

Yarra's Night Time Economy

Benefit / Cost Assessment



PROJECT UNDERTAKEN FOR
YARRA CITY COUNCIL

April 2013

REMPPLAN

Benefit Cost Assessment of Yarra's Night Time Economy

This project has been conducted by REMPLAN

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April 2013

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All figures and data presented in this document are based on data sourced from the Australia Bureau of Statistics (ABS), and other government agencies. Yarra City Council has provided some background information in relation to the night time economy in the region. Using ABS datasets, the regional economic modelling software REMPLAN, developed by REMPLAN has been applied to generate industrial economic data estimates. This document is provided in good faith with every effort made to provide accurate data and apply comprehensive knowledge. However, REMPLAN does not guarantee the accuracy of data nor the conclusions drawn from this information. A decision to pursue any actions based on information presented in the report is wholly the responsibility of the party concerned. REMPLAN advises any party to conduct detailed feasibility studies and seek professional advice before proceeding with any action and accepts no responsibility for the consequences of pursuing any of the findings or actions discussed in the document.

RESOURCES

All modelling has been undertaken using REMPLAN™ software that has been authored by Principal Research Fellow (ret.), Ian Pinge, at La Trobe University Bendigo.

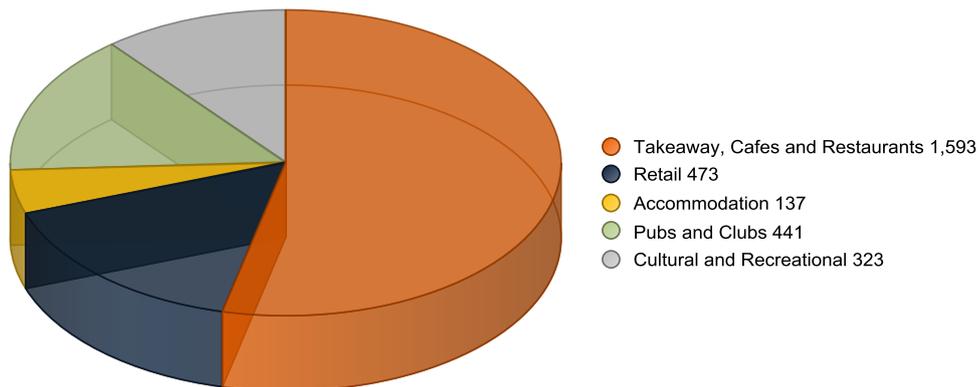
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Summary of Findings

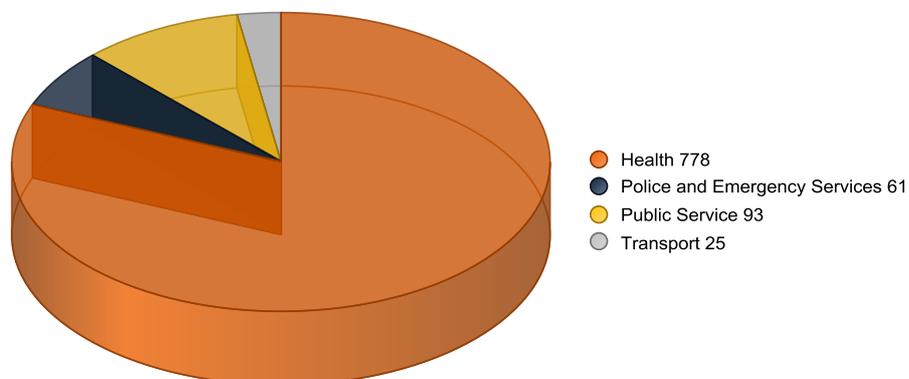
The City of Yarra is renowned for its dynamic night life spread across several precincts, principally Collingwood and Fitzroy (Smith, Gertrude, Brunswick and Johnston Streets) and Richmond (Victoria, Church and Swan Streets). However, the nature and intensity of this activity have negative social externalities upon the local community through noise, litter and matters of public nuisance.

It is estimated that Yarra City's Night Time economy supports 2,967 jobs.



The direct economic output generated by the 2,976 NTE workers is estimated at \$333.14 Million per annum, or \$112,282 per worker. The NTE generates demand for goods and services within Yarra City and it is estimated that these flow-on impacts generate a further \$156.941 Million. The 2,976 people employed in the NTE, and the workers in the supplying businesses spend some of their wages and salaries in the local economy and these flow-on consumption benefits are estimated at a further \$175.108 Million. The total output associated with the NTE in the City of Yarra, including all direct and flow-on effects is estimated at up to \$665.187 million.

There are various costs and negative impacts associated with night time activities such as health, noise and the policing of anti-social and criminal behaviour. It is estimated that 957 people are employed to service and manage Yarra City's NTE across the following sectors:



The direct output generated by the 957 people servicing the NTE is estimated at \$120.017 Million, or \$125,410 per worker.

At the margin it is estimated that the NTE delivers net benefits to the Yarra City economy across all measures:

Employment

Benefit: 2,967 Jobs

Cost: 957 Jobs

Benefit Cost Ratio: 3.1 : 1

Output

Benefit: \$333.1 Million

Cost: \$120.1 Million

Benefit Cost Ratio: 2.8 : 1

Wages & Salaries

Benefit: \$96.2 Million

Cost: \$60.2 Million

Benefit Cost Ratio: 1.6 : 1

Value-Added

Benefit: \$150.5 Million

Cost: \$75.2 Million

Benefit Cost Ratio: 2.0 : 1

The lower marginal benefit in relation to wages and salaries reflects the relatively lower wages received by people working in retail, cafes, restaurants and pubs, industries that are characterised by part-time and casual employment. This compares with the people working on the cost side on the equation in health, government, and police and emergency services. These sectors typically employ workers with formal skills and qualifications and pay higher wages reflecting these requirements.

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1 Introduction

1.1 Purpose and aim

Yarra City Council commenced a night time economy' (NTE) project in 2012, this cost / benefit assessment has been undertaken to support this. A recent paper¹ prepared by the Council discusses the current services and infrastructure supporting Yarra's night time economy with the aim of enhancing the functionality of these activities and the liveability of surrounding local areas:

"The City of Yarra is renowned for its dynamic night life spread across several precincts, principally Collingwood and Fitzroy (Smith, Gertrude, Brunswick and Johnston Streets) and Richmond (Victoria, Church and Swan Streets)."

"However, the nature and intensity of this activity have negative social externalities upon the local community through noise, litter and matters of public nuisance."

In the context of the above statement, the aim of this report is to:

- Establish data sources and a framework for measuring the NTE;
- Deliver a first assessment of the economic costs and benefits associated with the Yarra (LGA) NTE.

The benefits of the NTE in this report are estimated in terms of:

- Output / Revenue (\$ M)
- Employment (Jobs)
- Wages & Salaries (\$ M)
- Value-added (\$ M)

The costs of the NTE are estimated in terms of the estimated proportion of industry sector output that is specifically associated with servicing or managing the NTE.

Cost / benefit analysis in this report was undertaken using REMPLAN – economic modelling and planning system². This study applies REMPLAN economic data for the defined regions of the City of Yarra Local Government Area (LGA) and disaggregates to destination zones within the municipality where the night time activities are located. REMPLAN incorporates data sourced from the Australian Bureau of Statistics (ABS) 2011 Census, 2008/2009 ABS National Input / Output Tables, and ABS Gross State Product (June 2012).

1.2 Regions

City of Yarra is a local government area in the inner eastern and northern suburbs of Melbourne, close to Melbourne's CBD. It includes the suburbs of Abbotsford, Alphington (part), Burnley, North Carlton, Clifton Hill, Collingwood, Cremorne, Fairfield (part), Fitzroy, North Fitzroy, Princes Hill and Richmond. Yarra is home to approximately 80,000 people³ and has some of Melbourne's best shopping streets,

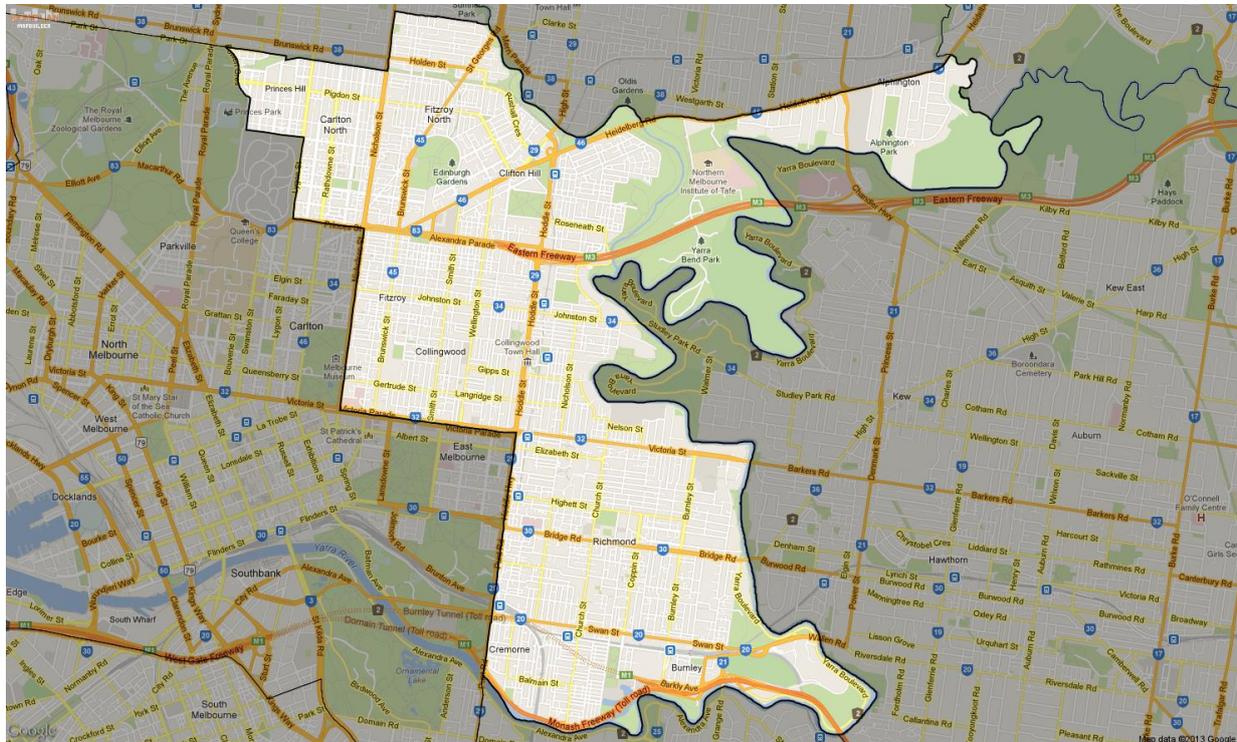
¹ Discussion Paper: 'Our Night Time Economy, City of Yarra'

² www.remplan.com.au

³ <http://remplan.co/Y14d42>

including Bridge Road and Swan and Victoria Streets in Richmond, Brunswick and Gertrude streets in Fitzroy and Smith Street in Collingwood.

