



Baw Baw Shire Council
Trafalgar CBD Parking Study
August 2016
Final Report

Executive Summary

Council initiated the Trafalgar CBD Parking Study due to the need to review current adequacy and effectiveness of the parking within the Trafalgar town centre area.

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 Trafalgar CBD study area consists of **599** defined parking spaces excluding additional informal private parking such as gravel parking spaces and some parking spaces perceived to be for public use. The survey was conducted over five days in which information was collected every hour within the study area – the study area being Trafalgar central business, commercial and industrial areas. The data range was collected between the period 8am – 6pm to determine parking occupancy rate. Parking occupancy rate is measured by the number of cars parked within the available number of parking spaces. The maximum occupancy rate achieved for each day during the survey period over the entire study area is shown below:

- Monday 7th Dec 2015 41% Occupancy
- Wednesday 9th Dec 2015 42% Occupancy
- Thursday 10th Dec 2015 43% Occupancy
- Friday 11th Dec 2015 43% Occupancy
- Saturday 12th Dec 2015 44% Occupancy

Within the Trafalgar CBD area, there was greater demand for short term parking than long term parking. The average occupancy rates per parking restriction type were detected as per below:

- 2P - 63%
- 1P - 66%.
- 1/2P - 73%
- Unrestricted - 21%

It was also noted that there was a high number of over stays detected during the study period over the five days as indicated below:

- 1/2P - 23 overstays
- 1P – 241 overstays
- 2P – 80 overstays

This was a total of 344 overstays detected during the study period 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 1/2P, 1P and 2P 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: Undertake investigations into locating additional loading bays

Council to investigate locations where additional loading bays could be introduced in consultation with businesses and key stakeholders.

Recommendation 4: Augment Council's parking directional signage

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

Recommendation 5: Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for potential future growth of towns

Council to continue 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 6: Review Parking conditions within Trafalgar CBD in 5 years' time (2021) to determine parking demand based on town growth. Retain vacant Council land in the vicinity of Depot Lane and investigate potential future formalised parking areas

Council to review parking within the Trafalgar 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 good time would also be when the newly rezoned residential area to the west is fully developed. Investigate future parking areas near

Depot Lane where additional formal parking areas could be installed on Council land including reconfiguration of existing car park along Depot Lane to provide more parking and and create safe and activated community space.

Recommendation 7: 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 Trafalgar 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.

