Merri Community Health Services

Food security in Moreland: A needs assessment

MORELAND FOOD ACCESS PROJECT

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NOTES:

In early 2009, Moreland Community Health Service became known as Merri Community Health Services Ltd. Moreland Community Health Service is used throughout this document.

All information contained in this report was correct at the time each part of the study was conducted in 2007-08.

This document is also available in PDF format on the internet at
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Table of Contents

Figures and Tables

Figures

Tables

Summary

Introduction

'Food security' refers to the ability of all people to regularly access healthy, affordable, culturally appropriate and safe food *without* the use of emergency food relief. Victorian data shows that approximately 10,500 Moreland residents (7.8%) ran out of food in the previous 12 months, a substantially higher proportion than the Victorian (6.0%) and North Western metropolitan (6.3%) averages[i].

Following preliminary research in 2006, 'access to nutritious foods' was included as a Health Promotion Priority for Moreland Community Health Service (MCHS). The 'Food Security in Moreland' study was conducted during 2007 and 2008 to investigate food insecurity in Moreland. The objectives of the study were:

1. To develop an understanding of the local food supply and other internal and external factors that influence food security within the City of Moreland.
2. To identify particular population groups and geographic areas within Moreland in which there is the greatest need.
3. To identify potential activities and partnerships to relieve poor food access for Moreland residents.

Methods

A range of methods were employed to gather relevant information for the needs analysis:

- Analysis of demographic characteristics of Moreland suburbs
- Survey of prices for a standard Healthy Food Basket
- Audit of food retail outlets
- Review of food production in Victoria
- Review of public transport routes to shopping centres
- Review of Moreland City Council policies in the context of food security
- Identification of local food resources
- Household survey of food security

Brief results and discussion

Objective 1: To develop an understanding of the local food supply and other internal and external factors that influence food security within the City of Moreland

- The retail audit showed a gross over-representation of takeaway and alcohol outlets compared with fresh fruit and vegetable outlets. There were 208 takeaway food outlets and 53 outlets selling takeaway alcohol, outnumbering the 36 fruit and vegetables outlets. Furthermore, spatial analysis of the retail outlet data showed that most residential areas were within 400m of a takeaway and/or alcohol outlet but few residential areas had similar access to fresh fruits and vegetables.
- Access to food outlets by public transport differed across Moreland. Supermarkets in Brunswick and Coburg were accessible via tram, train or bus whereas most supermarkets in the northern suburbs were serviced primarily by buses. Buses had more variable hours of service and were generally less frequent than either trains or trams, making them more onerous to use for food shopping. Using public transport for grocery shopping posed additional challenges for people with limited mobility.
- The Healthy Food Basket survey revealed price variances across Moreland from 25% above the average cost, to 18% below. Those who are unable to travel to a more affordable supermarket are at a great disadvantage.
- Assessment of the current Moreland City Council Council Plan 2007-2011 revealed many opportunities for local council to influence food security including advocacy on relevant issues (such as housing and public transport) and ensuring the stability and vitality of local shopping centres.

Objective 2: To identify particular population groups and geographic areas within Moreland in which there is the greatest need.

- Coburg North, Fawkner and Glenroy had the greatest prevalence of risk factors for food insecurity due to high proportions of elderly residents, high unemployment, lower incomes and a high proportion of households with residents requiring assistance with self-care activities.
- Coburg North was found to have a severely limited food supply and expensive fruit and vegetables. This suburb is also poorly serviced by public transport. In Glenroy and Fawkner food supply was found to be centralized around the major shopping strips. These areas were difficult to access for residents who did not live within easy walking distance (more than 400m).
- Results from the Household Food Security Survey (N=210) indicated that almost half of the respondents had run out of food in the previous 12 months and were unable to afford to buy more. In addition, one-third of these people reported food scarcity at least monthly. More than one-quarter of food insecure respondents lived with children. More than 82% of food insecure respondents were in reliant on Centrelink benefits.

Objective 3: To identify potential activities and partnerships to relieve poor food access for Moreland residents.

- Strategies to improve food security in Moreland will require a cross-sectoral approach with multiple partners including local Council, MCHS, emergency food relief agencies, local businesses and non-government organizations (such as Cultivating Community and various welfare groups). Some of these interventions will improve the food supply, others will help residents to better access and utilise the available food supply. Responses from the Household Food Security Survey and stakeholder consultations identified the following strategies:

▪ assistance with transport and shopping	▪ a guide to affordable shops
▪ a local fruit and vegetable market	▪ assistance with budgeting
▪ re-distributing excess produce from home gardens	▪ inclusion of fruit and vegetables in emergency food relief
▪ supporting people to grow their own food	

Recommendations

(1) Governance of the Moreland Food Access Project

- Expand the membership and re-assess the function of the MFAP reference group to include agencies involved in addressing food security and related risk factors.
- The previous advisory role of the group should be expanded to focus on delivery of a coordinated response to reducing food insecurity in Moreland.

(2) Potential interventions

- Activities to promote food security should be based primarily in Fawkner, Glenroy and Coburg North, with recognition that there may be pockets of high need in other suburbs and in specific population groups (e.g. people who are homeless).
- A multi-strategy approach is required to address the complex factors that contribute to food insecurity. Interventions should address the following areas:
  - Building individuals skills: budgeting knowledge and home growing skills, community kitchens.
  - Strengthening community action: fruit and vegetable swaps, community gardens, networks of home growers.
  - Supportive settings and environment: improving access to public transport, appropriate retail planning, improving physical access to shops.
  - Supportive policy: working with retailers to promote local fresh food outlets and increase availability of grocery home delivery, advocacy on grocery prices and welfare payment amounts.
  - Health and welfare services: commit to a collaborative partnership that will actively progress food security.

(3) Further research

- Exploration into the dietary implications of food insecurity, particularly in children.
- Refinement and validation of the MFAP tools and methods.

Introduction

The term food security refers to the ability of all people to regularly access healthy, affordable, culturally appropriate and safe food *without* the use of emergency food relief. Food security is achieved when there is adequate food supply in the community and households have the necessary resources to acquire and use that food[ii]. While access to food is a fundamental human right, strong evidence has emerged over the last 12 years that many Australians struggle to feed themselves.

Immediate issues arising from poor food access include anxiety, hunger and lack of energy however the longer term results of poor food access are more dire. Research has shown that people who experience food insecurity are more likely to be overweight or obese[iii], feel excluded from society and powerless[iv] and consume a diet inconsistent with recommendations for good health. Children who are raised in a food insecure household may be at risk of nutritional deficiencies in key nutrients required for proper growth and development.

In light of the growing epidemic of diet-related disease and enormous investment in healthy lifestyle programs, an understanding of food access issues and appropriate interventions to address the problem are required before those most at risk of diet-related disease are able to live in line with healthy lifestyle recommendations. No amount of education will stem the rise in diet-related health problems if people are unable to access the food required to live a healthy life.

Food security has been identified by National and State government departments as a nutritional priority. Eat Well Australia[v] and Healthy Weight 2008[vi] both recognise that people from low-socioeconomic groups are at greater risk of poor food access and obesity and overweight. The Victorian government has developed its nutrition agenda in line with Eat Well Australia with a focus on determinants-based health promotion approaches, including investment in two food security demonstration projects in 2001. Following this, VicHealth has funded 8 metropolitan and regional centres to implement 5-year food security projects, due for completion in 2010.

The Moreland municipality is located in northern metropolitan Melbourne with an area of 51 square kilometres. With a population of more than 135 000, Moreland is also one of Melbourne's most densely populated and diverse communities. Residents born overseas make up 32% of the population with 28% of those coming from non-English speaking backgrounds. Moreland has a large population of people from Italy, Greece, Lebanon and the United Kingdom. Moreland is ranked 7th of all Melbourne municipalities for the SEIFA index of relative disadvantage,[vii] indicating high levels of unemployment, limited education and unskilled employment and low income. Factors such as these, along with the high rate of poor English proficiency of residents and the large proportion of elderly residents indicate that food insecurity is likely to be an issue for some parts of the Moreland population.

Victorian data shows that 7.8% of Moreland residents (10500 people) ran out of food in the previous 12 months, a substantially higher rate than the Victorian average of 6% and the North Western metropolitan rate of 6.3%[viii]. This is likely to be an understatement of the issue, however, as only adults were surveyed. If one were to assume each adult had one dependent, the real figure is likely to be in excess of 21000 people going without food in Moreland. Participation in this research was also dependent on the availability of a phone service so it is likely that those with particularly low incomes or insecure housing were not included in the survey.

Following some preliminary research by a student in 2006, 'access to nutritious foods' was made a Moreland Community Health Service (MCHS) Health Promotion priority, with a dedicated 0.6EFT worker, recruited in March 2007. Throughout 2007 and 2008 the Moreland Food Access Project (MFAP) carried out research regarding food insecurity in Moreland.

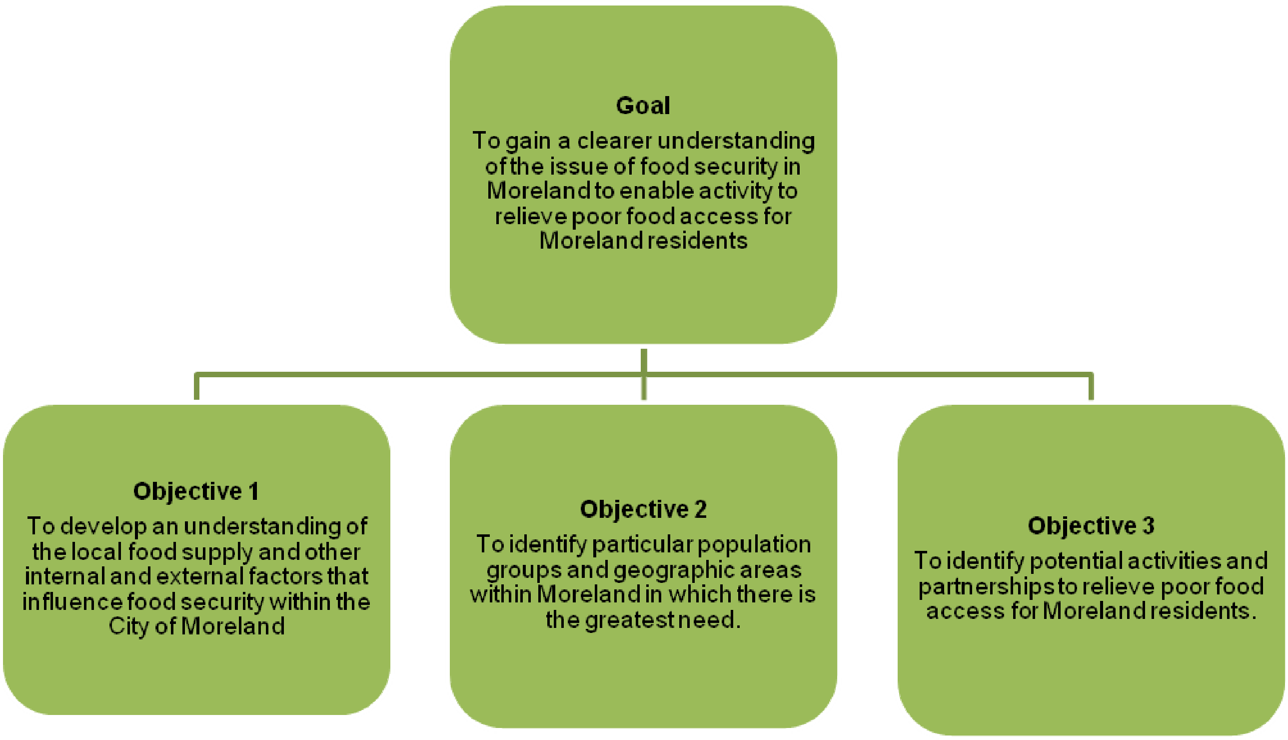
The primary objectives of the study were not only to assess the severity of the issue but to also identify the opportunities for, and barriers to, interventions to address the issue. The study sought to identify partners for action and also to asses some of the broader influences on food security within the City of Moreland, such as Council policy and Victorian agricultural production.

A consistent and comprehensive food security assessment tool was not available, with communities throughout Victoria and Australia using different methods to assess the issue. An additional task of this study was to trial a thorough food security assessment framework that could be utilised throughout the country to provide consistency in food security assessment and therefore the ability to compare food security status between regions.

On completion of the study, the Moreland Food Access Project was able to not only describe the extent and severity of food insecurity in Moreland but also identify potential interventions, opportunities for partnership for future action and the need for further research.

Goal and Objectives

The direction of the study was governed by the goals and objectives decided upon before research commenced.



Methods

Multiple methods were employed to evaluate a number of internal and external influences on food security in the City of Moreland. The MFAP set out to investigate community food security and household food security in Moreland. Community food security is influenced by the local food supply and related factors that can act as strengths to promote food security, or weaknesses that limit food security. An assessment of the local food supply was conducted alongside a review of state-wide agricultural production and relevant local government policy. This was followed by an investigation of the household food security of community members who may be at risk of poor food access.

Demographic characteristics of suburbs within the City of Moreland

There are several key characteristics of a community that increase the likelihood of poor food access and food insecurity. These include the socio-economic index of disadvantage, low income, age of residents and access to transport.

Using 2006 Census data, each Moreland suburb was assessed on the basis of 10 characteristics (Table 1) that may increase the likelihood of food insecurity. People living on low incomes are considered at risk of food insecurity due to the limited economic resources with which they need to meet all costs of living[ix]. The percentage of residents in each suburb that were in the lowest household weekly income quartile was recorded, as were the rates of unemployment in each suburb. Single parent households and lone person households were also included due to the greater percentage of income that is required to meet basic living expenses such as housing. As there is a strong link between low socio-economic status and food insecurity,[x] the SEIFA Index of Relative Disadvantage for each suburb was also used as an overview of the level of disadvantage experienced by residents in each area.

Elderly residents, those with mental health issues and other disabilities or ill health are also at greater risk of food insecurity due to direct impacts on their ability to physically access food or due to low incomes as described earlier.[xi] The percentage of residents in the highest age brackets in each suburb was included in this study. Census data regarding the percentage of households in which at least one person requires assistance with self care activities was used to represent the number of households for which low income or physical access issues may influence food security in each suburb. Poor English proficiency and arrival in Australia between 2001 and 2006 were factors used to give an overall view of the percentage of overseas born residents for which food security may be an issue.

Table 1: Demographic characteristics assessed and their relationships to food insecurity

Demographic characteristic	Relationship to food insecurity
Low income	Limited economic resources to meet all basic living costs and related disadvantages that may impact on access to food including limited transport or unsuitable food preparation/storage facilities.
Rate of unemployment	Limited economic resources as above.
Single parent households	Limited economic resources as above and only one adult income in which to support family.
Lone person households	Limited economic resources as above and greater percentage of income required for housing than those in a shared household.
SEIFA Index of relative socio-economic disadvantage	Reflects the level of disadvantage experienced by the community in relation to income, education, unemployment and employment in low-skilled occupations and the level of public rental housing. The more disadvantaged an area, the lower the SEIFA Index score.
Elderly residents	Frail elderly residents are at greater risk frequently due to low incomes and the dependence on others to provide their food or assist with food shopping and preparation.

Demographic characteristic	Relationship to food insecurity
Poor English proficiency	People from non-English speaking backgrounds (particularly refugees) often experience multiple difficulties leading to food insecurity including low incomes, difficulty navigating the Australian food system and problems sourcing traditional ingredients.
Overseas born residents arriving 2001-2006	People from non-English speaking backgrounds (particularly refugees) often experience multiple difficulties leading to food insecurity including low incomes, difficulty navigating the Australian food system and problems sourcing traditional ingredients. These problems are likely to be most prevalent in groups who have recently arrived in Australia.
Lack of car ownership	Limited ability to access shops beyond walking distance, particularly if public transport is poor.
Households with at least one member requiring assistance with self care activities	Disability and ill health can limit food security by resulting in low incomes, different nutritional requirements and limiting physical access to shops and ability to cook for oneself.

Using 2006 Census data, each suburb of Moreland was assessed for each of these characteristics to identify suburbs that have some of the basic demographics common to communities that frequently experience poor food access.

As there were 12 suburbs studied, suburbs were rated for each characteristic from 1-12. The suburb with the lowest prevalence for a particular risk factor was assigned the number one with the suburb with the next lowest prevalence assigned the number two and so on. If two suburbs showed the same prevalence of a particular risk factor, they were assigned the same number (for example both suburbs assigned the number 3 for showing the equal 3rd lowest prevalence). Therefore for some factors, the maximum score was less than 12. Scores for each suburb for all risk factors were then added to provide an overall score of prevalence of risk factors in each suburb, with the lowest score showing the lowest prevalence of risk factors and the highest score showing the highest prevalence of risk factors.

Food retail outlet audit

Retail districts throughout Moreland were identified using the Melway (2007 edition). Shops and retail districts are highlighted orange in the Melway, allowing even single shops to be identified. Most stores within the City of Moreland whose primary purpose was the sale of food were visited and mapped using GIS software. As the purpose of the audit was to assess the availability of food for home consumption, only those stores that sold ingredients for home cooking or take-home meals were assessed. Therefore, restaurants were only included in the audit if they provided take-away service. Stores included were milk bars, delicatessens, supermarkets, cafes, restaurants with takeaway service, fast food outlets, greengrocers, butchers, fishmongers and bakeries.

Each store was visited and the type of food sold was noted. Stores were categorized as fresh food, takeaway, café, bakery, supermarket, mixed business or other according to criteria set out in the mapping tool (see Appendix 1). There were 13 types of food categories included on the survey tool (Table 2) and the sale of any of these food groups was noted. Any other relevant details about the store or shopping strip were also noted. Alcohol outlets were also mapped. Only bottle shops and hotels with take-away alcohol were mapped as the focus was on food and alcohol consumed in the home.

Data was analysed using Microsoft Excel 2007. Where population figures were used to calculate outlet density per 1000 persons, calculations for Moreland-wide analysis utilised the Moreland population while suburban calculations were conducted using the appropriate suburban population only.

Collated data was mapped by Moreland City Council using Geographic Information System (GIS) software. Only data regarding takeaway outlets, fresh food outlets, alcohol outlets and supermarkets was mapped. A

400m buffer was included surrounding every store (or group of stores) to reflect convenient walking distance in line with Melbourne 2030 access to transport policy direction.

Table 2: Categories of food included on mapping tool.

Category	Typical foods included in this category
High fat/fried food	Pizza, fish and chips, chicken and chips.
Sandwiches	Sandwiches, wraps, focaccia.
Hot meals	Ready-to-eat items such as pasta dishes, rice and curry/casserole dishes.
Fruit	Any type of fruit. Type to be specified: i.e. Canned, fresh, dried.
Vegetables	Any type of vegetables. Type to be specified: i.e. Canned, fresh, frozen.
Meat/fish	Red meat, poultry, fish, deli meat.
Bread	Any type of bread.
Pasta/rice/grain	Any types of grains to be used in cooking.
Breakfast cereal	Any type of breakfast cereal.
Eggs	Eggs.
Milk	All types of milk except flavoured milk.
Yoghurt/cheese	All types of yoghurt/cheese
Alcohol	Take-away alcohol, not alcohol to be consumed on site.

Public transport services to shopping centres
Using information from Metlink,[xii] public transport routes throughout Moreland were examined. Data collected from the food retail outlet audit was combined with Metlink information about public transport routes that serviced supermarkets in Moreland. Services were assessed regarding their route, frequency of service and hours of service to describe access to major shopping centres via public transportation.