Map 1-1 City of Yarra (LGA)



1.3 Methodology

The following methodological approach has been applied to estimate the contributions of the NTE to the Yarra City economy:

- Define the characteristics of the NTE in terms of the industry sectors that benefit from servicing customers from 5pm through to 9am
- Identify negative externalities associated with the NTE and define the industry sectors that respond to and manage these issues
- Within the Yarra City local government area define the major NTE precincts
- Apply place of work employment data from the Australian Bureau of Statistics (ABS) 2011 Census to estimate the number of people employed in industries that have an exposure to the NTE in the respective precincts, and for the local government area overall
- Estimate the proportion of these jobs that specifically service the NTE based on the ratio of retail jobs to food / beverage / entertainment jobs; *a precinct with a high proportion of retail jobs is assumed to have a strong Day Time Economy (DTE) relative to its NTE, and vice versa*
- Assess the direct and indirect benefits for the Yarra City economy based on the total number of jobs supported specifically by the NTE

- Of the total number of people working in industries that respond to and manage the negative externalities associated with the NTE, estimate the likely proportion that specifically service the NTE based on the proportionate contributions of the NTE to the overall Yarra City economy
- Estimate benefit / cost ratios for the NTE in terms of output, employment, wages and salaries and value-added.

It is important to note that the analysis presented in this report is based on desktop analysis and secondary data. There is an opportunity to complement and further validate this study with primary research.

2 An Overview of Night Time Economy

2.1 What is the Night Time Economy

The term of “Night Time Economy” captures certain social and business activities in the period of “the night”. Many non-hospitality and non-entertainment related economic activities also take place at night, including cleaning services, education, government services, retailing, baking and other forms of food preparation, and logistics activities.

The emergence of the Night Time Economy (NTE) as an idea within planning and urban governance dates from Britain in the early 1990s (Bianchini 1995⁴). Academic and policy research from around the world suggests that many cities over the past two decades have deliberately fostered NTEs as a renewal strategy, often in combination with ‘cultural planning’ or ‘creative cities’ strategies.

The night activities within cities have positive impacts as a time of socialisation and encounter (Lovatt and O’Connor 1995⁵). These studies focused on the liberating, consumer-oriented and urban planning aspects of the NTE. However, negative impacts associated with activity after dark in relation to sociology, criminology and health have also been explored.

For analysis purposes in this report, the benefits and costs will be estimated separately. Activities associated with the NTE below will, in most instances, be considered a benefit to the economy and community. These activities include:

- Drink-led activities
- Food-led activities
- Gaming venues
- Retailing (Post 6pm)
- Accommodation
- Performance venues
- Film, theatre, live music opera, etc.
- Cultural institutions
- Sporting and leisure
- Brothels and sex establishments

Meanwhile, those activities after dark having adverse impacts or negative externalities for the community are defined as:

- Public Order and Safety Services
- Hospitals
- Local Authority Administration
- Road Passenger Transport
- Rail (and light rail) Passenger Transport

⁴ Bianchini, F. (1995) Night cultures, night economies, *planning practice and research*, 10(2): 121-126.

⁵ Lovatt, A. and J. O’Connor (1995) Cities and the night-time economy, *planning practice and research*, 10(2): 127-134.

For this study the Night Time Economy (NTE) has been defined as commercial activities operating from 5pm through to 9am.

2.2 Yarra's Night Time Economy

2.2.1 An overview

The City of Yarra is considered as the heart and soul of Melbourne, having strong appeal for those wishing to live, work or visit the area. People are motivated by its diversity, lifestyle and business opportunities. The vibrant night life is one of the key attractions for new residents. Some feedback gathered by the Yarra City Council in their recent paper⁶:

"Vibrant mixture, improving continually, close to rail stations and trams (Victoria St), pubs and restaurants, Abbotsford convent, close to CBD (shops, theatres), easy access to number of cinemas, close to Carlton, Richmond, Northcote etc."

"Bars, cafes, nightlife, proximity to city, lots of public transport options, great shopping, interesting people etc."

"All the things I hoped for myself, wife and adult girls - walking everywhere, sense of community, cultural and age diversity; smaller shopping more frequently; retiring one car. We can retire to quiet and amenity of comfortable apartment then 50 steps later the "life" and buzz is at our doorstep."

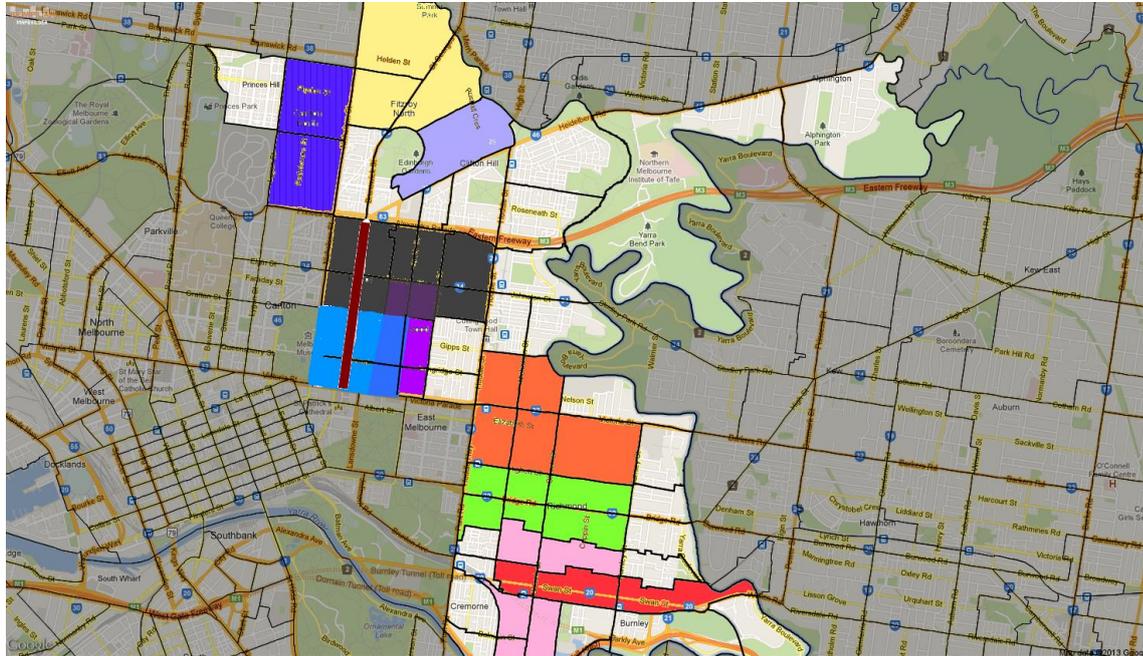
Popular night activities in Yarra include visiting bars and fine dining through to cheap eateries, participating in recreation, youth and cultural activities such as outdoor cinema, sports events, libraries and galleries. There are also tertiary educational institutes, supermarkets, convenience stores, gyms, yoga and dance studios, and hairdressers operating at night.

⁶ Discussion Paper on Our Night Time Economy, City of Yarra.

2.2.2 Night Time Economy (NTE) Precincts

The following map divides City of Yarra into destination zones. The main NTE precincts as defined by the Council are highlighted.

Map 2-1 Destination Zones with main NTE areas



The main night time activities after 6pm are located in the following areas:

- **Swan Street** includes good value eateries, take away food premises and a number of pubs iconic to Richmond including the Corner Hotel, a popular venue for live music in Melbourne. Often a destination prior to, and following a sports event at AAMI Stadium or the MCG and for other major events held at Rod Laver Arena
- **Bridge Road** includes endless restaurants of various cuisines, intermingled with several stylish bars and pubs, and like Swan Street, also a destination visited as part of a sports game or major event
- **Victoria Street** is the heart of Vietnamese food of high quality and low prices
- **Gertrude Street** has a number of cocktail bars, fine dining restaurants as well as a handful of late night venues spread throughout the small strip of the street
- **Smith Street** offers numerous restaurants including the famous duck restaurant through to several well-known bars in Yarra and late night venues famous to Yarra
- **Johnston Street, Fitzroy** is the heart of Melbourne's Spanish precinct, with many tapas bars, in addition entertainment options such as burlesque and flamenco dancing, and also a few late night music and dancing options
- **Brunswick Street** paralleled with Smith Street, offers endless cheap and fine dining options, the famous Vegie Bar, book shops, live music, late night take away options and several late night venues.

In addition, Queens Parade at Clifton Hill, Rathdowne and Nicholson Streets in North Carlton, St Georges Road in North Fitzroy, Church Street in Richmond, and Johnston Street in Collingwood also offer a variety of night activities.

3 Methodology

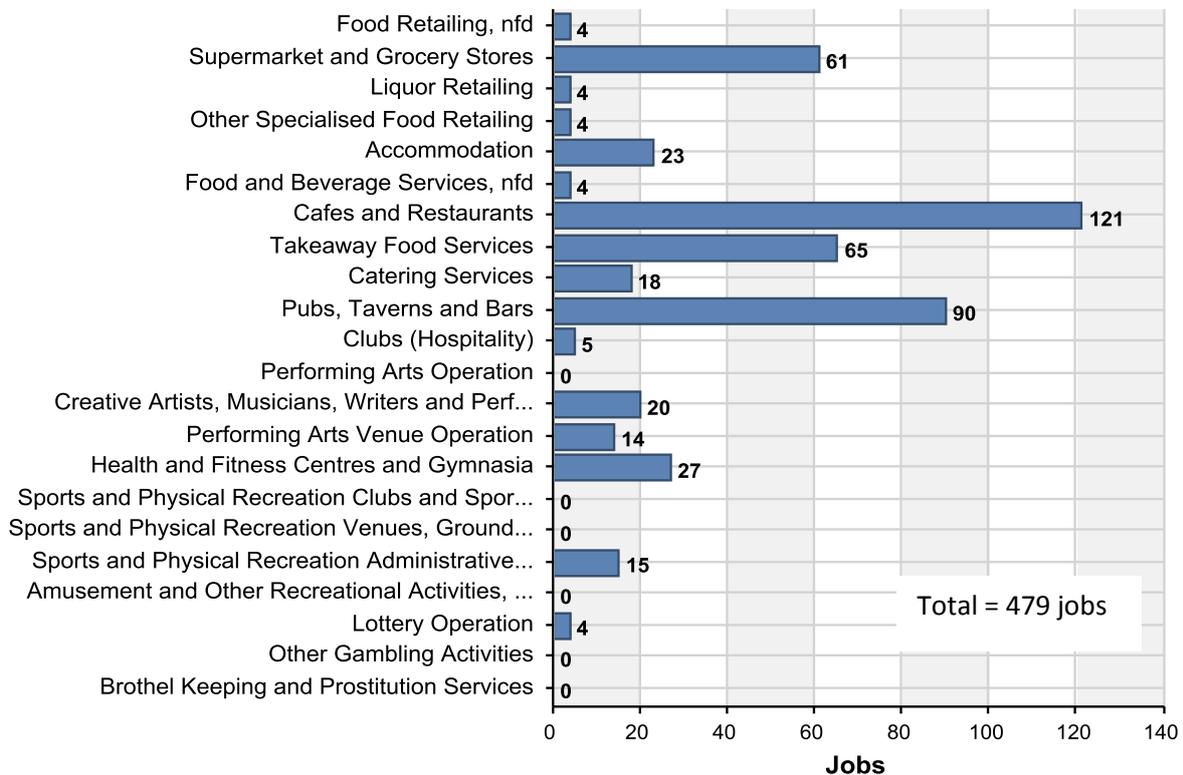
For the respective NTE precincts detailed above, place of work employment data from 2011 Australian Bureau of Statistics (ABS), Census of Population and Housing has been applied to build profiles of employment in NTE economy related industries.