1

Executive Summary 2

1.0 Introduction 7

1.1 *Background & Study Objectives*..... 7

1.2 *The need for the Trafalgar CBD Parking Study*..... 7

1.3 *Trafalgar CBD Parking Study Area* 7

2.0 Trafalgar CBD Profile 10

2.1 *Baw Baw Shire and Trafalgar Profile*..... 10

2.2 *Policy documents and previous studies* 11

2.3 *Sustainable Transport Options in Trafalgar CBD* 12

2.3.1 *Walking and Cycling* 12

2.3.2 *Public Transport*..... 12

3.0 Community Input 15

3.1 *Introduction*..... 15

3.2 *Key Stakeholder Comments* 15

3.2.1 *Have Your Say - General Public Comments* 16

4.0 Parking Surveys 18

4.1 *Introduction*..... 18

4.2 *Car Parking Surveys*..... 18

4.3 *Existing Parking Supply* 20

4.3.1 *Overview*..... 20

4.3.2 *Review of Parking Restrictions* 20

4.3.3 *Total Study Area Occupancy Rates* 21

4.4 *Parking Supply and Demand Analysis* 22

4.5 *Observed Parking Trends* 23

4.5.1 *Duration of stay*..... 23

4.5.2 *Compliance with Parking Restrictions* 27

4.6 *Contingent Street – Key Observations* 29

4.7 *Depot Lane – Key Observations* 29

4.8 *Parking Analysis by Restriction Type* 31

4.8.1	On Street Parking Areas	32
4.8.2	Off Street Parking Areas	33
4.9	<i>Management of Priority Parking Spaces</i>	34
4.9.1	Overview	34
4.9.2	Disabled and Mobility Impaired Parking	34
4.9.3	Railway Station Parking	41
4.9.4	Loading zones	42
4.9.5	Scooter and motorcycle parking.....	42
4.9.6	Long Vehicle Parking/ Truck Parking	42
4.10	<i>Enforcement</i>	44
4.11	<i>Directional Signage</i>	44
4.12	<i>Future Parking and Increasing Supply</i>	46
5.0	Planning for Future Growth	47
5.1	<i>Introduction</i>	47
5.2	<i>Township Growth Planning</i>	47
5.3	<i>Future parking requirements</i>	50
5.3.1	Estimated Future Growth of Parking Demand.....	50
6.0	Summary	52
7.0	Recommendations and Implementation Plan	53
7.1	<i>Implementation plan and costing</i>	55
Appendix A – Trafalgar CBD Parking Occupancy Rates		56
Appendix B – Trafalgar CBD Parking Occupancy		59
Appendix C – Contingent Street, Trafalgar – Car Park Occupancy Rates & Duration of Stay		64
Appendix D – Depot Lane, Trafalgar – Car Park Occupancy Rates & Duration of Stay		69

1.0 Introduction

1.1 Background & Study Objectives

The Baw Baw Shire Council has undertaken the Trafalgar 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 the Trafalgar CBD. Based on community concern regarding population growth and parking availability within Trafalgar the parking study has been initiated for Trafalgar 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 Trafalgar 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 2036¹. There has been a spike in subdivision approvals in Baw Baw and most notably, the townships within Baw Baw are growing including Trafalgar with new residential developments on the south eastern boundary of the town. The area to the south west of the township has been recently rezoned to residential and it is expected that this area will be developed in the next few years. Trafalgar is expected to grow at a medium rate increasing to a projection population of 4,802 by 2036 (from 3,044 in 2011) requiring a further 764 dwellings.

1.3 Trafalgar CBD Parking Study Area

The area of focus for the Trafalgar CBD Parking Study includes the major retail and office areas of Trafalgar CBD and closely surrounding areas of similar usage. The chosen study area is bounded by Lady Hamilton Lane (western boundary), Waterloo Road (northern boundary), Kitchener Street including opposite the public hall on Contingent Street (southern boundary) and Anzac Road (eastern boundary). The chosen study area is a best representation of the high traffic area in Trafalgar CBD, with high traffic generally arising from the office and retail floor space in the vicinity, which attracts employees and customers as well as visitors who require parking spaces.

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.

¹ Baw Baw Shire Council Settlement Plan, August 2013, Page 4

The parking spaces not perceived by the public as available for public use were omitted. For example, the car park behind the Trafalgar Technology Centre is a tenant only car park and there are signs that clearly state this, therefore this car park has not been included in the parking study.

The boundaries of the Trafalgar CBD parking study area are shown in Figure 1. Although the public consultation requested parking around schools to be reviewed, this parking study has focused solely on the parking within Trafalgar CBD area. Parking in the vicinity of the local schools will be investigated as a separate project at a future time.



Figure 1 Trafalgar CBD Parking Study Area

2.0 Trafalgar CBD Profile

2.1 Baw Baw Shire and Trafalgar 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 urban and rural 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.

Trafalgar is a medium sized town located along the Princes Highway in between the townships of Moe and Yarragon. According to the 2006 census, Trafalgar-Trafalgar East had a population of 2,685 residents. Comparatively according to the 2011 census, the population has grown to 3,978, living in 1,746 dwellings with an average household size of 2.45

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

Trafalgar CBD's main employment industries include construction, health and community services, education and training as well as retail trade. These businesses service Trafalgar CBD's population of 2,685 (2011, Census).

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

According to the Trafalgar's Community Priorities 2013-2018 report which was compiled by the community itself (initiated by the Committee for Trafalgar in June 2013), they state that *'Trafalgar has a history of being a small, close-knit and friendly community and is open to including the many new people coming into the town to live into its common life'*. The aspirations and vision for the town (short term, medium and long term goals) includes holding more social and community events, more recreation and community facilities and social hubs, and infrastructure improvements. Infrastructure improvements included parking in general as well as railway station parking, additional footpaths, walking and cycling paths.

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 of the study 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)
- Trafalgar Community Plan 2013 - 2018
- Baw Baw 2050
- Council Plan 2013-17
- Walk Cycle Baw Baw 2014
- Settlement Management Plan (August 2013)
- Baw Baw Planning Scheme
- VicRoads Rest Area Strategy
- Draft Trafalgar Urban Design Framework June 2016

2.3 Sustainable Transport Options in Trafalgar CBD

2.3.1 Walking and Cycling

Trafalgar has an appreciable footpath network within the CBD area. Footpaths are provided on both sides of the road within the large majority of the CBD area. Dedicated Pedestrian crossing points are located along Contingent Street. Crossing points vary from pedestrian operated signals on Princes Highway for pedestrian access to the Trafalgar Railway Station to pram crossings at various intersections.

