermarket could also support the co-location of up to 1,000sqm of speciality retailing and would also support the delivery of office floorspace and medium density housing later in the development cycle.

REGIONAL AREA - BENDIGO

Bendigo, for the purposes of this assessment, has been used as an example for regional Victoria. Under Scenario 1, if a development yield of 10 dwellings per hectare is achieved in gross terms, a total of up to 600sqm of supermarket floorspace (and 300sqm of specialty) is supportable. The table below reveal supportable supermarket and specialty retailing floorspace for each scenario.

Table 2. Development Potential by Scenario (Bendigo)

	Supermarket		Specialty	
	10 dwellings per hectare	12 dwellings per hectare	10 dwellings per hectare	12 dwellings per hectare
Scenario 1	594	713	316	379
Scenario 2	1,134	1,361	394	472
Scenario 3	1,931	2,317	640	767

Source: MacroPlan Australia (2009).

The analysis reveals that under Scenario 3 and a dwelling yield of 12 dwellings per hectare (gross), up to 2,300sqm of supermarket floorspace could be delivered to the majority of residents within a walkable catchment. Approximately 700sqm of specialty floorspace could also be supported.

However, it is important to consider that these outcomes can only be achieved with the location of centres in high exposure sites and in particular, on locations that provide convenient access for vehicles and pedestrians.

Delivery frameworks for supermarkets

It will be important for the Retail Review to consider the future likely framework for the delivery of activity centres across Melbourne's growth areas. Taking into consideration the trends of supermarket retailing, the following delivery frameworks have been analysed to assess the proportion of residents in Melbourne's growth areas that will have walkable access to supermarkets:

- Delivery framework 1: status quo which is the continuation of the trends identified in Section 4 of this report (i.e. larger supermarket formats delivered in larger Sub-Regional and Regional centres). This framework estimates demand for supermarket floorspace within Neighbourhood centres at only 0.15sqm per capita based on the assumption that there is increased demand for supermarket floorspace within larger centres. The supermarkets within these centres are expected to be delivered at the current average size of at least 3,000sqm for neighbourhood centres.
- Delivery framework 2: an alternative development option that could potentially increase the proportion of residents within an 800m walkable catchment to a supermarket. This framework estimates demand for supermarket floorspace within Neighbourhood centres at 0.2sqm per capita based on the assumption that there will be more demand for supermarkets in smaller, local centres as opposed to larger centres. A sensitivity analysis of various supermarket sizes is also conducted.

The methodology and assumptions for assessment of the two delivery frameworks are summarised in the following table.

Delivery Framework 1	Delivery Framework 2
Estimate population growth from 2010 to 2026 (227,200 dwellings or 568,000 persons at a household density of 2.5 persons per household.	
Convert the number of dwellings into hectares of developable land by using a dwelling yield of 15 dwellings per hectare. This results in developable land of 15,147 hectares (gross).	
Calculate additional demand for supermarket floorspace within Neighbourhood centres by estimating at 0.15sqm per capita (or 50% of total supermarket floorspace available for all centres). Using this, the demand for supermarket floorspace is estimated at 85,200sqm.	Calculate additional demand for supermarket floorspace within Neighbourhood centres by estimating at 0.20sqm per capita (or two thirds of total supermarket floorspace available for all centres). The increased supermarket floorspace share assumes that floorspace allocated for larger centres can be transferred to LACs. Using this, the demand for supermarket floorspace is estimated at 113,600sqm.
Calculate the additional number of supermarkets using an average supermarket size of 3,000sqm. This results in an additional 28 supermarkets.	Calculate the additional number of supermarkets using average supermarket sizes of 1,500sqm, 2,000sqm and 2,500sqm. This results in additional supermarkets of 76, 57 and 45 respectively.
Calculate the volume of land within the walkable catchment of a supermarket using 201ha per supermarket (based on previous assessments).	
Results: 5,708ha of land falling within the walkable catchment of a supermarket equating to only 38% of residents.	Results: ▪ 1,500sqm supermarkets: 15,222ha of land (101% of residents) with walkable access to a supermarket ▪ 2,000sqm supermarkets: 11,417ha of land (75% of residents) with walkable access to a supermarket ▪ 2,500sqm supermarkets: 9,133ha of land (60% of residents) with walkable access to a supermarket

Economic benefits of alternative delivery framework

Some of the benefits of providing supermarkets within walkable catchments to a larger proportion of residents include:

- Reduced vehicle emissions by allowing more residents and visitors to walk or take shorter car trips to undertake their supermarket shopping requirements
- Reduced travel costs associated with a reduction in residents' overall weekly and monthly costs due to the savings in private vehicle usage through shorter trips

- Reduced travel times through the shorter distances that need to be travelled to reach a supermarket
- Provides opportunities for the supply of local jobs and a wider mix of employment through a network of smaller activity centres within walkable catchments
- Greater construction expenditure and associated economic multipliers from the creation of Local Activity Centres (LACs)

Key benefits are as follows:

- Reduced vehicle operating costs of $25.8 million per annum
- Savings associated with reduced congestion of $70.3 million per annum
- Reduced air pollution of $2.7 million per annum
- Reduced greenhouse gases of $2.0 million per annum
- Reduction in personal accident costs of $9.0 million per annum
- Overall net benefits of Delivery Framework 2 of $112.1 million per annum

The total net present value (NPV) of successfully delivering a more distributed network of Local Activity Centres over the period 2026 to 2051 is nearly $663 million or $1.4 billion in nominal terms.

These economic impacts do not consider other likely indirect impacts such as increased employment generation from the delivery of a larger number of supermarkets and the co-location of employment opportunities closer to residents.

Recommended key delivery principles – local centres

Subject to the analysis above, MacroPlan has confirmed that it is possible to support a local centre with up to 2,000sqm of retail floorspace (including a 1,500sqm supermarket) in walkable catchments for the majority of residents if the centre is surrounded by development that achieves an appropriate level of density (i.e. at least 15 dwellings per hectare).

The small local centre would need to be positioned in a location that allows the achievement of at least a 30% - 40% market share of its local catchment for supermarket and food related expenditure (i.e. located on at least one arterial road and preferably on the intersection of an arterial road and a connector road).

Conversely, if a dwelling density of 17 dwellings per hectare is achieved a full line supermarket of at least 2,500sqm (with up to an additional 1,000sqm of speciality floorspace) could be delivered.

To promote this achievement of market share, small centres can be distributed across a 1 mile grid preferably on each corner. While this outcome may face constraints due to landholdings it should be encouraged to maximise the proportion of the population that is provided with walkable access.

The provision of small local centres on the intersection of main and connector roads will:

- Enhance the opportunity for higher market shares within the walkable catchment
- Increase the opportunity for capturing expenditure from beyond the walkable trade area

MacroPlan has developed a draft set of guidelines around the location and sizing of land parcels for local centres that will promote higher market shares for these centres and encourage more sustainable travel behaviour and reduced trip generation from residents.

Accordingly, the retail review and the Department of Planning and Community Development (DPCD) should consider the following opportunities:

- Where possible locate LACs on arterial or connector roads with higher volumes of passing traffic to elevate the local centres' potential expenditure pool and increase market shares within the catchment as well as from expenditure beyond the trade area.
- Where possible locate LACs on the perimeters of a one mile grid or on arterial or connector roads.
- Recognise that there will be a limited role for inboard centres that are not located in arterial or connector roads. Small local shops could be established in these locations later in the development cycle if co-located with schools or community facilities.
- Encourage the provision of centres on routes that link residents with employment nodes where possible to promote multi-purpose private vehicle trips - which in turn reduces traffic volumes.
- Allow for land parcels that have the capacity to accommodate mixed use development later in the development cycle (i.e. office, community and recreational uses)
- Provide and promote opportunities for a flexible supply of food retailing including fresh food markets, and independent supermarkets that could be expanded when demand is available.
- Local road networks should be designed to encourage pedestrian access from a walkable catchment with an appropriate grid system. Local roads systems that are designed in a way that limits equidistant access for pedestrians will limit the walkable reach of local centres.

Conclusion

The research in this report has confirmed that the location of LACs will be a fundamental consideration in elevating their opportunity for the capture of market share. Our assessment has confirmed that small centres should be located on arterial roads where possible. However, consideration needs to be provided as to how vehicle access could be managed. Consideration of the provision of service roads to deliver appropriate ingress to small centre car-parking will be required. In addition, pedestrian access is also important.

The location of small centres near roads with high numbers of passing vehicles will:

- Elevate market shares within the immediate walkable catchment (as a greater proportion of residents commuting to and from work will have more convenient access)
- Increase opportunity for expenditure catchment from beyond the trade area

MacroPlan recommends that the retail review should consider guidelines that only approve LACs larger than 5,000sqm (with supermarkets larger than 3,000sqm) if it can be demonstrated that the centre will co-locate office employment and medium / higher density housing early in the development cycle.

Larger local centres will draw trade from a wider catchment and should provide alternative employment uses and a wider mix of residential uses to promote a genuine mixed use centre. This will allow local centre sizing to be restricted unless it can be demonstrated that a genuine mix of activity can be achieved at the centre with higher surrounding residential densities and employment opportunities.

The State Government should still encourage development of mixed use activity at smaller local centres. However, it needs to be recognised that these centres will primarily only provide convenience retailing early in the development cycle with the supermarket acting as their main expenditure generator.

