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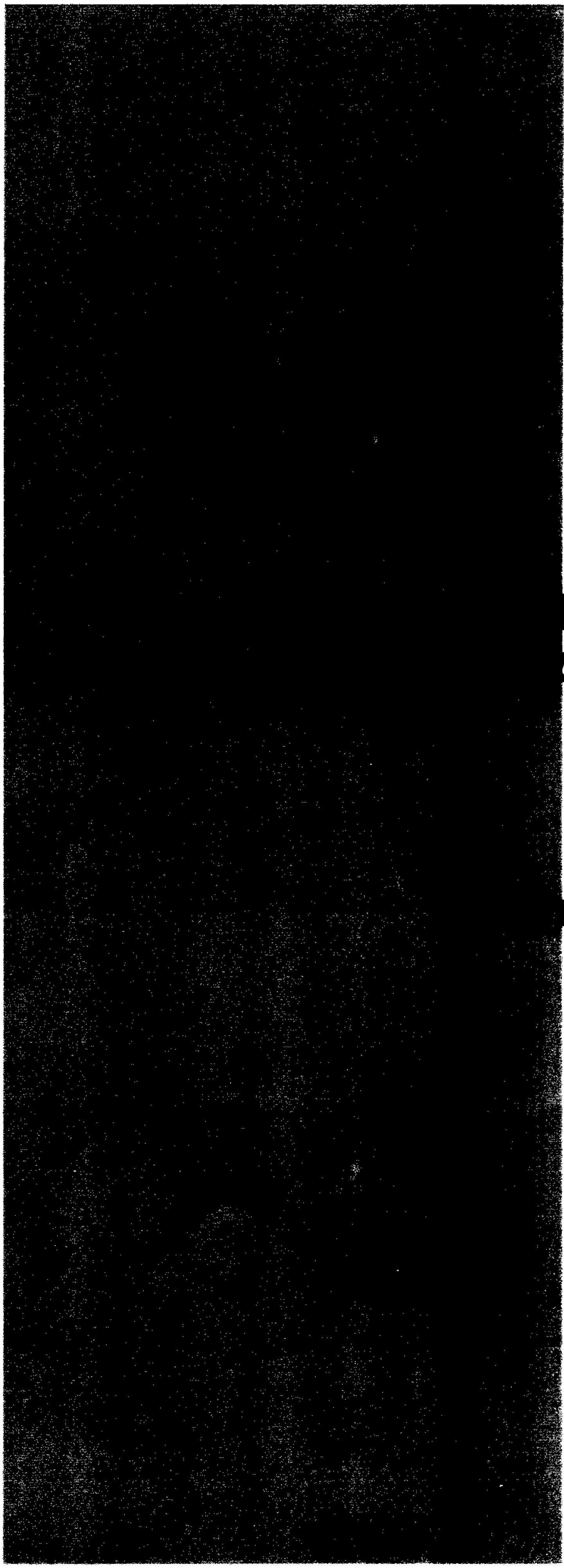

Knox City Council

Serving the People of Knox

BY/ROWVILLE
AREA REVIEW

Final Report

tember 2000

SGS

URBAN ECONOMICS & PLANNING

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EXECUTIVE SUMMARY

Study Aim

The purpose of this study is:
1. To understand the role of the Scoresby / Rowville industrial areas in the 'production economy'; and
2. To develop a strategic land use and economic development framework for the Scoresby / Rowville industrial areas.

Understanding the Scoresby / Rowville Industrial Areas

- The Scoresby / Rowville industrial areas are designated for industry or warehousing activity under existing Planning Scheme provisions (Industry 1 Zone). This zone limits office activity to 500 square metres per establishment.

- There are about 595 business establishments in the study area in addition to approximately 120 unoccupied buildings and vacant sites (at February 2000). The study area is one of Knox's major employment nodes. It is likely to provide in the order of 14,280 jobs, or over one quarter of the municipality's total job stock.

- The study area is a 'clean and green' industrial and commercial land setting. The study area performs three roles in Melbourne's property market as follows.

1. *Production and service industry land for:*
   - Manufacturers - producers of goods for domestic and overseas markets.
   - Service industry firms - repair, maintenance, construction and production for local customers.

2. *Business park land for:*
   - Administration and / or distribution establishments - importers of global brand goods for distribution to the Australian market.

- Business services - a wide range of small businesses and 'back office' functions from information technology service providers to marketing services.

3. *Peripheral sales land for:*
   - Wholesalers and retailers - a wide range of wholesale and retail outlets, typically supplying industry, vehicle and construction goods.

- The study area is successful in attracting firms with global reach in manufacturing and administration and / or distribution. This is due to combination of location factors (ie. it is well-connected to markets and a workforce) and site factors (ie. suitable facilities and space in a high amenity setting for a competitive price).

- A significant number of bigger, global firms do not conform to planning regulations that limit office activity to 500 square metres. About 12% of all establishments in the study area have more than 500 square metres of office floor area. This figure is 25% for establishments that have a total floor area of over 500 square metres and thus the potential to exceed this mark.

Understanding Global Trends in the Production Economy

- The nature of production world-wide is characterised by the 'elongation of production chains' which means that the production process is distributed across the globe and not necessarily concentrated in one place.

- The distinction between production and service work is increasingly blurred with the technological advancement and fragmentation of manufacturing. A manufacturer nowadays may generate more work in services than in production.

- In the future, 'places' will increasingly specialise in one or a number of roles in the production chain - such as management, research & development, production, distribution, marketing & sales, service & customer support - but not necessarily all of these roles.

- The specialisation of the study area in the global chain of production is likely to be strongest in management, regional distribution, marketing & sales and service & customer support. This trend is already established. As noted above, a significant number of globally connected firms have more than 500 square metres of office floorspace.

Land Use Planning Implications

- As shown in the following chart, the Industry 1 Zone is adequate for manufacturers, service industry and certain wholesalers & retailers. However, the Industry 1 Zone is inappropriate for administration and / or distribution facilities, business services or 'back office' facilities and for enabling the 'next phase' of industrial related development to occur - such as discrete facilities for production-linked management, research & development, marketing & sales and service & customer support.

- 'Industry' in planning and development now requires a broader definition to include all facets of the production chain.

- There is a need for a more 'flexible' land use framework that promotes development of a range of activities related to production and complementary business services.

Assessment of Industry 1 Zone Against Existing and Possible Future 'Industrial' Activities in Study Area
Note that the following notes are indicative and relate to major themes only.

Industrial Activity in Study Area	*Role in Production Economy*	*Land / Infrastructure Needs*	*Building / Floor Area Needs*	*Is the Industry 1 Zone Appropriate?*
Manufacturers	Production of goods for domestic and overseas markets.	Industrial land of variable size which allows for heavy vehicle access and some off-site noise and related emissions.	Buildings of variable size (generally under 1,000 sqm but can range up to 20,000 sqm in some cases) with predominant use for production, followed by storage/distribution and administration.	**Yes** - IN1Z provides for the needs of these firms. 'Garden' industrial design provisions provide firms seeking a 'higher' amenity environment with more choice.
Administration and / or Distribution Units	Importers of global brand goods for distribution to Australian market.	High amenity business park setting with lots in the order of 5,000 to 10,000 sqm which allows for heavy vehicle access and no off-site noise or other emissions.	Buildings in the order of 5,000 sqm + with the predominant uses storage / distribution and administration. The office component often exceeds 500 sqm.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm.
Service Industry	Repair, maintenance, construction and production services for regional area.	'Small' Industrial lots which allow for some off-site noise and related emissions.	Buildings of generally under 500 sqm with predominant use workshop.	**Yes** - IN1Z provides for the needs of these firms
Business Services and 'Back Offices'	May have strong or weak links to production. Roles include business management, marketing, information technology and research & development.	Commercial area or business park setting with no off-site noise or other emissions.	Buildings of variable size (generally under 1,000 sqm) with 'office' the predominant use.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm.
Wholesalers and Retailers	Predominantly sellers of industrial, vehicle and construction goods.	Low cost industrial land with heavy vehicle access.	Variable building requirements generally comprising storage / distribution (covered or uncovered) and showroom / sales.	**Yes** - IN1Z provides for the needs of these firms. 'Garden' industrial design provisions provide firms seeking a 'higher' amenity environment with more choice.
In addition to the above uses, the Study Area may be a candidate for a number of other 'industrial' related development trends emerging across the world. *The key influence on the structure of 'industry' is globalisation of the production economy and elongation of production chains across the world. 'Places' are increasingly specialising in one or a number of roles in the production chain - such as management, research & development, production, distribution, marketing & sales, service & customer support - but not all of these roles. A lessening in regional self-containment is an outcome.*				
Management and/or R&D and / or marketing-sales and / or service-customer support.	A link in the global chain of production.	High amenity business park / commercial area setting with no off-site noise or other emissions. The ability to attract and retain highly skilled workers depends on the urban precinct offering the highest quality business, culture and recreation facilities and places to meet and exchange ideas. Access to R&D / education facilities is also important.	Buildings of variable size with 'office' the predominant use in a high quality lifestyle precinct with access to retail, business and recreation services.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm. The Zone does not provide for the development of a distinct retail, business and recreation precinct that would add to the competitive advantage of the area by attracting and retaining highly skilled workers.

Recommendations

The recommended Policy Objective is:

- To increase the number and range of production-related businesses and jobs in the study area.

In pursuit of this objective, it is recommended that:

1 The Industry 1 Zone continue to be applied throughout the municipality and in parts of the study area to accommodate manufacturers and service industry firms.

2 That a multi-use 'employment precinct' be established in the study area to accommodate 'high amenity' industry and warehouse activity. This should include land use activities that have industry / production or warehouse / distribution as a primary function. Minimum or maximum floorspace codes should not apply in this area.

3 That a limited commercial activity area - providing retail, personal, recreational and business services - be established in the employment precinct to service businesses in the area. The commercial activity area would boost competitive advantage of the employment precinct by assisting the attraction and retention of skilled workers.

4 That the City of Knox clarifies planning policy with respect to peripheral sales / retail activity.

Policy and Strategic Frameworks

The recommended planning policy (Strategies 1-3) and environmental management and economic development frameworks (Strategies A-E) are documented in the following tables and shown in the following diagram. Note that this is an indicative plan. Council is required to develop details with relevant authorities and stakeholders.

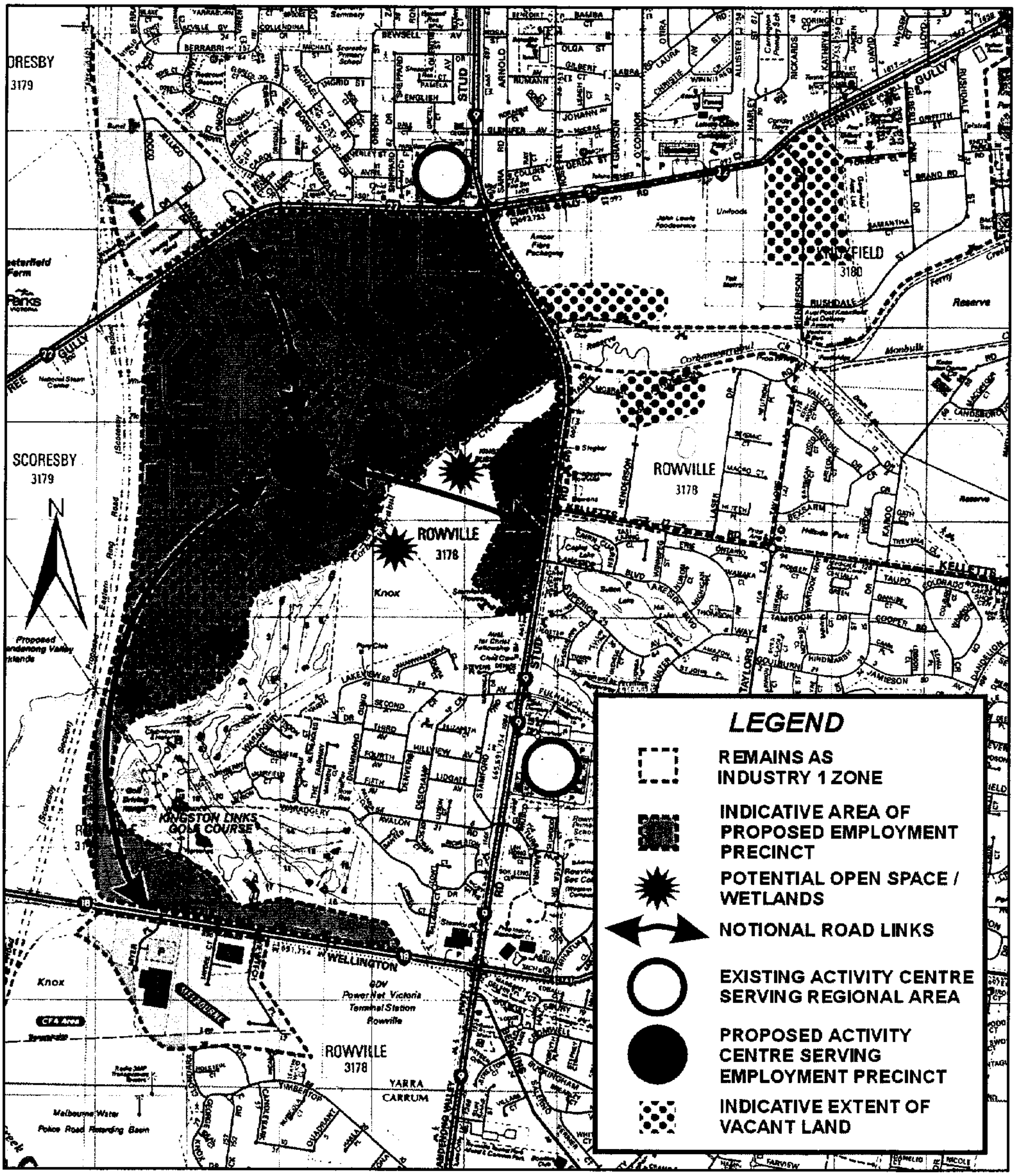
Recommended Planning Policy (PP) Strategies 1-3.

Strategy	Rationale	Permissible Uses	Planning Guidelines	PP Actions for Knox City Council
1. Continue to apply the Industry Zone 1 throughout the municipality and in parts of the study area.	Accommodate manufacturers and service industry firms in Knox. Ensure availability of industrial land for such uses.	Uses specified by Industry Zone 1, Knox Planning Scheme.	As specified by Industry Zone 1, Knox Planning Scheme.	None.
2. Establish a multi-use 'employment precinct' in the study area.	Accommodate 'high amenity' industry and warehouse activity. This should include land use activities that have industry / production or warehouse / distribution as a primary function. Provide business park land for uses that perform a production-related function but fall outside the narrow definition of industry.	Uses that: ▪ contribute to the objective of increasing the number and range of production-related businesses and jobs in the study area; ▪ are production-economy related, but not necessarily engaged in production or assembly, and require a business park setting; ▪ have no significant off-site noise or other emissions; and ▪ have the highest possible environmental and operational standards.	A development's proponent must satisfy Council that: ▪ the development contributes to boosting the number and range of jobs in Knox; and ▪ the development is consistent and compatible with business park uses with respect to building and site design, amenity, noise emissions and vehicular traffic generation.	Prepare an employment zone policy, specifying minimum performance requirements relating to at least: ▪ employment; ▪ design and amenity; ▪ corporate profile/image; ▪ noise and other emissions; and ▪ vehicular traffic generation (eg. traffic counts similar to industry / office activity). Minimum or maximum floorspace codes should not apply in this area.
3. Establish a limited commercial activity centre in the employment precinct.	Boost the attractiveness of the employment precinct for firms and workers. Existing activity centres in the region (such as Stud Park and Scoresby Village) primarily service the regional population. A special purpose centre is needed in the precinct to: ▪ specifically service businesses and workers; ▪ create a precinct that encourages informal interaction between firms / workers; and ▪ boost the attractiveness of the study area as a business park location.	Uses that: ▪ meet the needs of businesses and workers in the employment precinct; and ▪ do not compete directly with surrounding activity centres that serve the local population (such as Stud Park and Scoresby Village).	A development's proponent must satisfy Council that: ▪ the development serves only the employment precinct (ie. its workers and businesses); and ▪ the development does not have a significant detrimental impact on existing activity centres in the region.	Prepare an employment precinct activity centre policy, specifying minimum performance requirements.

Recommended Environmental Management (EM) and Economic Development (ED) Framework Strategies A-E.

Strategy	Rationale	EM Actions for Knox City Council	Economic Development Objectives	ED Actions for Knox City Council
A. Continue to use the Industry Zone 1 in three parts of the study area: north of Ferntree Gully Road; south of Wellington Road; and east of Stud Road. Strategy C – main road frontages – is to be read in conjunction with this Strategy.	Minimise inter-industry conflict by co-locating manufacturing and service industry activities within designated precincts. The industrial areas north of Ferntree Gully Road and south of Wellington Road are substantially developed and occupied by predominantly small manufacturers and service industry firms. There is little development potential in these areas and thus maintenance of existing zoning arrangements is recommended. The large industrial zone to the east of Stud Road has a mixture of businesses and has significant tracts of vacant and developable land. Maintenance of existing zoning arrangements is recommended to support existing activity and to cater for additional industrial development.	None.	To support and promote development of production and service industry activity in Industry 1 Zones.	In collaboration with land owners, prepare a detailed prospectus / marketing document on the municipality as a designated place for business opportunities in production and service industry activity, highlighting land stocks in the areas east of Stud Road. The prospectus should state how Council will support appropriate development proposals. Distribute the document to land agents & brokers and investment houses.
B. Establish an employment precinct in the area bound by Ferntree Gully Road, Stud Road, Wellington Road and the Scoresby Freeway reservation. Strategy C – main road frontages – is to be read in conjunction with this Strategy.	Minimise inter-industry conflict by co-locating high amenity employment precinct activities within a designated area. The area recommended for the employment precinct has: ▪ high amenity business parks settings; ▪ a diverse, non traditional industry profile; and ▪ large tracts of vacant land suitable for employment-based development.	Prepare a detailed masterplan of and planning implementation strategy for the employment precinct following the broad vision described in this document. Implement the employment zone precinct (using Council's employment precinct policy – see Strategy 2 above) with any tool of Council's choosing (eg. rezoning, overlay control). Existing activity conforming to	To support and promote development of emerging industry / production related activities in the employment precinct.	In collaboration with land owners, prepare a detailed prospectus / marketing document on the employment precinct as a designated place for business opportunities in emerging industry / production related activity. The prospectus should state how Council will support appropriate development proposals. Distribute the document to land agents & brokers and investment houses nationally and internationally.

		Industry Zone 1 within the employment precinct should continue to operate under those provisions. Only redevelopment of these areas should be subject to employment zone provisions.		
Strategy	**Rationale**	**EM Actions for Knox City Council**	**Economic Development Objectives**	**ED Actions for Knox City Council**
C. Enable development of 'employment precinct uses' on the following Industry Zone 1 main road frontages: the north side of Ferntree Gully Road in Scoresby; the south side of Ferntree Gully Road in Knoxfield; the east side of Stud Road; and south side of Wellington Road. Where there is a significant conflict of land use between Industry Zone 1 activity and employment precinct activity in these areas, Industry Zone 1 activity is to be favoured. Strategies A and B are to be read in conjunction with this Strategy.	Utilise the study area's extensive main road system to attract firms that seek a high exposure setting. Some high profile firms require a main road location for exposure. High profile firms have potential to improve the amenity and corporate profile of Knox.	Develop the main road frontage concept as part of Strategy B - employment precinct masterplan and planning implementation. Employment precinct uses should be permitted in these otherwise Industry Zone 1 areas if there is no significant land use conflict. Where there is a significant conflict, Industry Zone 1 activity is to be favoured.	See Strategies A and B.	See Strategies A and B.
D. Establish a limited commercial activity centre in the employment precinct.	See Strategy 3.	Develop the activity centre concept as part of Strategy B - employment precinct masterplan and planning implementation – and Strategy 3 – activity centre policy.	To promote development of an appropriate activity centre in the employment precinct.	See Strategies 3 and B.
E. Establish link roads within the employment precinct that connect Ferntree Gully Road and Wellington Road via the activity centre (Strategy D) and connect Stud Road and the activity centre.	Internal link roads would integrate the employment precinct (which is at present disconnected), maximise opportunities for business-to-business relationships and provide access to the activity centre node from all areas.	Develop the link roads concept as part of Strategy B - employment precinct masterplan and planning implementation.	None.	None.



Strategic Vision for Study Area

Base map: Melbourne on CD, Version 2.0

1. INTRODUCTION

1.1 The Study

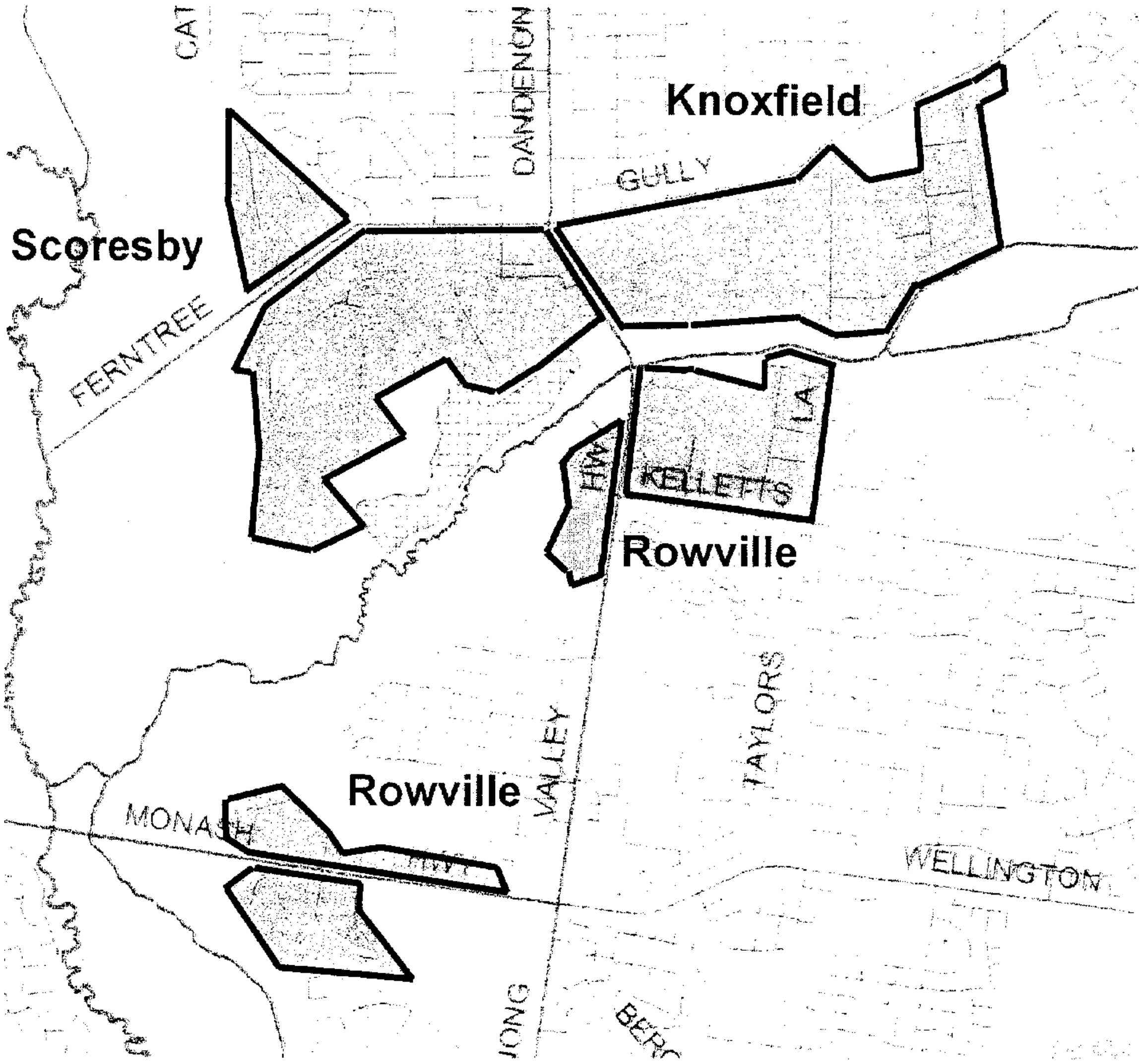
The manufacturing sector of today barely resembles its predecessor of half a century ago. Manufacturing has evolved from an activity undertaken almost exclusively in large plants in advanced nations to a more diverse structure, defined by a global chain of production. Changes in the nature of manufacturing globally have transformed the manufacturing landscape in Melbourne.

The spatial structure of production and related activities in Melbourne has evolved from inner city smokestacks, to suburban plants and business parks to a more fragmented structure. Today the city's production economy is defined by a complex network of producers, innovators, decision makers, distributors and service providers that occupy a range of land uses such as industrial zones, technology precincts and commercial and office districts.

This raises the question: has the planning framework kept pace with changes in the production economy?

The focus of this study is to understand the role of the Scoresby / Rowville industrial area (ie. the study area) in the wider production economy and to review the appropriateness of planning controls and economic development initiatives that apply to those areas.

The study area is shown overleaf. The vast majority of industrial lands in Scoresby and Rowville are zoned Industrial 1 and are free from overlay controls. The objective of this zone is to promote appropriate industry or warehousing activity. A permit is required for an office but the leaseable floor area must not exceed 500 square metres. Prohibited uses include accommodation and shops.



Scoresby / Rowville Industrial Area

A preliminary review reveals that the study area may be establishing a specialisation as a home to amenity conscious businesses and production related office functions. The study area may have more office content than is the average for such zones. If this is the study area's role in the wider production economy, the appropriateness of controls that limit office activity, for example, may be inappropriate.

1.2 Aim and Objectives

The purpose of this study is:

1. **To understand the study area's role in the global, national and metropolitan production economy; and**

2. **To develop a strategic framework for economic development and land use control in the study area.**

The specific aim and objectives of the study are documented in the following text box.

Aim:

"The aim of the project is to gather intelligence about existing industrial activity in the Scoresby / Rowville Industrial Area and the emerging broader trends in industrial activity to help inform the development of Council's urban planning and economic development policies and frameworks in accordance with stated objectives".

Objectives:

- *"To provide a land use and economic / investment analysis of the existing activities in the project area, including any significant industry clusters or trends.*

- *Provide a local, regional, national and international insight into the emerging / broader industrial investment trends and requirements of new industries and how these may manifest in the project area.*

- *To collect, analyse and report on data and trends in a way that can be used by Council to inform the development of planning and economic development policies and strategies that advance the State's and Council's broader objectives".*

1.3 Structure of the Report

- The first section of the report (Section 2) reviews Commonwealth, State and local government policy with respect to industry development.
- Section 3 reviews economic literature pertaining to globalisation and industry development in Australia.
- Section 4 presents data on the economy of Knox. A detailed analysis of manufacturing is provided.
- Section 5 presents a detailed review of businesses in the study area.
- Section 6 provides an overview of the more detailed survey research undertaken for this study.
- Section 7 presents the 'business' findings of the survey research.
- Section 8 presents the 'location' related findings of the survey research.
- Section 9 reviews existing planning frameworks, policies and controls as they apply to industrial development in the study area.
- Section 10 presents the study conclusions and recommendations.
- Appendix A contains a list of establishments in the study area.

2. POLICY CONTEXT REVIEW

This section introduces Commonwealth, State and Local Government policies that are relevant to industrial and related development in Melbourne and Knox.

2.1 Commonwealth Government

The Commonwealth influences industrial and related development through its broad macro and micro economic policy settings.

The Commonwealth sets the framework in which all industry operates through its broad macro and micro economic policy settings. Taxation, budgetary expenditures and tariffs are examples of the former and labour market reform and competition policy are examples of the latter.

The Commonwealth also influences the state of industry performance by encouraging and developing competitiveness in Australian industry through involvement in research & development, exporting, technology diffusion, innovation, education, transport and communications.

Comprehensive tax reform, highlighted by the introduction of a Goods and Services Tax, is an essential part of the Government's present agenda. The Government claims that its tax reform program will enable Australian enterprises to compete more effectively in global markets for goods, services, capital and labour[1].

Sectoral policies aim to improve the competitiveness and performance of strategic industries in Australia.

The Department of Industry, Science and Resources administers specific policies for industry development[2]. Policies are framed in terms of the following priorities:

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[1] Liberal Party of Australia and National Party of Australia (1998) *Making Industry Stronger (Industry Policy).*

[2] Department of Industry Science and Resources (1999).

- Creating an environment that exploits knowledge as a driver of wealth creation and high value added jobs;
- Improving basic research, business research & development and the level of commercialisation; and
- Improving the competitive position of Australian business by reducing costs and Government impediments, better positioning Australian companies to access export opportunities and encouraging the uptake of more efficient technology and business practices.

In pursuit of these priorities, industry action plans have been or are being developed for 17 key sectors in the Australian economy. The responsibility for implementation of the action plans is spread across three Commonwealth portfolios, as follows.

- Department of Industry Science and Resources
  - Automotive
  - Tourism
  - TCF (wool, cotton, leather and fashion)
  - Chemicals and Plastics
  - Emerging and Renewable Energy Industries
  - Liquid Natural Gas
  - Downstream Petroleum Products
  - Building and Construction
  - Furnishing Industry
  - Heavy Engineering and Infrastructure
  - Biotechnology
  - Sport and Recreation
  - Printing Industries

- Department of Agriculture, Fisheries and Forestry
  - Food
  - Forest and Wood Products

- Department of Communications, Information Technology and the Arts
  - Information Industries
  - Digital Broadcasting

Austrade and Invest Australia cooperate to attract and facilitate investment.

The focus of their programs is aimed at attracting regional headquarters and regional operating centres through the RHQ Program and other major projects through the Strategic Investment Incentives Program (ie. for projects worth more that $50 million).

2.2 State Government

A range industry and planning policy frameworks are relevant to industrial and related development in Melbourne and Knox. This includes existing frameworks and those currently being developed by the State Government.

Victoria's existing industry framework focuses on manufacturing, business services and resource sectors.

Business Victoria (soon to be restructured) identifies six sectors of 'strategic' importance to the State[3], these being:
- Automotive, plastics and rubber;
- Aviation and distribution;
- Business services;
- Food and related industries;
- Manufacturing technology; and
- Resource based industries.

Six functional units operate within Business Victoria to improve the international competitiveness of firms operating in those sectors. The services offered by the functional groups include business growth, technology diffusion and industry development programs.

The State attracts and facilitates investment through its Investment Facilitation Unit.

The Investment Facilitation Unit operates to assist both local and external investors with proposed development projects[4]. This unit assists significant investment projects by coordinating all government and semi-government negotiations, including site identification, infrastructure and planning matters.

[3] Victorian Department of State and Regional Development (1999).
[4] Discussion with Investment Facilitation Unit Representatives (2000).

Financial incentives may also be available to 'significant' investment projects. Such assistance can take the form of grants to offset Payroll and Land Tax, provision of infrastructure and assistance with training.

The main industry themes of the new State Government concern advanced manufacturing, research & education and regional Victoria.

The major themes[5] of the new State Government in economic and industry development are as follows:

- Removing impediments to investment and economic growth;
- Supporting the development of clusters and networks of supply chain linked enterprises;
- Establishing a Victorian Research and Development Council to oversee innovation and technology programs;
- Auditing Victorian industry to identify the areas of greatest potential for the State;
- Developing sectoral industry plans for both traditional and emerging industries;
- Establishing a separate manufacturing division within the Department of State Development to support and expand opportunities for Victorian manufacturing industries;
- Targeting investment attraction towards high technology, export oriented businesses, especially manufacturing;
- Investing in economic infrastructure (eg. the major transport hubs of Port of Melbourne and Melbourne Airport);
- Promoting skills development and training; and
- Promoting industry development in regional Victoria.

The major theme of the State Planning Framework is consolidation of development in existing areas and designated growth areas for more efficient use of resources and infrastructure.

The State Planning Policy Framework aims to provide for the fair, orderly, economic and sustainable use and development of land[6]. The framework states that, among other things,

[5] Australian Labor Party, Victorian Branch (1999) *ALP Policy State Election.*
[6] Victorian Department of Infrastructure (1999) *State Planning Policy Framework.*

metropolitan Melbourne is to have an environment that promotes economic growth.

The framework aims for the:

- Consolidation of urban and economic activities within the existing metropolitan area and designated growth areas;
- Concentration of 'capital city' functions in the City of Melbourne, that is, key finance, retail, commerce, tourism, culture and entertainment activities;
- Concentration of major suburban retail, commercial, administrative, health, education, entertainment and cultural developments in and around activity centres with good access to integrated transport services; and
- Concentration of higher density and mixed use activities around major transport nodes.

With respect to industry development, the objective is to: *"ensure availability of land for industry and to facilitate the sustainable development and operation of industry and research and development activity"*.

State Planning Policy Framework, Clause 17.03-02
"Existing industrial areas that include key manufacturing or processing industries; a major cluster of allied industries; key industrial infrastructure should be protected and carefully planned where possible to facilitate further industrial development. Responsible authorities should not approve non-industrial land uses which will prejudice the availability of land for future industrial requirements in industrial zones".

Furthermore, the framework states that local area planning should contribute to the development of a wider transport system that promotes economic growth.

The new State Government is developing a metropolitan planning strategy. A clear indication on the direction of industrial development policy is not yet available.

The State Government has committed itself to producing a Future Directions report on metropolitan strategic issues by September 2000[7]. That report will inform public debate and discussion prior to the finalisation of a Metropolitan Strategy, which has been acknowledged as a key linkage requirement between the State Planning Policy Framework and local government strategies and planning schemes.

Discussions with the Department of Infrastructure reveal that it is too early to get any clear indication on the policy direction for industrial development in the broader metropolitan strategy.

With respect to Eastern Melbourne, the State's policy direction[8] mainly concerns the development of key pieces of transport infrastructure such as:

- Extension of the Eastern Freeway (without compromising the Mullum Mullum Creek Valley environment);
- Upgrade of Stud Road (also known as Dandenong Valley Road); and
- Development of the Scoresby Freeway.

2.3 Local Government

A number of planning and economic development policy frameworks are relevant to industrial and related development in Knox. These include the City of Knox's Municipal Strategic Statement (MSS), Planning Scheme provisions and Economic Development Strategy. An overview of these documents follows. A summary of a discussion paper on industrial development issues in Knox is also provided.

Promoting the identity and image of Knox, facilitating job growth and improving transport links are key economic themes in Knox's MSS.

The MSS[9] recognises that a number of major businesses operate in the municipality, presenting an important corporate profile and providing investment and job opportunities.

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[7] Discussion with Department of Infrastructure Representatives (2000).
[8] Thwaites, J. The Hon., Minister for Planning (1999) *State Planning Agenda: A Sensible Balance.*
[9] City of Knox Municipal Strategic Statement (1999).

The City intends to maintain and enhance a high standard of visual amenity in its industrial areas. The increasing importance of technology based businesses that can mix with other land uses is recognised in the MSS.