There were a number of footpath links in and around Trafalgar that were constructed by Council as part of the capital works budget FY 2015/16 which included footpaths along Anzac Road, Kitchener Street, Thorpdale Road, Depot Lane (section between car park) and School Road. These locations were identified as high priority locations where footpath connections would improve accessibility within the township. Given that Trafalgar 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 Trafalgar 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

Public transport connects the major towns of Baw Baw Shire including Trafalgar CBD along the Princes Freeway Corridor. Public Transport Victoria (PTV) provides infrastructure and services including a coach bus service from Pakenham to Traralgon that runs through the township of Trafalgar. 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 with service intervals times decreasing to cater for the morning and afternoon peak.

Travel to and from Trafalgar by bus is serviced by Warragul Bus Lines on the 5072 Moe to Warragul route which bypasses the regional townships of Trafalgar East, Trafalgar, 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**'.

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.

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%

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%

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

3.1 Introduction

Public consultation is key in determining both users expectations and developing measures to create an effective parking regime which will be largely derived from the key findings of the parking study.

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 Trafalgar CBD.

3.2 Key Stakeholder Comments

Council consulted with the Trafalgar Community Development Association Inc. and the Trafalgar Chamber of Commerce and Council officers attended their committee meetings to obtain the feedback and general theme of comments are summarised below:

- Request to include Contingent Street to be included in the parking study (south of the RSL, Indian Restaurant, Churches, Police Station, Kinder and Tennis Courts) and Trafalgar RSL.
- Request for the development of the railway station to include more parking for commuters
- Request for more disabled car parking
- Request improvements in enforcement and patrols as the lack of enforcement has led to sections with restrictions to be unavailable all day
- There is not enough car parking spaces to meet the current demand and in the future
- Future parking areas could include Kitchener and Lady Hamilton Lane, Depot Lane near Kitchener Street, the VicRoads road reserve on Princes Highway and in the leased land north of the railway line (currently leased to grain company)
- The vacant land north of the highway, near Saleyards Road be also monitored even though it is vacant land
- Depot Lane should be monitored (vacant leased area near the nature strip which is council owned)
- Note that in the draft report, it should be specific to included that schools are not included as part of this study
- A signage audit to be done (rationalise signage and update existing signs and remove unnecessary signs)

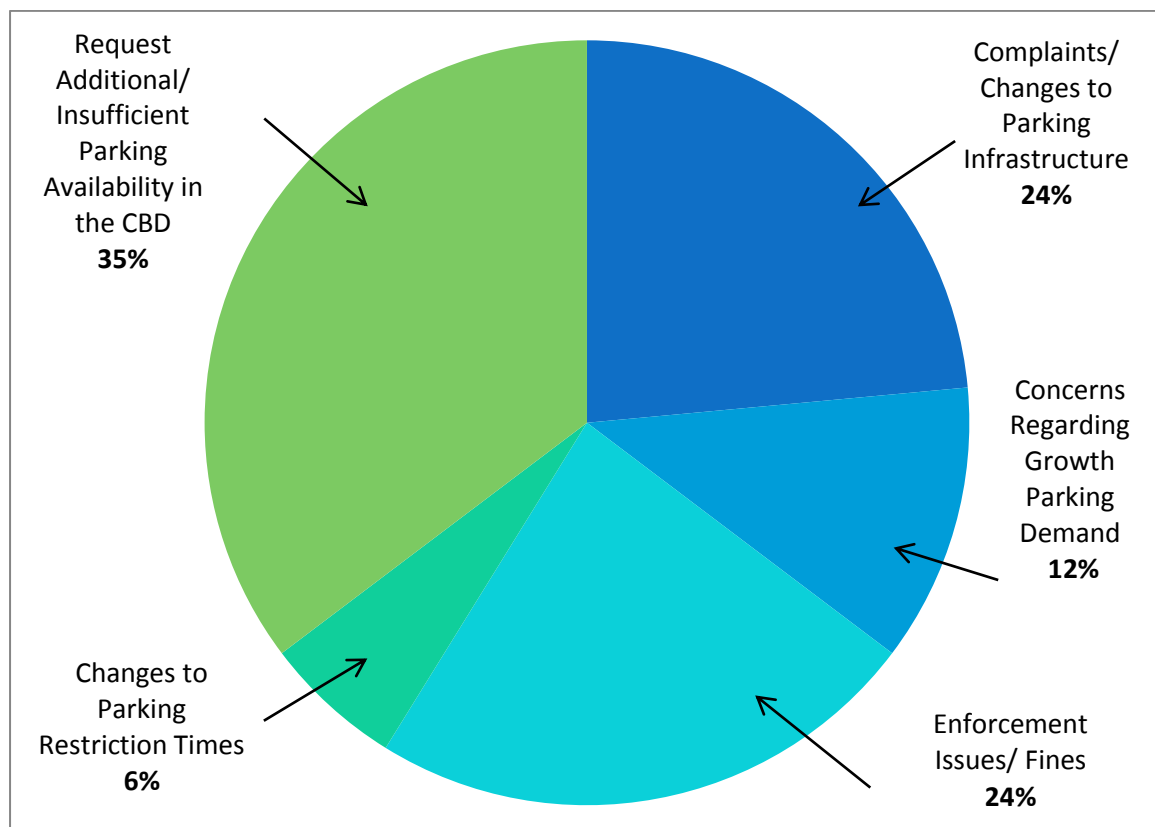
In total, seventeen responses were received during the initial public consultation period, where residents, business owners and stakeholders outlined their concerns within parking in the Trafalgar CBD area.