Later in the development cycle, these small local centres could provide other services including local accounting and financial services; banking and travel services; and community services including aged care / retirement medical services and childcare.

More broadly however, the Government needs to recognise that the capture of office related employment in Victoria's regional and metropolitan growth areas will be problematic and there will be significant competition from Business Parks and Principal Activity Centres for these types of employment. The Property and Business Services sector relies on critical mass and the sectors' employees prefer a range of entertainment activities during and post working hours.

1 Introduction

MacroPlan Australia has been commissioned by the Master Grocers Australia (the MGA) to provide advice on the sustainability of Local Activity Centre (LAC) development in Victoria's regional and metropolitan growth areas.

The MGA seeks to examine whether it is possible to deliver small local centres in Victoria's regional and metropolitan growth areas in a way that maximises walkability and net community benefit.

Providing walkable catchments for the majority of residents requires an increased number of small local centres to ensure that the population is adequately serviced. In the current market economy there are a number of significant constraints and market influences which limit the ability to deliver small local centres in a geographic pattern that promotes walkable access.

A larger number of local centres will lead to a reduction in the average size of each centre as there is only a certain volume of retail floorspace that is supportable net of expenditure from beyond the trade area. As local centres become smaller their ability to compete with other centres is constrained due to the reduction in the diversity of retail products and services offered. Customers will tend to avoid a smaller local centre and drive to larger centres that have a more diverse offering and cheaper retail prices.

This preliminary assessment investigates whether it is possible to deliver a network of smaller local centres in growth areas that allows walkable access for residents, but still supports an outcome that is supported by the retail market. It provides advice on land parcels that should be provided for local centres, their likely sizing and key locational considerations.

More generally, this paper considers how the location of a small local centre can significantly influence its performance with regard to the capture of the local expenditure pool and penetration of expenditure from beyond the trade area.

It considers factors including:

- Likely incomes of residents
- The expenditure pool within a walkable catchment
- The retail floorspace supported by the expenditure pool subject to likely market shares
- The impact of centre location on market shares
- Other considerations around store location and the promotion of sustainable multi-purpose trips

The report also considers national benchmarks for local / neighbourhood centres in terms of size and retail mix and considers the current success of these centres in meeting the needs of the market.

1.1 Report structure

Section 1: Introduction and background

Section 2: Policy context including review of the Retail Policy Review and a report by PricewaterhouseCoopers (PwC) on the economic contribution of small to medium-sized grocery retailers to the Australian economy

Section 3: The role and function of Neighbourhood centres and the retail hierarchy

Section 4: Assessment of the historical and current trends in supermarket size and distribution in the retail hierarchy

Section 5: Assessment of sustainable LACs including a network of centres along one mile grids and estimates of supportable centre and supermarket floorspace for various scenarios of differing market shares in metropolitan and regional growth areas

Section 6: Assessment of two delivery frameworks of supermarkets ('status quo' and an alternative) to demonstrate the potential for increasing the proportion of residents with walkable access to a supermarket and discussion on the associated economic benefits

Section 7: Assessment of the economic benefits of the alternative delivery framework from a triple bottom line perspective

Section 8: Policy recommendations for the delivery of Local Activity Centres to enhance the market shares of LACs.

2 Policy context

2.1 The Retail Policy Review

Research commissioned by Department of Planning and Community Development (DPCD), as part of the Retail Policy Review, indicates that there will be a significant demand for retail floorspace both in metropolitan Melbourne and regional Victoria over the next 25 years.

The review has identified that the current policies are generally sound, however much greater guidance and direction is required on how policy objectives are to be achieved on the ground in the context of retail development.

Six key issues and challenges are outlined and discussed in the Retail Policy Review Discussion Paper including:

- Managing growth and the network of centres
- Facilitating appropriate development in appropriate locations
- Managing restricted retail premises
- Managing retailing in industrial areas
- Managing new centres and major retail proposals
- Improving design outcomes

Not all of these issues are examined by this report however the other matters are being examined separately by the MGA.

In particular, MacroPlan notes that the management of a network of viable Local Activity Centres will be important in achieving a range of positive outcomes for local communities including:

- Opportunities for reduced vehicle trip distances
- Increased competition between a wider number of outlets and chains
- Greater access for low income individuals who may not have access to (or afford to operate) a motor vehicle

2.2 The economic contribution of grocery retailers

PricewaterhouseCoopers (PwC) was commissioned by the National Association for Retail Grocers of Australia (NARGA) to prepare an assessment of the economic contribution of supermarket / grocery retail small and medium-sized enterprises (SMEs) to the Australian economy. Despite its focus on the Western Australian economy, the report also analysed key economic, social and environmental characteristics of SMEs in general on a national level. It concluded that these businesses played a significant role in the wealth generation of the Australia economy.

Some of the key points from this report are:

- The total value of family-owned businesses in 2006 was estimated at $4.3 trillion which is greater than the total value of all managed funds in Australia and is also greater than the total of the ASX market capitalisation of all listed companies.

- The supermarket and grocery sector is the largest contributor to retail turnover at 29% or $74 billion of which $15 billion are contributed by SMEs.
- The supermarket and grocery industry employs 3.8% of Australia's total labour force of which 57% of supermarket and grocery employment generated from SMEs
- Independent supermarkets and grocers promote and maintain competition in the supermarket and grocery retail industry countering negative consequences of the progressive dominance of major grocery retailers (MGRs)
- Supermarket and grocery SMEs source a greater proportion of their goods and services from local producers and service providers and thus support the local economies more so than MGRs
- The local and community focus of supermarket and grocery SMEs allow for greater cohesion in the community
- SMEs have higher levels of walkable access so they contribute to reducing traffic congestion, cark parking problems and pollution

The report also identified opportunities for increasing consumer retail choice, maintaining competition and moderating long-term inflation through supporting the presence of independent supermarkets and grocers.

3 The role of local centres

This part of the report reviews the role of neighbourhood centres in the retail hierarchy in metropolitan Melbourne, and assesses the average size of neighbourhood centres in a national context.

3.1 Role and function

There is no common agreement as to what represents a NAC or LAC with regard to size, catchment or even retail components.

Recently developers have been seeking approval for NACs and LACs that draw trade from more than 3kms and that supply full-line supermarkets and mini-major type retailing.

Melbourne 2030 defines a NAC as a centre that provides local convenience needs and is accessible to a viable population by walking and cycling. A cap in floorspace is not listed but they are generally understood as being up to 10,000sqm in size.

The Property Council also defines a NAC in a similar framework from a sizing perspective however there is no accepted boundary between a neighbourhood centre and a local centre.

In terms of defining a role for LACs and NACs, MacroPlan has made a distinction for both centre types based on their designation and likely catchments.

In line with the focus of this report we have defined these centres in the following way:

- Local Activity Centre (LAC): Serving a walkable catchment of equal to or equivalent to an 800m radius (equating to 201 hectares on the basis of an equidistant radius). Population and expenditure pools determined by socio-demographics and residential density. Centre size between 1,500sqm and 3,000sqm depending on generated expenditure pool.
- Neighbourhood Activity Centre (NAC): Serving a catchment of up to 2kms. The centre should source up to 80% of its trade from a main trade area[1] that sits at a maximum of 2kms from the centre (depending on factors including physical barriers and competition) Size up to 8,000sqm. Only one full line supermarket is generally offered.

LACs and NACs represent the weakest link in the hierarchy of centres in Melbourne and in a national context. The primary competitive advantage afforded to a neighbourhood or local centre is its ability to meet the needs of a defined immediate catchment. Typically in growth areas, consumers only shop at a neighbourhood or local centre due to its convenience. Convenience can be either due to:

- Location (i.e. the centre is within easy walking or close driving distance)
- Access (i.e. the centre offers competitive access in terms of either car parking or location compared to larger centres) and includes opportunities for the capture of trade from beyond the trade area

[1] This assumes 80% of the centres trade comes from a geographic trade area and around 20% is sourced from beyond a defined trade area. This does not imply the centre achieves an 80% market share of the main trade area expenditure pool; it is simply a guideline as to its likely source of trade.

LACs and NACs meet the needs of a market in different ways, depending on the characteristics of the suburb, and how established the suburb may be. Locational factors including co-location to other uses (i.e. employment, community uses and transport) also play a part in defining the role of a local centre.

The inner suburbs of Melbourne typically comprise of neighbourhood (or strip shopping centres) that provide a mix of convenience retailing and food catering (including cafés and restaurants) that are tailored toward the characteristics of the local demographic. The role and function of these centres have changed over time as these areas gentrify.

Well functioning and popular local centres play an important role in the desirability of a suburb. Dwellings located within a walkable distance of these centres can command a significant premium over those that are not co-located to local centres.

These considerations contribute to the encouragement of walkable neighbourhoods but it is also driven by a desire to reduce car dependency in outer areas. The difficulty in achieving this outcome in fringe locations is underpinned by the following factors:

- Lack of population within a walkable catchment due to lower average densities
- Limited market for medium and high density housing due to market constraints (including building costs) of delivering this product
- A lack of amenity and activity to support acceptance of higher densities by the market and limited links to public transport that encourage home buyers to trade off space for location
- Household characteristics and workplace characteristics of residents in growth areas including greater proportions of families and a commensurate reduction in discretionary income
- A greater travel distance to employment and higher labour force participation that limits demand for leisure and time available to participate within the activity offerings of a local centre

Due to the expenditure pool constraints – including wealth and lower critical mass in growth areas – small local centres are limited in their ability to capture a market share of a local resident expenditure pool as they fail to offer a sufficiently wide mix of retail services, particularly non-food retailing.