3.1 Swan Street

Map 3-1 Swan Street NTE DZs



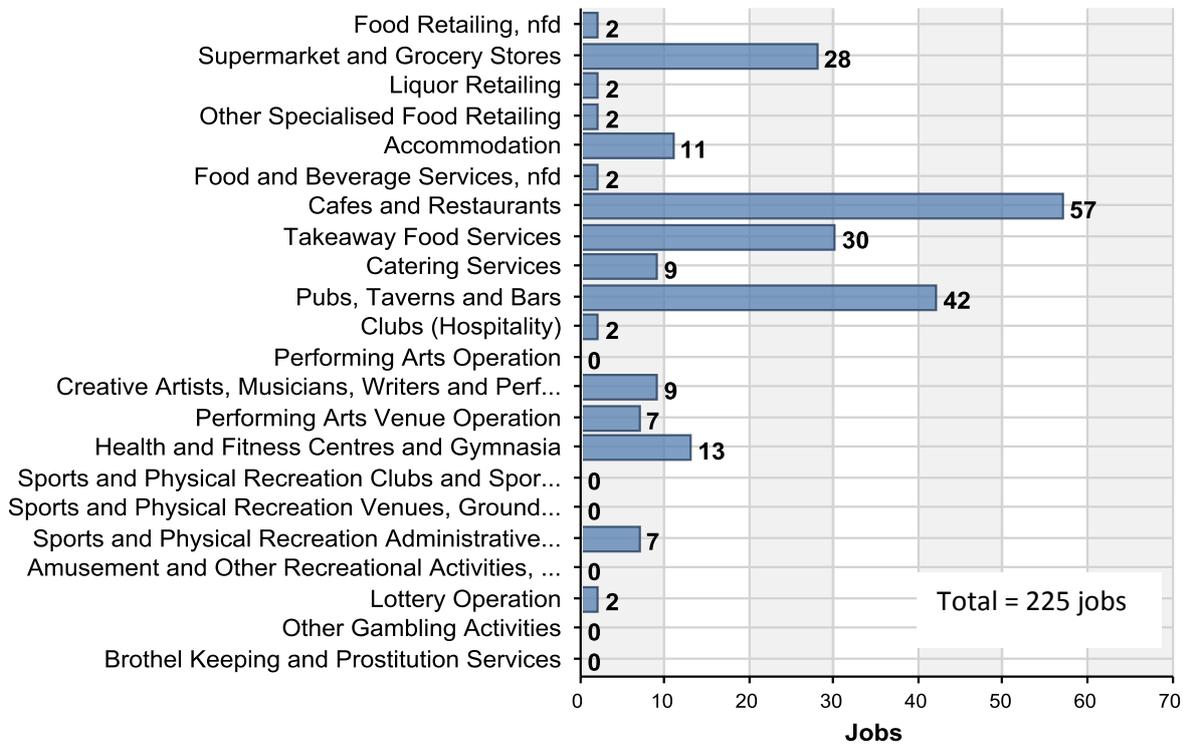
Figure 3-1 Employment in Swan Street Precinct



It is estimated that 479 people work in the Swan Street precinct in industry sectors that have an expose to the Night Time Economy (NTE). These industries do not however operate exclusively at night and so to varying degrees also service the Day Time Economy (DTE).

Based on the strength employment in retail trade in the precinct (considered to be an indicator of a strong DTE) relative to employment in accommodation & food services and art and recreational services (indicators of a strong NTE), estimates have been generated of the proportion of the 479 jobs in figure 3-1 that specifically service the NTE.

Figure 3-2 NTE-Specific Employment in Swan Street Precinct



Of the 479 people working in the Swan Street precinct in industry sectors that have an expose to the NTE, it is estimated that 225 jobs (47 percent) specifically service the NTE. This represents 8.3 percent of total jobs in the Swan Street precinct.

3.2 Bridge Road

Map 3-2 Bridge Road NTE DZs

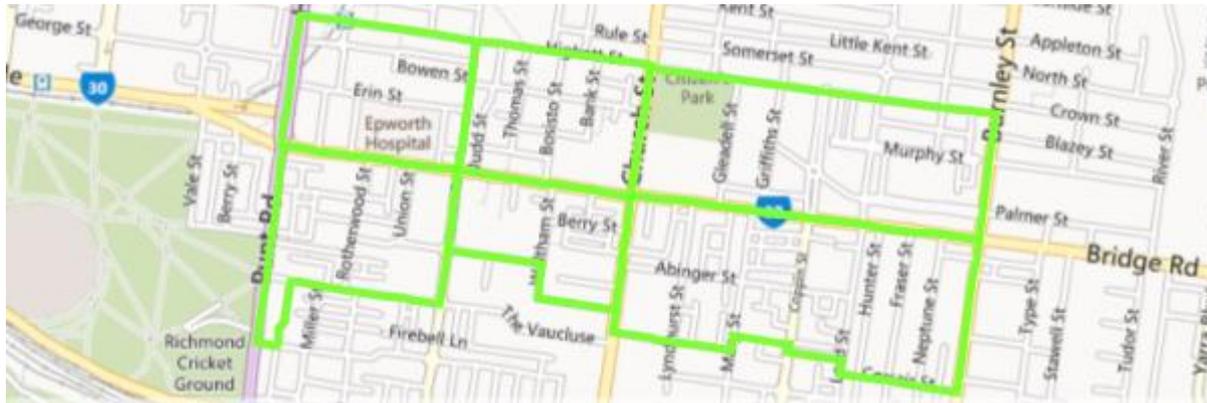


Figure 3-3 Employment in Bridge Road Precinct

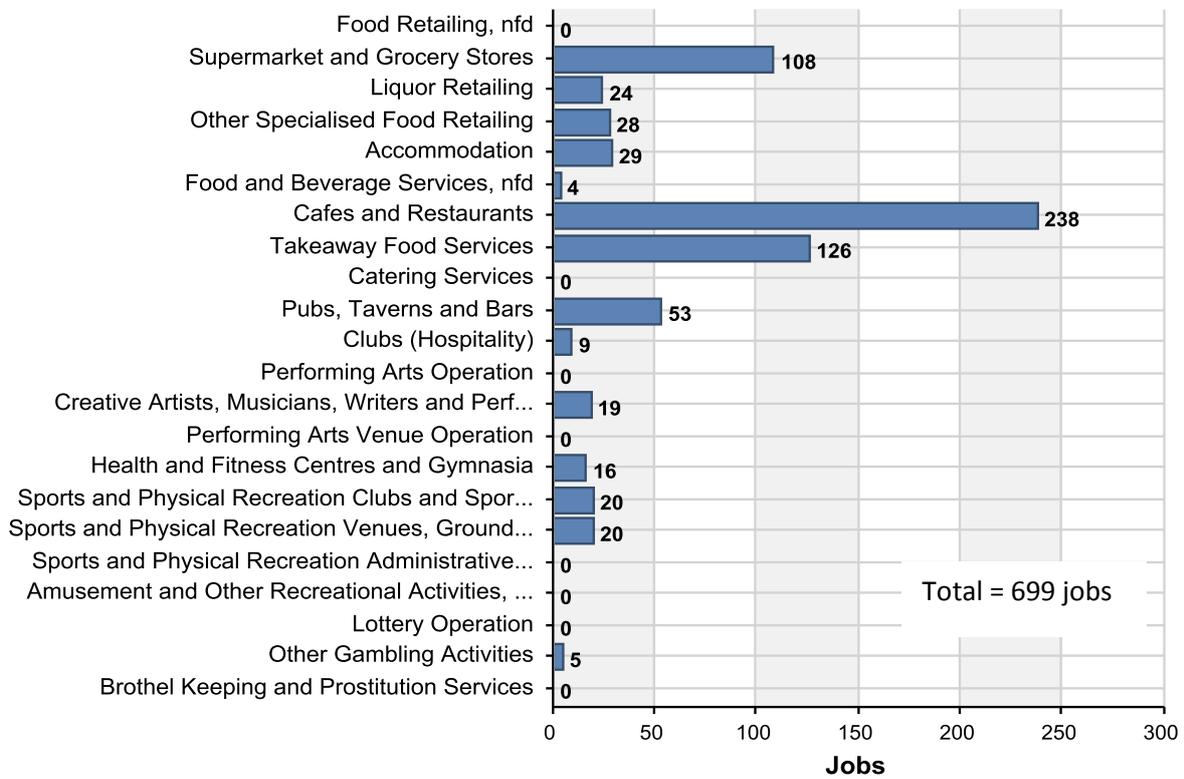
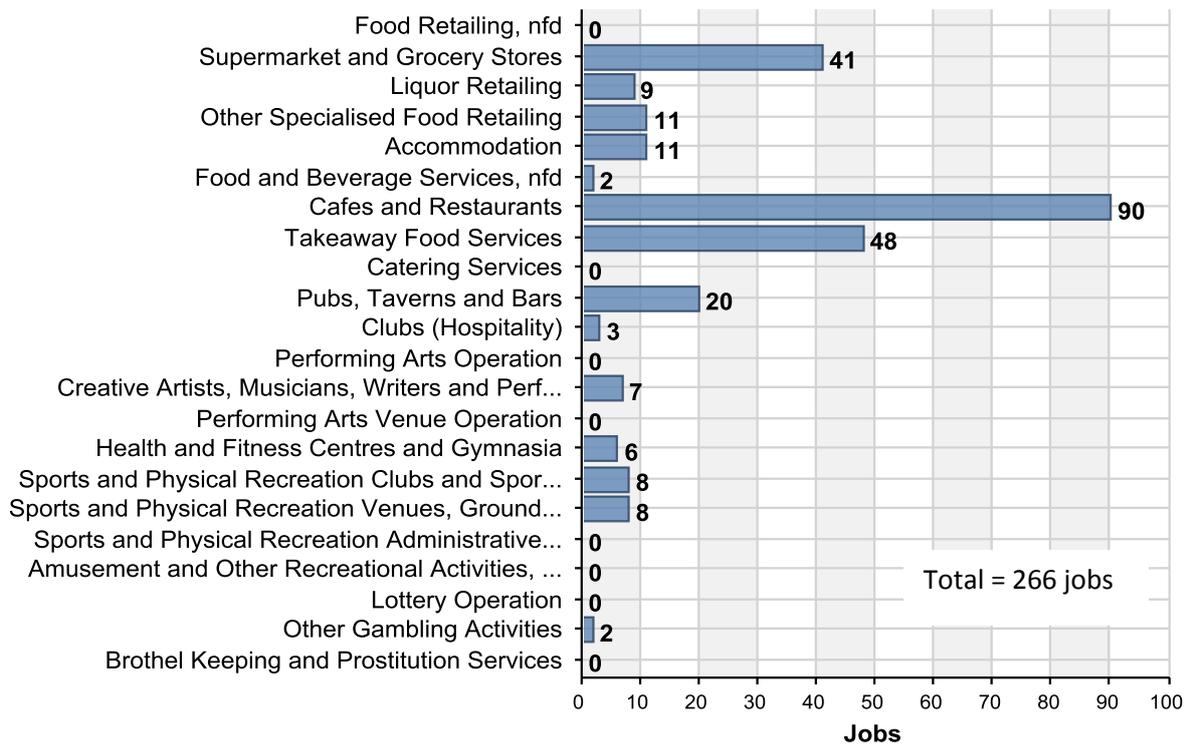


Figure 3-4 NTE-Specific Employment in Bridge Road Precinct



Of the 699 people working in the Bridge Road precinct in industry sectors that have an expose to the NTE, it is estimated that 266 jobs (38 percent) specifically service the NTE. This represents 4.0 percent of total jobs in the Bridge Road precinct.