Concerns were raised by participants on a number of issues namely the amount of parking available within the CBD including disabled bays, the duration of stay, the growth of the town to be considered for parking changes, illegally parked vehicles and overstay, lack of enforcement, lack of short term parking areas, inadequate railway station parking, inconsistent and inadequate signage.

3.2.1 Have Your Say - General Public Comments

There were seventeen comments received from the 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 were noted for data analysis purposes.

Figure 2 Compilation of Public Survey Comments



Nine comments were received during the public exhibition period for the draft Trafalgar CBD Parking Study report with the main themes of the feedback being:

- Inadequate number of loading bays and disabled parking bays.
- Need for additional car parking spaces closer to the town centre.
- Consideration for extension of time limits for short-term parking.
- Concerns regarding provision of adequate parking for future developments within the town.
- Concerns regarding proposed increase in enforcement.

4.0 Parking Surveys

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 employees who require parking close to work. The CBD area land use consists supermarkets, restaurants, cafes, medical centres, local businesses and public halls.

The parking study area in Trafalgar CBD extends to Lady Hamilton Lane to the west, Waterloo Road to the north, Anzac Road to the East and Kitchener and the Trafalgar public Hall on Contingent Street to the south. The study area has also included the industrial zone in the north along Waterloo Road.

The study area include 599 parking spaces for review. This includes 341 on street and 258 off street parking spaces as part of the study consisting of a mix of publicly owned parking and privately parking such as the IGA supermarket parking. The existing parking restrictions within the study area in Trafalgar CBD are shown as per Figure 3.

4.2 Car Parking Surveys

Comprehensive in depth 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 7th December 2015, from 8:00AM–6:00PM. The data was collected at hourly intervals for all 599 individual parking spaces.

Figure 3 Trafalgar CBD Parking Study Area – Parking Restrictions



4.3 Existing 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 Trafalgar CBD continues to 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 all towns of Baw Baw Shire including Trafalgar CBD due to the peri urban landscape by nature for most of the towns and 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 Trafalgar CBD area. The majority of the parking supplied within the CBD area is unrestricted parking, making up 81.6% of all available car parking. This is a very high supply compared to the next largest supply for 2P parking which only makes up 4.8% 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	TRAFALGAR CBD AREA	
	Supply	% of Total Supply*
1/2P	4	0.7%
1P	52	8.7%
2P	29	4.8%
Disabled	10	1.7%
Loading Zone	2	0.3%
Long Vehicle	3	0.5%
No Stopping (Part Time)	10	1.7%
Unrestricted	489	81.6%
Total	599	100%