Higher proportions of resident populations are price sensitive to retail goods and services in growth areas and households will therefore travel greater distances to obtain discounted goods and services.

There is also limited demand in new development areas for cafes and restaurants. The discretionary income pool that drives demand for these components of retail evolves as a suburb and its residents mature and as expenditure on supermarkets is re-directed to other items. The age, employment and income profile of residents are major drivers in the success of local cafes, bars and restaurants.

It is in this context that local / neighbourhood centres are very reliant on the supply of convenience retailing at particular price points in growth areas. Supermarket floorspace is therefore fundamentally important to the success of these centres in their early stages, but the supply of supermarket floorspace is limited according to the population and expenditure pools. The distribution of supermarket and related floorspace is therefore also limited.

3.2 Melbourne's retail hierarchy

According to the Property Council[2], Melbourne's retail hierarchy sits under the following definitions:

- Central Business District (600,000sqm) Full range of tenants
- Super Regional Centre (i.e. Chadstone) – A major shopping centre typically incorporating two full line department stores, one or more full line discount department stores, two supermarkets and an average of 250 speciality retailers. Total retail exceeds 85,000sqm
- Major Regional Centre (i.e. Centro The Glen) – A major shopping centre typically incorporating at least one full line department store, one or more full line discount department stores, one or more supermarkets and around 150 speciality stores. Total GLA between 50,000 and 85,000sqm
- Regional Centre (i.e. Forest Hill Chase) – A shopping centre that typically incorporates up to two full line discount department stores, one or more supermarkets and around 100 speciality stores.
- Sub-regional Centre (i.e. Stud Park Shopping Centre) - A medium sized shopping centre incorporating at least one full line discount department store and a full line supermarket. GLA between 10,000 to 30,000sqm
- Neighbourhood Centre (Generally anchored by at least one full-line supermarket) up to 10,000sqm with around 30 speciality stores
- Homemaker Centre / Discount Factory Outlet / Themed Centre

In the context of this study MacroPlan is paying particular attention to the role of neighbourhood centres in the retail hierarchy with detailed assessment of the ability of these centres to be viable and sustainable in Victoria's regional and metropolitan growth areas, particularly if they are delivered with smaller supermarkets.

It is considered that these centres provide an important component and anchor for not only retail but also business activity and employment as a suburb grows in its early stages of residential development.

3.3 Confirming a role for a LAC

As discussed previously, the primary variation between the roles of LACs and NACs is the provision of a full-line supermarket (i.e. 2,500sqm+ in the NAC) and the limited walkable catchment in the context of a local centre that acts as a size constraint.

The number of LACs and NACs that can be provided in a development area will depend on the size of the suburb or growth front that is being planned for. However there may be an opportunity to accommodate at least two separate LACS within the traditional one mile grid or a NAC accompanied by a LAC.

The sustainability of local centres and their potential role in the marketplace is explored in more detail in the body of this report.

[2] Victoria / Tasmania Shopping Centre Directory - 2007

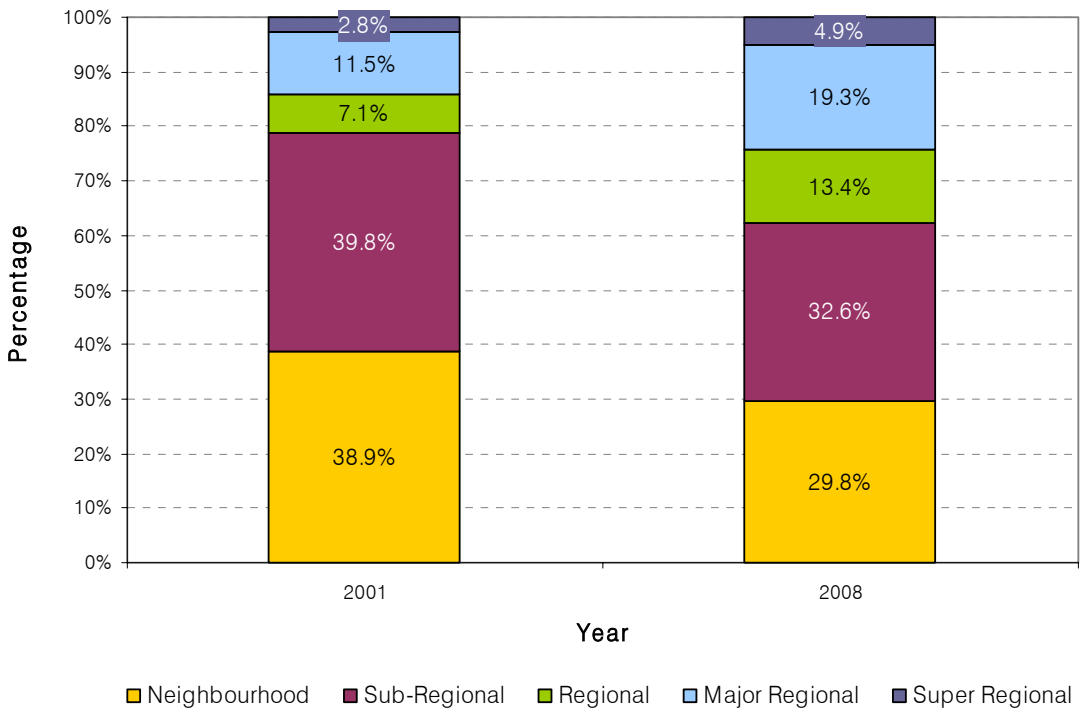
4 Trends in supermarket size and distribution

This section reviews historical and current supermarket retailing trends and provides some insight into the likely future implications for supermarket retail in Melbourne. This will allow an understanding of the supermarket development pressures Melbourne is likely to face in the future and enable a proactive approach to be taken in managing the allocation of supermarket floorspace throughout Melbourne and its growth areas.

4.1 Distribution across retail hierarchy

An assessment of the distribution of supermarket floorspace within the retail hierarchy shows a shift towards the provision of supermarket floorspace in larger centres (i.e. Regional, Major Regional and Super Regional). The following figure shows the change in supermarket floorspace distribution across the retail hierarchy in Melbourne.

Figure 1. Supermarket floorspace distribution across retail hierarchy, 2001 - 2008



Source: Property Council of Australia Victoria / Tasmania Shopping Centre Directory (2001, 2008).

It should be noted that supermarket floorspace located at strip shops have not been included in this analysis. Key findings from this assessment are as follows:

- The majority of supermarket floorspace located in Neighbourhood totalled of 39% in 2001. However, there has been a significant decline of over 9% to 30% in 2008. This indicates that much of the new supermarket floorspace is now being provided in higher order centres such as Regional, Major Regional and Super Regional centres.

- The provision of supermarket floorspace within Major Regional and Regional Centres has increased significantly sine 2001 with a proportional increase of 8 and 6 percentage points respectively.

If this trend of the shift of supermarket floorspace to larger centres continues, there will be significant implications on the proportion of residents who can access convenience retailing within a walkable catchment. More specifically, it is likely that supermarkets will be provided at further distances from each other as higher order centres generally have larger catchments and thus are located further away from similar, competing centres. This would therefore encourage residents to increase the use of motor vehicles to access supermarkets and impose other potential negative consequences.

4.2 Average size of supermarket

An assessment of the average size of supermarket floorspace provides further insight into the provision of supermarkets within Melbourne and its growth areas. The average size of supermarkets is also directly correlated to the distance between supermarkets. The provision of larger supermarkets would generally imply the provision of a smaller number of supermarkets as there is a limit to the volume of retail floorspace that can be delivered across a particular trade area and region.

The following table shows the change in the average size of supermarkets between 2001 and 2008.

Table 3. Average size of supermarkets (sqm), 2001 - 2008

Type of Centre	2001 (sqm)	2008 (sqm)
Super Regional	3,897	4,228
Major Regional	3,455	4,317
Regional	3,715	3,631
Sub-Regional	3,414	3,486
Neighbourhood	2,674	2,833
All Centres	3,431	3,699

Source: Property Council of Australia Victoria / Tasmania Shopping Centre Directory (2001, 2008).

Key findings of this assessment are as follows:

- The average supermarket size in all centres has increased from 3,431sqm in 2001 to 3,699sqm in 2008. This represents an increase of nearly 8% during the 7 year period.
- The increase in the average supermarket size has largely been concentrated in higher order centres, particularly in Major Regional centres. The average supermarket size in Major Regional centres increased significantly by 25% between 2001 and 2008.
- The average size of supermarkets in Neighbourhood centres have also increased from 3,674sqm in 2001 to 3,699sqm in 2008 which equates to an increase of 5.9% over the 7 year period.

In general, there has been a trend for the delivery of larger supermarkets which is related to the trend for such supermarkets to be located in larger, higher order centres (i.e. Regional, Major Regional and Super Regional centres). The larger size of average supermarkets reinforces the provision of supermarkets at further distances and thus would also encourage residents to increase the use of motor vehicles to access supermarkets.

