



**Baw Baw Shire Council**  
**Yarragon CBD Parking Study**  
**August 2016**  
**Final Report**

## Executive Summary

Council initiated the Yarragon CBD Parking Study due to the need to review current adequacy and effectiveness of the parking within the Yarragon CBD.

The objectives of the parking study are to:

- Provide an effective parking regime with appropriate time limitations;
- Adapt current parking arrangements to suit current business needs; and
- Review the capabilities of current and future parking supply to cater for future population growth.

The Yarragon CBD Study Area consists of **451** defined parking spaces. The survey was conducted over **five** days in which information was collected every **hour** within the study area. The data range was collected between the period 8am – 6pm (the last reading) to determine parking occupancy rate. The maximum average occupancy rate achieved for each day over the study area in general is shown below:

- Monday 7<sup>th</sup> Dec 2015            48% Occupancy
- Wednesday 9<sup>th</sup> Dec 2015    57% Occupancy
- Friday 11<sup>th</sup> Dec 2015        58% Occupancy
- Saturday 12<sup>th</sup> Dec 2015     54% Occupancy
- Sunday 13<sup>th</sup> Dec 2015       56% Occupancy

On any given day, the peak occupancy rate was detected at approximately at 12pm. The peak occupancy on Sunday was at 1pm. This peak caused parking in the study area to become just over half-full (up to a maximum of 58% average occupancy rate on the Friday at 12pm).

Within the Yarragon CBD area, there was greater demand for short term parking than long term parking. Yarragon has parking needs that are unique due to one of the major function of the town catering to a large number of tourists that travel along the Princes Freeway. The average occupancy rates for 1P areas was 56% and for 2P areas, 72%, and the 3P long vehicle parking occupancy rate was 30%. The occupancy rates for the unrestricted areas within the study areas was comparatively lower with 21%. It was noted that there was a high number of overstays detected during the study period over the total of five days as indicated below a total of 306 overstays:

- 1P – 238 overstays
- 2P – 66 overstays
- 3P – 2 overstays

There was a total of 306 overstays detected during the week where parking turnover was not operating at its optimum and may also indicate the behavioural consequence of limited parking enforcement. Based on the study findings and feedback received from the wider community the following recommendations are proposed:

## **Recommendations**

### **Recommendation 1: Increase parking enforcement on a regular basis and develop an educational plan for parking best practice.**

Council to provide an enforcement regime to assist with increasing parking turnover in the 1P, 2P and 3P restricted areas. It is envisioned that increase in parking enforcement will likely result in the higher turnover of short term parking and thus maximise opportunity to optimise use of underutilised unrestricted parking. It is also recommended that education be included in assisting the community with good parking practices.

### **Recommendation 2: Undertake improvement of existing disabled parking spaces to meet Australian Standards and user needs.**

It is recommended that the existing disabled bays are altered to comply with Australian Standards. The works would include installing or updating line marking, bollards, shared zones, ramps and standard dimensions, installation of new disabled bays or the relocation of existing disabled bays where appropriate).

### **Recommendation 3: Augment Council's parking directional signage.**

Council to improve parking directional signage throughout Yarragon CBD and rationalise or provide additional signage where needed to increase the effectiveness of existing signage.

### **Recommendation 4: Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for the potential future growth of the town.**

Council to advocate with PTV for improved public transport connections and need for strategic planning for potential growth of the town, in particular the railway station car parking. Advocate to VicTrack to investigate areas for provision of additional railway station car parking at a future time as the town grows.

### **Recommendation 5: Review Parking conditions within Yarragon CBD in 5 years' time (2021) to determine parking demand based on town growth.**

Council to review parking within the Yarragon CBD study area to determine any changes that are warranted regarding parking demand based on population and development growth within the township in 5 years time. An example of this could be when rezoned residential areas are fully developed resulting in increased population and demand for parking in Yarragon CBD area.

### **Recommendation 6: Council to lobby with VicRoads to improve truck parking facilities along Princes Highway including developing town specific action plans**

It is recommended that Council continue to liaise with VicRoads to identify and formalise truck parking areas and associated facilities along Princes Highway in particular near the

Yarragon town centre area. Council to also work with VicRoads and the local community to develop town specific action plans to encourage drivers to use in-town facilities as per the Victorian Rest Area Strategy.

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## 1.0 Introduction

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### 1.1 Background & Study Objectives

The Baw Baw Shire Council has undertaken the Yarragon CBD Parking Study with a view to formulating a range of actions that address the current and future parking needs of residents, businesses and visitors to Yarragon CBD. Based on community concerns regarding population growth and parking availability within Yarragon, the parking study has been initiated for Yarragon CBD.

The key objectives of this Parking Study are to:

- Provide an effective parking regime with appropriate time limitations;
- Adapt current parking arrangements to suit current business needs; and
- Review the capabilities of current and future parking supply to cater for the expected population growth.

### 1.2 The need for the Yarragon CBD Parking Study

Baw Baw Shire Council is growing rapidly at an annual rate of 2.89% and population modelling expects the population of Baw Baw Shire to grow to 60,452 by 2026 and 71,683 by 2036<sup>1</sup>. There has been a spike in subdivision approvals in Baw Baw and most notably, the townships within Baw Baw are growing including Yarragon with new residential developments on the south, west and eastern boundary of the town.

The project population growth of Yarragon 2011 to 2036 was 998 persons to 1,498 (an increase of 500 residents).

### 1.3 Yarragon CBD Parking Study Area

The area of focus for the Yarragon CBD Parking Study includes the major retail and office areas of Yarragon CBD and its closely surrounding areas of similar usage. The study area, chosen as the CBD area, includes the area bounded by Loch Street (western boundary), Waterloo Road (northern boundary), Campbell Street to the Public Hall (southern boundary) and Rollo Street to the Princes Highway service road to the service station (eastern boundary). The chosen study area is a best representation of the high traffic areas in Yarragon CBD, with high traffic generally arising from the office and retail floor space in the vicinity, which attracts both employees and customers as well as a high number of visitors who require parking spaces.

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<sup>1</sup> Baw Baw Shire Council Settlement Plan, August 2013, Page 4

Parking spaces within the CBD area consist of a mix of on street and off street areas. Off street parking is located within a number of public car parks behind the main strip of shops.

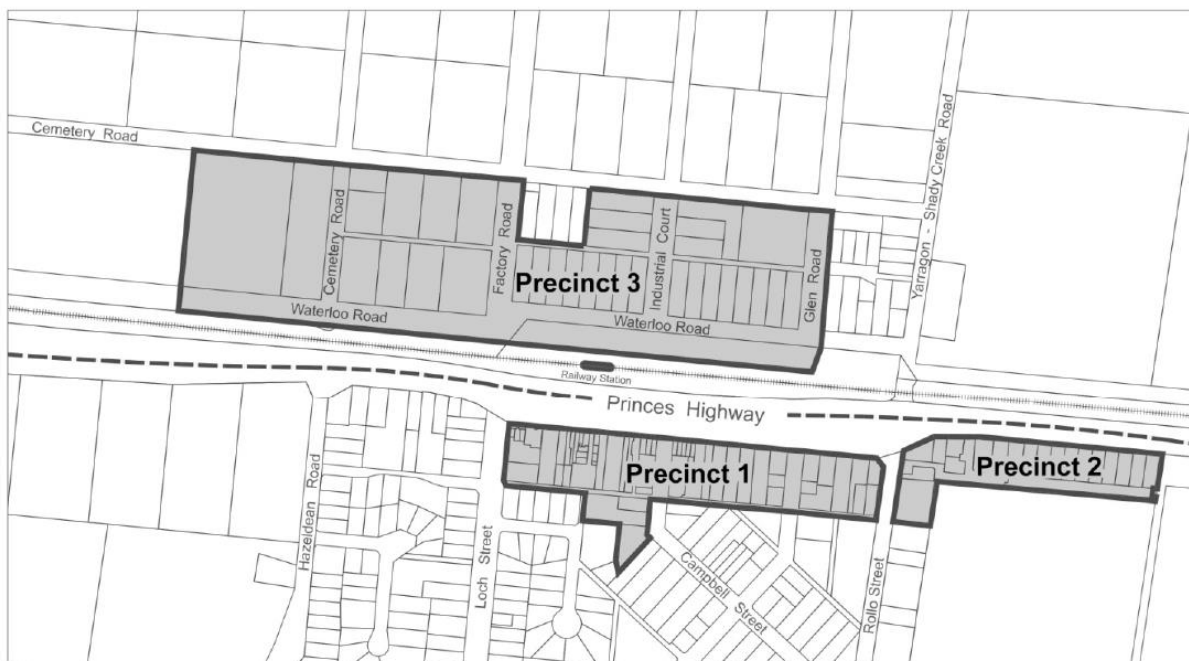
The boundaries of the Yarragon CBD parking study area are shown in Figure 1. This parking study has focused solely on the commercial and industrial Yarragon CBD area. Although public consultation requested parking round schools and make use of the redundant school site in Rollo Street, parking in the vicinity of schools will be investigated as a separate project at a future time.

Yarragon is presented with unique parking needs due to the different type of visitors that it attracts into its CBD. There are three main precincts within the Yarragon CBD according to the Baw Baw Planning Scheme:

- **Precinct 1 – Boutique retail, tourism, offices, restaurant and arts**
- **Precinct 2 – Offices, bulky goods, business and commercial services**
- **Precinct 3 – Industrial**

Visitors conducting a wide range of activities will require parking areas to fulfil their differing parking needs e.g. short term parking or longer term parking.

#### PLAN 1 – Precinct Plan



#### LEGEND

- Precinct 1- Boutique retail, tourism, offices, restaurants and arts
- Precinct 2 - Offices, bulky goods, business and commercial services
- Precinct 3 - Industrial



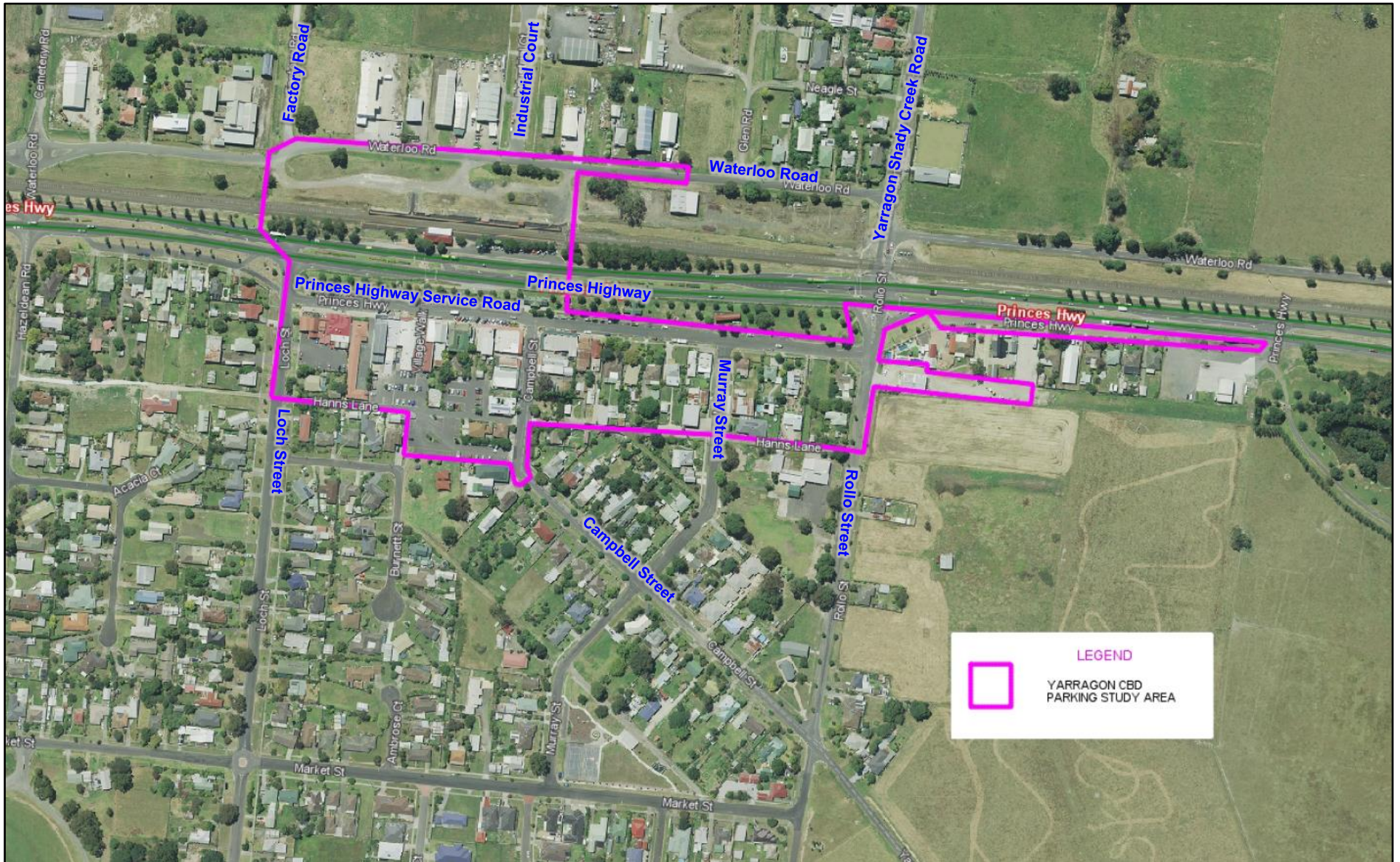


Figure 1 Yarragon CBD Parking Study Study Area

## 2.0 Background

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### 2.1 Baw Baw Shire and Yarragon CBD profile

Baw Baw Shire is located approximately 100km east of Melbourne and is regarded as a peri urban council. As such, Baw Baw Shire is neither completely urban nor rural, but forms a mix of residential and agricultural land uses.

Baw Baw Shire attracts 14,222 workers to the area with 83.2% living and working in the area the remaining 16.8% travelling to Baw Baw Shire from outside the municipal area.

Yarragon is a small town located along the Princes Highway in between the townships of Darnum and Trafalgar. According to the 2011 census, Yarragon had a population of 998 residents which was projected to grow to 1,343 in 2026 and 1,498 in 2036 (a growth rate of 1.7%). Yarragon's growth rate would be considered moderate compared to the high growth rate of the more major towns of Warragul and Drouin where the growth rates are high with 2-3%.

The data from the Australian Bureau of Statistics shows Trafalgar and Yarragon's populations both increased by 35 per cent. Yarragon is among the five most populous towns in Baw Baw, which also includes the townships of Warragul, Drouin, Trafalgar and Longwarry.

'Yarragon is the fourth largest town in the Baw Baw Shire and is mostly residential, with a strong tourist-oriented shopping destination, recreation facilities, school, hall and industrial and commercial land. It is located amidst farmland, with the floodplain of the Moe River to the north and the north face of the Strzelecki Ranges to the south. Most buildings date from the 20th century, and while detached housing in established gardens is the predominant streetscape, buildings with heritage significance add character to the town'<sup>2</sup>.

Yarragon CBD's main employment industries include construction, health and community services, education and training as well as retail trade. These businesses service Yarragon CBD's population of 998 (2011, Census).

Baw Baw Shire's peri urban nature combined with Yarragon CBD's limited public transport options results in vehicular transport being the main mode of transport throughout Baw Baw and Yarragon CBD.

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<sup>2</sup> *Baw Baw Planning Scheme*

## **2.2 Policy documents and previous studies**

In completing this report, a number of key documents have been reviewed in order to ensure any recommendations and directions align with the objectives of both Council's Plan and its policies. These key documents include but are not limited to the;

- Baw Baw Shire Council Integrated Transport Plan (2011)
- Baw Baw 2050
- Council Plan 2013-17
- Walk Cycle Baw Baw 2014
- Baw Baw Planning Scheme
- Settlement Management Plan (August 2013)
- Yarragon Structure Plan 2010
- VicRoads Rest Area Strategy

## **2.3 Sustainable Transport Options in Yarragon CBD**

### **2.3.1 Walking and Cycling**

Yarragon CBD has an appreciable footpath network within the CBD. Footpaths and dedicated pedestrian crossing points are provided on both sides of the road within the large majority of the CBD area including pedestrian operated signals on Princes Highway for pedestrian access to the Yarragon Railway Station. There was one short footpath link that was constructed by Council as part of the capital works budget FY 2015/16 on Yarragon Leongatha Road. This location was identified as a high priority location where a footpath connection would improve accessibility within the township. Given that Yarragon is still a relatively small town, many residents still live within walking distance to the CBD.

Part of the Baw Baw Shire Council's *Walk Cycle Baw Baw 2014* vision in part aims to strategise improved walking and cycling facilities priorities guided by the following principles:

- Safety – improve safety of walking and cycling infrastructure
- Priority – ensure priority given to walking and cycling transport
- Connections – Inter-Town – ensure citizens can walk and cycle to main centres
- Connections – Intra-Town – ensure citizens can walk and cycle between townships
- Behaviour – Provision of infrastructure, facilities and information promotes acceptance of walking and cycling as a mainstream behaviour and culture

The existing transport system into Yarragon CBD is focused on motor vehicle transport, however given that it is a relatively compact township, pedestrian activity into the main shopping and business hub is vibrant.

### **2.3.2 Public Transport**

The existing transport system into Yarragon CBD is focussed on motor vehicle transport, however given that it is a relatively compact township, pedestrian activity into the main shopping and business hub is vibrant.