Healthy Food Basket Survey
The Victorian Healthy Food Basket survey tool[xiii] was used to assess the cost of a standard basket of goods (Appendix 2) across all eligible supermarkets within Moreland. Eligibility depended on the availability of all of the food groups assessed including fresh fruit and vegetables and fresh meat. When an item was not available at the store, the average price of the item from all the other stores was used. This was a variation on the guidelines set out in the VHFB tool, which recommends using prices from a reference store when an item is not available. Two supermarkets were not assessed using this tool. One of the stores did not stock fresh meat, while the other did not have prices displayed on the majority of items.

Local food resources
There are many local food resources that often go unnoticed by those working in food security. Although we are frequently aware of other not-for-profit work in the local area, there are many opportunities for cross-sectoral partnerships in food security where one of the primary influences is the local food supply. To identify local food resources and potential partnerships, an assessment of local food resources was undertaken. A database document was designed with several individual worksheets (Table 3) and recipients were asked to add any resources they were aware of in the local community. The worksheet was sent to all project mailing list members and they were asked to forward this on to any interested parties. This document was circulated twice in a 2 month period. Further information was gathered via the Moreland City Council Online Community Directory.[xiv]

Table 3: Categories of food resources investigated.

Category	Description
Free food	All agencies where food parcels, vouchers and/or free meals are given to residents who are unable to afford food. This also includes free school lunches and breakfasts.
Community gardens	Any gardens that are used by groups to grow food.
Shared backyards	Any group of people sharing a single backyard to grow food.
Fresh food markets	Any markets (retail, farmer's markets or volunteer run markets) in the Moreland region.
Open space for growing food	Any under-utilised areas in Moreland that could be suitable for growing food (i.e. As a community garden, orchard etc).
Experienced food growers	Any people that grow their own food and have particular expertise that could be used in a mentoring way through the Moreland Food Access Project.
Food manufacturers and wholesalers	Any business in the Moreland area that produces food items (such as commercial bakeries, cheese factories etc) or sells food products wholesale.
Farms in the region	Any farms within 100 km of Moreland that produce any type of food, including dairies and fisheries.
Food co-operatives	Any groups of people or store fronts operated by a cooperative designed to buy food in bulk and pass savings on to members.
Other food access initiatives	Any other activities that make it easier, more affordable and/or more environmentally sustainable to buy or grow food in the Moreland area (these may include cooking classes, buses to markets, workshops on vegetable growing etc.)

Food production in Victoria

An assessment of current food production throughout Victoria was undertaken to provide a broader perspective on the term ‘local food supply’. With limited oil supplies and a push to reduce carbon emissions, the production of food close to the point of consumption is an important issue in food security. Localisation of the food supply will need to occur in order to stem price hikes caused by increasing transportation and mass production costs and to stem the currently unsustainable level of carbon emissions.

Major agricultural production throughout Victoria was mapped using information from the Victorian Department of Primary Industries.

Food security in the context of Moreland City Council Policy

Local council policies can directly influence factors pertinent to food security including planning of retail districts, provision of community transport, use of public land and facilities and by-laws controlling food provision and other health and safety issues.

The Council Plan 2007-2011[xv] was assessed as departmental Council plans and policies follow the key priorities identified in this document. Other in-date policies and plans were also assessed but with acknowledgement that many of them are currently being updated to reflect the new Council plan. Council policies were accessed via the Moreland City Council website[xvi] and assessed regarding any influence they may have on food security within the City of Moreland. Policies were assessed on their potential influence on the available food supply and the ability of residents to make use of the food supply (refer to Table 4). No out of date policies were assessed.

Table 4: Assessment of Council policy influence on food security.

Factors influencing food supply	Factors influencing residents' use of food supply
Provision or support of food retail outlets/services	Support for at-risk communities (financial, physical, social support)
Transport/physical access to shops	Provision of community facilities for sharing food
Opportunities for the growing of food	Assistance regarding skills and knowledge relevant to acquiring and using food

Household food security survey

Household food security refers to the ability of households to utilise the community food resources to ensure an adequate and appropriate supply of food to household members. To assess household food security, a survey was developed to be distributed to those at risk of food insecurity (Appendix 3). Due to limited resources of the agencies administering the survey, it was designed to be a short 'tick-the-box' survey to encourage maximum response rate. The survey was designed to be completed with assistance from agency staff.

The survey was designed to assess the severity and frequency of food access issues, develop an understanding of the causes of the problem and common action taken by those suffering from poor food access. A question was included to assess the intake of the five food groups by people who identified as food insecure as well as those who stated they had no food access problems. Finally, respondents were asked to identify activities that would help them to access food more easily. Targeted community members included those accessing emergency food relief, those with disabilities, those accessing community health outreach services, people with mental health issues and the elderly.

Five hundred and eighty eight surveys were distributed along with the associated plain language statement. Seven local organizations were responsible for distributing surveys to their clients (Table 5). Staff were provided with instructions regarding administering the survey and data was collected over a 3 week period and analysed using Microsoft Excel 2007.

Table 5: Survey distribution.

Organisation	Clients	Number of surveys distributed
Moreland Community Health Service	Duty service clients, outreach clients, mental health clients	240
Moreland City Council	Meals on Wheels recipients	170
SCOPE	People with disabilities	8
Salvation Army - Glenroy	Emergency food relief recipients	50
Glenroy Community Information Centre	Emergency food relief recipients	50
Coburg Community Information Centre	Emergency food relief recipients	50
St Vincent de Paul	Community connections program participants	20

Results

Demographic characteristics of suburbs within the City of Moreland

Ten risk factors were investigated with suburbs rated 1-12 from lowest to highest prevalence for each risk factor (Table 6). For two risk factors, there were multiple suburbs with the same result (i.e. Pascoe Vale South and Brunswick West shared the same proportion of single parent households). When two suburbs shared the same result, they were assigned the same score (i.e. Equal second lowest prevalence). Therefore there were 8 risk factors for which 12 was the highest score (prevalence) available, one risk factor in which 9 was the highest score available and one risk factor in which 11 was the highest score available. Therefore the highest possible score available if one suburb was to show the highest prevalence of all risk factors would be 116. Use this figure to interpret the value of the overall score. For example, Fawkner scored 91 of 116 available points, showing an overall prevalence of food security risk factors of 78.44%.

Fawkner, Coburg North and Glenroy were the suburbs with the highest prevalence of food insecurity risk factors. With scores of 91, 88 and 84 respectively, these suburbs had more than four times the rate of risk factors of Gowanbrae, the suburb with the lowest prevalence of risk factors. The prevalence of low incomes, high unemployment, the number of elderly residents and the number of households requiring assistance with the self care activities of residents were the predominant risk factors in Coburg North, Fawkner and Glenroy. Several of these factors are reflected in the corresponding low SEIFA index of relative disadvantage for each of these suburbs. Fawkner showed the overall highest prevalence of six of the ten risk factors. Both Fawkner and Coburg North showed high rates of poor English proficiency and single parent households. Coburg North was also distinguished by low motor vehicle ownership.

Brunswick West showed the next highest prevalence of risk factors with an overall score of 74. Like Brunswick and Brunswick East, this suburb is home to many residents who do not own cars and who have arrived in Australia since 2001. Brunswick West also showed the fourth highest rate of unemployment. Hadfield followed Brunswick West with the 5th highest prevalence of risk factors. This was primarily due to a large number of residents on low incomes, substantial unemployment, a large number of households in which a carer was required and a large percentage of single parent households. Many of these factors are represented in the SEIFA index of relative disadvantage for Hadfield. The main risk factors identified in the Coburg population were poor English proficiency and the prevalence of newly arrived residents. Pascoe Vale is home to a large percentage of elderly residents, lone person households and households with at least one person requiring assistance with self care activities. A substantial proportion of the Pascoe Vale population also fell within the lowest household income quartile. Oak Park had a low prevalence of the majority of risk factors but scored higher in the prevalence of elderly and newly arrived residents. Gowanbrae showed the lowest prevalence of seven of the ten risk factors investigated, reflected in a small overall score of 19.

Table 6: Demographic characteristics of Moreland suburbs.

Determinant	Fawkner	Coburg North	Glenroy	Brunswick West	Hadfield	Coburg	Brunswick	Pascoe Vale	Brunswick East	Oak Park	Pascoe Vale South	Gowanbrae
Aged 70+ years	17.70%	14.50%	16.60%	9.90%	15.50%	10.30%	8.30%	16.50%	9.10%	13.70%	12.50%	1.70%
Overseas born residents arriving 2001-2006	13.20%	14.40%	15.80%	26.90%	7.30%	16.50%	26.50%	13.10%	20.80%	15.60%	9.20%	14.60%
Poor English proficiency	27.80%	24.60%	20.30%	18.50%	23.40%	24.20%	22.00%	17.00%	20.60%	10.50%	18.40%	13.60%
Lowest quartile of weekly household income	43.90%	35.80%	39.20%	30.40%	38.70%	29.20%	26.40%	32.40%	26.00%	25.70%	27.10%	11.70%
No motor vehicle	12.90%	15.60%	14.20%	19.30%	10.40%	14.10%	21.10%	11.30%	17.20%	9.00%	9.30%	2.90%
SEIFA index of Relative Disadvantage	905.7	945.6	925.8	1003.5	936.7	995.8	1022.6	1004.8	1031.4	1034.8	1039.1	1075.2
Households with at least one member requiring assistance with self care activities	8.40%	6.40%	8.00%	5.00%	6.50%	5.20%	4.40%	5.70%	4.10%	3.60%	4.00%	1.60%
Unemployment	9.50%	8.10%	7.20%	6.40%	6.20%	5.40%	5.70%	4.70%	5.00%	5.10%	4.10%	3.80%
Single parent households	17.80%	19.50%	21.10%	14.10%	18.60%	16.80%	13.70%	16.50%	14.80%	15.50%	14.10%	15.50%
Lone person households	21.60%	27.90%	27.50%	34.90%	23.10%	23.30%	28.20%	30.40%	26.30%	25.30%	23.10%	15.30%
Overall score	**91**	**88**	**84**	**74**	**72**	**68**	**64**	**61**	**54**	**38**	**32**	**19**
% of total points available (116)	**78.44%**	**75.86%**	**72.41%**	**63.79%**	**62.07%**	**58.62%**	**55.17%**	**52.59%**	**46.55%**	**32.76%**	**27.59%**	**16.38%**

Food retail outlet audit

A total of 572 stores were assessed in the food retail outlet audit. Takeaway outlets dominated the composition of outlets comprising of 36% (n=208) of all stores whose main purpose was the sale of food (Figure 1). The next highest category of store was mixed business (21.5%) which was primarily made up of milk bars and stores stocking grocery items. Stores categorized as cafes were the next most dominant type of outlet with a 14% (n=79) share in the food retail sector. There was a large disparity between the presence of cafes in northern and southern Moreland with Brunswick home to almost 42% of all cafes. More than 83% of all cafes were situated in Brunswick, Brunswick East, Brunswick West or Coburg. The northern suburbs of Glenroy, Hadfield and Fawkner were serviced by only 6 of the 79 cafes (7.59%) despite being home to more than 27% of Moreland's population. Fresh food outlets made up only 11.19% (n=68) of all food outlets in Moreland meaning that there are 3.25 takeaway outlets for every fresh food outlet within the City of Moreland. The majority of fresh food outlets were butchers (62.50%), followed by greengrocers (29.69%) and fishmongers (7.81%) as shown in Figure 2. Almost 10% of stores were classified as 'other'. Of these 55 stores, 32 were bottle shops selling takeaway alcohol and 15 were sweets shops. Bakeries made up 4.55% of stores with supermarkets comprising only 3% of all food stores in Moreland.

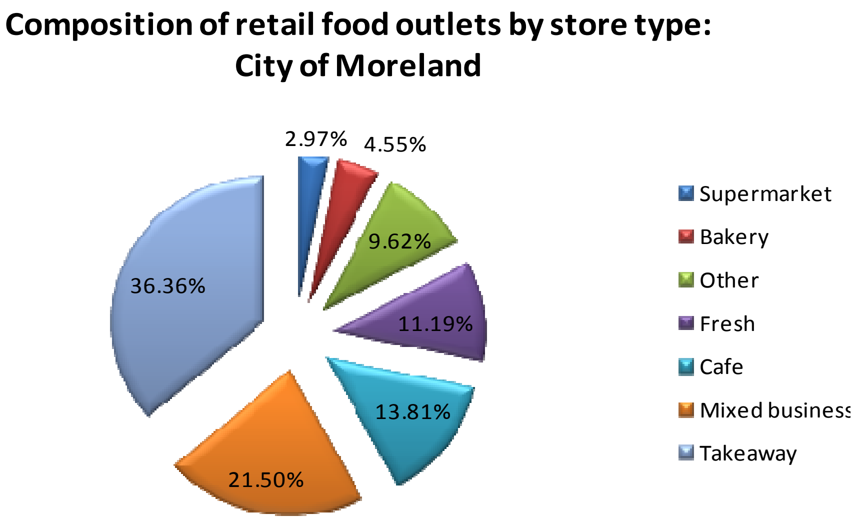


Figure 1: Composition of retail food outlets in the City of Moreland.

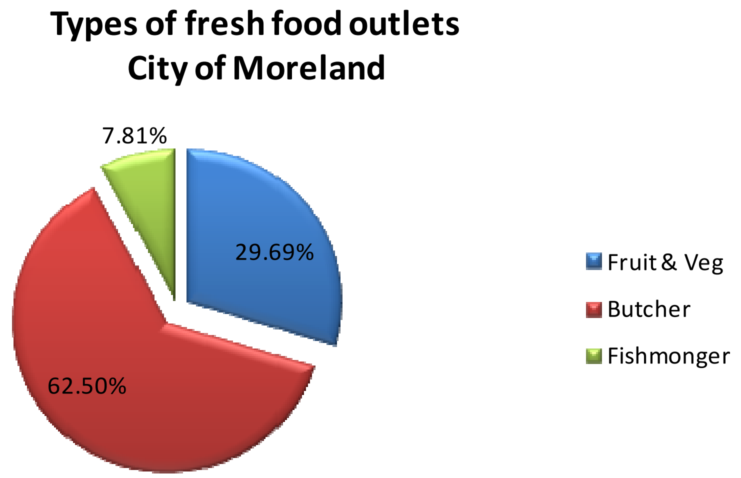
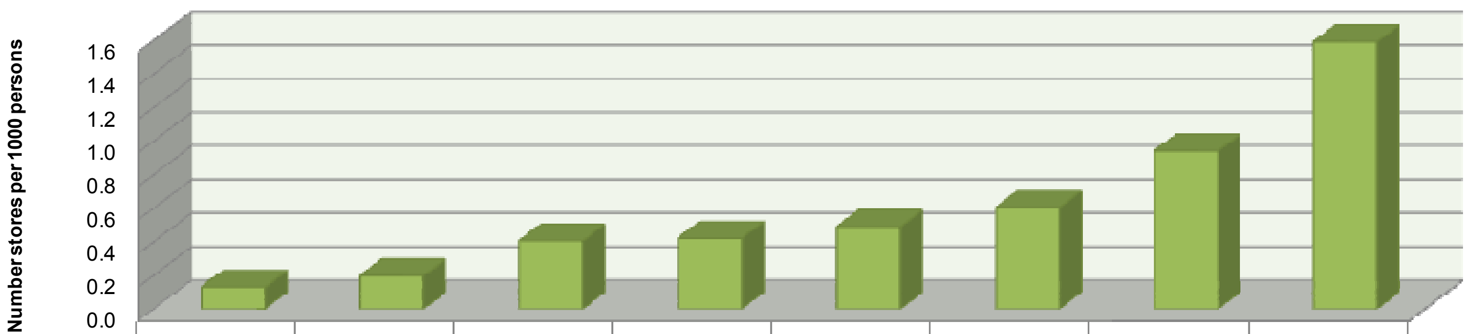


Figure 2: Types of fresh food outlets in the City of Moreland

When the number of stores per category were analysed relative to the population, the dominance of takeaway outlets is shown even more clearly (Figure 3). There are 1.59 takeaway outlets per 1000 persons in the City of Moreland, compared with only 0.49 fresh food outlets and 0.13 supermarkets per thousand residents. The provision of alcohol outlets is only just less than the provision of fresh food outlets per 1000 persons and the provision of café service outnumbers each of these at 0.60 stores per thousand residents.



	Supermarket	Bakery	Alcohol	Other	Fresh	Cafe	Mixed business	Takeaway
Stores per 1000 persons	0.13	0.20	0.41	0.42	0.49	0.60	0.94	1.59

Figure 3: Number of outlets per 1000 persons for each category of outlet

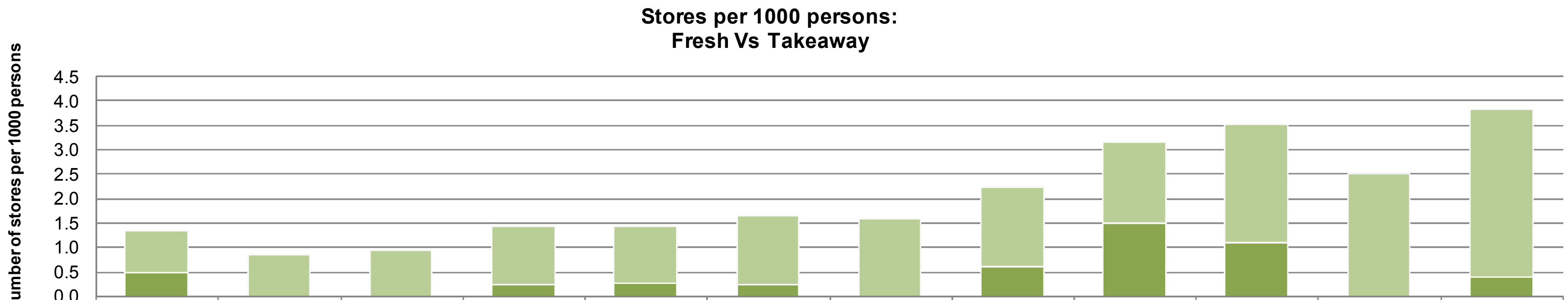
Fresh food outlets versus takeaway outlets

Particular attention was paid to the number and location of fresh food outlets, takeaway outlets and alcohol outlets. There were 64 stores classified as fresh food outlets. More than 62% (n=40) of these stores were butchers and almost 8% (n=5) were fishmongers. There were 19 greengrocers in the City of Moreland (29.69% of all fresh food stores).

When takeaway and fresh food outlets are assessed relative to suburban population, areas of particular interest are easily shown (Figure 4). North Coburg, Pascoe Vale South, Oak Park and Gowanbrae were not serviced by a fresh food outlet at all, however all suburbs did have takeaway outlets. Brunswick East was home to 8.67 more takeaway outlets than fresh food outlets. Pascoe Vale and Brunswick West followed with the second and third highest takeaway to fresh food ratios of 6.33 and 4.67, respectively. Coburg and Glenroy had more than 2.5 times the number of takeaway outlets than fresh food outlets with Hadfield and Brunswick both being serviced by around twice as many takeaway outlets than fresh food outlets. Fawkner had the lowest takeaway to fresh food outlet ratio with 1.67 takeaway outlets per fresh food outlet.

Takeaway outlets were further analysed dependent on the type of food sold (Figure 5). Outlets selling traditionally high fat options such as chicken and chips, fish and chips and pizza were classified as 'high fat takeaway' options whereas those selling ethnic food were classified as multicultural takeaway outlets. The major cuisines present throughout Moreland were Asian (n=35), Mediterranean (n=32), Middle Eastern (n=21) and Indian Sub continental (n=18). Mediterranean outlets that sold pizza were included in counts of both high fat takeaway outlets as well as multicultural takeaway outlets. Only 46 of the 208 (22.12%) outlets sold sandwiches.