For the purposes of the Retail Review being conducted by the DPCD however this confirms that:

- The proportion of supermarket floorspace being supplied in Local Activity Centres is declining
- The average size of supermarkets is increasing
- Opportunities for smaller independent supermarkets are becoming more difficult in some areas
- The distance between supermarkets (and accordingly the proportion of the population within walkable access or even a short vehicle trip) to a supermarket is declining

5 Can Local Activity Centres work?

Providing LACs within walking distance of residents is considered desirable as it promotes:

- Reduced private motor vehicle use for the purpose of shopping and other related activities
- A higher number of LACs provides enhanced opportunities for higher average housing densities as medium and high density housing is generally only accepted by the market in or adjacent to activity centres (particularly in new suburbs and regions)
- To allow for higher volumes of local employment, as the retail sector and associated local businesses are important providers of employment opportunities in the local economy.

However, there are several factors that influence the viability of LACs within the retailing framework. These factors have been considered in three delivery scenarios which are highlighted in the following section.

5.1 Scenarios for assessment

If LACs are provided within a walkable catchment (a walkable catchment is defined in this study as an 800 metre radius) they will only have a limited population catchment and retail expenditure pool from which to draw trade subject to residential density levels and household incomes.

However, an opportunity exists to provide LACs with a greater level of trade, and in turn a greater opportunity to provide a sustainable and more attractive mix of retail goods and services if they are located on roads with relatively higher traffic volumes.

Currently, many LACs are provided at 'inboard' locations (i.e. not affording access from primary or secondary roads). They serve local catchments and have a limited ability to meet the needs of residents who may be commuting through the area on the way to or from work.

MacroPlan believes that LACs can be provided in locations on roads that serve higher volumes of traffic which will allow them to capture higher market shares and sustain a wider mix of retail goods and services. According to this assumption three locational scenarios have been developed:

- Scenario 1 (Low market share – 20% of the local expenditure pool + a small pool of expenditure from beyond the trade area = 10% of total turnover): An inboard local centre situated on a local road with limited passing traffic
- Scenario 2 (medium market share – 30% of the local expenditure pool + a slightly larger pool of expenditure from beyond the trade area = 12% of total turnover): A centre situated on an arterial with the ability to encourage multi-purpose commuting and capture some passing trade from outside its local walkable catchment
- Scenario 3 (high market share – 55% of the local expenditure pool + a pool of expenditure from beyond the trade area = 20% of total turnover): A centre situated on the corner of two arterials that provides a wider mix of uses later in the development cycle by virtue of its location (i.e. local office and some medium or higher density housing. The supply of these other components would only occur later in the development cycle.

5.2 Supportable centre size

Providing a LAC within a walkable catchment of 800m requires that on average a centre is delivered across each equidistant radius of close to 200 hectares of developable area[3]. The retail expenditure pool will therefore depend on the following:

- Intensity of residential development in the walkable catchment (i.e. dwelling yields per hectare);
- Incomes of residents in the catchment that would affect the expenditure pool of the trade area; and
- The market share that the centre can capture of the localised expenditure pool.

It should also be noted that not all centres will have an unencumbered 800 metre walkable catchment.

5.2.1 Scenario 1 – low market share

As described in part 5.1 of this report above, Scenario 1 assumes a LAC is delivered as an inboard local centre with limited exposure to a local trade area and a limited opportunity to capture any expenditure from beyond the trade area.

Analysis of incomes and likely market shares subject to the size of a local centre has found that supportable centre floorspace will be as follows:

- Around 1,300sqm with a 800sqm supermarket (at 15 dwellings per hectare)
- Around 1,500sqm with a 900sqm supermarket (at 17 dwellings per hectare)

These levels of supportable retail floorspace represent incomes in the Casey Growth Area but there are no significant variations across Victoria's other growth areas.

Residential densities of 17 dwellings per hectare (gross) will be difficult to achieve in most fringe sub-divisions. It will be likely that this level of residential density will only be achieved as the suburb is matured and demand for medium density (i.e. units / flats or townhouses) arises.

A yield of 17 dwellings per hectare equates to an average lot size of 411sqm if we assume only 7,000sqm (or 70%) of each hectare is developable. According to a net density definition, this equates to 24 dwellings per net hectare of developable land.

Market shares for the supermarket component are assumed at 20% which is consistent with primary market research on the performance of LACs and their ability to capture a localised expenditure pool.

However, even at a residential yield of 15 dwellings per hectare it is clear that on this basis a 'full-line' supermarket is not supportable across each walkable catchment. The market would be more likely to supply a limited line supermarket (i.e. an IGA).

The implication of this outcome is that the centre may only be used as a destination for 'top-up' daily or weekly shopping as residents would still use NACs and sub-regional centres for the bulk of weekly and fortnightly grocery shopping in metropolitan areas. However, in regional areas, a 1,600sqm supermarket could capture higher market shares.

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[3] Equidistant radius area $= (\pi \times 800 \text{ metres})^2 \div 10{,}000\text{sqm}$

Viability and vibrancy is limited because residents will seek full-line supermarkets due to a perception that smaller stores do not offer the full-line of products required and that these stores are less price competitive. Residents would also primarily use motor vehicles to access these larger centres and in many cases they would undertake this shopping visit as part of a single purpose trip which amplifies private motor vehicle use.

5.2.2 Scenarios 2 and 3 - a higher market share

The analysis above reveals that the ability of the centre to attract a significant market share will be restricted by its size and range of offering. However if LACs achieved a higher market share (i.e. up to 50% of the available expenditure pool for supermarket shopping) there will be an opportunity to provide LACs with supermarkets that are close to full-line in size, particularly with food.

Centres of this size will reduce private motor vehicle trips from residents to larger centres. Assuming a local centre captured around 50% of the expenditure pool for supermarket expenditure in the local walkable catchment, the following centre sizes would be supportable with regard to retail floorspace:

- At 15 dwellings per hectare a centre of up to 3,300sqm with a 2,400sqm supermarket
- At 17 dwellings per hectare a centre of up to 3,800sqm with a 2,700sqm supermarket

These volumes of supportable retail floorspace are again based on average incomes in the Casey growth area. A sensitivity test on supportable floorspace in other metropolitan and regional growth areas is available in more detail in Appendix 1 and 2 of this report.

How do LACs achieve a 50% market share to support the delivery of a mix of retailing? MacroPlan has developed recommendations to the retail review (see part 7 of this report) around the location and sizing of land parcels for LACs that will encourage more sustainable travel behaviour and reduced trip generation from residents.

5.3 Supportable supermarket size

Subject to the assumptions listed above, MacroPlan tested whether an adequate level of demand existed for various supermarket formats based on a catchment of a retail expenditure pool from an 800m walkable radius and a small volume of trade from beyond the local catchment subject to the location of the centre. Details of this assessment are depicted in Appendix 1 and 2; however key findings are discussed below.

It is important to note that the key difference between the metropolitan growth areas and the regional growth areas are in the density of residential development. Metropolitan growth areas are likely to achieve development yields of 15 dwellings per hectare to 17 dwellings per hectare. On the other hand, regional growth areas are likely to achieve lower development yields of between 10 and 12 dwellings per hectare.

5.3.1 Melbourne Growth Areas

The assessment of supportable supermarket size within the growth areas of Melbourne are shown in Appendix 1 at 15 dwellings per hectare and at 17 dwellings per hectare. For the purposes of this assessment, the growth areas that have been assessed include:

- Wyndham Growth Area
- Melton Growth Area

- Cardinia Growth Area
- Casey Growth Area

There is not much variation between the growth areas as the incomes of growth area residents are generally similar. The following tables summarise the key findings of this assessment.

Table 4. Growth areas supportable supermarket floorspace (sqm), 15 dwellings / ha

	Wyndham Growth Area	Melton Growth Area	Cardinia Growth Area	Casey Growth Area
Scenario 1	827	807	808	916
Scenario 2	1,473	1,437	1,441	1,633
Scenario 3	2,376	2,319	2,324	2,634

Source: MacroPlan Australia (2009).

Assuming a development yield of 15 dwellings per hectare, the following sizes of supermarkets can be supportable in Melbourne's growth areas:

- Scenario 1: a supermarket of around 800sqm
- Scenario 2: a supermarket of around 1,400sqm
- Scenario 3: a supermarket of around 2,300sqm

Table 5. Growth areas supportable supermarket floorspace (sqm), 17 dwellings / ha

	Wyndham Growth Area	Melton Growth Area	Cardinia Growth Area	Casey Growth Area
Scenario 1	937	914	916	929
Scenario 2	1,669	1,629	1,633	1,656
Scenario 3	2,693	2,628	2,634	2,672

Source: MacroPlan Australia (2009).

Assuming a development yield of 17 dwellings per hectare, the following sizes of supermarkets can be supportable in Melbourne's growth areas:

- Scenario 1: a supermarket of around 900sqm
- Scenario 2: a supermarket of around 1,600sqm
- Scenario 3: a supermarket of around 2,600sqm

5.3.2 Regional Growth Areas

The assessment of supportable supermarket sizes within the Victoria's regional growth areas is shown in Appendix 2 at 10 dwellings per hectare and at 12 dwellings per hectare. For the purposes of this assessment, the regional growth areas that have been assessed include:

- Shepparton
- Bendigo
- Geelong

The following tables summarise the key findings of this assessment.

Table 6. Regional supportable supermarket floorspace (sqm), 10 dwellings/hectare

	Shepparton	Bendigo	Geelong
Scenario 1	585	594	604
Scenario 2	1,118	1,134	1,153
Scenario 3	1,903	1,931	1,962

Source: MacroPlan Australia (2009).