Another factor of regional significance is the City's existing and potential freight links to manufacturing and transport nodes. The need to maintain and build on these assets is noted.

The Scoresby / Rowville industrial areas are designated for industry or warehousing activity under existing Planning Scheme provisions.

Knox's planning scheme[10] sets out the land use controls designed to achieve the goals set out in the MSS.

The vast majority of industrial lands in Scoresby and Rowville are zoned Industrial 1 and are free from overlay controls. The objective of this zone is to promote appropriate industry or warehousing activity. A permit is required for an office but the leaseable floor area must not exceed 500 square metres. Prohibited uses include accommodation and shops.

Knox's Economic Development Strategy seeks to facilitate and attract investment.

The current economic development strategy[11] for Knox has three primary objectives:

- To maintain and improve the investment environment in the community;
- To facilitate new local investment by existing firms in Knox; and
- To attract external investment (new business, employment and capital).

A strategic direction in the strategy concerns the development of the food processing industry through the convening of a Food Management Forum. A more generic strategic direction concerns the development of Knox as the premier business and investment location in Melbourne.

[10] City of Knox Planning Scheme (1999).
[11] Knox Economic Development Strategy 1998-2001 (1998).

Strategic options to free up the investment environment in Knox's industrial areas are considered by a Council discussion paper.

A discussion paper[12] considers the 500 square metre cap on office activity in the City's industrial areas in the context of the City having developed a specialisation as a home to amenity conscious businesses and regional / head office functions.

The control on office development may be holding up further investment in the City. Strategic options raised to address this issue include:

- Expand discretion to allow offices throughout industrial zones;
- Free up office floorspace limits in selected areas;
- Develop core office/business precincts;
- Respond to developer proposals as they arise; and
- Define opportunities in adjacent activity centres to accommodate office and related functions.

[12] City of Knox Discussion Paper - Some Industrial Development Strategy Issues.

3. ECONOMIC THEORY REVIEW

Over the past three or four decades economic forces have reshaped manufacturing and more generally the organisation of production and related business services across the world.

The following paragraphs trace broad economic trends that have influenced production across the world, Australia and Melbourne. The notes consider the broad changes to the structure of production globally and firms that play an export role in the global economy.

3.1 The Global Context

Long-term economic periods are characterised by the transfer of investment from 'old' economic activities into 'new' activities. The most recent phase has seen demand for smaller and more environmentally attractive industrial settings increase at the expense of very large production plants.

The advanced market economies of the world economy have gone through a number of long-term phases over time. The phases are driven by innovation in the development of products or services. Innovation leads to the opening up of new markets, rapid investment and a long-term cycle of growth.

The producers of new goods generally enjoy a temporary monopoly and high profits before new entrants in the market emerge. Over time, competition leads to more efficient production and eventual erosion of profit margins. Eventually, the ability to accumulate wealth in a product market is diminished and the cycle of growth slows. At this point, new ways of accumulating wealth are sought. Innovation in a totally new (quantum leap) product (as opposed to incremental improvement in an existing product) kick-starts the cycle of growth again.

As an economic phase nears its end, 'old ways' of making money continue to exist but become the domain of more efficient and less profitable firms (the car industry is an example). Capital is attracted to new and more profitable ways of accumulating wealth (such as information technology), until that mode of production runs its course and a new one takes over.

The text box below depicts Schumpeter's view of economic waves[13] and the cluster of products that sustained them. A key point in this depiction is that the economic waves are growing and petering out at a faster rate. New technologies and greater diffusion of information across the world is driving the acceleration.

Economic Waves by Schumpeter

Period		*Period Dominated By Investment In:*
First Wave	Late 1700s to Mid 1800s	Water, Power, Iron, Textiles
Second Wave	Late 1800s to Early 1900s	Steam, Rail, Steel
Third Wave	Early 1900s to 1950s	Electricity, Chemicals, Engines / Cars
Fourth Wave	1950s to 1990s	Electronics, Aviation, Petrochemicals
Fifth Wave	1990s to ?	Digital Networks, Software, New Media

Economic periods have a significant impact on the way production is done and the nature of land use demand. An example of the changing of the guard is the shift from the car industry to software development as a dominant form of investment.

As a result of such change, demand for smaller and more environmentally attractive industrial settings is increasing across the world whereas demand for very large production plants is generally in decline.

[13] 'A Survey of Innovation in Industry', in: *The Economist*, 20 February 1999.

In recent decades 'globalisation' has reorganised the structure of manufacturing world wide. Advanced nations accommodate most technologically advanced production whereas developing nations are used for more labour-intensive practices.

At the start of the 1900s, production in advanced nations merged into large, vertically integrated conglomerates. The 'we do everything in-house' (ie. planning, design, component manufacture, assembly, marketing, distribution, etc.) method of production utilising large plants was the norm. Production was labour-intensive, inflexible and, by today's standards, highly inefficient.

Globalisation in production began in earnest during the middle part of the 1900s led by large multinational corporations based in America and Europe (and later Asia). The multinationals established off-shore operations (in countries like Australia) to enter and service protected markets. From the 1940s to the 1970s, large fully integrated manufacturing plants dominated production across the world.

However, the structure of manufacturing and business operation in general changed from the 1970s. Japan's 'just in time' method of production - utilising more automated, efficient and flexible production techniques - exposed the poor performance of the large multinationals. Manufacturers were placed under increasing import pressure from superior quality and cheaper goods.

Globalisation

Globalisation primarily refers to the freer movement of capital and trade in goods and services across national boundaries. The concept also includes the increasing movement of information, people and culture across national boundaries.

Globalisation came about by technological change (allowing rapid communication and transport) and diminution of barriers to international trade.

Measuring globalisation: The value of world exports increased from US$2,126b in 1980 to US$6,614b in 1997 (shown in constant 1999 dollars)[14]. This represents a 6.9% per annum growth in the value of world exports.

From the 1970s and especially 1980s, manufacturers in countries like Australia responded to the mounting pressures by adopting leaner manufacturing techniques in search of global competitiveness. This involved use of more capital-intensive (as opposed to labour-intensive) practices. Structural adjustment and massive job shedding was an outcome.

A consequence of the restructuring was the drift of manufacturing investment from advanced nations to low labour-cost parts of the world. Activities that had a high reliance on labour flowed into the developing world, particularly Asia. The goods produced in these nations further placed western manufacturing under competitive pressure. (Nowadays, many once-developing nations are themselves witnessing technology-driven restructuring in production[15]).

Advanced nations like Australia have emerged from the restructuring process with an export oriented manufacturing sector. Production is generally technologically-advanced and jobs tend to be clustered at the 'higher-end' of the spectrum such as in research and development, design, engineering, marketing and distribution. The proportion of low-skilled process workers in manufacturing is declining.

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[14] World Bank (1999) *World Development Indicators.*

[15] 'A Survey of Manufacturing', in: *The Economist,* 20 June, 1998.

The Role of Government in the Development and Restructuring of Manufacturing in Australia

Government has played a major role in the development of Australian manufacturing. Initially, protectionist polices were established to nurture a domestic manufacturing industry. During the middle part of the century, government actively attracted large multinationals to regions and suburbs across Australia. More recently, government has sought to make Australian firms internationally competitive. The key policy changes since the 1980s include:

- floating of the Australian dollar;
- deregulation of banking and finance sector;
- wind-back of industry protection (ie. tariffs);
- development of industry rationalisation plans;
- micro-economic reform in infrastructure and government enterprises;
- deregulation of labour markets and industrial relations in pursuit of productivity gains and flexibility; and
- competition policy.

A key outcome of the globalisation of manufacturing is that the 'chain of production' is no longer achieved under one roof or even within one country. The chain of production is now more spatially dispersed with each segment located in the most competitive location in terms of skill requirements and labour cost. In general terms, advanced nations undertake the corporate control and advanced production elements and developing nations the labour-intensive production elements.

Within nations, firms are specialising in core activities and adopting horizontally integrated production structures.

Within nations, the production chain has been elongated as well. The manufacturing scene in advanced nations is increasingly dominated by smaller, technologically advanced and horizontally integrated operations.

Firms are now likely to specialise in core production and outsource specialised components and services like accountancy, design, distribution, marketing and the like. By focussing on core competencies and shedding non-core functions, firms are able to strive for best practice, innovation and flexibility.

A multiplicity of separate firms may be engaged to provide inputs or components for an end product in the global chain of production.

Despite the fragmentation of manufacturing, multinationals remain key players in the contemporary global production economy. Multinationals typically base their command and control function in their home nation and establish regional offices elsewhere. Production plants are typically located in cost-effective locations. Inputs are sourced from a variety of suppliers and service providers from around the world.

The implication for Australia is that firms now have to be globally competitive and well connected to other firms to survive.

The development of business networks and clusters is a key to competitive advantage in the global production economy.

It is generally not possible for a single firm to do all production and service functions at a world class standard. However, all functions increasingly need to be world class in order to become and remain competitive in a globalising economy. Relationships between or clusters of firms provide the potential for international competitiveness.

As Porter[16] writes: *"A cluster allows each member benefits as if it had greater scale or as if it had joined others without sacrificing its flexibility"*.

A cluster is a strategic group of firms and organisations with usually different but complementary positions in the supply chain. The cluster can be defined as being driven by firms that are globally competitive and have an export focus. Their local suppliers and support organisations (such as research establishments and business associations) form a network of organisations that together bring new wealth to the economy through export sales[17]. A cluster may share inputs, technology, skills, customers and information.

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[16] Porter, M. (1998) 'Clusters and the New Economics of Competition', in: *Harvard Business Review*, Nov/Dec.
[17] Waits, M.J. and Howard, G. (1996) 'Industry Clusters', in: *Economic Development Commentary*, Vol 20(3).

Clusters form an alternative method of organising the value chain, with companies benefiting from close buyer-supplier relationships without the need for vertical integration whilst benefiting from innovation, knowledge and flexibility.

Although the concept of clusters originally implied geographical proximity, the meaning of proximity has been broadened. A cluster may cover a wide geographic area, such as the metropolitan Melbourne. A cluster is distinct from an agglomeration of firms and hence it should be understood that 'local' and 'proximity' are relative terms that vary between industries.

E-commerce has the potential to make global supplier networks deeper and more competitive. Large industrial buyers have already established on-line auctions for components[18]. This method of distribution is in its infancy but will mean that 'local' suppliers are increasingly in competition with more suppliers from around the world. Firms will be forced to strengthen their supplier networks in this context.

The distinction between production and service work is increasingly blurred with the technological advancement and fragmentation of manufacturing. A manufacturer nowadays may generate more work in services than in production.

In recent years, the key growth sectors of advanced economies have been service or knowledge sectors. According to Reich[19], the global information economy is creating three distinct groups in the workforce: 'symbolic analysts', 'in-person service workers' and 'routine production workers'.

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[18] Sahlman, W. (1999) 'The New Economy Is Stronger Than You Think', in: *Harvard Business Review*, Nov-Dec.
[19] Reich, R. (1992) *The Work of Nations.*

The Reich Typology of Workers

Symbolic Analysts
High skilled information and knowledge work is being generated by the world economy. Jobs in finance, business services, design, information technology and research are included in this group. Also included would be certain classes of 'hi-touch' workers, artists, musicians, writers and other content producers. Symbolic analysts have high economic wealth, relative job security and good career prospects. These workers are increasingly 'footloose'; they have the ability to market themselves as independent enterprises working for a several clients and pursuing several careers simultaneously.

In-Person Service Workers
The symbolic analysts are driving demand for low skilled service work in hospitality, cleaning, security and entertainment. The in-person service workers support the lifestyles of the symbolic analysts. Relative to the symbolic analysts, workers in this group have low economic wealth, job insecurity and uncertain career prospects. These workers are also casualised in the sense that they may not have a permanent employer. However, they do not have the control and choices open to the symbolic analysts.

Routine Production Workers
These include factory workers and clerks who require a reasonable level of education but who are nonetheless vulnerable to job loss through automation, or job export to lower wage regions around the world. Routine production workers may well have (so called) permanent jobs and tend to be in highly unionised sectors.

In this typology, jobs directly engaged in production are taking a lesser role in the advanced world. However, this does not mean production is taking a lesser role. Many service jobs are in fact generated by production. As advanced nations play the higher end role in production, more jobs tend to be in thinking roles as opposed to pulling levers and bashing metal.

This is described as the rapid growth of 'producer services'. For example, in 1986, jobs in producer services accounted for 7.6% of all employment in Australia. By 1998, this proportion had climbed to 11.7%.

Also, as firms specialise in core production and outsource specialised services like accountancy and marketing, jobs attributed to manufacturing in statistics tend to be understated.

The importance of production in a global sense is demonstrated by export data which shows that manufactures account for the bulk (and rising share) of world trade. Of all merchandise and service groups (of which there are 9), manufactured goods is the leader in world trade. Manufactures accounted for 53% of all world exports in 1980; by 1997, this share had climbed to 61%[20].

The upshot of the blurring of the role of production in advanced nations is that jobs are increasingly likely to take place in an office.

City-regions are the key attractors of capital in the global economy. In this context, Melbourne has an advantage in attracting production-related investment. However, the competitiveness for footloose capital is intensifying.

National borders are losing their importance in an increasingly globalised economy. The key 'boundaries' now relate to economic regions within nations. A number of authors[21] argue that the trend towards globalisation has made city-regions more important in economic development, often at the expense of less developed regions in their countries. This is because city-regions support a variety of economic sectors and have the infrastructure and attributes to attract and develop world competitive industry clusters, and hence investment.

Investment is critical to the development of economies. The development of Australia's production economy to date owes much to offshore investment, as does its future development.

Melbourne has established itself as the key production city-region in Australia. It and the rest of Australia have embraced a global orientation to attract international investment and develop a world competitive industry base. This position has been necessary given the relatively small size of the domestic market.

[20] World Bank (1999) *World Development Indicators.*

[21] Ohmae, K. (1995) 'Capital, Corporations, Communities and Consumers', in: *Polis*, Issue 3; Yeung, Y. (1995) 'Pacific-Asia's World Cities in the New Global Economy', in: *Polis*, Issue 3.

However, competition for footloose investment has intensified globally. More nations and economic regions are seeking to attract investment. Capital markets compound and accelerate these effects, as there are few effective barriers to the switching of capital to alternative locations and investments.

The upshot is that city-regions like Melbourne have a competitive advantage in attracting investment but there is a need for great vigilance to maintain and improve competitiveness.

3.2 Outcomes in Australia

This part of the review will look more closely at the outcomes of the above trends on Australia and more particularly Melbourne.

The structure of the Australian economy has changed to become export oriented. Manufacturing is now one of Australia's key export sectors.

The Australian economy started life as an exporter of mineral and agricultural commodities to Britain, which in return provided wealth for 'nation building'. Major coastal cities dominated the settlement pattern of Australia in the early years. In economic terms, the cities were essentially 'gateways' for people and goods moving in and out the nation via the seaports. The cities also provided business and processing services for the commodity sectors but it was the rural hinterlands that provided the goods that earned the nation's income.

Between the World Wars, Australia, along with other advanced nations, set up protectionist trade policies to nurture the growth of manufacturing. The manufacturing sector was developed to serve the growing domestic market. In effect, the bush earned Australia its export income which was largely used to fund and finance the development of the big cities. The cities contained most Australians and a large and growing share of the nation's jobs, especially manufacturing jobs.

In the 1950s and 1960s, agriculture and mining (in the regions) continued to earn the nation its wealth from abroad whilst the domestically focussed and protected manufacturing sector continued to employ a large and growing share of people (in the cities). Suburbanisation dominated the settlement patterns of the nation; this was in part driven by growth of manufacturing jobs in the suburbs.

The structure of the Australian economy was fundamentally transformed during the 1970s and 1980s largely in response to the expanding global economy.

Two important trends emerged in this period. First, the terms of trade for Australian commodities declined (this is now a long-term trend). This came about in part from increased competition and more efficient use of commodities plus the production of substitutes for raw goods. Australia being shut-out of the European trade bloc contributed to this to a significant extent. Second, as noted above, the domestic manufacturing sector was exposed to increasing pressure from nations producing cheaper and superior quality goods. Protectionist policies were wound back to make Australian firms more competitive and export oriented. Australian manufacturing entered a period of restructuring which resulted in massive job losses.

Between the 1970s and early 1990s, Australia experienced a number of economic recessions related to the changing of the mode of production noted above. The shining light that emerged in this gloomy context was the largely city-based service, knowledge and information economy.

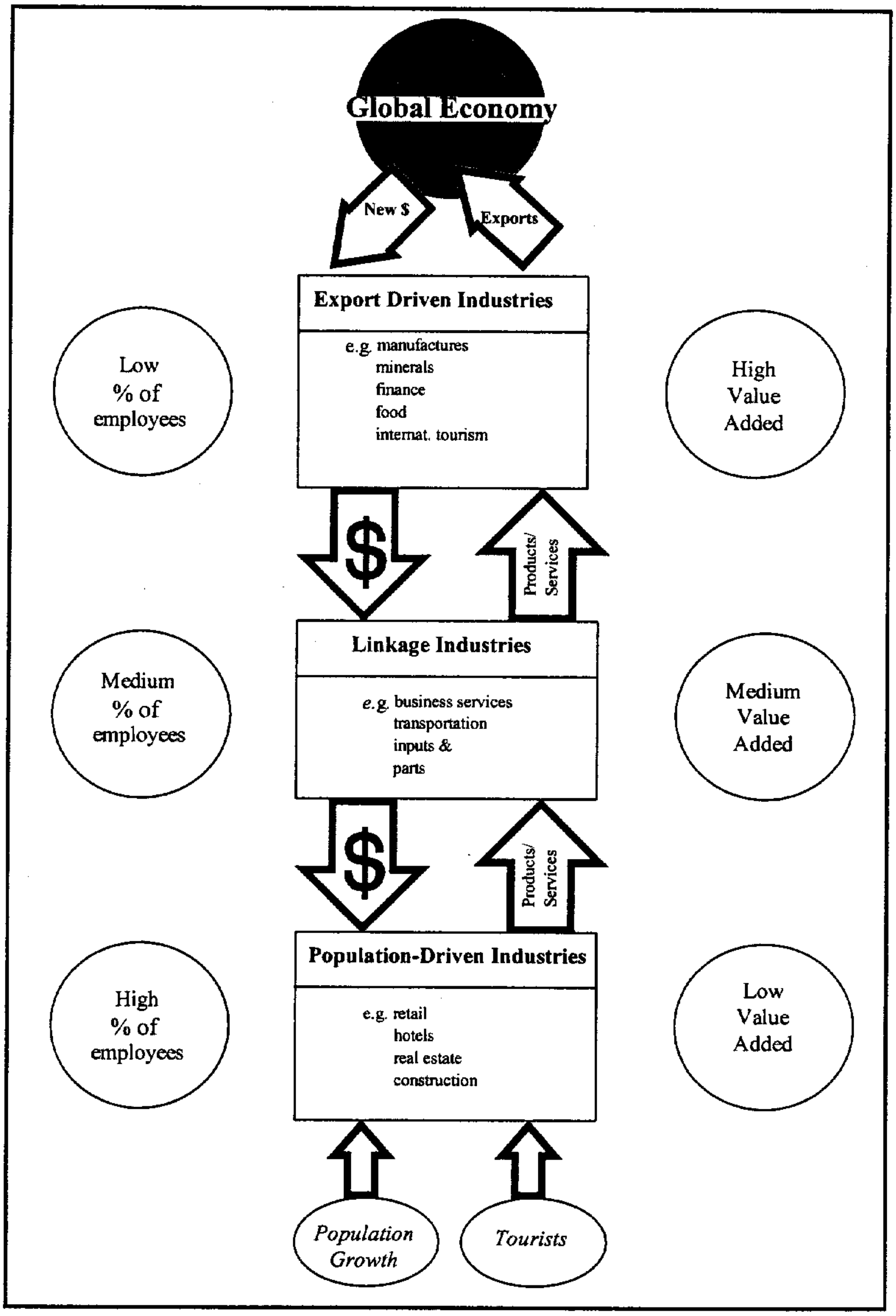
Today, the growth in world trade is in elaborately transformed manufactures and sophisticated services like finance and cultural tourism. The Australian manufacturing sector - due to a requirement to be globally competitive - is now technology rather than labour intensive. It earns a growing export income but is less important in terms of direct job creation.

The upshot is that cities - through service, knowledge and advanced manufacturing sectors - are increasingly self-contained engines of wealth creation in the global economy.

The following chart depicts the contemporary economy[22] in Australia in general terms. This shows that the performance of a regional economy depends largely on export industries bringing new wealth into the economic system (albeit with a low proportion of jobs) to underpin jobs growth in labour intensive activities. Manufacturing generally occupies the export and service or linkage sectors of the economy. Service industry generally falls within the population-driven sector.

[22] Derived from: Waits, M.J. and Howard, G. (1996) 'Industry Clusters', in: *Economic Development Commentary*, Vol 20(3).

Economic Typology after Waits and Howard (1996):



The spatial structure of production and related activities in Melbourne has evolved from inner city smokestacks, to suburban plants and business parks to a more fragmented structure.

Manufacturing in Melbourne began in labour-intensive smokestack factories. During the middle part of the 1900s manufacturing decentralised as a result of increasing use of road transport and the suburbanisation of the workforce. Large, unencumbered (and cheaper than inner city) suburban sites were used for production. The biggest suburban plants were developed by overseas multinationals. In some cases, whole suburbs were built to house workers (eg. Broadmeadows to serve Ford and Doveton to serve General Motors).

At this time many industrial practices were large, noisy and emitted air and ground pollutants. Industry was generally incompatible with residential and related activity. Dedicated industrial zones were set aside as a result.

As described above, from the 1970s the nature of production changed. The era of smaller and leaner firms came into being and more diverse land use and building requirements were demanded by the production sector. The main ones are noted below.

Suburbanisation of production activity to business parks and 'edge cities'.

- Edge cities are effectively small business and residential nodes located on major roads on the periphery of urban areas[23]. The edge city therefore has access to a large city and its infrastructure, services and workforce but has few, if any, of the negative externalities found in them. The edge city aims to capture the benefits of the big city whilst minimising the negative aspects.
- The edge city phenomenon is more pronounced in the United States than in any other part of the world although suburban industry and office parks in Australia have similar qualities to edge cities. They generally cater for 'clean and green' production / distribution and office activities.

[23] Murphy, P. and Burnley, I. (1996) 'Exurban Migration', in: Newton, P. and Bell, M. (1996) *Population Shift: Mobility and Change in Australia.*

- The City of Knox has examples of such estates in Scoresby and Rowville.

Development of technology and science parks.

- A technology or science park is dedicated to the spatial clustering of knowledge-intensive or high-technology firms in a supportive and collaborative environment. The aim is to generate linkages and synergies between complementary organisations and, in some cases, transfer research into commercial products. Technology parks may also play an incubator role to assist the development of start-up organisations.
- Technology parks are generally located near research organisations or universities in visually attractive locations. Examples are the La Trobe park at Bundoora and the mooted Docklands facility in Melbourne.

Evolution of technology precincts.

- A technology precinct is an area which has, over time, developed a concentration of knowledge-intensive or high-technology firms. This is generally found in an established location.
- A technology precinct combines research/product development with a high quality urban lifestyle. Cafes, restaurants and related facilities are an integral part of technology precincts. In such an environment, key players can formally and informally meet to incubate new enterprise ideas.
- The Parkville / Carlton area of inner northern Melbourne is an example of a health and information technology precinct.

Decentralisation of back office activities and the continuing centralisation of command and control elements of corporations.

- 'Command' activities of corporations tend to locate in central city regions because corporate decision makers require speedy access to other business leaders, the best available skills and business services and world class information technology and communications. The inner city also provides support services like accommodation and entertainment.
- Back office or routine activities tend to locate in suburban areas or regional cities because such activities require little more than an educated and stable workforce. Firms tend to

target regions with few alternative job opportunities in order to capitalise on lower staff costs and turnover. Suburban or regional locations also offer lower cost structures with respect to property.
- Regional offices of global corporations or offices of small firms may also choose a decentralised location.

Subdivision of former large heavy industry sites into smaller land units.
- In response to the decline of the large horizontally integrated firms and the changing needs of manufacturers and related businesses, large consolidated industrial land holdings are being subdivided into smaller lots for use by a range of new small firms and service industries. Subdivision is usually associated with improvements in environmental quality through landscaping.
- This trend is seen in a number of industrial locations across Melbourne such as the former General Motors and Pilkington sites in Dandenong.

Development of warehouse and distribution centres.
- International, national and regional storage, transport and distribution facilities dot the industrial landscape of cities. Some facilities engage in assembly before distribution.
- Warehouse and distribution centres are generally located on main roads in central distribution points that provide easy access to domestic markets and near sea and air ports for overseas markets.
- A cluster of such establishments can be found in the western and northern suburbs of Melbourne and to a lesser extent the south eastern suburbs.
- In the latter part of the 1990s, industrial investment in Melbourne generally favoured areas near the Western Ring Road in Melbourne's west. Investment in 'other business premises' (which includes warehouses and distribution depots) exceeded investment in factories during this period[24].

Continuation of service industry.
- The local population base sustains a number of economic activities. This includes retailing and some industry functions like car smash repairs (ie. service industry). Service

[24]Land and Development Information Unit, Department of Infrastructure (1999) *Industry in Depth - Final Draft.*

industry is influenced more by the size of the local population than wider global forces in production, although trends in the way services are provided, labour needs and land use is dictated by technological advancement.

- Melbourne has a large number of service industry areas. Service industry is generally in competition with other production related activities for industrial zoned land across the metropolitan area. The extent to which an industrial zone is occupied by either service industry or 'higher order' industry depends on a range of factors including suitability of sites for particular uses and internal economics of firms.

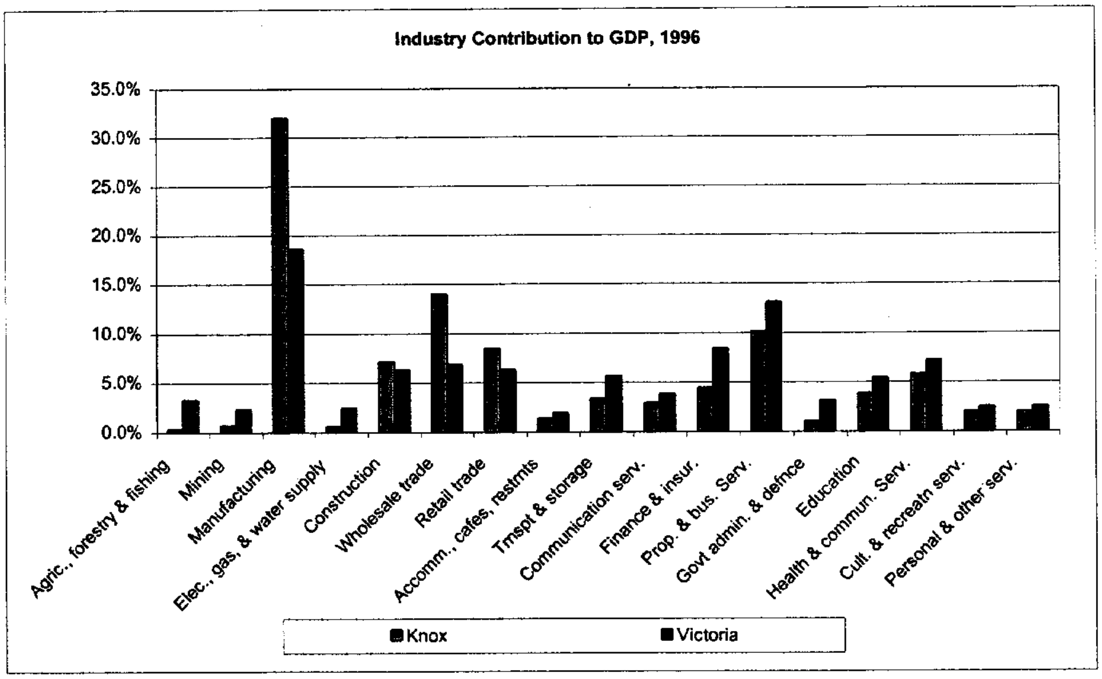
Melbourne's production economy can be generalised using the following typology. Some regions may play more than one role.

- Global Inner Melbourne - One of the two key information economy nodes in Australia (the other in Sydney), with a strong and growing international research and development base. High technology firms and business support firms and organisations are clustered here.

- Knowledge Based Industrial Melbourne - Producer of high value added manufactured goods for world markets, generally concentrated in south-east Melbourne and in pockets of north and west Melbourne.

- Gateway Melbourne - International and national storage, transport and distribution hub, located in the western, northern and inner suburbs of Melbourne.

- The City of Knox may play a mixture of these roles but with a specialisation as a home to amenity conscious businesses and regional and head office functions (along with a localised service industry role that is common to most areas).



4.2 Employment

Job stock in the City of Knox increased by 111% in the decade to 1996.

Job stock in the City of Knox increased significantly in the decade to 1996, as shown in the following table. This reflects rapid development in the wider Eastern & Southern Melbourne sector (and especially outer municipalities such as Knox) during this time.

Change in Job Stock, Selected Areas, 1986-1996

	1986	*1996*	*Change*	*% Change*	*Annual Ave. Change*
City of Knox	23,439	49,525	26,086	111.3%	7.8%
Eastern & Southern Melbourne	266,429	448,924	182,495	68.5%	5.4%
Australia	6,513,515	7,636,320	1,122,805	17.2%	1.6%

Source: ABS

The City of Knox provides a narrow range of job opportunities. The municipality's jobs are mainly in manufacturing, retail trade and wholesale trade.

The following table and chart provide a broad overview of jobs by industry in Knox and Eastern & Southern Melbourne in 1996.

This shows that the City of Knox provides a narrow range of job opportunities. Almost 58% of Knox's jobs are in three sectors: manufacturing (13,936 jobs), retail trade (8,803) and wholesale trade (5,875).

Knox's strengths in terms of jobs (compared to Eastern & Southern Melbourne) are in manufacturing (28.1% of jobs compared to 19.3%), wholesale trade (11.9% compared to 7.9%), retail trade (17.8% compared to 17.3%) and construction (6.3% compared to 5.8%).

The following table looks at the job stock profile of Knox in more detail (ie. at 3-digit industry sector[27]). The table shows all sectors that had more than 500 jobs in the municipality in 1996. Figures for Eastern & Southern Melbourne are provided for comparison purposes.

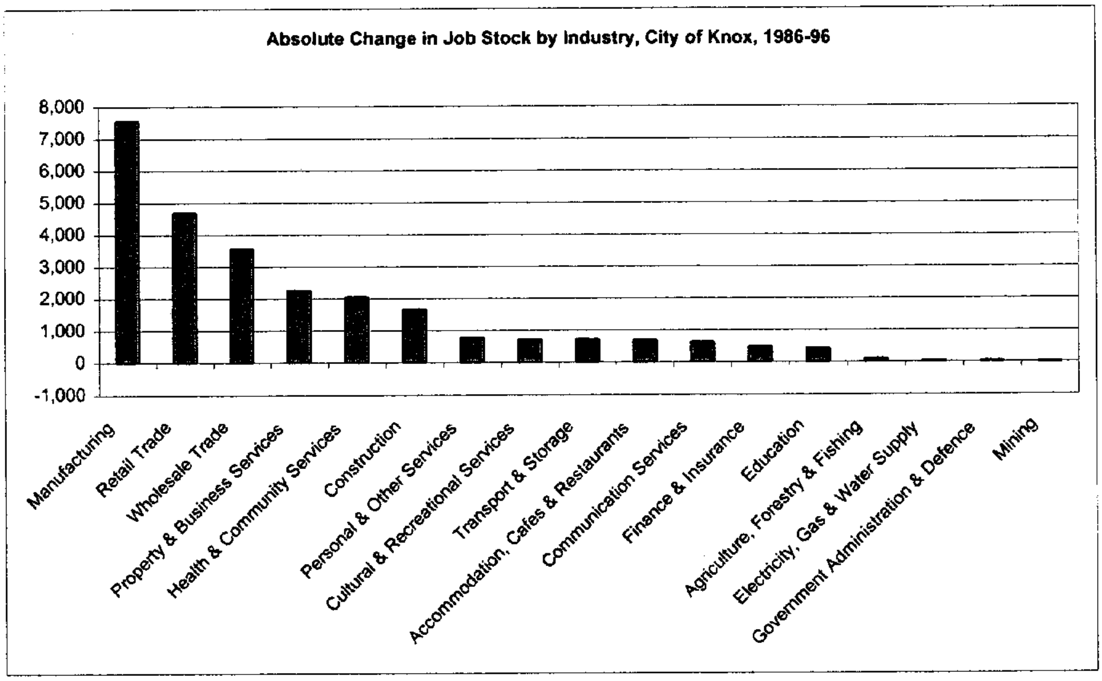
This shows that the major sectors in the City are consumption or population driven, that is, activities that are more-or-less directly related to the size of the local population. Retailing, education, and personal services are examples.

Manufacturing and to a lesser extent some trade and business services are also significant. (Note that in aggregate terms, manufacturing is the biggest industry).

[27] The Australian Bureau of Statistics provides data on industries using a four scale Australian and New Zealand Standard Industrial Classification. Where appropriate, the third level of this classification system (which provides some 215 sectors) is used.

In Knox, the main industries that grew in jobs stock terms between 1986 and 1996 are manufacturing, retail trade, wholesale trade, property & business services, health & community services and construction. Cultural & recreational services and communication services are growing rapidly from a low base.

The following charts show change in job stock between 1986 and 1996 in Knox and Eastern & Southern Melbourne.



In Knox, the main industries that grew in jobs stock terms are:

- Manufacturing (+7,552 jobs between 1986 and 1996);
- Retail trade (+4,693);
- Wholesale trade (+3,562);
- Property & business services (+2,251);
- Health & community services (+2,055); and
- Construction (+1,667).

Together, these six industries accounted for 83.5% of the increase in jobs in Knox in the decade to 1996.

The wider Eastern & Southern Melbourne region had a similar but slightly more even distribution of job growth across industries. Retail trade is the leader but not a standout like manufacturing is for Knox.

Percentage change data provide insights into industries that are growing rapidly from a low base. The leading industries in Knox in this regard are either in service or production related industries. Rapid growth in the Eastern & Southern Melbourne region was mainly confined to service industries.

The two noteworthy job growth industries in Knox in percentage terms are:

- Cultural & recreational services (388.4% growth between 1986 and 1996 at an annual average rate of 17.2% per annum); and
- Communication services (339.9% at 16.0% pa).

A more detailed analysis of industries follows. The industry sectors (at 3-digit level) that had at least 200 more jobs in 1996 compared to 1986 are shown below under broad industry headings.