Public transport connects the major towns of Baw Baw Shire to the Latrobe Valley and Melbourne, including Yarragon CBD along the Princes Freeway Corridor by Public Transport Victoria (PTV). PTV also has coach bus service from Pakenham to Traralgon that runs through the township of Yarragon. At present Baw Baw Shire is serviced by V/Line Corporation, which provides public train services connecting Gippsland to Melbourne. Services are available from approximately 5am to 9pm with trains arriving at hourly intervals throughout the day. Service intervals times decrease to cater for the morning and afternoon peak.

Travel to and from Yarragon by bus is serviced by Warragul Bus Lines on the 5072 Moe to Warragul route which bypasses the regional townships of Yarragon East, Yarragon, Darnum, Nilma to Warragul. Although public transport links exist within Baw Baw Shire, there remains

a large reliance on cars for transport between towns from the areas not serviced by public transport.

Public Transport Victoria has developed a Victorian Regional Network Development Plan (VRNDP) that invited the public to offer comments regarding the future of public transport in regional Victoria. Over 15,000 responses were received from across Victoria on what was most important in planning for public transport over the next 20 years. The public consultation was held in late 2015 and the main comments provided by the Gippsland community were for '**more frequent services, better connections to smaller towns and improved accessibility**'.

Gippsland line trains leaving Melbourne between 4pm and 6.30pm

Departs	To	Arrives	Seats	Average capacity
15:19	Traralgon	17:40	222	97%
16:16	Traralgon	18:38	233	99%
16:58	Traralgon	19:11	222	100%
17:37	Traralgon	20:21	267	56%
18:34	Bairnsdale*	22:18	263	59%

Gippsland line trains arriving in Melbourne, Southern Cross before 9am

Departs	From	Arrives	Seats	Average capacity
04:36	Traralgon	06:58	235	53%
05:27	Traralgon	07:30	222	67%
05:57	Traralgon	08:23	222	74%
06:37	Traralgon	08:48	222	79%
07:20	Traralgon	09:37	222	70%

Based on a performance review by VLine in November 2015, carriage capacity was reviewed based on customer trips and the figures below show the seats occupied at the busiest point of the journey along the Traralgon train line. City bound services have available capacity from the originating station and will become busier the closer the train gets to Melbourne.

The Victorian Transport Minister released the VRNDP strategy to upgrade public transport in regional areas on 30 May 2016 in Warragul which included short term (0-5 years), medium term (5-10 years) and long term (10+ years) priorities.

The VRNDP strategy for this region included increase in services, quicker travel times, punctual and reliable services. There are currently considerations for two additional train services would run from Gippsland to Melbourne in the FY 2016/17 as well as develop plans to duplicate single tracks between Bunyip and Longwarry and create passing loops along the line between Moe and Traralgon and Sale and Sale and Bairnsdale. Council is committed to advocating for better public transport not just for east/west connections but also for north/south connections.

## 3.0 Community Input

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### 3.1 Introduction

Public consultation is key in determining both users expectations and developing measures to create an effective parking regime.

Prior to the commencement of the parking survey data collection in December 2015, Council undertook initial public surveys in November 2015 through Council's 'Have Your Say' process. Further, public exhibition of the draft report was undertaken from 4 July 2016 to 1 August 2016.

This survey served as an open forum for wider community and key stakeholders to express their concerns in regards to parking within Yarragon CBD.

### 3.2 Key Stakeholder Comments

Council consulted with the two key stakeholders in Yarragon - the Yarragon and District Association Inc. and the Yarragon Business Association (YBA). Council officers attended the YBA meeting held on 23 November 2015 at 6pm) to obtain feedback. The general theme of comments provided to Council are summarised below:

- Study results could be skewed due to study conducted in December.
- Increase railway station car parking - can the parking on Waterloo Road be upgraded (the VicTrack vacant land to be developed into a car park?).
- Increase in directional signage to indicate where the parking areas are behind the shops especially advising people of where caravan and long vehicle parking are located.
- Sundays to be included in the survey as it is the busiest day of the week due to tourists .
- Lack of enough car parking spaces and additional areas for parking required.
- Inclusion of the section of car park to the east of Rollo Road (private car park).
- Request for more enforcement.
- A signage audit to be done.

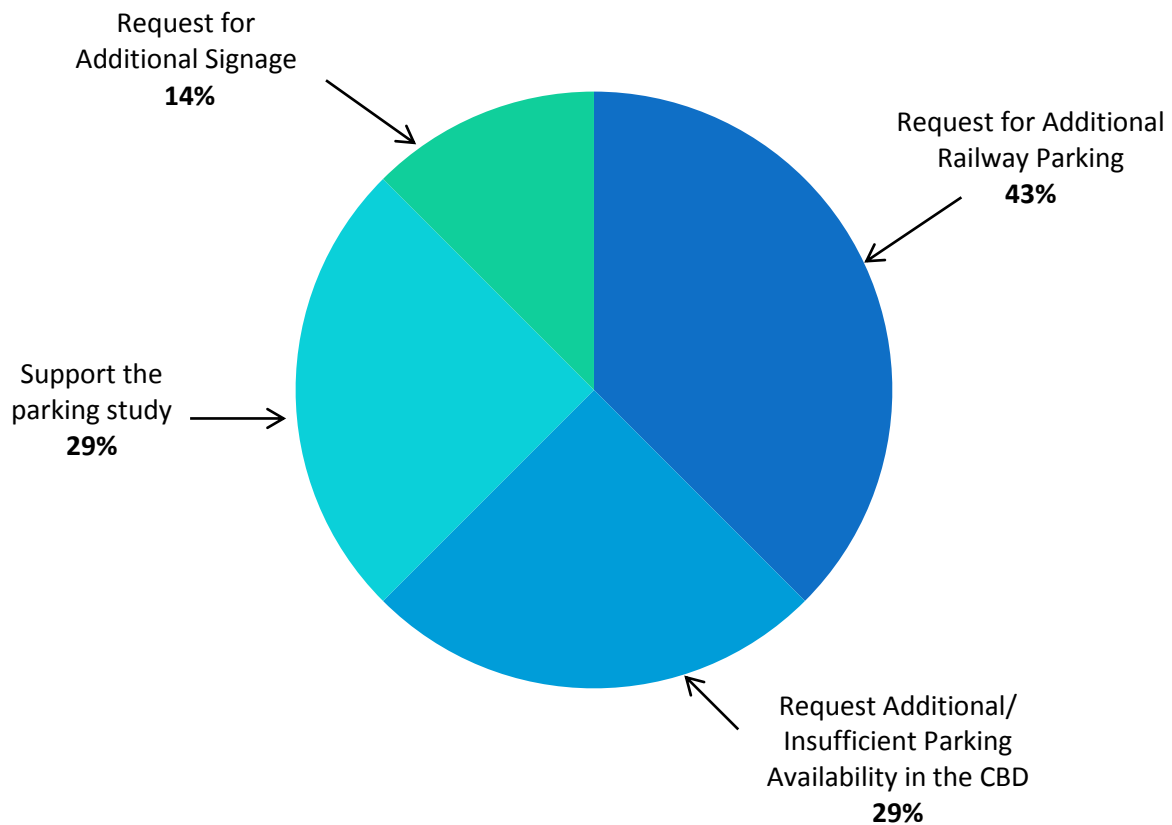
The 'Have Your Say' public consultation period for the Yarragon CBD Parking study was conducted from Tuesday 3 November to Friday 1 December 2015. Consultation letters dated 9 November 2015 to key stakeholders within the CBD area were hand delivered. Council also consulted with VicRoads and VicTrack for comments.

In total, eight responses were received during the public consultation period, where residents, business owners and stakeholders outlined their concerns about parking in the

Yarragon CBD area. Concerns were raised by participants on a number of issues, namely the amount of available railway station car parking, request to look into additional areas for car parking for the future, and inadequate signage.

There were eight comments received from the general public regarding the parking study. A breakdown of the comments received from the public consultation is as shown in the figure below. Please note many responses contained one or more of these categorised types of concerns in their responses so the most prominent concerns has been noted for data analysis purposes.

**Figure 2 Compilation of public survey comments**



Only two comments were received during the public exhibition period for the draft Yarragon CBD Parking Study report.



## 4.0 Parking Surveys

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### 4.1 Introduction

The current demand for parking within the study area originates from a range of land use types. Within the CBD area, the parking user types include employees and visitors to retail, services stores and office workers who require parking close to work. The CBD area land use consists of supermarkets, restaurants, cafes, medical centres, local businesses, tourism retail outlets and public halls.

The parking study area in Yarragon CBD extends to Loch Street to the west, Waterloo Road to the north, Rollo Street and the Princes Highway Service Road to the east, and just past Hanns Lane to the south. The study area has also included the industrial zone in the north along Waterloo Road.

The study area included 451 spaces for review. These included **208** on street spaces and **243** off street parking spaces consisting of publicly owned parking and private parking such as but not limited to the Hotel private parking of where there are six reserved parking spaces for Hotel patrons. The existing parking restrictions within the study area in Yarragon CBD are shown as per Figure 3.

### 4.2 Car parking surveys

Comprehensive parking surveys were undertaken to understand existing trends and future parking requirements in the study area. The parking surveys were completed over the course of 5 days, during the week starting on Monday 7<sup>th</sup> December 2015, from 8:00AM–6:00PM. The data was collected at hourly intervals for all 451 individual parking spaces.

Figure 3 Yarragon CBD Parking Study Study Area – Parking Restrictions



### 4.3 Exiting Parking Supply

#### 4.3.1 Overview

While both public and active transport modes should be encouraged to not only promote a healthy lifestyle but also reduce the demand on parking, it is noted that the major mode of travel to and from Yarragon CBD will remain as private motor vehicles. Walking and cycling are also highly acceptable options for many residents living within walking distance to the CBD.

The dependency on motor vehicles is likely to continue throughout the towns of Baw Baw Shire including Yarragon CBD with the peri urban landscape by nature having limited public transport options. As such, there is a requirement for a substantial mix of parking supply to be provided and managed to best suit current and future business and community needs.

#### 4.3.2 Review of Parking Restrictions

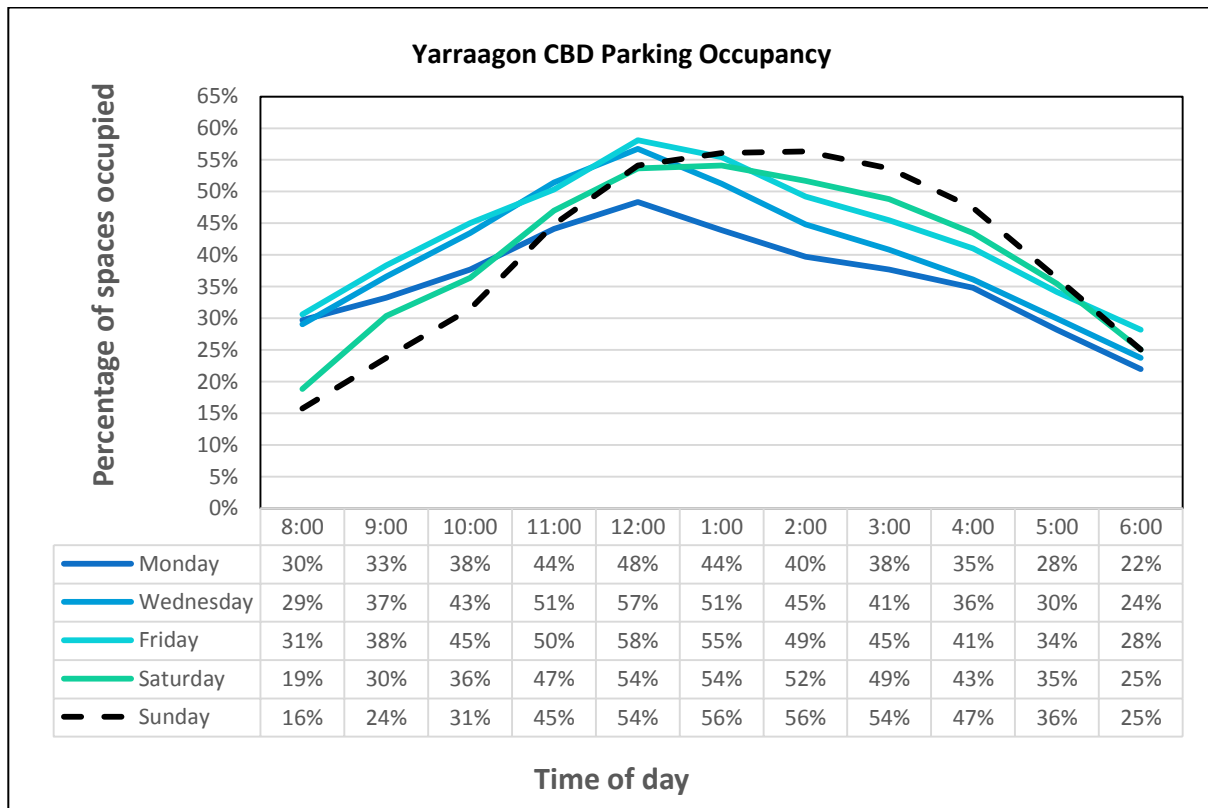
Table 1 shows the parking supply by restriction type in the Yarragon CBD area. The majority of the parking supplied within the CBD area is unrestricted parking, making up 74.1% of all available car parking. This is a very high supply compared to the next largest supply for 1P parking which makes up 12.9% of all available parking. The parking study analysis will show further in the document the greatest demand for parking by restriction type and the duration of stay of most patrons to the CBD area.

**Table 1 Supply of Parking by Restriction Type**

Parking Restriction	YARRAGON CBD AREA	
	Supply	% of Total Supply
1P	58	12.9%
2P	31	6.9%
Disabled	6	1.3%
Hotel Reserve Parking	6	1.3%
3P Long Vehicle	4	0.9%
No Stopping (Part Time)	12	2.7%
Unrestricted	334	74.1%
Total	451	

### 4.3.3 Total Study Area Occupancy Rates

Within the study area the total average occupancy rates were determined.



**Figure 4 Daily profile of parking demand for on street parking in the CBD area**

As evident in the figure above, it was observed that the highest occupancy rate was recorded at 55% during the lunch time period 12:00pm – 1:00pm for the Yarraagon CBD parking area as a whole.

Generally, on any day, peak occupancy rates were recorded during lunch time with occupancy rates between 48% - 58%.

*Please refer to Appendix A for detailed occupancy rates per day by hourly intervals for the entire study as a whole.*

#### 4.4 Parking Supply and Demand Analysis

Table 2 below highlights parking supply and associated occupancy rate by parking restriction for the whole study area. The values shown in the table represent the average and highest average occupancy rate determined at any given time for each unique parking restriction.

**Table 2 Peak Parking Demand and Supply in Yarragon CBD**

Parking Restriction	YARRAGON CBD Average Occupancy Rates		
	Supply	Average Daily Occupancy (over 5 days)	Highest Daily Occupancy
Unrestricted	334	36%	76%
2P	31	72%	80%
1P	58	56%	76%
Disabled Bays	6	32%	47%
Hotel Reserve Parking	6	6%	62%
3P Long Vehicle Parking	4	30%	45%
No Stopping (Part Time)/ Mobile Library Library	12	25%	33%
<b>TOTAL</b>	<b>451</b>	<b>37%</b>	<b>59%</b>

From the table above, it can be noted that:

- There is a large supply of long term / unrestricted parking (334 spaces) within the study area (includes the off street car parks on Hanns Lane and most off street areas on Loch Street, Rollo Street, Waterloo Road, parts of Campbell Street, Murray Street and Princes Highway Service Road).
- Unrestricted parking make up almost 74.1% of all available car parking within the Yarragon CBD parking study area with an average occupancy rate of 36%.
- 1P restricted parking is located on street along the south side of the Princes Highway Service Road and Campbell Street with a total of 58 spaces with average occupancies of 56%.
- 2P restricted parking is located on street on the north side of the Princes Highway Service Road between Loch Street and Campbell Street and on the south side of the Princes Highway Service Road between Campbell Street and Murray Street. There is the greatest demand for the 2P restricted spaces (average of 72% occupancy rate) are simply due to the proximity to amenities along the Princes Highway Service Road.

*Please refer to Appendix B for spatial representation of average occupancy rates for each study date*

## 4.5 Observed Parking Trends

### 4.5.1 Duration of stay

Determining the duration of stay is critical to assessing the effectiveness of a parking regime as it determines how appropriate current parking restrictions are to business needs. The graphs below illustrates the observed duration of stays over the **entire study area** during each day over the study period (8am – 6pm). The first reading was taken at 8am and any vehicles parked at this time was included in the 1<sup>st</sup> hour (from 7am).