4.3.3 Total Study Area Occupancy Rates

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

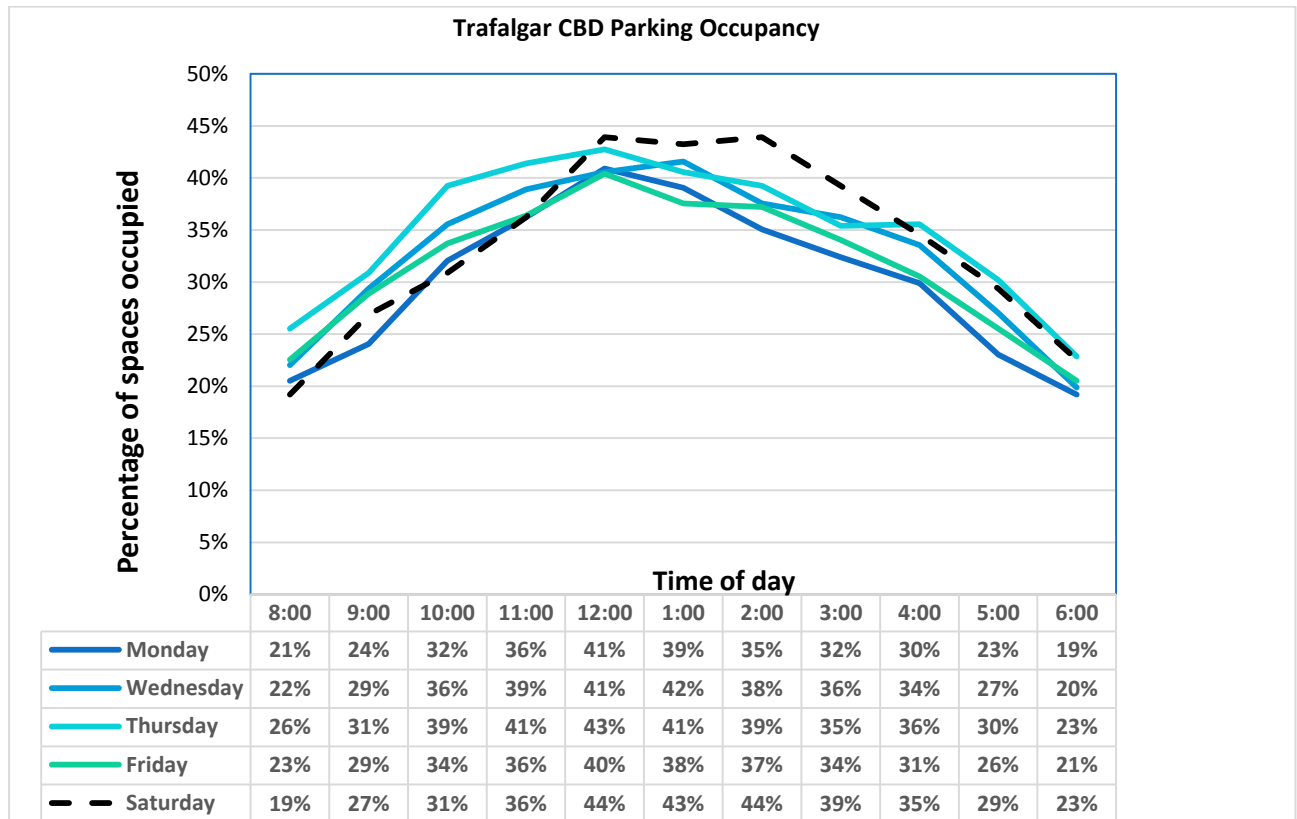


Figure 4 Daily profile of parking demand for all parking in the CBD area

As evident in the figure above, it was observed that the highest occupancy rate was recorded at 44% during the lunch time period 12:00pm – 2:00pm on a Saturday for the Trafalgar CBD parking study area as a whole.

Generally, on any given day, peak occupancy rates were recorded during lunch time with occupancy rates just over 40%.

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 study area. The values shown in the table below 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 Trafalgar CBD

Parking Restriction	TRAFALGAR CBD		
	Supply	Average Daily Occupancy (over 5 days)	Highest Daily Occupancy
Unrestricted	489	21%	25%
2P	29	63%	81%
1P	52	66%	69%
1/2P	4	73%	80%
Disabled Bays	10	38%	53%
Loading Zones	2	43%	68%
Long Vehicle Parking	3	35%	58%
No Stopping (Part Time)	10	34%	38%
TOTAL	599	28%	33%

From the table above, it can be noted that:

- There is a large supply of long term / unrestricted parking (489 spaces) within the study area (Depot Lane and Contingent Street and McCrory Street off street car parks and most areas for on-street car parking).
- Unrestricted parking make up almost 82% of all available car parking within the Trafalgar CBD parking study area with an average occupancy of 21%.
- 1P restricted parking is located on street along Contingent Street and Princes Highway with a total of 52 spaces and the recorded average occupancy was 63%.
- 2P restricted parking is located in the off street car park between McCrory Street and Contingent Street with a total of 29 spaces, with average occupancy of 66%.
- At peak times (12-2pm), parking is competitive in the CBD area with approximately 23 of the available 29 2P spaces being occupied, and 36 of the 52 1P spaces being occupied.
- At peak times in the parking study area, there are approximately 122 unlimited parking spaces occupied out of the available 489 spaces.
- At peak times in the parking study area, there are approximately 5 disabled parking bays occupied out of the available 10 spaces.

Please refer to Appendix B for spatial representations 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 community needs. The tables and figures below illustrate 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 1st hour (from 7am).

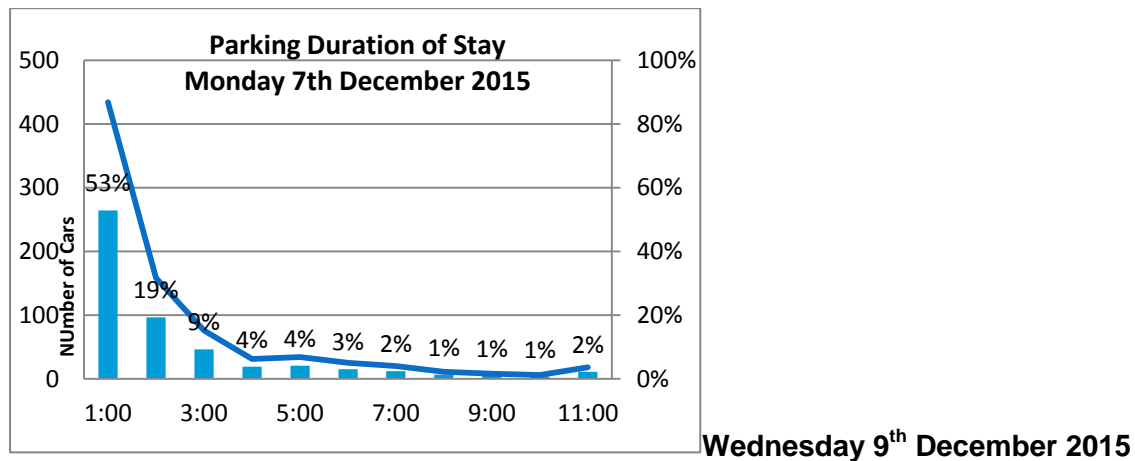
4.5.1.1 Monday 7th December 2015

There was a total turnover of 821 vehicles over the course of the day. About 53% of all vehicles parked for 1 hour or less within the study area, 19% staying 2 hours or less and 9% staying 3 hours or less. There was a total of 18 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 7th 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	821	821	821	821	821	821	821	821	821	821	821
Vehicles @ DOS	434	158	76	31	34	25	20	11	8	6	18
Percentage	53%	19%	9%	4%	4%	3%	2%	1%	1%	1%	2%

Figure 5 Observed Duration of Stay (hours) – Monday 7th December 2015

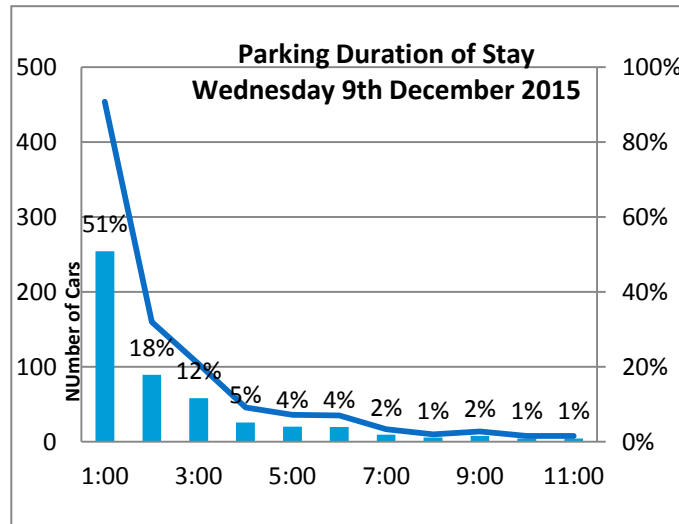


There was a total turnover of 892 vehicles over the course of the day. About 51% of all vehicles parked for 1 hour or less within the study area, 18% staying 2 hours or less and 12% staying 3 hours or less. There was a total of 8 cars that stayed for 11 hours or more in the same car parking spot over the course of the day.