Manufacturing -

241 Printing & Services to Printing	781
285 Elect Equip & Appliance Mfg	775
254 Other Chemical Product Mfg	654
217 Other Food Manufacturing	613
292 Furniture Manufacturing	606
232 Other Wood Product Manufacturing	518
276 Fabricated Metal Product Mfg	403
256 Plastic Product Manufacturing	351
212 Dairy Product Manufacturing	336

Wholesale Trade -

461 Machinery & Equip Wholesaling	1,026
479 Other Wholesaling	622
473 Household Good Wholesaling	472
462 Motor Vehicle Wholesaling	284
471 Food Drink & Tobacco Wholesaling	201

Health & Community Services -

861 Hospitals and Nursing Homes	819
871 Child Care Services	375
862 Medical and Dental Services	339
863 Other Health Services	247

Other Sectors -

711 Postal and Courier Services	463
732 Deposit Taking Financiers	414
573 Cafes and Restaurants	400
952 Other Personal Services	379
931 Sport	359
670 Storage	296
963 Public Order and Safety Services	238
572 Pubs Taverns and Bars	226

Retail Trade -

511 Supermarket and Grocery Stores	1,008
512 Specialised Food Retailing	729
532 Motor Vehicle Services	607
525 Other Prsnl Hhold Good Retailng	599
521 Department Stores	518
524 Recreational Good Retailing	296
523 Frntre Hware Applnce Retailing	237

Property & Business Services -

786 Other Business Services	755
785 Marktng & Business Mngmnt Serv	649
783 Computer Services	368
782 Technical Services	313

Construction -

423 Installation Trade Services	875
424 Building Completion Services	277

4.3 Exports and Clusters

The City of Knox's international export sectors are in manufacturing. Export sectors define industry clusters. The clusters that may be most relevant to Knox's industrial areas are advanced manufacturing.

It was noted in the economic theory section of the report that:

- The performance of a regional economy depends largely on export industries bringing new wealth into the economic system (albeit with a low proportion of jobs) to underpin jobs growth in (non-export) labour-intensive activities; and

- An industry cluster is a strategic group of firms and organisations that is driven by firms that are globally competitive and have an export focus but need the support of (usually) local suppliers and support organisations (such as research establishments and business associations).

An industry cluster, as defined in this analysis, is a network of organisations that work together to bring new wealth into an economy through exports.

The emphasis of the following analysis is on international export sectors (as opposed to inter-regional) as these are most important to wealth and job creation in an economically small and trade exposed nation such as Australia.

Knox's international export sectors are identified using Location Quotient (LQ) analysis, as described in the following text box.

Location Quotient Analysis

For this analysis, regional economic activity is divided into export activity (ie. serving areas outside the regional economy) and local activity (ie. serving the needs of the regional economy).

Using this theory, industry sectors that exceed the need of the regional economy are classified as exporting sectors. The measuring stick with which to calculate a region's 'local needs' is achieved by using the proportion of jobs that a sector is represented nationally. If an industry sector in a region is more dominant (by proportion) when compared to the national level, it is thought to contain some export-generated employment.

By utilising ABS census data (jobs by industry sector) for the whole of Australia and the City of Knox, a location quotient can be established. An industry sector with an LQ above 1.0, indicates an over-representation of that industry sector when compared to the national level, thereby indicating an export presence. An LQ value of 1.0 or below indicates the industry sector primarily serves the local region.

This method will not distinguish between inter-regional and international export sectors. To identify international sectors, it is necessary to screen the list of sectors that achieve a LQ of greater than 1.0 and eliminate those that can be reasonably expected to serve a domestic market (eg. retail trade).

Although the method does have some limitations, it does provide a reasonable indication of what jobs are generated by export demand.

The following tables show sectors that have international export potential in Knox and Eastern & Southern Melbourne[28].

Export Industry Sectors, City of Knox, 1996

	LQ	Total Jobs	Locally Generated Jobs	Export Generated Jobs
Manufacturing Sectors -				
285 Elect Equip & Appliance Mfg	7.33	1,507	205	1,302
226 Leather & Leather Product Mfg	6.88	213	31	182
260 Non-Metalic Minl Prod Mfg undef	6.10	81	13	68
212 Dairy Product Manufacturing	5.02	451	90	361
254 Other Chemical Product Mfg	5.01	892	178	714
255 Rubber Product Manufacturing	4.36	217	50	167
217 Other Food Manufacturing	4.04	814	202	612
256 Plastic Product Manufacturing	3.93	729	186	543
292 Furniture Manufacturing	3.79	1,050	277	773
284 Electronic Equipment Mfg	3.68	494	134	360
232 Other Wood Product Manufacturing	3.55	669	188	481
210 Food Bevrge & Tobcco Mfg undef	3.33	146	44	102
262 Ceramic Product Manufacturing	2.97	160	54	106
241 Printing & Services to Printing	2.83	1,062	375	687
283 Phtgphc & Scientific Equip Mfg	2.76	196	71	125
280 Machinery & Equipment Mfg undef	2.75	70	25	45
286 Industrial Mach & Equip Mfg	2.39	698	293	405
233 Paper and Paper Product Mfg	2.29	237	103	134
221 Txtl Fbre Yrn Wvn Fab Mfg	2.25	159	71	88
276 Fabricated Metal Product Mfg	2.10	514	245	269
275 Sheet Metal Product Mfg	2.10	216	103	113
252 Petroleum & Coal Product Mfg nec	2.10	14	7	7
294 Other Manufacturing	2.05	183	89	94
270 Metal Product Mfg undef	1.98	165	83	82
230 Wood & Paper Prod Mfg undef	1.85	6	3	3
240 Prnt Publsh Recorded Media undef	1.78	6	3	3
222 Textile Product Manufacturing	1.75	142	81	61
220 Txtl Clthg Ftwr Lthr Mfg undef	1.70	52	31	21
213 Fruit and Vegetable Processing	1.59	83	52	31
274 Structural Metal Product Mfg	1.48	262	177	85
264 Non-Metalic Minl Prod Mfg nec	1.43	47	33	14
290 Other Manufacturing undefined	1.41	10	7	3
281 Motor Vehicle & Part Mfg	1.16	409	352	57
Other sectors -				
710 Communication Services undef	1.74	25	14	11
780 Business Services undefined	1.05	32	31	1

Source: Derived from ABS Data

[28]Sectors eliminated as being inter-regional exporters are: wholesale trade, retail trade and storage for Knox and wholesale trade, utilities, retail trade, storage, primary / secondary school, health, sport and personal services for Eastern & Southern Melbourne.

Export Industry Sectors, Eastern & Southern Melbourne, 1996

	LQ	*Total Jobs*	*Locally Generated Jobs*	*Export Generated Jobs*
Manufacturing Sectors -				
264 Non-Metalic Minl Prod Mfg nec	3.00	894	298	596
254 Other Chemical Product Mfg	2.59	4,181	1,615	2,566
256 Plastic Product Manufacturing	2.56	4,303	1,682	2,621
285 Elect Equip & Appliance Mfg	2.48	4,626	1,863	2,763
284 Electronic Equipment Mfg	2.46	2,986	1,216	1,770
283 Phtgphc & Scientific Equip Mfg	2.40	1,545	643	902
233 Paper and Paper Product Mfg	2.13	1,999	938	1,061
241 Printing & Services to Printing	1.99	6,769	3,398	3,371
222 Textile Product Manufacturing	1.96	1,443	736	707
281 Motor Vehicle & Part Mfg	1.96	6,249	3,192	3,057
292 Furniture Manufacturing	1.90	4,783	2,514	2,269
276 Fabricated Metal Product Mfg	1.86	4,128	2,217	1,911
261 Glass & Glass Product Mfg	1.85	852	461	391
220 Txtl Clthg Ftwr Lthr Mfg undef	1.82	504	277	227
275 Sheet Metal Product Mfg	1.76	1,641	933	708
223 Knitting Mills	1.63	431	264	167
280 Machinery & Equipment Mfg undef	1.62	374	231	143
262 Ceramic Product Manufacturing	1.58	772	489	283
286 Industrial Mach & Equip Mfg	1.55	4,109	2,653	1,456
255 Rubber Product Manufacturing	1.54	695	452	243
213 Fruit and Vegetable Processing	1.53	726	473	253
217 Other Food Manufacturing	1.49	2,716	1,827	889
294 Other Manufacturing	1.46	1,181	808	373
273 Non-Ferrous Basic Mtl Prod Mfg	1.45	431	298	133
271 Iron and Steel Manufacturing	1.44	2,435	1,686	749
232 Other Wood Product Manufacturing	1.43	2,444	1,706	738
252 Petroleum & Coal Product Mfg nec	1.34	81	60	21
250 Petrl Coal Chmcl Ass Prd Mfg udf	1.34	264	197	67
260 Non-Metalic Minl Prod Mfg undef	1.32	159	120	39
224 Clothing Manufacturing	1.30	2,969	2,280	689
210 Food Bevrge & Tobcco Mfg undef	1.30	515	397	118
226 Leather & Leather Product Mfg	1.27	356	280	76
216 Bakery Product Manufacturing	1.26	2,694	2,141	553
212 Dairy Product Manufacturing	1.21	982	814	168
221 Txtl Fbre Yrn Wvn Fab Mfg	1.19	762	639	123
270 Metal Product Mfg undef	1.19	900	757	143
225 Footwear Manufacturing	1.14	419	367	52
253 Basic Chemical Manufacturing	1.13	858	758	100
274 Structural Metal Product Mfg	1.11	1,785	1,605	180
230 Wood & Paper Prod Mfg undef	1.09	32	29	3
Other Sectors -				
780 Business Services undefined	1.54	428	277	151
710 Communication Services undef	1.50	196	130	66
783 Computer Services	1.42	5,397	3,794	1,603
773 Non-Financial Asset Investors	1.40	47	34	13
843 Post School Education	1.23	9,595	7,795	1,800
781 Scientific Research	1.11	1,614	1,454	160
712 Telecommunications Services	1.09	5,600	5,118	482
011 Horticulture and Fruit Growing	1.08	3,389	3,131	258
014 Poultry Farming	1.06	459	434	25
782 Technical Services	1.04	5,909	5,678	231
Total		**448,924**	**369,665**	**79,259**

Source: Derived from ABS Data

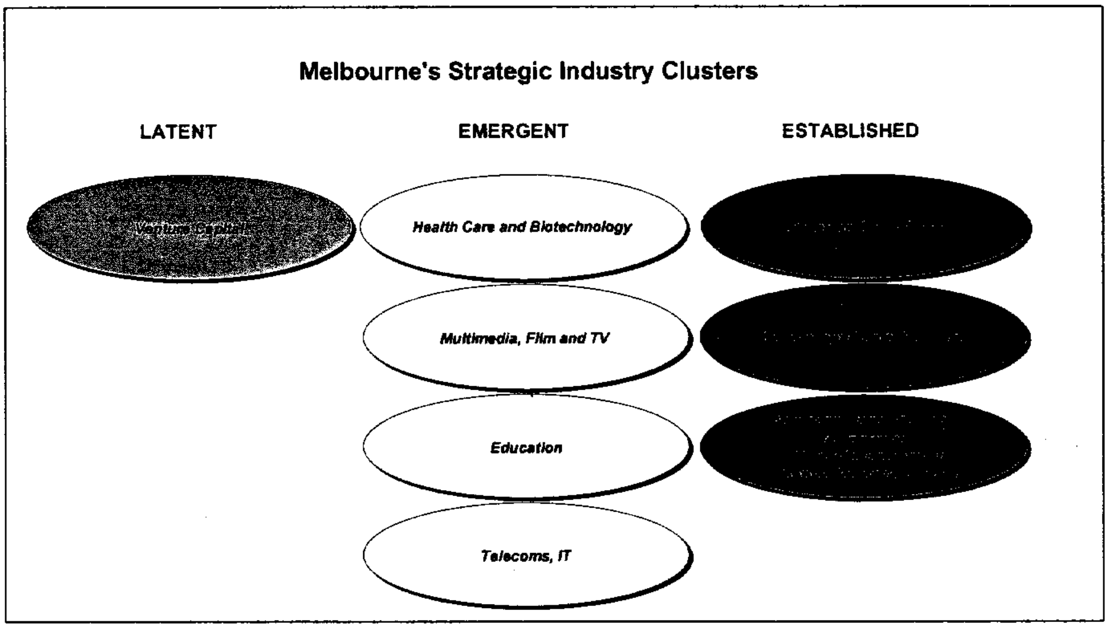
This method of analysis indicates that manufacturing is likely to dominate the international export profile of Knox and the region. The region has a more diverse structure with some agriculture and business sectors also likely to have international sales.

The industry sectors that scored LQs above 3.0 in Knox are listed below. The value of exports from Victorian firms in these sectors is shown for reference purposes. The rank of these sectors in terms of value of exports in manufactures is also shown. Export values for undefined sectors are unavailable.

Leading Export Sectors -	*LQ -*	*Value & Rank of Exports, Victoria 1998.98*
Electrical equipment & appliances	7.33	\$351.4m (13th)
Leather & leather products	6.88	\$185.7m (25th)
Non-metallic mineral products undef.	6.10	na
Dairy products	5.02	\$1,894.3m (2nd)
Other chemical products	5.01	\$529.9m (8th)
Rubber products	4.36	\$135.8m (29th)
Other food	4.04	\$409.1m (12th)
Plastic products	3.93	\$155.6m (27th)
Furniture	3.79	\$35.5m (39th)
Electronic equipment	3.68	\$465.1m (11th)
Other wood products	3.55	\$14.9m (49th)
Food Beverage & Tobacco undefined	3.33	na

The strength of the Knox economy in terms of exporting is consistent with some of the identified industry clusters in metropolitan Melbourne, as shown in the chart below[29]. Eight clusters are identified, three of which are established, four are emerging and one is not yet developed.

[29] Spiller Gibbins Swan Pty Ltd (1998) *Business Clusters Analysis*. Prepared for the City of Melbourne.



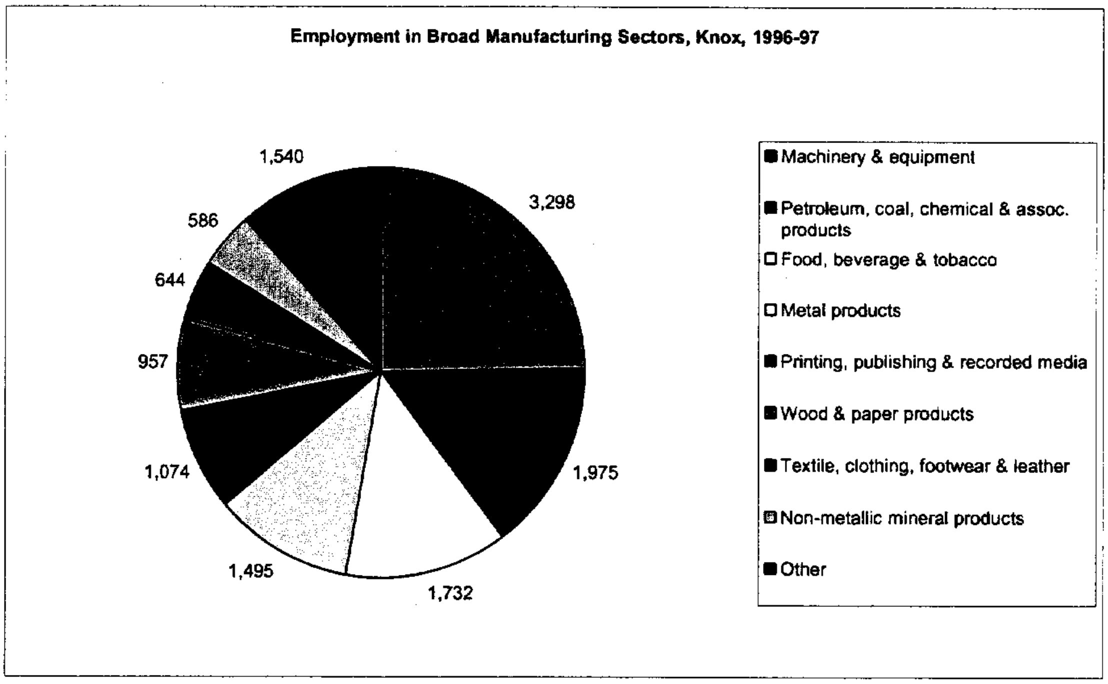
4.4 Manufacturing in Detail

This part of the report looks at manufacturing and related sectors in more detail. Data on jobs, locations, turnover and industry value added[30] is provided.

The key finding is that, of the broad manufacturing sectors, the most important for Knox across the indicators are: machinery & equipment manufacturing; petroleum, coal & associated products manufacturing; food, beverage & tobacco manufacturing; and metal products manufacturing.

The chart below shows that machinery & equipment manufacturing is the biggest production sector in terms of jobs in the municipality. Other significant sectors include: petroleum, coal & associated products manufacturing; food, beverage & tobacco manufacturing; and metal products manufacturing.

[30] This effectively counts production done in Knox by sector as opposed to turnover (which may relate to distribution of goods produced elsewhere). Value added was derived for Knox using State averages.



The following page shows data on location, turnover and industry value added. The key finding is that, of the broad manufacturing sectors, the most important for Knox across the indicators are:

- Machinery & equipment manufacturing;
- Petroleum, coal & associated products manufacturing;
- Food, beverage & tobacco manufacturing; and
- Metal products manufacturing.

Manufacturing Locations, City of Knox, 1996-97

Manufacturing Sector		No.	%
28	Machinery & equipment	**254**	26.3%
27	Metal products	**161**	16.6%
24	Printing, publishing & recorded media	**121**	12.5%
23	Wood & paper products	**75**	7.8%
25	Petroleum, coal, chemical & assoc. products	**74**	7.7%
22	Textile, clothing, footwear & leather	**73**	7.5%
21	Food, beverage & tobacco	**42**	4.3%
26	Non-metallic mineral products	**22**	2.3%
29	Other	**145**	15.0%
	Total	**967**	100.0%

Manufacturing Industry Turnover, City of Knox, 1996-97

Manufacturing Sector		Dec 1999 dollars	%	Vic %
25	Petroleum, coal, chemical & assoc. products	**$711m**	27.8%	16.8%
21	Food, beverage & tobacco	**$521m**	20.4%	20.5%
28	Machinery & equipment	**$474m**	18.5%	25.7%
27	Metal products	**$203m**	7.9%	12.5%
23	Wood & paper products	**$142m**	5.6%	4.8%
24	Printing, publishing & recorded media	**$132m**	5.2%	6.7%
22	Textile, clothing, footwear & leather	**$93m**	3.7%	6.9%
26	Non-metallic mineral products	**$85m**	3.3%	3.1%
29	Other	**$194m**	7.6%	3.0%
	Total	**$2,556m**	100.0%	100.0%

Manufacturing Industry Value Added, City of Knox, 1996-97

Manufacturing Sector		Dec 1999 dollars	%	Vic %
28	Machinery & equipment	**$261m**	25.8%	25.0%
25	Petroleum, coal, chemical & assoc. products	**$215m**	21.3%	16.7%
21	Food, beverage & tobacco	**$155m**	15.3%	18.5%
27	Metal products	**$111m**	11.0%	12.8%
24	Printing, publishing & recorded media	**$71m**	7.0%	8.8%
23	Wood & paper products	**$59m**	5.9%	4.6%
26	Non-metallic mineral products	**$51m**	5.0%	3.4%
22	Textile, clothing, footwear & leather	**$28m**	2.8%	7.1%
29	Other	**$60m**	5.9%	3.1%
	Total	**$1,010m**	100.0%	100.0%

Source: Derived from ABS Catalogue 8221.2 and Special Data Purchase for Knox.

Petroleum, coal & associated products manufacturing contributes much more to output (measured as value adding) in Knox (22.3%) than in Victoria (16.7%).

Manufacturing industry sectors that can be classified as being of lesser significance to Knox than those noted above but still important are:
- Printing, publishing & recorded media; and
- Wood & paper products manufacturing.

Although wood & paper products manufacturing ranks lower than the industry sectors noted above, it is more important to Knox than it is to the State in terms of jobs, turnover and value adding.

Manufacturing industry sectors that can be classified as being of lesser significance still are:
- Non-metallic mineral products manufacturing; and
- Textile, clothing, footwear & leather manufacturing.

However, non-metallic mineral products manufacturing is more important to Knox than it is to the State in terms of jobs, turnover and value adding.

To reiterate, the City of Knox's key manufacturing sectors are:
- Machinery & equipment manufacturing;
- Petroleum, coal & associated products manufacturing;
- Food, beverage & tobacco manufacturing; and
- Metal products manufacturing.

The table below shows jobs in manufacturing in more detail. All (3-digit) sectors that had more than 100 jobs in the municipality in 1996 are listed. This is used to provide further detail on what the four most important manufacturing groups consist of.

Manufacturing Sectors with More than 100 Jobs in Knox, 1996

Industry Sector	*Knox*		*E&SM*	
285 Elect Equip & Appliance Mfg	1,507	10.8%	4,626	5.3%
241 Printing & Services to Printing	1,062	7.6%	6,769	7.8%
292 Furniture Manufacturing	1,050	7.5%	4,783	5.5%
254 Other Chemical Product Mfg	892	6.4%	4,181	4.8%
217 Other Food Manufacturing	814	5.8%	2,716	3.1%
256 Plastic Product Manufacturing	729	5.2%	4,303	5.0%
C00 Manufacturing undefined	701	5.0%	4,063	4.7%
286 Industrial Mach & Equip Mfg	698	5.0%	4,109	4.7%
232 Other Wood Product Manufacturing	669	4.8%	2,444	2.8%
276 Fabricated Metal Product Mfg	514	3.7%	4,128	4.8%
284 Electronic Equipment Mfg	494	3.5%	2,986	3.4%
212 Dairy Product Manufacturing	451	3.2%	982	1.1%
281 Motor Vehicle & Part Mfg	409	2.9%	6,249	7.2%
274 Structural Metal Product Mfg	262	1.9%	1,785	2.1%
233 Paper and Paper Product Mfg	237	1.7%	1,999	2.3%
224 Clothing Manufacturing	233	1.7%	2,969	3.4%
255 Rubber Product Manufacturing	217	1.6%	695	0.8%
275 Sheet Metal Product Mfg	216	1.5%	1,641	1.9%
226 Leather & Leather Product Mfg	213	1.5%	356	0.4%
283 Phtgphc & Scientific Equip Mfg	196	1.4%	1,545	1.8%
216 Bakery Product Manufacturing	186	1.3%	2,694	3.1%
294 Other Manufacturing	183	1.3%	1,181	1.4%
282 Other Transport Equipment Mfg	167	1.2%	679	0.8%
270 Metal Product Mfg undef	165	1.2%	900	1.0%
262 Ceramic Product Manufacturing	160	1.1%	772	0.9%
221 Txtl Fbre Yrn Wvn Fab Mfg	159	1.1%	762	0.9%
271 Iron and Steel Manufacturing	159	1.1%	2,435	2.8%
210 Food Bevrge & Tobcco Mfg undef	146	1.0%	515	0.6%
222 Textile Product Manufacturing	142	1.0%	1,443	1.7%
242 Publishing	142	1.0%	2,409	2.8%
Other	763	5.5%	9,529	5.5%
Total	**13,936**	**100.0%**	**86,648**	**100.0%**

Source: ABS

Knox's key manufacturing sectors and sub-sectors are as follows.

- **Machinery & equipment manufacturing**, leading sub-sectors:
  - Electrical equipment & appliances
  - Industrial machinery & equipment
  - Electronic equipment
  - Motor vehicle & parts
  - Photographic & scientific equipment
  - Other transport equipment

- **Petroleum, coal & associated products manufacturing**, leading sub-sectors:
  - Other chemical products
  - Plastic products
  - Rubber products

- **Food, beverage & tobacco manufacturing**, leading sub-sectors:
  - Other foods
  - Dairy products
  - Bakery products
  - Food, beverage & tobacco products undefined

- **Metal products manufacturing**, leading sub-sectors:
  - Fabricated metal products
  - Structural metal products
  - Sheet metal products
  - Metal products undefined
  - Iron and steel

- **Other production**, leading sub-sectors:
  - Printing & services to printing
  - Furniture manufacturing
  - Other wood products
  - Paper and paper products
  - Clothing
  - Leather & leather products
  - Ceramic products
  - Textiles & fibres
  - Publishing

Other industries that are relevant or potentially relevant to the Scoresby / Rowville industrial area include wholesale trade, transport & storage, communication services and property & business services. The leading (and relevant) sub-sectors of these industries are as follows.

- **Wholesale trade**, leading sub-sectors:
  - Machinery & equipment wholesaling
  - Food, drink & tobacco wholesaling
  - Builders supplies wholesaling
  - Household good wholesaling
  - Motor vehicle wholesaling
  - Mineral, metal & chemical wholesaling
  - Textile, clothing & footwear wholesaling
  - Farm produce wholesaling

- **Transport & storage**, leading sub-sectors:
  - Storage
  - Road freight transport
  - Other services to transport

- **Communication services**, leading sub-sectors:
  - Postal & courier services
  - Telecommunication services

- **Property & business services**, leading sub-sectors:
  - Marketing & business management services
  - Technical services
  - Computer services
  - Legal & accounting services
  - Scientific research

4.5 Labour Force

The City of Knox relies on surrounding areas to provide jobs for many of its residents. However, this is not translating into an unemployment problem.

At 1996, the City of Knox had 62,395 employed residents in a population of 130,794. At this time the City provided 49,525 jobs within its boundaries.

Despite the low number of jobs relative to the size of the working population, unemployment is not a major issue for the municipality at the present time. This is likely to be a result of there being a large number of jobs in surrounding areas such as Dandenong.

Latest figures show that (at September 1999) the unemployment rate for Knox was 4.9% compared to 7.2% for the State overall[31]. The unemployment rate for Knox North SLA was 5.2% and Knox South SLA 3.7%.

The skills profile of the eastern sector of Melbourne is comprehensive. Knox's has a capable production workforce and the middle suburbs have a high concentration of symbolic analysts.

The skills profile of the municipality, eastern suburbs[32] and metropolitan Melbourne is shown on the following charts.

The first chart shows that working residents in the municipality are more likely to be in transformative as opposed to service occupations, compared to the metropolitan area as a whole. The City's workforce profile is complemented by the eastern suburbs which provide the managers and professionals.

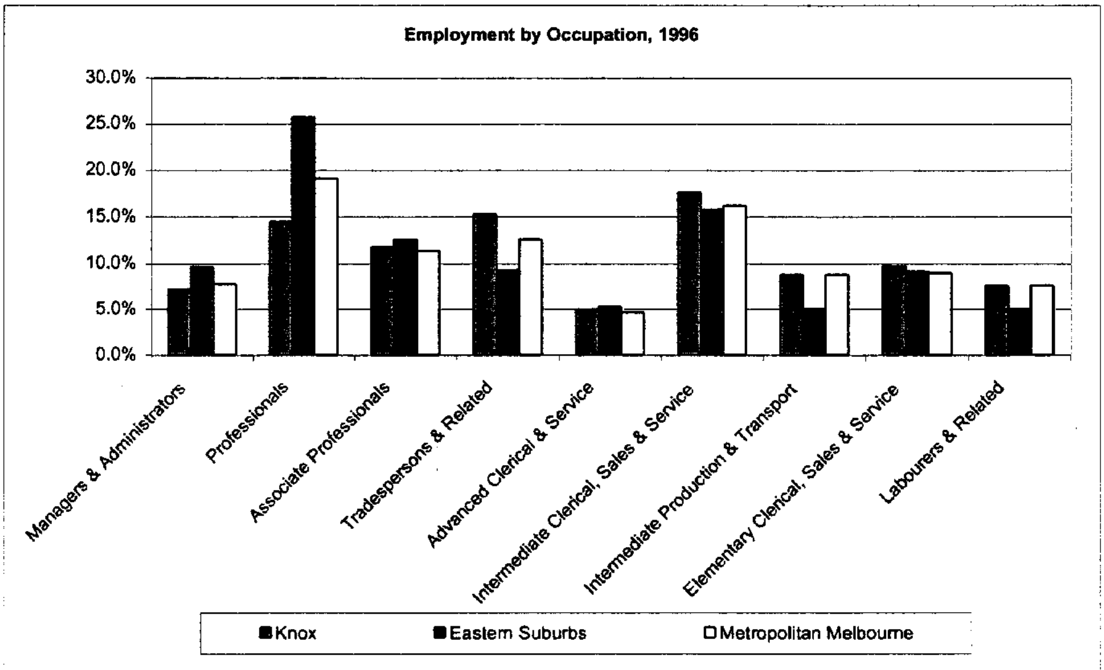
The second chart shows highest qualification obtained by persons 15 years and over. This does not include persons that

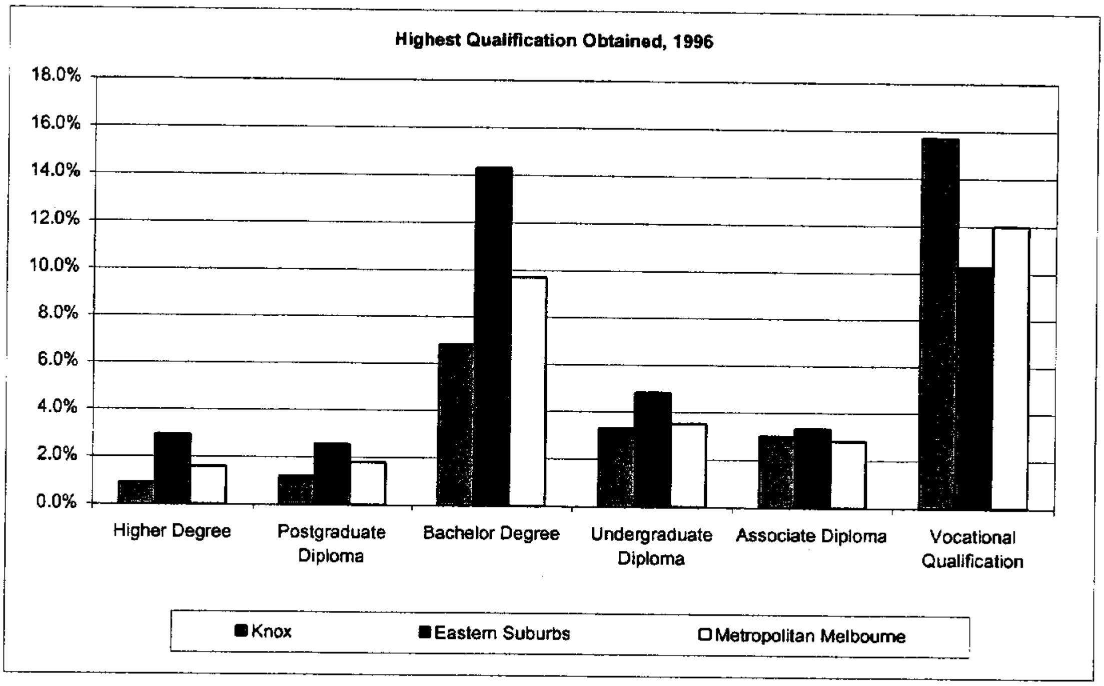
[31] DEWRSB Small Area Labour Markets.
[32] This refers to the four middle suburbs immediately to the west of Knox: Boroondara, Whitehorse, Monash and Manningham.

have no qualifications (58.8% in Knox, 50.9% in the eastern suburbs and 56.9% for the metropolitan area).

Again this shows that Knox is strong in vocational fields and the eastern suburbs is capable in more advanced fields.

Using the typology of workers referred to previously, it is concluded that Knox is generally the home to 'routine production workers' and the eastern suburbs are the home to 'symbolic analysts'. The wider eastern sector of Melbourne provides firms with a wide range of skills.





Despite, the wide range of skills available in eastern Melbourne, businesses in Knox have had difficulty in attracting skilled people to metal and furniture manufacturing trade occupations and information technology and engineering occupations.

The Jobs East Area Consultative Committee's research on employment and skills in eastern Melbourne concluded that businesses in Knox have had difficulty in attracting skilled people into some trade and professional jobs.

Furniture and metal manufacturers have had difficulty in attracting people at the entry level for production and trade jobs. This has been attributed to such occupations being perceived to be unattractive to young people.

Businesses in outer eastern Melbourne have experienced difficulty in attracting and retaining skilled information technology and engineering staff.

5. SCORESBY / ROWVILLE INDUSTRIAL AREA

This section of the report provides an existing conditions review of the Scoresby / Rowville industrial area. The supply of industrial land in metropolitan Melbourne and the City of Knox as a whole is reviewed first for context purposes.

5.1 Industrial Land Supply in Melbourne and Knox

Melbourne is likely to have the largest amount of 'greenfield' industrial land of all cities in Australia. The bulk of Melbourne's available industrial land stock is in the outer western and southern parts of the city.

Metropolitan Melbourne has in the order of 5,300 hectares of vacant industrial land. This exceeds supply of such land in Perth (3,700 ha), Sydney (3,100 ha) and Adelaide (1,800 ha)[33].

The bulk of Melbourne's vacant industrial land stock is in outer suburbs such as the western municipalities of Brimbank, Hobsons Bay and Wyndham and the southern cities of Mornington Peninsula, Greater Dandenong and Kingston. Together, these six municipalities have approximately 66% of Melbourne's vacant industrial land (in hectares)[34].

Knox has few greenfield industrial sites and a low proportion of Melbourne's developable industrial land stock.

Knox's industrial land stock is substantially developed. Over 90% of the City's land parcels are occupied[35]. A significant proportion of the City's vacant industrial land stock is in the Scoresby / Rowville industrial area.

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[33] Land and Development Information Unit, Department of Infrastructure (1999) *Industry in Depth – Final Draft.*
[34] Land and Development Information Unit, Department of Infrastructure (1999) *Industry in Depth – Final Draft.*
[35] Land and Development Information Unit, Department of Infrastructure (1999) *Industry in Depth – Final Draft.*

As shown in the following table, at 1998, the City had 143 vacant industrial land parcels covering about 62 hectares. This represents 2.2% of the metropolitan area's vacant land parcels and 1.2% of its area.

Breakdown of Industrial Zoned Land, Selected Areas, 1998

	Knox (C)	*Metropolitan Melbourne*	*Knox (C) % of Metro.*
Vacant Land Parcels (#)	143	6,454	2.2%
Occupied Land Parcels (#)	1,522	28,228	5.4%
Total Land Parcels (#)	**1,665**	**34,682**	4.8%
Vacant Land Parcels (ha)	61.6	5,289.1	1.2%
Occupied Land Parcels (ha)	830.8	15,312.3	5.4%
Total Land (ha)	**892.4**	**20,601.4**	4.3%

Source: Department of Infrastructure, Land & Development Information Unit, Unpublished data.

5.2 Scoresby / Rowville Industrial Area Existing Conditions Review

The Scoresby / Rowville industrial area was surveyed during February 2000. The survey sought to gain an appreciation of the nature of use and development in the study area.

Information was sought on the following topics:
- Industry of establishments;
- Role and function of establishments;
- Floorspace characteristics of establishments;
- Employment characteristics of establishments;
- Duration in the study area; and
- Degree of exporting activity.

The results of the survey are based on information provided by businesses. Results are indicative but nevertheless provide a robust picture of use and development in the study area at February 2000[36].

There are about 595 business establishments in the study area in addition to approximately 120 unoccupied buildings and vacant sites (at February 2000).