3.3 Victoria Street

Map 3-3 Victoria Street NTE DZs



Figure 3-5 Employment in Victoria Street Precinct

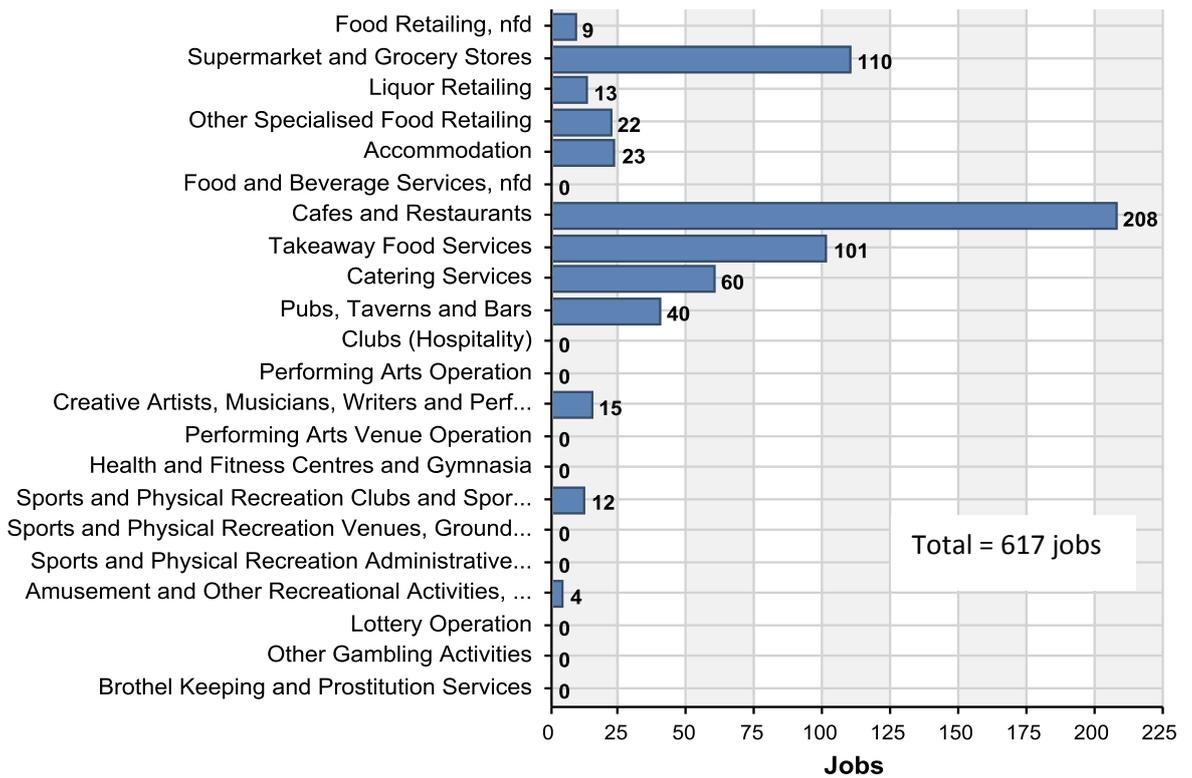
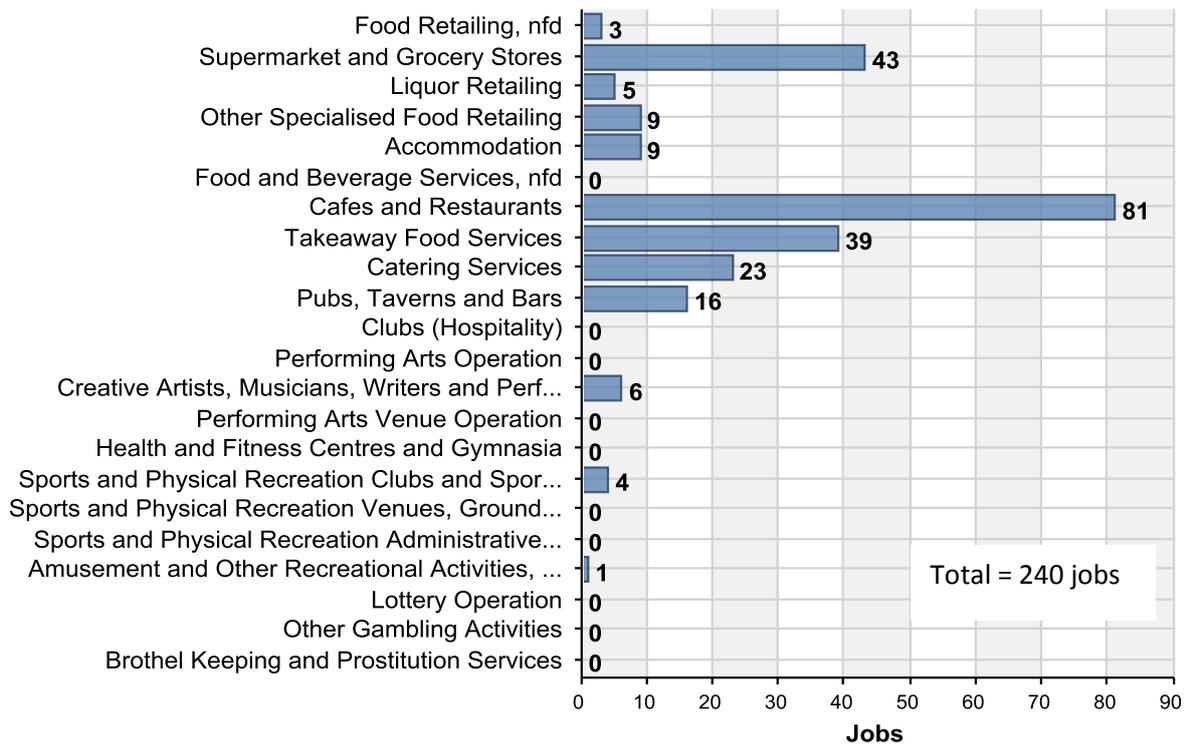


Figure 3-6 NTE-Specific Employment in Victoria Street Precinct



Of the 617 people working in the Victoria Street precinct in industry sectors that have an expose to the NTE, it is estimated that 240 jobs (39 percent) specifically service the NTE. This represents 4.7 percent of total jobs in the Victoria Street precinct.