Gowanbrae was the only suburb in which there were no multicultural takeaway options. North Coburg and Oak Park had the greatest ratio of high fat outlets to multicultural with 5 and 4 times the number of high fat options than ethnic options, respectively. The disparity between different types of takeaway service was less notable in the remaining suburbs. There were 3.5 times the number of high fat options than multicultural options in Hadfield and more than twice the number of high fat outlets in Fawkner, Pascoe Vale and Brunswick West. Glenroy and Pascoe Vale South had almost equal numbers of high fat outlets versus multicultural outlets while Brunswick East, Coburg and Brunswick had more multicultural options than high fat options.



	Fawkner	Oak Park	Pascoe Vale South	Brunswick West	Glenroy	Pascoe Vale	North Coburg	Coburg	Hadfield	Brunswick	Gowanbrae	Brunswick East
Takeaway	0.84	0.86	0.96	1.18	1.19	1.44	1.60	1.60	1.68	2.43	2.51	3.44
Fresh	0.50	0.00	0.00	0.25	0.27	0.23	0.00	0.62	1.49	1.09	0.00	0.40

Figure 4: Fresh food and takeaway outlets per 1000 persons per suburb.

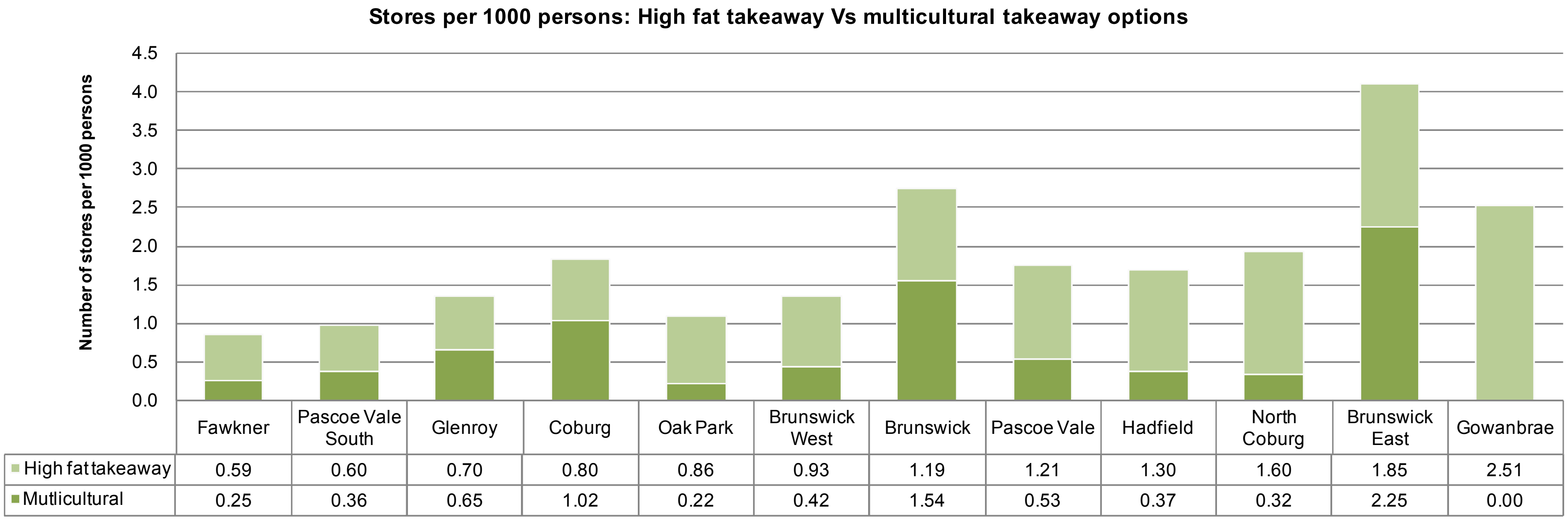


Figure 5: High fat and multicultural takeaway outlets per 1000 persons per suburb.

Fresh fruit and vegetable outlets

Only 64 stores of the 572 surveyed (11.18%) sold fresh fruit and vegetables (Table 7). This analysis included all stores selling fresh fruit and vegetables, including small milk bars where there may have been only a couple of varieties available. Gowanbrae had the greatest number of stores selling fresh fruit and vegetables as its only convenience store stocked a small variety of items. Hadfield and Brunswick East followed with the second and third greatest number of stores selling fresh produce per capita, respectively. Brunswick, Pascoe Vale and Brunswick West were all serviced by approximately 0.5 stores per 1000 persons while there were approximately 0.4 stores per 1000 residents in Coburg, Glenroy and Fawkner. Oak Park, Pascoe Vale South and North Coburg showed the lowest availability of fresh produce with between 0.21-0.31 stores per 1000 residents.

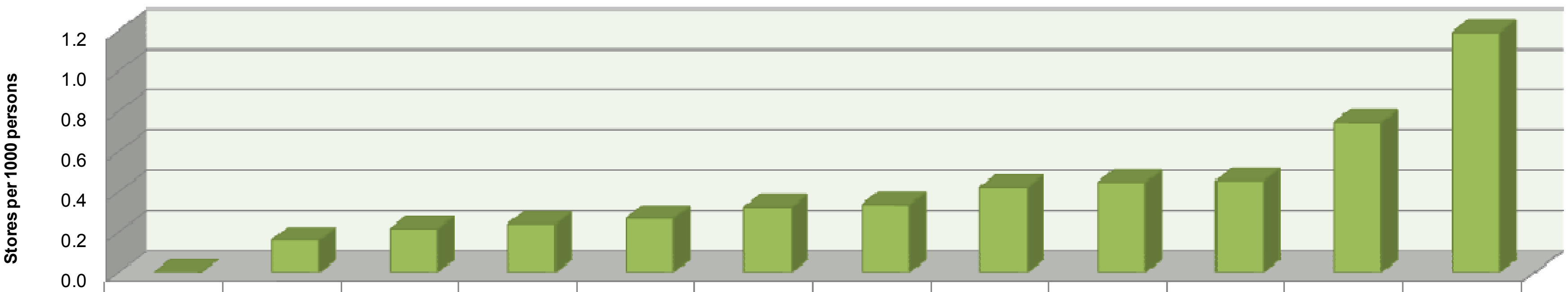
Table 7: The sale of fresh fruit and vegetables in any outlets in each suburb.

Suburb	Oak Park	Pascoe Vale South	North Coburg	Fawkner	Glenroy	Coburg	Brunswick West	Pascoe Vale	Brunswick	Brunswick East	Hadfield	Gowanbrae
No. stores selling fresh fruit and vegetables	1	2	2	5	8	10	6	7	11	6	5	1
Stores per 1000 persons selling fresh fruit and vegetables	0.22	0.24	0.32	0.42	0.43	0.45	0.51	0.53	0.55	0.79	0.93	2.51

Alcohol outlets

Outlets selling takeaway alcohol were also recorded. A total of 53 stores sold takeaway alcohol throughout Moreland, equivalent to 9.27% of all stores surveyed (Figure 6). These outlets were most dense in Brunswick East where there were 1.19 alcohol outlets per 1000 residents. Alcohol outlet service in Hadfield was also particularly high with 0.75 stores per 1000 residents. Pascoe Vale, Brunswick and Brunswick West followed with approximately 0.45 stores servicing a thousand residents. Glenroy and Fawkner shared similar densities of outlets with Coburg, Pascoe Vale South and Oak Park all being serviced by less than 0.3 alcohol outlets per 1000 persons. There were no alcohol outlets in Gowanbrae and only 0.16 outlets per 1000 residents in Coburg North.

Stores per 1000 persons: Alcohol outlets



	Gowanbrae	North Coburg	Oak Park	Pascoe Vale South	Coburg	Glenroy	Fawkner	Brunswick West	Brunswick	Pascoe Vale	Hadfield	Brunswick East
Stores per 1000 persons	0.00	0.16	0.22	0.24	0.27	0.32	0.34	0.42	0.45	0.45	0.74	1.19

Figure 6: Alcohol outlets per 1000 persons per suburb.

Spatial analysis of outlets

The location of takeaway outlets, fresh food outlets, alcohol outlets, supermarkets and fresh fruit and vegetable outlets were mapped using GIS software. Each outlet or group of outlets was surrounded by a 400m buffer to provide an approximate estimation of convenient walking distance from the outlet. Areas outside this buffer are considered to be beyond easy walking distance.

Viewing the location of the fresh food outlets, it becomes clear that there are several regions that are poorly serviced by fresh food outlets (Figure 7). Outlets in Glenroy, Coburg and Brunswick are gathered around the main shopping districts in those areas. Despite this, most of Brunswick and Brunswick East are within walking distance of a fresh food outlet. While the southern end of Brunswick West is well serviced by fresh food outlets, the northern part of this suburb and Pascoe Vale South show no fresh food outlets at all. Areas of Coburg on either side of Sydney road are also not within walking distance to fresh food outlets. Residents of Coburg North have no fresh food outlets within walking distance along with the western side of Pascoe Vale and all of Oak Park and Gowanbrae. With the collation of stores in Glenroy's shopping districts, the majority of this suburb's residents are not within walking distance of fresh food. Hadfield is better serviced with only a small part in the South of the suburb not serviced by an outlet within walking distance. Stores in Fawkner are more evenly spread but areas in the north east and south of the suburb are beyond easy walking distance of fresh food.

As there is an over-representation of butchers in the fresh food outlet category, greengrocers and supermarkets with substantial fruit and vegetable departments were mapped separately (Figure 11). Fruit and vegetable outlets in Glenroy, Coburg and Brunswick continued to accumulate around the main suburban shopping districts. The southern end of Brunswick East and the majority of Brunswick West were poorly serviced by fruit and vegetable outlets. Pascoe Vale South was serviced only by a supermarket on the Pascoe Vale-Pascoe Vale South border while no greengrocers were found anywhere in Coburg beyond

Sydney road. Coburg North, Oak Park and Gowanbrae had no access to outlets with substantial fruit and vegetable departments while Pascoe Vale was serviced by only one supermarket. Most of Glenroy was not within walking distance of a fresh fruit and vegetable outlet however a large portion of Hadfield was serviced. Fruit and vegetable outlets were located only in the North of Fawkner with the eastern and southern parts of the suburb lacking access to outlets.

There were 17 well-stocked supermarkets throughout Moreland (Figure 8) stocking fresh fruit and vegetables, meat, dairy and grocery items. Stores that didn't have substantial fruit and vegetable departments or stock fresh meat were not classified as supermarkets. Brunswick was serviced by four supermarkets, primarily on or surrounding Sydney road. Brunswick West was home to only one supermarket in the southern region of the suburb, leaving the majority of residents well beyond walking distance to a supermarket. There was one supermarket in Brunswick East, however most of the southern part of the suburb was not within easy walking access to this store. There was one supermarket in the far north east corner of Pascoe Vale South and 3 supermarkets in the main shopping district in Coburg. The majority of residents in Coburg and Pascoe Vale South are not within easy walking distance to a supermarket. Two supermarkets serviced the northern and southern areas of Pascoe Vale, however one of these stores stocked minimal fresh meat. Oak Park and Gowanbrae were not serviced by a supermarket at all. There was one supermarket on the Coburg North-Fawkner boundary however access to this supermarket was poor for the majority of residential areas in Coburg North. There were 2 supermarkets in Glenroy, again around the major retail district. A supermarket was also located in the shopping district in Hadfield. Most of Glenroy and Hadfield were beyond easy walking distance to these stores. Fawkner was serviced by one supermarket close to the centre of the suburb; however most of the residential areas of this suburb were beyond easy walking distance.

When takeaway outlets were mapped it was clear that there was far greater access to takeaway shops on foot than fresh food outlets (Figure 9). There were very few areas throughout the municipality that were not serviced by takeaway outlets within easy walking distance. Takeaway outlets in the south of the municipality were concentrated around Sydney road and Lygon street, however single outlets were dotted throughout the entire region with the exception of far eastern Coburg. A small area in Pascoe Vale South and the northern part of Gowanbrae were beyond walking distance of an outlet, as were part of north western and south eastern Glenroy. Most residential areas of Coburg North, Hadfield and Fawkner were within easy walking distance of takeaway outlets.

Alcohol outlets were also mapped (Figure 10). Most of the residential areas in Brunswick and Brunswick East were within 400m of an alcohol outlet. The north-eastern and south-western regions of Brunswick West were beyond walking distance to an alcohol outlet as was much of Pascoe Vale South. Alcohol outlets in Coburg were concentrated around the Sydney road retail district. All residential areas of Coburg North to the East of Sydney road were beyond walking distance to an outlet however there were several outlets servicing Coburg North around Sydney road. Only central Pascoe Vale was beyond walking distance of an outlet with the southern and northern areas home to several bottle shops. Alcohol outlets in Glenroy were assembled around the main retail centre with the majority of the suburb beyond convenient walking distance. Outlets in Hadfield were also found on the main shopping strip with an additional outlet a little further north. Most of the suburb was not within easy walking distance of an alcohol outlet. Outlets in Fawkner were situated to the Western side of the suburb with the eastern region devoid of outlets. There were no alcohol outlets in Gowanbrae.

When alcohol and takeaway outlets were mapped together there were few residential areas beyond walking distance to an outlet (Figure 12). Most of Brunswick, Brunswick East and Brunswick West were within walkable distance to a takeaway and/or alcohol outlet with the exception of a small region on the Brunswick-Brunswick West border. Eastern Coburg was devoid of outlets of both types, along with the north-western region of Pascoe Vale South. Most residential regions of Coburg North were serviced by takeaway and/or alcohol outlets. Most of Pascoe Vale and all of Oak Park were within walking distance of outlets, as was the case in Hadfield. Most of Glenroy outside the main shopping district was beyond walking distance of an alcohol or takeaway outlet. In Fawkner, all areas with the exception of the north-eastern corner were within easy walking distance of an alcohol and/or takeaway outlet. Gowanbrae was serviced by a takeaway outlet but alcohol was not sold there.

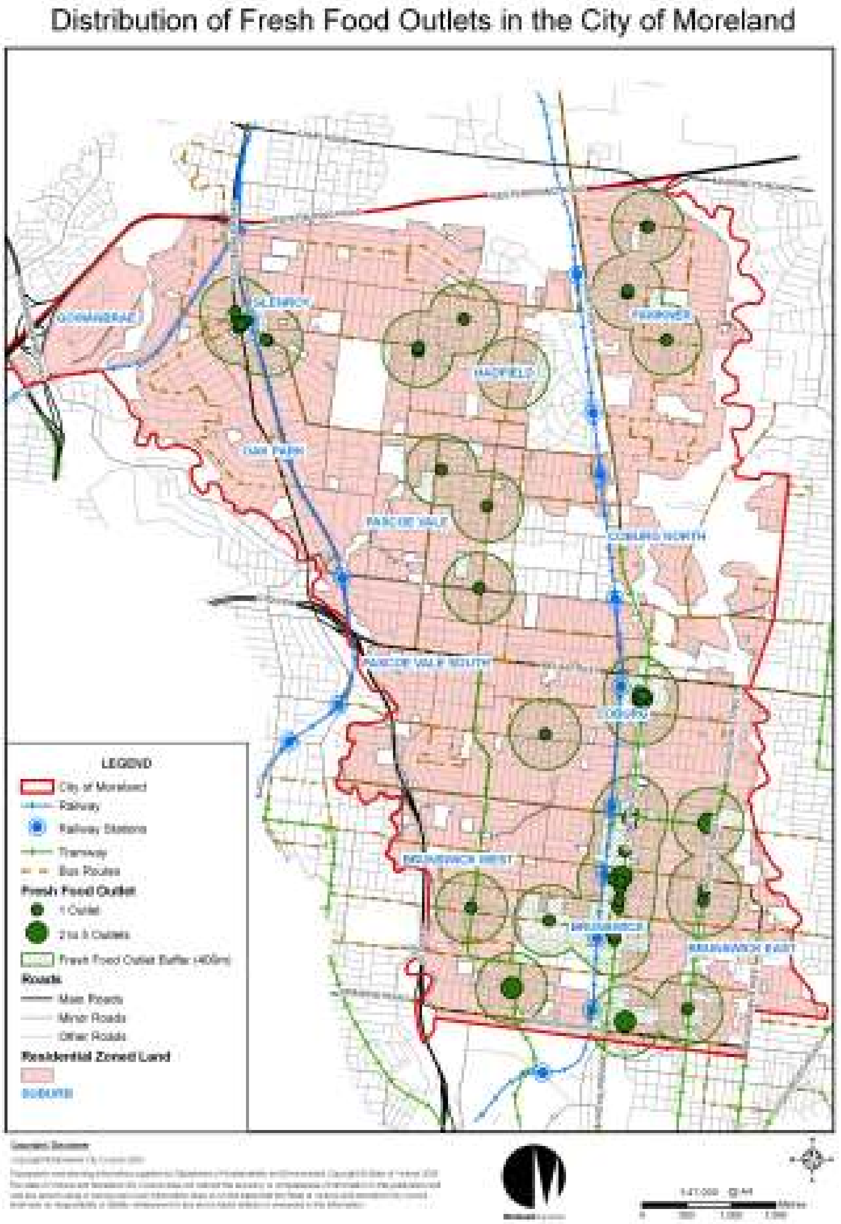


Figure 7: GIS map of fresh food outlets across Moreland.

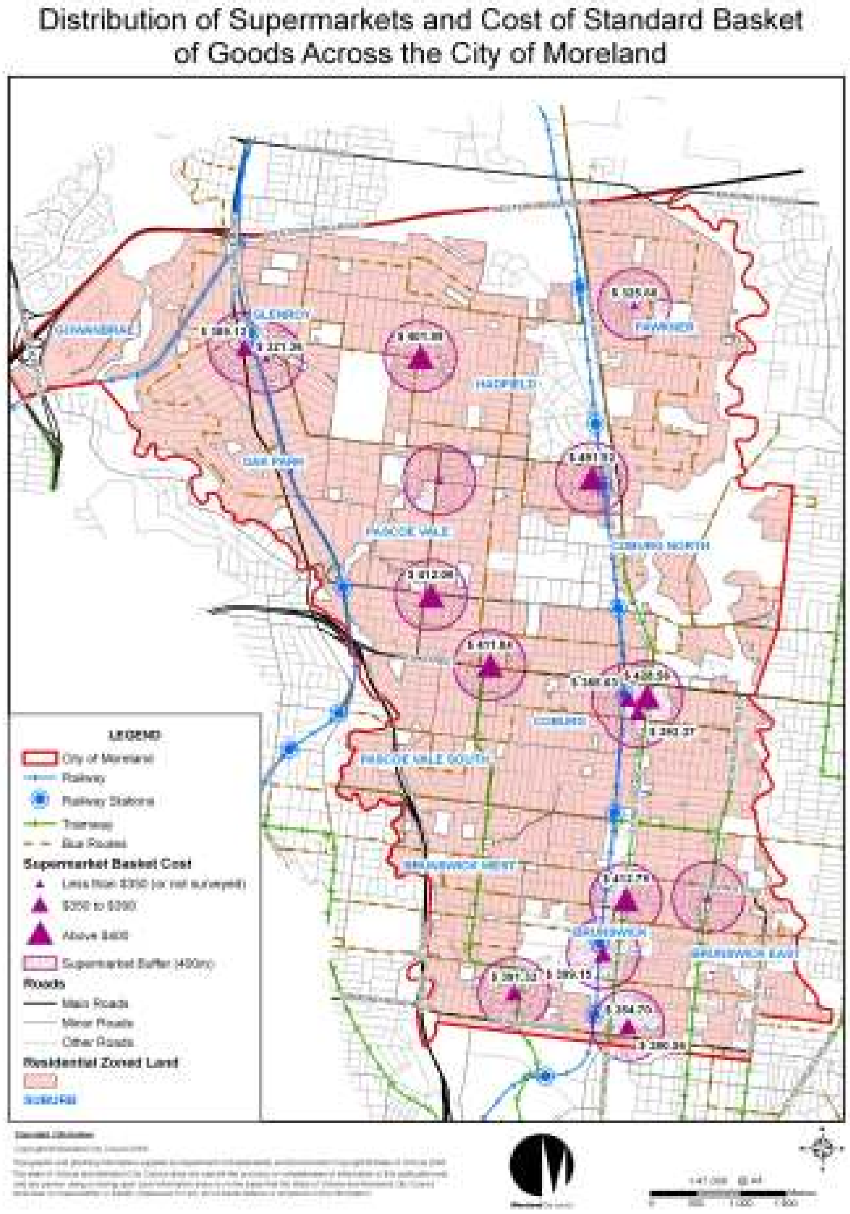


Figure 8: GIS map of supermarkets across Moreland.