Assuming a development yield of 10 dwellings per hectare, the following sizes of supermarkets can be supportable in Victoria's regional growth areas:

- Scenario 1: a supermarket of around 500sqm - 600sqm
- Scenario 2: a supermarket of around 1,100sqm
- Scenario 3: a supermarket of around 1,900sqm

Table 7. Growth areas supportable supermarket floorspace (sqm), 12 dwellings/hectare

	Shepparton	Bendigo	Geelong
Scenario 1	702	713	724
Scenario 2	1,341	1,361	1,383
Scenario 3	2,283	2,317	2,355

Source: MacroPlan Australia (2009).

Assuming a development yield of 17 dwellings per hectare, the following sizes of supermarkets can be supportable in Melbourne's growth areas:

- Scenario 1: a supermarket of around 700sqm
- Scenario 2: a supermarket of around 1,300sqm
- Scenario 3: a supermarket of around 2,200 - 2,300sqm

6 Future delivery of supermarkets

It will be important for the Retail Review to consider the future likely framework for the delivery of activity centres across Melbourne's growth areas. This part of the report has assessed the proportion of residents in Melbourne's growth areas that are likely to have walkable access to supermarkets based on two assumed delivery frameworks:

- Delivery framework 1: status quo which is the continuation of the trends identified in Section 4 of this report (i.e. larger supermarket formats delivered in larger Sub-Regional and Regional centres with a declining proportion of supermarkets delivered in LACs). This framework estimates demand for supermarket floorspace within Neighbourhood centres at only 0.15sqm per capita based on the assumption that there is increased demand for supermarket floorspace within larger centres. The supermarkets within these centres are expected to be delivered at the current average size of at least 3,000sqm for neighbourhood centres.
- Delivery framework 2: an alternative development option that could potentially increase the proportion of residents within an 800m walkable catchment to a supermarket. This framework estimates capture of supermarket floorspace within Neighbourhood centres at 0.2sqm per capita based on the assumption that there will be more demand for supermarkets in smaller, local centres as opposed to larger centres. A sensitivity analysis of various supermarket sizes is also conducted.

The achievement of delivery framework 2 will require consideration of recommended delivery guidelines elaborated in part 7 of this report. A high level assessment of the economic benefits that the alternative delivery framework could deliver will also be discussed based on an increase in walkable access of supermarkets.

6.1 Methodology and key assumptions

The following table summarises the methodology and key underlying assumptions used to assess the allocation of supermarket floorspace in the two delivery frameworks:

Table 8. Delivery framework methodologies

Delivery Framework 1	Delivery Framework 2
Estimate population growth between 2010 to 2026 of Melbourne's metropolitan growth areas (227,200 dwellings or 568,000 persons at a household density of 2.5 persons per household).	
Convert the number of dwellings into hectares of developable land by using a dwelling yield of 15 dwellings per hectare. This results in developable land of 15,147 hectares (gross).	
Calculate additional demand for supermarket floorspace within Neighbourhood centres by estimating at 0.15sqm per capita (or 50% of total supermarket floorspace available for all centres).	Calculate additional demand for supermarket floorspace within Neighbourhood centres by estimating at 0.20sqm per capita (or two thirds of total supermarket floorspace available for all centres). The increased supermarket floorspace share assumes that floorspace allocated for larger centres can be transferred to LACs.

Calculate the additional number of supermarkets using an average supermarket size of 3,000sqm.	Calculate the additional number of supermarkets using average supermarket sizes of 1,500sqm, 2,000sqm and 2,500sqm.
Calculate the volume of land within the walkable catchment of a supermarket using 201ha per supermarket (based on previous assessments).	

Source: MacroPlan Australia (2009).

6.2 Delivery framework 1: status quo

Taking into consideration the recent trends within supermarket retailing, 28 supermarkets can be delivered at an average size of 3,000sqm within the growth areas of Melbourne. The following table shows that this delivery framework would only allow 38% of residents to be within the walkable catchment of a supermarket. Therefore, if the current situation continues, it would lead to an outcome whereby the majority of residents would not be able to walk to a supermarket and thus would increase motor vehicle usage.

Table 9. Delivery framework 1: status quo

Delivery Framework 1	
Additional dwellings in growth areas	227,200
Dwellings per hectare (gross)	15
Hectares of land	15,147
Population growth (@2.5 persons per household)	568,000
Additional demand for supermarket floorspace in NACs	85,200
Average supermarket size	3,000
Additional number of supermarkets	28
Land within walkable catchment of supermarkets (ha)	5,708
Proportion of residents within walkable catchment	38%

Source: MacroPlan Australia (2009).

6.3 Delivery framework 2: alternative development option

This framework assesses the proportion of the population that will have walkable access to supermarkets subject to three different assumed volumes of supermarket size:

- 1,500sqm
- 2,000sqm
- 2,500sqm

MacroPlan has undertaken sensitivity testing to illustrate the variation in the numbers of supermarkets (and accordingly the proportion of the population) that will have walkable access to supermarkets based on their average sizing.

In this alternative delivery framework, approximately 45 - 76 supermarkets can be delivered at varying average sizes of 1,500sqm to 2,500sqm within the growth areas of Melbourne. The following table shows that this delivery framework would allow for a higher proportion of residents to be within the walkable catchment of a supermarket. Therefore, if this delivery framework is adopted, it would lead to an outcome whereby the majority of residents will be able to have the opportunity to walk to supermarkets and thus reduce motor vehicle usage.

Table 10. Delivery framework 2: alternative development option

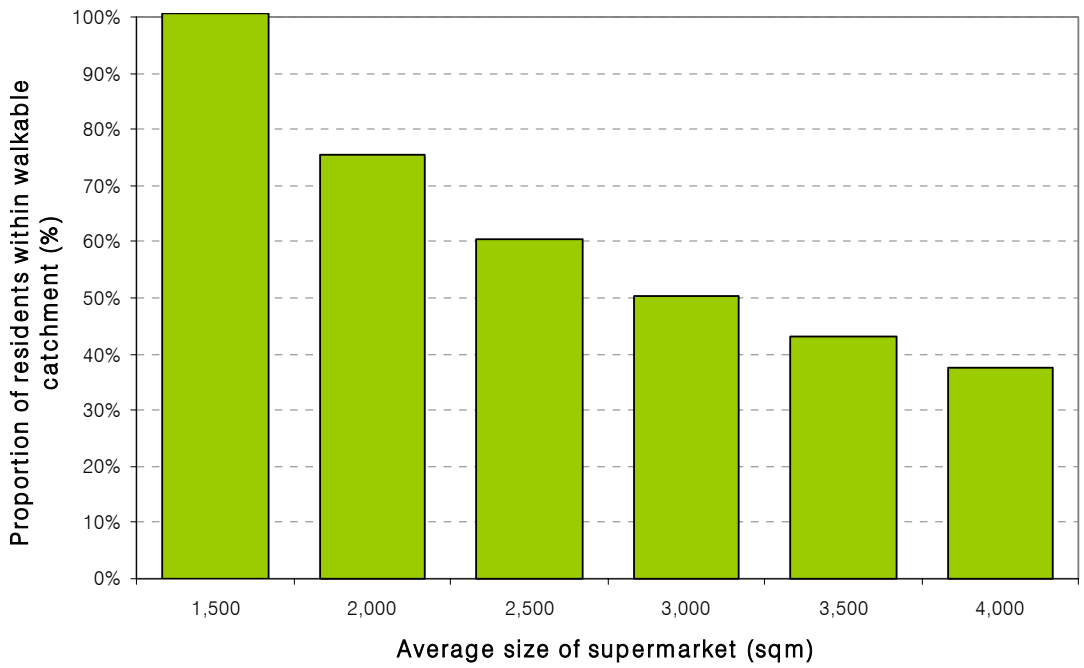
Delivery Framework 2	1,500sqm Supermarket	2,000sqm Supermarket	2,500sqm Supermarket
Additional dwellings in growth areas	227,200	227,200	227,200
Dwellings per hectare (gross)	15	15	15
Hectares of land	15,147	15,147	15,147
Population growth (@2.5 persons per household)	568,000	568,000	568,000
Additional demand for supermarket floorspace in NACs	113,600	113,600	113,600
Average supermarket size	1,500	2,000	2,500
Additional number of supermarkets	76	57	45
Land within walkable catchment of supermarkets (ha)	15,222	11,417	9,133
Proportion of residents within walkable catchment	101%	75%	60%

Source: MacroPlan Australia (2009).

The table above shows that smaller supermarket sizes would result in higher proportions of residents being within the walkable catchment of a supermarket. In particular, if supermarkets were to be at an average size of 1,500sqm, over 100% of residents within the growth areas would have a choice of LACs within walkable distance. However, this proportion falls significantly to 75% for a larger supermarket of 2,000sqm and further to 60% for a supermarket of 2,500sqm.

The sensitivity analysis of this alternative delivery framework is further illustrated in the following figure. As the average size of supermarkets delivered increases, the proportion of residents within walkable access to a supermarket falls significantly. The most significant fall is between 1,500sqm and 2,000sqm whereby the proportion of residents within a walkable catchment falls from over 100% to 75%.

Figure 2. Delivery framework 2: sensitivity analysis (1,500sqm - 4,000sqm)



Source: MacroPlan Australia (2009).