3.4 Gertrude Street

Map 3-4 Gertrude Street NTE DZs

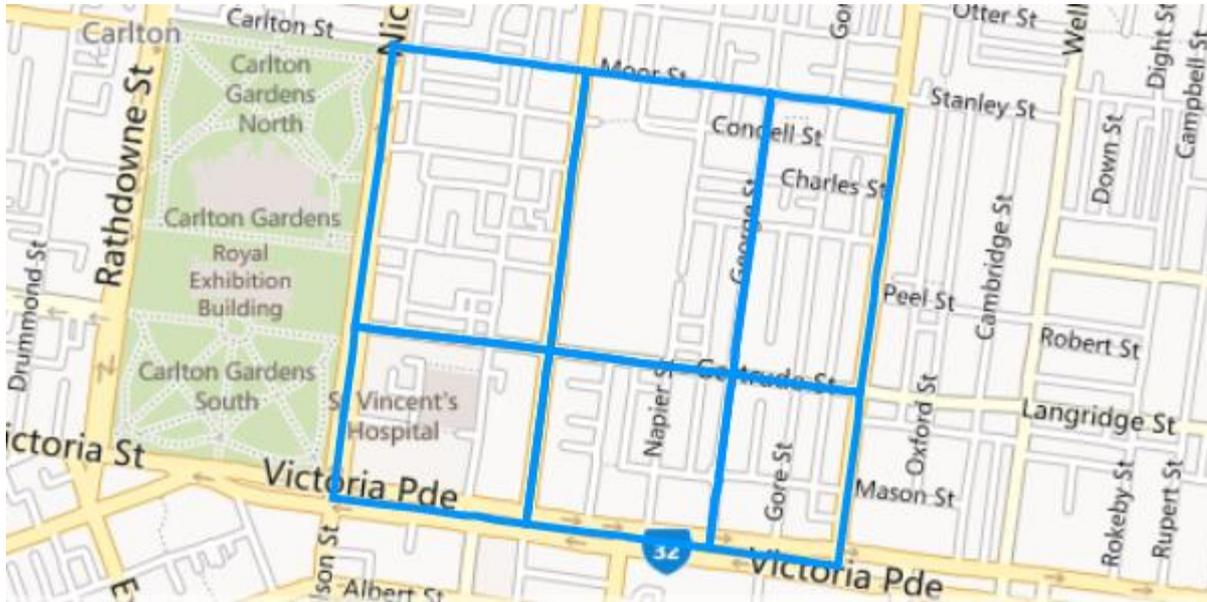


Figure 3-7 Employment in Gertrude Street Precinct

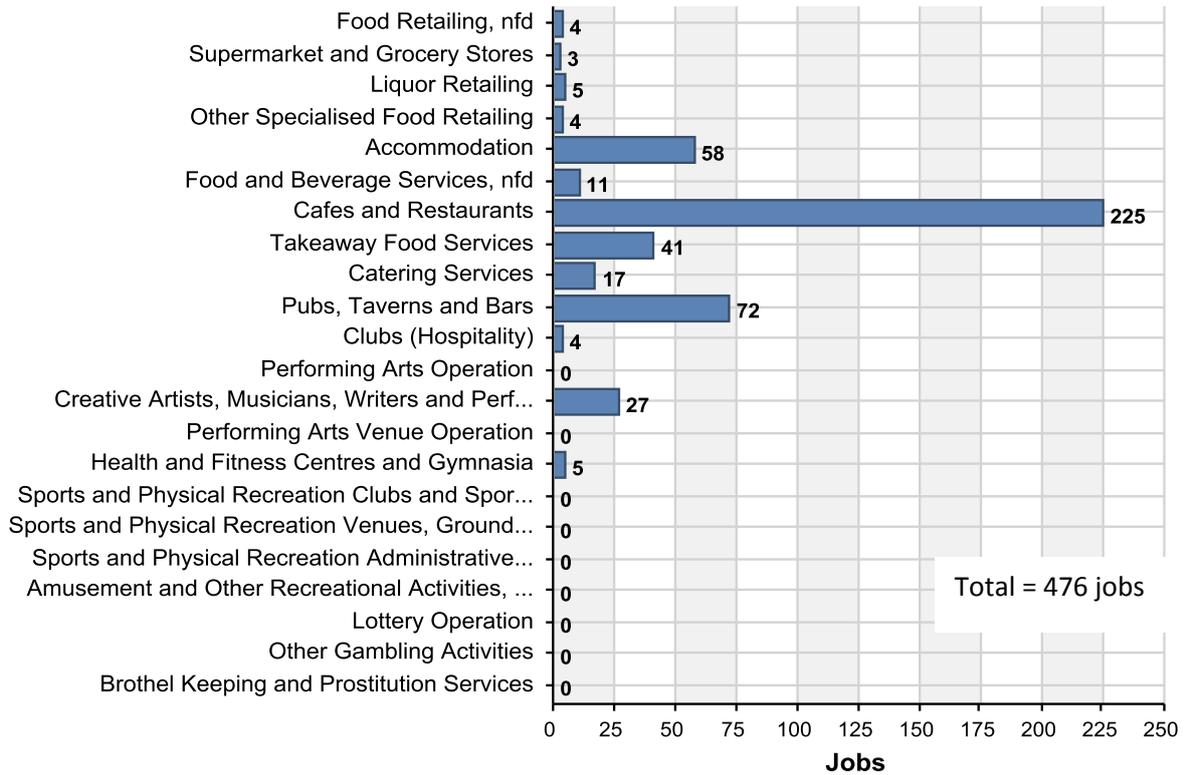
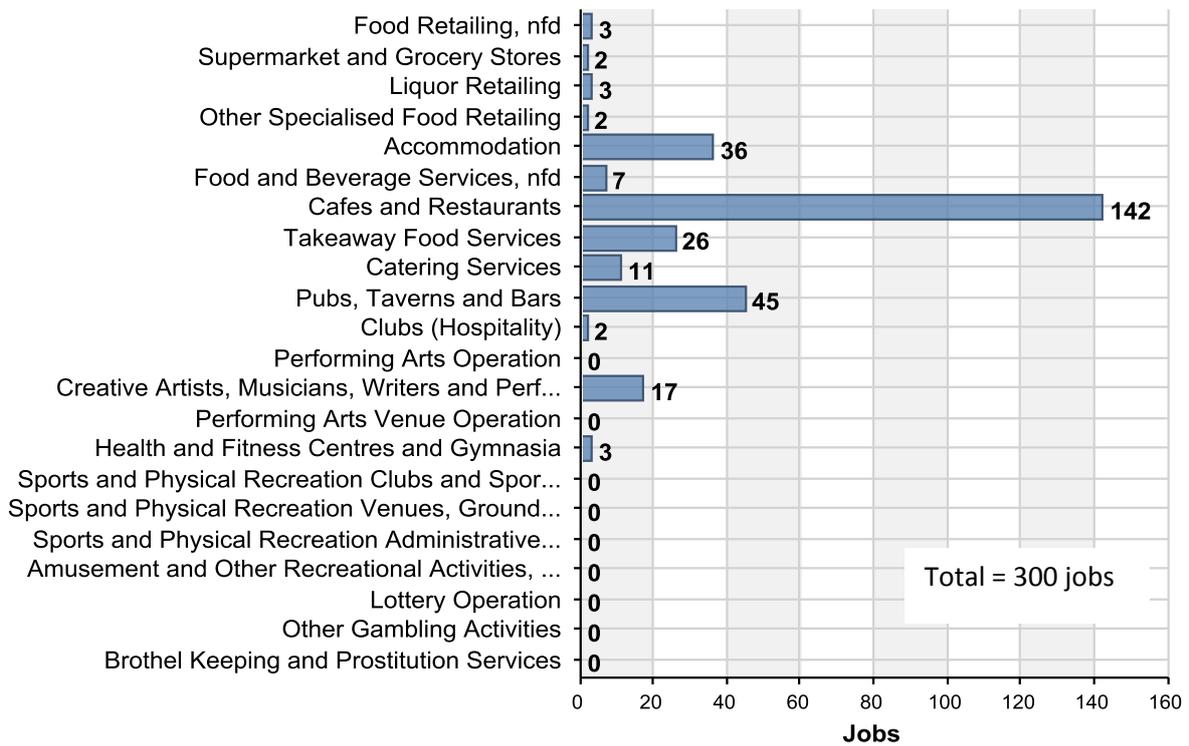


Figure 3-8 NTE-Specific Employment in Gertrude Street Precinct



Of the 476 people working in the Gertrude Street precinct in industry sectors that have an exposure to the NTE, it is estimated that 300 jobs (63 percent) specifically service the NTE. This represents 4.0 percent of total jobs in the Gertrude Street precinct.

3.5 Smith Street

Map 3-5 Smith Street NTE DZs



Figure 3-9 Employment in Smith Street Precinct

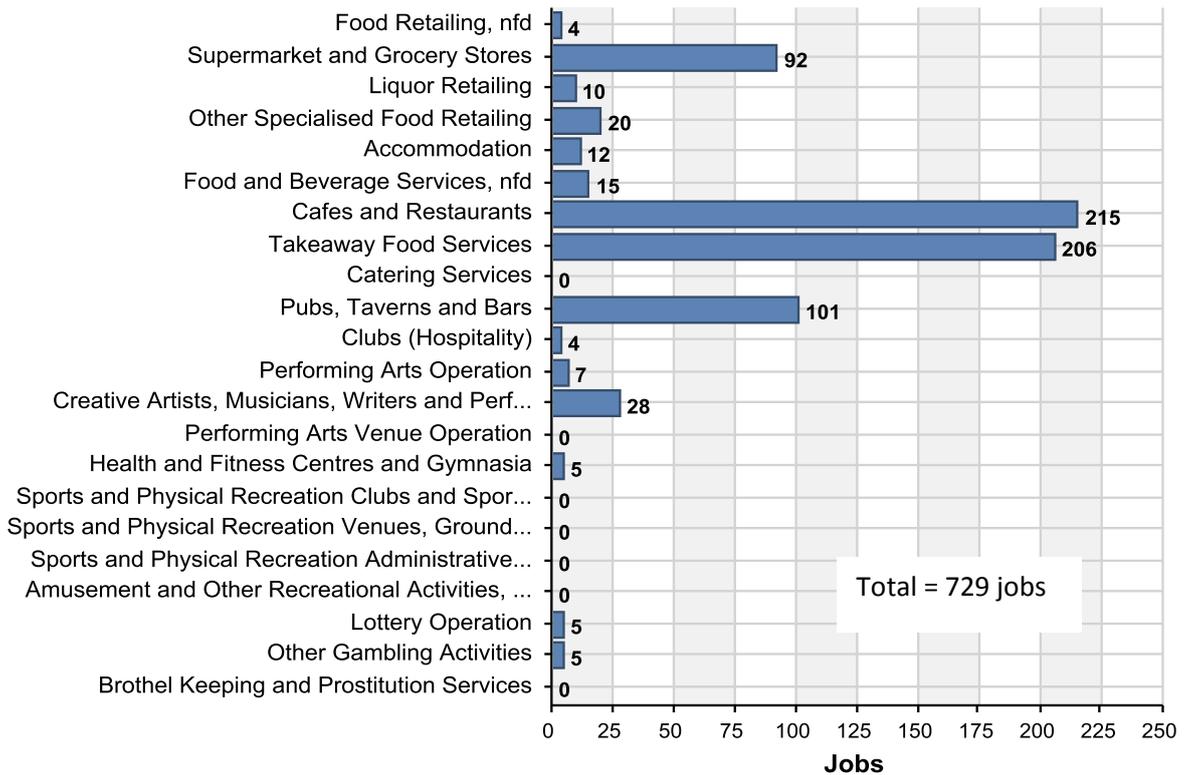
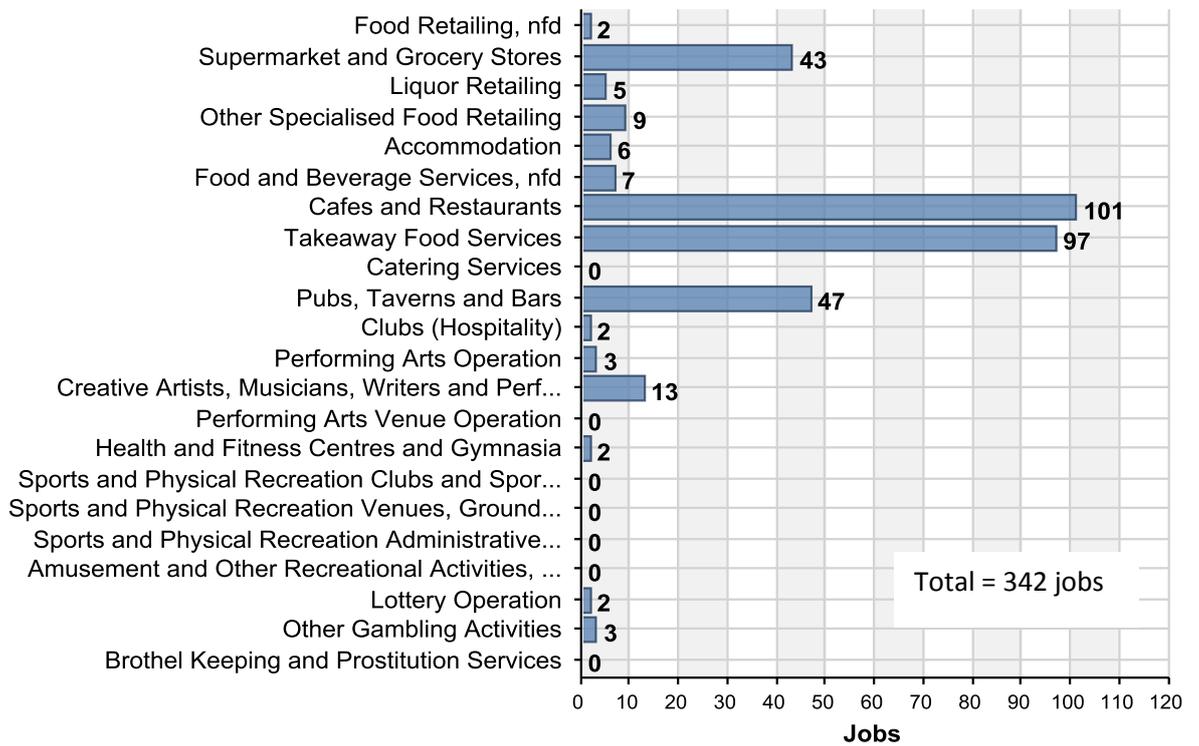


Figure 3-10 NTE-Specific Employment in Smith Street Precinct



Of the 729 people working in the Smith Street precinct in industry sectors that have an expose to the NTE, it is estimated that 342 jobs (47 percent) specifically service the NTE. This represents 7.8 percent of total jobs in the Smith Street precinct.