Distribution of Takeaway Outlets in the City of Moreland

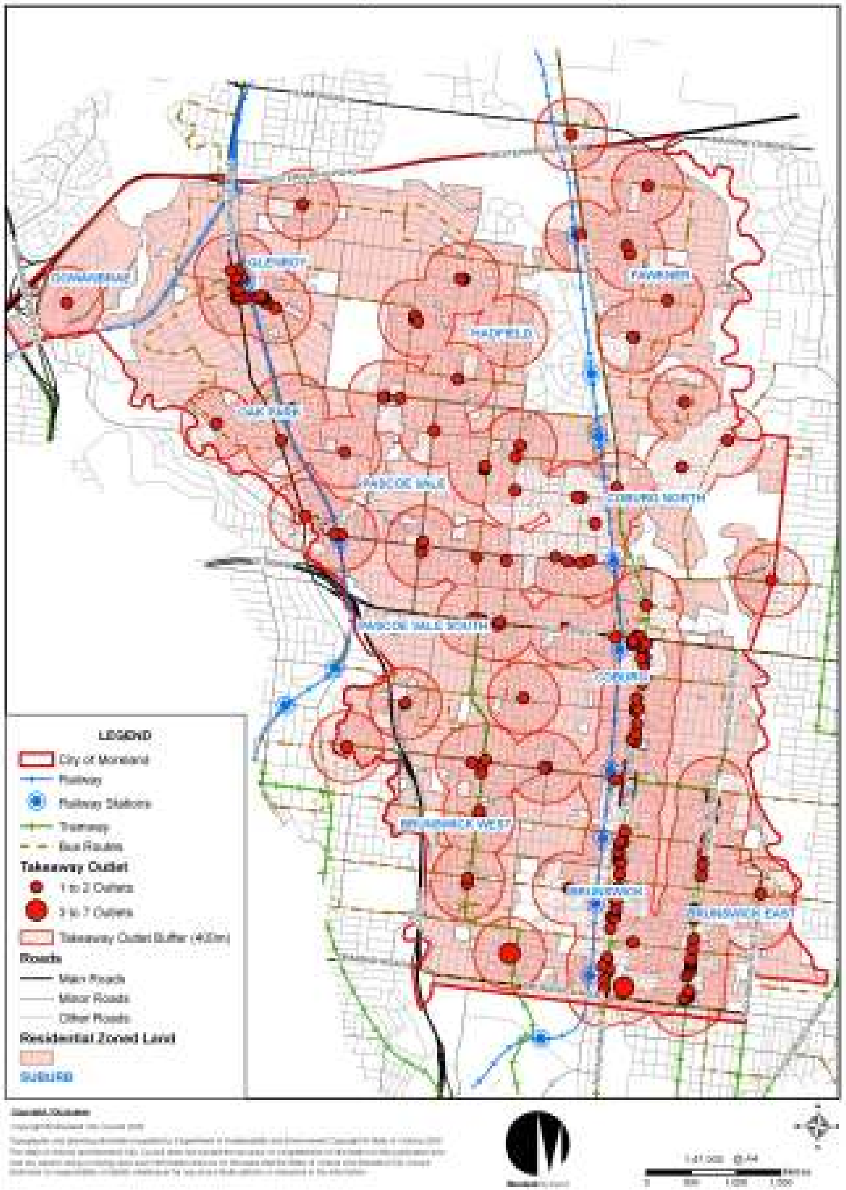


Figure 9: GIS map of takeaway outlets across Moreland.

Distribution of Alcohol Outlets in the City of Moreland

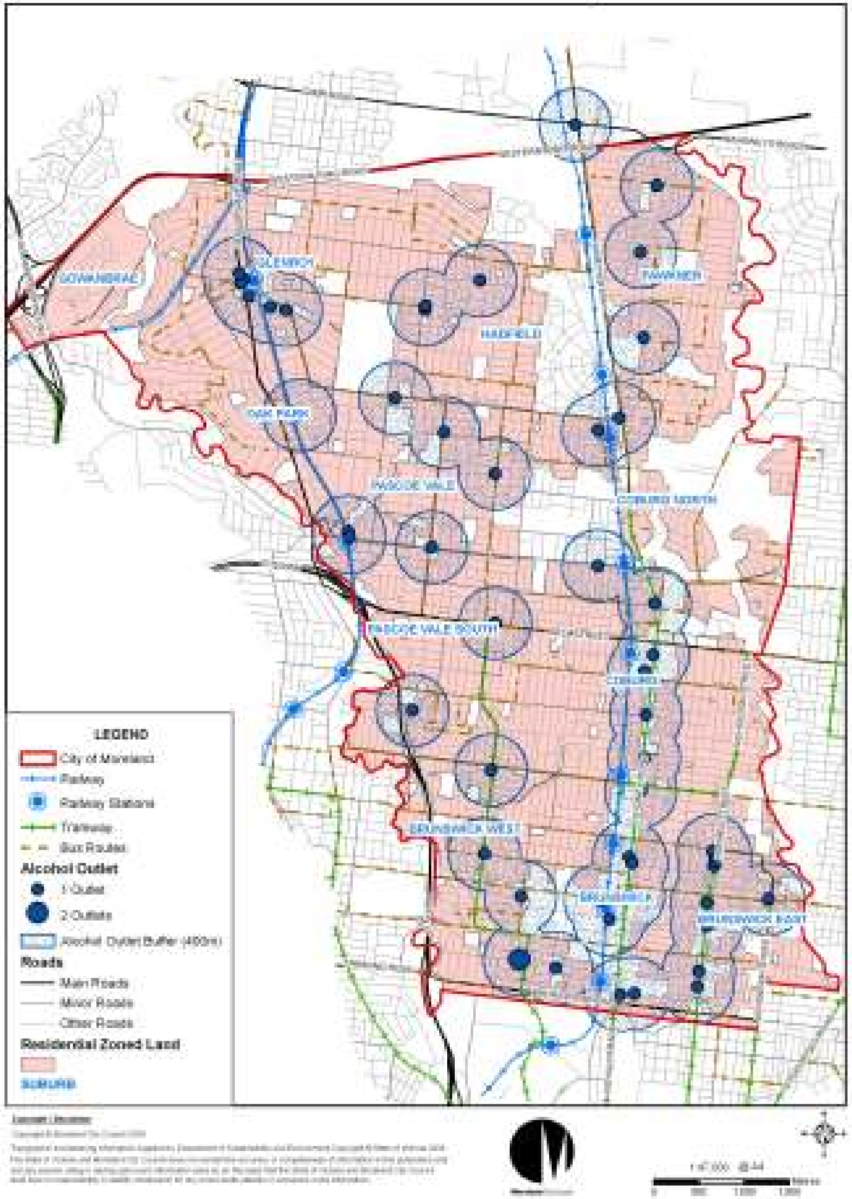


Figure 10: GIS map of alcohol outlets across Moreland.

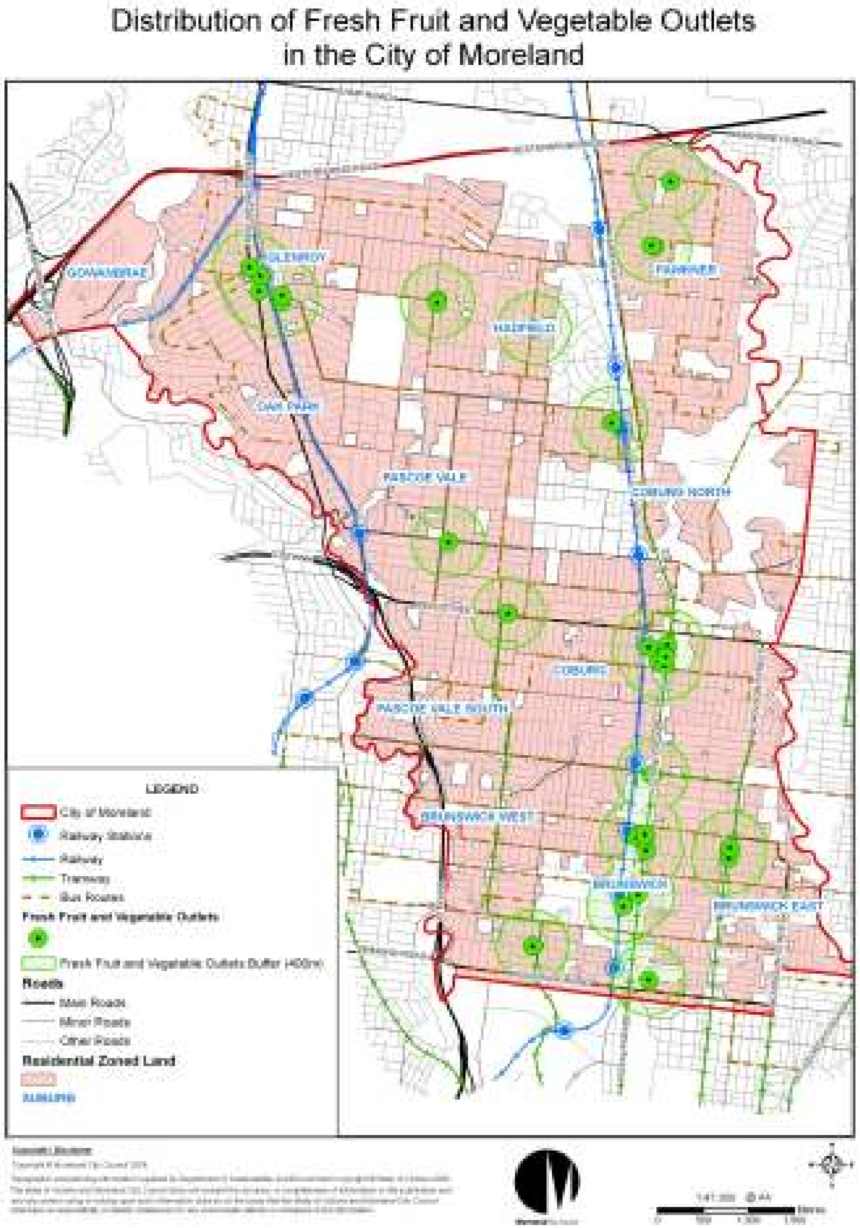


Figure 11: GIS map of takeaway and alcohol outlets across Moreland.

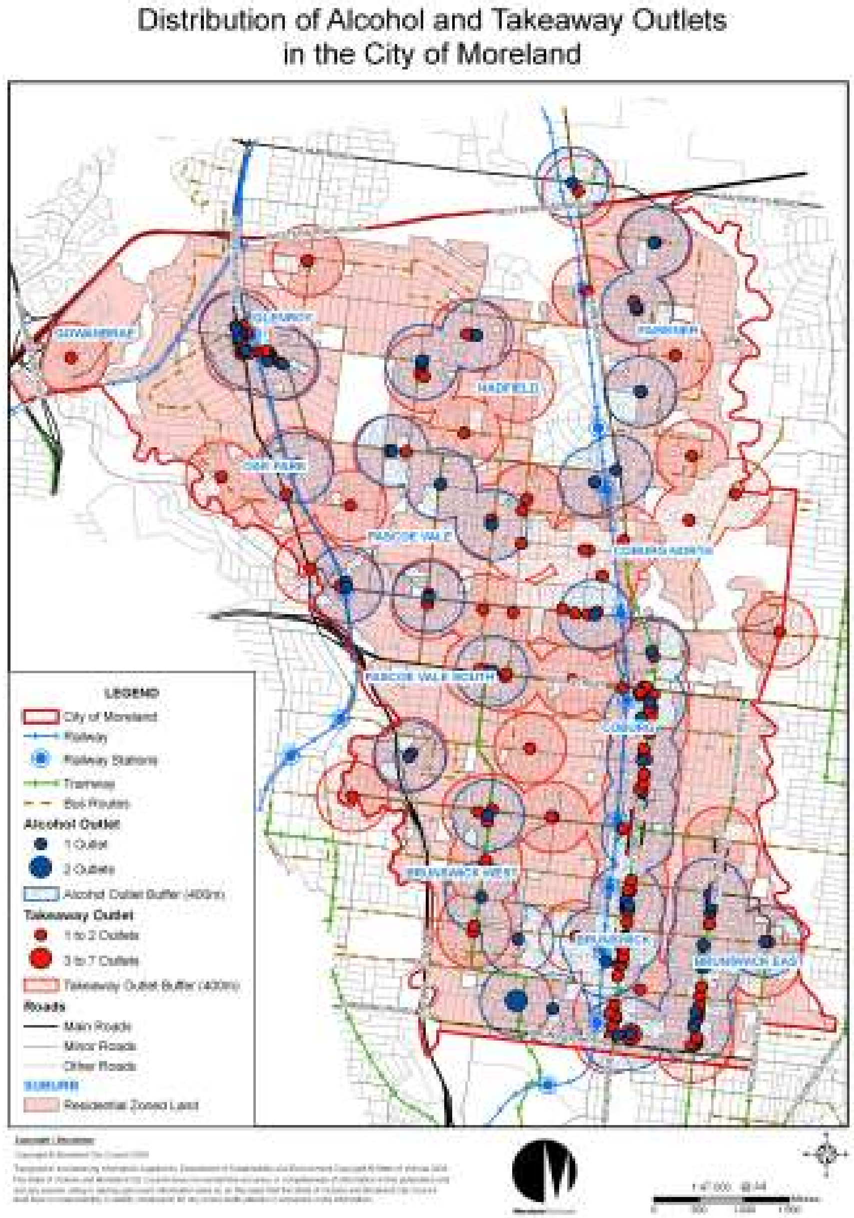


Figure 12: GIS map of fresh fruit and vegetable outlets across Moreland.

Public transport services to shopping centres

Public transport routes are shown in the maps shown in the previous sections. Using the map showing the location of supermarkets as an indicator of main shopping centres, the accessibility to such centres by public transport can be assessed (Table 8). Hadfield, Fawkner and Pascoe Vale residents must rely on buses to access main shopping strips. Supermarkets in Coburg North and Glenroy can be accessed via train or bus while Coburg residents are able to utilise bus, tram and train services to access major shopping strips. The supermarkets in Pascoe Vale South and Brunswick West are accessible via bus and tram while all 3 Brunswick supermarkets can be accessed via bus, tram or train.

There are two train lines and 13 train stations within the City of Moreland.[xvii] Seven train stations are within close proximity to major shopping strips, however only 2 of these are situated north of Bell Street. Train services are therefore more useful for those in the southern suburbs of Moreland, primarily those who live close to the train line. Train services on the Upfield and Craigieburn lines run at least every ten to twenty minutes from approximately 6am until midnight seven days per week.

There are five tram lines servicing Moreland.[xviii] Only one of these services extends north beyond Bell St (as far as Coburg North) so trams are primarily of use for southern Moreland residents. Only two of the tram routes service major shopping strips (routes 19 and 55) and are most useful to those who live within easy walking distance of Sydney road or Melville road. Trams run from approximately 6am to midnight with varying frequencies from 6 minutes at peak times to 20 minutes at off-peak times.

There are 22 bus routes throughout Moreland.[xix] Fifteen of these routes service the major shopping strips. Frequency of bus services varies greatly. Seven of the fifteen services do not operate on Sundays and 2 do not operate on weekends at all, leaving 6 services providing 7 day service. The bus routes available 7 days per week are the 513, 534, 530, 527, 508 and 542 services. These routes provide 7 day per week access to all Moreland supermarkets except for those in Brunswick West and Barkly Square which are accessible via tram. Five of the six 7-day-per-week services travel through the northern Moreland suburbs providing several avenues to access Glenroy and Coburg shopping centres in particular. Frequency of bus services varies from 10-60 minutes with most services providing service at least every 20-30 minutes during peak times. See Appendix 4 for more information on Moreland bus routes.

There are marked differences in the public transport available in northern Moreland and southern Moreland suburbs. Southern Moreland residents have access to trains, trams and buses while northern Moreland residents rely more heavily on buses. Brunswick, Brunswick East and Brunswick West are well serviced by the route 19 tram and the Upfield train line while also having access to several bus routes that chart west to east across the suburbs. Most residents in these suburbs would be within easy walking distance to public transport. North of Moreland Road, the accessibility of bus routes running west-east across Moreland decreases with very limited access in the area between Moreland Road and Harding St/Munro St in Coburg. There is little access to public transport in Pascoe Vale, along with the northern region of Glenroy bordered by the Western Ring Road and Pascoe Vale Road. There is also limited access to transport in Coburg North to the west of Sydney Rd and Pascoe Vale South to the east of Cumberland Rd. Much of Fawkner, Glenroy and Hadfield are within walking distance to public transport.

All services within the City of Moreland can be taken using a Zone 1 Metcard. A two hour concession ticket costs $2.20 while a daily concession ticket is $3.50.[xx] If an adult were to take one child (aged between 4 – 15 yrs) shopping with him/her, they could expect to pay up to $7 per shopping trip. In order to purchase sufficient food for the fortnight and be able to carry it home on public transport, it would be fair to assume that at least four trips would be required costing a total of $28 purchasing daily tickets or $17.60 if the frequency of the transport service allowed transport and shopping to be completed within 2 hours.

Table 8: Public transportation to shopping strips in Moreland.

Shopping strip	Bus routes	Tram routes	Train stations
Glenroy	513, 534, 536, 542	N/A	Glenroy
Hadfield	534	N/A	N/A
Fawkner	530	N/A	N/A
Pascoe Vale (Gaffney St)	513	N/A	N/A
Merlynston	534, 530, 531	N/A	Merlynston
Pascoe Vale South (Bell St)	513, 527	55	N/A
Coburg	525, 526, 530, 534, 512, 513, 527	19	Coburg
Brunswick (Albert St)	506, 508	19	Brunswick
Brunswick (Barkly Square)	504	19	Jewell
Brunswick (Sydney Rd)	509, 503, 508	19	Brunswick, Anstey
Brunswick West (Union St)	506	55	N/A

Healthy food basket survey

The Victorian Healthy Food Basket (VHFB) survey assesses the cost of a standard basket of goods designed to meet the nutritional requirements of four reference families. The VHFB was conducted in 15 supermarkets throughout Moreland (Table 9). Only supermarkets that stocked all the major food groups were included. The most common food group missing from stores was fresh meat. One store was excluded as prices were not available on the majority of fresh fruit and vegetables.

Prices varied substantially between stores with the most expensive store (Coburg North) being 53% more expensive than the least expensive store (Glenroy). The average price of goods adequate to feed a family of four for two weeks was $393.24. For a family of four dependent on Centrelink benefits, this equates to 39.3% of fortnightly income.