The following table provides a profile of the study area and sub-areas within it. This shows that there are 713 'sites' in the study area. Rowville has most sites and business establishments followed by Knoxfield and Scoresby.

Site Analysis, Scoresby / Rowville Industrial Area, 2000

	Rowville	Knoxfield	Scoresby	Not Stated	**Total**
Business Establishments	273	191	129	2	**595**
Unoccupied Building	36	24	6	0	**66**
In Construction	1	1	2	0	**4**
Vacant Sites	15	22	11	0	**48**
Total	**325**	**238**	**148**	**2**	**713**

Source: SGS Field Survey, February 2000

Appendix A lists all business establishments in the study area. This includes information on main business activity and address.

The vast majority of business establishments in the study area are in six industries: manufacturing (34%), wholesale trade (22%), transport & storage (13%), retail trade (12%), construction (9%) and property & business services (7%). Five other service industries account for the remaining firms (3%).

The table below shows industry of establishments in the study area. Note that this does not necessarily describe the function carried out on site.

36 An effort was made to collect information from every business establishment. Response rates are described in the following pages.

**Industry of Business Establishments,
Scoresby / Rowville Industrial Areas, 2000**

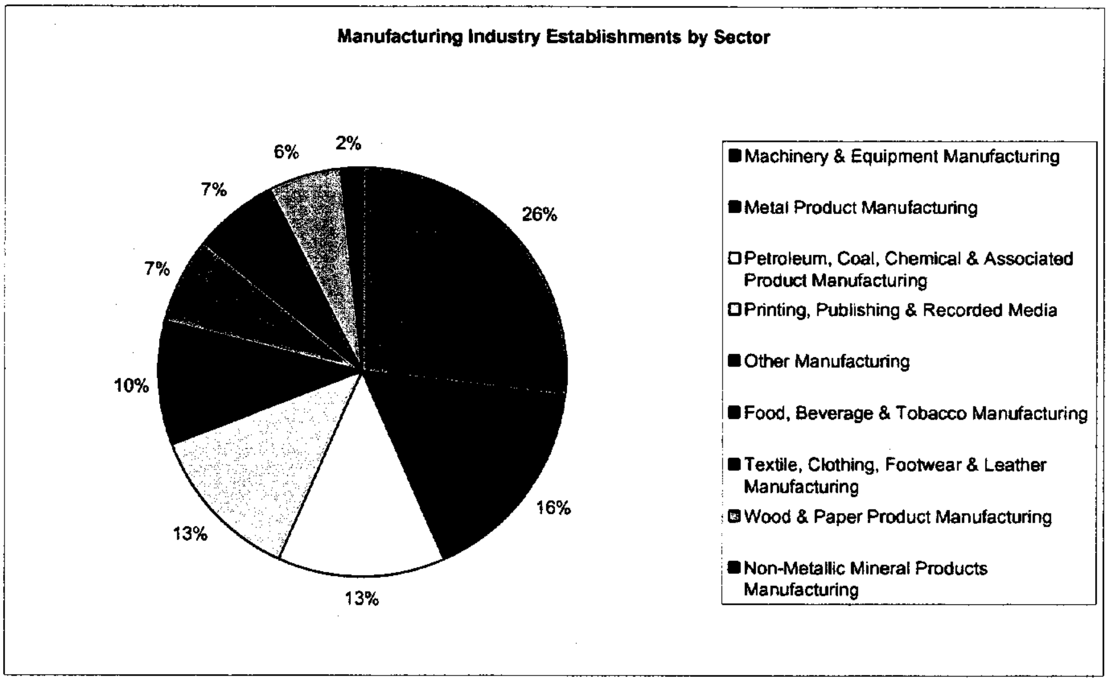
Manufacturing	175	34.4%
Wholesale Trade	111	21.9%
Transport & Storage	65	12.8%
Retail Trade	61	12.0%
Construction	47	9.3%
Property & Business Services	36	7.1%
Communication Services	5	1.0%
Cultural & Recreational Services	3	0.6%
Finance & Insurance	2	0.4%
Personal & Other Services	2	0.4%
Health & Community Services	1	0.2%
Sub-Total	508	100.0%
Establishments Not Known	87	
Total Establishments	595	

Source: SGS Field Survey, February 2000

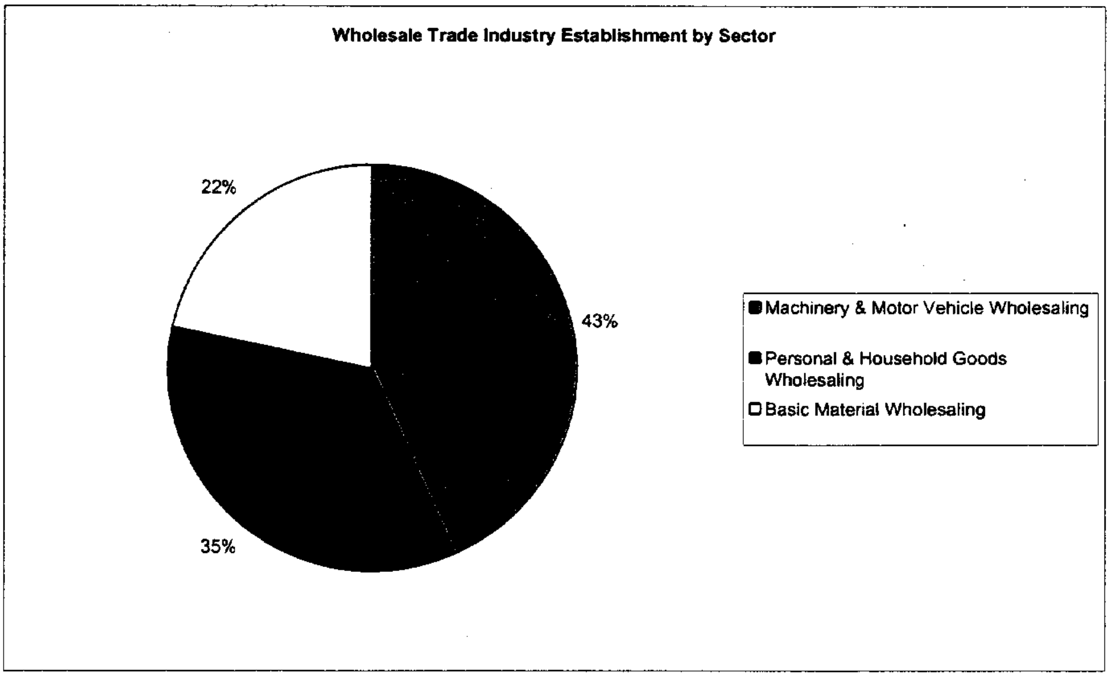
The following charts show more detailed information on leading industries.

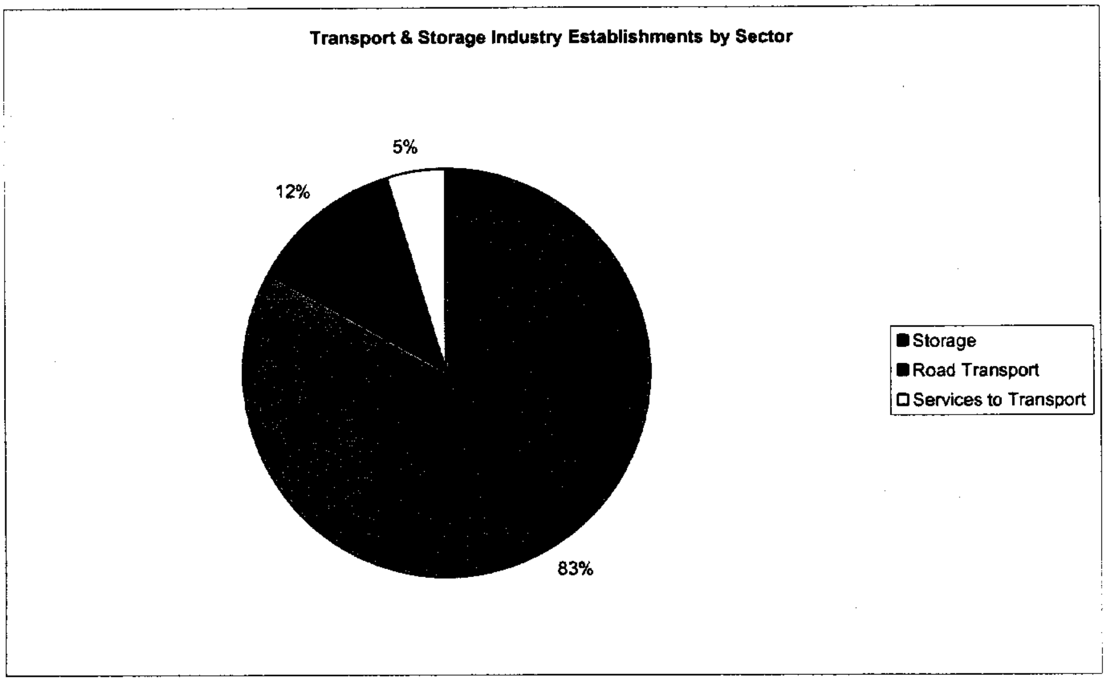
The profile of manufacturing in the study area is similar to the municipality as a whole but with a greater emphasis on fuels. The main sectors in terms of number of establishments are:

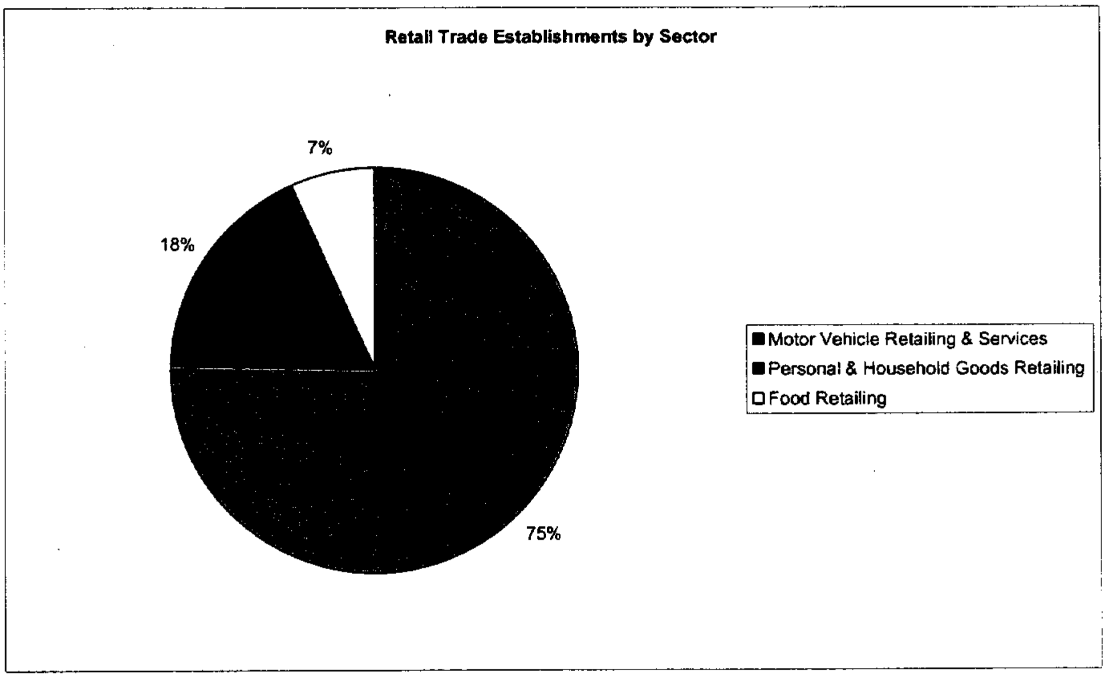
- Machinery & equipment (which is 1st in the municipality);
- Metal products (2nd);
- Petroleum, coal & associated products (5th); and
- Printing, publishing & recorded media (3rd).



The leading wholesale trade, transport & storage and retail trade sectors are shown in the following charts.



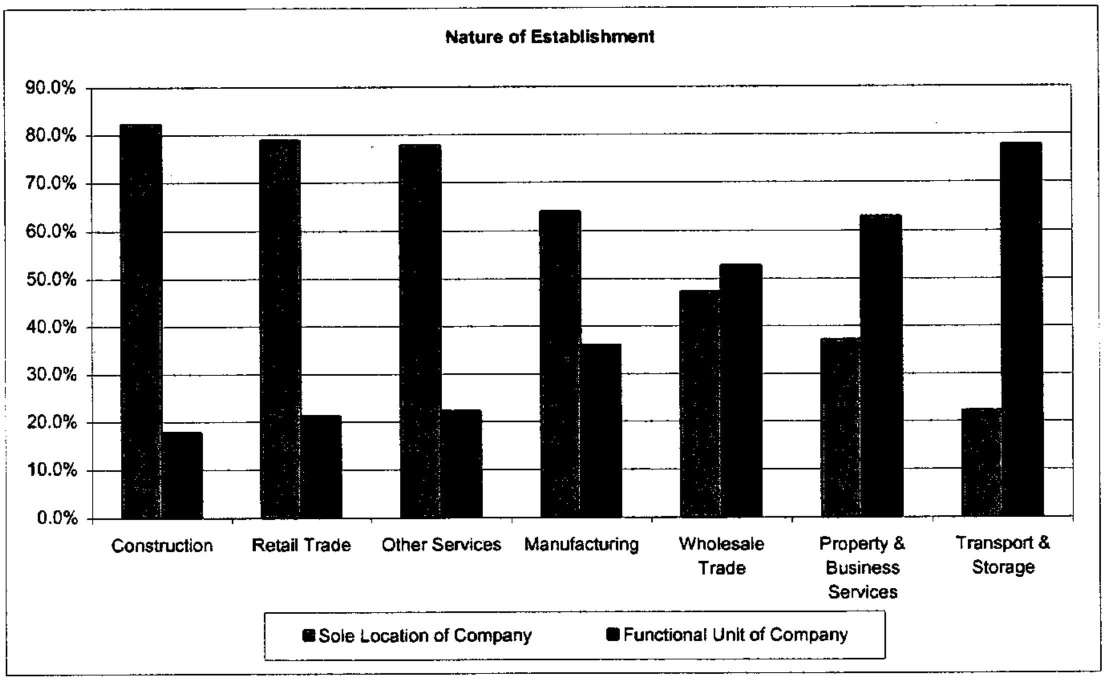




Apart from production, the study area is strong in storage and selling car and household related products.

About 57% of business establishments in the study area are sole locations and 43% units within wider companies[37]. This breakdown varies from industry to industry. Generally, bigger companies have functional units and smaller ones sole locations.

The chart below shows the high degree of variance between sole location and functional unit by industry.

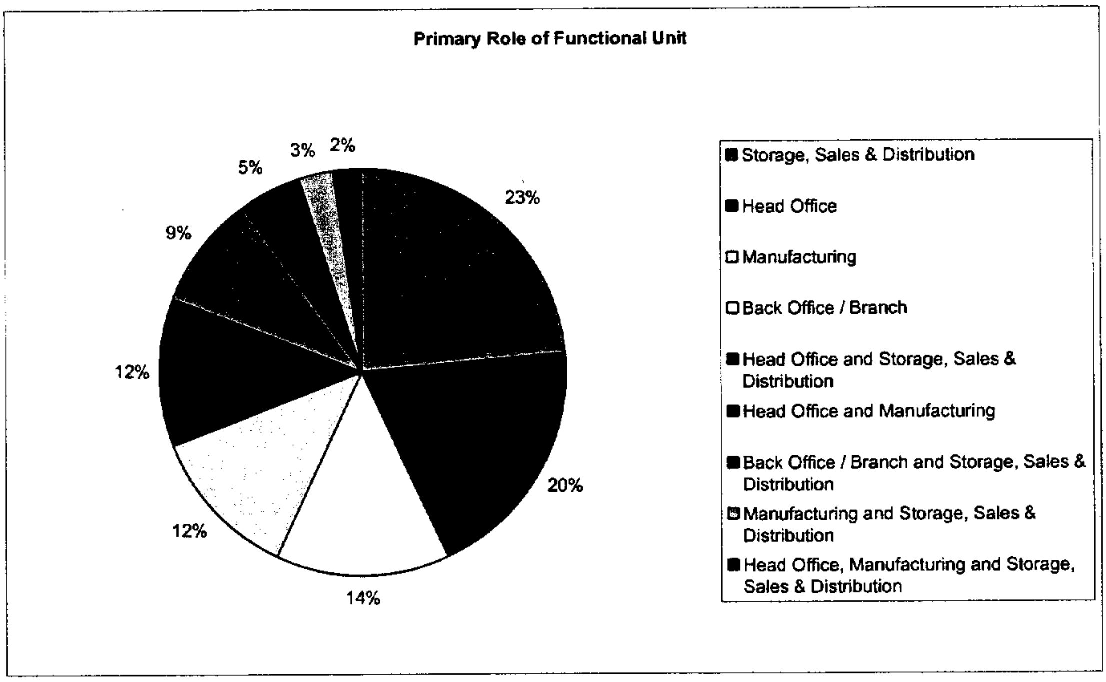


In general terms, the main land use activity carried out in a sole location is described by the industry of the firm. For example, a sole location of a manufacturing industry firm can be assumed to have production as the primary activity undertaken on site. However, industry is not necessarily representative of activity for functional units. Land use activities are more diverse for these.

[37] Based on 514 responses (294 sole location and 220 functional unit).

Activities undertaken by functional units of firms are varied. Storage/distribution and office/administration functions rank highly among primary role of these establishments.

The primary role of functional units are storage, sales & distribution (23% of functional units), head office (20%), manufacturing (14%), back or branch office (12%) and head office combined with storage, sales & distribution (12%). This is shown in the following chart.



The main activities undertaken in establishments that are functional units of wider organisations are summarised below by industry. Only activities that scored 10% or more for each industry are shown.

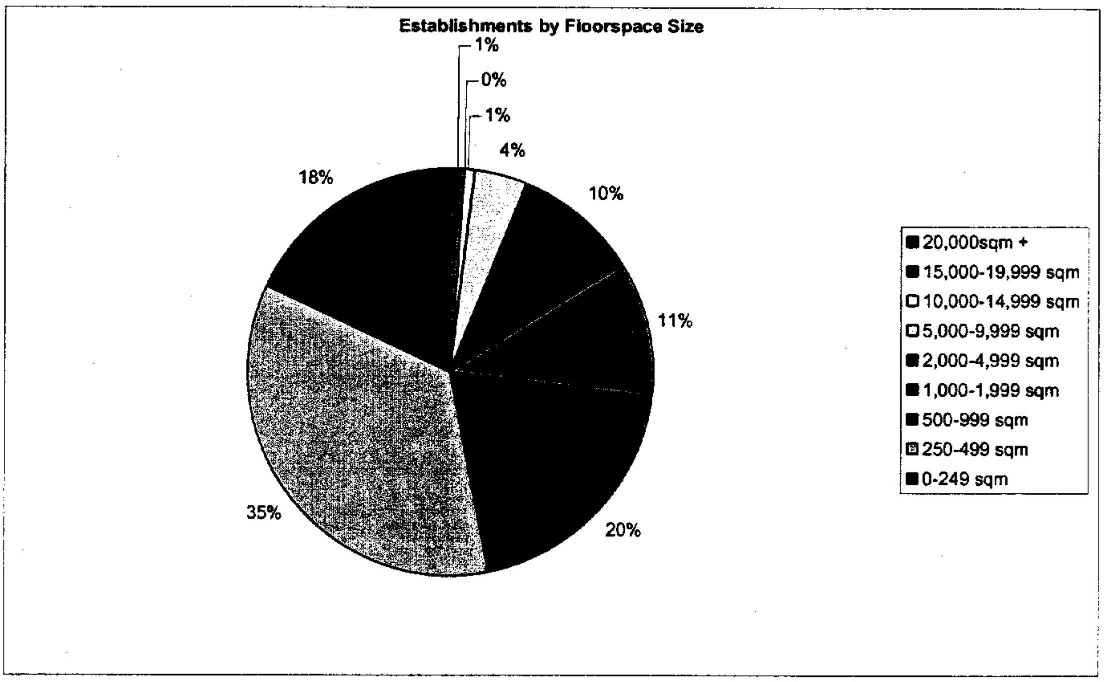
Industry	*Leading Roles of Functional Units*
Manufacturing	▪ Manufacturing (42%) ▪ Head office combined with manufacturing (24%) ▪ Head office (15%).
Wholesale trade	▪ Storage, sales & distribution (27%) ▪ Head office (25%) ▪ Head office combined with storage, sales & distribution (20%) ▪ Back or branch office (14%)
Transport & storage	▪ Storage, sales & distribution (60%) ▪ Head office combined with storage, sales & distribution (21%)
Retail trade	▪ Back or branch office (36%) ▪ Head office combined with storage, sales & distribution (27%) ▪ Storage, sales & distribution (18%)
Construction	▪ Head office (50%) ▪ Storage, sales & distribution (13%) ▪ Head office combined with manufacturing (13%) ▪ Head office combined with storage, sales & distribution (13%) ▪ Manufacturing combined with storage, sales & distribution (13%)
Property & business services	▪ Head office (55%) ▪ Back or branch office (18%)
Other services	▪ Storage, sales & distribution (50%) ▪ Back or branch office (50%)

The majority of business establishments in the study area (73%) occupy premises of less than 1,000 sqm in area. Firms that occupy 'large' premises (ie. 5,000 sqm +) are in transport & storage, property & business services (which mainly relates to head offices), wholesale trade and manufacturing.

The average floorspace area of business establishments in the study area is 1,350 sqm[38] but most establishments occupy smaller premises.

The following chart shows that the 250-499 sqm building is the most popular followed by 500-999 sqm and 0-249 sqm.

The study area has only a small proportion of businesses occupying more than 5,000 sqm of floorspace.



The industries that occupy more than 5,000 sqm of floor area are:

- Transport & storage (16% of establishments in this industry)[39];
- Property & business services (13%)[40];
- Wholesale trade (5%)[41]; and
- Manufacturing (5%)[42].

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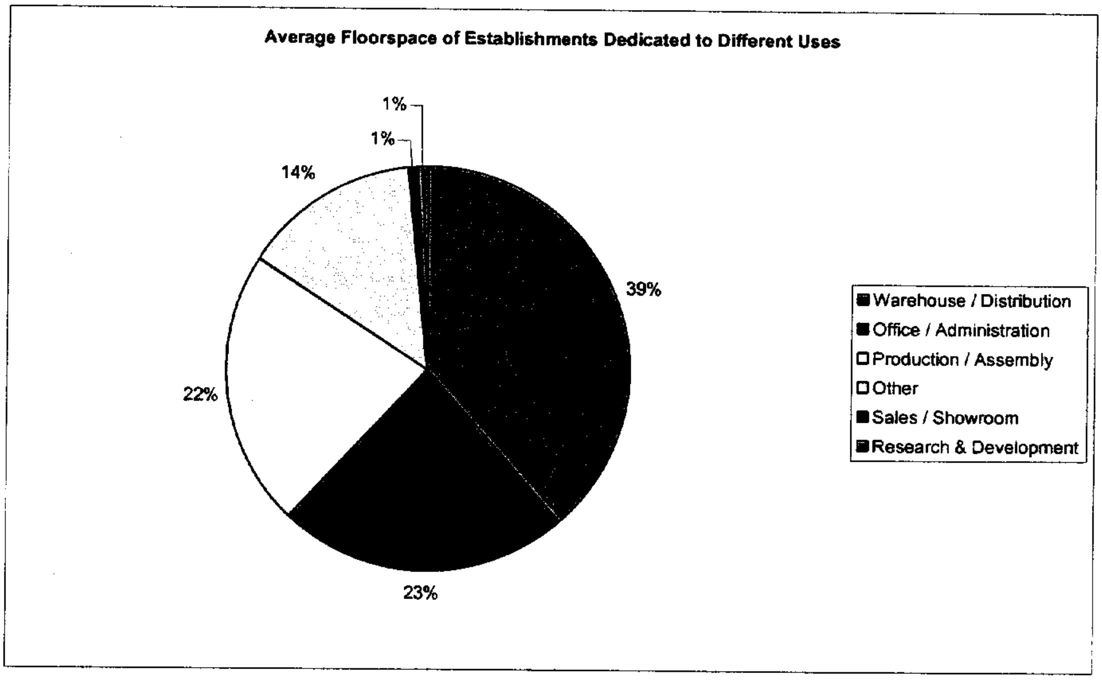
[38] Based on 381 responses.
[39] Based on 39 responses.
[40] Based on 22 responses.
[41] Based on 73 responses.
[42] Based on 124 responses.

The high rating of property & business services in this regard relates to a significant number of head offices / regional offices having established in the study area.

A significant proportion of floorspace in the study area (ie. 23%) is dedicated to office-based activity. This further confirms that the study area's role is broader than production and storage & distribution.

Average floorspace dedicated to different activities is shown on the following chart[43].



[43] Based on 518 responses. 'Other' generally refers to service industry and workshops (eg. car service and repairs).

The average proportion of floorspace dedicated to office-based activity by industry is as follows:

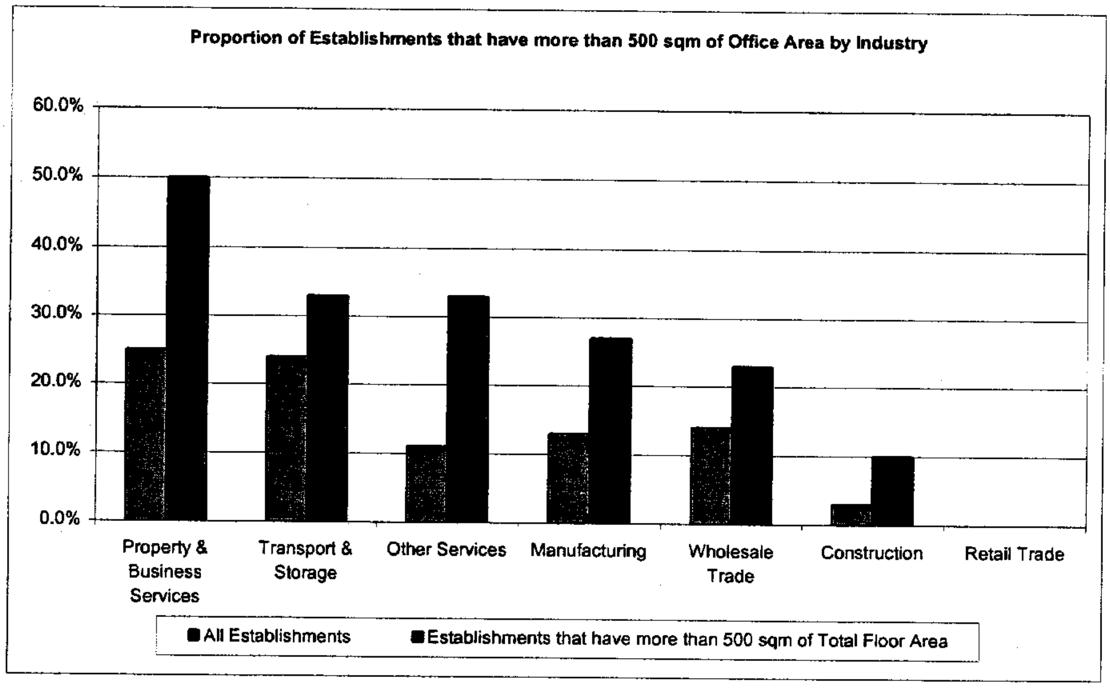
- Property & business services (51% of the total floorspace in this industry)[44];
- Other services (49%)[45];
- Wholesale trade (26%)[46];
- Construction (21%)[47];
- Manufacturing (20%)[48];
- Transport & storage (16%)[49]; and
- Retail trade (13%)[50].

A significant proportion of study area establishments have more than 500 sqm of office floorspace despite current planning controls stating that the leaseable floor area of office activity must not exceed 500 square metres. This suggests that planning controls are out of step with contemporary investment patterns in Scoresby / Rowville.

About 12% of establishments in the study area have more than 500 sqm of office floor area. This figure is 25% for establishments that have a total floor area of over 500 sqm and thus the potential to exceed this mark[51].

The following chart shows the extent to which establishments exceed 500 sqm for office activity by industry.

[44] Based on 33 responses.
[45] Based on 9 responses.
[46] Based on 105 responses.
[47] Based on 45 responses.
[48] Based on 167 responses.
[49] Based on 58 responses.
[50] Based on 54 responses.
[51] Based on 363 responses.



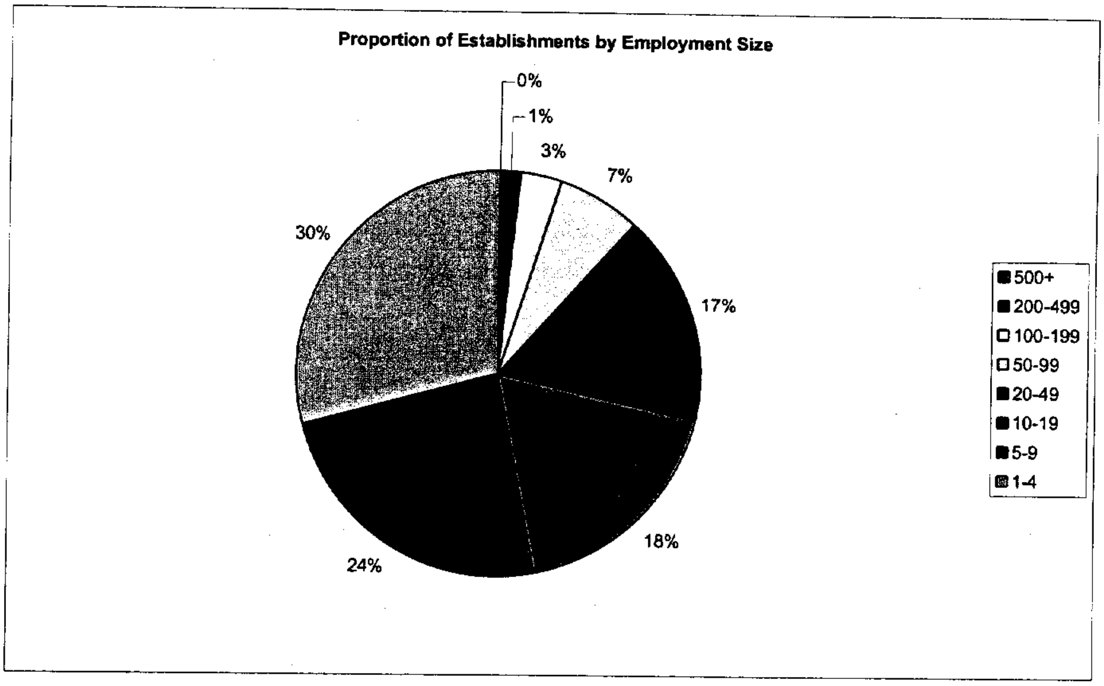
The study area is one of Knox's major employment nodes. It is likely to provide in the order of 14,280 jobs, or over one quarter of the municipality's total job stock.

The average number of jobs per establishment in the study area is 24[52]. This means that about 14,280 jobs are located in the study area (based on there being 595 establishments in the study).

The breakdown of employment size for the study area as a whole is shown in the following chart.

There are many small firms across the industries and a few very large establishments in transport & storage, manufacturing, property & business services and wholesale trade.

[52] Based on 525 responses.



The study area has a number of large establishments. These are mainly confined to four industries as follows:

- Transport & storage (9% of this industry's establishments employ more than 100 persons)[53];
- Manufacturing (9%)[54];
- Property & business services (6%)[55]; and
- Wholesale trade (3%)[56].

The balance between transformative & warehouse based employment and office based employment is fairly even in the study area, further confirming management and administration as a key role of the study area.

The following chart shows that most of the study area's job opportunities relate to factory / storage & distribution work and office related work. The balance between these forms of work is fairly even.

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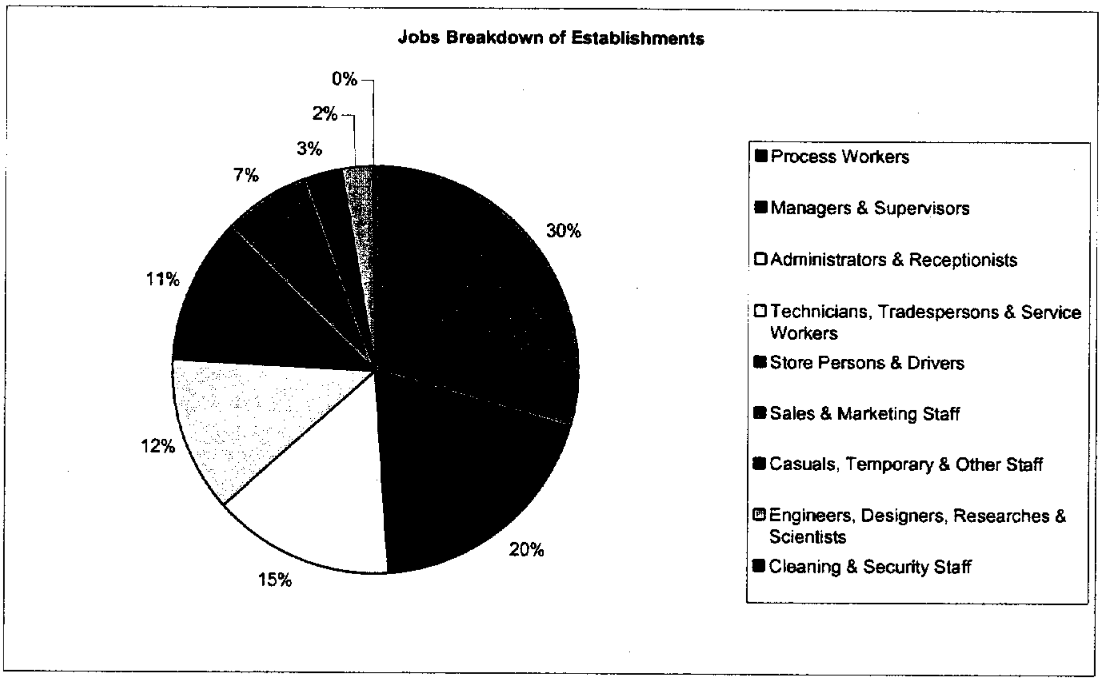
[53] Based on 53 responses.
[54] Based on 169 responses.
[55] Based on 35 responses.
[56] Based on 107 responses.



The average duration of establishments in Scoresby / Rowville is 6 years and 3 months[57]. Initial investment in the study area was almost exclusively production / workshop related but in recent years investment has been more diverse, with service, distribution and trade establishments accounting for an increasing share of development.