3.6 Johnston Street

Map 3-6 Johnston Street NTE DZs



Figure 3-11 Employment in Johnston Street Precinct

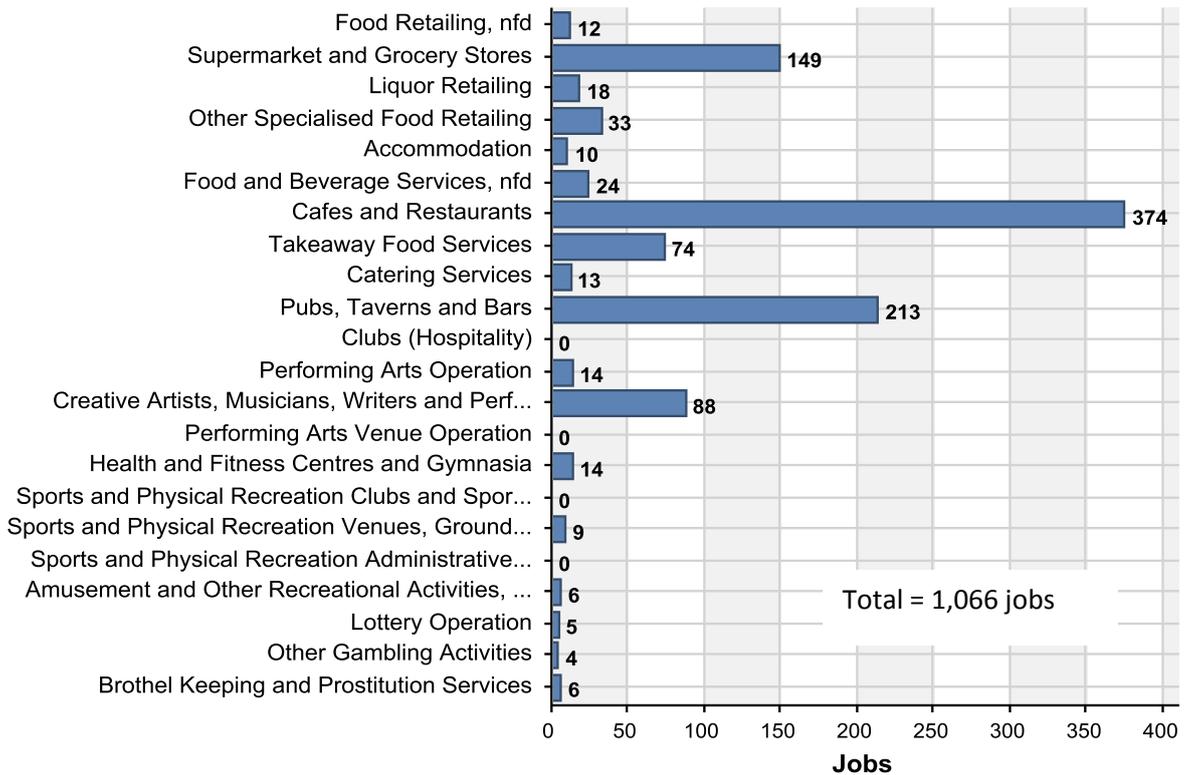
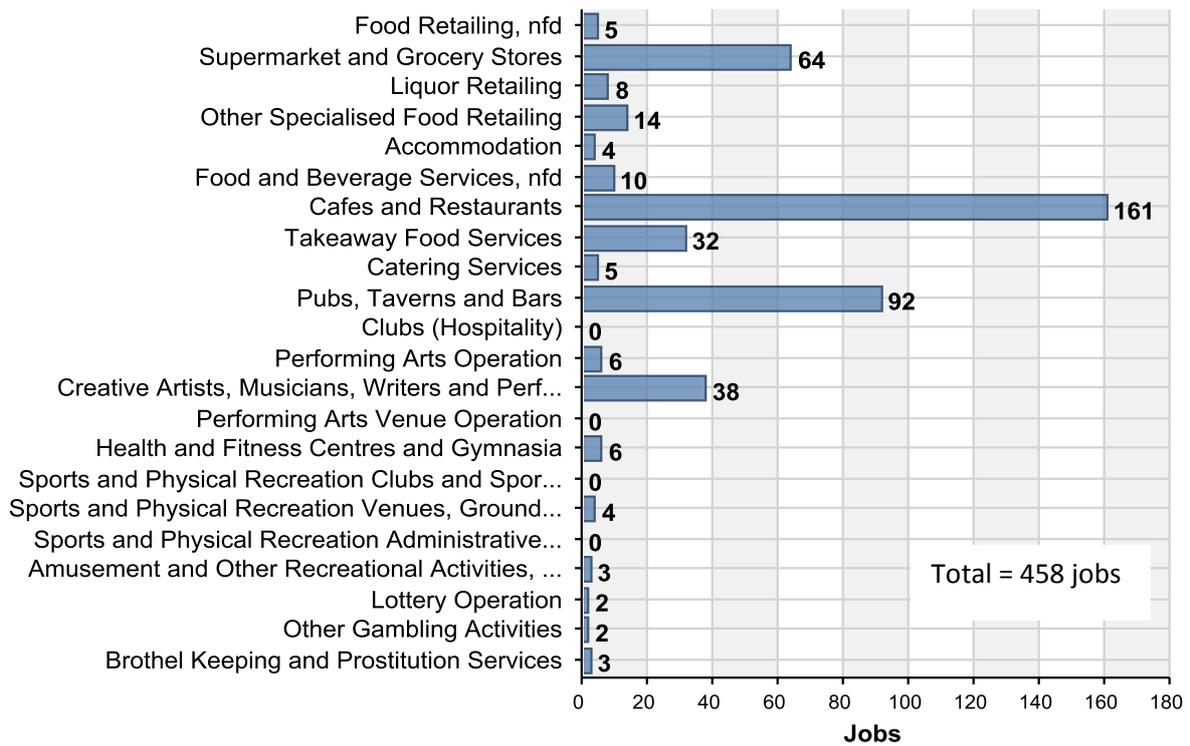


Figure 3-12 NTE-Specific Employment in Johnston Street Precinct



Of the 1,066 people working in the Johnston Street precinct in industry sectors that have an exposure to the NTE, it is estimated that 458 jobs (43 percent) specifically service the NTE. This represents 7.1 percent of total jobs in the Johnston Street precinct.

3.7 Brunswick Street

Map 3-7 Brunswick Street NTE DZs



Figure 3-13 Employment in Brunswick Street Precinct

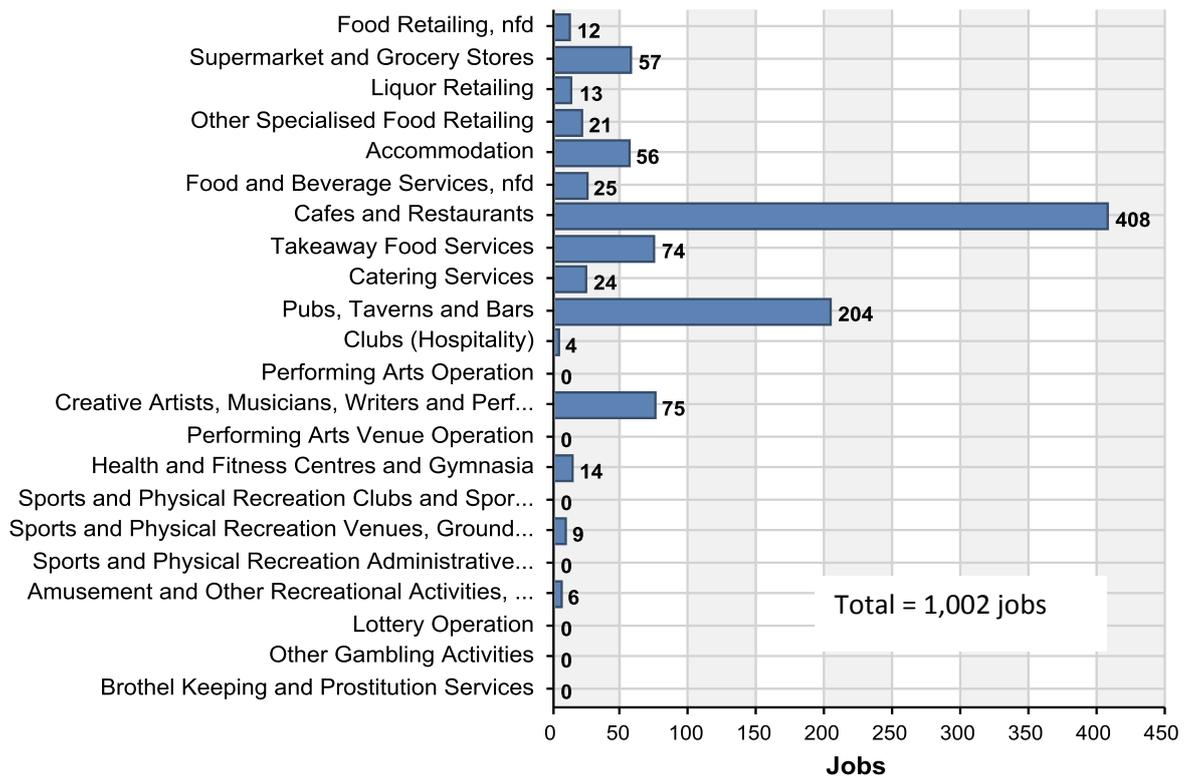
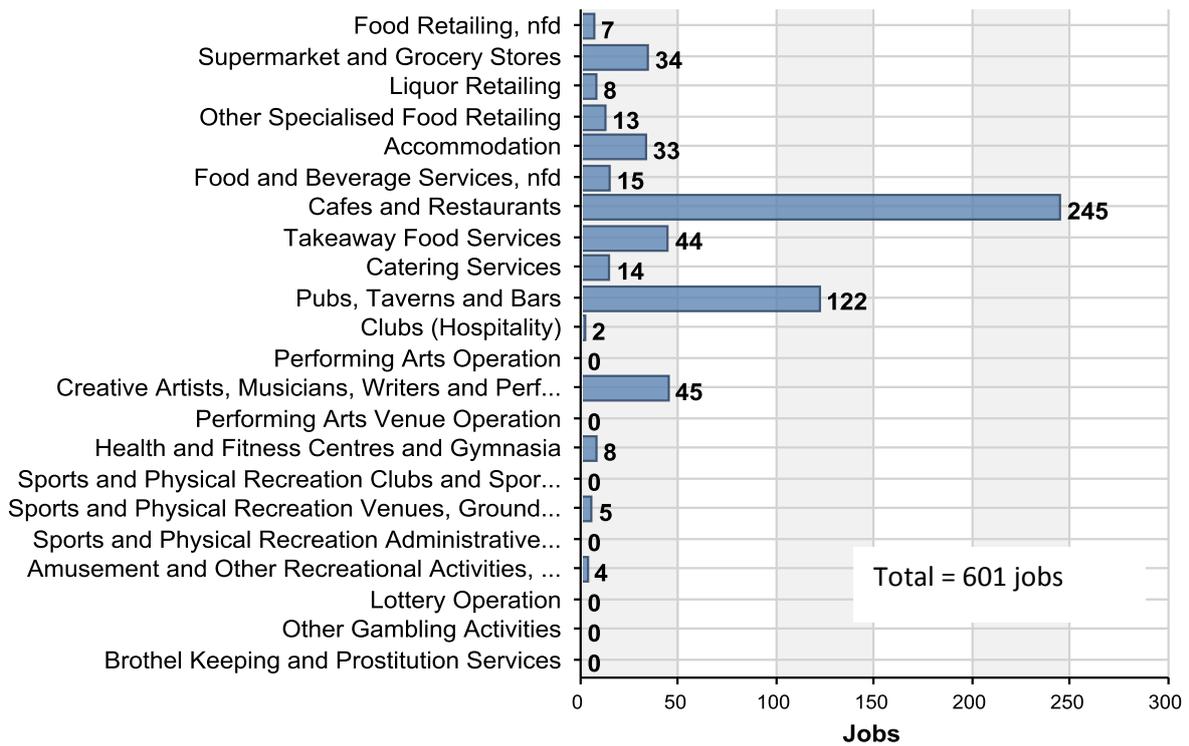


Figure 3-14 NTE-Specific Employment in Brunswick Street Precinct



Of the 1,002 people working in the Johnston Street precinct in industry sectors that have an expose to the NTE, it is estimated that 601 jobs (60 percent) specifically service the NTE. This represents 7.5 percent of total jobs in the Johnston Street precinct.