Those stores highlighted in the table below were above the average cost. Two of the four supermarkets in Brunswick were above the average cost along with one of the three Coburg stores. The supermarkets in Pascoe Vale, Pascoe Vale South and Coburg North were all above average with the Coburg North store costing 25% more than the average price of the basket of goods. The supermarket in Hadfield was also above average price while both supermarkets in Glenroy and the store in Fawkner were below average price. Supermarket B in Glenroy was the least expensive store with the basket of goods there costing 18.28% less than the average price. The cost of the basket varied from the average by up to 5% in 10 of the 15 stores. Two stores (one in Brunswick, the other in Coburg) varied from the average price by 5-10%. Three stores (in Glenroy, Fawkner and Coburg North) varied from the average by 17-25%.

Table 9: Cost of the healthy food basket for each family type for each supermarket surveyed.

Supermarket	Cost for family of 4 $	% income for family of 4	Cost for single mother with 2 children $	% income for single mother with 2 children	Cost for single adult male $	% income for single adult male	Cost for elderly woman $	% income for elderly woman	% variance from average cost of goods for family of 4
Brunswick A	$412.79	41.26%	$286.28	38.59%	$124.29	29.53%	$101.19	19.56%	+4.97%
Brunswick B	$380.56	38.04%	$262.56	35.40%	$115.34	27.40%	$92.04	17.97%	-3.22%
Brunswick C	$354.70	35.45%	$244.13	32.91%	$108.62	25.81%	$84.90	16.58%	-9.80%
Brunswick D	$399.15	39.89%	$276.70	37.30%	$120.41	28.61%	$96.90	18.92%	+1.50%
Brunswick West A	$391.32	39.11%	$270.22	36.43%	$118.16	28.07%	$94.40	18.43%	-0.5%
Coburg A	$385.63	38.54%	$265.74	35.82%	$117.83	28.00%	$92.36	18.04%	-1.94%
Coburg B	$428.56	42.83%	$295.06	39.78%	$130.76	31.07%	$102.94	20.10%	+8.98%
Coburg C	$392.37	39.22%	$270.12	36.41%	$119.82	28.47%	$94.67	18.49%	-0.22%
Pascoe Vale South A	$411.84	41.16%	$283.63	38.23%	$125.65	29.85%	$99.99	19.53%	+4.73%
Pascoe Vale A	$412.06	41.18%	$283.09	38.16%	$125.38	29.79%	$99.66	19.46%	+4.79%
Coburg North A	$491.52	49.13%	$338.40	45.62%	$149.93	35.62%	$118.69	23.18%	+24.99%
Glenroy A	$389.12	38.89%	$267.81	36.10%	$118.25	28.10%	$93.94	18.34%	-1.05%
Glenroy B	$321.36	32.12%	$221.97	29.92%	$98.15	23.32%	$76.59	14.96%	-18.28%
Hadfield A	$401.98	40.18%	$277.28	37.38%	$121.57	28.88%	$97.18	18.98%	+2.22%
Fawkner A	$325.60	32.54%	$224.58	30.27%	$99.78	23.71%	$78.15	15.26%	-17.20%
Average all suburbs	**$393.24**	**39.30%**	**$271.17**	**36.55%**	**$119.60**	**28.42%**	**$94.91**	**18.52%**	

A family of four supported by Centrelink benefits can expect to pay almost 40% of their fortnightly income to meet nutritional needs. This is similar to the 36.55% of income required to feed a single parent with 2 children. The cost of meeting nutritional needs is substantially less for a single adult male at 28.42% of income and even less for an elderly woman at 18.52% of fortnightly income.

Table 10: Cost of each food group relative to cost of total healthy food basket.

	Brunswick				Brunswick West	Pascoe Vale South	Pascoe Vale	Coburg			Coburg North	Glenroy		Hadfield	Fawkner	Average all suburbs	Standard deviation
	A	B	C	D	A	A	A	A	B	C	A	A	B	A	A		
Cereals	13.58%	15.23%	16.59%	14.93%	14.89%	13.42%	14.34%	15.03%	15.35%	15.45%	13.93%	15.18%	14.71%	14.98%	13.35%	14.73%	0.85%
Fruit	23.38%	19.24%	16.24%	22.83%	20.59%	20.33%	21.09%	21.29%	18.58%	19.39%	19.13%	19.36%	17.60%	20.49%	15.46%	19.67%	2.10%
Vegetables, legumes	22.37%	21.44%	19.89%	20.54%	21.63%	21.51%	20.52%	22.71%	24.67%	20.53%	19.85%	21.71%	18.94%	21.43%	19.10%	21.12%	1.43%
Meat and alternatives	18.08%	20.84%	23.72%	20.76%	20.17%	21.83%	22.12%	17.71%	19.12%	21.76%	22.17%	21.13%	22.79%	21.44%	26.43%	21.34%	2.10%
Dairy	21.15%	22.28%	22.45%	19.95%	21.21%	22.00%	20.50%	22.07%	20.80%	21.87%	23.66%	21.68%	24.86%	20.69%	24.41%	21.97%	1.37%
Non-core foods	1.44%	0.97%	1.11%	0.99%	1.51%	0.91%	1.42%	1.20%	1.47%	1.01%	1.26%	0.94%	1.10%	0.99%	1.24%	1.17%	0.20%

The most expensive food groups in the VHFB were vegetables and legumes (21.12%±1.43), meat and alternatives (21.34%±2.10) and dairy (21.97%±1.37) each accounting for approximately 21% of the cost of the basket (Table 10). This was followed by fruit at 19.67% (±2.10%) of the cost of the basket and cereals at 14.73% (±0.85%). Non-core food items (including sugar, oil and margarine) accounted for only 1.17% (±0.20%) of the cost of the basket of goods.

Local food resources
Limited information was gained from the email-based local food resources database. There were few responses to the request for information. Those categories for which information was provided are described below.

Free food
Eleven sites offered free food in Moreland. Eight of these sites offered emergency food relief in the form of food vouchers or parcels, with the remaining three offering free meals. Of the agencies providing emergency food relief, these were spread evenly across northern, central and southern Moreland with three outlets in both Glenroy and Brunswick, one in Coburg and another in Coburg North.

Community Gardens
Seven community gardens were identified in Moreland. Three were based in schools in the northern suburbs and only used by the school communities. Two community gardens were plot-based gardens for community members however there were long waiting lists for plots at both gardens. Both gardens were based in the southern suburbs of Moreland. One garden was based at Moreland Community Health Service in Coburg and utilised by the aged and those with disabilities while the final garden is still in development but is currently used by Coburg Primary School students. The garden will be open to community groups once completed.

Shared backyards
Three shared backyards were identified in Brunswick, Pascoe Vale and Pascoe Vale South. One garden was the result of five households in a neighbourhood working together to utilise one member's large yard while another was a partnership between a resident with little gardening space and a household on a larger block with underutilised backyard space. The third garden was established on a nature strip with anyone free to harvest and care for plants.

Open space for growing food
Two public spaces were identified as being potential food growing areas. VicTrack land was nominated as potential growing space with various areas suitable throughout Moreland. Nature strips were nominated as other spaces throughout the municipality that could be used to grow food.

Experienced food growers
One person nominated himself as an experienced food grower who could act as a mentor for others.

Food manufacturers and wholesalers
Sixty-six food manufacturers and wholesalers were identified in Moreland.

Farms in the region
CERES Organic Farm in Brunswick was the only farm identified within 100km of Moreland.

Other food access initiatives
Ten food access initiatives were identified through this audit. Eight of these were based at CERES in Brunswick and included the organic nursery, training and education program, seed savers and two community food enterprises. Two cooking programs were coordinated by Moreland Community Health Service.

Food production in Victoria

Food production in Victoria was briefly analysed to provide information about the 'local' food supply. That is, the foods available to Melbourne residents within the 400-500 kilometres of state boundaries and therefore requiring less transport from paddock-to-plate than foods imported from overseas or transported from interstate.

Vegetable production in Victoria is substantial with approximately 900 vegetable growing establishments and crops accounting for 26% of the nation-wide harvest in 2003-2004.[xxi] Most vegetables are grown in regions where irrigation is available with a substantial proportion of establishments in the Gippsland, Goulburn, Melbourne, Central Highlands and Loddon statistical districts.[xxii] As seen in Figure 13, many of these vegetable growing regions are within close geographical distance to metropolitan Melbourne. The major crops in Victoria include asparagus, tomatoes, broccoli, mushrooms, potatoes and lettuce.[xxiii] Victoria is the major fruit-production state in Australia, contributing 26% of the total fruit harvest in 2003-2004.[xxiv] Fruit is predominantly grown in the Goulburn Valley, along the Murray River and around metropolitan Melbourne (Figure 14). Main fruit crops produced include grapes, apples, pears, oranges, strawberries, peaches and nectarines.[xxv]

Figure 13: Vegetable growing regions in Victoria.[xxvi]

Figure 14: Fruit growing regions in Victoria.[xxvii]

Wheat and barley form the major crops in Victoria's grain industry, which is primarily focused on the North Western part of the state (Figure 15).[xxviii] Canola and a variety of legumes are also grown in Victoria. Flour milling in Victoria creates 14% of the nation-wide annual turnover, with the cereal food and baking mix sectors of the Victorian grain industry contributing almost 30% of national turnover.[xxix] Victorian bread manufacturing makes up almost one quarter of the national turnover.[xxx]

The dairy industry is based in areas in Victoria that receive substantial rainfall or are irrigated in order to provide consistent pasture for cattle to feed on. As seen in figure 16, dairy regions are confined to the south-west and Gippsland areas of the state where rainfall is sufficient as well as in the irrigation areas in northern Victoria. Victoria is home to more than 6000 dairy farms producing 65% of Australia's milk.[xxxi] Almost half of Australia's dairy manufacturing industry is based in Victoria, using most milk produced to manufacture butter, cheese and milk powders.[xxxii] Victorian dairy cows primarily feed from pasture with grains used as supplemental feed, making dairy farming a more cost efficient industry in Australia than in many parts of the world. There are more than 40 dairy product manufacturers in Victoria, ranging from small scale productions to multinational companies.

Meat production is another major agricultural industry in Victoria, contributing 20% of beef production and 40% of lamb production in Australia.[xxxiii] Beef, sheep and pig meat production is focused around Gippsland and the south-western and northern regions of the state (Figure 17). Poultry production is centred on the outskirts of metropolitan Melbourne on the Mornington and Bellarine Peninsulas and the Bendigo region. There are in excess of 16 000 farms in Victoria growing beef and/or sheep.[xxxiv]

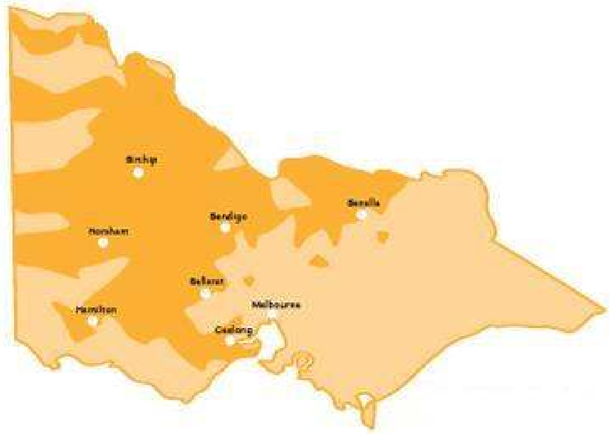


Figure 15: Grain growing regions in Victoria.[xxxv]

Figure 16: Dairy farming regions in Victoria.[xxxvi]

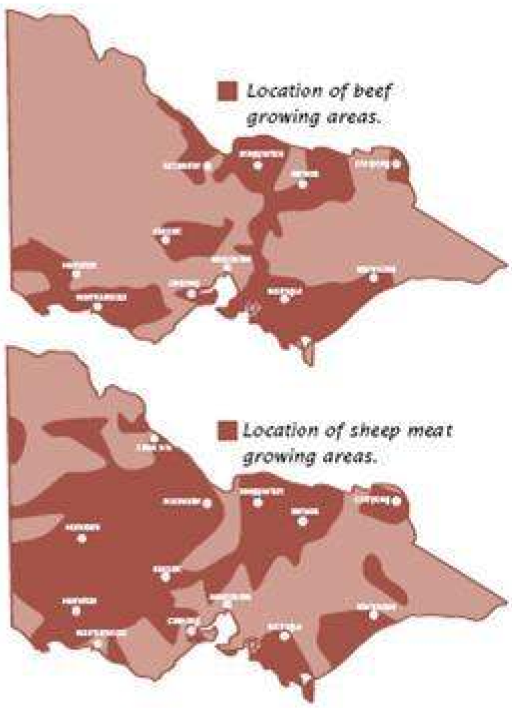


Figure 17: Meat production sites in Victoria.[xxxvii]

Figure 18: Aquaculture sites in Victoria.[xxxviii]

The aquaculture industry in Victoria is quite small with the main food products being freshwater salmonid, abalone, freshwater eels and mussels.[xxxix] There are more than 100 licensed aquaculture establishments in Victoria, based throughout the state (Figure 18). Commercial fishing is the other component of Victoria's seafood industry. Commercial fishing is allowed in only five regions in Victoria: Port Phillip Bay; Western Port; Corner Inlet; Gippsland Lakes; and the South East fishery. The seafood market largely consists of rock lobster, abalone, scallops, pilchards and Australian salmon. There are five major seafood manufacturers and processors in Victoria.[xl]

The organics industry in Victoria is another growing sector. In 2005 there were more than 350 certified farmers and more than 500 certified operators including exporters, wholesalers and processors.[xli] Organic Victorian produce include organic milk and dairy products, meat, grains, nuts, fruits and vegetables. Organic food processing is concentrated in Victoria with fruit juices, dairy products and flour being the main foodstuffs produced.[xlii]

Food security in the context of Moreland City Council Policy

The overarching council plan which informs all other plans and policies is the Council plan. A new Council plan was devised for Moreland in 2007 for the period 2007-2011.[xliii] This plan is based on four key strategic objectives:

- Improving social conditions
- Improving built and natural environment
- Creating a sustainable employment base
- Open, responsive and consultative governance

This plan can influence food security in Moreland as shown in Table 11:

Table 11: Council Plan 2007-2011 - Potential influence on food security.

Council objective	Specific area of activity	Potential influence	Food supply	Ability of residents to utilise food supply
Improving social conditions	Affordable housing.	Reducing the financial pressure on households and reducing the likelihood of reducing food budget, frequently the only flexible component of living costs.	N	Y
	Improved footpaths and cycling routes.	Improved physical access to shops.	N	Y
	Improvements to Home and Community Care program.	Improvements for those living in their own homes and requiring assistance – this may include meals on wheels, assistance with shopping, transport, house cleaning. This ensures that many people at risk of food insecurity are being provided with assistance and regularly reviewed.	N	Y
	Sharing of Department of Education (i.e. School) resources with the community.	This could perhaps extend to shared community gardens and use of kitchen facilities to improve access to fresh food and improved skills in food preparation.	Y	Y
	Advocacy and community engagement on relevant social justice issues.	Local research has identified food security as a substantial social issue in Moreland. Council will be receptive to hearing about the food security needs assessment.	Y	Y

Council objective	Specific area of activity	Potential influence	Food supply	Ability of residents to utilise food supply
Improving the built and natural environment	Support, improve and maintain funding for environmental education programs such as CERES, Moreland Energy Foundation and Sustainability Streets.	Each of these organisations contributes to promoting environmental sustainability, particularly sustainable food. Such organisations are excellent resources for food security work and often eligible partners in food access projects.	Y	Y
	Plant at least 40 000 trees over four years in city streets.	Potential for these to be fruit and nut trees to provide free food to residents.	Y	Y
	Lobby the State government for improvements to local public transport.	Improved public transport can improve physical access to shops for residents.	N	Y
Creating a sustainable employment base	Ensure the stability and vitality of local shopping centres.	Ensuring adequate provision of food retail outlets. Potential to work with small business to promote their outlets to the community, particularly as greengrocers, butchers, fishmongers and bakeries are often less expensive than larger supermarkets.	Y	Y
	Investigate and implement employment initiatives.	Unemployment and low income predispose residents to food insecurity.	N	Y
	Examine opportunities to expand the Business Incubation program in northern and central Moreland.	Potential for small business growth in areas that show a high prevalence of risk factors for food insecurity, particularly unemployment and low income.	Y	Y
	Investigate ways council assets can be better utilised and potentially generate income.	Potential for food small enterprises.	Y	Y

Councils must also submit a planning scheme to the Department of Sustainability and Environment. This is a comprehensive outline of planning in a variety of sectors including the retail sector, housing, open space and outdoor recreation and integrated transport systems.[xliv] The crux of this scheme is the development of urban villages and activity centres which are distributed throughout Moreland and serviced well by public transport, retail outlets and other social and business services.

This scheme can influence food security in Moreland as described in Table 12:

Table 12: Moreland Planning Scheme - Potential influence on food security.

Planning area	Specific area of activity	Potential influence	Food supply	Ability of residents to utilise food supply
Retail sector planning	To increase and maintain the range and accessibility of shops and services and maintain the distribution of local retail outlets, including increasing the viability of local neighbourhood shopping centres where people can shop and meet locally.	Support for local shopping hubs and the distribution of outlets throughout Moreland, including smaller convenience stores beyond the main retail districts with a focus on accessibility and viability of those stores. Potential to work with small business to improve access to a variety of foods, particularly in those stores which service people within walking distance to their homes. This may include assisting retailers to stock healthier options and a greater variety of goods.	Y	Y
Open space and outdoor recreation	Develop a mix of urban spaces, parklands and outdoor recreation facilities that provide a range of opportunities and experiences.	Potential to include community gardening spaces to provide additional opportunities and experiences than common parks and open space.	Y	Y
Community leisure services and facilities	To improve accessibility and efficient use of resources.	Includes accessibility and efficient use of resources such as halls and kitchens.	N	Y
Integrated transport systems	Access to shops should be safe and convenient.	The disparity of public transport provision in the northern and southern regions of Moreland was noted. Special mention was given regarding the ability of residents to safely and conveniently access outlets, particularly using public transport, cycling and walking.	N	Y
	Council will advocate for improvements in bus services.	Improvements in public transport to shopping districts can improve physical access to food.	N	Y

There are several other council plans and policies that may influence food security in Moreland. Several plans of relevance are currently being updated. Relevant plans and their potential influence on food security are shown below in Table 13.

Table13: Various Council plans and policies and their influence on food security.