7 Economic benefits of alternative delivery framework

New retail development will alter the economic and social environment of the locality both positively and negatively. These positive and negative impacts can be measured in terms of net community benefit to assess the overall contribution to the community. Some indicators considered in this analysis are increases in employment, time cost savings, travel cost savings, etc.

This section explores the potential economic benefits of the two delivery frameworks defined in Part 6 of the report to demonstrate the impacts of the supply of a greater number of supermarkets in Melbourne and potential sustainable economic outcomes.

Some of the benefits of providing supermarkets within walkable catchments to a larger proportion of residents include:

- Reduced vehicle emissions by allowing more residents and visitors to walk or take shorter car trips to undertake their supermarket shopping requirements
- Reduced travel costs associated with a reduction in residents' overall weekly and monthly costs due to the savings in private vehicle usage through shorter trips
- Reduced travel times through the shorter distances that need to be travelled to reach a supermarket
- Provides opportunities for the supply of local jobs and a wider mix of employment through a network of Local Activity Centres within walkable catchments
- Greater construction expenditure and associated economic multipliers from the creation of Local Activity Centres (LACs)

For the purposes of this assessment, the following assumptions outlined in the table below were employed.

Table 11. Assumptions of economic benefit of delivery frameworks

Supermarket related trips	Delivery framework 1	Delivery framework 2	Change
Households	227,200	227,200	n.a
Trips per week	3	2	-1
Trip distance (km)	5	3	-2
Distance travelled (km)	177,216,000	70,886,400	-106,329,600

Note: 'Trips' refer to a round trip (e.g. home - supermarket - home)

Source: MacroPlan Australia (2009).

While these assumptions are relatively high level and would need to be tested with more detailed analysis on a case by case basis, they provide the useful methodology for assessment. The table below highlights the estimated economic benefits across a wide range of economic and environmental indicators for an assessment period between 2026 and 2051.

The period 2026 to 2051 was chosen to illustrate the benefits post delivery of a 5 million population in Melbourne's growth areas assuming residential precincts are fully established and delivered.

Key benefits subject to the assumptions highlighted in Table 10 and the calculated benefits per annum in Table 11 are as follows:

- Reduced vehicle operating costs of $25.8 million per annum
- Savings associated with reduced congestion of $70.3 million per annum
- Reduced air pollution of $2.7 million per annum
- Reduced greenhouse gases of $2.0 million per annum
- Reduction in personal accident costs of $9.0 million per annum
- Overall net benefits of Delivery Framework 2 of $112.1 million per annum

Table 12. Net benefits per annum

Net benefits (Delivery framework 2)	Benefits per annum
Reduced vehicle operating costs	25,763,163
Decongestion benefits (remaining vehicle trips)	70,263,171
Noise	913,421
Air Pollution	2,740,264
Water Pollution	398,158
Greenhouse	1,955,658
Nature and landscape	386,447
Urban separation	655,790
Personal Accident Costs	9,031,636
Total	112,107,707

Source: MacroPlan Australia (2009).

The total net present value (NPV) of successfully delivering a more distributed network of Local Activity Centres over the period 2026 to 2051 is nearly $663 million or $1.4 billion in nominal terms.

These economic impacts do not consider other likely indirect impacts such as increased employment generation from the delivery of a larger number of supermarkets and the co-location of employment opportunities closer to residents. The table below highlights the net benefits of Delivery Framework 2 relative to Delivery Framework 1 which represents a status quo of the base case development scenario.

Table 13. Net benefits of Delivery Framework 2 - 2026 to 2051

Assessment period benefits	
Benefits per annum	$56,053,854
Total benefits (nominal)	$1,401,346,343
Total benefits (NPV)	$662,880,468

Source: MacroPlan Australia (2009).

8 Policy recommendations for delivery of Local Activity Centres

In addition to delivery framework 2 highlighted in the previous part of the report, there are a number of implicated issues that will need to be managed. Although there are limited actions that can be taken to dramatically increase the capacity of LACs to draw higher market shares, based on the constraints of a local expenditure pool and an 800m radius walkable catchment, some possible actions are discussed below.

1. Locating LACs on Arterial or Connector roads with higher volumes of passing traffic where possible to elevate the LACs potential expenditure pool and increase market shares.

Implication - LACs provided on Arterial or Connector Roads will capture passing trade from within and outside the immediate catchment which will boost the opportunity for the provision of a wider mix of retail goods and services as well as increases its accessibility to residents within a walkable catchment to the centre.

2. Providing centres on routes that link residents with employment nodes where possible to promote multi-purpose private vehicle trips.

Implication - LACs should be provided on routes that allow commuters to engage in multi-purpose trips. In practice, this will mean an enhanced opportunity for residents to undertake 'top up' or weekly shopping at a local centre on the way home or to a place of work.

3. Allow for land parcels that have the capacity to accommodate mixed use development later in the development cycle (i.e. office, community and recreational uses)

Implication - While there will be limited demand for other commercial uses earlier in the development cycle (i.e. in the first stages of residential development) there will be an opportunity to provide other community and recreation uses where appropriate later in the development.

4. Provide and promote opportunities for a flexible supply of food retailing including fresh food markets, and independent supermarkets that could be expanded when demand is available.

Implication - Other retail providers (including local markets or semi-permanent fresh food markets) may be appropriate in situations where a larger supermarket may not be supportable in the local catchment.

5. Encourage councils to approve retail expansions at LACs when the market perceives demand has matured.

Implication - It is important to balance the need to provide retail floorspace that are consistent with the role of a local centre with the expeditious development of retail floorspace as expenditure pools and subsequent demand increase.

6. Allow for alternative uses at local centre development sites until demand for the local centre is in place.

Implication - Community uses and non-retail uses can be accommodated at development sites prior to demand for all elements of a local centre.

7. Allow for more flexible centre delivery that takes into account the realities of the local retailing hierarchy and encourages the co-location to Principal Activity Centres which are likely to significant reduce market shares for LACs.

Implication - Consideration of the wider retail hierarchy and recognition that the performance of LACs will be significantly compromised if located within close proximity to a larger centre will be important for centres to perform as intended.

8. Local road networks need to be designed to encourage pedestrian access from a walkable catchment and include access lane-ways that boost a pedestrian catchment. Local roads systems that are designed in a grid pattern will limit the walkable reach of LACs.

Implication - Access to centres is not always uniform for pedestrians based on a radius access model due to constraints such as major roads, parks, rail lines or other physical barriers. Therefore, transport networks should be designed in a way to maximise pedestrian access to LACs.

9. LACs should only be provided in a framework larger than 5,000sqm (with supermarkets larger than 3,000sqm) if it can be demonstrated that the centre will co-locate office employment and medium / higher density housing at early in the development cycle.

Implication - Sizing of LACs should be restricted unless it can be demonstrated that a genuine mix of activity can be achieved at the centre with higher surrounding residential densities and employment opportunities.

8.1 Consideration of a one mile grid

As an alternative to consideration of the size of a centre that can be delivered to walkable catchments, it is also important to consider the volume of retail floorspace that can be delivered across a one mile grid.

MacroPlan has undertaken an assessment of supportable retail floorspace across a one mile grid catchment according to the following parameters:

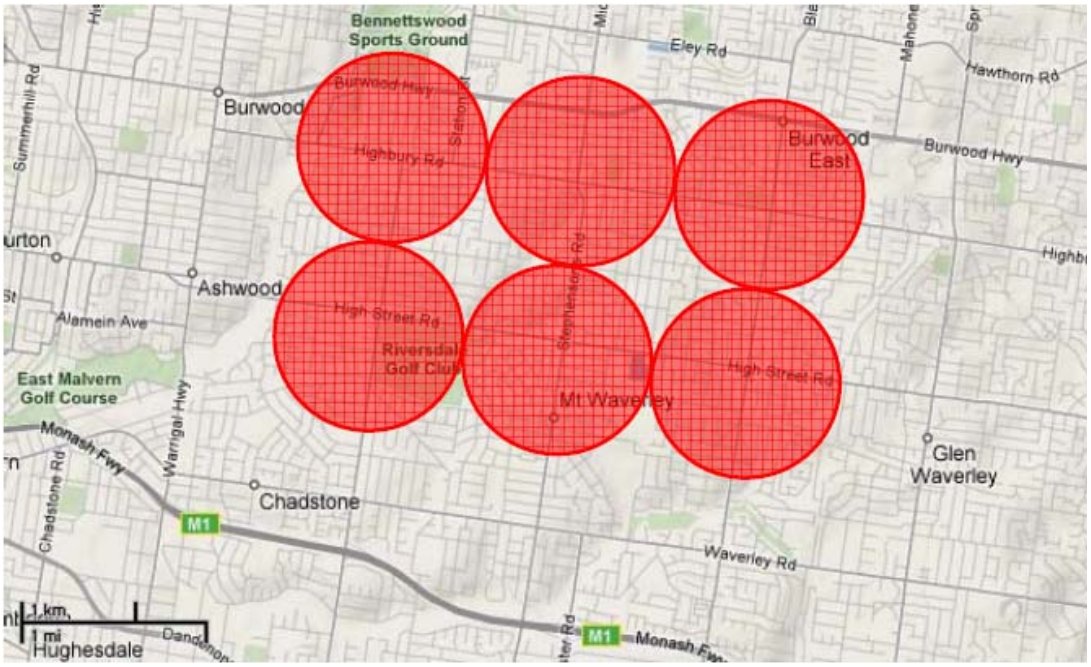
- A one mile grid provides 2,560,000sqm of developable land or 256 hectares.
- Assuming between 15 and 17 dwellings per hectare (gross) is achieved between 3,840 dwellings and 4,352 dwellings can be supported.
- This would achieve a resident population of between 9,600 and 10,880.
- This would support a supermarket expenditure pool of between $36 and $41 million.
- Assuming the catchment achieved a 50% market share of expenditure, between 3,000 and 3,400sqm of supermarket floorspace could be provided with an accompanying 1,200 to 1,400sqm of speciality retailing.