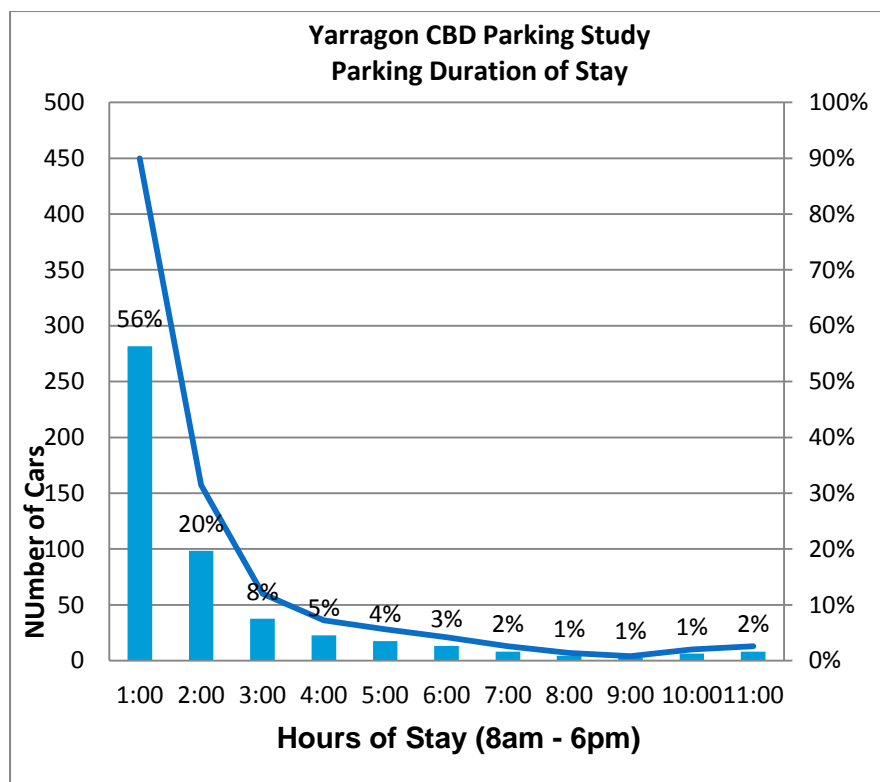
#### 4.5.1.1 Monday 7<sup>th</sup> December 2015

There was a total turnover of 799 vehicles over the course of the day. About 56% of all vehicles parked for 1 hour or less within the study area, 20% staying 2 hours or less and 8% staying 3 hours or less. There was a total of 13 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

**Table 3 Observed Duration of Stay (Hours) – Monday 7<sup>th</sup> December 2015**

Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Total Turn Over	799	799	799	799	799	799	799	799	799	799	799
Vehicles @ DOS	450	157	60	36	28	21	13	7	4	10	13
Percentage	56%	20%	8%	5%	4%	3%	2%	1%	1%	1%	2%

**Figure 5 Observed Duration of Stay (hours) – Monday 7<sup>th</sup> December 2015**



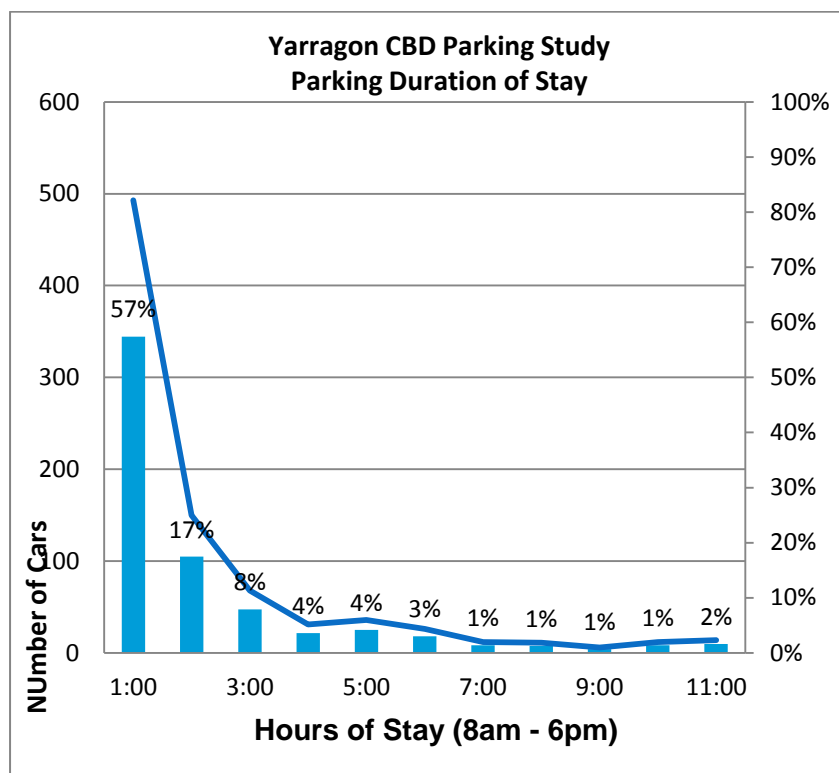
#### 4.5.1.2 Wednesday 9<sup>th</sup> December 2015

There was a total turnover of 859 vehicles over the course of the day. About 57% of all vehicles parked for 1 hour or less within the study area, 17% staying 2 hours or less and 8% staying 3 hours or less. There was a total of 14 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

**Table 4 Observed Duration of Stay (Hours) – Wednesday 9<sup>th</sup> December 2015**

Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Total Turn Over	859	859	859	859	859	859	859	859	859	859	859
Vehicles @ DOS	493	150	68	31	36	26	12	11	6	12	14
Percentage	57%	17%	8%	4%	4%	3%	1%	1%	1%	1%	2%

**Figure 6 Observed Duration of Stay (hours) – Wednesday 9<sup>th</sup> December 2015**



#### 4.5.1.3 Friday 11<sup>th</sup> December 2015

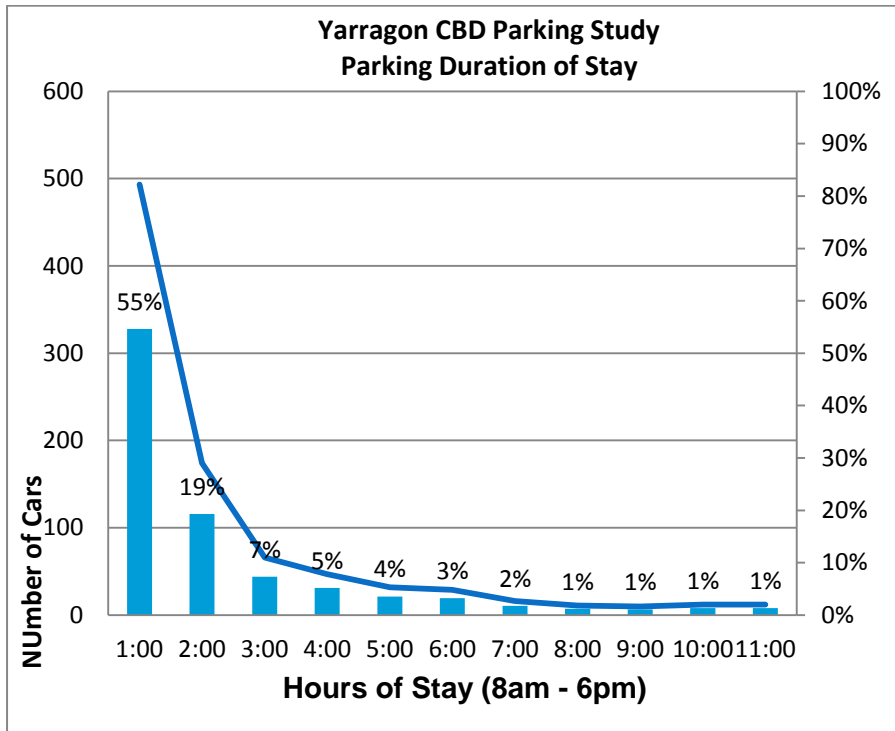
There was a total turnover of 902 vehicles over the course of the day. About 55% of all vehicles parked for 1 hour or less within the study area, 19% staying 2 hours or less and 7% staying 3 hours or less. There was a total of 12 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

**Table 5 Observed Duration of Stay (Hours) – Friday 11<sup>th</sup> December 2015**

Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Total Turn Over	902	902	902	902	902	902	902	902	902	902	902

Vehicles @ DOS	493	174	66	47	32	29	16	11	10	12	12
Percentage	55%	19%	7%	5%	4%	3%	2%	1%	1%	1%	1%

Figure 7 Observed Duration of Stay (hours) – Friday 10<sup>th</sup> December 2015



#### 4.5.1.4 Saturday 12<sup>th</sup> December 2015

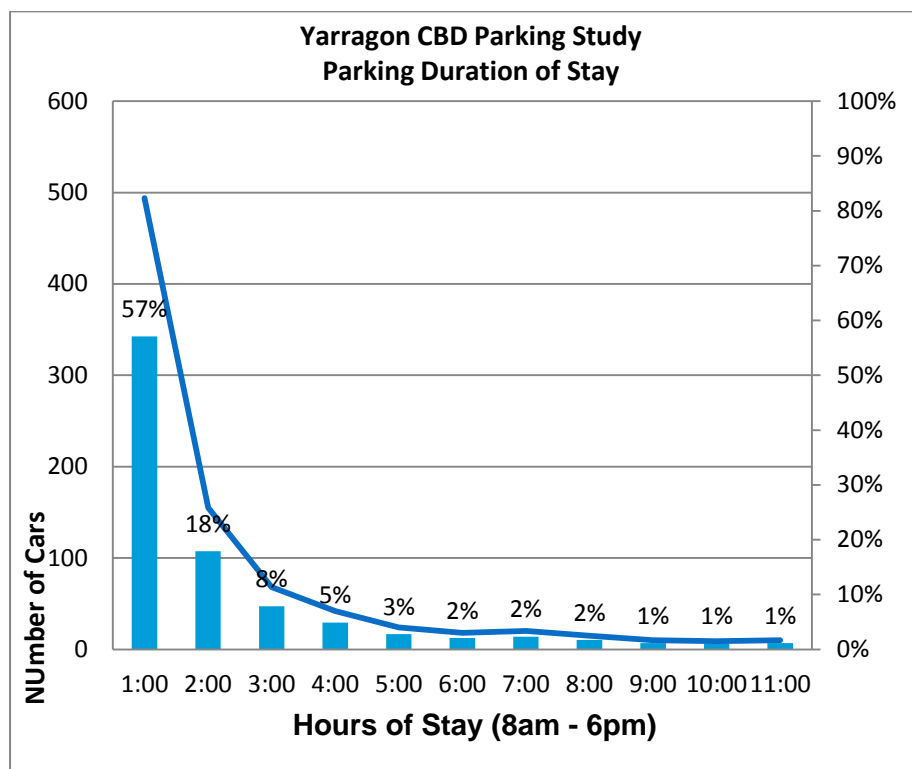
There was a total turnover of 865 vehicles over the course of the day. About 57% of all vehicles parked for 1 hour or less within the study area, 18% staying 2 hours or less and 8% staying 3 hours or less. There was a total of 10 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

Table 6 Observed Duration of Stay (Hours) – Saturday 12<sup>th</sup> December 2015

Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Total Turn Over	865	865	865	865	865	865	865	865	865	865	865
Vehicles @ DOS	494	155	68	42	24	18	20	15	10	9	10
Percentage	57%	18%	8%	5%	3%	2%	2%	2%	1%	1%	1%



**Graph 8 Observed Duration of Stay (hours) – Saturday 12<sup>th</sup> December 2015**



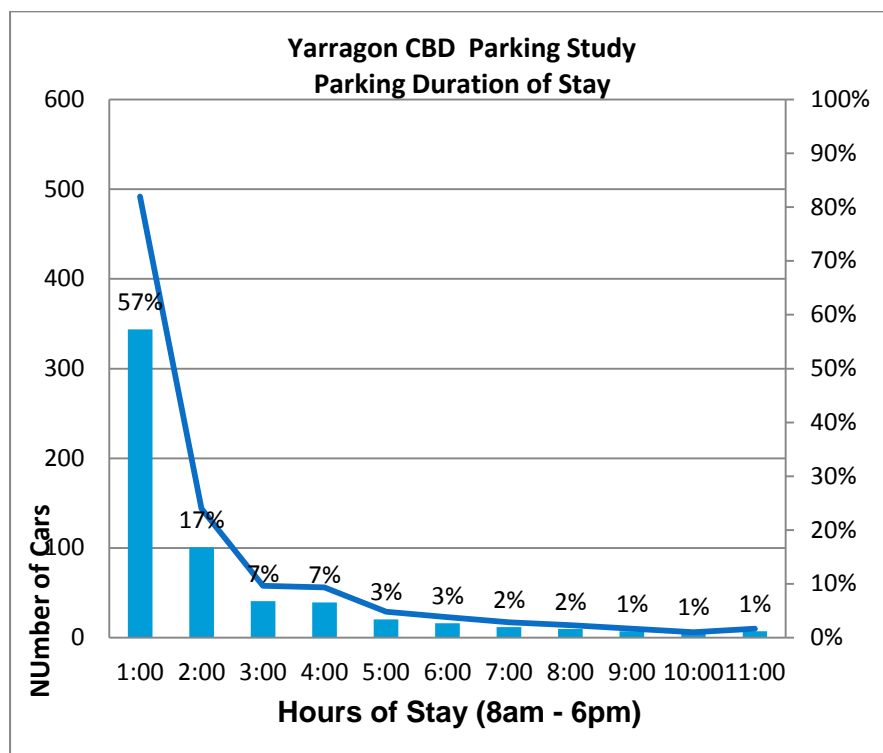
**4.5.1.5 Sunday 13<sup>th</sup> December 2015**

There was a total turnover of 859 vehicles over the course of the day. About 57% of all vehicles parked for 1 hour or less within the study area, 17% staying 2 hours or less and 7% staying 3 hours or less. There was a total of 10 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

**Table 7 Observed Duration of Stay (Hours) – Sunday 13<sup>th</sup> December 2015**

Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Total Turn Over	859	859	859	859	859	859	859	859	859	859	859
Vehicles @ DOS	492	144	58	56	29	23	17	14	10	6	10
Percentage	57%	17%	7%	7%	3%	3%	2%	2%	1%	1%	1%

Figure 9 Observed Duration of Stay (hours) – Sunday 13<sup>th</sup> December 2015



The tables below illustrates the occupancy rates per restriction type, observed duration of stays, which occurred, throughout the study area as well as the overstay in reference to the signed time restrictions.

Table 8 Observed Occupancy Rate per Parking Restriction Type

Parking Supply	No. Spaces	Occupancy Rates/ Day %					
		Monday	Wednesday	Friday	Saturday	Sunday	Average Occupancy Rate
IP	58	51%	58%	55%	55%	60%	56%
2P	31	77%	80%	64%	74%	67%	72%
3P Long Vehicle	4	18%	11%	34%	43%	45%	30%
Unrestricted	334	34%	34%	38%	37%	37%	36%
Disabled	6	33%	36%	47%	16%	29%	32%
Reserved Hotel Parking	6	0%	0%	0%	0%	30%	6%
Part Time No Stopping/ Mobile Library	12	6%	28%	33%	28%	28%	25%
Total	451						

**Table 9 Observed Duration of Stay per Restriction Type (mins)**

General Restriction	YARRAGON CBD AVERAGE DoS* (mins)						
	Monday	Wednesday	Friday	Saturday	Sunday	Average duration of stay (over 5 days)	Average over stay period
<b>1P</b>	70	70	70	100	70	76	16
<b>2P</b>	100	100	84	162	102	110	0
<b>3P Long Vehicle</b>	18	89	78	84	90	72	0
<b>Unrestricted</b>	152	132	150	144	150	146	N/A
<b>Disabled</b>	78	78	78	78	78	78	N/A
<b>Reserved Hotel Parking</b>	68	66	96	72	66	74	N/A
<b>Part Time No Stopping/ Mobile Library</b>	61	66	72	48	60	61	N/A
<b>Total</b>	78	86	90	98	88	88	88 (average over 5 days)

\*DoS refers to Duration of Stay

**Table 10 Observed Number of Over Stays**

General Restriction	YARRAGON CBD NUMBER OF OVER STAYS					Total
	Monday	Wednesday	Friday	Saturday	Sunday	
1P	58	45	71	64	NA	238
2P	19	31	7	9	NA	66
3P	0	0	0	2	NA	2

*Note: Disabled Bays Loading Zones and unrestricted areas were not included for analysis of overstays. There are no parking restrictions imposed on Sundays.*

## **Overstay Areas**

Although the average overstay periods for the restricted areas for the study period were as indicated below, the average overstay was 16 minutes for 1P. CBD patrons were not generally overstaying in the for 2P and 3P areas for very long periods. There was a total of 306 vehicles that were detected to have over stayed within parking restricted areas during the duration of the parking study period of 5 days:

- 1P – 238 overstays
- 2P – 66 overstays
- 3P – 2 overstays
  
- Average overstay in 1P – 16 minutes

### **4.5.2 Compliance with Parking Restrictions**

Based on the tables in section 4.5.1 above referencing Figure 2 below, the following observations were made - the longer-term parking outside of the CBD area is not being effectively used, with people staying in the unrestricted parking areas for an average time less than two hours.

#### **1P Parking Areas**

- All of the 1P restrictions are located along the south side of Princes Highway and both sides of Campbell Street. The average duration of stay in these locations for all days was 76 minutes, an average overstay of 16 minutes. It can be concluded that 1P may not be the appropriate restriction and perhaps it should be extended to be 2P, however this may result in the reduction in the the parking turnover may be reduced and in turn reducing the number of available short term parking.
- Overstay behaviour may again be due to the lack of the presence of enforcement. There was a large number of overstay vehicles detected within the 1P restricted areas – some 238 vehicles over the study period of 5 days. 1P restricted areas were more or less utilised at around 56% occupancy rates with a high occupancy rate on Sunday (76%).

#### **2P Parking Areas**

- Within the 2P restricted areas, there were 66 overstay vehicles detected over the entire study period with a few vehicles detected to have stayed up to four hours with one detected to have stayed up to 6 hours on a Wednesday. The occupancy rates ranged from 64% to 80% which suggests that there is very a high demand for the 2P areas and the area is effectively full. The 2P areas are located along the north side of the Princes Highway Service Road. Theses spots are located outside the reserve and rest areas an opposite the bakeries and eateries.

- Increased enforcement will assist with greater turnover and optimise use of unrestricted parking.