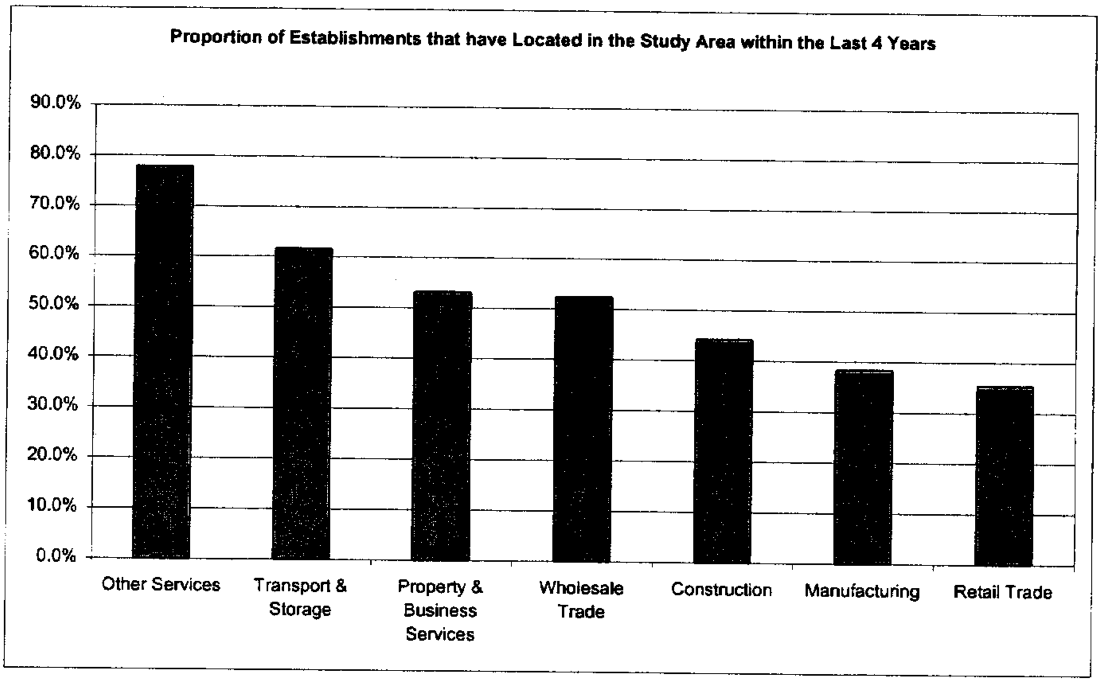
The average duration of establishments in the study area by industry is as follows:

- Manufacturing (7 years, 7 months);
- Retail trade (7 years);
- Construction (6 years 1 month);
- Wholesale trade (5 years 5 months);
- Transport & storage (5 years);
- Property & business services (4 years 8 months);
- Other services (3 years).

[57] Based on 506 responses.

About 47% of business establishments have been located in the study area for four years or less. The following chart shows what this figure is for individual industries[58].

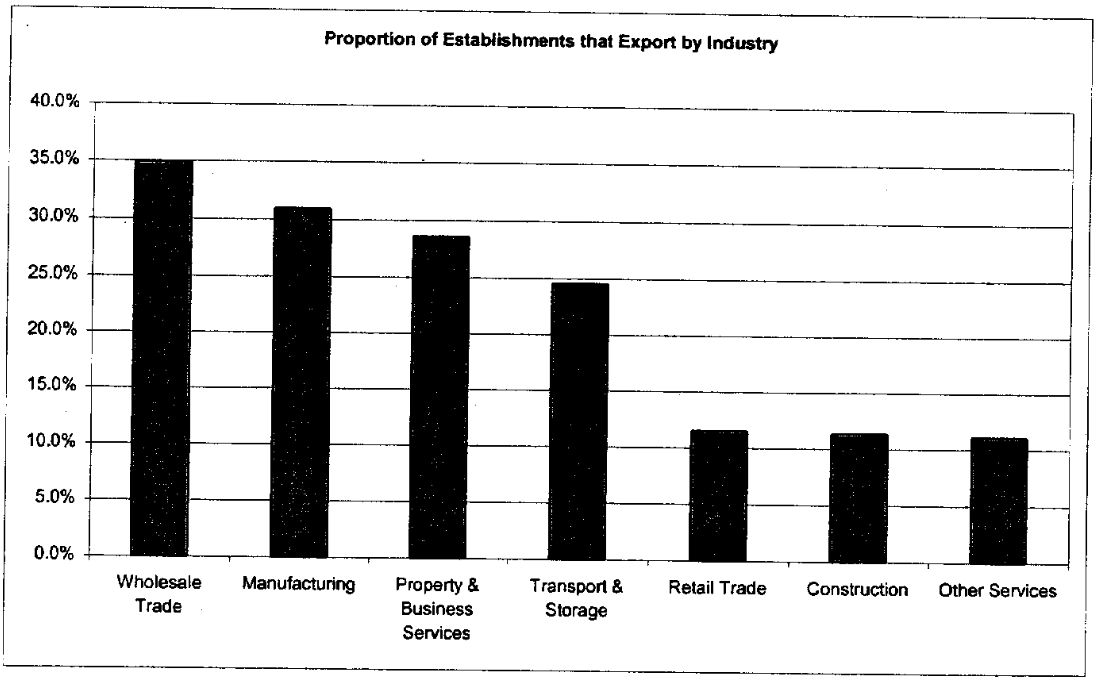
The chart indicates that, in recent years, non-production based activities have established in the study area to further diversify its role.



About 27% of establishments in the study area export goods / services to overseas markets. Export propensity is highest amongst manufacturing and property & business service firms.

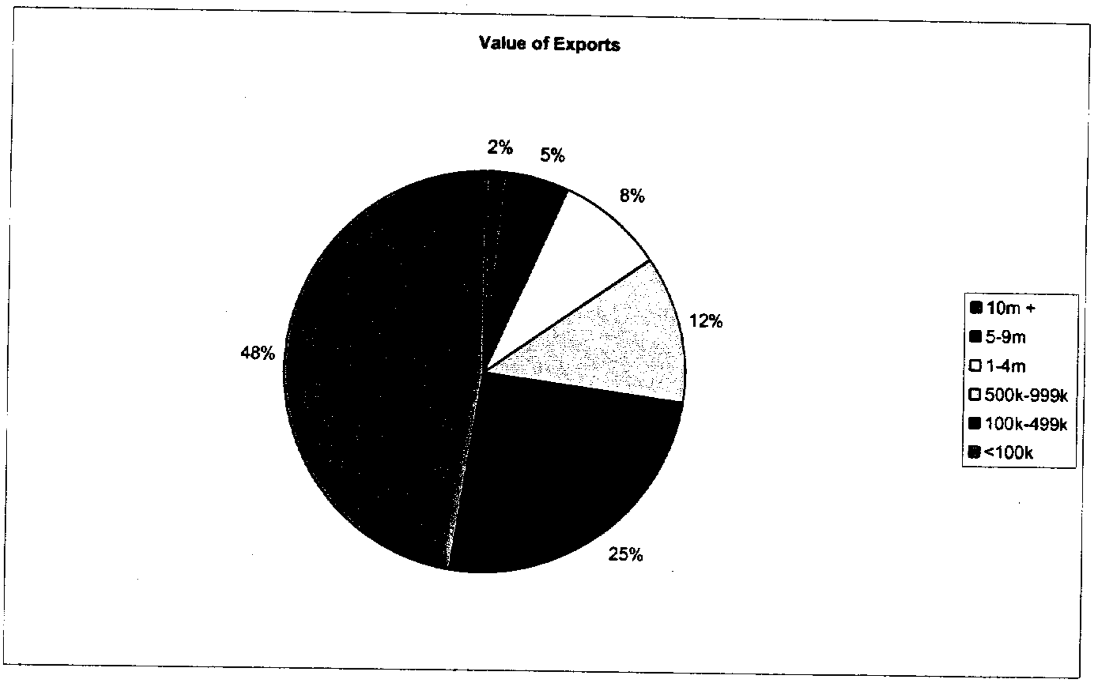
[58] Based on 9 responses for other services, 52 responses for transport & storage, 32 responses for property & business services, 107 responses for wholesale trade, 43 responses for construction, 170 responses for manufacturing and 51 responses for retail trade.

The following chart shows the proportion of establishments that export from the study area by industry[59]. Note that the high export propensity for wholesale trade and transport & storage shown here is misleading as this is likely to relate to on-selling of goods produced elsewhere whereas manufacturing and property & business services are likely to be producers of goods and services for export.



The following chart shows value of exports[60]. Almost half of the study area's exporters sell less than $100,000 worth of goods per annum to overseas markets.

[59] Based on 106 responses for wholesale trade, 168 responses for manufacturing, 35 responses for property & business services, 53 responses for transport & storage, 52 responses for retail trade, 44 responses for construction and 9 responses for other services.
[60] Based on 59 responses.



5.3 Typology of Study Area Users

The study area is a suburban industry and business node with 'edge city' characteristics. Notable activities are production, administration & distribution, wholesale / retail trade, business services and service industry. The study area attracts 'clean and green' and amenity conscious businesses and operations of businesses.

The analysis established that the study area has in the order of 595 businesses and these generally fall into a number of groups as follows.

- Manufacturers - this includes export and non-export producers in sectors like machinery & equipment, printing, food and metal products.
- Administration and / or distribution establishments - this includes head offices and / or storage & distribution facilities of firms. A significant proportion of firms that have high office content fall in this category.

- Service industry firms - this includes small businesses that require an industrial setting such as car repairs, installation contractors and engineering firms.

- Business services - this includes a wide range of small businesses and 'back office' functions from information technology service providers, job agencies to mail order services.

- Wholesalers and retailers - this includes a wide range of wholesale and retail outlets, typically supplying industry and construction goods.

6. SURVEY PROGRAM

This section of the report documents the survey program used to build on the findings of the previous work to develop a more rigorous understanding of businesses and the study area.

This is achieved through surveys of: firms in the study area, firms located in competing industrial and commercial areas, land owners, property agents and economic development experts. A review of industrial development trends in the USA is also undertaken.

The findings of the survey program are documented in the Section 7 (Business Analysis) and Section 8 (Location Analysis).

6.1 Survey of Study Area Users

The Scoresby / Rowville industrial areas accommodate businesses that fall into a number of broad groups as follows.

- Manufacturers - this includes export and non-export producers in sectors like machinery & equipment, printing, food and metal products. The markets of these firms range from local to global.
- Administration and / or distribution establishments - this includes head offices and / or storage & distribution facilities of firms. Firms that have high office content generally fall in this category. The markets of these firms range from local to global.
- Service industry firms - this includes small businesses that require an industrial setting such as car repairs, installation contractors and engineering firms. The markets of these firms are generally local.
- Business services - this includes a wide range of small businesses and 'back office' functions from information technology service providers, job agencies to mail order services. The markets of these firms are generally local.

- Wholesalers and retailers - this includes a wide range of wholesale and retail outlets, typically supplying industry and construction goods. The markets of these firms are generally local.

Most business groups noted above generally serve local markets (ie. metropolitan Melbourne and in particular South East Melbourne). These firms are located in the region in order to access those markets.

However, two of the groups noted above have global and national reach. These being:
- Export manufacturers; and
- Administration and/or distribution facilities of global or national scale firms.

These firms can, in theory, be located anywhere in Australia or across the world. It is not possible to determine why these firms have chosen a Scoresby / Rowville location without further research. Hence, the detailed surveying of businesses in the study area is focussed on these two groups of firms.

The firms that participated in the surveying of study area users are noted in the following table. Forty-five firms were surveyed.

1	G Force Aust	Knoxfield	24	Ryobi	Rowville
2	Gamsee Industries P/L	Knoxfield	25	Sole Mio P/L	Rowville
3	Giesecke & Devrient	Knoxfield	26	Solo Tooling P/L	Rowville
4	HJB	Knoxfield	27	Cabots Timber Finishing	Scoresby
5	Kenman Kandy	Knoxfield	28	Cadbury Schweppes	Scoresby
6	Miele	Knoxfield	29	Consolidated Transport Group	Scoresby
7	MiTek	Knoxfield	30	Flowserve	Scoresby
8	Pacific Distribution	Knoxfield	31	Gillette Aust	Scoresby
9	Snack Brands Australia	Knoxfield	32	Hallmark	Scoresby
10	West End Press	Knoxfield	33	International Marine	Scoresby
11	Baxter Laboratories	Rowville	34	Jorgenson Waring Foods	Scoresby
12	Calwright Packaging P/L	Rowville	35	Mentholatum	Scoresby
13	DataTaker	Rowville	36	Moeller	Scoresby
14	David Couper & Associates	Rowville	37	Murray More Steel	Scoresby
15	Fastron Technologies	Rowville	38	Nintendo	Scoresby
16	Inner Range	Rowville	39	NSK - RHP	Scoresby
17	Kingfisher International	Rowville	40	Oce	Scoresby
18	Linear Bearings	Rowville	41	Red Rooster	Scoresby
19	Mallinckrodt	Rowville	42	SIMOCO	Scoresby
20	Mother Earth Fine Foods	Rowville	43	Southcorp Water Heaters Aust	Scoresby
21	Norgren	Rowville	44	The Décor Corporation Pty Ltd	Scoresby
22	Novartis Consumer Health	Rowville	45	Wills Corporate Services	Scoresby
23	Pegler Beacon Australia Pty Ltd	Rowville			

Twenty-five (25) firms are export manufacturers and twenty (20) are administration and / or distribution facilities.

The survey sought information on a range of topics relating to the company / establishment and the location.

6.2 Survey of Firms across Eastern Melbourne

The next phase of the research involved surveys of thirty (30) firms (of similar nature to the firms surveyed in the study area) that are located in 'competing' industrial and commercial areas.

The purpose of this research is to place the study area findings in context.

The competing industrial and commercial areas[61] are:

- Braeside (ie. Redwood Gardens);
- Mulgrave;
- Burwood East (ie. Tally Ho); and
- Bayswater North.

The thirty firms that participated in the surveying are noted in the following table.

1	Clipper Plastics	Bayswater North	16	AWA Services	Burwood East (Tally Ho)
2	Oxford Medical Equipment	Bayswater North	17	Fintech Australia	Burwood East (Tally Ho)
3	Wilson Stationary Distributors	Bayswater North	18	Fujitsu	Burwood East (Tally Ho)
4	Autocon Conveyor Engineering	Braeside	19	RLM Systems	Burwood East (Tally Ho)
5	Chubb Fire	Braeside	20	World Vision	Burwood East (Tally Ho)
6	Conlay Press	Braeside	21	Alliance Computing	Mulgrave
7	EGU Pharmaceuticals	Braeside	22	Faulding Pharmaceuticals	Mulgrave
8	Gale Pacific	Braeside	23	GSA Design & Products	Mulgrave
9	K Mart Distribution	Braeside	24	Jaycar Electronics	Mulgrave
10	Maruzen Food	Braeside	25	Nestle	Mulgrave
11	Phillip Morris	Braeside	26	Simplot	Mulgrave
12	Schrer Holdings	Braeside	27	Skillcraft	Mulgrave
13	Viscount Plastics	Braeside	28	Sleger Products	Mulgrave
14	Western Electric	Braeside	29	Telstra Research Labs	Mulgrave
15	AV Jennings	Burwood East (Tally Ho)	30	Varian Australia	Mulgrave

Sixteen (16) firms are export manufacturers and fourteen (14) are administration and / or distribution facilities.

[61] Identified from a review of industrial land in eastern Melbourne and consultation with land owners and property agents.

The survey sought information on a range of topics relating to the company / establishment and the location.

6.3 Survey of Land Owners

The nature and pace of development in the study area is significantly influenced by the aspirations of a small number of land owners. Approximately five land owners hold much of the vacant industrial land stock in the study area.

Therefore, five land owners were surveyed about the study area and their development aspirations. The groups consulted are shown in the table below.

1	Caribbean Gardens	Scoresby Industrial Area
2	Kingston Properties	Rowville & Knoxfield Industrial Areas
3	Pinnacle Property Group	Scoresby Industrial Area
4	RC Henderson	Knoxfield Industrial Area
5	Szaintop Nominees	Rowville Industrial Area

6.4 Survey of Property Agents, Economic Development and Infrastructure Experts

Further intelligence about the study area and businesses was sought from a range of private and public sector practitioners in the fields of property, economic development and infrastructure. The groups consulted are shown in the following chart.

1	Colliers Jardine	Dandenong Office	7	Employment Strategy	JobsEast ACC
2	Jones Lang LaSalle	Glen Waverley Office	8	Industrial Planning	Department of Infrastructure
3	CB Richard Ellis	Melbourne Office	9	Planning Strategy	Department of Infrastructure
4	Chesterton International	Moorabbin Office	10	Investment Facilitation	Department of State Development
5	Collins Commercial & Industrial	Melbourne Office	11	Engineering Services	Knox City Council
6	McGees National Property Consultants	Melbourne Office			

6.5 Survey of Industrial Development Trends in the USA

Information on industrial development trends internationally was sought from members of the Council for Urban Economic Development (CUED) in the USA and literature sources. The purpose of this research is to gain further intelligence about the global production economy and provide a picture of likely operating conditions within the sectors of interest in the Scoresby / Rowville industrial areas.

The results of the survey program are synthesised in the following two sections of the report.

7. BUSINESS ANALYSIS

This section provides an analysis of the export manufacturer firms and administration and / or distribution facilities in the study area selected for more in-depth research. The purpose of the section is to better understand the nature of those firms. Where appropriate, reference will be made to similar firms located in competing areas across eastern Melbourne.

7.1 Role of Establishments

Export manufacturers surveyed are evenly split between being sole locations and functional units of companies whereas most administration and / or distribution facilities are functional units.

The table below shows some of the main features of the firms surveyed. This shows that:

- Export manufacturers have generally been located in the study area longer than administration and / or distribution facilities;
- Both groups of firms surveyed are significant employers, with average employment between 70 and 78;
- Administration and / or distribution facilities generally serve the domestic market; and
- Export manufacturers are evenly split between being a sole location and a functional unit whereas the vast majority of administration and / or distribution facilities are functional units.

Selected Characteristics of Firms Surveyed in Study Area

	No. Surveyed	Average Years at Site	Average Jobs	Export	Sole Location	Functional Unit
Export Manufacturers	25	10y 2m	70	100%	52%	48%
Administration &/or Distribution Facilities	20	6y 7m	78	25%	10%	90%
Total Firms	45	8y 7m	73	67%	33%	67%

Administration is a key role amongst functional units in the study area.

About 87% of functional units combine administration with another role (or roles), such as storage / distribution, manufacturing, research, sales / showroom and service.

The remaining 13% of functional units have production and / or storage / distribution facilities, with administration undertaken at another premises.

Both groups of firms in the study area are optimistic with respect to increasing employment in the study area over the next two or three years.

Overall, 34% of firms surveyed expect to increase employment in the near future with the remaining portion of firms expecting no change.

About 40% of administration and / or distribution facilities surveyed expect employment to increase over the next two or three years. The corresponding figure for export manufacturers is 32%.

7.2 Floorspace Characteristics

The average floor area of establishments surveyed is summarised in the table below. This indicates that large premises were subject to the research.

Average Floorspace (sqm) - Firms Surveyed

	Study Area Firms	Eastern Melb. Firms
Export Manufacturers	4,238	1,628
A &/or D Facilities	6,450	8,479
Total	5,221	4,905

The following charts show floor area usage for the different groups of firms in and out of the study area.

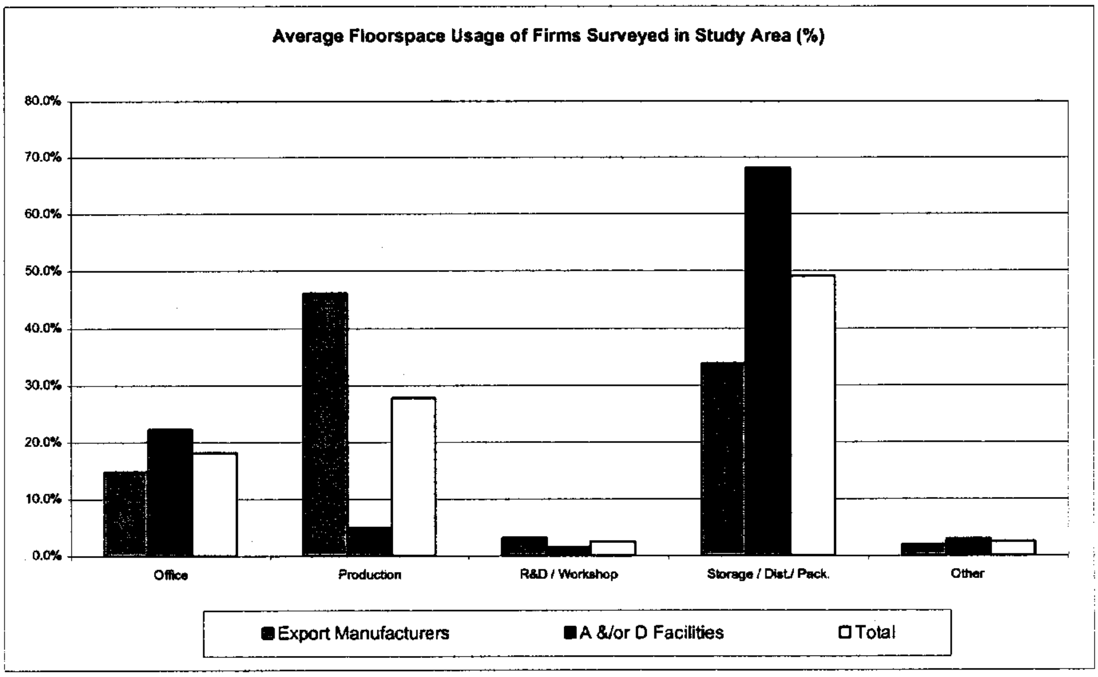
Floorspace usage is varied between areas and between groups of firms. Although the main land uses are storage / distribution, production and office, and to a lesser extent research, the information shows that it is not possible to generate one land use model for businesses that seek a 'light industry' or 'high technology precinct' setting. The situation is diverse.

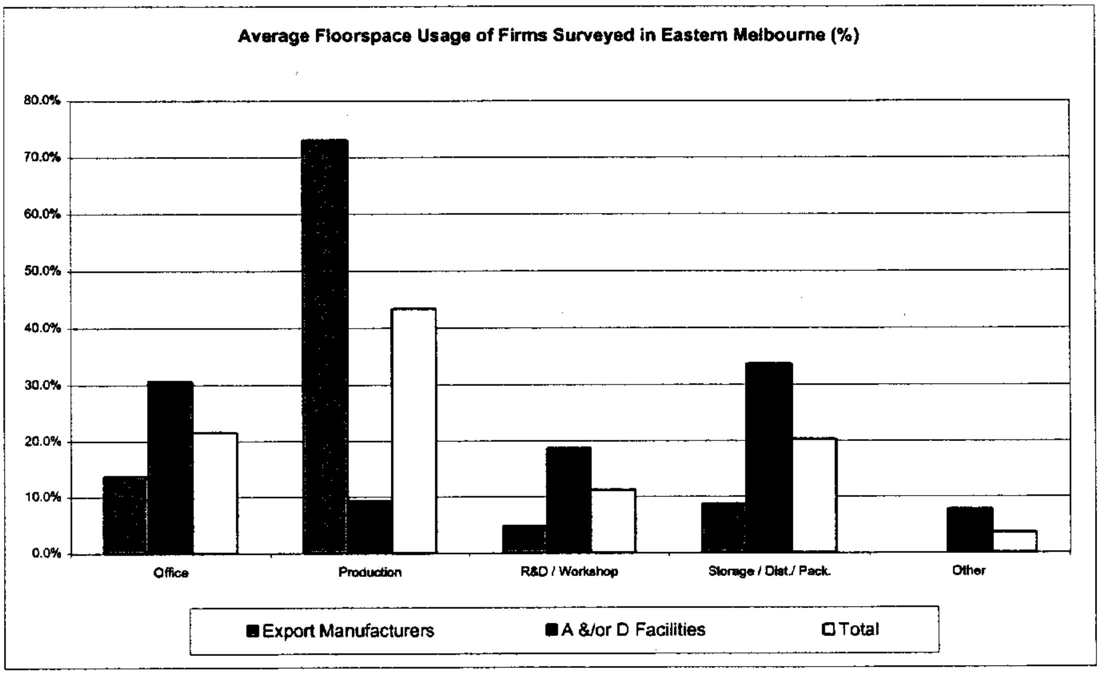
Overall, the dominant land use of the firms surveyed in the study area is storage / distribution (49%), followed by production (28%) and office (18%).

This scenario is varied between export manufacturers (whose dominant use is production) and administration and / or distribution facilities (whose dominant use is storage / distribution).

The firms surveyed outside the study area have production as the main land use (43%), followed by office (22%) and storage / distribution (20%). Research & development also scores a significant 11%. This mainly relates to research-based firms located in the Mulgrave area that have links to Monash University.

Again, production is the dominant land use for export manufacturers but floor area is relatively evenly split between storage / distribution, office and research for the administration and / or distribution establishments surveyed outside the study area.


Average Floorspace Usage of Firms Surveyed in Study Area (%)
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Office
Production
R&D / Workshop
Storage / Dist./ Pack.
Other
Export Manufacturers
A &/or D Facilities
Total


Average Floorspace Usage of Firms Surveyed in Eastern Melbourne (%)
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Office
Production
R&D / Workshop
Storage / Dist./ Pack.
Other
Export Manufacturers
A &/or D Facilities
Total

The results of expected change in floor area use over the next two or three years are shown below. Most firms expect to have either the same or more floor area in the near future. This indicates optimism in the business environment.

	Increase	*Same*	*Decrease*
Study Area	**24%**	**76%**	**0%**
EMs	12%	88%	0%
A &/or D	40%	60%	0%
Eastern Melb.	**40%**	**53%**	**7%**
EMs	44%	44%	12%
A &/or D	36%	64%	0%

7.3 Business Networks

Businesses were asked to nominate their main supplier of goods or services, main customers and main support organisations[62]. The purpose of this was to map the geography of business networks. The results are shown in the four charts that follow[63].

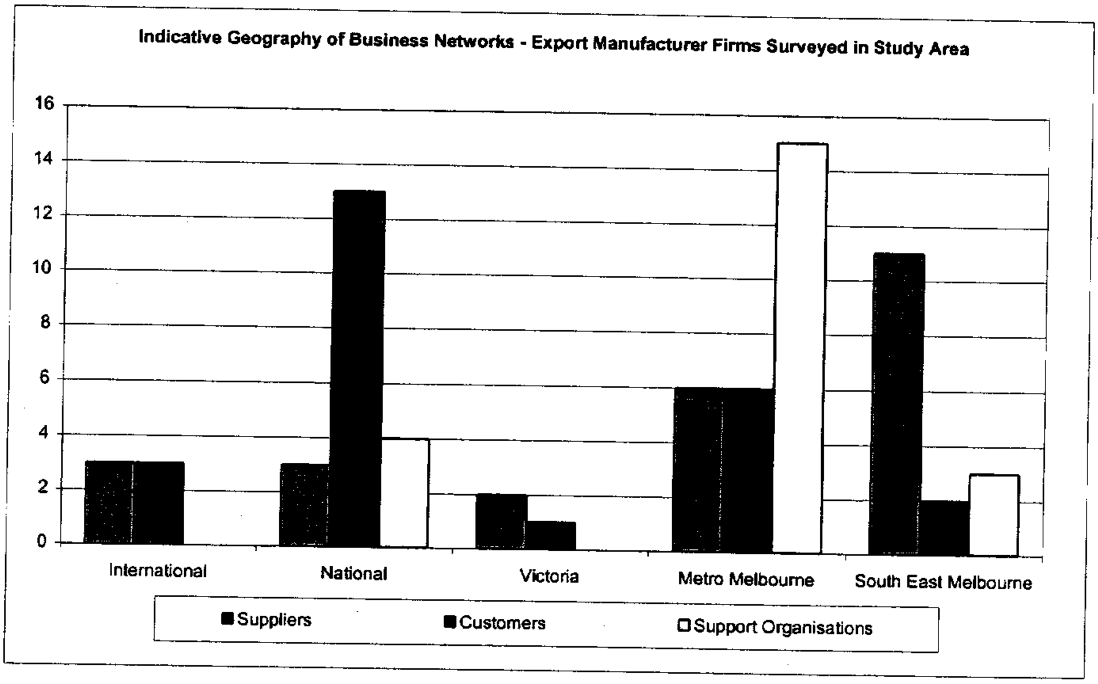
The elongation of production chains means that production is distributed across the globe and not necessarily concentrated in one place. This is especially true for multi-nationals that have administration and / or distribution facilities in the study area. Export manufacturers display greater ties to the regional economy, as they are more likely to source goods locally. This may indicate that close contact (eg. face to face contact) with suppliers is still important for producers.

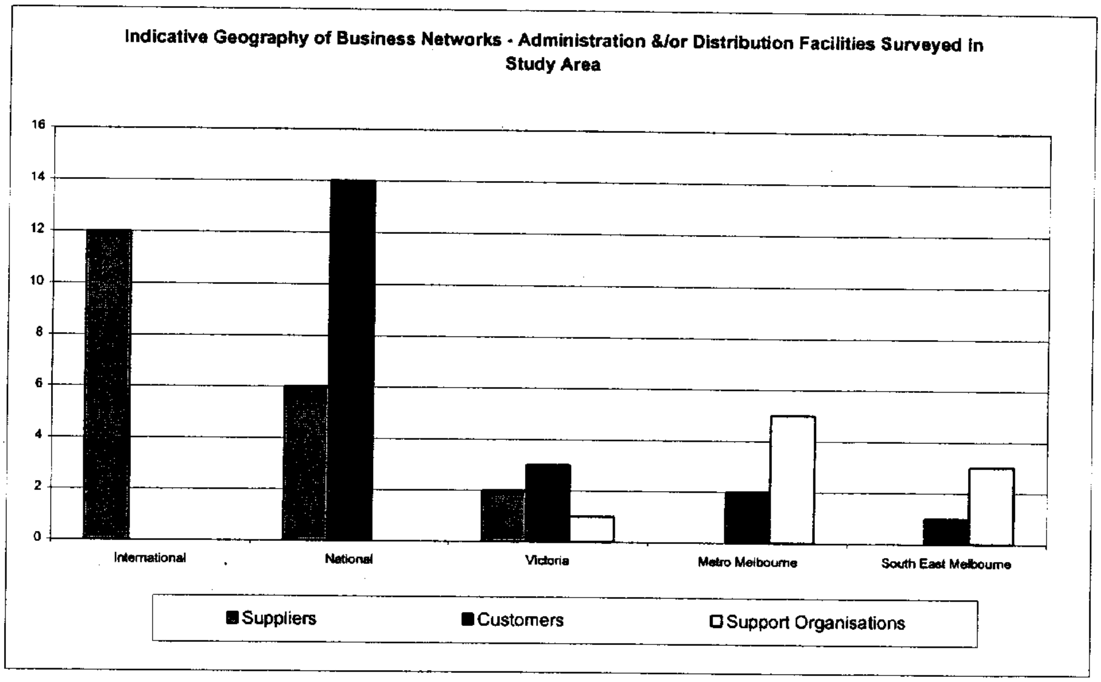
In very general terms, export manufacturers in the study area tend to source goods locally, sell nationally (and to a lesser extent locally and internationally) and use the services of local support organisations.

[62]A support organisation has a relationship with the firm outside normal financial or business linkages. This may include a business or industry association, training provider, government agency and research body.
[63]Based on the geography of the first nominated supplier, customer and support organisation.

The administration and / or distribution facilities surveyed in the study area however show a marked difference to this pattern. These firms tend to source goods from around the globe (and to a lesser extent nationally), and then sell nationally whilst using local support services.

These firms are essentially one link in the chain of production. Their role is to manage and distribute global and national brand goods for the Australian market.

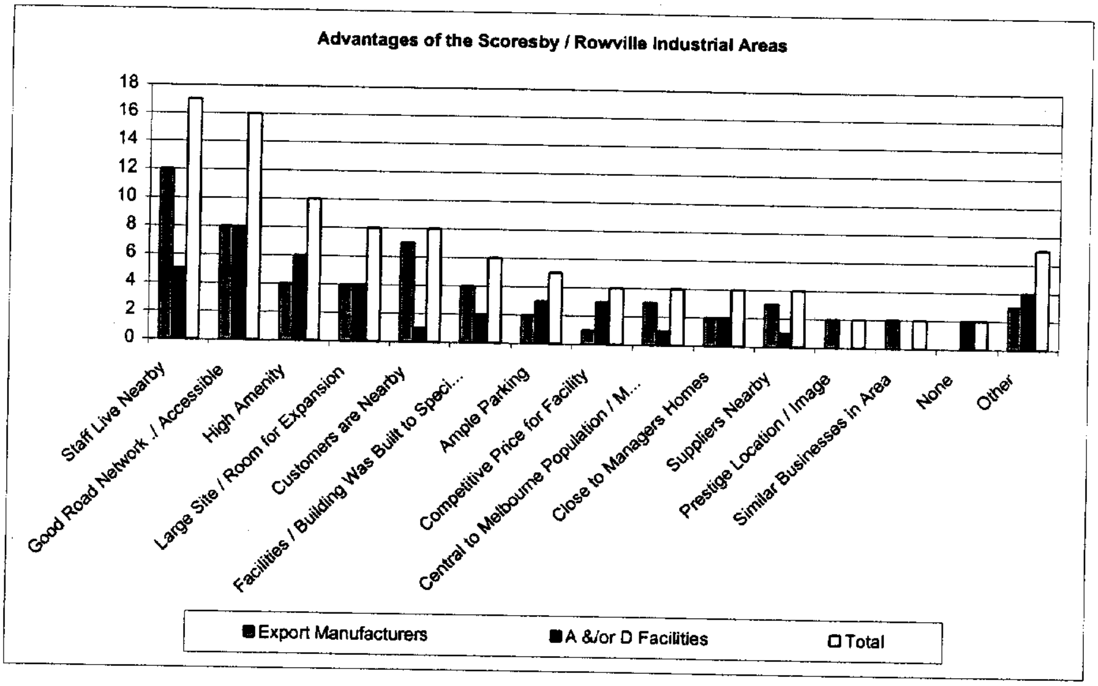




The data for the firms surveyed across eastern Melbourne is similar except for the export manufacturers. The eastern Melbourne manufacturers surveyed tend to rely on national and international inputs in their production processes, as opposed to local inputs.

These indicative findings suggest that the continuing 'globalisation of production' may be placing increasing competitive pressures on local input suppliers. This trend may develop in the study area as it has with our sample of eastern Melbourne manufacturers. This may in the future result in the loosening of the currently strong links between producers in the study area and local suppliers.

Administration and / or distribution facilities emphasised the road network, amenity and proximity to staff as being advantages of the study area.