4 Cost Benefit Assessment of Yarra’s NTE

4.1 Benefits

Across the City of Yarra NTE precincts detailed in section 3, as well as Queens Parade at Clifton Hill, Rathdowne and Nicholson Streets in North Carlton, St Georges Road in North Fitzroy, Church Street in Richmond, and Johnston Street in Collingwood, the total number of people employed in industries with expose to the NTE is estimated at 5,049 jobs. *It is important to note that where precincts overlap, the number of jobs has only been counted once.*

Figure 4-1 Employment in City of Yarra Across All Precincts

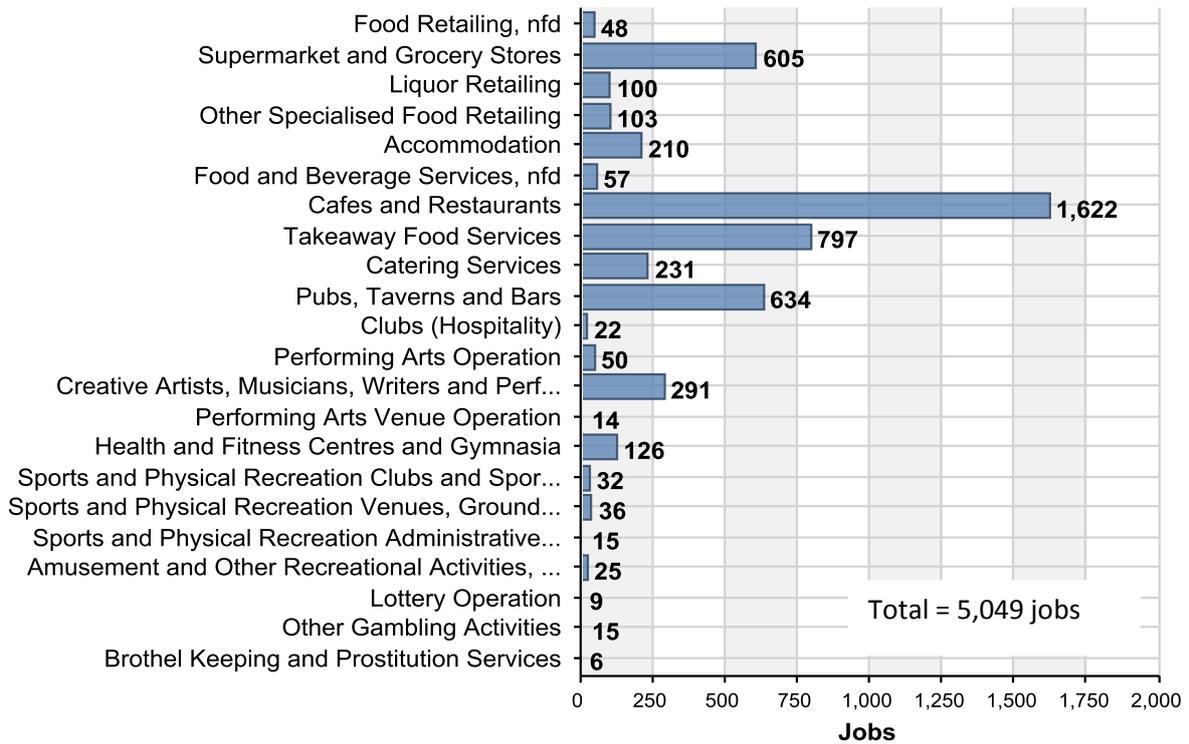
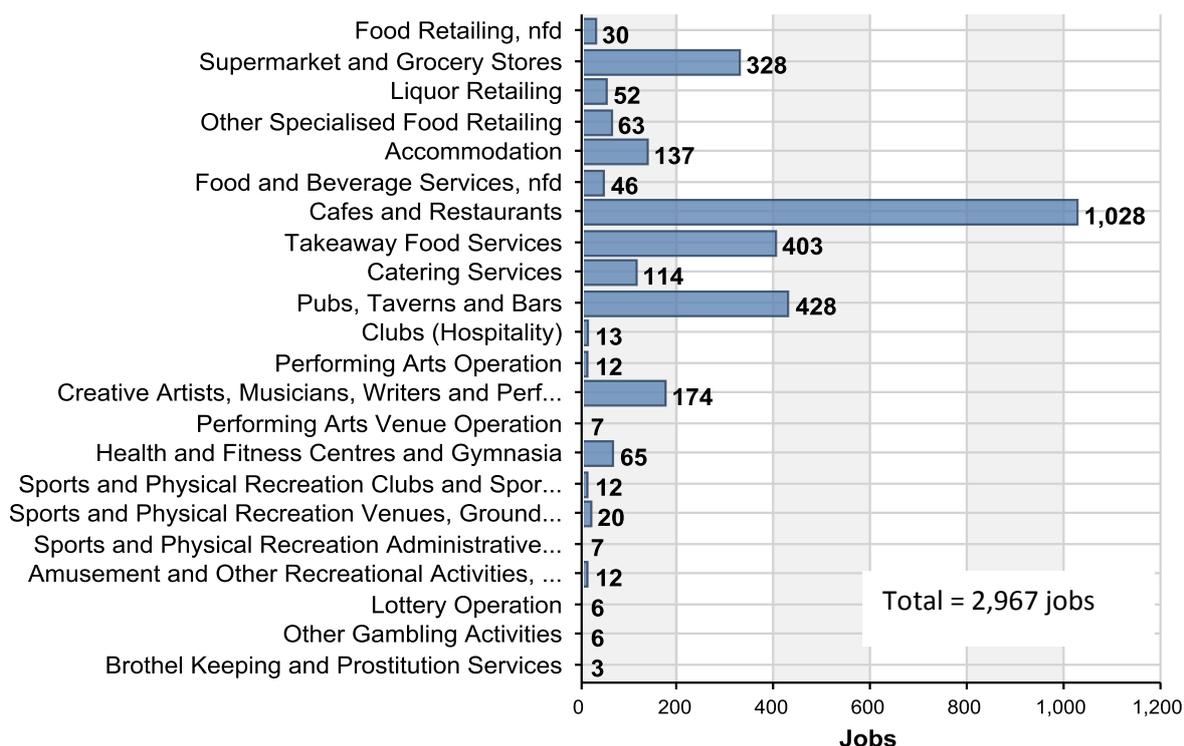


Figure 4-2 NTE-Specific Employment in City of Yarra



Of the 5,049 people working in the City of Yarra precincts in industry sectors that have an expose to the NTE, it is estimated that 2,967 jobs (59 percent) specifically service the NTE. This represents 8.4 percent of total jobs across the precincts.

The direct economic output generated by the NTE workers is estimated at \$333.14 Million per annum, or \$112,282 per worker. Once flow-on impact industrial⁷ and consumption⁸ impacts are taken into consideration the estimated contributions to the City of Yarra are higher again. The economic modelling results presented below have been generated by applying the direct NTE jobs to the REMPLAN⁹ model of the City of Yarra economy. The results are presented in terms of output¹⁰, employment¹¹, wages & salaries and value-added¹².

⁷ The increased output generated by servicing industry sectors in response to the direct change in output and demand.

⁸ As output increases, so too does employment and wages and salaries paid to local employees. Part of this additional income to households is used for consumption in the local economy which leads to further increases in demand and output

⁹ Regional economic modelling and planning system: www.remplan.com.au

¹⁰ Output data represents the gross revenue generated by businesses/organisations in each of the industry sectors in a defined region. Gross revenue is also referred to as total sales or total income.

¹¹ Employment data represents the number of people employed by businesses / organisations in each of the industry sectors. Employment data presented in this report is destination of work data. This employment represents total numbers of employees without any conversions to full-time equivalence. Retail jobs for instance represent typical employment profiles for that sector, i.e. some full time, some part time and some casual.

¹² Value-Added data represents the marginal economic value that is added by each industry sector in a defined region. Value-Added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector, or alternatively, by adding the Wages & Salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-Added by industry sector is the major element in the calculation of Gross Regional Product.

4.1.1 Economic Modelling Results

Figure 4-3 Economic Modelling Results, Benefits

| Impact Summary | Direct Effect | Industrial | Consumption | Total | Type 1 | Type 2 |
|--------------------------|---------------|----------------|----------------|------------------|------------|------------|
| | | Flow On Effect | Flow On Effect | | Multiplier | Multiplier |
| Output (\$M) | \$333.138 | \$156.941 | \$175.108 | \$665.187 | 1.471 | 1.997 |
| Employment (Jobs) | 2,967 | 537 | 714 | 4,218 | 1.181 | 1.422 |
| Wages and Salaries (\$M) | \$96.174 | \$37.462 | \$42.759 | \$176.395 | 1.390 | 1.834 |
| Value-Added (\$M) | \$150.449 | \$65.298 | \$95.402 | \$311.149 | 1.434 | 2.068 |

From the direct output of the Night Time Economy (NTE) of \$333.138 Million it is estimated that the demand for intermediate goods and services sourced from within the City of Yarra economy is valued at \$156.941 Million. These industrial effects include multiple rounds of flow-on effects, as servicing sectors' output creates further demand for local goods and services.

The direct and indirect output generated by the NTE support local jobs and the payment of wages and salaries to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are estimated at \$175.108 Million.

Total output associated with the NTE in the City of Yarra, including all direct, industrial and consumption effects, is estimated at up to \$665.187 Million. This represents a Type 2 Output multiplier of 1.997. That is, for every direct dollar generated by the NTE, a further \$0.99 is generated once flow-on industrial and consumption effects are taken into consideration.

The direct output generated by the NTE represents 1.86 percent of the total output generated in the City of Yarra. The industries that make the greatest contributions to the City of Yarra economy in terms of output are manufacturing (15.6 percent), professional, scientific and technical services (13.6 percent) and financial and insurance services (11.6 percent); *sectors that for this study are considered part of the Day Time Economy (DTE).*

4.2 Costs

There are various costs and negative impacts associated with night time activities such as health, noise and the policing of anti-social and criminal behaviour. Some of these negative 'side effects' or externalities are difficult to evaluate:

- Health, social and economic costs of excessive drinking and use of illicit drugs
- Noise and its impacts on residents ...*sleep, wellbeing, performance at work*
- Insurance and investments implications of anti-social and criminal behavior in an area

For the purpose of this study we have applied an approach that focuses on the relative role of the NTE in the context of the broader local economy and community, and the industry sectors that respond to the service the negative externalities associated with the NTE.

4.2.1 Public Service Costs

The City of Yarra and other government agencies bear a number of costs in relation to planning and managing the NTE.

- Administration
- Culture & Events
- Parks
- Community facilities
- Planning and urban design
- Transport and traffic management
- Cleaning and environment
- Safety
- Economic development
- Parking

4.2.2 Health Costs

Alcohol related activities, drugs, fights or accidents associated with the NTE lead to more hospital admissions. According to the Department of Health's report 'Reducing the alcohol and drug toll – Victoria's plan 2013 – 2017'¹³, in 2011 there were 26,000 alcohol and drug related emergency department presentations and over 290,000 hospital bed-days used to treat illness from alcohol and drugs. Admission rates for alcohol-related conditions – mainly alcohol dependence, acute intoxication and liver disease – have climbed for more than a decade across age groups. In 2010–11, there were nearly 7,000 alcohol-related ambulance call-outs, over 5,000 prescription-drug call-outs and nearly 2,000 heroin call-outs.

Within the City of Yarra there are a number of public and private hospitals and medical centres. The two major hospitals, St. Vincent's Hospital and Epworth Hospital are close to the city's main NTE hubs in Fitzroy and Richmond and have emergency departments (EDs). Epworth Hospital in Richmond has the largest private hospital emergency department in Victoria.

¹³ [http://docs.health.vic.gov.au/docs/doc/1D4BF7FF3C551C4DCA257AFD00707A93/\\$FILE/Reducing-AOD-toll.pdf](http://docs.health.vic.gov.au/docs/doc/1D4BF7FF3C551C4DCA257AFD00707A93/$FILE/Reducing-AOD-toll.pdf)

4.2.3 Policing Cost

Victoria's Alcohol Action Plan 2008-2013 estimated that between 41 and 70 per cent of violent crimes in Australia are committed under the influence of alcohol. During 2005-06 there were 24,157 Victorian offenders processed for assault. Twenty-six per cent of the assaults occurred during high alcohol hours (Friday or Saturday night) and a further eight percent during medium alcohol hours (Sunday through Thursday)¹⁴.