### **Unrestricted Parking Areas**

- Within the unrestricted parking areas (334 spaces in total within the study area), the average duration of stay ranged from 132 minutes to 152 minutes which suggests that the average preferred stay period within the study area was 2.5 hours. The parking study indicated that the parking spaces with shorter restrictions witnessed the most overstay, and in contrast, the spaces with the longest restrictions witnessed the most under stay.

### **4.6 Princes Highway Service Road – Key Observations**

Different car parking areas have different functions and parking needs. The data for the parking survey has been collected by zones and areas as such, a run down of parking observations have been made for each area in the various sections of the report.

One area where the parking occupancy was highest was along Princes Highway Service Road (between Loch Street and Campbell Street). This area is the main strip-shopping precinct within Yarragon which is comprised of boutique and tourist attraction retail stores, restaurants, arts and cultural stores and centres and offices.

The patterns found for the Princes Highway service road are typical of the entire study area with the peak occupancies detected between 12-1pm. The highest occupancy rates on the Princes Highway Service Road recorded was 87% at 12pm on a Saturday.

Over the study period, as an area, this location has an average daily occupancy of 57% (refer to Table 11 below) which is just over half full. More specifically by restriction type, the following were recorded for average daily occupancy:

- 1P (37 bays in total) – 66%
- 2P (31 bays in total) – 72%
- Disabled Bays (2 bays in total) – 46%
- Unrestricted (56 bays in total) – 44%

It can be concluded that overall, the 1P and 2P area are more utilised than the unrestricted areas where were less than half full overall.

The highest average occupancy rate (83%) was recorded in the unrestricted section between Rollo Street and Murray Street on a Friday. This may be utilised by all day parking patrons or longer term parking patrons (staff).

A high occupancy rate (91%) was recorded for the disabled bay located on the north side (between Campbell Street to Loch Street). This is located next to the reserve where there is a rest area.

**Table 11 Princes Highway Service Road - Parking Occupancy Rates**

Princes Highway Service Road (between Loch Street o Rollo Street)	Side	General Restriction	Princes Highway Service Road Average Daily Occupancies (%)						
			Capacity	MON	WED	FRI	SAT	SUN	Average Daily Occupancy
From Petrol Station to Rollo Street	S	Unrestricted	17	12	26	25	41	24	26
	N	No Stopping	0	0	0	0	0	0	0
From Rollo Street to Murray Street	N	Unrestricted	5	56	51	49	45	60	52
	S	Unrestricted	8	75	81	83	65	78	76
From Murry Street to Campbell Street	N	Unrestricted	20	27	44	51	47	53	44
	S	Unrestricted	6	55	58	59	80	76	66
	S	1P 8.30am-6pm Mon-Fri, 8.30am-1pm Sat	10	46	64	66	71	75	64
From Campbell Street to Loch Street	N	2P 9am-5pm Mon-Fri, 9am-12pm Sat	31	77	80	64	74	67	72
	N	Disabled	1	73	18	91	45	0	45
	S	Disabled	1	64	55	55	18	45	47
	S	1P 8.30am-6pm Mon-Fri, 8.30am-1pm Sat	27	75	73	75	75	71	74

It can be concluded that along this section of the study area that the 1P and 2P areas are moderately utilised due to the proximity to amenities. Parking occupancy rates would need to be reviewed again in the long term as the town continues to grow. It is not expected that the growth in parking demand is set to grow exponentially in the short term. There is sufficient parking within this area to meet the parking demand at this point in time

*Please refer to Appendix C for occupancy rates and duration of stays on the Princes Highway Service Road*

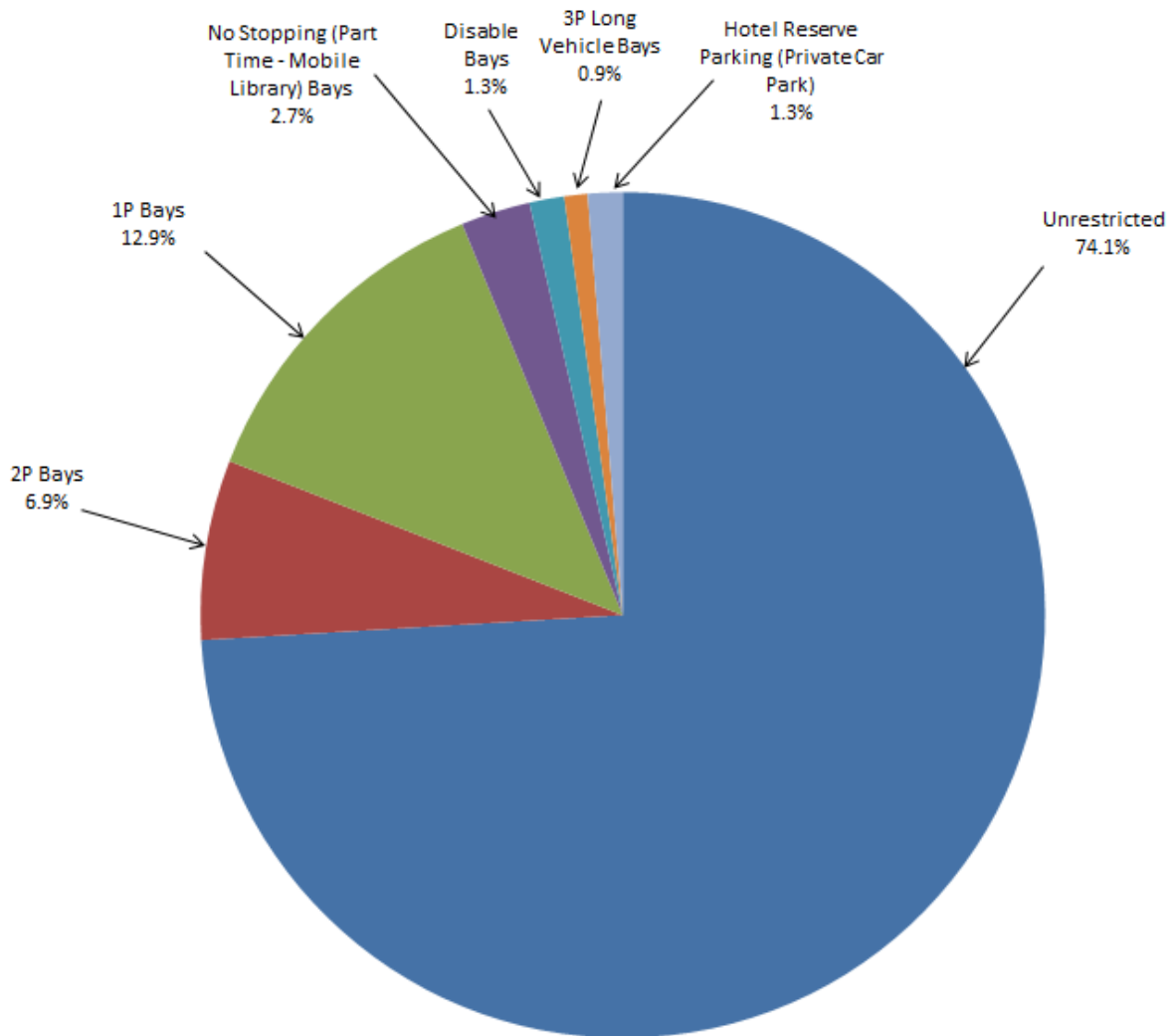
Figure 10 On Street Parking along the Princes Highway Service Road



#### 4.7 Parking Analysis by Restriction Type

When reviewing the existing parking restrictions and user behaviour within the study area the following observations can be determined:

Figure 11 Supply of parking by restriction type



- The large majority of users stay for more than 1 hour and less than 2 hours with proportionately less 2P parking available (58 spaces for 1P and 31 spaces in within the study area for 2P). This may be of of some concern within the CBD areas as the demand for 1P and 2P (where occupancy rates are 52% and 72% respectively) is much greater than for longer term parking (where the occupancy rates are on average about 36%).
- Both 1P and 2P parking contributes to 12.9% and 6.9% (respectively) of the total available parking within the study area, however the occupancy rates for 1hr – 2hrs



restricted areas were noted to be the highest. The parking study detected a daily occupancy rate of 80% for 2P parking on Wednesday which is essentially full. Opportunity exists, therefore to increase the number of 2P parking.

- Given that up to 74.1% of the all parking available within Yarragon CBD is unrestricted parking with 334 spaces available (includes off street and on street parking), much of the areas closer to the public amenities can be converted to short term parking to increase turn over.

#### **4.7.1 On Street Parking Areas**

On street parking within any CBD area is essential in ensuring the competitiveness and survival of small-scale retail and businesses. This is due to the high convenience on street parking provides due to its close proximity to these attractions.

Generally, providing restrictions greater than 2P in these areas is discouraged as it may influence the effectiveness of car parking by promoting longer durations of stay. Furthermore, while it is difficult to determine the exact mix levels of short term parking within the CBD on street areas, it is commonly accepted that these areas should contain a mix of 15min (1/4P), 30 minute (1/2P) and 1 hour (1P) parking. This is undertaken to achieve a high turnover of car parking while also maintaining high occupancy rates in these areas. It is noted that within Yarragon there are no 1/4P or 1/2P parking areas.

The duration of stay graphs indicated that on a whole, up to 57% of all trip stays was for one or two hours or less, yet 1P parking restrictions within the Yarragon CBD area of the parking study comprises 19.8% of the of the total available parking. It is therefore likely that in this particular instance, there is a need to increase the number of short term parking and reduce unrestricted areas to increase parking turnover.

#### **4.7.2 Off Street Parking Areas**

All of the off street car parks are within walking distance of shops and public amenities, however due to the fact that unrestricted spaces within the Yarragon CBD parking study area make up almost 74.1% of all available space, short term users may compete with all day parkers for parking. However, the results also show that generally over the study area as a whole, the unrestricted areas have an average occupancy rate of 36%. It is important that where possible off street parking areas be made attractive to use and easy to access.

Consequently, off street parking areas should include:

- Safe and accessible access
- Informative and rational directional signage
- Proper pedestrian access and connections
- A high level of amenity including infrastructure to improve safety and security such as lighting and natural surveillance.

Furthermore, off street parking areas should include the ability to expand, should expansion be warranted.

Table 12 indicates the parking supply by restriction type for all **off street parking** areas.

**Table 12 Off Street parking restriction type distribution**

Parking Restriction	OFF STREET PARKING
	Supply
Hotel Reserve Parking	6
Disabled	4
3P Long Vehicle Parking	4
No Stopping (Part Time)	12
Unrestricted	179

It is observed that at present Yarragon CBD has a high number of longer term parking opportunities within off street areas as well as many on street areas. Much of the long term parking (179 spaces) is located in the off street car parks namely located in the following areas:

- Rollo Street **Council** car park – 38 spaces
- Loch Street **Council** car park – 18 spaces (+1 disabled bays)
- Hanns Lane North West **Council** Carpark– 36 spaces (+1 disabled bays)
- Hanns Lane South **Council** car park– 38 spaces (+ 4 3P Long Vehicle spaces, + 12 Part time No Stopping Mobile Library Parking, +2 disabled bays)
- Waterloo Road car park (VicTrack land) – 50 spaces

In regards to accessibility and amenity, Council owned off street parking areas generally have acceptable access. Furthermore, while somewhat limited in natural surveillance most Council owned parking areas are supplemented with adequate public lighting.

## **4.8 Management of Priority Parking Spaces**

### **4.8.1 Overview**

The parking study has highlighted that the most highly sought parking spaces in the study area of Yarragon CBD are the on street parking spaces along the Princes Highway Service Road. This investigation has highlighted that the on street parking within the CBD area are the most occupied spaces in the study area. Efficiency of these CBD spaces is vital to the effective functioning of Yarragon CBD's parking. A good mixture of short, medium and long-term parking and the presence of suitable loading zones and disabled parking zones are critical in order to cater for the needs of the entire public.

### **4.8.2 Disabled and Mobility Impaired Parking**

Yarragon CBD and its surrounding townships are ageing with 23.4% of the community over the age of 60 years old, a value which is higher than both the Victorian and Australian averages. The relatively high number of aged residents signifies an increased need to ensure ample parking for disabled and mobility-impaired citizens.

There are currently 6 disabled spaces included in the Yarragon CBD Parking Study study area with these spaces located in 5 different locations around the study area. There are two spaces along the Princes Highway Service Road and the rest are in the car parks off Hanns Lane.

In reviewing these spaces, Council has taken into account the results of public surveys. Feedback from these surveys has assessed the issues surrounding disabled and mobility impaired parking around Yarragon CBD. There were no specific concerns raised regarding disability parking opportunities.

In Australia, there are no clear standards in place regarding the number of parking spaces for disabled and mobility impaired people, instead parking spaces are provided on a case by case basis in each shire and councils endeavour to accommodate the needs of the community as effectively and reasonably as possible.

Data gained from the parking surveys, revealed that the average occupancy rates for disabled spaces were noted to be only 32%. This result shows that there are two possible scenarios occurring. Either, the disability parking spaces are under-utilised around Yarragon CBD over the course of a day, or there is ample parking in areas that are not as frequently used, but a lack of parking in the high use areas at peak times.

Site inspections concluded that most of the existing disabled parking bays do not meet Australian Standards. Due to fact, it is recommended that the existing disabled bays be upgraded to meet Australian standard – this may require the loss of some car parking spaces to accommodate for shared zones etc.

Disabled parking bays need to be installed according to Australian Standards:

- Parking Facilities Part 5: On-street parking (AS 2890.5)
- Parking Facilities Part 6: Off-street parking for people with disabilities (AS/NZS 2890.6:2009)

The following section describes in more detail the works required for each disabled parking bay within the study area to meet Australian Standards. The works propose include upgrading of line marking, installation of designated shared zones, installation of bollards and installation of signage.

Figure 12 Existing Disabled Parking Bay Locations



Figure 13 Loch Street East Car Park and Hanns Lane North East Car Park



Figure 14 Loch Street South Car Park & Hanns Lane North East Car Park

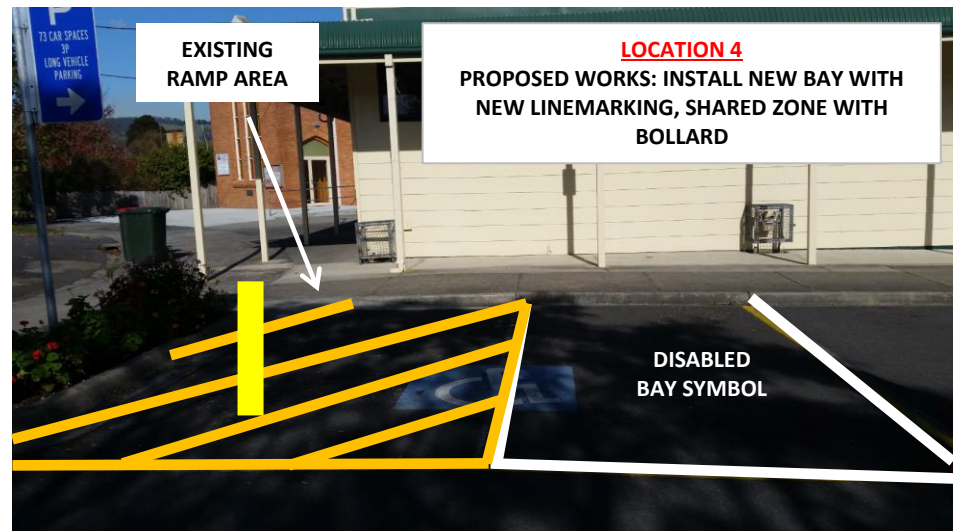


Figure 15 Princes Highway Service Road (between Loch Street and Campbell Street)



**LOCATION 6**  
PRINCES HIGHWAY SERVICE ROAD  
NO. SPACES: 1 ON STREET  
ISSUE: NONE, HOWEVER THERE ARE ONLY TWO DISABLED BAYS WITH THE MAIN STRIP SHOPPING PRECINCT. AN ADDITIONAL ONE COULD BE INSTALLED HERE





**Figure 16 Hanns Lane North East Car Park**



### **4.8.3 Railway Station Parking**

The extensive public consultation conducted during November revealed that parking related to the railway station was of great concern for the community. There are 13 available unrestricted car parking spaces. The average daily occupancy rates detected for the car park were 71% (Monday), 80% (Wednesday), 83% (Friday), 32% (Saturday) and 20% (Sunday). The lack of railway station parking was of great concern for the community, and the parking study has also indicated that the parking occupancy rates are at a critical level with the highest average occupancy rate of 83% leaving 2 car spaces vacant.

Given that the railway station car park is within VicTrack land, Council cannot enforce parking.

Railway commuters are able to utilise informal and unrestricted on street parking located on the south of the CBD area available along Loch Street, Campbell Street and Murray Street as well as the off street car parking available off Hanns Lane which is about 200m way from the railway station.

While the railway station parking available meets today's parking demand, it is essential that it also meets the demands to match the expected growth of the town. Overflow sites are available and favoured within the parking located within the commercial CBD area south of the Highway due to the proximity and public amenities.

Although the demand for railway station car parking will grow with population growth, there are various locations that train commuters can park all day within walking distance to the railway station noting that the railway station car parking ultimately falls under the responsibility of VicTrack and VLine. There is VicTrack owned land in close proximity and north of the railway station which VicTrack could consider for formalised car parking expansion if warranted at a future time.