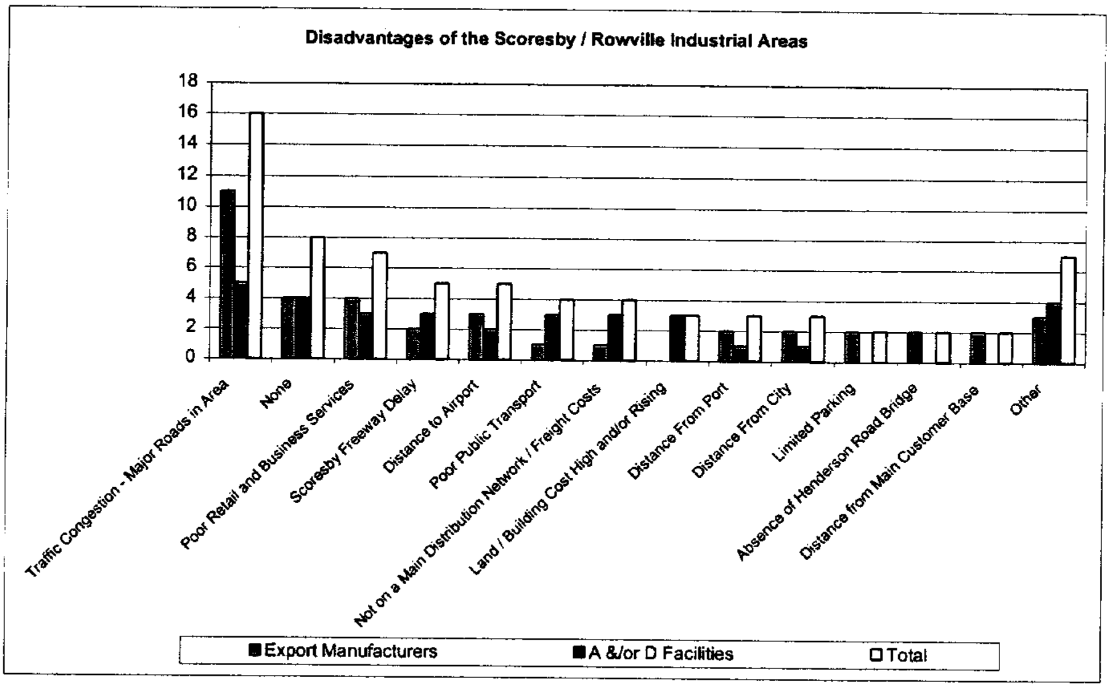


Firms surveyed in eastern Melbourne emphasised three factors being locational advantages:

- Road system accessibility;
- Proximity to staff; and
- Ample parking provision.

The main disadvantage of a Scoresby / Rowville industrial area location is traffic congestion on the major road network in the region. Many firms cited no disadvantage. Others suggested that the area has poor access to retail and business services (eg. eateries, banks).

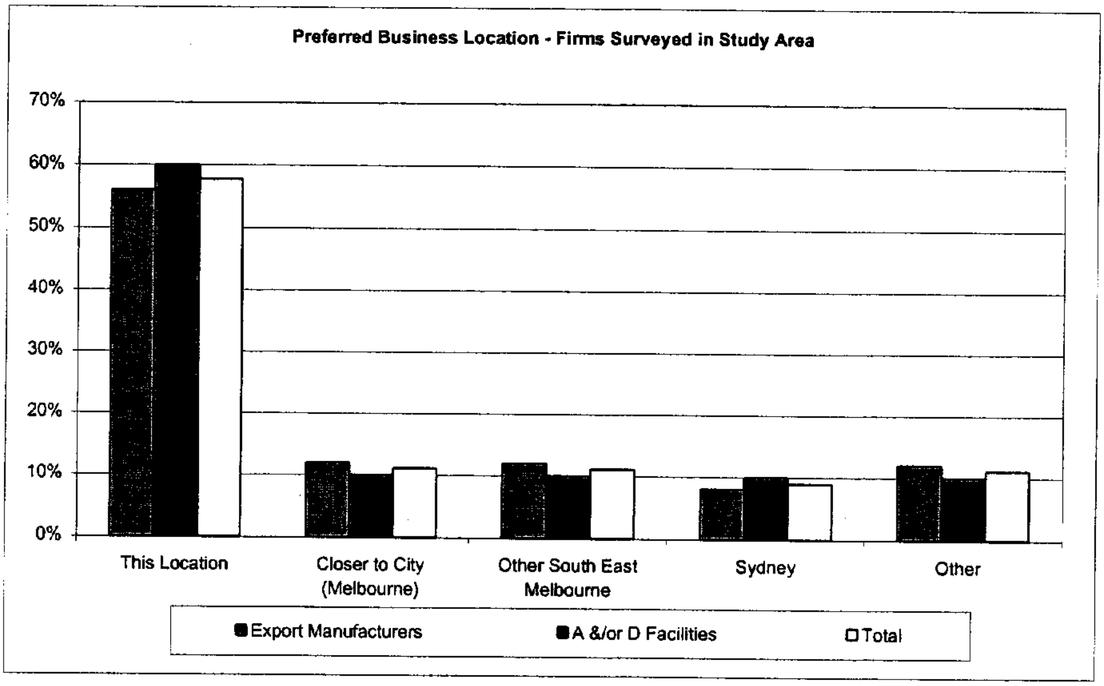
This result is consistent between the export manufacturers and administration and / or distribution facilities surveyed, as shown in the following chart.



The majority of firms surveyed in eastern Melbourne cited no disadvantage relating to their location. A small number said traffic congestion and distance to Melbourne airport are hindrances to business operations.

The preferred business location of firms surveyed in the study area is overwhelmingly the existing location (58%).

The firms surveyed in eastern Melbourne provided a similar result (with 73% saying the present location).



Operating Advantages and Disadvantages of Export Firms in South East Melbourne.

The operating advantages and disadvantages of a location in south east Melbourne (ie. the municipalities of Greater Dandenong, Casey, Frankston and Mornington peninsula) according to over 120 exporter firms (mainly in manufacturing) can be summarised as follows[64]. The key locational issues noted were market access and labour force.

Market Access

- Firms that draw the bulk of their resources from or sell relatively large amounts to non-local areas within Australia perceive the western and north-western suburbs as being potentially more advantageous than a south east location. This relates to the west and north of Melbourne having better all round inter-regional transport connectivity.
- However, where firms were less reliant on inter-regional links within Australia, the south east was considered to be the preferred location. Links to international markets via existing and planned road infrastructure was noted as satisfactory.

Continued...

[64] Spiller Gibbins Swan (2000) *Cluster Identification Study (Draft)*. Unpublished Draft Report for South East Development.

Labour Force ▪ The need for a particular skills set is also a factor in shaping opinion on the attractiveness or otherwise of locations. Unskilled and semi-skilled labour is seen as being in abundance in the south-east, but where more specialised or highly skilled labour is required, a central or eastern metropolitan location is seen as advantageous. Central and eastern Melbourne was cited as having specialised skills and greater opportunity to attract and retain highly qualified staff. ▪ For example, some technology advanced firms in electronic and scientific equipment manufacturing citied eastern Melbourne (ie. the Box Hill to Knox corridor) as being a preferred location as its offers a wider range of skills, better access to education and research facilities and more attractive industrial and business areas.

7.6 Synthesis

'Industry' in planning and development now requires a broader definition to include all facets of the production chain. This can include making provision for specialised facilities that perform one role - such as administration, research, production, storage, distribution, marketing - or all of these roles combined or a combination of these roles.

The study area is successful in attracting large firms in production and administration and / or distribution due to combination of location factors (ie. a well-connected area to markets and a workforce) and site factors (ie. suitable facilities and space in a high amenity setting for a competitive price).

Maintaining these advantages whilst continually working to address road traffic congestion and providing a wider range of retail and business services that will add to competitive advantage of the area are the key strategic issues.

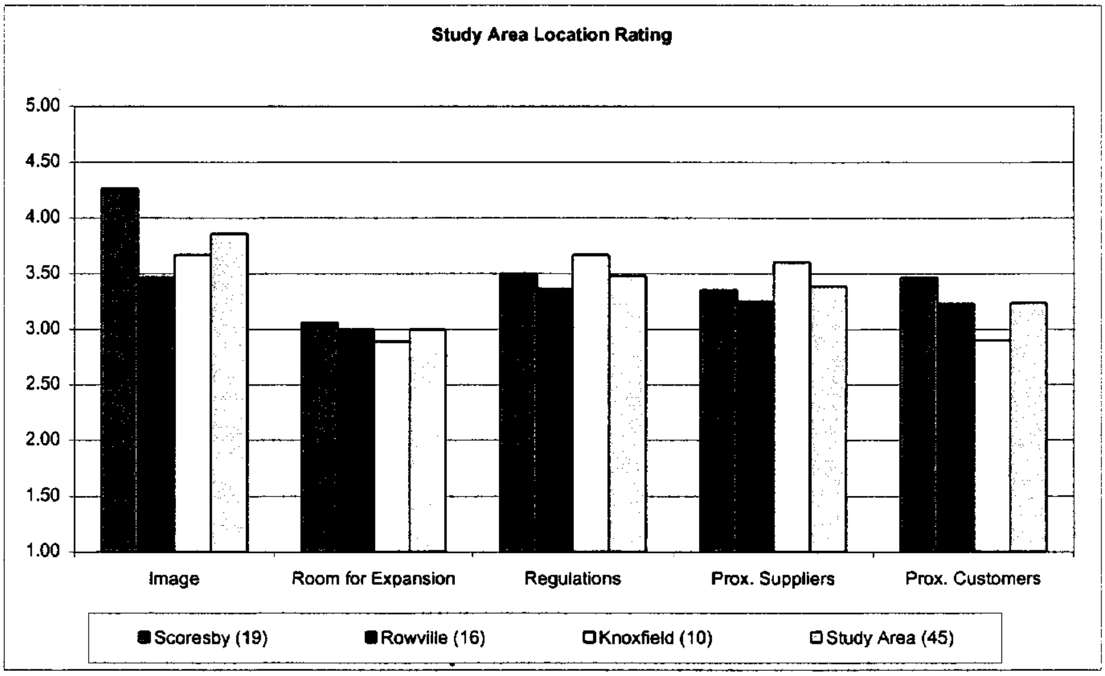
8. LOCATION ANALYSIS

This section assesses the study area and its hard and soft infrastructure provision. Comparisons with precincts outside the study area are also made. The section also reviews the study area's attributes and the development aspirations of land owners and other stakeholders.

8.1 Location Ratings

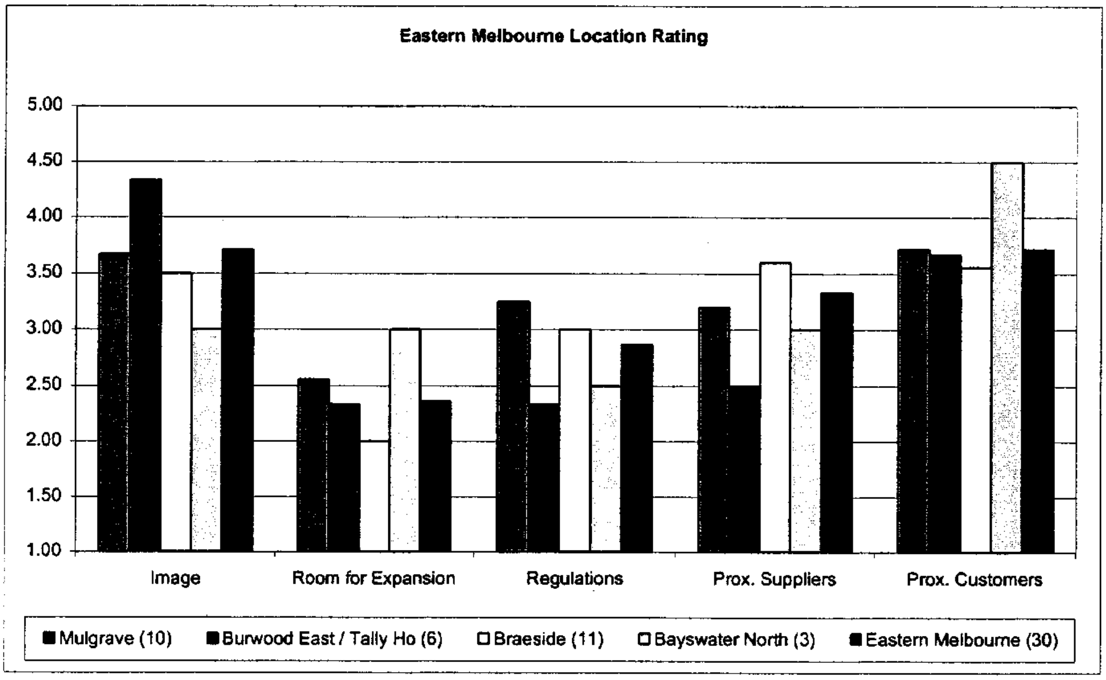
Businesses were asked to rate aspects of their location on a scale of 1 (very poor) to 5 (excellent). The results are shown in the following two charts at sub-area level.

All of the location indicators considered are rated satisfactory or better (ie. scoring 3 or higher) in the study area. The 'image' of the study area rates highest, especially in the Scoresby precinct.



The same ratings are shown for the eastern Melbourne precincts subject to the survey. The study area is rated slightly higher in all categories except for proximity to customers.

Tally Ho, the Burwood East technology park, is the highest rating precinct for image.

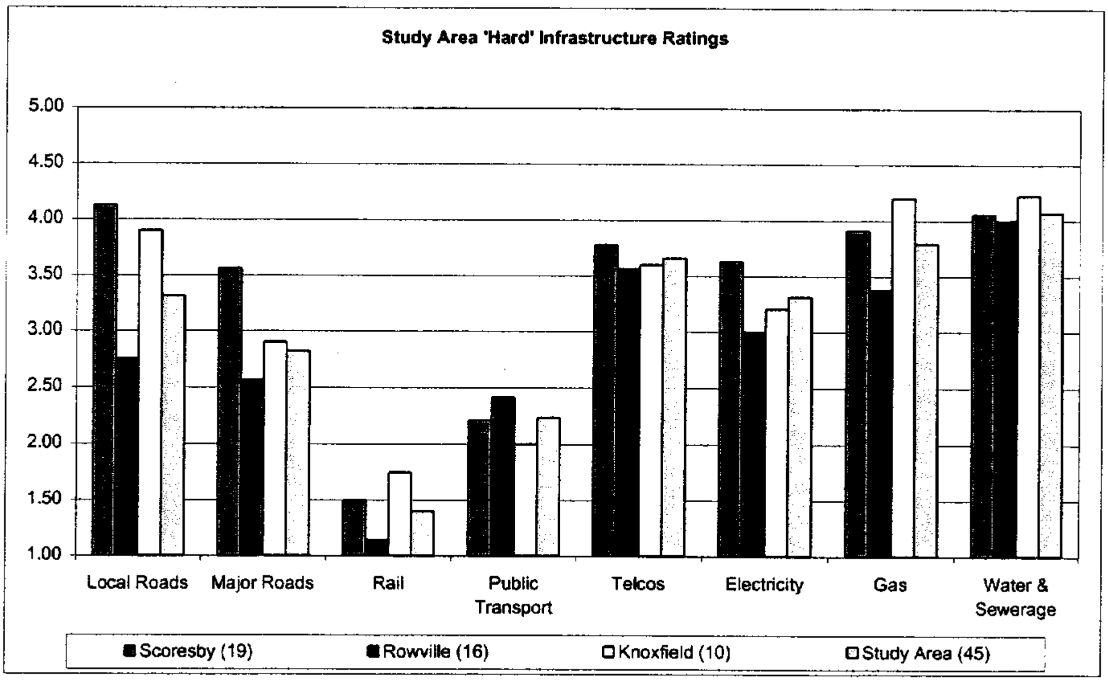


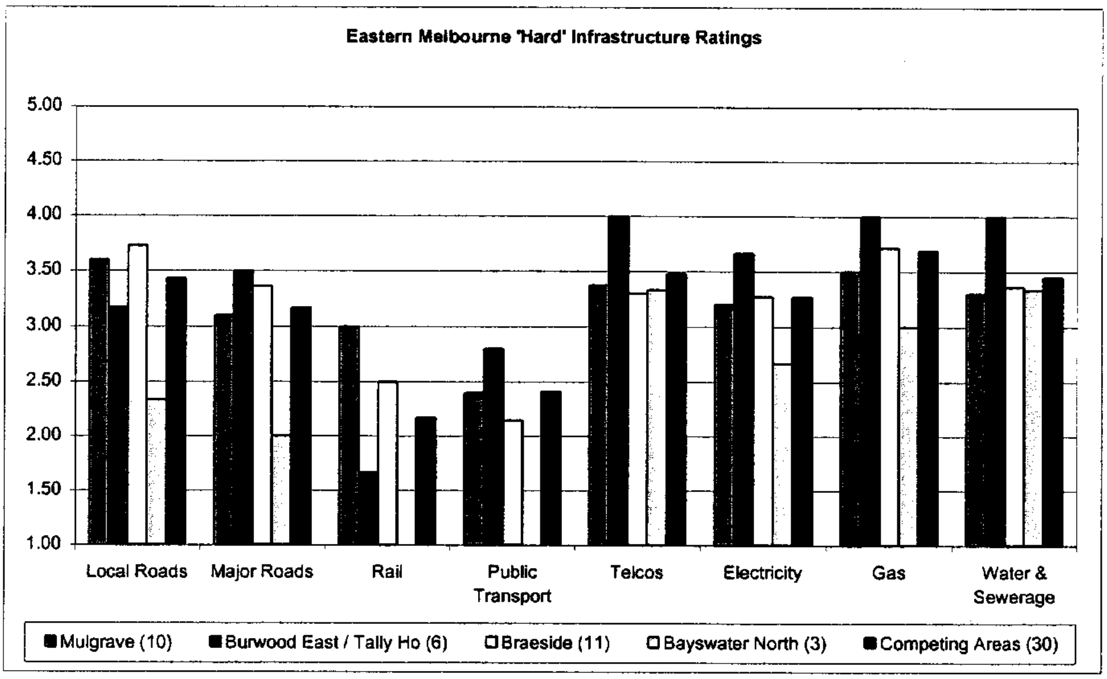
8.2 Hard Infrastructure Ratings

Businesses were asked to rate aspects of hard infrastructure on a scale of 1 (very poor) to 5 (excellent). The results are shown in the following two charts at sub-area level.

Items rated poorly by businesses in the study area are major road connections (ie. traffic congestion), rail services, and public transport services. Local roads and utilities are rated better than satisfactory.

The eastern Melbourne areas are rated similarly except for major road connections which are considered to be better than satisfactory (except for Bayswater North).


Study Area 'Hard' Infrastructure Ratings
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
Local Roads
Major Roads
Rail
Public Transport
Telcos
Electricity
Gas
Water & Sewerage
Scoresby (19)
Rowville (16)
Knoxfield (10)
Study Area (45)


Eastern Melbourne 'Hard' Infrastructure Ratings
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
Local Roads
Major Roads
Rail
Public Transport
Telcos
Electricity
Gas
Water & Sewerage
Mulgrave (10)
Burwood East / Tally Ho (6)
Braeside (11)
Bayswater North (3)
Competing Areas (30)

Transport Planning and Management[65]

The City of Knox is aware of traffic congestion problems in the region and is undertaking works in conjunction with VicRoads to improve the flow of traffic in the region.

Issues:
- The north-south arterial road system is at capacity (there are few north-south arterial options).
- Stud Road discontinues at Mountain Highway.
- Henderson Road is discontinuous.
- East-west arterial links are at capacity.
- Ferntree Gully Road congestion.
- Kelletts Road congestion.
- Intersections at Burwood Highway / Study Road, Ferntree Gully Road / Stud Road and Wellington Road / Stud Road are at capacity.

Works in Progress:
- Wellington Road (east of Stud Road) is being duplicated.
- Dorset Road is being upgraded between Mountain Highway and Forest Road.
- High Street Road (west of Dandenong Creek) has funding for duplication.
- Kelletts Road has funding for duplication.
- Henderson Road Bridge feasibility study is in progress.
- Investigations are being made into establishing a link between Dorset Road and Wellington Road for an alternative north south arterial.
- Scoresby Freeway development is considered to be in a 5 to 10 year time frame.

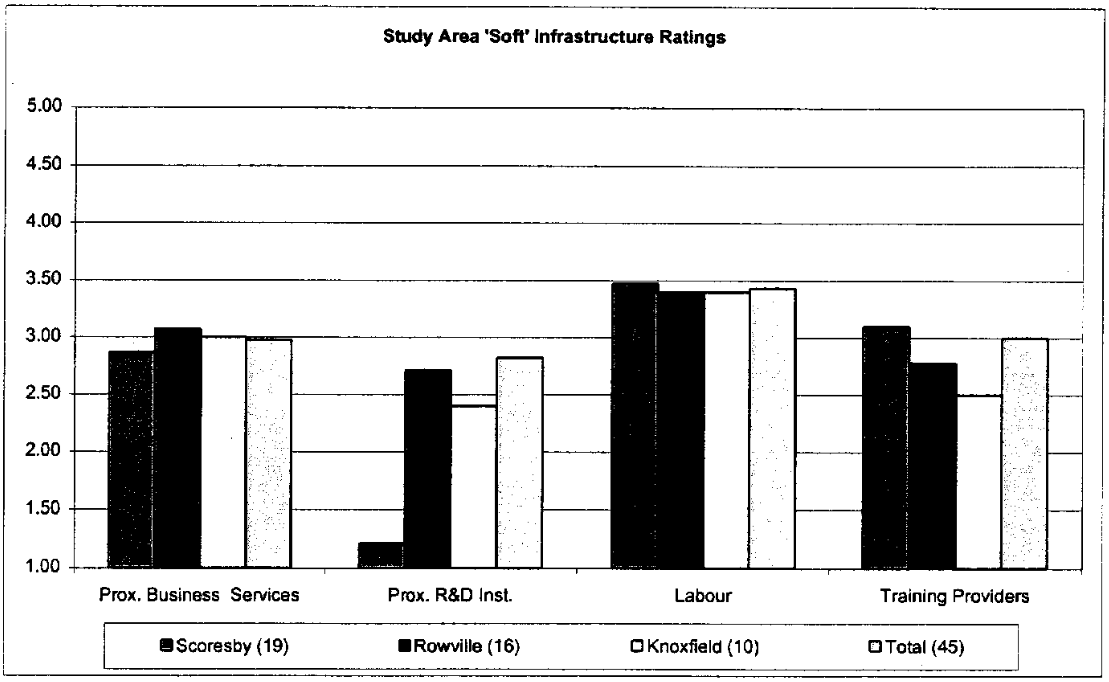
8.3 Soft Infrastructure Ratings

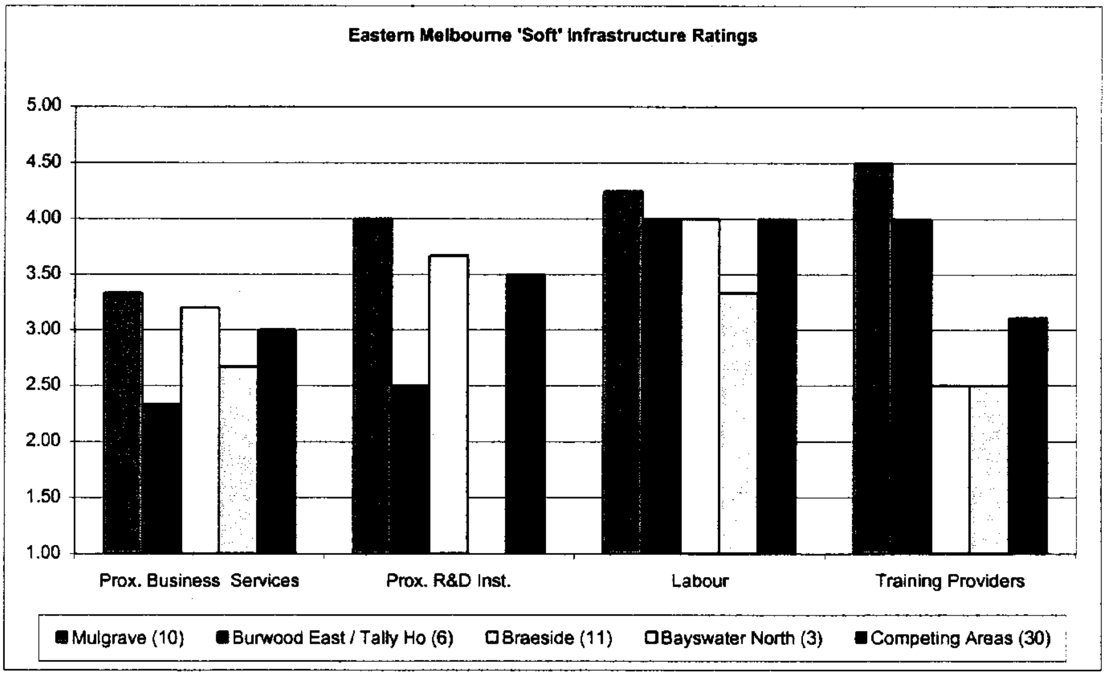
Businesses were asked to rate aspects of soft infrastructure on a scale of 1 (very poor) to 5 (excellent). The results are shown in the following two charts at sub-area level.

The study area's access to research & development institutions and business services is rated below satisfactory. Labour and training services are adequate or better.

The eastern Melbourne areas surveyed compare favourably to the study area in terms of access to research & development and labour.

[65] Consultation with Engineering Services, City of Knox.





(Note that Bayswater North's three respondents to the above analysis did not rate proximity to R&D institutions).

8.4 Trends and Aspirations

The following notes summarise the views of property agents and land owners. Common themes expressed are summarised under headings below. The themes considered are: trends in industrial development; development in Scoresby / Rowville; and land owners' plans for the future.

- **Dominant industrial development trends** - Warehouse and related facilities such as administration and sales dominate industrial development and investment in Melbourne[66]. Factory or production facility investment is declining in share. This trend is expected to continue in the foreseeable future. Reasons for this relate to the globalisation of production and Australia becoming more of an importer of goods.

- **Industrial building construction trends** - The trend is to construct facilities which are 'flexible' in the sense that they could be used for a variety of users over time. In warehousing for example, developers are using 'higher' clearance ceilings (ie. greater cubic capacity), 'thicker' slab floors, a variety of changeable walls and high quality office components.

- **Industrial floorspace usage trends** - There is a trend towards diverse floor area usage in industrial areas. The type and ratio of floor area use varies greatly from premises to premises.

    - At the present time there is a clear trend towards more office space usage in industrial development in terms of absolute area and proportional share of the total facility. 'Office' can refer to range of usage such as administration, information technology, sales / showroom, call centres and research areas.

[66] Note that in recent years businesses have favoured purchasing facilities due to the low interest rate environment. However, leasing is expected to becoming increasingly popular as interest rate rise.

  - In some cases, firms (noticeable most amongst international companies) separate their various functions (eg. production, administration, distribution) in search of specialisation and efficiencies.

- **Site and infrastructure requirements** - Industrial areas are increasingly required to provide high amenity, controlled environments.

- **The role of the Scoresby / Rowville industrial area in Melbourne** - The study area is seen to have a number of roles.

  - The industrial zone west of Stud Road is seen as a 'business park' and is considered to have the best major road access and be of highest amenity in Knox. The area attracts the 'big corporates' that seek these attributes. Image is important for these firms so new and purpose built facilities are sought. The controlled environment of estates in this area is important for firms. This area primarily competes with the Mulgrave / Notting Hill region in the east (which also attracts high technology and research firms) and western Melbourne for distribution.

  - The industrial areas east of Study Road (especially around the Kelletts Road / Laser Drive area) has poorer road connectivity and lower amenity. This area is suited to localised service industry whose locational decision making is more cost driven compared to the bigger corporates. This area is more production oriented and competes with Dandenong and Bayswater for firms.

Indicative Ranking of Industrial Land Prices in Central and Eastern Melbourne (2000)

1. Melbourne / Port Melbourne
2. Mulgrave / Notting Hill / Tally Ho
3. Rowville / Scoresby
4. Hallam / Bayswater / Braeside
5. Dandenong

- **Regulation issues in the Scoresby / Rowville industrial area** - There is a desire for a more 'flexible' land use framework in the study area. Restrictions on 'office' use and ceiling heights are considered to be obsolete and parking codes could be more flexible to meet the specific needs of users. A more flexible system that promotes industrial related development and jobs and maintains a high amenity environment (eg. landscaping, signage, parking) is required.

- **Weaknesses of the Scoresby / Rowville industrial area** - Apart from low developable land stock, the outstanding weakness of the study area is the nature of and congestion in the arterial road system. This is a problem for the distribution facilities in the region. The western region of Melbourne and the Dandenong region have better road systems. The Scoresby Freeway postponement is a major set back for the area.

- **Investment focus of major land owners** - Land owners to the west of Stud Road have established a business park environment and have attracted amenity conscious firms as a result. Generally, uses that could detract from the amenity of the area (such as heavy industry, service industry or peripheral sales) have been discouraged. The focus on distribution and administration facilities is expected to continue but with greater emphasis on specialised facilities such as 'office' activity, showrooms and 'high technology' firms.

    - It is felt that the business park area should have access to retail, personal and business services that would add to the competitive advantage of the area. This would include restaurants, child minding facilities and banks.

    - Service industry and peripheral sales firms have expressed interest in vacant land parcels in the study area. Two of the land owners consulted are considering peripheral sales for their land holdings.

8.5 Synthesis

The study area is considered to have strengths in a number of industrial markets including: business park (for a range of land uses related to production but not necessarily undertaking production); production and service industry; peripheral sales; and potentially high technology businesses.

There is considered to be a need for a more 'flexible' land use framework that promotes development of a range of activities related to production and complementary business services.

With respect to infrastructure and services, the main issues concern arterial road congestion (which has implications for uses that should be permitted along major roads) and the existing lack of retail, personal and business services in industrial areas.

9. PLANNING ASSESSMENT

This section of the study looks closer at relevant planning frameworks, policies and controls with respect to industrial and related development. Existing planning controls are assessed against operating conditions of firms in the study area and likely future operating conditions of firms.

9.1 State Planning Policy Framework

Economic Development

- With respect to 'economic well-being', the State Planning Policy Framework states that planning is to ensure that *"each district may build on its strengths and achieve its economic potential"*.

Industrial Planning

- The objective for 'industry' is to *"ensure availability of land for industry and to facilitate the sustainable development and operation of industry and research and development activity"*.
- Uses that would adversely affect industry vitality and would prejudice the availability of industrial land should not be permitted in industrial zones.
- Inter-industry conflict should be minimised by co-locating like industries within designated precincts.

9.2 Municipal Strategic Statement

Large Businesses

- Major businesses operate in the municipality. They are important for investment, jobs and enhancing the business profile of Knox.

Small Businesses

- Small businesses (ie. those employing less than five persons) generate many jobs in the municipality. Providing opportunity for these businesses to establish, start-up and grow in the City is an important economic development objective.

Amenity

- Industrial development in Knox has occurred under detailed design controls which have established a distinct urban character.

- Maintaining and enhancing business estates is important for economic development. The physical image of the municipality (ie. green and leafy) is seen to be important for attracting certain businesses.

Industry

- The municipality has a mix of 'garden industrial areas' and the 'more conventional older industrial areas'.

- There is a trend towards establishment of cleaner, technology-based firms which can mix with other land uses.

Industrial Planning

- Ensure that the planning framework provides for *"sustainable growth and development of businesses in Knox"*.

- Maintain high design standards in industrial precincts and business parks for firms seeking a high profile location.

Transport Planning

- Establish accessible industrial locations through application of the Industrial 1 Zone.

9.3 Assessment of Planning Scheme Provisions

The Industry 1 Zone applies to the study area. The study area is generally free from overlay provisions. Design policies, as stated in 'Industrial and Restricted Retail Sales Area Design', apply to the Industry 1 Zone.

Industry 1 Zone

- The purpose of the zone is to *"provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities".*

- A permit is not required for certain industry and warehouse activity, among other uses.

- A permit is required for an office but the leaseable floor area must not exceed 500 square metres.

Industrial and Restricted Retail Sales Area Design

- The purpose of the design policy is to ensure that Knox's image as a high amenity industrial area is maintained and enhanced thus promoting economic development and job growth.

- Subdivision - Lot sizes (and subdivision quality in the case of garden industrial areas) are to reflect or improve on standards of nearby development.

- Siting - Buildings are to be sited in such a way that enhances amenity.

- Landscaping - Landscaping is to enhance the 'green and leafy' image of the City.

- Architectural Quality - Buildings are to be designed in such a way that minimises visual bulk and adds to visual interest.

- Signage - Signage is to be uncluttered and integrated with the precinct.

Assessment of Industry 1 Zone Against Existing and Likely Future Operating Conditions of Firms in Scoresby / Rowville

It is concluded that the Industry 1 Zone is adequate for manufacturers, service industry and certain wholesales & retailers.

It is concluded that the Industry 1 Zone is inappropriate for administration and / or distribution facilities, business services or 'back office' facilities and for enabling the 'next phase' of industrial related development to occur - such as discrete facilities for production linked management, research & development, marketing & sales, service & customer support. The Zone does not have provision to enable the development of a unique activity precinct that would assist the study area attract and retain highly skilled workers.

The following table assesses the Industry 1 Zone against existing operating conditions of firms in the study area and possible future operating conditions of firms.

Assessment of Industry 1 Zone Against Existing and Possible Future 'Industrial' Activities in Study Area
Note that the following notes are indicative and relate to major themes only.

Industrial Activity in Study Area	*Role in Production Economy*	*Land / Infrastructure Needs*	*Building / Floor Area Needs*	*Is the Industry 1 Zone Appropriate?*
Manufacturers	Production of goods for domestic and overseas markets.	Industrial land of variable size which allows for heavy vehicle access and some off-site noise and related emissions.	Buildings of variable size (generally under 1,000 sqm but can range up to 20,000 sqm in some cases) with predominant use for production, followed by storage/distribution and administration.	**Yes** - IN1Z provides for the needs of these firms. 'Garden' industrial design provisions provide firms seeking a 'higher' amenity environment with more choice.
Administration and / or Distribution Units	Importers of global brand goods for distribution to Australian market.	High amenity business park setting with lots in the order of 5,000 to 10,000 sqm which allows for heavy vehicle access and no off-site noise or other emissions.	Buildings in the order of 5,000 sqm + with the predominant uses storage / distribution and administration. The office component often exceeds 500 sqm.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm.
Service Industry	Repair, maintenance, construction and production services for regional area.	'Small' Industrial lots which allow for some off-site noise and related emissions.	Buildings of generally under 500 sqm with predominant use workshop.	**Yes** - IN1Z provides for the needs of these firms
Business Services and 'Back Offices'	May have strong or weak links to production. Roles include business management, marketing, information technology and research & development.	Commercial area or business park setting with no off-site noise or other emissions.	Buildings of variable size (generally under 1,000 sqm) with 'office' the predominant use.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm.
Wholesalers and Retailers	Predominantly sellers of industrial, vehicle and construction goods.	Low cost industrial land with heavy vehicle access.	Variable building requirements generally comprising storage / distribution (covered or uncovered) and showroom / sales.	**Yes** - IN1Z provides for the needs of these firms. 'Garden' industrial design provisions provide firms seeking a 'higher' amenity environment with more choice.

In addition to the above uses, the Study Area may be a candidate for a number of other 'Industrial' related development trends emerging across the world.