Table 4 Observed Duration of Stay (Hours) – Wednesday 9th 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	892	892	892	892	892	892	892	892	892	892	892
Vehicles @ DOS	454	160	104	46	36	35	17	10	14	8	8
Percentage	51%	18%	12%	5%	4%	4%	2%	1%	2%	1%	1%

Figure 6 Observed Duration of Stay (hours) – Wednesday 9th December 2015



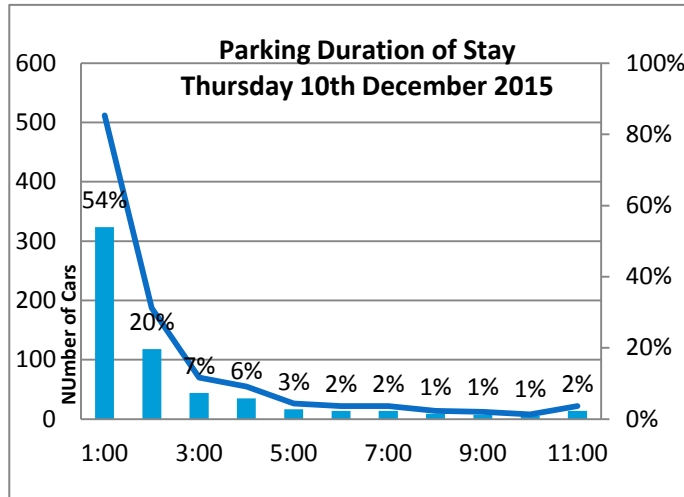
4.5.1.2 Thursday 10th December 2015

There was a total turnover of 950 vehicles over the course of the day. About 54% of all vehicles parked for 1 hour or less within the study area, 20% staying 2 hours or less and 7% staying 3 hours or less. There was a total of 22 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) – Thursday 10th 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	950	950	950	950	950	950	950	950	950	950	950
Vehicles @ DOS	512	187	70	55	26	22	22	14	12	8	22
Percentage	54%	20%	7%	6%	3%	2%	2%	1%	1%	1%	2%

Figure 7 Observed Duration of Stay (hours) – Thursday 10th December 2015



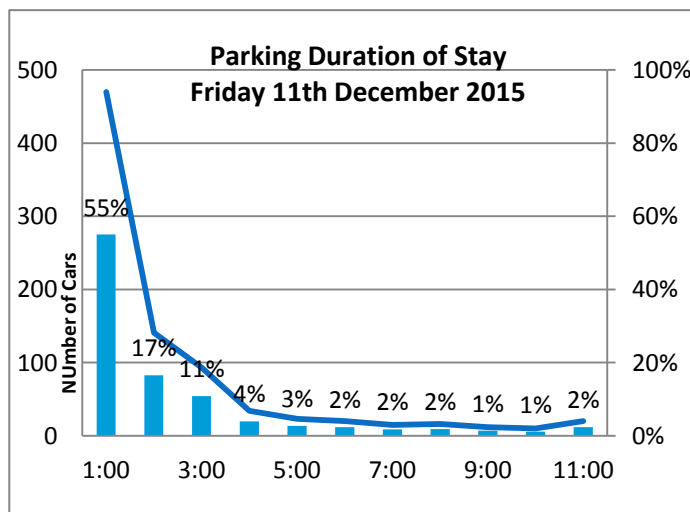
4.5.1.3 Friday 11th December 2015

There was a total turnover of 854 vehicles over the course of the day. About 55% of all vehicles parked for 1 hour or less within the study area, 17% staying 2 hours or less and 11% staying 3 hours or less. There was a total of 20 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) – Friday 11th 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	854	854	854	854	854	854	854	854	854	854	854
Vehicles @ DOS	470	141	93	34	23	20	15	16	12	10	20
Percentage	55%	17%	11%	4%	3%	2%	2%	2%	1%	1%	2%