**Figure 17 VicTrack land north of the Railway Station**



**Figure 18 Existing pedestrian access from the north to the railway station**



#### **4.8.4 Loading Zones**

It is important for local business owners, consumers and suppliers to have access to suitable loading facilities. Having a space set aside for the drop off or pick up of deliveries ensures that businesses can run effectively with limited inconvenience to delivery companies

Around Yarragon CBD, there are no designated spaces for the sole use of vehicles to unload. There were no comments or concerns in the public consultation sessions regarding the need for loading zones at this time, which suggests that informal loading bay arrangements are currently operating satisfactory.

#### **4.8.5 Scooter and Motorcycle Parking**

There are currently no designated motorcycle or scooter parking spaces within the study area. Upon a review of the consultation, comments and recommendations council noted that there were no comments or concerns in the public consultation sessions regarding the need for scooter or/and motorcycle parking. Given that Yarragon is a town located off the Princes Highway that attracts a number of tourists stopping by, designated motorcycle parking could be considered. However, at this stage it is not considered a high priority.

#### **4.8.6 Long Vehicle/ Truck Parking**

Princes Highway remains a major transport and freight route through Yarragon which also brings in customers for the local businesses.

There are four designated long vehicle parking spaces within the study area located in the off street car park located off Hanns Lane between Loch Street to Campbell Street. This includes parking for caravans. Although this area is appropriate for caravans and motor homes, it is not ideal for long vehicles or trucks. There is adequate signage indicating that these spaces are for caravan parking. The parking spaces have an occupancy rate ranging from 11% to 45% with the highest usage detected on Saturday (43%) and Sunday (45%). This is the only designated Caravan parking or long vehicle parking area and it is recommended that future additional parking areas be investigated.

Upon a review of the consultation held in November 2015, there were no comments or concerns in the public consultation sessions regarding the need for addition long vehicle parking. However, given that Yarragon has a number of eateries attractive to the passing tourist or freight driver, it is important to provide resting areas also for long vehicle or truck drivers.

The Victorian Rest Area Strategy identified a number of key locations along the major truck and tourist routes within Victoria which are strategic locations to provide formalised rest areas. The following principles are outlined in the Victorian Rest Area Strategy.

1. Develop rest area route plans for all key corridors taking into account major arterial roads and freeways that are significant freight and /or tourist routes in Victoria.
2. Assist local Government and communities to develop town specific actions plans to encourage drivers to use in-town facilities.
3. Identify strategic zones suitable for the development of Freeway Service Centres.
4. Develop a program for the provision of rest areas.
5. Implement effective rest area information systems and leading design practices.

As part of implementing this strategy, a new truck resting area is proposed for Moe which will provide a new rest area would provide eight bays and a decoupling space to help heavy vehicle operators travelling the Princes Highway east to reduce fatigue and improve safety. Moe is located 17 minutes commuter travel time.

It is recommended that Council continue to liaise with VicRoads to identify and formalise truck parking areas and associated facilities along Princes Highway in particular near the Yarragon town centre area.

Council to also work with VicRoads and local community to develop town specific action plans to encourage drivers to use in-town facilities as per Victorian Rest Area Strategy

## 4.9 Enforcement

Given the expected increase in population, it is likely that demand for parking spaces will increase, therefore the pressure on parking to work effectively will also likely increase.

Unfortunately, during the parking study, enforcement levels were low due to staff resourcing. The results of the parking study also indicate that there may be more overstays recorded due to the behavioural influence affected by the low level of enforcement at that time.

Ensuring vehicles utilising parking within Yarragon CBD stay within the defined parking time restrictions is key to maintaining an effective parking regime. Enforcement within the Yarragon CBD area therefore will be paramount to the success of any parking arrangement.

Historically, enforcement in Yarragon CBD has not played a strong part in maintaining the effectiveness of parking.

## 4.10 Directional Signage

**Figure 19 Directional Signage for Off Street parking and for Long Vehicles on Loch Street**



Investigations have shown that throughout the Yarragon CBD study area, there is sufficient directional signage for public parking areas including for long vehicles/ caravans.

Most major roads have viewable signs indicating off street parking locations however, there is a need to provide additional or rationalise signs in some locations.

There is however, a lack of adequate directional signage for designated truck parking. Given that Yarragon is a small town located along the Princes Highway that has thousands of heavy vehicles and trucks travelling along it, many drivers are prone to stop and take a break if there are available facilities.

Formalised truck parking along Princes Highway would be subject to VicRoads consideration in the context of their state/ regional strategy for truck rest stops.

Locations of current and proposed parking directional signage are as shown in Figure below.

Figure 20 Existing and Proposed Parking Directional Signage - Yarragon CBD Study



## 4.11 Future Parking and Increasing Supply

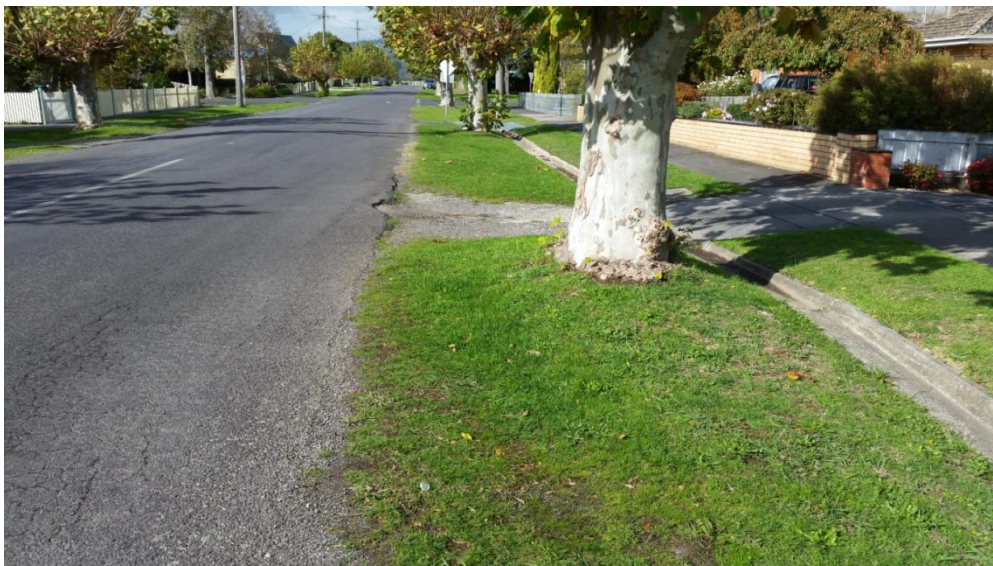
### 4.11.1.1 On Street Parking

A review of the existing design and layout of on street parking within the Yarragon CBD area has determined that there is little ability to increase the number of on street parking spaces without major reconstruction and alignment of the roads within the CBD area. There is some need to increase the number of parking for on street areas with a majority of the on street parking areas on the outer fringes of the study area experiencing 40 - 60% occupancy rates. There were moderate to high occupancy rates in the on street short term parking areas on Princes Highway service road (between Loch Street and Rollo Street) and Campbell Street. There should be some consideration to improve and increase on street car parking along Campbell Street, Murry Street and Bennet Street in the future. Campbell Street (south of the church hall) has informal on street parking (gravel and grassed areas) that could be reconstructed to allow improved on street parking.

**Figure 21 Parking along Campbell Street, Yarragon**



**Figure 22 Existing Informal Shoulder Area for parking on Campbell Street, Yarragon**



#### 4.11.1.2 Off Street Parking

When determining a suitable site for off street parking development a range of considerations to be reviewed when assessing a potential site. These include the following factors:

- Accessibility and proximity to existing attractions and destinations,
- Cost of purchasing land, design, removing existing buildings, excavation and construction, as well as
- Suitability of land and potential parking supply.

Analysis of the parking study indicated that there are a few off street parking areas variable average daily occupancy rates below 20% in some areas further from the CBD to 80%+ in the busier car parks:

- Hanns Lane North West car park – highest occupancy rates were recorded on Saturday (67%) and Sunday (61%)
- Hanns Lane South Carpark – the highest occupancy rates was recorded on Saturday (39%)
- Hanns Lane North East Car Park – the highest occupancy rates were recorded on Wednesday and Friday (83%)
- Loch Street Car Park - the highest occupancy rate was recorded on Friday (77%)
- Rollo Street Carpark – the highest occupancy rate was recorded on Friday (18%)
- Waterloo Road Carpark – highest occupancy rates was recorded on Wednesday (6%)
- The Urban Design Framework for Yarragon will be investigating future potential parking areas.



## 5.0 Planning for Future Growth

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### 5.1 Introduction

The subsequent sections provide background on the current requirements of any development as well as discuss specific areas for Council to investigate further in relation to current parking demands and future parking requirements within the study area.

### 5.2 Township Growth Planning

The existing businesses located within the Yarragon industrial area include agriculture servicing industries, building and construction, repairs and servicing, residential and other semi-industrial operations. The industrial area is located north of Waterloo Road and there is a total of almost 16 hectares of industrial zoned land within Yarragon. A portion of this area is currently vacant so there is a significant potential for industrial land development. The report concludes that it is unlikely that additional land will be required by 2030.

Yarragon is well provided for with a recreational precinct with Downton Park located south west of Market Street and Loch Street. The precinct is over 10 hectares in size with a number of sporting fields and facilities. Council has a Master Plan for Downton Park with various upgrade works to 2030.

Overall, the population of Yarragon is growing but is not considered extremely high compared to Warragul or Drouin.

In 2013, Council prepared the 'Baw Baw Settlement Management Plan (SMP)' which provided a Shire wide settlement framework and directions for growth to 2036. The SMP provides key directions for growth for the towns of within Baw Baw Shire including Yarragon, which reflect the constraints of the growth of the town.

The Planning Scheme for Yarragon currently advises the following regarding land use:

#### **Residential**

- Direct residential growth to the south of the Princes Freeway - preferred directions for growth to be supported which will provide long term supply while maintaining town character and providing housing choice:
- West - Standard residential densities through the application of the General Residential Zone.
- East - A mix of uses and housing forms through the application of the General Residential Zone and Commercial 1 Zone.
- South – lifestyle housing through the application of the Low Density Residential Zone
- Given the southern growth area will not trigger required sewer and water upgrades for township expansion this area will most likely be the first stage of growth.

- Locate medium density residential development close to commercial centres and community facilities.
- Encourage integrated development through the participation of servicing authorities to define areas in Yarragon that can be readily supplied with infrastructure.
- Encourage increased densities for properties fronting Campbell Street. The large lots (up to 1800sqm) are adjacent to the retail strip and could accommodate medium density housing development. The large lot abutting laneway reserves present access options.

### **Commercial**

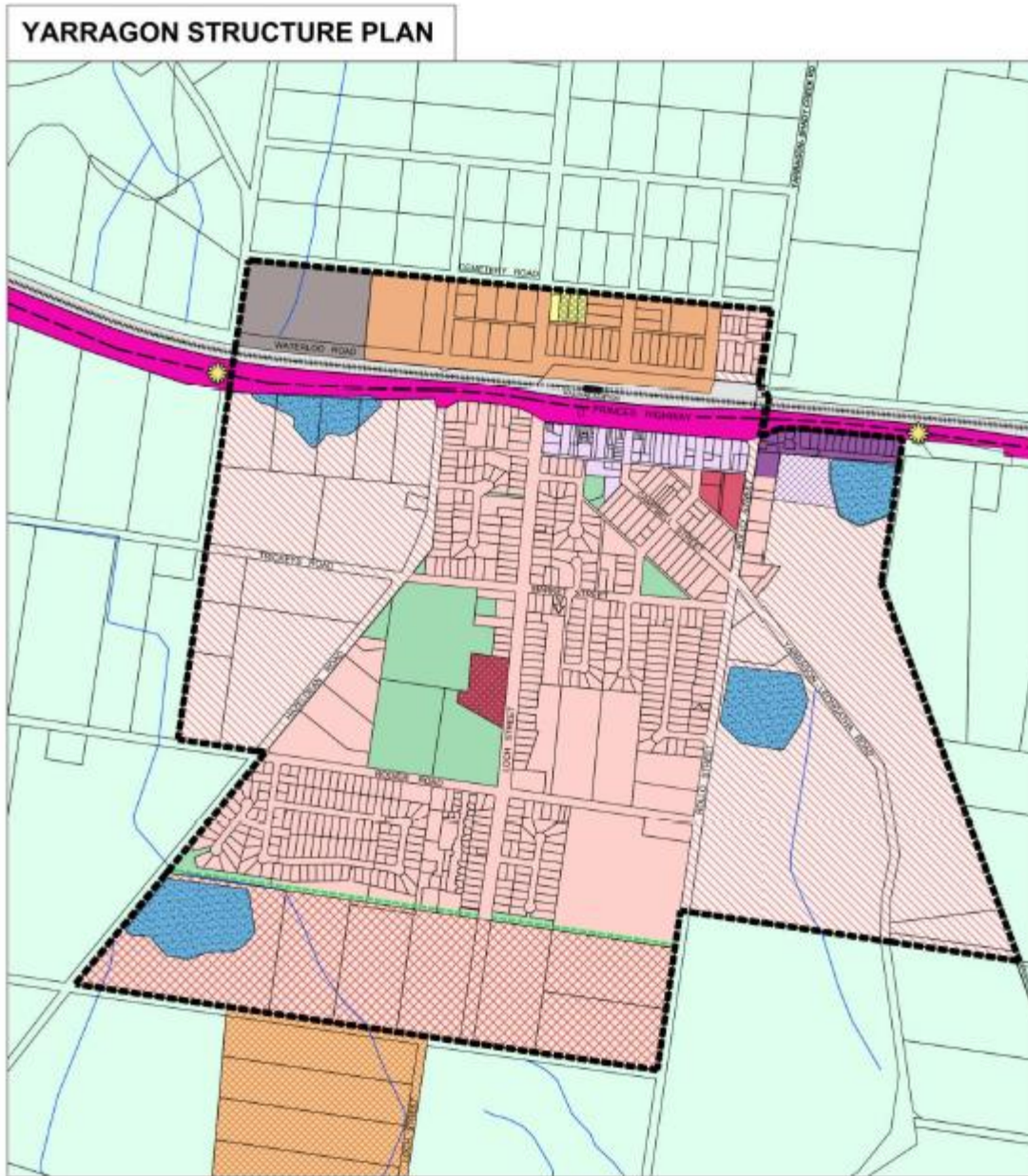
- Consolidate existing commercial and industrial lots to allow further development. This includes the transition of residential properties within the Commercial and Industrial 1 zones.
- Encourage bulky goods businesses in the Commercial 2 Zone land fronting the Princes Freeway east of Rollo Street.
- Encourage infill residential or mixed-use development within the township, particularly adjacent the commercial precinct.
- Consider the expansion of the town centre to the east (south of existing Commercial 2 Zone land) to support the future population in the long term

### **Industrial**

Concentrate industrial development on the Industrial 1 Zone land to the north of the Princes Highway

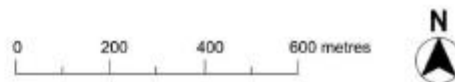
Figure 23 Yarragon Structure Plan

BAW BAW PLANNING SCHEME



- LEGEND**
- ▬▬▬▬ Township Boundary
  - ▬▬▬▬ Cadastre
  - ▬▬▬▬ Railway Line (Public Use)
  - ▬▬▬▬ Princes Highway/Freeway
  - ▬▬▬▬ Road Zone - Category 1
  - ▬▬▬▬ General Residential Zone/Residential 1 Zone
  - ▬▬▬▬ Future General Residential Zone
  - ▬▬▬▬ Future Low Density Residential Zone
  - ▬▬▬▬ Rural Living Zone
  - ▬▬▬▬ Commercial 1 Zone
  - ▬▬▬▬ Future Commercial 1 Zone
  - ▬▬▬▬ Commercial 2 Zone
  - ▬▬▬▬ Industrial 1 Zone
  - ▬▬▬▬ Public Park and Recreation Zone
  - ▬▬▬▬ Possible Future Linear Open Space Corridor
  - ▬▬▬▬ Service and Utility (Public Use Zone)
  - ▬▬▬▬ Future Service and Utility (Public Use Zone)
  - ▬▬▬▬ Primary School (Public Use Zone)
  - ▬▬▬▬ Former Primary School Site
  - ▬▬▬▬ Cemetery (Public Use Zone)
  - ▬▬▬▬ Farming Zone
  - ▬▬▬▬ Waterway

- ▬▬▬▬ Future Retardation Basin
- ☼ Town Gateway



### **5.3 Future Parking Requirements**

The Baw Baw Settlement Management Plan sets out the future population growth across the shire. By 2036, it is expected that the population will have increased at an annual rate of 2.6% to 3.5%. This would result in an increase from 998 from 2011 (an increase of 500) figures bringing Yarragon's total population to 1,498. It was identified that Yarragon will be a medium-sized township per the capacity to accommodate future growth requiring 218 new dwellings until 2036. According to this report, the findings also stated there is sufficient land supply to 2036 with development of land over the medium to long term. Further urban expansion possibilities is recommended to be investigated in the future urban growth areas (south, east and west of the township) to meet housing needs beyond 2036.

The Settlement Management Plan also states that the Yarragon town centre has potential for an average dwelling yield of 8.5 dwelling a hectare in new subdivisions and infill housing to respect existing rural character through housing on smaller lots and no more than 2 storey developments on larger lots. Medium density infill housing or mixed use development is to be encouraged south of the commercial area and increased density housing along Campbell Street. Please refer to Figure 5 for the Yarragon Settlement Plan.