However this analysis again is highly dependent on where in the catchment the LAC is located. A centrally located or inboard LAC would pull trade from all corners of the one mile grid and restrict the performance of LACs located on the grids boundary.

Conversely up to four LACs or a combination of LACs and NACs could be provided on the perimeters of the grid (at key intersections) to source trade from either existing development or adjoining land parcels.

The figure below provides a possible outcome in the established suburbs of Mt Waverley and Glen Waverley in Melbourne. This area provides a traditional one mile grid layout, however local road patterns are not conducive to direct walkability. The red circles depict an 800 metre equidistant radius on the corner of main roads. These centres would provide residents in the catchment with convenient access and would have the opportunity to capture passing trade.

Figure 3. A possible locality structure for LACs



Source: MacroPlan Australia (2009).

The figure shows that a significant proportion of residents will sit within a walkable catchment if a grid system for local roads was provided[4]. However there will be a number of residents that will sit further than a walkable catchment.

This issue could be resolved by consideration of:

- Inboard local shops later in the development cycle
- The co-location of these local shops with schools and sporting facilities to promote expenditure from outside the trade area.

8.2 Conclusion

The size of centres that will serve local walkable catchments will be in the order of 3,000sqm with 2,000sqm to 2,500sqm supermarkets (depending on achieved gross residential densities).

LACs in inboard locations will only support smaller supermarkets providing up to 800sqm of supermarket floorspace. Market players in these centres in Victoria currently only include IGA, Foodworks, Aldi and Independent supermarkets.

[4] There is a general acceptance that a grid system of local roads enhances the proportion of residents that sit within an equidistant 800 metre catchment.

Coles supermarkets recently provided to the market are rarely below 3,000sqm and Safeway supermarkets are generally more than 3,500sqm in growth area locations.

The size of supermarkets is increasing due to the offering of a wider number of lines, however much of the expansion is in non-food retailing as 'full-line supermarkets' attempt to compete with Discount Department Stores in larger centres. However, there is no evidence to suggest that this framework is providing a better outcome for consumers.

It is important for the State Government to recognise that the market will have the capacity to adjust to a new regulation environment. Full-line supermarkets are delivered at sizes of more than 3,000sqm to promote economies of scale and the current business models of the Coles Group and Woolworths.

However, if policy promotes the delivery of smaller centres in appropriate locations, market players will need to adapt their existing business model or risk a significant loss of market share to independent operators.

8.2.1 Lot sizing for LACs

It is also important for the State Government to consider the most appropriate sizing for LACs that may provide between 2,000 and 3,000sqm of retail floorspace. Depending on whether a Main Street configuration or traditional centre configuration was delivered lot sizes would equate to the following mix.

- 2,000sqm GLA – up to a 8,000sqm site (split into allotments of 4,000sqm on each street side in a Main Street configuration – including parking)
- 3,000sqm GLA – up to 1.5 hectare (or split into allotments of 5,000sqm on each street side in a Main Street configuration – including Parking)

These allotments could include supply of other business activities, community centres and libraries in a local centre format.

Appendix 1 - LAC sizing in Melbourne's Metropolitan Growth Areas

Wyndham Growth Area - 15 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arterial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	15	15	15
Assumed Net Density (households per Ha)	21	21	21
Households in Catchment	3,014	3,014	3,014
Household Size	2.5	2.5	2.5
Population in Catchment	7,536	7,536	7,536
Expenditure per person ($/person)			
Supermarket	3,748	3,748	3,748
Catering (Restaurant and Café')	1,453	1,453	1,453
Clothing and Accessories	1,170	1,170	1,170
Services	375	375	375
Newsagent and Chemist	669	669	669
Bottle-shop	515	515	515
Expenditure Pool ($m)			
Supermarket	28	28	28
Speciality	32	32	32
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,757	3,757	3,757
Speciality	7,329	7,329	7,329
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	751	1,315	2,066
Speciality	513	586	880
Total	1,264	1,901	2,946
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,264	1,901	2,946
BTA	126	228	442
Total Development Potential (m2)	1,391	2,129	3,388
Supermarket	827	1,473	2,376
Speciality	564	657	1,011

Source: MacroPlan Australia (2009).

Wyndham Growth Area - 17 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	17	17	17
Assumed Net Density (households per Ha)	24	24	24
Households in Catchment	3,416	3,416	3,416
Household Size	2.5	2.5	2.5
Population in Catchment	8,541	8,541	8,541
Expenditure per person ($/person)			
Supermarket	3,748	3,748	3,748
Catering (Restaurant and Café')	1,453	1,453	1,453
Clothing and Accessories	1,170	1,170	1,170
Services	375	375	375
Newsagent and Chemist	669	669	669
Bottle-shop	515	515	515
Expenditure Pool ($m)			
Supermarket	32	32	32
Speciality	36	36	36
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	4,258	4,258	4,258
Speciality	8,306	8,306	8,306
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	852	1,490	2,342
Speciality	581	665	997
Total	1,433	2,155	3,339
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,433	2,155	3,339
BTA	143	259	501
Total Development Potential (m2)	1,576	2,413	3,839
Supermarket	937	1,669	2,693
Speciality	640	744	1,146

Source: MacroPlan Australia (2009).

Melton Growth Area - 15 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arterial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	15	15	15
Assumed Net Density (households per Ha)	21	21	21
Households in Catchment	3,014	3,014	3,014
Household Size	2.5	2.5	2.5
Population in Catchment	7,536	7,536	7,536
Expenditure per person ($/person)			
Supermarket	3,658	3,658	3,658
Catering (Restaurant and Café')	1,418	1,418	1,418
Clothing and Accessories	1,115	1,115	1,115
Services	357	357	357
Newsagent and Chemist	634	634	634
Bottle-shop	486	486	486
Expenditure Pool ($m)			
Supermarket	28	28	28
Speciality	30	30	30
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,667	3,667	3,667
Speciality	7,028	7,028	7,028
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	733	1,283	2,017
Speciality	492	562	843
Total	1,225	1,846	2,860
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,225	1,846	2,860
BTA	123	221	429
Total Development Potential (m2)	1,348	2,067	3,289
Supermarket	807	1,437	2,319
Speciality	541	630	970

Source: MacroPlan Australia (2009).

Melton Growth Area - 17 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	17	17	17
Assumed Net Density (households per Ha)	24	24	24
Households in Catchment	3,416	3,416	3,416
Household Size	2.5	2.5	2.5
Population in Catchment	8,541	8,541	8,541
Expenditure per person ($/person)			
Supermarket	3,658	3,658	3,658
Catering (Restaurant and Café')	1,418	1,418	1,418
Clothing and Accessories	1,115	1,115	1,115
Services	357	357	357
Newsagent and Chemist	634	634	634
Bottle-shop	486	486	486
Expenditure Pool ($m)			
Supermarket	31	31	31
Speciality	34	34	34
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	4,156	4,156	4,156
Speciality	7,965	7,965	7,965
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	831	1,454	2,286
Speciality	558	637	956
Total	1,389	2,092	3,241
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,389	2,092	3,241
BTA	139	251	486
Total Development Potential (m2)	1,528	2,343	3,728
Supermarket	914	1,629	2,628
Speciality	613	714	1,099

Source: MacroPlan Australia (2009).

Cardinia Growth Area - 15 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arterial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	15	15	15
Assumed Net Density (households per Ha)	21	21	21
Households in Catchment	3,014	3,014	3,014
Household Size	2.5	2.5	2.5
Population in Catchment	7,536	7,536	7,536
Expenditure per person ($/person)			
Supermarket	3,666	3,666	3,666
Catering (Restaurant and Café')	1,224	1,224	1,224
Clothing and Accessories	1,017	1,017	1,017
Services	314	314	314
Newsagent and Chemist	590	590	590
Bottle-shop	503	503	503
Expenditure Pool ($m)			
Supermarket	28	28	28
Speciality	27	27	27
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,675	3,675	3,675
Speciality	6,393	6,393	6,393
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	735	1,286	2,021
Speciality	448	511	767
Total	1,182	1,798	2,788
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,182	1,798	2,788
BTA	118	216	418
Total Development Potential (m2)	1,301	2,013	3,207
Supermarket	808	1,441	2,324
Speciality	492	573	882

Source: MacroPlan Australia (2009).