The key influence on the structure of 'industry' is globalisation of the production economy and elongation of production chains across the world.
'Places' are increasingly specialising in one or a number of roles in the production chain - such as management, research & development, production, distribution, marketing & sales, service & customer support - but not all of these roles. A lessening in regional self-containment is an outcome.

Management and/or R&D and / or marketing-sales and / or service-customer support.	A link in the global chain of production.	High amenity business park / commercial area setting with no off-site noise or other emissions. The ability to attract and retain highly skilled workers depends on the urban precinct offering the highest quality business, culture and recreation facilities and places to meet and exchange ideas. Access to R&D / education facilities is also important.	Buildings of variable size with 'office' the predominant use in a high quality lifestyle precinct with access to retail, business and recreation services.	**No** - IN1Z does not preclude uses with off-site impacts from locating near this activity and INZ1 does not allow for office components to exceed 500 sqm. The Zone does not provide for the development of a distinct retail, business and recreation precinct that would add to the competitive advantage of the area by attracting and retaining highly skilled workers.

9.4 Synthesis

Planning frameworks, policies and controls aim to facilitate industrial development. However, the definition of 'industry' and 'manufacturing' in current planning documentation is too narrow to properly cover the contemporary production economy, which is global in scale and defined by an elongated chain of production.

This is a constraint on the development of the Scoresby / Rowville industrial area which has proven strengths in some production related functions which fall outside the narrow definition of industry, such as administration and / or distribution facilities. In the future, discrete production related facilities for management, research & development, marketing & sales, service & customer support are likely to be constrained as well. Furthermore, the current planning system does not make provision to enable the development of a unique business, retail and recreation precinct that would assist the study area attract and retain highly skilled workers that are essential for contemporary firms.

10. VISION AND STRATEGY

The study conclusions and recommendations are presented before more specific directions for environmental management and economic development are documented.

10.1 Conclusions

Trends in Manufacturing

- The nature of production world-wide is characterised by the 'elongation of production chains' which means that the production process is distributed across the globe and not necessarily concentrated in one place.

- The distinction between production and service work is increasingly blurred with the technological advancement and fragmentation of manufacturing. A manufacturer nowadays may generate more work in services than in production.

- In the future, 'places' will increasingly specialise in one or a number of roles in the production chain - such as management, research & development, production, distribution, marketing & sales, service & customer support – but not necessarily all of these roles.

- The ability of 'places' to develop a strong production economy role will depend on attracting and retaining highly skilled workers that are essential for contemporary firms.

City of Knox

- The City of Knox provides a narrow range of job opportunities at present (mainly in manufacturing and retail & wholesale trade) and would benefit from a broadening of employment options.

The Study Area

- The study area is of strategic importance to economic development in the City as it provides opportunities for employment-based development. It already is one of Knox's major employment nodes and has in recent years contributed to a broadening of the employment base.

- The study area is a 'clean and green' industrial and commercial land setting. The study area performs three roles in Melbourne's property market as follows.

1 *Production and service industry land for:*
   - Manufacturers - producers of goods for domestic and overseas markets.
   - Service industry firms - repair, maintenance, construction and production for local customers.

2 *Business park land for:*
   - Administration and / or distribution establishments - importers of global brand goods for distribution to the Australian market.
   - Business services - a wide range of small businesses and 'back office' functions from information technology service providers to marketing services.

3 *Peripheral sales land for:*
   - Wholesalers and retailers - a wide range of wholesale and retail outlets, typically supplying industry, vehicle and construction goods.

- The specialisation of the study area in the global chain of production is likely to be strongest in management, regional distribution, marketing & sales and service & customer support. This trend is already established. A significant proportion of floorspace in the study area is dedicated to office-based activity and a significant proportion of firms have more than 500 sqm of office floorspace (despite planning controls stating that the leaseable floor area of office activity must not exceed 500 square metres).

- The study area is successful in attracting large firms in production and administration and / or distribution due to combination of location factors (ie. a well-connected area to markets and a workforce) and site factors (ie. suitable facilities and space in a high amenity setting for a competitive price).

- The strategic weaknesses of the study area are arterial road congestion and the lack of retail, personal and business services in industrial areas.

Land Use Planning

- The Industry 1 Zone is adequate for manufacturers, service industry and certain wholesalers & retailers.

- The Industry 1 Zone is inappropriate for administration and / or distribution facilities, business services or 'back office' facilities and for enabling the 'next phase' of industrial related development to occur - such as discrete facilities for production-linked management, research & development, marketing & sales and service & customer support.

- 'Industry' in planning and development now requires a broader definition to include all facets of the production chain.

- There is a need for a more 'flexible' land use framework that promotes development of a range of activities related to production and complementary business services.

10.2 Recommendations

The recommended Policy Objective is:

- To increase the number and range of production-related businesses and jobs in the study area.

In pursuit of this objective, it is recommended that:

1 The Industry 1 Zone continue to be applied throughout the municipality and in parts of the study area to accommodate manufacturers and service industry firms.

2 That a multi-use 'employment precinct' be established in the study area to accommodate 'high amenity' industry and warehouse activity. This should include land use activities that have industry / production or warehouse / distribution as a primary function. Minimum or maximum floorspace codes should not apply in this area.

3 That a limited commercial activity area - providing retail, personal, recreational and business services - be established in the employment precinct to service businesses in the area. The commercial activity area would boost competitive advantage of the employment precinct by assisting the attraction and retention of skilled workers.

4 That the City of Knox clarifies planning policy with respect to peripheral sales / retail activity.

10.3 Policy and Strategic Frameworks

The recommended planning policy (Strategies 1-3) and environmental management and economic development frameworks (Strategies A-E) are documented in the following tables and shown in the following diagram. Note that this is an indicative plan. Council is required to develop details with relevant authorities and stakeholders.

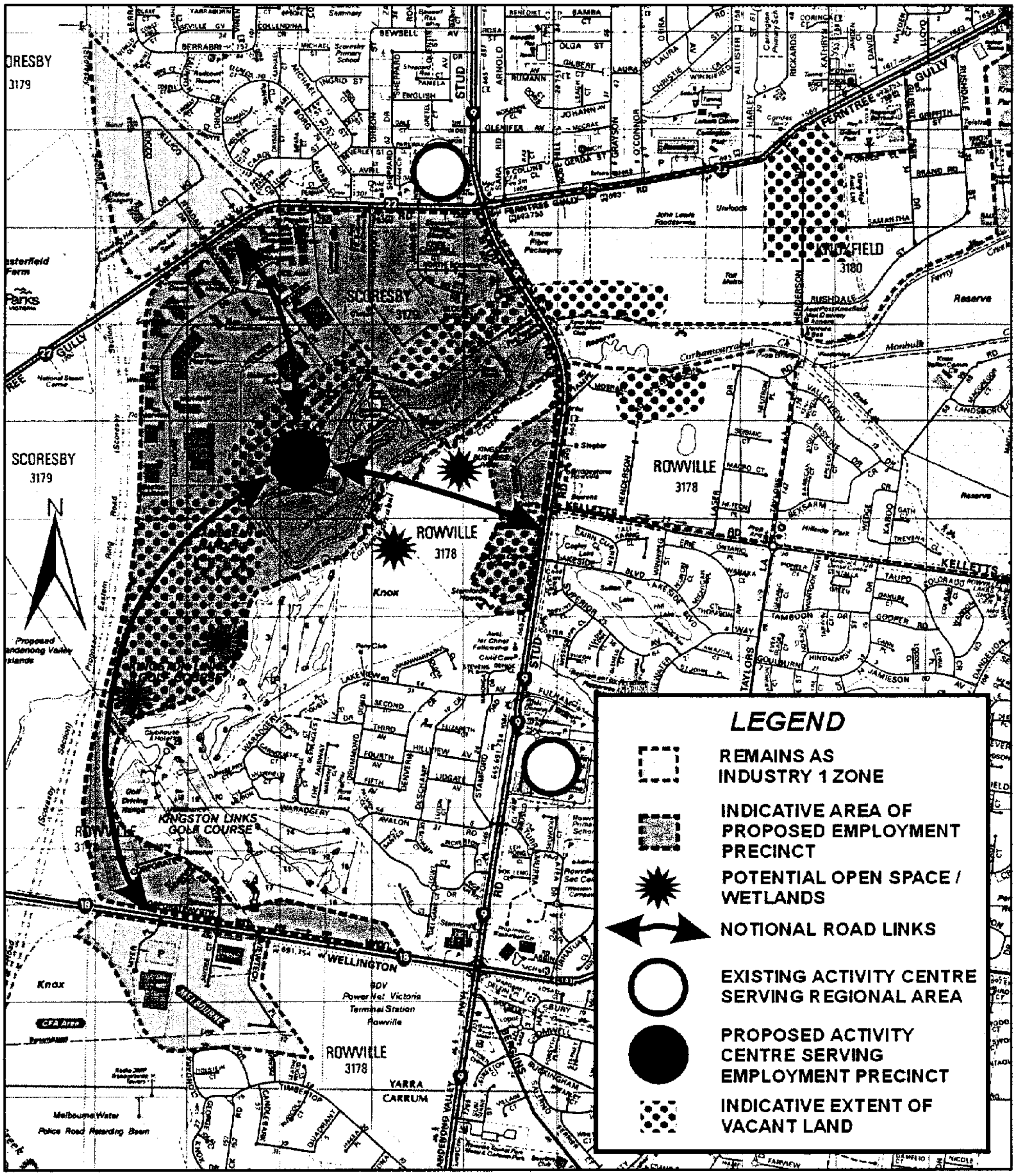
Recommended Planning Policy (PP) Strategies 1-3.

Strategy	Rationale	Permissible Uses	Planning Guidelines	PP Actions for Knox City Council
1. Continue to apply the Industry Zone 1 throughout the municipality and in parts of the study area.	Accommodate manufacturers and service industry firms in Knox. Ensure availability of industrial land for such uses.	Uses specified by Industry Zone 1, Knox Planning Scheme.	As specified by Industry Zone 1, Knox Planning Scheme.	None.
2. Establish a multi-use 'employment precinct' in the study area.	Accommodate 'high amenity' industry and warehouse activity. This should include land use activities that have industry / production or warehouse / distribution as a primary function. Provide business park land for uses that perform a production-related function but fall outside the narrow definition of industry.	Uses that: ▪ contribute to the objective of increasing the number and range of production-related businesses and jobs in the study area; ▪ are production-economy related, but not necessarily engaged in production or assembly, and require a business park setting; ▪ have no significant off-site noise or other emissions; and ▪ have the highest possible environmental and operational standards.	A development's proponent must satisfy Council that: ▪ the development contributes to boosting the number and range of jobs in Knox; and ▪ the development is consistent and compatible with business park uses with respect to building and site design, amenity, noise emissions and vehicular traffic generation.	Prepare an employment zone policy, specifying minimum performance requirements relating to at least: ▪ employment; ▪ design and amenity; ▪ corporate profile/image; ▪ noise and other emissions; and ▪ vehicular traffic generation (eg. traffic counts similar to industry / office activity). Minimum or maximum floorspace codes should not apply in this area.
3. Establish a limited commercial activity centre in the employment precinct.	Boost the attractiveness of the employment precinct for firms and workers. Existing activity centres in the region (such as Stud Park and Scoresby Village) primarily service the regional population. A special purpose centre is needed in the precinct to: ▪ specifically service businesses and workers; ▪ create a precinct that encourages informal interaction between firms / workers; and ▪ boost the attractiveness of the study area as a business park location.	Uses that: ▪ meet the needs of businesses and workers in the employment precinct; and ▪ do not compete directly with surrounding activity centres that serve the local population (such as Stud Park and Scoresby Village).	A development's proponent must satisfy Council that: ▪ the development serves only the employment precinct (ie. its workers and businesses); and ▪ the development does not have a significant detrimental impact on existing activity centres in the region.	Prepare an employment precinct activity centre policy, specifying minimum performance requirements.

Recommended Environmental Management (EM) and Economic Development (ED) Framework Strategies A-E.

Strategy	Rationale	EM Actions for Knox City Council	Economic Development Objectives	ED Actions for Knox City Council
A. Continue to use the Industry Zone 1 in three parts of the study area: north of Ferntree Gully Road; south of Wellington Road; and east of Stud Road. Strategy C - main road frontages - is to be read in conjunction with this Strategy.	Minimise inter-industry conflict by co-locating manufacturing and service industry activities within designated precincts. The industrial areas north of Ferntree Gully Road and south of Wellington Road are substantially developed and occupied by predominantly small manufacturers and service industry firms. There is little development potential in these areas and thus maintenance of existing zoning arrangements is recommended. The large industrial zone to the east of Stud Road has a mixture of businesses and has significant tracts of vacant and developable land. Maintenance of existing zoning arrangements is recommended to support existing activity and to cater for additional industrial development.	None.	To support and promote development of production and service industry activity in Industry 1 Zones.	In collaboration with land owners, prepare a detailed prospectus / marketing document on the municipality as a designated place for business opportunities in production and service industry activity, highlighting land stocks in the areas east of Stud Road. The prospectus should state how Council will support appropriate development proposals. Distribute the document to land agents & brokers and investment houses.
B. Establish an employment precinct in the area bound by Ferntree Gully Road, Stud Road, Wellington Road and the Scoresby Freeway reservation. Strategy C - main road frontages - is to be read in conjunction with this Strategy.	Minimise inter-industry conflict by co-locating high amenity employment precinct activities within a designated area. The area recommended for the employment precinct has: ▪ high amenity business parks settings; ▪ a diverse, non traditional industry profile; and ▪ large tracts of vacant land suitable for employment-based development.	Prepare a detailed masterplan of and planning implementation strategy for the employment precinct following the broad vision described in this document. Implement the employment zone precinct (using Council's employment precinct policy - see Strategy 2 above) with any tool of Council's choosing (eg. rezoning, overlay control). Existing activity conforming to	To support and promote development of emerging industry / production related activities in the employment precinct.	In collaboration with land owners, prepare a detailed prospectus / marketing document on the employment precinct as a designated place for business opportunities in emerging industry / production related activity. The prospectus should state how Council will support appropriate development proposals. Distribute the document to land agents & brokers and investment houses nationally and internationally.

		Industry Zone 1 within the employment precinct should continue to operate under those provisions. Only redevelopment of these areas should be subject to employment zone provisions.		
Strategy	**Rationale**	**EM Actions for Knox City Council**	**Economic Development Objectives**	**ED Actions for Knox City Council**
C. Enable development of 'employment precinct uses' on the following Industry Zone 1 main road frontages: the north side of Ferntree Gully Road in Scoresby; the south side of Ferntree Gully Road in Knoxfield; the east side of Stud Road; and south side of Wellington Road. Where there is a significant conflict of land use between Industry Zone 1 activity and employment precinct activity in these areas, Industry Zone 1 activity is to be favoured. Strategies A and B are to be read in conjunction with this Strategy.	Utilise the study area's extensive main road system to attract firms that seek a high exposure setting. Some high profile firms require a main road location for exposure. High profile firms have potential to improve the amenity and corporate profile of Knox.	Develop the main road frontage concept as part of Strategy B - employment precinct masterplan and planning implementation. Employment precinct uses should be permitted in these otherwise Industry Zone 1 areas if there is no significant land use conflict. Where there is a significant conflict, Industry Zone 1 activity is to be favoured.	See Strategies A and B.	See Strategies A and B.
D. Establish a limited commercial activity centre in the employment precinct.	See Strategy 3.	Develop the activity centre concept as part of Strategy B - employment precinct masterplan and planning implementation - and Strategy 3 - activity centre policy.	To promote development of an appropriate activity centre in the employment precinct.	See Strategies 3 and B.
E. Establish link roads within the employment precinct that connect Ferntree Gully Road and Wellington Road via the activity centre (Strategy D) and connect Stud Road and the activity centre.	Internal link roads would integrate the employment precinct (which is at present disconnected), maximise opportunities for business-to-business relationships and provide access to the activity centre node from all areas.	Develop the link roads concept as part of Strategy B - employment precinct masterplan and planning implementation.	None.	None.



Strategic Vision for Study Area

Base map: Melbourne on CD, Version 2.0

APPENDIX A - ESTABLISHMENTS IN THE SCORESBY / ROWVILLE INDUSTRIAL AREA

Business	**Main Business Activity**	**Street Address**	
Aluminum Specialists Group	Supplies of aluminium extrusions	FerntreeGully Rd	Rowville
AM International	Supplies warehouse for office supplies	15 Viewtech Pl	Rowville
AMCOR Fibre Packaging	Manufacturing of cardboard & paper	1420 FerntreeGully Rd	Knoxfield
AME Systems	Manufacture & wholesale of electrical wire harnesses	24 Janine St	Scoresby
AMRON Industries	Wholesalers & manufacturers of automotive parts	11 Hi - Tech Pl	Rowville
Amsby	?	7/9 Hi - Tech Pl	Rowville
AN Auto Imports P/L	Spare parts importer	3/7-11 Rocco Dve	Scoresby
Anatomical Design	Manufacture models for chiropractic industry/ teaching aids	3/76 Rushdale St	Knoxfield
APCA P/L	Wholesale computers	2/38 Jellico Dve	Scoresby
Apex Electrical Contracting Pty Ltd	Electrical Contractors	3/45 Gilbert Park Drive	Knoxfield
API Victoria P/L	Pharmaceutical product distribution centre	15 Corporate Ave	Rowville
Applied Laser Systems Group	Manufacturing/service industrial and medical lasers	14 Nyadale St	Scoresby
Applied laser technology	Head office and Scoresby branch/factory for industrial laser cutting	22 Jellico Dve	Scoresby
Aquarius Rubber Australia	Rubber Mouldings	46 Rushdale Street	Knoxfield
Aquatest Pty Ltd	Produce Chemicals for Water Treatment	15/5 Samantha Court	Knoxfield
Arbour Products International	Tree Surgery	2/45 Gilbert Park Drive	Knoxfield
Armstrong Cabinets	Cabinet makers	4/6 Viewtech Pl	Rowville
ARTA Furniture	Manufacturing	3/10 Viewtech Pl	Rowville
AS & N Joinery	Kitchen and Cabinet Mfg	1/4 Samantha Court	Knoxfield
ASCO Hydraulic Accessories Pty Ltd	Repair and Sales of Hydraulics	5/5 Samantha Court	Knoxfield
Ashmar Pty Ltd	Sale of fibreglass equipment and service	1/21 Kingsley Close	Rowville
Ashwood Gates	Manufacturing gates and head office	6/7-11 Rocco Dve	Scoresby
ATC Tools	Distribution of tools	44-46 Rocco Dve	Scoresby
Atlas CNC Machines Ltd	Service lathe machines	3 Tampe Rd	Rowville

Business	Main Business Activity	Street Address	
Aurora Manufacture	Manufacture gas log fires	3 Keith Campbell Ct	Scoresby
Ausport	Mail Order S&D	7/1662 Ferntree Gully Road	Knoxfield
Aussie - Vac Pty Ltd	Mfg Ducted Vacuum Cleaners	3&4/1 Rushdale Street	Knoxfield
AUSTCHIP	Woodchips	Viewtech Pl	Rowville
Australia Post	Collation & distribution of mail	FerntreeGully Rd	Scoresby
Australian Caravans	Mfg Caravans	9 Gilbert Park Drive	Knoxfield
Australian Craft Kitchens	Mfg Kitchens	6/5 Samantha Court	Knoxfield
Australian Fine Food	Export Food	2/1350 FerntreeGully Rd	Scoresby
Australian Glass Tools	Mfg Glazing tools, S&D	3/71 Rushdale Street	Knoxfield
Australian Machinery International	Brokers & Sale of Used Printing Machines	4/12 Viewtech Place	Rowville
Australian Peer Group	Sheet Metal Mfg	6 Macro Court	Rowville
Australian Rollers Company Pty Ltd	Mfg Printing Rollers	1/12 Viewtech Place	Rowville
Austwide Leasing	(Finance Brokers) Packaging and Storage	58 Rushdale Street	Knoxfield
Autotechnique & Autohaus Engineering	Car restoration	2/3 Seismic Crt	Rowville
Avtec Audio Visual Technology	Equipment hire, sales and installations	4/13 Laser Dve	Rowville
Award Signs	Signwriting	13/9 Hi - Tech Pl	Rowville
AWM Electrical Merchandising	Electrical Sales	2/10 Rushdale	Knoxfield
AZDesignz Aust	Manufacture cooler bags	1/37-39 Rushdale St	Knoxfield
B.W.Management	Importers and distributors	6/9 Hi - Tech Pl	Rowville
BABYCO	Retail outlet and HO	885 Wellington Rd	Rowville
Balluff - Leuze P/L	Sales of industrial supplies	2 Rocco Dve	Scoresby
BALMIC P/L	Engineering supplies/manufacturing	2/37 Rushdale St	Knoxfield
Barcode Labellin Systems	Servicing printers & manufacturing labels	1/16 Neutron Pl	Rowville
Barra Steel	Fabrication of structural buildings	55 Rushdale Street	Knoxfield

Business	Main Business Activity	Street Address	
Barry Charles Service Centre	Automotive repairs	2/1271 FerntreeGully Rd	Scoresby
Baxter Laboratories	Mfg Cosmetic and Therapeutic Products	22 Kingsley Close	Rowville
Bayer Diagnostic	Medical Diagnostic	2 Keith Campbell Ct	Scoresby
BCC Mita	Sales and repair of faxes, printers, photocopiers	1352 FerntreeGully Rd	Scoresby
Beaumont Tiles	S&D of tiles	57 Gilbert Park Drive	Knoxfield
Becton Dickenson	surgical/health care supplies	20 Dalmore Drive	Scoresby
Bellisimo Cabinets	Custom built kitchens, vanities & commercial & architectural joinery	7 Laser Dve	Rowville
Bench Tops	Mfg Bench Tops	4 Rushdale Street	Knoxfield
BEP Steel Fabrications Pty Ltd	General Engineering	57 Rushdale Street	Knoxfield
Berendsen Fluid Power	Hydraulic & pneumatic manufacturing and distribution	49-51 Rocco Dve	Scoresby
Besmark International P/L	?	11/9 HI - Tech Pl	Rowville
Beza	?	4 Griffith Street	Knoxfield
Big Oven Powder Coaters	Aluminium-Retail; Powder Coating	1/73 Rushdale Street	Knoxfield
BI-LO	Retail State Office	1 Keith Campbell Ct	Scoresby
Blackburn Elements	Manufacture electric elements	1/12 Seismic Crt	Rowville
BLT P/L	Wholesalers to flooring industry	2/6 Seismic Crt	Rowville
Blue Finn Injection Moulders	Mfg Plastic Products	1/11 Macro Court	Rowville
BMH Engineering	Engineering/manufacturing	19 Rushdale St	Knoxfield
Bowens Timber and Building Supplies	?	963 Stud Road	Rowville
Brand New Café & Take Away	Take Away Food	2/40 Rushdale Street	Knoxfield
Branded Communication Group	Promotional marketing company	7/37-39 Rushdale St	Knoxfield
Branson Removals	Removals	1/9 Macro Court	Rowville
Breakaway Sport	Clothing Design	?	Scoresby
Bridgestone	Tyre Retail	953 Stud Road	Rowville

Business	***Main Business Activity***	***Street Address***	
Brimac	Warehouse for whitegoods	?	Scoresby
Briter	Screen Printing	1/18 Laser Drive	Rowville
BSC	Electronics	1/9 Hi - Tech Pl	Rowville
Buden Tooling	Mfg tooling	7 Mosrael Place	Rowville
Bullivants Natural Health Products	Warehouse distribution & manufacturers of health foods	8 Neutron Pl	Rowville
BUNZL	Distribution of cleaning products, food service products and packaging materials	37-47 Rocco Dve	Scoresby
Busicom	Telecommunications	2/6 Viewtech Pl	Rowville
C.D.Automotive	Motor engineers & repairs	1/12 Hi - Tech Pl	Rowville
C.W.Davis	Reconditioning cylinder heads	2/44 Henderson Rd	Rowville
Cabots Timber Finishing	Manufacture paint, national head office	1330 FerntreeGully Rd	Scoresby
Cadbury Schweppes	Manufacture confectionary	32 Koornang Rd	Scoresby
Caddle	Import Luggage Goods	3 Samantha Court	Knoxfield
Caltex	?	?	?
Caltex Service Station	?	Ferntree Gully Road	Knoxfield
Calwright Packaging P/L	Printers	25 Laser Dve	Rowville
CAMTEN Graphics	Printing & manufacturing	15 Neutron Pl	Rowville
Capral Aluminium	Aluminium wholesalers, mfgs, retailers	6 Dalmore Drive	Scoresby
Caribbean Rollerama	?	?	Scoresby
Carl Ray	Hardware and builders hardware	1/38 Jellico Dve	Scoresby
Carparts Ltd (ECHLIN)	Wholesale Distributor of automotive parts and accessories	34 Kingsley Close	Rowville
Carson Crest Carriers	Removals	1/59 Gilbert Park Drive	Knoxfield
Cascade Litho	Plate Making for printing	1/4 Keith Campbell Ct	Scoresby
Centreline Engineering	Manufacture & design specialist machinery eg conveyors, head office	51 Henderson Rd	Rowville
Ceram Macs	Art and Hobby Ceramics, wholesale, mfg & retail	1/61 Rushdale Street	Knoxfield

Business	**Main Business Activity**	**Street Address**	
CFA Communications Centre	Communications/Technical, telecommunications etc	88 Rushdale St	Knoxfield
CGS	Manufacture aluminium framing	22 Viewtech Pl	Rowville
Chevrolet Aust	Vehicle conversion HQ	27 Henderson Rd	Knoxfield
Choice Cabinets	Mfg Cabinets	1/44 Rushdale Street	Knoxfield
Classic Building Supplies	Sale of building hardware	1/2 Tampe Road	Rowville
Classy Tiles	Retail Supplies	2/2 Tampe Road	Rowville
Claydon Industries	Storage Only	2/10 Viewtech Pl	Rowville
Clearpac	Flower & nursery packaging materials wholesalers	4 Rocco Dve	Scoresby
CMG Motors (Transmissions Drives Technology)	Electric Motors Mfg/ HO	19 Corporate Ave	Rowville
Colorsign	Signwriting	6/3 Hi - Tech Pl	Rowville
Complete Walls	Manufacturing prefabricated wall frames	2/70 Rushdale St	Knoxfield
Concept Leather Australasia Pty Ltd	Wholesale & Mfg Leather Goods	4/71 Rushdale Street	Knoxfield
Consolidated transport group	National head office and warehouse for Integrated Ingredients Distributors	42 Rocco Dve	Scoresby
Consulchem P/L	Analysts, consultants, Chemists, Microbiologists	1/7-11 Rocco Dve	Scoresby
Contech Electrical Services	Electrical contractors	4/76 Rushdale St	Knoxfield
Country Line	?	3/19 Viewtech Pl	Rowville
Creative Printing	Printing	4/51 Rushdale Street	Knoxfield
Creative Products	Import auto components	31 Henderson Rd	Knoxfield
Crown Scientific P/L	Chemical Distribution Company	17 Corporate Ave	Rowville
CRYPAL	Crate Hire Business	18 Viewtech Pl	Rowville
Cummins	Distribution of diesel engines, national head office	2 Caribbean Dve	Scoresby
Cyan Press	?	6 Keith Campbell Ct	Scoresby
D and R Panel Service	Panel Beating/Accident Repairs	59 Rushdale Street	Knoxfield
D Line	Wholesale and Distribution of Sporting Goods	18/5 Samantha Court	Knoxfield

Business	***Main Business Activity***	***Street Address***	
Dalsonware Pty Ltd	Kitchen Hardware wholesale S&D	2&3/51 Rushdale Street	Knoxfield
Dalton Packaging	Wholesale distribution of pilot pens, packaging material, paper products	15 Rocco Dve	Scoresby
Dana Tooling Industries	?	3/9 Viewtech Pl	Rowville
Darex Engineering	Engineering: gear cutting and machinery	13 Macro Court	Rowville
Daryl Lee Chocolate	Office and display warehouse	1/4 Viewtech Pl	Rowville
Data Aire Services	Air conditioning and refrigeration services/commercial and industrial	7/7-11 Rocco Dve	Scoresby
Data General	Computer servicing	1340 FerntreeGully Rd	Scoresby
DataTaker	Manufactures	7 Seismic Crt	Rowville
Dataworks	Publishing educational computer software	34 Henderson Rd	Rowville
David Couper & Associates	Air conditioning equipment - installation & service, Manufacture duct work	2/26 Laser Dve	Rowville
Davies Metal Spinning	Engineering	4/34 Rushdale St	Knoxfield
DC Packaging	?	2/4 Samantha Court	Knoxfield
Décor Warehouse	Warehouse/storage	21 Koornang Road	Scoresby
Denva Industries Pty Ltd	Precision CNC Turning and Milling Toolmaker and General Engineers	51 Gilbert Park Drive	Knoxfield
Dial A Label	Head office of label printing business	1 Samantha Crt	Knoxfield
Diamond Key International	Supply to petrochemical industry, sales & distribution, international HO	Cnr Kelletts & Henderson Rd	Rowville
Digital Graphics Systems	Computer consultants, sales & technical support, head office	2/16 Neutron Pl	Rowville
DINDINS	Pet food wholesale and distribution	10/9 Hi - Tech Pl	Rowville
DLM	Import and Warehouse of Communications Equipment	4/5 Samantha Court	Knoxfield
Domino	Sales & services of industrial inkjet printing equipment/identification systems	2/7 Neutron Pl	Rowville
Double 9 Design and Construction	Shopfitting and Mfg	2/1644 Ferntree Gully Road	Knoxfield
Douglas & Co	Hot water and heating installation	1/47 Rushdale St	Knoxfield
Dulux Powder Coatings	?	1/9 Seismic Crt	Rowville
DVP Engineering	Structural Steel mfg & fabrication	956 Stud Road	Rowville

Business	*Main Business Activity*	*Street Address*	
E.H & E.R Brabham P/L	Wholesalers to footwear industry	9 Jellico Dve	Scoresby
Earthlift Excavations	Excavators	41 Gilbert Park Drive	Knoxfield
Eastern Bearings	Bearing Sales	2/18 Rushdale Street	Knoxfield
Easy Rest Pillows	Manufacture Pillows	1/8 Brand St	Knoxfield
Electrolux	Sales Outlet	26 Kingsley Close	Rowville
Emax	Sales & distribution of electrical products	24 Janine St	Scoresby
Embassy Press	Printing	1/45 Rushdale St	Knoxfield
Endeavour	Commercial wholesaler	50 Jellico Dve	Scoresby
ENIG P/L	Importers of welding equipment & industrial vacuums	3 Laser Dve	Rowville
Enmin Pty Ltd	Vibratory Products and Equipment	12 Kingsley Close	Rowville
ETD P/L	?	2/28 Jellico Dve	Scoresby
Eurovox	Mfg, S&D, HO Audio Car Equipment	1 Corporate Ave	Rowville
EVS	Light manufacturer	48 Jellico Dve	Scoresby
Exclusive Monograms	Embroid badges/manufacture badges	2/76 Rushdale St	Knoxfield
Fabrication Australia	Manufacture test fixtures for electronic products	10 & 11/76 Rushdale St	Knoxfield
Fabrication Australia	Equipment sales and hire	1/18 Rushdale Street	Knoxfield
Fast Lane Autos	Auto Mechanical Repairs	2/9 Samantha Court	Knoxfield
Fastron Technologies	Mfg/distributors of electronic components and process controls	25 Kingsley Close	Rowville
Federal Mogul	Mfg Champion Spark Plugs, lighting, ignition leads, brake pads, Wholesale & Dist	2 Macro Court	Rowville
Fern Gully Fencing & Trading	Fencing	10 Laser Dve	Rowville
Ferndale Exhaust and Auto Centre	Exhausts and Mechanics	2/1 Rushdale Street	Knoxfield
Fiddler & Bussey Bodyworks	Motor Vehicle Repairs	6&7/1 Rushdale Street	Knoxfield
Filter - Tex Media	Filtering materials and supplies	5/7-11 Rocco Dve	Scoresby
Fineline Automotive Services	Auto Electrical Services & Repairs	1/40 Rushdale Street	Knoxfield

Business	Main Business Activity	Street Address	
Finemores Fleet Management	Service fleet trucks	?	Rowville
Finemores GCT Refrigerated Logistics	Refrigerated Transport Services	11 Viewtech Place	Rowville
Fire - Base Sprinkler Systems	Fire protection equipment & consultants	17 Neutron Pl	Rowville
Firespray Pty Ltd	Fire Protection Contractors	1/1644 Ferntree Gully Road	Knoxfield
Flooring Installation Supplies	Wholesale to Carpet Industry	3/9 Samantha Court	Knoxfield
Flowserve	mfg pumps and belts	14 Dalmore Drive	Scoresby
Foam Fabrications Pty Ltd	Cutting and shaping polystyrene foam	2/12 Laser Drive	Rowville
Foremost Business Forms Pty Ltd	Security Printing	65 Rushdale Street	Knoxfield
Formula 1 Motor Products	Warehouse & distribution of motor oil	38 Henderson Rd	Rowville
Formula Tooling	Tool making	2 Neutron Pl	Rowville
FridgeAir	Service and maintenance of industrial/commercial refrigeration and airconditioners	3/6 Viewtech Pl	Rowville
Fuelzone	Administration and distribution	32 Jellico Dve	Scoresby
FuelZone	Service station	FerntreeGully Rd	Rowville
Furncraft Designs	Manufacturer & wholesaler of furniture	79 Rushdale St	Knoxfield
Future Fibre Technologies P/L	Research and development of optical fibres	20 Viewtech Pl	Rowville
G Force Aust	Manufacturing Wire Work	2-3/34 Rushdale St	Knoxfield
G.K. Labels	Printing Labels	1/45 Gilbert Park Drive	Knoxfield
GABBETT	Machinery merchants	52 Henderson Rd	Rowville
GAMSEE Industries P/L	Plastic injection moulders & hose reel manufacturing	82 Rushdale St	Knoxfield
Gardbar Bullbars	Mfg Bulbar	6 Rushdale Street	Knoxfield
Gardenbay Windows	?	3 Roccco Dve	Scoresby
Garry Kerrigan	Automotive Body Repair and Restoration Specialist	2/4 Viewtech Pl	Rowville
Gauri International Corporation	Export of irrigation systems	11 Koornang Road	Scoresby
GCD International Pty Ltd	Design and Engineering of Machinery	34 Gilbert Park Drive	Knoxfield