Victoria Police data shows that nearly two-thirds of assaults in Victoria between 8pm Friday to 6am Saturday and 8pm Saturday to 6am Sunday were alcohol-related. This is reflected in a recent survey by Yarra City Council where 17 percent of respondents reported feeling unsafe because of alcohol and drug related anti-social behaviour¹⁵.

4.2.4 Transport Costs

There are many transport options in the City of Yarra:

- Private Transport (including the passengers that are carried)
- Train
- Walk
- Bicycle
- Tram
- Bus
- Taxi

In relation to public transport, as the costs are covered by the revenue received from fare payers, it can be argued that only the proportion of publicly delivered transport services subsidised by government should apply to the assessment of NTE costs. Apply the same rationale, private transport, taxis, walking and cycling should also be excluded as they do not place a substantial burden on the public purse.

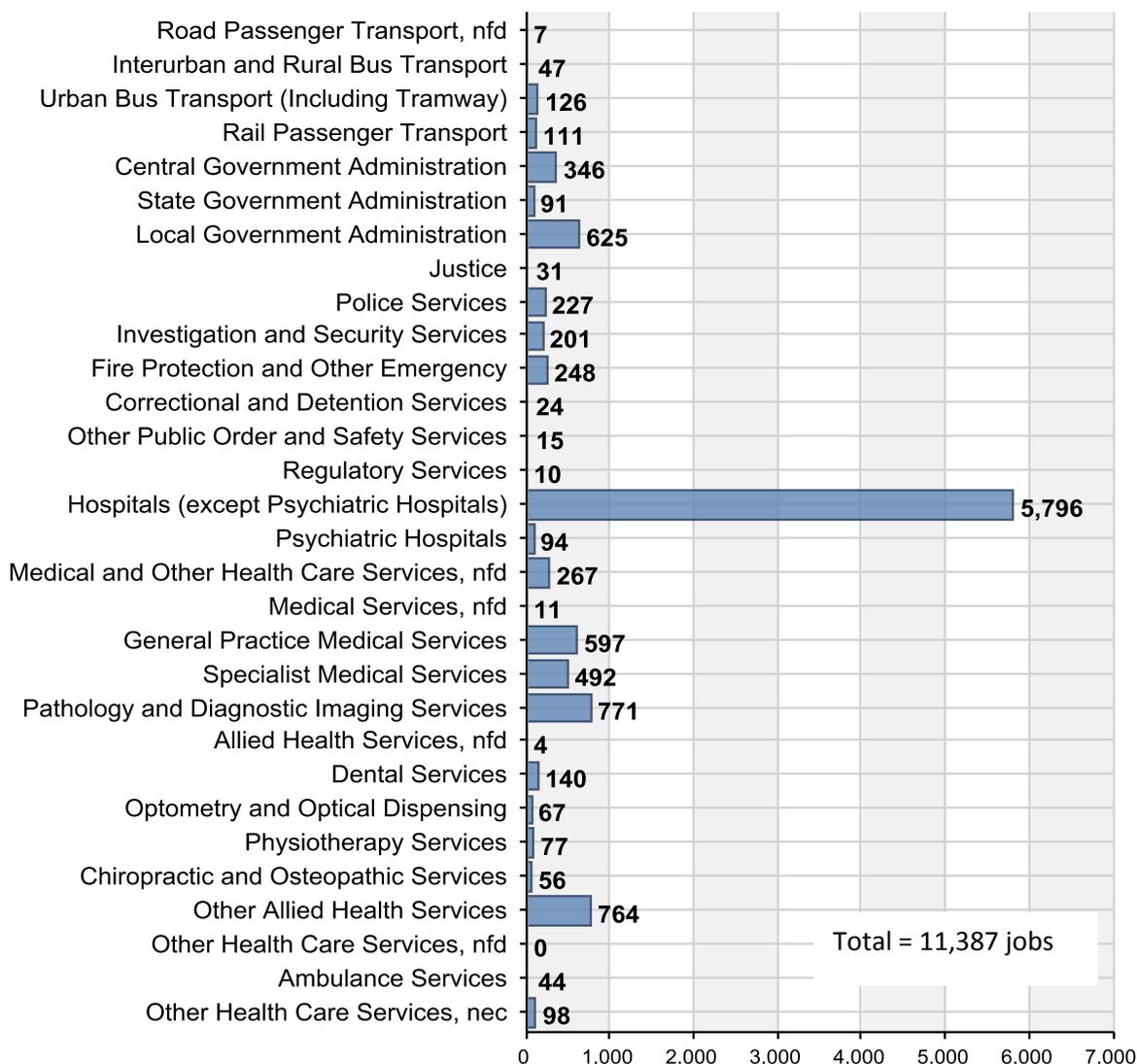
4.3 Cost Estimates

The NTE supports 2,967 jobs, which represents 8.4 percent of total jobs across the precincts defined in map 2-1, and 4.4 percent of jobs across the entire City of Yarra local government area. The NTE precincts combined with the various events staged in the City of Yarra deliver economic benefits to neighbouring municipalities. Likewise, many of costs of the NTE are also borne outside of the City of Yarra. These external benefits and costs are outside the scope of this study. In relation to public service costs, health costs, policing costs and transport costs, the industry sectors delivering these services employ the following numbers of people in the City of Yarra.

¹⁴ State Government of Victoria, Victoria's Alcohol Action Plan 2008-2013

¹⁵ <http://www.yarracity.vic.gov.au/DownloadDocument.aspx?DocumentID=8529>

Figure 4-4 Service Delivery Employment – City of Yarra



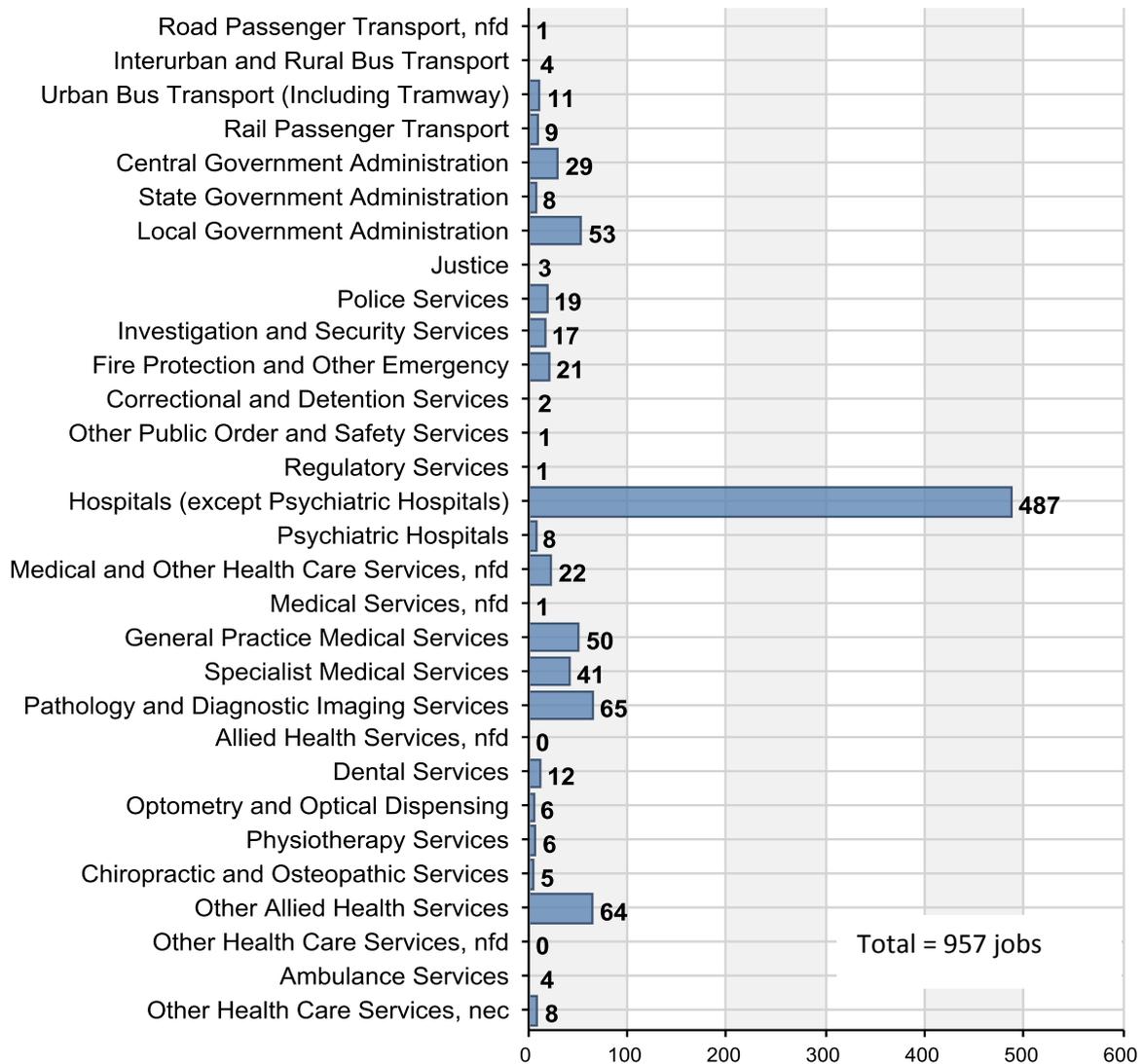
On the cost side of the equation it is estimated the industry sectors with exposure to the NTE employ 11,387 people. These industries do not however operate exclusively at night and so to varying degrees also service the Day Time Economy (DTE).

Based on the proportionate contribution of the NTE to total employment of 8.4 percent¹⁶, it is assumed that a similar proportion of total employment applies to the industries sectors on the cost side detailed above.

It could be argued that a higher percentage might apply on the cost side given that the NTE services many more people than it employs, however this characteristic applies to all industry sectors to varying degrees.

¹⁶ Within the precincts detailed in map 2-1

Figure 4-5 NTE-Specific Employment in City of Yarra (Cost Side)



Of the 11,387 people working in the City of Yarra in industry sectors that have an expose to the NTE (on the cost side), it is estimated that 957 specifically service the NTE. The estimated direct economic costs¹⁷ are detailed below.

Figure 4-6 Economic Modelling Results, Costs (Direct Only)

| Impact Summary | Direct Effect |
|--------------------------|---------------|
| Output (\$M) | \$120.017 |
| Employment (Jobs) | 957 |
| Wages and Salaries (\$M) | \$60.145 |
| Value-Added (\$M) | \$75.146 |

¹⁷ The delivery of services in response to the negative externalities of the NTE is presented in this framework as a cost. These activities could also be viewed as a stimulus and economic benefit for the local economy.

The direct output generated by the 957 people servicing the NTE is estimated at \$120.017 Million, or \$125,410 per worker.

5 Benefit – Cost Ratios

5.1 Employment

Benefit: 2,967 Jobs
Cost: 957 Jobs

Benefit Cost Ratio: 3.1 : 1

5.2 Output

Benefit: \$333.1 Million
Cost: \$120.1 Million

Benefit Cost Ratio: 2.8 : 1

5.3 Wages & Salaries

Benefit: \$96.2 Million
Cost: \$60.2 Million

Benefit Cost Ratio: 1.6 : 1

5.4 Value-Added

Benefit: \$150.5 Million
Cost: \$75.2 Million

Benefit Cost Ratio: 2.0 : 1