Council plan/policy	Relevance to food security	Food supply	Ability of residents to utilise food supply
Municipal Public Health Plan	Currently being reviewed and updated. This plan will substantially influence food security in terms of addressing the issues that prevent residents from making appropriate use of the food supply system.	N	Y
Moreland Community Safety Plan 2007-2009	Addresses alcohol abuse as a safety issue. Our findings regarding the density of alcohol outlets may inform action. Also aims to provide bus shelters throughout the municipality and investigate issues of safety when using public transport which may assist people to utilise public transport to access shops.	N	Y
Moreland Disability and Action Plan	Currently being reviewed. Likely to focus on a number of issues relevant to people with disabilities including access to shops and the ability to undertake basic self care activities such as cooking.	N	Y
Moreland Early Years Strategy 2004-2008	Likely to be reviewed in the near future. Includes actions to promote breastfeeding and parenting skills.	N	Y
Economic Development Action Plan 2006-2009	Supporting the viability and growth of retail and commercial businesses and shopping precincts in order to enhance employment and community amenity in Moreland. Actions stemming from this plan may influence the provision of food outlets as well as the type of food sold in food outlets, while also promoting employment of local residents.	Y	Y
Moreland Integrated Transport Strategy	Community consultation will begin in 2009 to update the Strategy. Cycling, public transport use, walking and car use will all be integrated into the plan. There has already been some discussion about improving/building new bike paths and changes to public transportation along Sydney road, a major retail hub throughout Coburg and Brunswick.	N	Y
Moreland Multicultural Policy and Action Plan 2006-2010	Identifies advocacy to relevant government departments regarding CALD communities' access to a range of services and housing as an action area. CALD communities are frequently at high risk of food insecurity due to low incomes, difficulty navigating the Australian food system and problems sourcing traditional ingredients. These problems are likely to be most prevalent in groups who have recently arrived in Australia.	N	Y
Moreland Street Landscape Strategy 2004-2009	This strategy deals with street landscapes, in particular planting of nature strips. Tree selection is one area of action with the strategy encouraging the exploration of new varieties however there are also issues of safety (from fallen fruit) that need to be addressed. There may be potential for some tree plantings to include fruit and nut trees in future. This strategy also refers to the ability of residents to plant on the nature strip. This is subject to the Naturestrip Beautification Guidelines.	Y	Y
Moreland Naturestrip Beautification Guidelines	Provides guidelines to residents wishing to plant on naturestrips. Guidelines encourage native plants. Any plans must be submitted to Council in writing. There is potential for the growth of small, non-invasive, non-bushy fruits and vegetables if proper permission were sought.	Y	Y

Council plan/policy	Relevance to food security	Food supply	Ability of residents to utilise food supply
Moreland Open Space Strategy 2004	Likely to be updated in the near future. The Open Space strategy (in line with Moreland's Planning Scheme) states that a variety of experiences should be available to residents and that residents should be involved in open space design and use. One action area for this Strategy was the assessment of the feasibility of community gardens in Open Space in Moreland. There is potential for food growing in open space – as a learning and social connection space. Working towards an agreement with schools to allow public use of facilities out-of-school-hours is also listed as an area for action. In this way, school gardens may be available to community members to share maintenance activities and the fruits and vegetables produced.	Y	Y
Moreland Bike Plan 2000	Plan designed to increase bicycle use and infrastructure throughout the city. This plan was written in 2000 with initiatives planned for 8-10 years. Complementary to the Moreland Integrated Transport Plan, it is likely that the Bike Plan will be updated in 2009-2010. Better cycling infrastructure to shopping precincts may improve access to food retail outlets.	N	Y
Climate Action Plan 2007-2012	Council has set a goal to reduce Council operational emissions to zero by 2020 and community emissions to zero by 2030. It will do this through both Council-based and community based initiatives. 'Council Leadership Actions' include supporting CERES and MEFL to develop community-based sustainability initiatives. Under the 'waste action' plan, Council states it will encourage composting (including potential household collection) and promote sustainable gardening, alongside the encouragement of responsible product consumption to minimise resource use and embodied energy in purchased products (including food). Community initiatives include encouraging active transport by advocating for better public transport and ensuring adequate infrastructure to increase walking and cycling amenities and safety. Local food production would fit well with these plans, reducing carbon emissions and waste reduction related to food production and purchase. Composted waste and mulch can be sold back to residents at low cost to encourage sustainable and water-wise home gardening.	Y	Y
Public Lighting Policy	Policy that determines the provision of public lighting. Reference is made to the health, and safety issues associated with the provision of lighting (to encourage walking and cycling), with particular reference to adequate lighting at shopping strips to promote pedestrian safety. This policy was due to be reviewed in June 2007.	N	Y

Fifteen plans and policies were identified as potentially influencing food security in Moreland. There were 7 plans that had potential to influence the food supply and 13 plans that could influence the ability of residents to utilise the food supply. These plans and policies were embedded in multiple Council departments concerned with community health and safety, economic development, environmental sustainability, open space, transport, children's services and social policy.

Household food security survey

A response rate to the household food security survey of 41% was achieved, providing a final sample of 210. Responses were received from Scope Victoria, Meals on Wheels, Glenroy and Coburg Community Information Centres, the Salvation Army and Moreland Community Health Service.

A large proportion (60.48%) of the sample resided in Brunswick, Coburg or Glenroy and more than a third were aged 70 or older. Almost a third were aged 30-49 years. The remaining third of the sample were spread relatively evenly over the other age categories. Sixty percent of the sample were female and more than three quarters relied on Centrelink benefits as their main source of income, the largest proportion of those in receipt of disability pensions and the aged pension. Almost 55% of the sample lived alone, 15.24% lived with their children with a further 4.29% living with their partner and children. More than 12% lived with their partner, 9.52% with other people and 3.33% with other family members. 40 respondents spoke a language other than English (19.05%) with the most common languages being Italian (n=10) and Arabic (n=7).

There were several marked differences in demographic characteristics when the sample was divided in to those who were food secure and those who were classified as food insecure (see Table 14). More food secure respondents lived in Pascoe Vale, Coburg North, Brunswick East and Pascoe Vale South with less living in Glenroy when compared with the sample of food insecure respondents. Food secure respondents were typically older with almost 70% of this group being aged 70 years or older. This is in sharp contrast to those who were classified as food insecure with 65.79% of this group aged less than 50 years. More than 54% of the food insecure group was aged 30-49 years of age. Approximately twice as many food insecure respondents than those who were food secure were recipients of disability pensions while almost two thirds of those who were classified as food secure relied on the aged pension. Almost a third of food insecure respondents relied on unemployment benefits as the main source of income while none of those who were classified as food secure received this benefit. Almost half of food insecure respondents lived alone with even more food secure respondents in sole person households (64.16%). People who were food secure were more likely to live with their partners or other family members. Food insecure respondents were almost three times more likely to be living with their children.

More than half of people surveyed (54.28%; n=114) either ran out of food in the previous 12 months and couldn't afford to buy more or were not able to eat the kinds of foods they would like to eat due to food access issues. These people were classified as food insecure. Almost half of the sample (48.5%) actually ran out of food with no money to buy more, and for 92% of these people, this happened more than once in the year. For more than a third, this happened at least monthly.

Those who were classified as food insecure were asked why they suffered from poor food access and how they managed at such times. The overwhelming majority (76.07%) stated that insufficient money was the main cause of their food access issues (Table 15). Forty-one percent stated that food was too expensive in the local shops. Difficulty carrying shopping home, no motivation to cook, difficulty physically accessing shops and having to go without food in order to feed children were also frequent responses.

Sixty-seven percent of those who were food insecure accessed emergency food relief when they ran out of food (Table 15). Almost 44% stated that they ate cheap foods, with a reduction in meal size, and the inclusion of less meat and fruits and vegetables also common responses. Thirty percent of respondents stated that they received help from friends and family when they ran out of food. Few people (6.03%) grew their own fruits and vegetables to supplement bought food and a further 5% took other action when they ran out of food. Two of the 6 people who stated they took 'other' action when they ran out of food stated that they stole food from supermarkets or went through bins at fast food restaurants to find food after closing time.

Table 14: Demographics of survey respondents.

	Suburb of residence*													Age range (years)						
	B (%)	BE (%)	BW (%)	C (%)	CN (%)	PV (%)	PVS (%)	OP (%)	Gl (%)	H (%)	F (%)	Go (%)	N/A (%)	18-29 (%)	30-39 (%)	40-49 (%)	50-59 (%)	60-69 (%)	70+ (%)	N/A (%)
Total sample	14.76	1.90	8.57	26.67	2.38	10.00	2.86	2.38	19.05	0.95	5.71	0.00	4.76	7.62	16.19	16.67	9.05	4.76	36.67	9.05
Food secure	12.50	4.17	9.38	25.00	4.16	14.58	5.21	3.13	12.50	0.00	6.25	0.00	3.13	3.13	2.08	5.21	8.33	2.08	69.79	9.38
Food insecure	16.67	0.00	7.89	28.07	0.88	6.14	0.88	1.75	24.56	1.75	5.26	0.00	6.14	11.4	28.07	26.32	9.65	7.02	8.77	8.77

	Gender		Income							Living arrangements						
	M (%)	F (%)	I work (%)	Partner works (%)	Disability pension (%)	Aged pension (%)	Other (%)	Unemployment benefits (%)	N/A (%)	Alone (%)	With partner (%)	With children (%)	With other people (%)	With partner and children (%)	With other family (%)	N/A (%)
Total sample	40.00	60.00	0.95	0.95	29.52	36.19	13.33	17.62	1.43	54.76	12.38	15.24	9.52	4.29	3.33	0.48
Food secure	38.54	51.46	2.08	0.00	19.79	64.58	12.5	0.00	1.04	64.16	15.63	7.29	6.25	3.13	6.25	0.00
Food insecure	41.23	58.77	0.00	1.75	37.72	12.28	14.04	32.46	1.75	49.12	9.65	21.93	12.28	5.26	0.88	0.88

*B = Brunswick BE= Brunswick East BW= Brunswick West C= Coburg CN= Coburg North PV= Pascoe Vale PVS= Pascoe Vale South
OP= Oak Park Gl= Glenroy H= Hadfield F=Fawkner Go= Gowanbrae N/A= Not answered

The survey asked respondents to select from a variety of options they thought would help them to access food (Table 15). Almost half of the 114 respondents stated that they would like a cheap fruit and vegetable market in their area, with the majority of people selecting these responses residing in Glenroy (n=19) and Coburg (n=14). A written guide to affordable shops was the second-most popular response with assistance managing finances closely following as the third most common response. Interventions that improved physical access to outlets (community bus, home delivery, public transport, physical help with shopping) were also popular options with fifty-six individuals (49.12%) choosing at least one of these options. Of those 56 people, 41 (73.21%) had children under 18 years of age. More than a quarter of respondents supported cheaper meals at cafes. Food co-operatives, assistance with growing fruits and vegetables, information about healthy food, sharing of a produce garden and groups to eat and cook with all attracted votes from 15-18% of respondents. Less popular options included cooking classes, greater availability of multicultural ingredients and food and nutrition information available in languages other than English. Nine people chose 'other' options to improve food access. Most of these focused on the need for greater welfare payments to allow recipients to meet rising living costs.

Table 15: Cited causes of food insecurity, action taken and preferred options to improve food access.

Causes of food insecurity	% respondents choosing this option	Action taken	% respondents choosing this option	Options to improve food access	% respondents choosing this option
Not enough money	76.07%	EFR	67.24%	Cheap fruit and veg market	49.12%
Food too expensive at local shops	41.03%	Eat cheap foods	43.97%	A guide to cheap shops	37.72%
Difficulty carrying groceries	17.95%	Skip meals	34.48%	Help managing money	35.96%
No motivation to cook	14.53%	Reduce meal size	34.48%	Community bus to shops	26.32%
Went without food to feed children	13.67%	Cut down on meat	33.62%	Cheaper meals at cafes	26.32%
Physical access to shops	12.82%	Help from friends and family	30.17%	Home delivery groceries	25.44%
Can't find food looking for	8.55%	Cut down on fruit and veg	25.00%	Public transport to shops	19.30%
Health problems prohibit cooking/eating	7.69%	Grow fruit and veg	6.03%	Food co-op	18.42%
Don't know how to cook	7.69%	Other	5.17%	Info about healthy food	18.42%
Quality of food poor at local shops	6.84%	Unclear answer	3.45%	Someone to help with shopping	17.54%
Other	6.84%			Assistance growing fruit/veg	16.67%
Language barriers	5.13%			Opportunity to share produce garden	16.67%
No oven or cooking equipment	5.13%			Group to cook/eat with	15.79%
No storage facilities	5.13%			Cooking classes	13.16%
Not enough time for shopping/cooking	4.27%			Multicultural ingredients available	8.77%
Unclear answer	4.27%			Other	7.89%
				More info about food/nutrition in LOTE	7.02%
				Unclear answer	6.14%

Dietary intake was crudely assessed by asking respondents how frequently they ate from core food groups. All survey respondents were asked to complete this question to allow comparison between those who identified as food insecure with those who had no food access issues. Responses were compared with recommended frequency of consumption as shown in Table 16. Fruits and vegetables should be eaten daily but only 28% of food insecure respondents stated they ate from this group as recommended, compared with 71% of food secure respondents. Foods from the meat and alternatives group should be eaten at least 2-3 times per week. Less than half of food insecure respondents were able to meet this recommendation while 77% of food secure respondents met this recommendation. Dairy foods should be consumed daily but only 27% of food insecure respondents followed this recommendation compared with 64% of those who were not food insecure. There was less disparity between the two groups regarding daily intake of foods from the breads, cereals and grains food group with 64% of food insecure respondents meeting this requirement compared with 81% of respondents with no food security issues.

Table16: Frequency of intake of core food groups by food secure and food insecure respondents.

Food Group	Recommended frequency of consumption	How many *food insecure* people ate according to recommendations?	How many *food secure* people ate according to recommendations?
Fruits and vegetables	Daily	28%	71%
Meat and meat alternatives	At least 2-3 times per week	49%	77%
Dairy	Daily	27%	64%
Breads, cereals, grains	Daily	64%	81%

Discussion

Seven methods were employed to gather information about the local food supply and related factors influencing food security in Moreland, as well as the identification of particular groups and geographic areas at greatest risk of food insecurity. Local food insecure residents provided answers regarding why food insecurity is an issue and what types of interventions would be useful to address this. The results of these inquiries are discussed below in terms of the objectives of the study.

OBJECTIVE 1: To develop an understanding of the local food supply and other internal and external factors that influence food security within the City of Moreland

The local food supply (retail, wholesale and manufacturers) was assessed to give a picture of the variety, price and access to outlets across the City of Moreland. A brief investigation of the agricultural industry in Victoria was also undertaken to develop an understanding of the opportunities that exist for sourcing food locally. Combined with an assessment of the potential influence of Council plans and policy on food security in Moreland, this study has examined the current food supply and has identified areas where opportunities may exist to maximise access to healthy food for Moreland residents.

Environmental Influences

The food retail outlet audit showed that there was a gross over-representation of takeaway and alcohol outlets compared with fresh fruit and vegetable outlets. While fresh fruit and vegetables should comprise approximately half of all food eaten daily, there were only 19 greengrocers in the entire municipality and 17 supermarkets providing a good range of vegetables. The fresh food category was dominated by butchers (n=40) even though meat and meat products should comprise only about 10% of the food eaten daily. There were 208 takeaway outlets and 53 outlets selling takeaway alcohol, outnumbering the total number of outlets selling a good range of fruit and vegetables. A similar study in Maribyrnong (Victoria) in 2005 showed the same number of fruit and vegetable outlets within that municipality, despite Moreland's population being twice that of Maribyrnong. Our study also found a greater concentration of multicultural takeaway outlets in more affluent suburbs than in less affluent suburbs, with a greater number of high fat takeaway options in less affluent suburbs. This difference is due to the greater presence of cafes and restaurants offering takeaway service in the southern Moreland suburbs compared with the more disadvantaged northern Moreland region. These results correspond with the findings of a study conducted in the City of Casey (Victoria) that showed more cafes and restaurants in less disadvantaged areas and more traditional takeaway outlets in more disadvantaged areas..[xlv]

Spatial analysis of the retail outlet data showed that most residential areas were within 400m of a takeaway &/or alcohol outlet but few residential areas had similar access to fresh fruits & vegetables. Drug and alcohol issues have been identified as a community safety issue in Moreland.[xlvi] The fact that there is easier access to alcohol than fruits and vegetables across the municipality is a disturbing finding. There is very little that can be done on a local level regarding the mix of retail outlets occupying retail zoned areas, in particular limiting the number of takeaway or alcohol outlets. If Council opposes an application, the decision is frequently overturned by Victorian government body VCAT.

Food outlets in Glenroy, Coburg and Brunswick tended to be gathered around the main shopping districts in those suburbs. In the northern suburbs, this meant that stores were generally beyond easy walking distance due to the greater geographical spread of these suburbs. Brunswick and Brunswick East showed easy access to a range of outlets due to both the small geographic size of the suburbs and the number of outlets available.

Supermarkets are the most common outlet used for food shopping and Moreland is well serviced by 17 supermarkets. Most of these outlets are beyond easy walking distance of the majority of residential areas, particularly in the north. All supermarkets are, however, situated on public transport routes. Brunswick and Coburg supermarkets can be accessed via tram, train or bus whereas most supermarkets in the northern suburbs are serviced primarily by buses. Buses have more variable hours of service and are generally less frequent than either train or tram services, which may make them more onerous to use for food shopping. All public transport services can be difficult to use for shopping for large quantities of food and it is likely that several trips would be required weekly in order to transport all required items. This adds a further expense (approximately $28 for a family per fortnight) to people who are food insecure due to limited incomes. Public transport (particularly buses) can be difficult to access for people with physical disabilities due to an inability to walk to the stop and also difficulties boarding and alighting public transport, particularly with bags of groceries.

Economic influences
The Healthy Food Basket survey showed great variance in the price of a standard basket of goods across the City. There was a 53% difference in price between the most expensive and least expensive store. A 2006 study in the City of Casey (Victoria) found a maximum variation of 23% between stores in that municipality.[xlvii] Our study found that a family of four, dependent on Centrelink benefits, could expect to pay almost 40% of their fortnightly income on basic foodstuffs. An identical study in Melton Shire, also conducted in 2007, found that only 35% of income would be spent on food, a difference equivalent to $80 per fortnight. There is no valid reason for prices to vary substantially between municipalities nor is there a valid explanation for the variation in price within Moreland stores. There did not appear to be any relationship between the SEIFA index of an area and the price of the basket. Both the cheapest and most expensive stores were situated in northern suburbs. It was interesting to note that two supermarkets of the same chain and situated only 100 metres apart showed a variance in price of the basket of almost $43. There appears to be little consistency in the price of the basket across Moreland. Those who are unable to travel to an affordable supermarket are at a great disadvantage with some stores charging 25% more than the average cost while others charge 18% lower than the average cost.

The Household Food Security Survey showed a heavy reliance on emergency food relief for those who are food insecure. Although this was heavily biased by the administration of the survey in emergency food relief agencies, anecdotal evidence from such agencies and the prompt return of completed surveys indicates that Moreland's emergency relief agencies are overwhelmed by requests for help. One agency commented that they have to turn away at least as many people as they can help each week. Emergency food relief is therefore a part of Moreland's food supply. With only 8 food relief services in Moreland, this is an under-resourced and unsustainable means of long-term food provision that fails to address the causes of food insecurity. For those who are suffering from poor food access, however, it is a vital service that puts food on the table where there would otherwise be none.

Regional influences
Alongside assessment of the local food supply, it is worthwhile reviewing food production in Victoria. Rising oil prices and climate change have seen food prices increase substantially over the last few years. Food prices increased 5.7% overall in the 12 months to April 2008, significantly greater than the overall inflation rate of 4.2%[xlviii]. In this time, the price of vegetables increased by 9.7%, milk rose by 11.6% and bread by 9.0%. These are all staples of a healthy diet but are all rising in cost at more than twice the rate of overall inflation. The Household Food Security Survey showed that those who are food insecure are already struggling to eat from the main core food groups. Adverse seasonal conditions (including the drought in Australia) are the primary drivers for increased food prices, both locally and globally.[xlix] A review of agricultural industries in Victoria showed that items from all food groups are produced in various parts of the state, with a large number of fruit and vegetable growers situated on the outskirts of Melbourne. Localising the food system and reducing the environmental impact of food supply may help to stem the increase in food prices. Growing food in Moreland and establishing relationships with farmers in Victoria to

provide food at the farm gate or to engage in farmer's markets are both options that could be investigated. The 'Growers and Eaters' forum being run by Cultivating Community in partnership with Moreland Community Health Service and a number of other partners in November 2008 will begin discussions about such options.