Business	Main Business Activity	Street Address	
GEM Sheetmetal	Sheetmetal fabrication	1/31 Laser Dve	Rowville
Genda Pty Ltd	Mfg and Processing of Plastic Blow Moulders	7 Rushdale Street	Knoxfield
Geoff Penny Australia	Wholesale Stationary	52 Gilbert Park Drive	Knoxfield
George Hilder & Co	Local and Interstate transport	23 Viewtech Pl	Rowville
Gerni	Sales of Industrial Machinery	895A Wellington Road	Rowville
GIESECKE & DEVRIENT	Manufacture simcards for mobile phones	94 Rushdale St	Knoxfield
Gilbert roofing tiles	Office and storage yard	44 Jellico Dve	Scoresby
Gillette Aust	Import blades & razors, sales & distribution, national head office	5 Caribbean dve	Scoresby
GJK Cleaning Services	Contract cleaning	34 Henderson Rd	Rowville
Glenmac Sales and Service	Tractor Sales and Repairs	14 Rushdale Street	Knoxfield
Goldart Pty Ltd	Mfg Jewellery & wholesale	7/12 Viewtech Place	Rowville
Golden Lion Academy	Kung Fu training	1&2 Laser Dr	Rowville
Graphic Engraving	Engraving and Sign mfg	1/9 Samantha Court	Knoxfield
Greenhouse Landscaping	Landscaping	5 Macro Court	Rowville
Greenspeed P/L	Manufacturing	5/31 Rushdale St	Knoxfield
Greentech	Manufacture printer cartridges	1/49 Henderson Rd	Rowville
Grist Glass & Glazing	Specialise in glass edge working/mirrors	1/10 Seismic Crt	Rowville
Gully Garden and Building Supply & Knox Mini Mix Concrete	Garden Supplies and Concrete S&D	1656 Ferntree Gully Road	Knoxfield
HAGGLUNDS Drives	Engineering	4/35 Gilbert Park Drive	Knoxfield
Haigh Australia Pty Ltd	Auto Accessory wholesalers & importers	35 Koornang Road	Scoresby
Hallmark	Distribution & mfg of greeting cards	10 Caribbean Drive	Scoresby
Harlyn Powdercoating P/L	Automotive component manufacturers	7 Laser Dve	Rowville
Haynes Manuals Inc.	Book distribution	34 Jellico Dve	Scoresby
Head Torque	Engine reconditioning	10/3 Hi - Tech Pl	Rowville

Business	**Main Business Activity**	**Street Address**	
Heritage Glass Products P/L	Contract glazing	27-29 Jellico Dve	Scoresby
High Fire Heating	Light Mfg	2/1662 Ferntree Gully Road	Knoxfield
Hillview Community Centre	Church and Job agency	2/18 Laser Drive	Rowville
HITACHI Air Conditioning	Head office for air conditioning component of HITACHI	2/19 Jellico Dve	Scoresby
HJB	Building maintenance services	1/35 Gilbert Park Drive	Knoxfield
Ho Brothers Printers	Printing	1/13 Viewtech Place	Rowville
Holeproof	Distribution	10 Henderson Rd	Rowville
Holland Forge	Horticultural	5 Hi - Tech Pl	Rowville
HON Automotive	?	9/3 Hi - Tech Pl	Rowville
Hornet Press Pty Ltd	Printing	2/73 Rushdale Street	Knoxfield
HOSOKAWA MICRON AUST	Warehouse/distribution/receiving	10 Jellico Dve	Scoresby
HPM Industries	Electrical warehouse & admin	23 Kellets Road	Rowville
HUCK	Warehouse distribution	14 Viewtech Pl	Rowville
Hudson Sharp	Sale and service of spare parts and new machinery	2/21 Kinglsey Close	Rowville
Hurlcon	Production of Pool and Spa equipment	86 Rushdale St	Knoxfield
Hydro Force	Wholesale Cleaning Equipment and Sales	1/5 Samantha Court	Knoxfield
Hydroquip	Carpet Cleaners	48 Rushdale Street	Knoxfield
Ideal Electrical Services	Wholesale Electrical	90 Rushdale St	Knoxfield
IDEC Australia Pty Ltd	Electrical Components Wholesaler	2/3 Macro Court	Rowville
IMPECS Aust	Filling/packaging/distributing commercial odour control	12 Keith Campbell Ct	Scoresby
IndustAir	Air compressor repairs & sales	2/11 Neutron Pl	Rowville
Industrial Electronics	Electrical engineers	1/7 Neutron Pl	Rowville
INNEED OF A FENCE	Manufacturing fences	30 Jellico Dve	Scoresby
Inner Range	Manufacture alarm systems	24 Laser Dve	Rowville

Business	Main Business Activity	Street Address	
International Marine	Boat building	1278 FernTree Gully Rd	Scoresby
International Time Systems	Sales & service of time recorders	9/9 Hi - Tech Pl	Rowville
Invensys Building Systems	Engineering and Admin/warehouse	5 Viewtech Pl	Rowville
J.A.S Trading P/L	Distributor of plasterboard	36 Laser Dve	Rowville
Jagabout Pty Ltd	Motor Repairs	3/1644 Ferntree Gully Road	Knoxfield
Jaimex Holdings Pty Ltd	Hosiery W'Salers & Mfrs	15 Koornang Road	Scoresby
Jalor Tools Pty Ltd	Mfg Tooling and Light Engineer	19/5 Samantha Court	Knoxfield
Japanesse Gearbox Wholesalers	Gearbox importation & wholesale sales	5 Neutron Pl	Rowville
Jarman St. Clair	Occasional Furniture Mfg & Wood Turners	1/4 Macro Court	Rowville
Jarvis Walker Pty Ltd	Fishing Rod mfg	960 Stud Road	Rowville
Javac Pty Ltd	Mfg Vacuum Pumps	54-56 Rushdale Street	Knoxfield
JAYDO Construction	Stormwater construction & head office	54 Henderson Rd	Rowville
JDV Engineering Supplies	Resellers Industrial Fasteners	1636 Ferntree Gully Road	Knoxfield
JDV Plastics	?	4/51 Rushdale Street	Knoxfield
John Dawson Moving and Storage	Furniture removals	915 Stud Road	Rowville
John Lewis Food Service	Distribution/storage	1464 FerntreeGully Rd	Scoresby
Jorgenson Waring Foods	Peanut Manufacturing and processing area	16 Jellico Dve	Scoresby
JOSCO Industrial Agencies	Sale & distribution of brushes & brooms	6 Laser Dr	Rowville
Jukebox Hire	Hire of pool tables and juke boxes	3/12 Viewtech Place	Rowville
K.R.Manufacturing	Manufacturing security gates/steel fabrication	9/76 Rushdale St	Knoxfield
KAMM Engineering P/L	Manufacture industrial fans, Head office	12 Neutron Pl	Rowville
KAMM Engineering P/L	Manufacture industrial fans	1/13 Neutron Pl	Rowville
Karndean Aust	Sales of flooring/warehouse	91 Rushdale St	Knoxfield
KBX	?	1/7 Hi - Tech Pl	Rowville

Business	Main Business Activity	Street Address	
Kellets Café	?	cnr Laser Dve & Kellets Rd	Rowville
Kelly's Ingredients Australia	?	?	?
Kelmatt	Banner manufacturing	36 Jellico Dve	Scoresby
Ken Hart Electrical	Electrical contractors	1/50 Henderson Rd	Rowville
Kenbrock Flooring Aust	Manufacture & distribute floor coverings & rubber products	Jellico Dve	Scoresby
Kenman Kandy	Manufacturing confectionary, R&D, sales	16 Henderson Rd	Knoxfield
Kerrys Ingredients	Manufacturing Dry Food ingredients	?	Knoxfield
Kickstart Auto Electrics	Auto electrician	FerntreeGully Rd	Rowville
Kingfisher International	Fibre optic test equipment	4/19 Viewtech Pl	Rowville
Kingston Property Constructions Pty Ltd	Property Construction & Design HO	4 Corporate Ave	Rowville
KJ Ross Security Locks	Lock Manufacturers	2/29 Henderson Rd	Knoxfield
Kleenmaid Electrical Appliances	Warehouse/distribution of whitegoods	Lot 24 Kingsley Close	Rowville
Kloet Door and Window Control	Construction of Industry Products	17/5 Samantha Court	Knoxfield
Knox Indoor Tennis	?	1642 Ferntree Gully Road	Knoxfield
Knox Power Tools	Service power tool	Laser Dve	Rowville
Knoxville Screens	Manufacture shower screens, built in robes, security doors & fly screens	1/3 Laser Dve	Rowville
KONICA	Retail sales for business machines	887 Wellington Rd	Rowville
KONYA INTER	Bicycle Wholesaler	5 Mosrael Place	Rowville
KVS Automotive	Repairs/Service	5/1 Rushdale Street	Knoxfield
KWIK KOPY	Printing	1/93 Rushdale St	Knoxfield
L.B. Normand	Mfg Control Boards, Dive and Power Systems	3 Macro Court	Rowville
LaCouronne	Manufacturer & wholesaler of jewellery	2/12 Seismic Crt	Rowville
Ladelle	Apron wholesalers & manufacturers	20 Rocco Dve	Scoresby
Lamver Engineering	Engineers, Steel Fabricators &/Or Mfrs	2/11 Koornang Road	Scoresby

Business	Main Business Activity	Street Address	
Lawrence & Hanson	Electrical Wholesalers	1/71 Rushdale Street	Knoxfield
Lazaway Pools and Spas Pty Ltd	Mfg Pools and Spas	1634 Ferntree Gully Road	Knoxfield
LE-SAR P/L	Shopfitting/Joinery	2/8 Brand St	Knoxfield
Lets Dance	Ballet School	2/14 Keith Campbell Ct	Scoresby
Lifestyle	Welding for sail sun shades	3/50 Henderson Rd	Rowville
Lifestyle Awnings & Shade Sails	Manufacturing of sails & shade cloths, Head office	2/17 Neutron Pl	Rowville
Lifetime Distribution	Book distribution	1/17 Viewtech Pl	Rowville
Lighting In-Lux	Lighting wholesaler	3/21 Viewtech Pl	Rowville
Linak Australia Pty Ltd	Electric Actuators M, NHO, S&S	12 Macro Court	Rowville
Linde Materials Handling Pty Ltd	Assemble and Production of Forklifts	897 Wellington Road	Rowville
Linear Bearings	W/Sale Linear Motion Systems	2 Corporate Ave	Rowville
LINKRON P/L	Trading	8 Jellico Dve	Scoresby
Luhr Filter	Manufacture dust & fume control equipment	14 Neutron Pl	Rowville
Luhr Filter	Head Office	9 Neutron Pl	Rowville
M & H Power Systems	Wholesalers	9 Mosrael Place	Rowville
Macbird Floraprint	Nurseries' Supplies	19 Koornang Road	Scoresby
Macro Tec Industries	Steel Fabrication	1/5 Macro Court	Rowville
Magnet Service Binder	Magnetic equipment wholesalers and manufacturers	9/7-11 Rocco Dve	Scoresby
Makita	Importing & distribution of power tools	89 Rushdale St	Knoxfield
Mallinckrodt	Medical Supplies	11 Corporate Ave	Rowville
Manassen Foods Australia	Sales & distribution	10 Henderson Rd	Rowville
Mannesmann Dematic	Steel fabrication	20 Janine St	Scoresby
Marlow Appliance Services P/L	Servicing of whitegoods and microwaves	2/1 Laser Dve	Rowville
Marshall Restorations	Warehouse	12/5 Samantha Court	Knoxfield

Business	***Main Business Activity***	***Street Address***	
Marshall Restorations	carpet and upholstery cleaning	7/5 Samantha Court	Knoxfield
Matthews Australasia P/L	Sale & distribution of identification equipment & machinery, National head office	35 Laser Dve	Rowville
Mayne Logistics	Warehouse & distribution	15 Dalmore Dve	Scoresby
Medical Concepts Australia	Medical Mfg	1&2/51 Rushdale Street	Knoxfield
Medical Diagnostics Australasia	Diagnostic testing	2/7-11 Rocco Dve	Scoresby
Mega Electronics	Wholesaler	2/50 Henderson Rd	Rowville
Mentholatum	Pharmaceutical manufacturing	16 Janine St	Scoresby
Mentholatum	Pharmaceutical manufacturing and national head office	12 Janine St	Scoresby
Metabo	Importers & wholesalers of industrial power tools	28 Laser Dve	Rowville
Middy's Data & Electrical	?	?	Rowville
Miele	Sale of Whitegoods	1 Gilbert Park Drive	Knoxfield
Milcon GraphicsP/L	Sales of printing machinery	2/43 Henderson Rd	Rowville
Mildara	Wholesale wine sellers	21 Henderson Rd	Knoxfield
Millard Design Aust	Automotive design	77 Rushdale St	Knoxfield
Millenium Sales	Wholesalers and office	1&2/21 Viewtech Pl	Rowville
MiTek	Mfg Metal Timber Connectors (Gang Nails)	4 Forbes Close	Knoxfield
Moeller	Electrical switchboards mfg	4 Caribbean Drive	Scoresby
Monash Professional Group	Electronics computing/research & development	1/3 Neutron Pl	Rowville
Monne International	Skin Care	?	Knoxfield
Mother Earth Fine Foods	Food mfg	17 Kellets Road	Rowville
Motorola Aust	National head office	6 Caribbean Dve	Scoresby
MPI Australia P/L	Packaging machinery sales	1/6 Viewtech Pl	Rowville
Mulgrave Insulation	Commercial insulator contractor	1/10 Viewtech Pl	Rowville
Muller Martini Australasia	Sales of book binding equipment, spare parts & services/printers supplies & services	21 Jellico Dve	Scoresby

Business	**Main Business Activity**	**Street Address**	
Multicoat	Powdercoating	3/44 Henderson Rd	Rowville
Murray More Steel	Steel distribution	1257-59 FerntreeGully Rd	Scoresby
Musiclink Aust P/L	Import musical instruments	29 South Corporate Ave	Rowville
MYER Direct	Mail order /wholesalers	3Myer Place	Rowville
Mystique Graphics	Printing	3-5/3 Hi - Tech Pl	Rowville
N.G.Brown & Associates	Manufacture sales & weighing equipment	31 Rocco Rd	Scoresby
Neil Anstee Electrical	Electrical contractors	3/93 Rushdale St	Knoxfield
Neilson Panel Service	Panel Beaters	10 Brand St	Knoxfield
Nelson Lamps	Distribution of lighting products, mfg bug killers	23 Kellets Road	Rowville
NEOMEDICS	Distribution of medical products	1/28 Jellico Dve	Scoresby
Nesco Services	Electrical Contractors	5/12 Viewtech Place	Rowville
New Style Fencing	Distribution of fencing, sales & Head office	49 Henderson Rd	Rowville
New Zealand Milk Products	Administrative	830 Wellington Rd	Rowville
Nintendo	Head Office	804 Stud Rd	Scoresby
Nis/Dat Auto	Mechanical Repairs	3/46 Gibert Park Drive	Knoxfield
Noble Art Framing	Framing	2/10 Hi - Tech Pl	Rowville
Norgren	Manufacture/sales of pneumatic products	33 South Corporate Ave	Rowville
NORWOOD	Industrial printers/distrib.	41 Rushdale St	Knoxfield
Novartis Consumer Health	Manufacturing and distributing	35-39 South Corporate Ave	Rowville
NSK - RHP	Import bearings, sales & distribution, NHO	11 Dalmore Dve	Scoresby
Nutters Foods Pty Ltd	Processing Nuts	4 Mosrael Place	Rowville
Oak Grove Furniture	Mfg Furniture	7 Brand Road	Knoxfield
Oce	NHO, S&D of business equipment	2 International Court	Scoresby
OKUMA	Technical support of machines supplied to builders/warehouse	16 Mosrael Place	Rowville

Business	Main Business Activity	Street Address	
One Stop Brake Shop	Automotive service	FerntreeGully Rd	Rowville
ORFORD REFRIGERATION	Commercial refrigeration distribution	2/17 Viewtech Pl	Rowville
Overland Marketing	Wholesaler of clothing, head office	4/7-11 Rocco Dve	Scoresby
P.E.Biosystems	Distribution of consumables and instruments, National office	1/52 Rocco Dve	Scoresby
P.G Windscreens	Distribution	4/1662 Ferntree Gully Road	Knoxfield
Pacal Industries	Cabinet Making	2/15 Rushdale Street	Knoxfield
Pacific Broadbend Networks	Manufacturing/distributing	8-10 Keith Campbell Ct	Scoresby
Pacific distribution	M, Glass & Building hardware	6 Mosrael Place	Rowville
Pacific Distribution	Distribution for REPCO	1/20 Henderson Rd	Knoxfield
Pacific Electric Motors	Manufacturing electric motors	1/19 Viewtech Pl	Rowville
Panasonic	Warehouse/Sales distribution	FerntreeGully Rd	Scoresby
Paper Tole Creations and Supplies	Crafts - Retail and Supplies	3/18 Laser Drive	Rowville
Patons	NHO and Warehouse, Macadamia Nuts	17 Rushdale Street	Knoxfield
PAULS	Dairy Food Production, SHO	842 Wellington Road	Rowville
Pebble International (Holding) Pty Ltd; Konka Australia	S&D of TVs	22 Corporate Ave	Rowville
Pegler Beacon	Sales and distribution	31 South Corporate Ave	Rowville
Pegler Beacon Australia Pty Ltd	S&D valves/HO	3 Corporate Ave	Rowville
Perfectone P/L	Retail blinds	2/3 Neutron Pl	Rowville
Perkin Elmer	?	16 Kinglsey Close	Rowville
Pet Pacific	?	2/40 Jellico Dve	Scoresby
PFD Holdings Australia Pty Ltd	Food Distributor	26 Rushdale Street	Knoxfield
Phillipson Groves P/L	Design buildings	1298 FernTree Gully Rd	Scoresby
Plaskona Industries	?	49 Rushdale Street	Knoxfield
Plega Healthcare	Mfg Adjustable beds and chairs	895 Wellington Road	Rowville

Business	**Main Business Activity**	**Street Address**	
Plexus Communications	Phone system installation and service	14 Kingsley Close	Rowville
PMS Graphics	Pre press	4/9 Hi - Tech Pl	Rowville
Pony Music Rehersal Studios	?	5/9 Hi - Tech Pl	Rowville
Poolstore International	mfg & Distribution of Spa and Pool equip	3/51 Rushdale Street	Knoxfield
Powerline Management Systems	Services to power lines	42 Koornang Road	Scoresby
Precision Machinery Sales and Service	Sale of sheet metal machinery	2/9 Macro Court	Rowville
Prevon Pty Ltd	Mfg Materials Handling Equipment	4/61 Rushdale Street	Knoxfield
Priceline P/L	National Head office, storage for retail	81 Rushdale St	Knoxfield
Priceline Wholesale	?	80 Rushdale St	Knoxfield
Principal Holdings	?	4 Seismic Crt	Rowville
Private	Storage	2/12 Viewtech Place	Rowville
Procol Services	Industrial Automation	1/3 Hi - Tech Pl	Rowville
Professional Canvas Products	Manufacturing blinds	1/21 Laser Dve	Rowville
Professional Image Maintenance	PR	4/51 Rushdale Street (upstairs)	Knoxfield
PROK	Production	2/45 Rushdale St	Knoxfield
Promech Automotive Services	Motor Engineers and Repairers	3/12 Laser Drive	Rowville
Protector Window Coverings	Sales of Blinds	2/35 Gilbert Park Drive	Knoxfield
Pure & Natural Beverages	?	35 Jellico Dve	Scoresby
Pure-ment Furniture	Manufacture kitchen cabinets/renovations	1/10 Seismic Crt	Rowville
QED	Plastics development	8/37-39 Rushdale St	Knoxfield
Quality Design & Fabrication	Industrial lighting	1/43 Henderson Rd	Rowville
Quality Window Products	Blind makers	1/15 Laser Dve	Rowville
Qualitycraft Coverings	Mfg Canopy Covers	10 Macro Court	Rowville
Quest International Computers P/L	Cash registers	5 Rocco Dve	Scoresby

Business	Main Business Activity	Street Address	
Quicks Carpet Warehouse	?	3/ FemtreeGully Rd	Rowville
Quirk's Refrigeration	Refrigeration sales, rental & services	37 Laser Dve	Rowville
R.E. Batger Pty Ltd	Distribution of Furniture	11/5 Samantha Court	Knoxfield
RAECO International P/L	Wholesale library supplies & shelving	75 Rushdale St	Knoxfield
Rain One & Ponds & Pumps	Wholesale distribution	1/19 Jellico Dve	Scoresby
Random House	Book Distribution	16 Dalmore Drive	Scoresby
RDS Shopfitting	Manufacturing for & installation of shopfittings	42 Henderson Rd	Rowville
Reach for Life/Oxyrich	S&D of nutritional health products	2/61 Rushdale Street	Knoxfield
Red Rooster	National head office	15 Dalmore Dve	Scoresby
Redpath Automotive Maintenance	Mechanical Workshop	8 Rushdale Street	Knoxfield
Reflex Handling and Storage Equipment	Materials handling and storage	28 Kingsley Close	Rowville
Reflex Promotion	Manufacturing of reflective tapes	1/76 Rushdale St	Knoxfield
Regal Seat Covers	Rugs and car seat covers mfg	2 Kinglsey Close	Rowville
Remington	Sales, Warehouse and HO personal products	800 Wellington Road	Rowville
Remtron Construction Division	Servicing & sales of plastic moulding machines	1/5 Seismic Crt	Rowville
Revamp Automotive	Automotive repairs	6/2 Laser Dr	Rowville
RG Ladd	Electrical Contractors, Mfg switchboards	14 Macro Court	Rowville
RG Ladd	Storage	1/12 Laser Drive	Rowville
Richard Ross	Dried Flower manufacturing and distributing	2/7 Hi - Tech Pl	Rowville
Right on Auto Electrical	Auto Electrical Services	2/59 Gilbert Park Drive	Knoxfield
Riviana Foods Pty Ltd	Distribution food products/HO	5 Corporate Ave	Rowville
Robotics Automation	Automation equipment, materials handling equipment & import robots	6 Rocco Dve	Scoresby
Robotics Automation	?	2 Rocco Dve	Scoresby
Rodek Fencing Pty Ltd	Fencing Contractors	9 Rushdale Street	Knoxfield

Business	Main Business Activity	Street Address	
Rowville Auto Electrics	Auto electrical repairs	4/2 Laser Dr	Rowville
Rowville Body and Auto repairs	Panel beating/spray painting	1/9 Viewtechh Pl	Rowville
Rowville Brake & Clutch	Brake & clutch services, motor engineers & repairs	1/11 Laser Dve	Rowville
Rowville Exhaust Centre	Exhaust installation and repair	2/3 Hi - Tech Pl	Rowville
Rowville Mowers & Chainsaws	Sales, spares and repairs of lawnmowers and chainsaws	8/3 Hi - Tech Pl	Rowville
Rowville Tuning & Service Centre	Motor engineers & repairs	2/13 Laser Dve	Rowville
Rowville Veterinary Clinic	Vet Clinic	Stud Road	Rowville
Royal Ideas & Inventions	Marketing inventions	1/41 Henderson Rd	Rowville
Rushdale Automotive Repairs	Mechanical workshop	8/76 Rushdale St	Knoxfield
Rushdale Snack Bar	Take Away Food	50 Rushdale Street	Knoxfield
Rycom Industries	Manufacture automation systems, identification systems, labelling equipmen	2/9 Seismic Crt	Rowville
Ryobi	Power tool (W&D)	960 Stud Road	Rowville
S&M Cabinets	Manufacture cabinets	4/3 Neutron Pl	Rowville
Sage Medical	Manufacture medical procedural packs	30 Laser Dve	Rowville
Sawtek	Saw sharpeners	1/7 Viewtech Pl	Rowville
Scarlett Bodyworks	Panel Beating/Spray Painting	3/15 Rushdale Street	Knoxfield
Schunk Aust	Manufacturing carbon brushes, brush holders & filters	47 Henderson Rd	Rowville
Scoresby Café	Lunch retail	17 Nyadale Gve	Scoresby
Scoresby Panels	Panel Beating	1/31 Rushdale St	Knoxfield
Scoresby Panels	Panel Beaters	1/30 Rushdale St	Knoxfield
Scoresby Transport	Cold Storage	22 Rushdale Street	Knoxfield
Select Packaging	Mfg Packaging Plastic Bags	1/46 Gilbert Park Drive	Knoxfield
Sentrill Graphic Services	Printing engineers, maintenance of printing machinery	1/6 Seismic Crt	Rowville
SES Structural	Steel erection	53 Rocco Dve	Scoresby

Business	Main Business Activity	Street Address	
SETEC P/L	Manufacturing power supply units, R&D	19 Henderson Rd	Knoxfield
Sheppard System P/L	Construction Engineers	7/9 Hi - Tech Pl	Rowville
Sherwood and Welling International	HiFi M&D, HO	7 Macro Court	Rowville
Sia Abrasives Australia	Coated abrasives mfg	958 Stud Road	Rowville
Siemens Building Technolgies	Sales and services of access controls and security controls	15 Nyadale Dve	Scoresby
Simmonds Lumber	Wholesalers of timber and panel products	42-44 Koornang Road	Scoresby
Simmonds Polishing	Antiques reproductions and polishing	67 Rushdale Street	Knoxfield
SIMOCO	Mobile Communications	1270 FerntreeGully Rd	Scoresby
SINCA Industries Australasia	Trading food additives/chemical suppliers	19 Laser Dve	Rowville
Smith & Smith Cabinet Makers	Cabinet makers & kitchen renovations	23 Laser Dve	Rowville
Snack Brands Australia	Food products manufacturers & processors - potato chips	25 Rocco Dve	Scoresby
Snack Brands Australia	Mfg snack foods (Chips)	3 Forbes Close	Knoxfield
SNAP Printing	Printers	6/3 Neutron Pl	Rowville
SNG Electrics	Sales and service of UPS	5/19 Viewtech Pl	Rowville
SOCHE Limited	Repair and Import vending equipment	1/5-7 Keith Campbell Ct	Scoresby
Solar Turbines	Light engineers	38 Kingsley Close	Rowville
Sole Mio P/L	Manufacture dried vegetables	2 & 3/41 Henderson Rd	Rowville
Solo Tooling P/L	Plastic injection moulders & tool makers	2/21 Laser Dve	Rowville
Soltec Research	R&D consumer chemical and health care products	8 Macro Court	Rowville
Solution Printing P/L	Sales of laser printers	1/34 Rushdale St	Knoxfield
SOTERION	Dist/wholesaler to camping industry	4/37-39 Rushdale St	Knoxfield
Southcorp Water Heaters Aust	Warehouse, sales & distribution of water heaters	8 Dalmore Dve	Scoresby
Southern Cross Electrics Pty Ltd	Electrical Motor Rewinding S&D	6/1662 Ferntree Gully Road	Knoxfield
Spalding Australia	NHO, S&D, MFG	18-24 Corporate Ave	Rowville

Business	Main Business Activity	Street Address	
Special Glass Installation	?	12/9 Hi - Tech Pl	Rowville
Specialised Technical Services	Software Sales	2/5-7 Keith Campbell Ct	Scoresby
Spectra Litho	Printing	6 Griffith Street	Knoxfield
Spectron Security	?	800 Stud Rd	Scoresby
Spectrum Laser Cutting	Laser services &/or consultants, metal cutting services	13 Seismic Crt	Rowville
Spitwater	Sales and service of pressure cleaners	24 Jellico Dve	Scoresby
SS & M Ceramics	Mfg & Distribution Stonemasons &/or stonework	1/15 Rushdale Street	Knoxfield
Stampmaster	S&D Rubber Stamps	4/59 Gilbert Park Drive	Knoxfield
Stanbury Scarf & Lord Pty Ltd	Electrical Mfg (Battery Chargers)	2/5 Samantha Court	Knoxfield
Stationary World	Warehouse and distribute stationary	11/3 Hi - Tech Pl	Rowville
Stegbar	Mfg Building Products	949 Stud Road	Rowville
Stelco Chemicals	Chemical suppliers	33 Rushdale St	Knoxfield
STIHL	?	2 Forbes Close	Knoxfield
Storage & Distribution for AZ Designz (37-39 Rushdale Street)		63 Rushdale Street	Knoxfield
Storage Facility (unknown owner)	?	3/13 Viewtech Place	Rowville
Storage for Reach for Life (2/61 Rushdale Street)		3/61 Rushdale Street	Knoxfield
Storage King	Self Storage	954 Stud Road	Rowville
Streamline	Importers and distributors of kitchen/bathroom products, sinks, tapware	12 Jellico Dve	Scoresby
Stromag Sales P/L	Power transmission equipment and supplies	8/7-11 Rocco Dve	Scoresby
Stud Park Panels	Smash repairs & panel beaters	3/11 & 9 Laser Dve	Rowville
Supply Tronics	Electronic component wholesaler	6/19 Viewtech Pl	Rowville
Supreme Furniture Polishing	Furniture Polishing	2/4 Macro Court	Rowville
T.C.Printing	Printers	46 Jellico Dve	Scoresby
Taranto Stairs	Mfg Stairs	13 Gilbert Park Drive	Knoxfield

Business	**Main Business Activity**	**Street Address**	
Tarkett Sommer P/L	Sale of domestic & commercial floor coverings	22 Rocco Dve	Scoresby
TASC digital control systems	Installation & servicing	6/12 Viewtech Place	Rowville
Taylors Surgical Instruments	Manufacturers of surgical instruments	3/3 Neutron Pl	Rowville
Tecfurn Pty Ltd	Furniture Mfg	2/13 Viewtech Place	Rowville
Telepower Australia Pty Ltd	Testing/R&D of batteries found in telephone exchanges	2/71 Rushdale Street	Knoxfield
Temple Body Works	Panel Beaters	8 Laser Dr	Rowville
Temple Cabinets	Manufacture kitchens, bar units & house joinery	7/76 Rushdale St	Knoxfield
TEXTRON P/L	Administration for rivets and fasteners company	891 Wellington Rd	Rowville
TGT Fabrications	Metal Fabrications	9/5 Samantha Court	Knoxfield
The Container Connection	Wholesalers	2/6 Hi - Tech Pl	Rowville
The Décor Corporation Pty Ltd	Kitchenware/plastic product w/sale & mfg	1314 Ferntree Gully Road	Scoresby
Theo's Electrics	Electrical contractors	1/10 Hi - Tech Pl	Rowville
Tieco International (Aust) Pty Ltd	Wholesale/Import/mfg of car/truck parts, hoses and filters	4 Tampe Road	Rowville
Timber Line Design	Wood Wholesaler	1/10 Rushdale Street	Knoxfield
Tint-a-Car	Window Tinting	1/1662 Ferntree Gully Road	Knoxfield
TM Automatics	Mechanical Repairs	7/3 Hi - Tech Pl	Rowville
Toll & Unilever Foods Distribution	Warehousing & Distribution	2/20 Henderson Rd	Knoxfield
Toshiba	S&D Electric Motors and VSD	20 Laser Drive	Rowville
Total Plant Control	Lubrication equipment wholesalers	10/7-11 Rocco Dve	Scoresby
Toyoda	Television Wholesalers and Mfgs	16 Laser Drive	Rowville
Traction Tyre & Suspension Centre	Tyre & suspension specialist, wheel alignments	5 Laser Dve	Rowville
TriNeon	Sales & distribution of sign/signwriters	1/33 Laser Dve	Rowville
Tritec Services	Welding and Storage	4/12 Viewtech Place	Rowville
Tropic Motor Repairs	Motor mechanics	3/31 Rusdale St	Knoxfield

Business	Main Business Activity	Street Address	
Tubengineers Pty Ltd	Invalid Aids &/Or Equipment; Mufflers &/Or Exhaust Systems; Stainless Steel Products & Equipment; Swimming Pool Equipment & Chemicals; Tube	48 Koornang Road	Scoresby
Tudor Carpet	Carpet Retailing	2/9 Viewtech Pl	Rowville
Tyrepower	Tyre repairs/sales/services	1/1271 FerntreeGully Rd	Scoresby
UNI	?	2/19 Viewtech Pl	Rowville
Unilever Foods	Mfg and Sale of Foods	1490 Ferntree Gully Road	Knoxfield
Unique Micro Design	?	16 Nyadale St	Scoresby
United Service Station	Automotive Fuel Retailing	893 Wellington Road	Rowville
Universal Engineers Supplies	Wholesaler to transport Ind	1/53 Rushdale Street	Knoxfield
Universal Soil Laboratories	Testing soil	41 Gilbert Park Drive	Knoxfield
UNKI P/L	Wholesaler of sunglasses & reading glasses	11 Seismic Crt	Rowville
Van & 4WD Extras	?	1 Forbes Close	Knoxfield
Ventura Bus Lines P/L	Transport	33 Henderson Rd	Knoxfield
Vertitech Aust	Steel erection	53 Rocco Dve	Scoresby
VHLC	Engineering/manufacturing	35 Rushdale St	Knoxfield
Victoria Healthcare Products	Wholesale & retail nappies	6/27 Laser Dve	Rowville
Victorian Fishing and Sporting Distributions Pty Ltd	Retail/Wholesale Fishing	3/10 Rushdale Street	Knoxfield
Victorian Welding Supplies	Retail welding supplies	2/11 Laser Dve	Rowville
Viewtech Automotives	Vehicle repairs	4/21 Viewtech Pl	Rowville
Viewtech Links Sandwich Bar	Lunch shop	Lot 4, No 1 Viewtech Pl	Rowville
Wallec Electrical	Radio communication installers	3/37-39 Rushdale St	Knoxfield
WASCA	Manufacture washers & stamped components	32-34 Laser Dve	Rowville
Waterwize	Distributors	15/9 Hi - Tech Pl	Rowville
Watkins Electrical Service (Unattended)	?	14/5 Samantha Court	Knoxfield
Webb Transmission Sales	Sales & service transmissions	3/27 Laser Dve	Rowville

Business	***Main Business Activity***	***Street Address***	
Webster Computer Systems	Computer sales and services	1/1350 FerntreGully Rd	Scoresby
Weck Glass Block Showroom	Wholesale/Retail Glassblocks	1/1 Rushdale Street	Knoxfield
Weldtronic	?	2/7 Viewtech Pl	Rowville
West End Press	Warehouse	22 Henderson Rd	Knoxfield
West End Press	Printing and NHO	22 Henderson Rd	Knoxfield
WHANNETT	Publish/S&D office products	92 Rushdale ST	Knoxfield
Wheelers Hill Racquet Centre	Indoor Tennis & racquet restringers	7 Rocco Dve	Scoresby
Whirlpool	Whitegoods sales & distribution, call centre	Dalmore Dve	Scoresby
Whiteside Laminates Pty Ltd	Cabinet Makers	11 Macro Court	Rowville
WILKORE	Commercial & industrial builders	7 International Crt	Scoresby
William Russell Pty Ltd	Doors & Door Fittings	31 Koornang Road	Scoresby
Wills Corporate Services	Promotional products/gift hampers	7 Jellico Dve	Scoresby
Winter Removals	Transport and Warehousing	1/11 Rushdale Street	Knoxfield
Woods	Vehicle Repairs	1&2/1644 Ferntree Gully Road	Knoxfield
Xenon Systems	?	14/9 Hi - Tech Pl	Rowville
Yarra Bank Aust P/L	?	2/9 Hi - Tech Pl	Rowville
?	?	8 Mosrael Place	Rowville
?	?	5/51 Rushdale Street	Knoxfield
600 Cranes	Sales, service and spare parts	26 Jellico Dve	Scoresby