The Settlement Plan advised that an expansion of the town centre to the east, south of the Business 4 zone, may be needed to support the future population. It is expected that all residential development will be focused south of the highway and industrial development will be concentrated north of the highway. Improved pedestrian links between the residential areas to the retail precinct, commercial and community services is also highlighted to be a major recommendation out of the Settlement Plan for Yarragon including active pedestrian and bicycle links to the residential areas to the south.

#### **5.3.1 Estimated Future Growth of Parking Demand**

The population growth rate would have an appreciable affect on the demand for parking and the growth rate for Yarragon coupled with the existing number of car parking is enough to warrant parking capacity concerns. Based on taking into account the growth expected between 2011 to 2036 of 998 persons to 1,498 (and increase of 500 residents) and using today's highest parking occupancy rate of 58%, the expected highest average parking occupancy rate within the Yarragon CBD is 87%. This is however the projected occupancy rate at its peak time during the lunch hour.

This expected average occupancy rate is high which means the parking around the CBD area will be effectively full. Considerations would need to be looked into for additional parking areas to be provided beyond the existing CBD areas to meet the parking demand beyond 2036.

### **5.3.2 Reducing the demand for car travel**

Independently, parking spaces do not create travel demand, but sufficient parking supply can induce travel by encouraging those already driving to drive more or convert people whom would rather walk, cycle or take public transport. Likewise free on street/kerbside parking reduces the costs of vehicle travel and can make this mode of travel more attractive. While it is not suggested that future parking should not be provided, it can be seen that policies and practices should be introduced in order to either reduce the attractiveness of parking or increase the attractiveness of alternatives.

Through providing infrastructure, that fosters walking and cycling as well as public transport, the demand for parking provisions can be reduced. This is of particular value to Yarragon CBD given:

- There are still many missing footpath links within the Yarragon township
- There are new subdivisions on the eastern side of the township that may be just a little too far for the average person to walk from to travel to the CBD
- Future residential development is proposed along fringe areas of Yarragon currently not readily connected via walking and cycling infrastructure.

Furthermore, in order to overcome the hurdles created by future development Council has implemented documents such as the Baw Baw Shire Council Integrated Transport Plan 2011 which outlines the foundations for the development of an integrated network of intra and inter-town networks to connected and provide alternative transport options for residents and visitors.

## 6.0 Summary

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The following major findings were noted in the Yarragon CBD Parking Study:

1. The total of 451 parking spaces within the Yarragon CBD study area included 208 on street spaces and 243 off street spaces.
2. The highest occupancy rates within the study area was detected during lunch hour between 12pm – 2pm but more specially recorded at 58% on a Friday during lunch time (12pm).
3. The maximum occupancy rate was recorded along Princes Highway Service Road which experienced its highest occupancy rate of 87% on Saturday at lunch time (12pm).
4. The highest occupancy rates within the entire study per restriction type were experienced in the 2P areas (31 available spaces) with 80%, unrestricted (334 available spaces) with 76%, and 1P (58 available spaces) with 74% and the disabled parking areas (6 available spaces) with 47%.
5. Within the 334 unrestricted parking spaces available the average occupancy was 36% and the highest detected was 38% on Friday.
6. For all study days, the duration of stay by about 57% of all parking patrons was for one hour or less and just under 18% stayed for two hours or less. There is a greater demand for short term parking within the CBD area based on proximity to services, however there is also a high supply of unrestricted areas to accommodate this demand.
7. There was a high number of overstays detected within short term parking areas (3P – 2 overstays, 2P– 66 and 1P – 238), making up a total of 306 over stay vehicles were detected during the entire study period of five days.
8. Although the township is set to grow to a population of 1,498 by 2036, using today's highest parking occupancy rate of 58%, the expected average parking occupancy rate within the Yarragon CBD in 2036 is 87%.
9. Railway station car parking (which was a major community concern) accounts for 13 parking spaces within the study area. The highest average occupancy rate was experienced on a Wednesday (83%) leaving 2 free spaces.
10. Alternative parking is available for railway commuters less than 200m away in Hanns Lane, where there are 98 unrestricted spaces where the average occupancy rate is 52% (only half full).

## 7.0 Recommendations and Implementation Plan

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### **Recommendations**

#### **Recommendation 1: Increase parking enforcement on a regular basis and develop an educational plan for parking best practice.**

Council to provide an enforcement regime to assist with increasing parking turnover in the 1P, 2P and 3P restricted areas. It is envisioned that increase in parking enforcement will likely result in the higher turnover of short term parking and thus maximise opportunity to optimise use of underutilised unrestricted parking. It is also recommended that education be included in assisting the community with good parking practices.

#### **Recommendation 2: Undertake improvement of existing disabled parking spaces to meet Australian Standards and user needs.**

It is recommended that the existing disabled bays are altered to comply with Australian Standards. The works would include installing or updating line marking, bollards, shared zones, ramps and standard dimensions, installation of new disabled bays or the relocation of existing disabled bays where appropriate).

#### **Recommendation 3: Augment Council's parking directional signage.**

Council to improve parking directional signage throughout Yarragon CBD and rationalise or provide additional signage where needed to increase the effectiveness of existing signage.

#### **Recommendation 4: Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for the potential future growth of the town.**

Council to advocate with PTV for improved public transport connections and need for strategic planning for potential growth of the town, in particular the railway station car parking. Advocate to VicTrack to investigate areas for provision of additional railway station car parking at a future time as the town grows.

#### **Recommendation 5: Review Parking conditions within Yarragon CBD in 5 years' time (2021) to determine parking demand based on town growth.**

Council to review parking within the Yarragon CBD study area to determine any changes that are warranted regarding parking demand based on population and development growth within the township in 5 years time. An example of this could be when rezoned residential areas are fully developed resulting in increased population and demand for parking in Yarragon CBD area.

**Recommendation 6: Council to lobby with VicRoads to improve truck parking facilities along Princes Highway including developing town specific action plans**

It is recommended that Council continue to liaise with VicRoads to identify and formalise truck parking areas and associated facilities along Princes Highway in particular near the Yarragonr town centre area. Council to also work with VicRoads and local community to develop town specific action plans to encourage drivers to use in-town facilities as per the Victorian Rest Area Strategy.



## 7.1 Implementation plan and costing

Table 13 Yarragon CBD Parking Study Action Plan

Recommendation		Responsible	Timing	Cost Estimate
1	Increase the presence of Council's parking enforcement	Council's Compliance Team	Subject to available resources	TBD
2	Council to improve existing disabled parking bays to meet Australian Standards	Council's Infrastructure Planning and Growth Team	FY 16/17	\$10,000
3	Augment Council's parking directional signage	Council's Infrastructure Planning and Growth Team,	FY 16/17	\$1,000
4	Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for the potential growth of the town	Council's Infrastructure Planning and Growth Team, PTV, VLine and VicTrack	Ongoing	N/A
5	Review Parking conditions within Yarragon CBD in 5 years' time (2021) to determine parking demand based on town growth. Investigate potential future formalised parking areas e.g. Campbell Street, Murray Street, Bennet Street, Loch Street, Rollo Street	Council's Infrastructure Planning and Growth Team and Strategic Planning Team	2021	TBD
6	Improve truck parking facilities along Princes Highway including developing town specific action plans	Council's Infrastructure Planning and Growth Team and VicRoads	Ongoing	TBD