Local planning influences
The assessment of Moreland City Council plans and policies showed that local council can influence food security in many ways and in several departments. The Council Plan is the overarching plan that influences all other departmental plans and policies. The current Council Plan includes areas of activity that can directly influence both the local food supply and the ability of residents to utilise the food supply. Some of these activities include advocacy on relevant issues beyond Council jurisdiction which might include food security and public transportation. The provision of affordable housing is also a major area of activity in the current plan. Increased housing prices are making it difficult for even those on average incomes to make ends meet and can directly impact on the amount of money left to purchase food. Ensuring the stability and vitality of local shopping centres is also identified as a priority for action in the current plan. This is vitally important to ensure that local shopping centres remain viable and that small food businesses (that are often less expensive and more evenly spread across the city) are able to compete with the large multinational companies currently dominating the food supply. Other plans assessed showed potential influences on food security across several departments including community health and safety, economic development, environmental sustainability, open space and children's services. There is great potential for Moreland City Council to work with other partners to develop a range of policies and interventions to support food security in Moreland. While it is difficult to limit the number of alcohol and takeaway outlets in the city, it is possible to encourage and support the development of outlets selling fresh food, particularly smaller businesses spread across the municipality. Moreland City Council can play a key role in this.

Moreland is home to a large variety and number of retail food outlets. Despite an over-representation of alcohol and takeaway outlets, most suburbs are also well serviced by supermarkets and other fresh food outlets. However, Coburg North, Gowanbrae, Oak Park and Pascoe Vale South are the exceptions to this with poor access to supermarkets and fresh food outlets. The price of a healthy food basket varies greatly and those who are unable to travel to the cheapest outlets are at a disadvantage. Distribution of outlets and access via foot or public transport varies among the municipality with northern Moreland residents more reliant on public transport or private vehicles to access shopping centres. Public transport to major shopping strips is limited to buses in much of northern Moreland.

OBJECTIVE 2: To identify particular population groups and geographic areas within Moreland in which there is the greatest need.

Demographic analysis of Moreland suburbs was undertaken and combined with the distribution of food retail outlets across the municipality to identify geographic areas of need within Moreland. The Household Food Security Survey also provided some insights into the impact of food insecurity and identified that children in particular may be at risk of poor nutrition in food insecure households.

Fawkner, Glenroy and Coburg North showed the greatest prevalence of food insecurity risk factors. Coburg North showed one of the highest prevalence of risk factors with a severely limited food supply. There was no fruit and vegetable access apart from a small supermarket which was the most expensive of all supermarkets assessed. This outlet was not easily accessible for residents to the east of Sydney Rd where the only food outlets available were takeaway outlets. This area is also poorly serviced by public transport, making it difficult for residents to go elsewhere to shop without the use of a vehicle. The food supply in Glenroy and Fawkner was centralized around the major shopping strips and therefore difficult to access by foot for most residents. Buses act as the main form of public transport in these suburbs, and as discussed earlier, frequency and hours of service vary greatly between different routes. The prevalence of low incomes, high unemployment, the number of elderly residents and the number of households requiring assistance with self care activities of residents were the predominant risk factors in these areas.

The Household Food Security Survey showed that food insecurity is a very real issue in Moreland. Almost half of the sample had run out of food in the previous 12 months and were unable to afford to buy more. Of this group, 92% ran out of food more than once per year and food shortages were a monthly occurrence for more than a third. More than 27% of food insecure respondents lived with their children. Although the sample size of the Household Food Security limited any conclusions that could be drawn regarding the demographics of those who were food insecure, our data demonstrates that both adults and children suffer from food insecurity. It is also worth noting that more than 82% of food insecure respondents were in reliant on Centrelink benefits (most commonly the disability pension or unemployment benefits) and can therefore expect to pay 36-40% of their fortnightly income on food (according to the Healthy Food Basket Survey).

While research into food security is being undertaken at a rapid rate, the long term effects of living in a food insecure environment are still being investigated. Poor nutrition is likely to be an outcome in food insecure households that can influence families both in the short and long term. Food insecure survey respondents were less likely to consume foods of all food groups at the recommended frequency. The difference between food secure and food insecure respondents was most marked regarding the fruits and vegetables, meat and meat alternatives and dairy food groups. There was less of a difference in daily consumption of foods from the breads, cereals and grains group, reflecting the relative affordability of these items as shown in the breakdown of costs of each food group in the Healthy Food Basket. Eating inexpensive foods, skipping meals and cutting down on meat, fruits and vegetables were common responses of food insecure respondents to food scarcity. Dietary patterns such as these are likely to result in inadequate intakes of protein, iron, zinc and calcium. Adequate intakes of these nutrients are particularly important for optimal growth and development in children. With almost a third of food insecure survey respondents living with their children, this is an alarming finding. Research has shown that food insecure women are more likely to be obese[l] and the hypothesis that children who live in food insecure environments are at greater risk of obesity is the subject of continuing study. With escalating rates of nutrition-related disease, particularly in disadvantaged populations, many resources are currently being directed to nutrition-based programs. This needs assessment highlights that to be effective, strategies must address broader factors influencing food access rather than focusing on information provision. Resources must first be allocated to increasing consumer access to healthy foods before any dietary advice can be implemented within the community.

Residents of Coburg North, Glenroy and Fawkner are at greatest risk of food insecurity in Moreland; however there are pockets of disadvantage throughout the municipality where people may be living in food insecure environments. In line with other research outlined earlier[li], groups at greatest risk include those on Centrelink benefits and those reliant on public transport. Food insecure people are likely to have inadequate intakes of key nutrients and this may place children at risk of poor growth and development.

OBJECTIVE 3: To identify potential activities and partnerships to relieve poor food access for Moreland residents.

The Household Food Security Survey was designed not only to assess how people coped with food insecurity but to also ask the participants what they thought would help alleviate the problem. By combining survey responses with information about the local food supply, the most prevalent risk factors and the potential influence of Council, potential activities and partnerships can be identified.

Survey respondents cited the main reasons for running out of food as lack of money (76%), the cost of food in local shops (41%) and issues with transport and assistance required with shopping (31%). Accordingly, popular suggestions to address food insecurity included a local fruit & vegetable market (49%), assistance with transport and shopping (49%), a guide to affordable shops (38%) and assistance with budgeting (36%).

There is little that can be done on a local scale regarding the adequacy of Centrelink payments. Advocacy to increase welfare payments, however, should form part of any food security initiative. There is scope for several partners across the municipality (including Council and non-government agencies) to work together on such issues.

A local fruit and vegetable market was a popular response, with Glenroy and Coburg residents selecting this option. Both Coburg and Glenroy are well serviced by supermarkets and greengrocers providing fresh fruit and vegetables. There are several reasons why respondents may have selected this option including: a) not being aware of the outlets available; b) dissatisfaction with the price and quality of goods available and; c) difficulty in accessing the outlets. It would be a wiser option to examine this issue in more depth and then work with local retailers to meet the needs of consumers rather than to establish a new market. There may be potential, however, to develop small, portable markets such as those run by Cultivating Community in school car parks or other areas where people gather regularly, particularly in areas of Coburg or Glenroy where physical access to shops can be difficult.

The Healthy Food Basket survey showed a wide variation in the cost of goods across the City. Anecdotal evidence also suggests that food purchased from small fresh food outlets such as greengrocers can be cheaper than the major supermarket chains. Although it may be beyond the scope of any local project to influence food prices, it is possible to promote outlets that do provide affordable food. Survey respondents frequently suggested a written guide to affordable shops as something that would help them to access healthy food more easily. This has the added benefit of supporting small business and assisting those on low incomes to purchase affordable food. This aligns well with Council priorities related to supporting local shopping strips and small business. Assistance with budgeting was another common suggestion to promote food security. This is a positive response highlighting a skill that may be lacking in some people with food security issues but one which they would actively seek assistance with. Budgeting assistance could be provided in a number of ways and through any number of partners working with such clientele.

Fifty-six individuals (49.12%) chose better transport options as a key factor to improve food security. Public transport services all major shopping centres yet this was widely seen as an issue requiring attention. The Maribyrnong study also found that survey respondents frequently requested assistance with transport to and from shops despite public transport services.[lii] As mentioned earlier, conventional public transport can be difficult to access for people with physical disabilities. This can also be an issue for young families with prams or multiple children. Community transport can help to overcome such barriers by picking people up at their homes and taking them to the shopping centres. It is interesting to note, however, that 66% of food insecure respondents were under the age of 50 and of those who cited better transport as an option, 73% had children under the age of 18. Current community transport is targeted towards the elderly. However, this study has shown that transport for basic activities is an issue for younger people also, particularly those with children.

Fruit and vegetables together accounted for 40.8% of the cost of the Healthy Food Basket. Crude dietary intake data from the Household Food Security Survey showed that the greatest discrepancy of intake between food secure and food insecure respondents was for fruits and vegetables. At the time of the study, there were only 36 stores across Moreland selling a good variety of fresh fruits and vegetables. There are physical and financial barriers to accessing fresh fruits and vegetables in Moreland. Anecdotally, fruits and vegetables are widely grown in homes across Moreland. There are opportunities to garner excess produce from home gardens and redistribute this to those who are food insecure. One such opportunity exists with the Pedalling Fruit Pickers project which will be run by Cultivating Community (provided adequate funding can be sourced). With much of northern Moreland occupied by low-density housing, there are also opportunities to help people to grow their own food. The Grow and Share pilot project (an MFAP initiative) will trial such an approach by establishing gardens in low income earners' homes and enrolling them in a 12 month program where they learn the skills required to produce their own food. Fruits and vegetables should also be included in emergency food relief supplies. Although hampers are generally composed of non-perishable goods, there may be potential to include some fresh fruit and vegetables. This is of particular importance given the poor intake of these items in those who are food insecure. The Pedalling Fruit Pickers project may be one way to provide fruits and vegetables free of charge to agencies. There is also potential for several agencies to come together to form a food cooperative where they can purchase fruits and vegetables weekly at low cost and distribute the produce to food parcel recipients. While emergency food relief does not address the underlying causes of food insecurity, it is widely used by food insecure residents at times of food scarcity and as such should be supported in providing nutritious foods to those who are without food.

There are multiple avenues that can be taken to improve food security in Moreland. There will need to be multiple strategies delivered in partnership with different parts of the community (i.e. residents, business, non-profit organisations, educational institutions) and with varying levels of legislature (local, State and Federal governments). Some of these interventions will improve the food supply, whilst others will help residents to utilise the available food supply. All of them require a cross-sectoral approach with multiple partners including local Council, MCHS, emergency food relief agencies, local businesses and non-government organizations (such as Cultivating Community and various welfare groups).

Limitations of study

There were several limitations of the current study. Only the VHFB tool was validated. All other tools were developed for use in this study and require further testing and validation.

The Household Food Security Survey sample size was limited (n=210) and skewed by over-representation of respondents from only a few key agencies. It was therefore not possible to estimate the number of residents experiencing food insecurity nor was it possible to provide any solid demographic data to accurately describe those who are food insecure. The results cannot be generalised to residents who did not complete the survey. Most food insecure respondents were accessing emergency food relief so the survey did not reach those who may be food insecure but not yet accessing emergency relief. The survey did not allow participants to select whether they were living with their partner and children, so it is possible that the number of respondents living with their children is underestimated. The survey was only distributed in English, and as such, the experiences and ideas of members of the diverse multicultural community have not been adequately assessed.

The local food resources database was designed to assess opportunities for food security interventions, local food production and potential partnerships. The database was emailed to the MFAP mailing list twice and recipients were asked to fill in and forward on the database. Email was not an effective method of gathering this information. There was a low response rate from the MFAP mailing list regarding potential food resources. As such, information about other food security-related activities, possible gardening mentors, public space for gardening and potential partners was not gathered as hoped. This has limited the identification of potential activities and partnerships to other parts of the study such as the assessment of Council Policy and Plans, retail outlet audit data, demographic characteristics and Household Food Security Survey. The collection of multiple sources of data for each objective has ensured that substantial information was collected to allow areas for action and potential partners to still be identified.

Recommendations

There are several recommendations to address the findings and shortfalls of this study. They can be separated in to recommendations regarding the governance of the Moreland Food Access Project, interventions that should be undertaken and further research required.

Governance of the Moreland Food Access Project

- The MFAP reference group should be expanded to include partners identified in the discussion. Moreland City Council should be a key partner in MFAP in light of the wide-reaching influence their activities can have on the promotion of food security. Clear goals and terms of reference need to be developed for the reference group so that all partners embrace their roles and project activities suit the individual agendas of partners along with those of MFAP.

Interventions

- Activities to promote food security should be based in Fawkner, Glenroy and Coburg North, with recognition that there may be pockets of need in other suburbs that may be addressed if resources allow.
- MCHS and project partners should advocate for improved public transport, retail planning, grocery pricing & welfare payments. In addition, support should continue for projects designed to improve access to healthy food (such as Grow & Share and Community Kitchens).
- Interventions should be undertaken to improve fruit and vegetable access throughout Moreland. These may include home growing of fruits and vegetables, community/market gardens, food cooperatives, redistribution of excess produce and the provision of fruits and vegetables in emergency food relief parcels.
- Promotion of local businesses & improvements in physical access to outlets should be undertaken in consultation with Council. This will include the development of a guide to affordable shops, improved community transport across all population groups & food delivery options.
- Budgeting skills workshops should be provided in partnership with other agencies.

Further research

- Further study should be conducted into the dietary implications of food insecurity (particularly in children).
- Tools & methods utilised for this local food security needs assessment should be evaluated & refined.
- The local food resources database should continue to be developed as work and partnerships progress in MFAP.

Appendix 1- Food Retail Outlet Audit Tool

Instructions for the use of Moreland Food Retail Outlet Audit Proforma

Moreland Community Health Service Inc.

Title of Document:	**Instructions for the use of Moreland Food Retail Outlet Audit Proforma**
Date effective:	11/04/07
Formulated by:	Kate McCluskey
Review Date:	11/04/08
Review Responsibility:	Kate McCluskey

Purpose of the Moreland Food Retail Audit

The Moreland Food Retail Outlet Audit is a research component of the broader Food Access Project. To be conducted initially in 2007, this research will provide us with evidence of need for action in particular areas of Moreland that are shown to experience food access issues.

A high percentage of people who live in more disadvantaged areas, receive low incomes and suffer from other illness or disability often find it difficult to access and prepare the food required to live an active and healthy life. There is evidence to suggest that this is an issue in Moreland, as it is in many lower socio-economic areas in Australia and worldwide. The completion of the audit will provide us with some baseline information about physical food access in Moreland. This will then be combined with what we already know about socio-economic demographics and public transport provision in those areas to provide a more complete picture of the issue of food access in Moreland.

The assessment of the number and type of shops available, and the categories of food sold will allow us to assess the accessibility of fresh food for many neighbourhoods in the Moreland municipality.

Instructions for Use of Audit Proforma

- Shopping strips have been identified in each Moreland suburb (see attached list). Using a recent Melway, reconcile list provided with current maps showing shopping strips (highlighted in orange on Melway maps). Add any shops missing from original lists.
- Read through instructions (particularly glossary) carefully to ensure that information is recorded accurately and consistently by all auditors.
- Visit and fill in form for each shopping strip.
- On the top left hand side of the proforma, record the location of the shopping strip (i.e. 68-85 Merley Rd, Fawkner).
- On the top right hand side of the proforma, record the name of the auditor and the date the audit is being conducted.
- Visit each shop in the strip (including bottle shops) and record the following information:

1. The name of the shop;

2. The **exact address** of the shop. Please note, on the attached list of shopping strips the name of the street listed may not be the street address used by businesses. For example: To make location of the shopping strip easier, the East St shopping strip is identified as the 'Stratford St' shopping strip as identifying the corner on which the strip starts makes finding the shopping strip easier on a long road. Please make sure that when you note the address of each shop that you list the correct street name and number.

3. The category within which the shop falls (i.e. Fresh, Take-away, Supermarket, Mixed Business or Other). This is decided upon by the major food type that is sold in the store:

- If food sold is primarily take-away food, the store is classified as 'Take-away'. This includes restaurants that provide a take-away service.
- If food sold is primarily fresh food, the store is classified as 'Fresh'. This includes butchers, greengrocers and bakeries that sell only fresh bread.
- 'Mixed businesses' are those stores that sell a number of food and non-food items. These are often Milk Bars and Delis.
- Supermarkets are to be listed in the 'Supermarket' category.
- Stores that are included in the 'Other' category do not fit in to any of the other categories. These include alcohol stores, cafes (as they sell pre-prepared food but it is not all categorised as take-away food) and bakeries that sell an even mix of pastries, cakes and bread and therefore cannot be classified as

fresh food outlets.

4. Go through each individual item on the audit tool and tick the appropriate column to indicate the availability of listed foods (i.e. Fried food, sandwiches, hot meals, fruit, vegetables, meat/fish etc). If the item is not available, leave the box blank.

If there is some confusion regarding the classification of a food item into a particular group, please make note of the confusion and how you have classified the food.

5. Make any appropriate **comments** in the row below. This will provide a better picture of the quality of food available and of the shopping strip environment. A simple note is all that is required. Often one sentence will be sufficient (for example: Veg fresh and frozen but mostly canned). There is a row for comments for each shop however there is a full page for notes on the reverse of the audit sheet should you run out of room.

   Observations should be made regarding:

   - Whether the store sells a variety of ethnic foods – provide detail on what is sold.
   - The variety, quality and price of the goods available.
   - Whether fruits/vegetables available are only sold in the canned/frozen varieties or whether the shop sells fresh goods.
   - Whether fresh meat/fish are available or whether only canned/deli-types meat/fish are available.
   - Unusual or particularly limited opening times of shops.
   - The atmosphere of the shopping strip or any notable features (such as lots of customers/graffiti/many stores closed-shut down).

Glossary

Take-away: Shops for which the majority of food sold is takeaway. This would include pizza shops and fish & chip shops.

Fresh: Shops for which the majority of food sold is fresh. This would include shops such as butchers, green grocers and fish mongers. Some bakeries will also fit into this category. However if they sell a lot of hot pastries, cakes etc they may need to be classified as a mixed business. Please make a note of explanation if you classify any business as a mixed business.

Mixed business: Shops that don't fit into the category of primarily take-away or fresh food shops. That is, they sell items other than food and/or also sell a variety of fresh and take-away foods. Milk bars fall in to this category. Please make a note as to why you have listed each shop in this category. For example: Bakery listed as mixed business as large number of cakes/pastries sold as well as fresh bread.

Other: Shops that don't fit into the take-away, fresh, supermarket or mixed business categories. These include alcohol stores, cafes (as they sell pre-prepared food but it is not all categorised as take-away food) and bakeries that sell an even mix of pastries, cakes and bread and therefore cannot be classified as fresh food outlets. Be sure to make a note as to why you classified the store as 'other'.

Take-away foods: Foods that require no further preparation (i.e. They are ready-to-eat). These include sandwiches, salad rolls, hot pies/pasties, dim sims, hot chips, curries, casseroles and fried food.

Fried foods: Includes items such as hot chips, fried dim sims, potato cakes, hamburgers, chicken schnitzels, pizzas.

Sandwiches: Pre-prepared or prepared to order sandwiches/rolls/focaccia.

Hot meals: Includes items such as pasta dishes, rice and curry/casserole dishes.

Fresh foods: Foods that can be prepared as meals at home including fruit, vegetables, pasta, rice, other grains etc.

Fruit: Fresh, dried, frozen or canned fruit. Do not include candied fruit in this category. <u>Please specify whether fresh fruit is available and make a note about whether most of the fruit is fresh, canned, frozen or dried.</u>

Vegetables: Fresh, canned or frozen vegetables. <u>Please specify whether fresh vegetables are available and make a note about whether most of the vegetables are fresh, canned or frozen.</u>

Meat/Fish: Fresh meat (such as beef steaks, beef mince, chicken breast, bacon, ham) and fresh or canned fish (such as fish fillets, whole fish, canned tuna, canned salmon). Please make a note about whether most of the meat/fish are fresh, canned, frozen or deli-style (such as ham).