Cardinia Growth Area - 17 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	17	17	17
Assumed Net Density (households per Ha)	24	24	24
Households in Catchment	3,416	3,416	3,416
Household Size	2.5	2.5	2.5
Population in Catchment	8,541	8,541	8,541
Expenditure per person ($/person)			
Supermarket	3,666	3,666	3,666
Catering (Restaurant and Café')	1,224	1,224	1,224
Clothing and Accessories	1,017	1,017	1,017
Services	314	314	314
Newsagent and Chemist	590	590	590
Bottle-shop	503	503	503
Expenditure Pool ($m)			
Supermarket	31	31	31
Speciality	31	31	31
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	4,165	4,165	4,165
Speciality	7,246	7,246	7,246
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	833	1,458	2,291
Speciality	507	580	869
Total	1,340	2,037	3,160
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,340	2,037	3,160
BTA	134	244	474
Total Development Potential (m2)	1,474	2,282	3,634
Supermarket	916	1,633	2,634
Speciality	558	649	1,000

Source: MacroPlan Australia (2009).

Casey Growth Area - 15 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arterial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	15	15	15
Assumed Net Density (households per Ha)	21	21	21
Households in Catchment	3,014	3,014	3,014
Household Size	2.5	2.5	2.5
Population in Catchment	7,536	7,536	7,536
Expenditure per person ($/person)			
Supermarket	3,718	3,718	3,718
Catering (Restaurant and Café')	1,420	1,420	1,420
Clothing and Accessories	1,120	1,120	1,120
Services	348	348	348
Newsagent and Chemist	596	596	596
Bottle-shop	515	515	515
Expenditure Pool ($m)			
Supermarket	28	28	28
Speciality	30	30	30
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,727	3,727	3,727
Speciality	7,008	7,008	7,008
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	745	1,304	2,050
Speciality	491	561	841
Total	1,236	1,865	2,891
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,236	1,865	2,891
BTA	124	224	434
Total Development Potential (m2)	1,360	2,089	3,324
Supermarket	820	1,461	2,357
Speciality	540	628	967

Source: MacroPlan Australia (2009).

Casey Growth Area - 17 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	141	141	141
Assumed Gross Density (households per Ha)	17	17	17
Assumed Net Density (households per Ha)	24	24	24
Households in Catchment	3,416	3,416	3,416
Household Size	2.5	2.5	2.5
Population in Catchment	8,541	8,541	8,541
Expenditure per person ($/person)			
Supermarket	3,718	3,718	3,718
Catering (Restaurant and Café')	1,420	1,420	1,420
Clothing and Accessories	1,120	1,120	1,120
Services	348	348	348
Newsagent and Chemist	596	596	596
Bottle-shop	515	515	515
Expenditure Pool ($m)			
Supermarket	32	32	32
Speciality	34	34	34
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	4,224	4,224	4,224
Speciality	7,943	7,943	7,943
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	845	1,478	2,323
Speciality	556	635	953
Total	1,401	2,114	3,276
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	12%	15%
Turnover Sources ($m)			
PTA	1,401	2,114	3,276
BTA	140	254	491
Total Development Potential (m2)	1,541	2,367	3,768
Supermarket	929	1,656	2,672
Speciality	612	712	1,096

Source: MacroPlan Australia (2009).

Appendix 2 - LAC sizing in Victorian Regional Growth Areas

Shepparton Growth Area - 10 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	10	10	10
Households in Catchment	1,809	1,809	1,809
Household Size	2.5	2.5	2.5
Population in Catchment	4,522	4,522	4,522
Expenditure per person ($/person)			
Supermarket	4,424	4,424	4,424
Catering (Restaurant and Café')	910	910	910
Clothing and Accessories	1,222	1,222	1,222
Services	320	320	320
Newsagent and Chemist	743	743	743
Bottle-shop	565	565	565
Expenditure Pool ($m)			
Supermarket	20	20	20
Speciality	17	17	17
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	2,661	2,661	2,661
Speciality	3,955	3,955	3,955
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	532	931	1,463
Speciality	277	316	475
Total	809	1,248	1,938
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	809	1,248	1,938
BTA	81	250	581
Total Development Potential (m2)	890	1,497	2,519
Supermarket	585	1,118	1,903
Speciality	305	380	617

Source: MacroPlan Australia (2009).

Shepparton Growth Area - 12 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	12	12	12
Households in Catchment	2,170	2,170	2,170
Household Size	2.5	2.5	2.5
Population in Catchment	5,426	5,426	5,426
Expenditure per person ($/person)			
Supermarket	4,424	4,424	4,424
Catering (Restaurant and Café')	910	910	910
Clothing and Accessories	1,222	1,222	1,222
Services	320	320	320
Newsagent and Chemist	743	743	743
Bottle-shop	565	565	565
Expenditure Pool ($m)			
Supermarket	24	24	24
Speciality	20	20	20
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,193	3,193	3,193
Speciality	4,745	4,745	4,745
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	639	1,118	1,756
Speciality	332	380	569
Total	971	1,497	2,326
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	971	1,497	2,326
BTA	97	299	698
Total Development Potential (m2)	1,068	1,797	3,023
Supermarket	702	1,341	2,283
Speciality	365	456	740

Source: MacroPlan Australia (2009).

Bendigo Growth Area - 10 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	10	10	10
Households in Catchment	1,809	1,809	1,809
Household Size	2.5	2.5	2.5
Population in Catchment	4,522	4,522	4,522
Expenditure per person ($/person)			
Supermarket	4,490	4,490	4,490
Catering (Restaurant and Café')	922	922	922
Clothing and Accessories	1,261	1,261	1,261
Services	338	338	338
Newsagent and Chemist	794	794	794
Bottle-shop	583	583	583
Expenditure Pool ($m)			
Supermarket	20	20	20
Speciality	18	18	18
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	2,700	2,700	2,700
Speciality	4,100	4,100	4,100
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	540	945	1,485
Speciality	287	328	492
Total	827	1,273	1,977
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	827	1,273	1,977
BTA	83	255	593
Total Development Potential (m2)	910	1,528	2,570
Supermarket	594	1,134	1,931
Speciality	316	394	640

Source: MacroPlan Australia (2009).

Bendigo Growth Area - 12 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	12	12	12
Households in Catchment	2,170	2,170	2,170
Household Size	2.5	2.5	2.5
Population in Catchment	5,426	5,426	5,426
Expenditure per person ($/person)			
Supermarket	4,490	4,490	4,490
Catering (Restaurant and Café')	922	922	922
Clothing and Accessories	1,261	1,261	1,261
Services	338	338	338
Newsagent and Chemist	794	794	794
Bottle-shop	583	583	583
Expenditure Pool ($m)			
Supermarket	24	24	24
Speciality	21	21	21
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,240	3,240	3,240
Speciality	4,919	4,919	4,919
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	648	1,134	1,782
Speciality	344	394	590
Total	992	1,528	2,372
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	992	1,528	2,372
BTA	99	306	712
Total Development Potential (m2)	1,092	1,833	3,084
Supermarket	713	1,361	2,317
Speciality	379	472	767

Source: MacroPlan Australia (2009).

Geelong Growth Area - 10 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	10	10	10
Households in Catchment	1,809	1,809	1,809
Household Size	2.5	2.5	2.5
Population in Catchment	4,522	4,522	4,522
Expenditure per person ($/person)			
Supermarket	4,563	4,563	4,563
Catering (Restaurant and Café')	960	960	960
Clothing and Accessories	1,284	1,284	1,284
Services	355	355	355
Newsagent and Chemist	828	828	828
Bottle-shop	599	599	599
Expenditure Pool ($m)			
Supermarket	21	21	21
Speciality	18	18	18
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	2,744	2,744	2,744
Speciality	4,234	4,234	4,234
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	549	960	1,509
Speciality	296	339	508
Total	845	1,299	2,017
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	845	1,299	2,017
BTA	85	260	605
Total Development Potential (m2)	930	1,559	2,623
Supermarket	604	1,153	1,962
Speciality	326	406	661

Source: MacroPlan Australia (2009).

Geelong Growth Area - 12 dwellings per hectare

Scenario	1	2	3
Type			
Size	Small Supermarket	Medium Supermarket	Medium Large Supermarket
Location	Local Roads	At least one arerial	Major arterials
VPD	5,000	12,000	25,000
Catchment			
Catchment (radius, m)	800	800	800
Catchment (Ha)	201	201	201
Catchment (Ha), Constrained	181	181	181
Assumed Density (households per Ha)	12	12	12
Households in Catchment	2,170	2,170	2,170
Household Size	2.5	2.5	2.5
Population in Catchment	5,426	5,426	5,426
Expenditure per person ($/person)			
Supermarket	4,563	4,563	4,563
Catering (Restaurant and Café')	960	960	960
Clothing and Accessories	1,284	1,284	1,284
Services	355	355	355
Newsagent and Chemist	828	828	828
Bottle-shop	599	599	599
Expenditure Pool ($m)			
Supermarket	25	25	25
Speciality	22	22	22
RTD ($/m2)			
Supermarket	7,518	7,518	7,518
Speciality	4,300	4,300	4,300
Sustainable Floorspace (m2)			
Supermarket	3,293	3,293	3,293
Speciality	5,081	5,081	5,081
Market Shares (%)			
Supermarket	20%	35%	55%
Speciality	7%	8%	12%
PTA Supportable (m2)			
Supermarket	659	1,153	1,811
Speciality	356	406	610
Total	1,014	1,559	2,421
Turnover Sources (%)			
PTA	90%	80%	70%
BTA	10%	20%	30%
Turnover Sources ($m)			
PTA	1,014	1,559	2,421
BTA	101	312	726
Total Development Potential (m2)	1,116	1,871	3,147
Supermarket	724	1,383	2,355
Speciality	391	488	793

Source: MacroPlan Australia (2009).