Figure 24 Occupancy Rates - Monday 7<sup>th</sup> December 2015

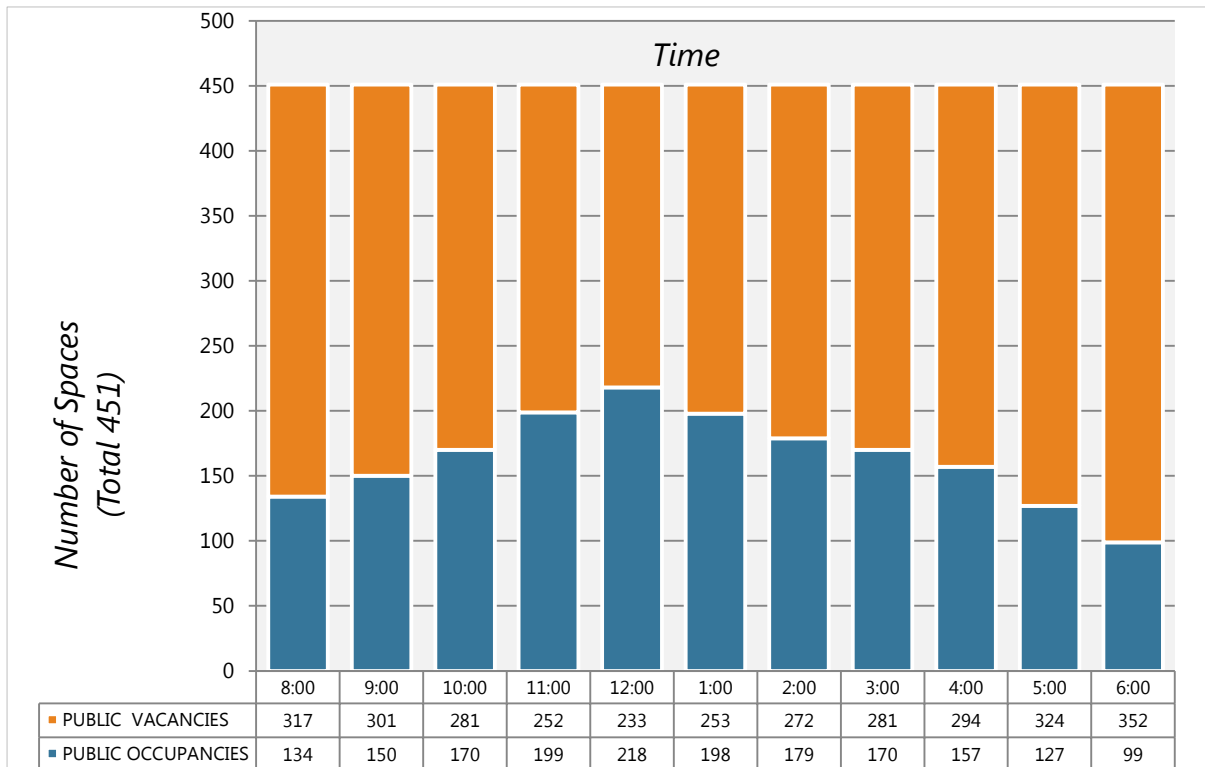


Figure 25 Occupancy Rates – Wednesday 9<sup>th</sup> December 2015

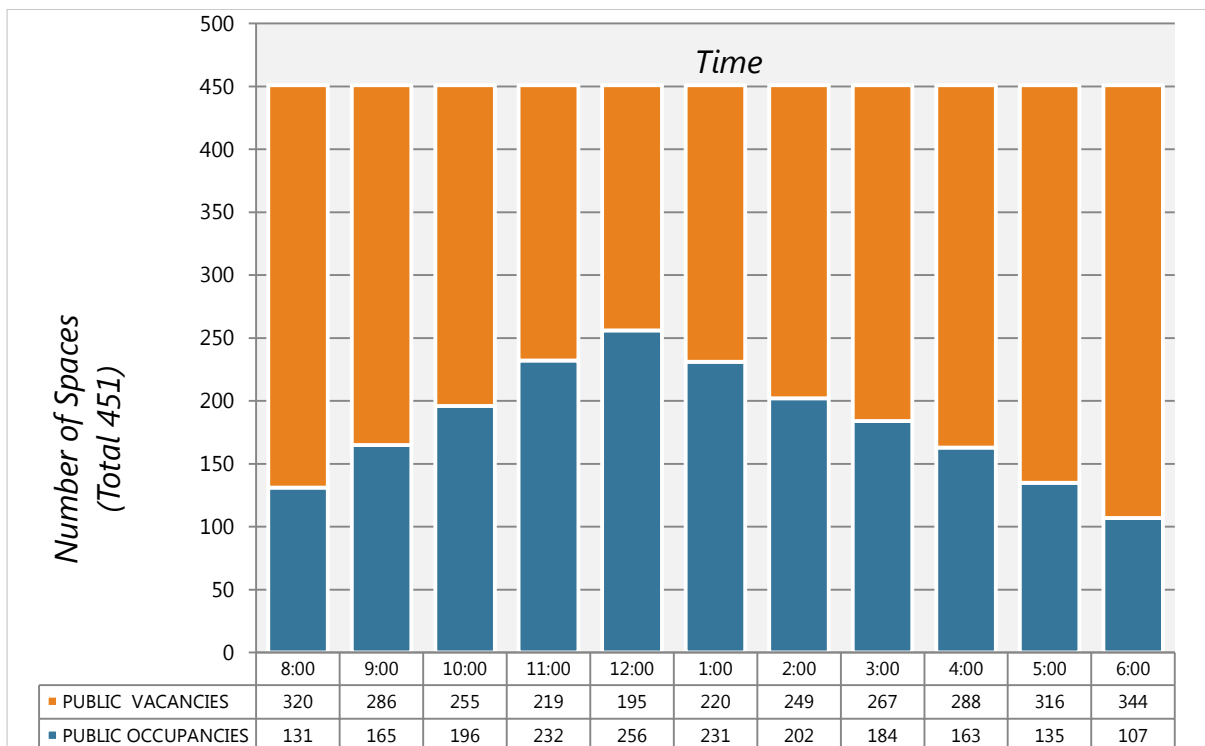


Figure 26 Occupancy Rates – Friday 11<sup>th</sup> December 2015

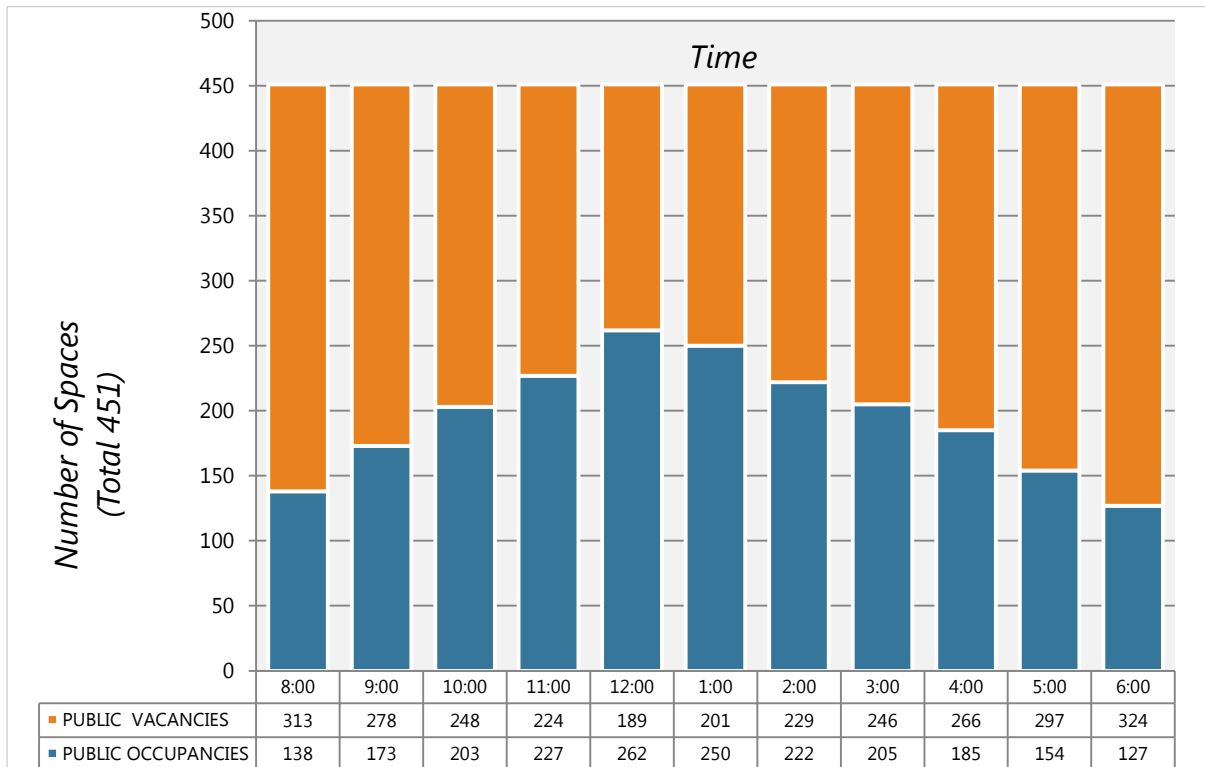


Figure 27 Occupancy Rates – Saturday 12<sup>th</sup> December 2015

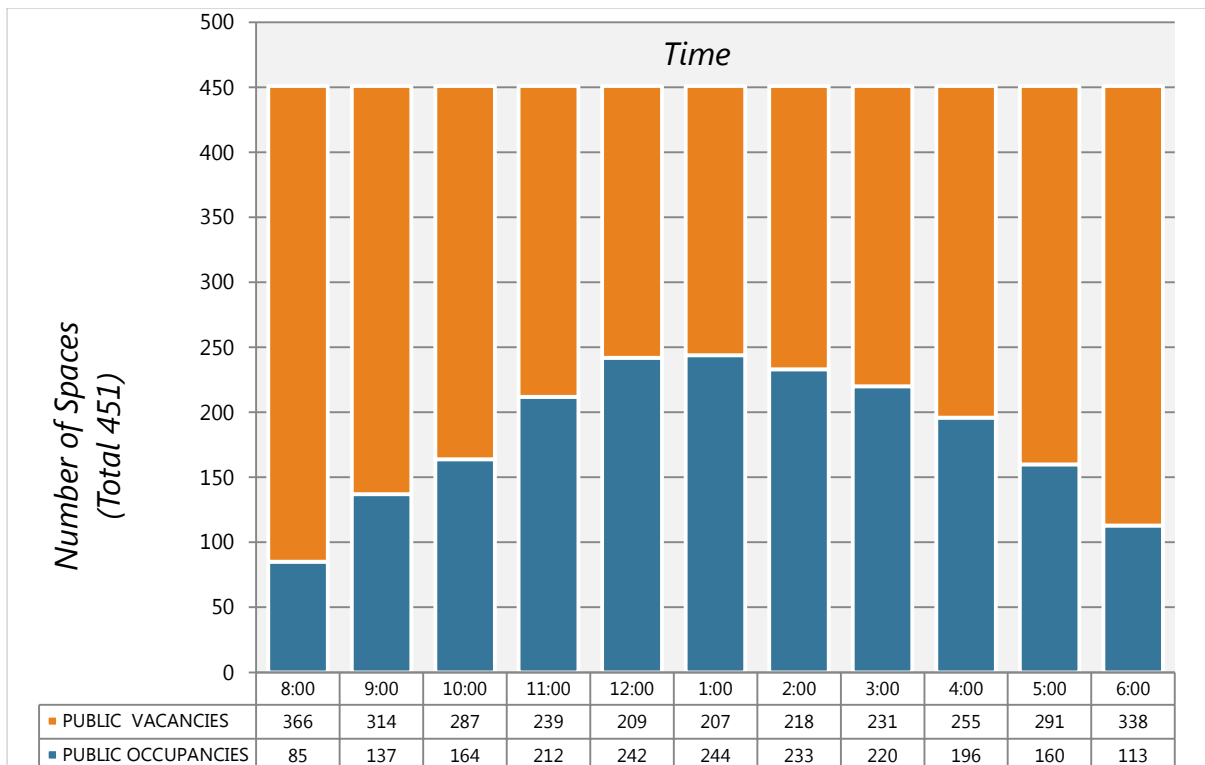
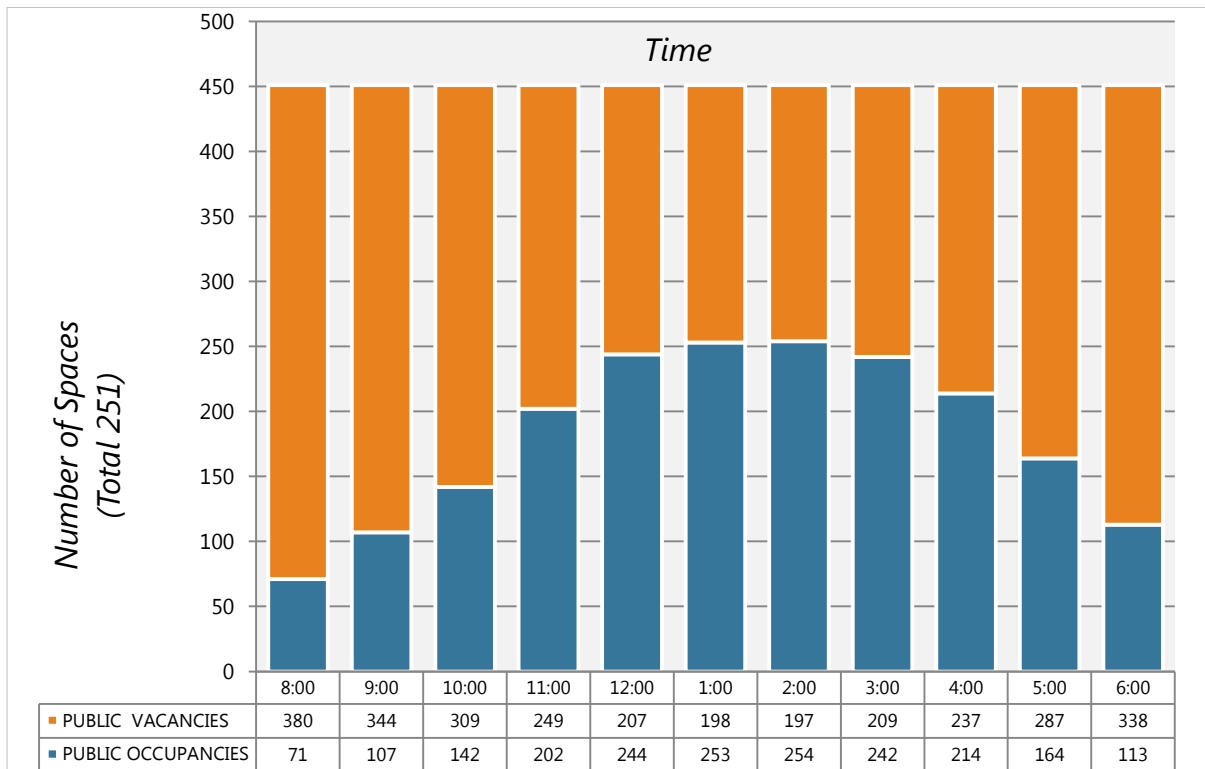
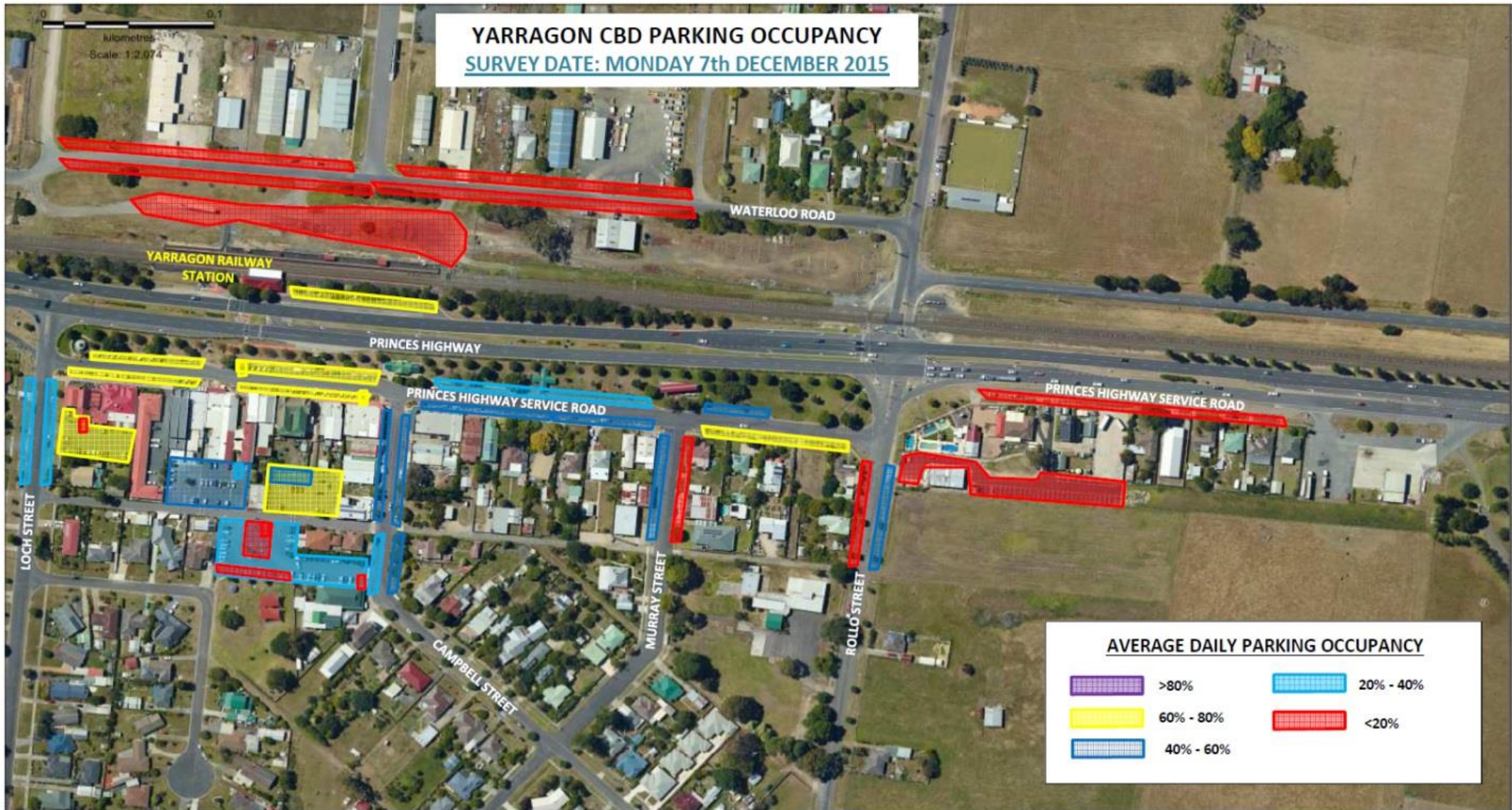
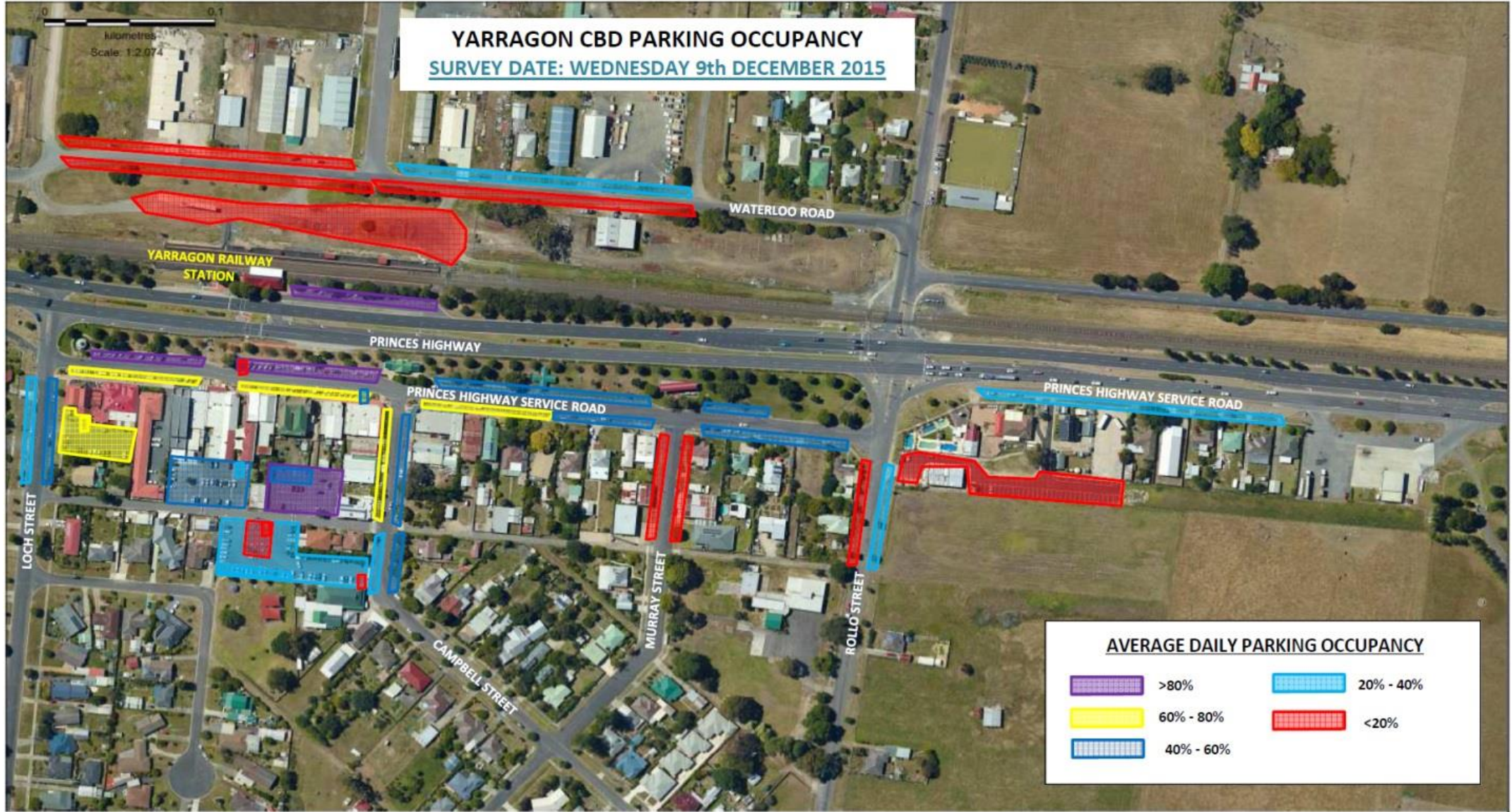