Bread: Bread available for sale individually. Such as loaves of white/wholemeal/wholegrain bread, flat breads, Turkish bread, rolls, foccacia. Do not include bread only used to make sandwiches on site in this category. This category should only be marked when bread can be bought and taken home to prepare meals.

Pasta/rice: Dry pasta and rice to be prepared in the home. Do not include pre-prepared rice in this category. This should be included in the 'hot meals' category under 'Takeaway'.

Grains: Items such as polenta/corn meal, burghul, oats, cous cous. Do not include pre-prepared grains in this category. This should be included in the 'hot meals' category under 'Takeaway'.

Breakfast cereal: Packaged breakfast cereals such as 'Weetbix' or 'Cornflakes'. Also include items such as oats and porridge in this category.

Eggs: Only fresh eggs should be included in this category. Do not include pre-prepared eggs or egg dishes. These should be included in the 'hot meals' category under 'Takeaway' if applicable.

Milk: Only fresh/powdered whole, reduced fat or skim milk should be included in this category. Do not include flavoured milk drinks in this category or sweetened or condensed milks.

Yoghurt/cheese: Include in this category all types of cheese/yoghurt in this category.

Alcohol: Tick this box if alcoholic beverages are for sale in the audited shop.

Retail Centres in Moreland

Gowanbrae	Glenroy	Fawkner	Hadfield	Oak Park	Pascoe Vale
Gowanbrae Dve (near roundabout of Bluebell Cr)	Justin Ave	Tyson St	Geum St/West Rd	Oak Park Shopping Centre (Snell Gve)	Derby St (cnr Collings Crt)
	Glenroy Shopping Centre (Pascoe Vale Rd and surrounds)	Bonwick St (near Jukes Rd)	East St	Xavier St (cnr Josephine St)	Kent Rd (cnr Cumberland Rd)
	Blucher St & Argyle St	Major Rd	North St	Winifred St (cnr Francis St)	Derby St (cnr Warwick Rd)
	Hartington St (near Glenroy Rd)	Lynch Rd	South St (cnr Dickinson St)		Essex St (cnr Landells Rd)
	Devon Rd (at end of Danin St)	Argyle St	Safeway Hadfield (cnr Geum & West Sts)		Cumberland rd (opposite Pleasant St)
	Ridgeway Ave (cnr Marrson Pl)	Anderson Rd (cnr William St)			Cumberland Rd (on either side of Gaffney St)
	William St (cnr Menana Rd)				Derby St (cnr Gaffney St)
	Coles Glenroy (cnr Glenroy Rd & Morgan Crt)				Sussex St (just South of Gaffney St)
	Glenroy Supa IGA (358 Waterloo Rd)				Sussex St (cnr Rollo St)

Gowanbrae	Glenroy	Fawkner	Hadfield	Oak Park	Pascoe Vale
	North St Friendly Grocer IGA (42 North St)				Coles Pascoe Vale (335 Gaffney St)
	Widford St				Boundary Rd (next to Video Ezy)
					Devon Rd
					Gaffney St (surrounding Pascoe Vale railway station)
					Sussex St (cnr Bakers Rd)
					Pascoe St (cnr West St)
					Pascoe St (near Northumberland Rd)

Coburg North	Coburg	Pascoe Vale South	Brunswick West	Brunswick	Brunswick East
Trade Pl.	Ohea St (near Sussex St)	Coonans Rd (cnr Parkstone Ave)	Moreland Rd (cnr Melville Rd)	Victoria St (Rosser St to Sydney Rd)	Nicholson St (between Hickford & Stewart Sts)
Newlands Rd (near Carr St) Hume Hwy (near Ryland St)	Ohea St (cnr Fischer St)	Hillview Ave (cnr Reynard St)	Moreland Rd (opposite Queen St)	Brunswick Rd (between McKay & Hodgson Sts)	Nicholson St (between Clarence & Glenmorgan Sts)
Elizabeth St (North and South of Livingstone St)	Ohea St (cnr Sutherland St)	Melville Rd (cnr Woodlands Ave)	Moreland Rd (from Graham to Gordon Sts)	Dawson St (cnr Fallon St)	Albert St (cnr Nicholson St)
Elizabeth St (near McNamara St)	Ohea St (cnr Stock St)	Moreland Rd (opposite Parkside Bvd)	Melville Rd (cnr Albion St)	Safeway Brunswick (near Brunswick railway station)	Nicholson St (cnr Victoria St)
Elizabeth St (cnr Murray Rd)	Bell St (cnr Suffolk St)	Moreland Rd (cnr Walhalla St)	Albion St (cnr Bent st)	Hope St (cnr Davison St)	
Charles St (far East end of street)	Bell St (Sydney Rd to Coburg railway station)	Melville Rd (near Bell St)	Melville Rd (cnr Hope St)	Market in Florence St (near Anstey railway station)	

Coburg North	Coburg	Pascoe Vale South	Brunswick West	Brunswick	Brunswick East
Gaffney St	Sydney Rd (from Bell St to Moreland Rd)	Bell St (between Hatter St & Sussex St)	Melville Rd (cnr Whitby St)	Tinning St (cnr Cassels Rd)	
Merlyn St	Munro St (cnr Linsey St)	Bell St (cnr York St)	Melville Rd (around Victoria St)	Grantham St (cnr Brunswick Rd)	
Lorensen Ave	Munro St (Safeway area)	McDonalds Bell St	Smith St (opposite Walker St)	Barkly Square Shopping Centre (cnr Weston St)	
Bakers Rd	Harding St (cnr Gladstone St)		Coles Brunswick West (190 Union St)	Lygon St (between Brunswick Rd & Victoria St)	
Williams St	Harding St (Eastern side of Nicholson St)		Union Square Shopping Centre, Union Rd	Lygon St (between Bladen Ave & Albion St)	
	Elizabeth St (near Bell St)		Pearson St (cnr Sheffield St)	Safeway Brunswick (300 Albert St)	
	Reynard St (around Bruce St)		Pearson St (cnr Hunter St)	Safeway Barkly Square (90 Sydney Rd)	
	Reynard St (near Queen St)			Coles Barkly Square	
	Reynard St (around Preston St)			Brunswick Supa IGA (614 Sydney Rd)	
	Red Rooster (Moreland Rd)			Sydney Rd (from Moreland Rd to Brunswick Rd)	
	Moore St (rear of Sydney Rd)			Holmes St (cnr Moreland Rd and between Moreland Rd & Davies St)	
	The Avenue (cnr De Carle St)			Glenlyon Rd (between Eveline and Blair Sts)	
	Harding St (east of Nicholson St)			Victoria St (cnr Elizabeth St)	
	Harding St (cnr Gladstone St)				
	Safeway Coburg				

Coburg North	Coburg	Pascoe Vale South	Brunswick West	Brunswick	Brunswick East
	(cnr Munro & Louisa Sts)				
	Coles Coburg (28 Victoria St)				
	Coles Coburg (451 Sydney Rd)				
	Piedmonte's Supa IGA (366 Bell St)				
	Moreland Rd (cnr East St)				
	Moreland Rd (surrounding Haig Ave)				
	Moreland Rd (cnr Walhalla St)				

Moreland Food Retail Outlet Audit
Moreland Community Health Service
July 2007

Location of shopping strip

Street number and name

Suburb

Name of Auditor

Date of Audit

Name/Address of Store	T/A, F, Supermarket, Mixed Business or Other?	Items for Sale												
		Takeaway			Fresh Foods									Other
		Fried food	S/wiches	Hot meals	Fruit	Vegetables	Meat/Fish	Bread	Pasta/ Rice/ Grains	Breakfast Cereal	Eggs	Milk	Yoghurt/ Cheese	Alcohol
	Comments	Ethnic food? Fresh fruit? Fresh veg?												
	Comments	Ethnic food? Fresh fruit? Fresh veg?												
	Comments	Ethnic food? Fresh fruit? Fresh veg?												
	Comments	Ethnic food? Fresh fruit? Fresh veg?												

Name of Store/Shopping Strip	Comment

Appendix 2 – Items listed in the Victorian Healthy Food Basket

Basket item	Product size
Breads & cereals	
White bread	680g
Wholemeal bread	680g
Crumpets (rounds)	300g
Weet-bix	750g
Instant oats	500g
Pasta	500g
White rice	1kg
Instant noodles	85g
Premium biscuits	250g
Fruit	
Apples	1kg
Oranges	1kg
Bananas	1kg
Tinned fruit salad, natural juice	450g
Sultanas	250g
Orange juice 100%, no added sugar	2L
Vegetables, legumes	
Tomatoes	1kg
Potatoes	1kg
Pumpkin	1kg
Cabbage (assumed weight of half cabbage = 500g)	half
Lettuce (assumed weight of one lettuce = 500g)	One whole
Carrots	1kg
Onions	1kg
Frozen peas	1kg
Tinned tomatoes	400g
Tinned beetroot	450g
Tinned corn kernels	440g
Tinned baked beans	420g
Meat & alternatives	
Fresh bacon, shortcut, rindless	1kg
Fresh ham	1kg
Beef mince, regular	1kg
Lamb chops, forequarter	1kg
Chicken fillets, skin off	1kg
Sausages, thin beef	1kg
Tinned tuna (unsat. Oil)	425g
Tinned salmon, pink (water)	210g
Large eggs (min. 50g, caged)	700g dozen
Dairy	
Fresh full cream milk	1L
Fresh reduced fat milk	2L
Reduced fat flavoured yoghurt	1kg tub
Full fat long life milk	1L
Cheese, block	500g
Non-core foods	
Polyunsaturated margarine	500g
White sugar	1kg
Canola oil	500ml
TOTAL NUMBER OF MISSING ITEMS	
Other	
Mars Bar	60g
Coca-cola	600ml ‘buddy’

Appendix 3 – Household Food Security Survey

Household Food Security Survey

Information Sheet

Thank you for your interest in our survey which is designed to find out more about the food you eat at home.

Moreland Community Health Service has designed this survey as part of the *Moreland Food Access Project*. The Moreland Food Access Project is designed to make it easier for everyone in Moreland to access healthy, affordable food.

We are asking a lot of different people living in Moreland to complete our survey to give us a better idea about how people manage to get enough food to feed themselves and their families.

- This survey will take less than 10 minutes to complete.
- This survey is completely anonymous. We don't collect any information that can identify you, such as names or addresses.
- You can stop the survey at any time if you don't feel comfortable answering the questions. Any information you have provided up to that point will not be used in our results.

If you have any queries about the survey or the results, please contact:

Kate McCluskey
Moreland Food Access Project
Moreland Community Health Service
8319 7421
KateM@mchs.org.au

Moreland Food Access Project

Household food security survey

Office Use Only:

Date:		
Name of person distributing survey:		
Has the person answering the survey been given and read the 'Information Sheet'?	☐ Yes	☐ No

Demographic information:

Are you male or female?	☐ Male	☐ Female
How old are you?		
What language do you speak at home?		
What is your main source of income?	☐ I work ☐ My partner works ☐ Other, please specify:	☐ Disability pension ☐ Aged pension ☐ Unemployment benefits
Which suburb do you live in?		
Do you have children?	☐ Yes	☐ No
If you do have children, how old are they?		
Do you live:	☐ Alone ☐ With partner ☐ With children ☐ With other people	

1. Which of the following statements best describes the food eaten in your household in the last 12 months?

☐ A healthy, varied diet: enough of the kinds of foods we want to eat
☐ Enough but not always the kinds of food we want
☐ Sometimes not enough to eat
☐ Often not enough to eat

***If the answer to this question is 'enough of the kinds of foods we want to eat' you can skip ahead to questions 5 and 6. You do not need to answer any other questions. Otherwise go on to question 2.**

2. If you have run out of food in the last 12 months and were not able to buy more, how often did this happen?

☐ Once in the year
☐ A couple of times in the year
☐ Once every 3-4 months
☐ Every month
☐ Every fortnight
☐ Every week
☐ Never happened

3. What were the reasons you were unable to eat enough of the kinds of food you wanted to eat or didn't have enough to eat? Select all appropriate answers.

- ☐ Not enough money to buy food regularly
- ☐ Can't physically get to the shops
- ☐ Find it difficult to carry my shopping home
- ☐ Find it difficult to shop due to language barriers
- ☐ Can't find the sort of food I'm looking for at the local shops
- ☐ Food is too expensive in the local shops
- ☐ Quality of food is poor in local shops
- ☐ Not enough time for shopping or cooking
- ☐ No oven or cooking equipment to cook with
- ☐ No storage facilities for food
- ☐ Not able to cook or eat because of health problems
- ☐ Not motivated to cook
- ☐ Don't know how to cook
- ☐ I went without food or had less food to ensure my children ate enough
- ☐ Other. Please specify:

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4. How do you manage when there is limited food in your house or you have run out of food? Select all appropriate answers.

- ☐ Get emergency food parcels or vouchers
- ☐ Skip meals
- ☐ Reduce the size of my meals
- ☐ Get help from friends and family
- ☐ Eat cheap foods such as toast, noodles
- ☐ Cut down on fruits and vegetables
- ☐ Cut down on meat
- ☐ Grow my own fruits and vegetables
- ☐ Other. Please specify:

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5. How often can your household *afford* to eat:

	Daily	2-3 times week	Weekly	Less often
Fruits, vegetables, legumes				
Meat, chicken, fish, nuts, legumes				
Eggs, milk, cheese, yoghurt				
Bread, cereals, grains				
Takeaway food				

*** Legumes include dried or canned beans, lentils and peas.**

6. How often *does* your household eat:

	Daily	2-3 times week	Weekly	Less often
Fruits, vegetables, legumes				
Meat, chicken, fish, nuts, legumes				
Eggs, milk, cheese, yoghurt				
Bread, cereals, grains				
Takeaway food				

*** Legumes include dried or canned beans, lentils and peas.**

7. What would make it easier for you to make sure there was always enough nutritious food to eat? Select all appropriate answers.

***Nutritious foods include: breads, cereals & grains; fruits, vegetables & legumes; meat, fish, chicken, legumes & nuts; eggs, milk, yoghurt & cheese.**

- ☐ Better public transport to the shops
- ☐ Assistance with growing my own fruits and vegetables
- ☐ The opportunity to share a garden with others to grow our own food
- ☐ A group to cook and eat with
- ☐ Cooking classes
- ☐ Help with managing my money
- ☐ A cheap fruit and vegetable market in my area
- ☐ Home delivery of groceries
- ☐ Someone to help with my shopping
- ☐ A community bus that takes people to the shops
- ☐ Greater variety of ingredients used in my traditional cultural food available at local shops
- ☐ A group of people who pooled their money to buy food cheaply in bulk and then distribute the food evenly among the group
- ☐ More information about healthy food
- ☐ Cheaper meals at local cafes
- ☐ A guide to shops selling affordable food in Moreland
- ☐ More information about nutrition and food products in languages other than English
- ☐ Other. Please specify:

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Thank you for your assistance with our work!

Appendix 4 – Bus Route Information

Bus route	Description of route within Moreland	Days of operation	Hours of operation	Frequency of service	Additional notes
513	Quite direct route along main roads from Glenroy shopping centre, via Pascoe Vale supermarket to Coburg shopping centre. Could be used to access Glenroy, Pascoe Vale and Coburg supermarkets.	Mon – Sun	6am-9pm Mon-Sat 8am-9pm Sun	10-30 mins	Runs frequently and over full day 7 days per week.
534	Indirect route starting at Glenroy shopping centre, stopping at Hadfield, Merlynston and Coburg shopping centres.	Mon - Sun	6.30am-8.30pm Mon-Fri 7.30am-8.30pm Sat 8.30am-7pm Sun	30-40 mins	Runs over full day 7 days but not very frequently, even at peak times.
536	Short route servicing northern Glenroy from Gowrie station to Glenroy shopping centre. Could be used by residents in the north of Glenroy to access Glenroy shops or the train to Coburg/Brunswick shops.	Mon - Sat	6am-7pm Mon-Fri 7am-5pm Sat	30-40 mins	Only really services people during working hours (and their trips to and from work). Service ends early on Saturday and no service Sunday. Doesn't run very frequently, even during peak times.
530	Indirect route from Campbellfield Plaza, throughout Fawkner (near shopping strip) to Merlynston and then Coburg. Could be used by Fawkner residents to Fawkner, Merlynston or Coburg shops. Can also be used to take train to Brunswick shops or the bus directly to Campbellfield Plaza.	Mon - Sun	6am -9pm Mon-Fri 8am-9pm Sat-Sun	30-45 mins	Services Fawkner well as weaves throughout suburb. Runs over full day but not very frequently.
531	Direct route along Sydney Rd from Campbellfield to Coburg North. Could be used to access Merlynston shops.	Mon - Fri	6am-8pm	60 mins	Acts more as a transit bus to the 19 tram and provides only one service per hour.
527	Quite direct route along main roads from Gowrie station, through Hadfield, Pascoe Vale South and then to Coburg. Passes supermarket in Pascoe Vale South and	Mon - Sun	6am-9pm Mon-Fri 7am-9pm Sat 9am-9pm Sun	15-50 mins	Provides full day service 7 days per week but with poor frequency on weekends (particularly Saturday evenings and Sundays).

	provides access to Coburg shops.				
525	Short route from Coburg bus terminal to Coburg North industrial estate. Could be used by Coburg North residents to access Coburg shops.	Mon-Fri	4 services per day	4 services per day	Provides transport to workers in the Coburg North industrial area. Very infrequent service operating two services in the morning and two in the evening.
542	Oak Park, Glenroy, Broadmeadows	Mon-Sun	6am-9pm Mon-Fri 8am-8.30pm Sat 9.30am-8.30pm Sun	25-60 mins	Services Oak Park (to the West of Pascoe Vale Rd) with full day service 7 days per week. Infrequent (hourly) on weekends.
526	Coburg North, Coburg	Mon-Sat	6.30am-7.30pm Mon-Fri 7.30am-5.30pm Sat	30 mins	Services part of Coburg North on the Darebin/Moreland border. Relatively short hours of service and 30 minute frequency of service at both peak and off peak times.
512	Quite direct routes from Strathmore running West to East (and return) across Coburg. Could be used to access Coburg supermarkets.	Mon-Sat	7am-6pm Mon-Fri 8am-12pm Sat	20-40 mins	Provides short hours of service, particularly on Saturdays. No Sunday service.
506	Quite direct route running West to East (and return) across Brunswick and Brunswick West.	Mon-Sat	6am-9pm Mon-Fri 7am-6.30pm Sat	15-40 mins	Provides frequent full day service on weekdays, ending earlier on Saturdays. No Sunday service.
508	Quite direct route running West to East (and return) across Brunswick and Brunswick West.	Mon-Sun	5.30am-9.30pm Mon-Fri 6am-10.30pm Sat 8am-9pm Sun	20-60 mins	Provides full day service 7 days per week with less frequent services Saturdays and Sundays.
504	Quite direct route running West to East (and return) across Brunswick and Brunswick West.	Mon-Sat	6.30am-7pm Mon-Fri 7.30am-6.30pm Sat	30-60 mins	Relatively short hours of service and no greater frequency than 30 mins even at peak times. No Sunday service.
509	Short route between Brunswick station and Hope St Brunswick.	Mon-Sat	6.30am-7pm Mon-Fri 8am-1pm Sat	20 mins	Provides frequent service but with limited hours of service. Short route limits the reach of the service.
503	Quite direct route running West to East (and return) across Brunswick and Brunswick West.	Mon-Sat	6am-6.30pm Mon-Fri 7am-6.30pm Sat	15-50 mins	Service runs frequently during weekdays and during busy times on Saturdays but offers limited hours of service. No Sunday service.

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