Figure 28 Occupancy Rates – Sunday 13th December 2015



Appendix B – Yarragon CBD Parking Occupancy











**YARRAGON CBD PARKING OCCUPANCY**  
SURVEY DATE: SUNDAY 13th DECEMBER 2015



Figure 29 Occupancy Rates for Princes Highway Service Road - Monday

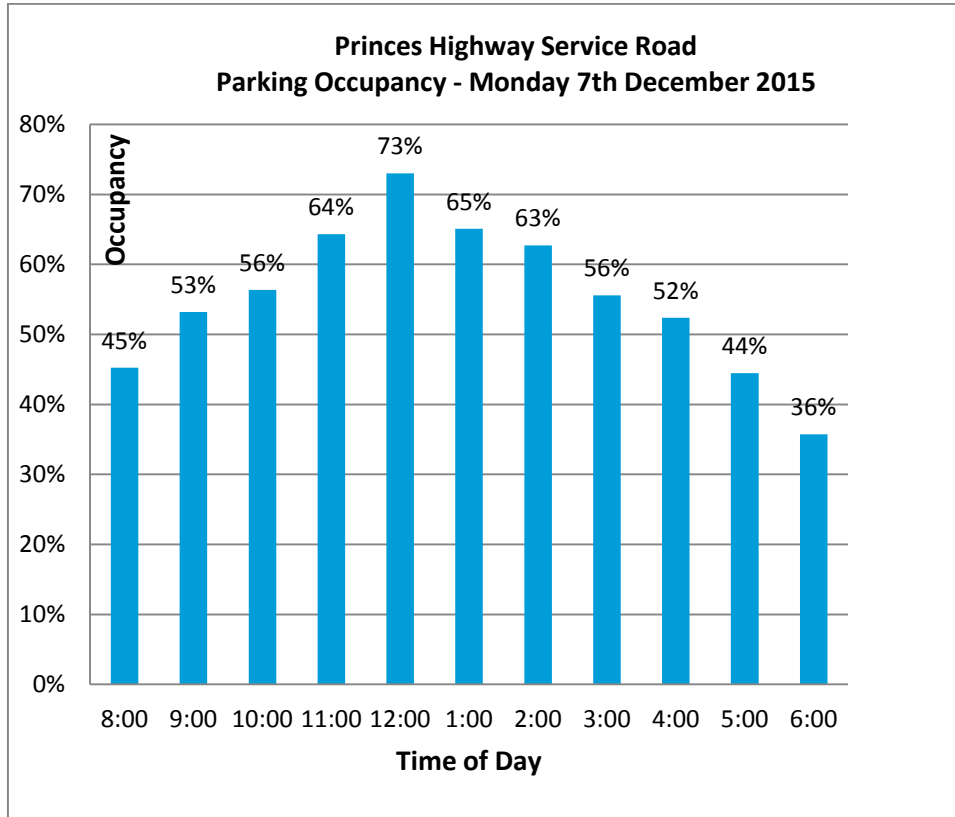


Figure 30 Occupancy Rates for Princes Highway Service Road - Wednesday

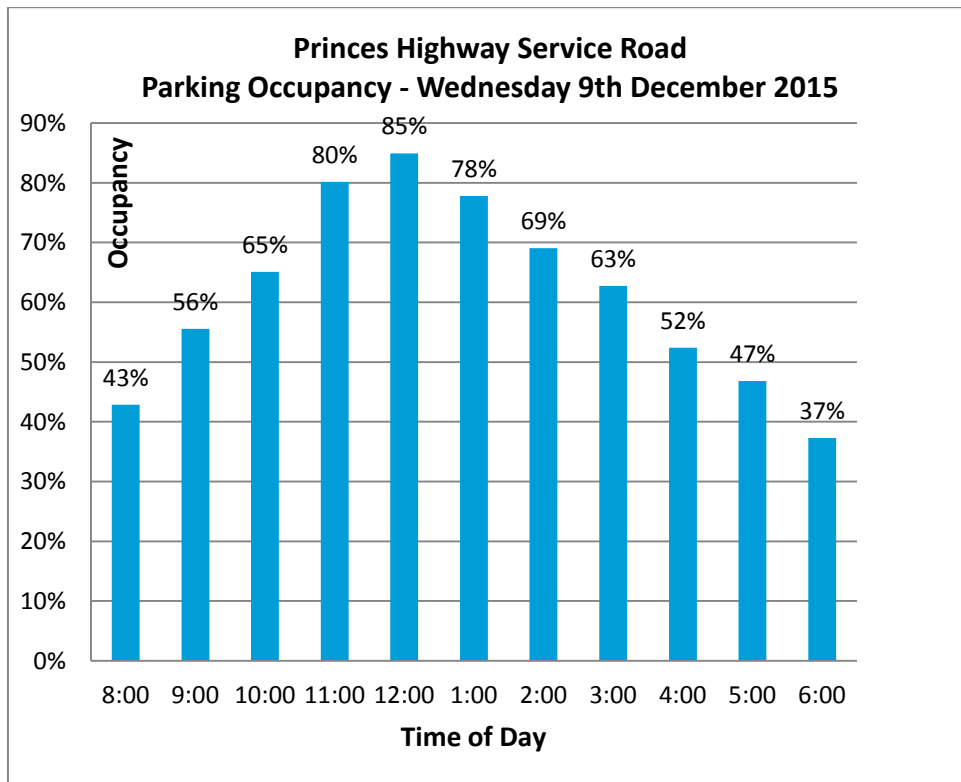


Figure 31 Occupancy Rates for Princes Highway Service Road - Friday

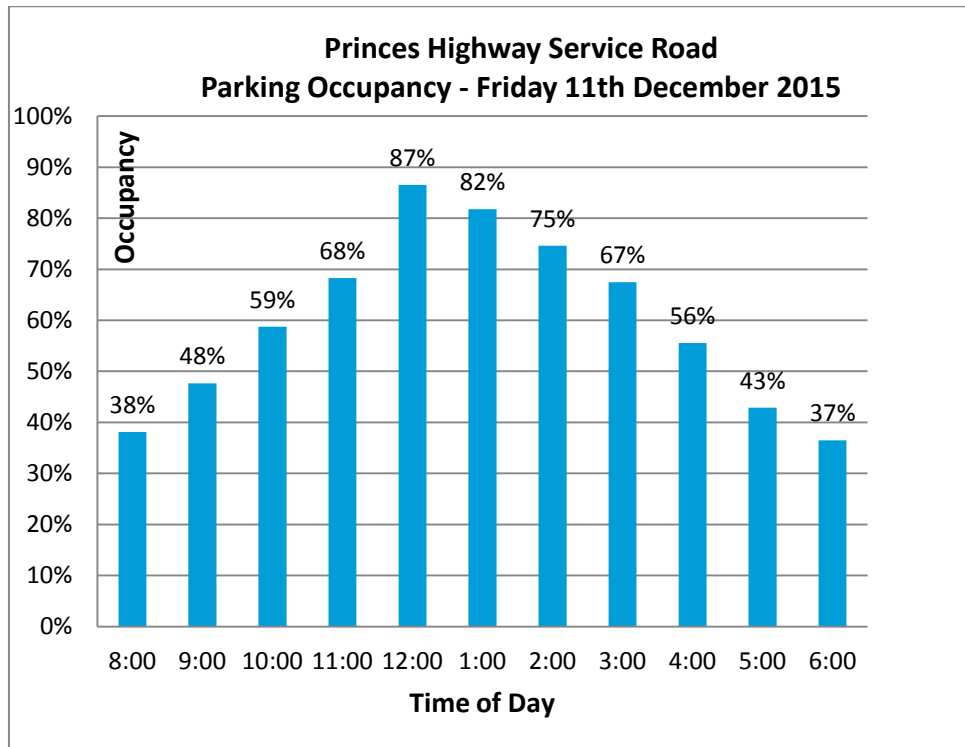


Figure 32 Occupancy Rates for Princes Highway Service Road - Saturday

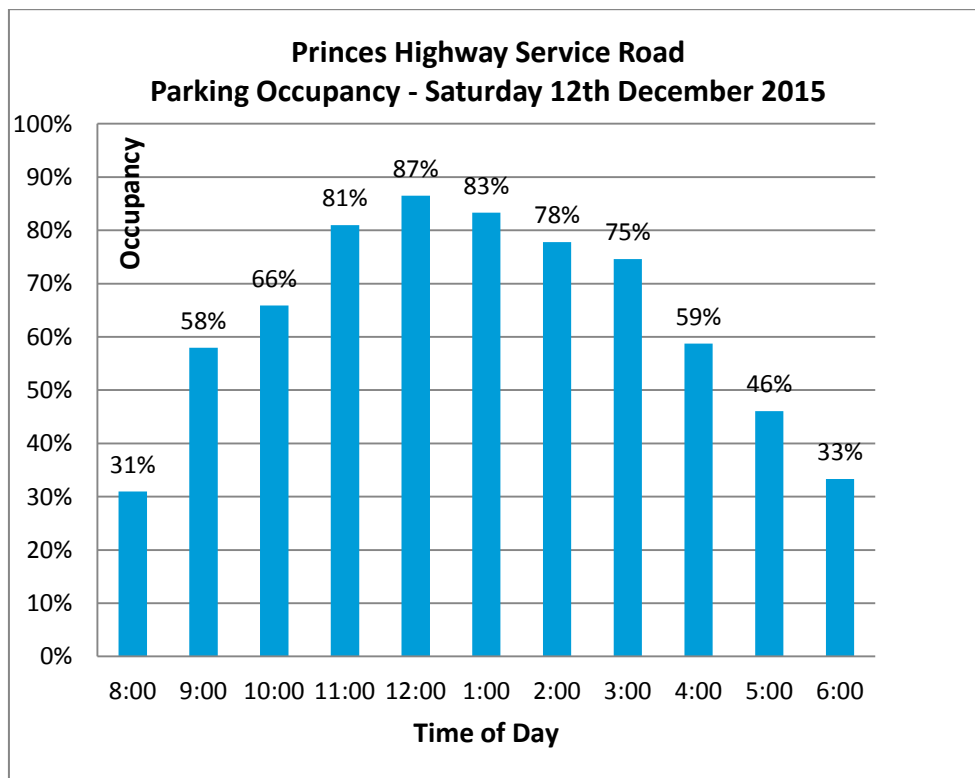
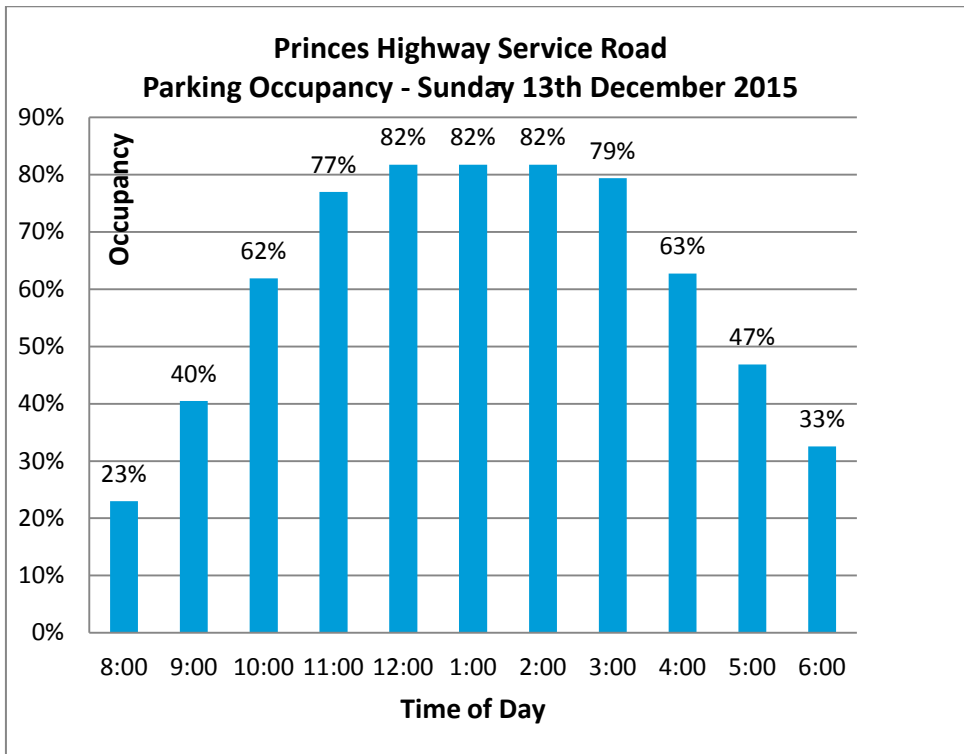


Figure 33 Occupancy Rates for Princes Highway Service Road - Sunday



**Princes Highway Service Road – Parking Duration of Stay by Day**

Figure 34 Parking Duration of Stay for Princes Highway Service Road - Monday

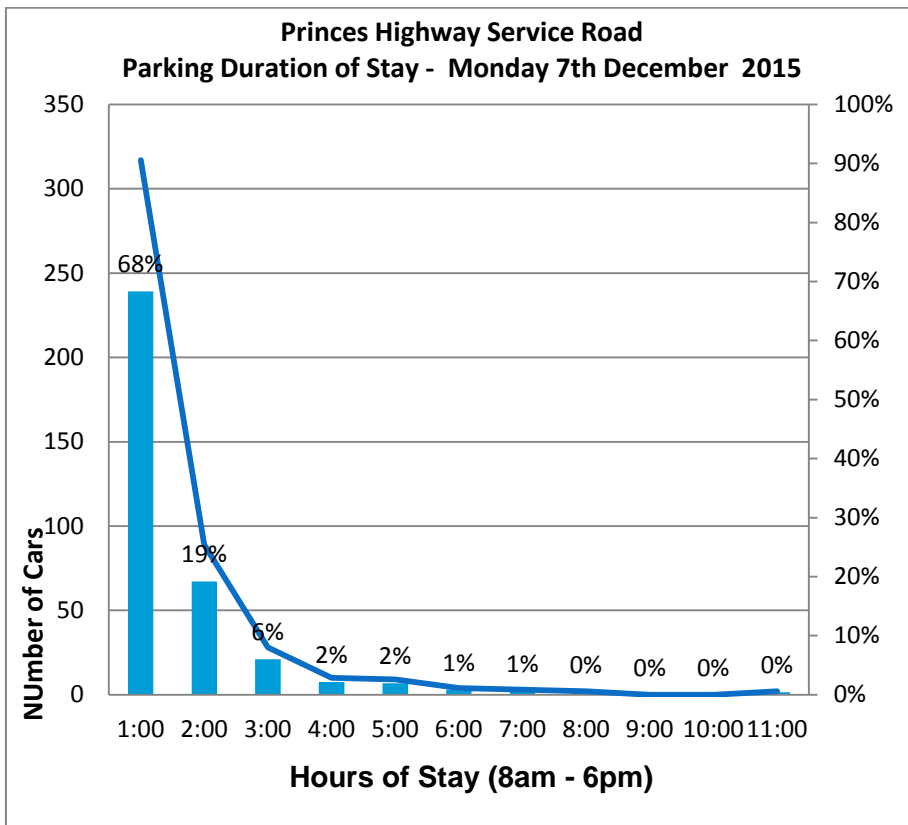


Figure 35 Parking Duration of Stay for Princes Highway Service Road - Wednesday

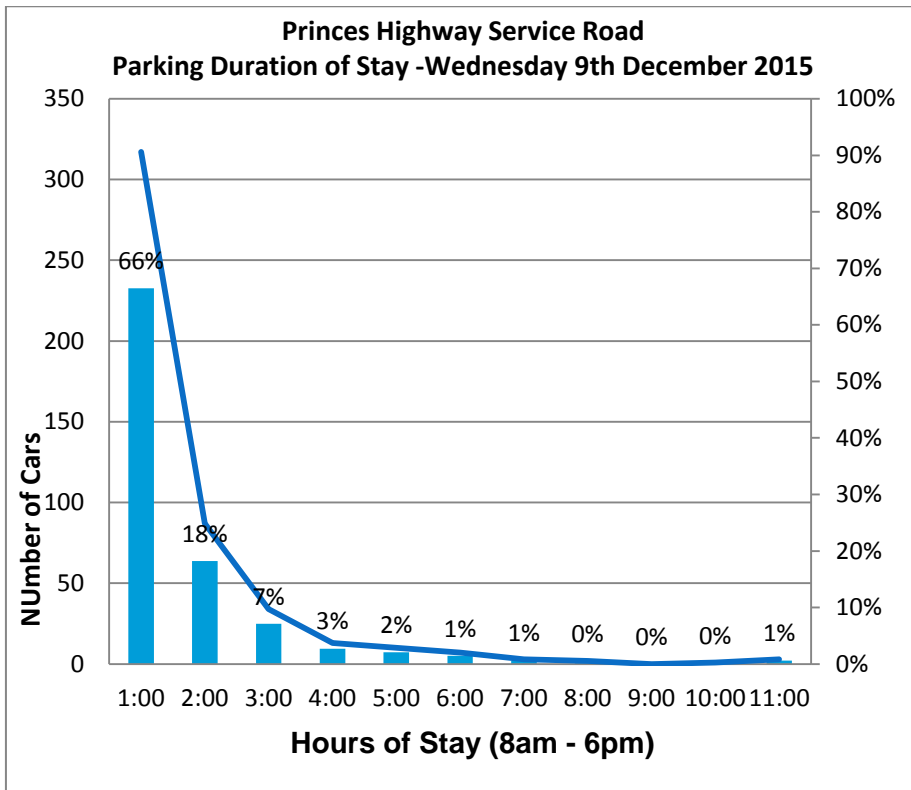


Figure 36 Parking Duration of Stay for Princes Highway Service Road - Friday

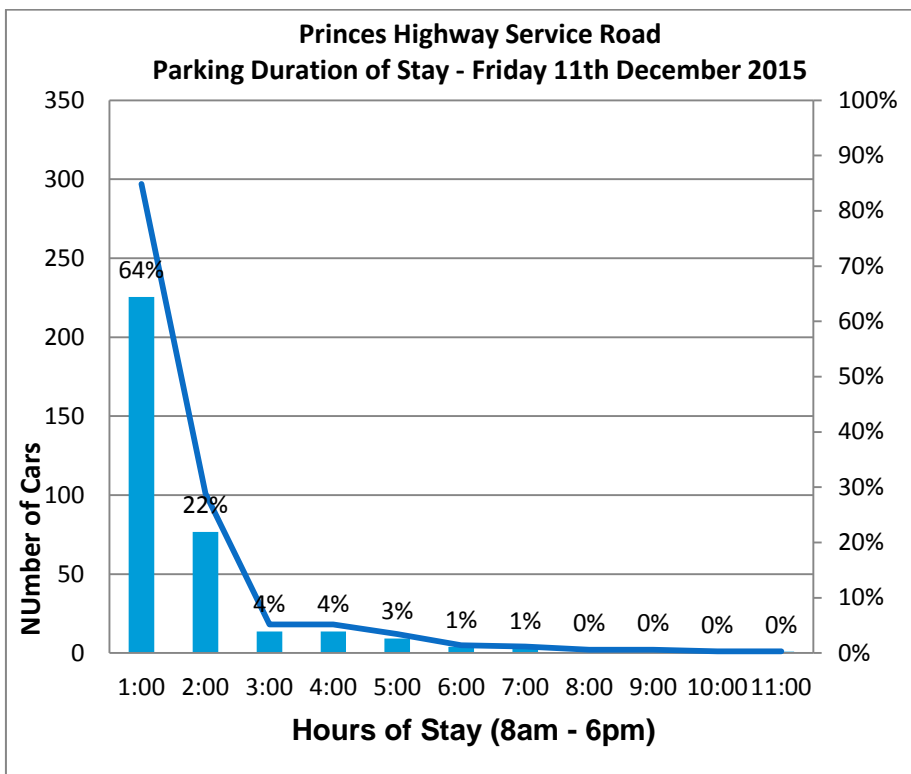


Figure 37 Parking Duration of Stay for Princes Highway Service Road – Saturday

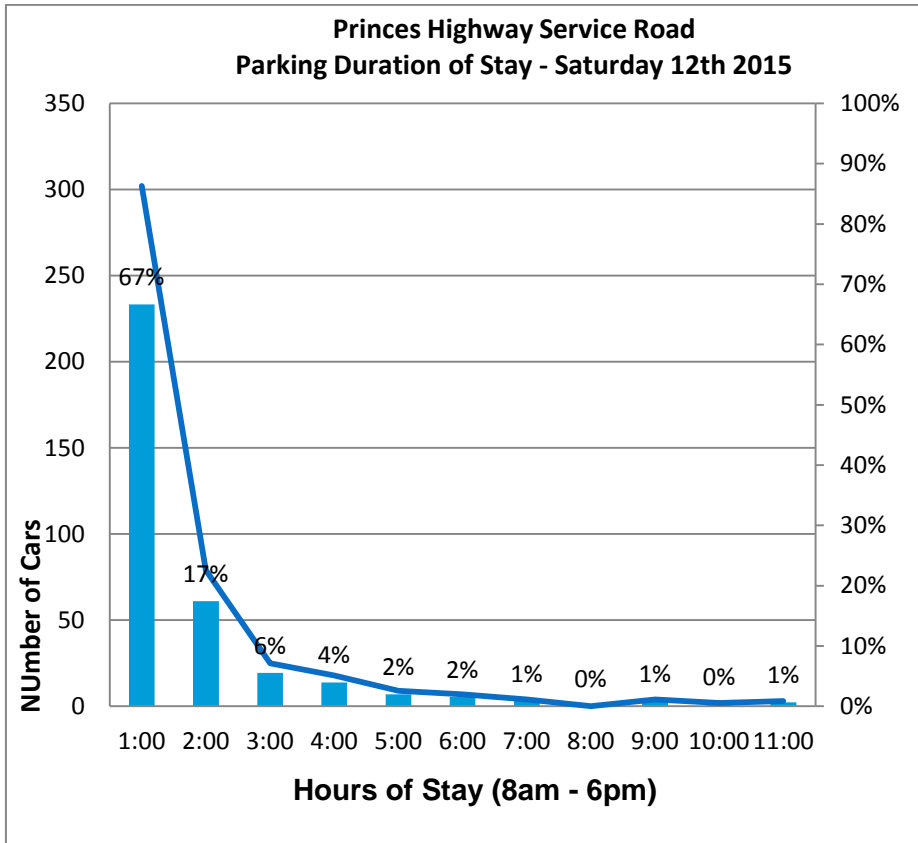


Figure 38 Parking Duration of Stay for Princes Highway Service Road - Sunday