Figure 8 Observed Duration of Stay (hours) – Friday day 11th December 2015



4.5.1.4 Saturday 12th December 2015

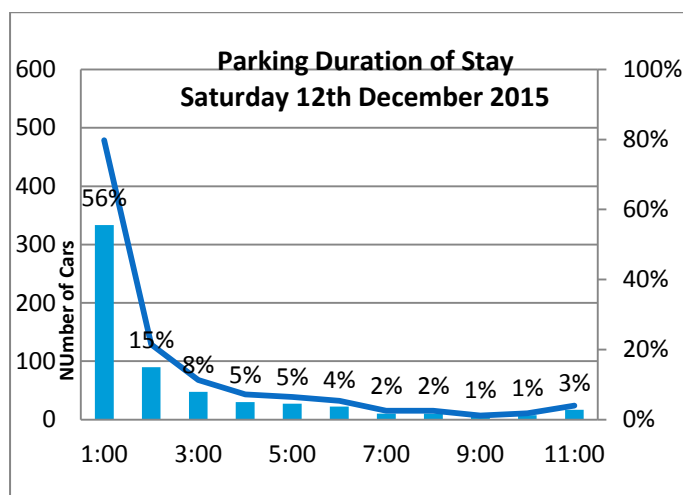
There was a total turnover of 862 vehicles over the course of the day. About 56% of all vehicles parked for 1 hour or less within the study area, 15% staying 2 hours or less and 8%

staying 3 hours or less. There was a total of 24 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) – Saturday 12th 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	862	862	862	862	862	862	862	862	862	862	862
Vehicles @ DOS	479	129	68	43	39	32	15	15	7	11	24
Percentage	56%	15%	8%	5%	5%	4%	2%	2%	1%	1%	3%

Figure 9 Observed Duration of Stay (hours) – Saturday 12th 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 %					Average Occupancy Rate
		Monday	Wednesday	Thursday	Friday	Saturday	
Unrestricted	489	15%	24%	25%	22%	19%	21%
2P	29	58%	60%	61%	54%	81%	63%
1P	52	63%	65%	69%	64%	69%	66%
1/2P	4	69%	80%	77%	66%	73%	73%
Disabled Bays	10	37%	37%	53%	34%	25%	37%
Loading Zones	2	45%	32%	36%	68%	32%	43%
Long Vehicle	3	48%	58%	9%	24%	36%	35%
No Stopping (part time)	10	35%	35%	38%	36%	28%	34%
Total	599						

Table 9 Observed Duration of Stay per Restriction type (mins)

General Restriction	TRAFALGAR CBD AVERAGE DoS* (mins)						
	Monday	Wednesday	Thursday	Friday	Saturday	Average duration of stay over survey period	Average Over Stay
1/2P	84	84	78	84	66	79	NA
1P	72	78	72	72	72	73	13
2P	90	96	72	72	60	78	0
DISABLED	90	72	90	96	54	NA	NA
LOADING	66	96	72	72	60	NA	NA
UNRESTRICTED	66	84	90	90	78	NA	NA

*DoS refers to Duration of Stay

Table 10 Observed Number of Over Stays

General Restriction	TRAFALGAR CBD NUMBER OF OVER STAYS					Total
	Monday	Wednesday	Thursday	Friday	Saturday	
1/2P	6	9	4	2	2	23
1P	52	54	49	39	47	241
2P	15	21	10	10	24	80

Note: Disabled Bays, Loading Zones and unrestricted areas were not included for analysis of overstay

Overstay Areas

The average overstay periods for the restricted areas for the study period was:

- 1/2P – Unable to obtain due to hourly data collection
- 1P – 13 minutes
- 2P – The average stay within the 2P area was less than the time restriction

4.5.2 Compliance with Parking Restrictions

Based on the tables in section 4.5.1 above it 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.

½ P Parking Areas

- There are four ½P parking spaces located along Princes Highway on the south side between Contingent Street and Anzac Road.

- The results show the ½P parking spaces had an average duration of stay being more than 80mins on most days of the week. The lowest average stay was still over 60mins (double the permitted period of allocated time for parking).
- The duration of stay may be the consequence of the lack enforcement in the area contributing to the behaviour of overstay by motorists. The results may also indicate that the time restriction at this location may not be appropriate for the period for patrons to conduct their businesses associated at this location. However, it was deemed that these bays are needed for shorter trips (drop off and pick up activities).
- The data from the parking survey indicated that for the ½P restricted area, the average overstay time was less than two hours and one vehicle was detected at staying for up to six hours. Over the course of the study period there were 23 detected over stays within the ½P restricted area. The occupancy rate of the ½P restricted spaces was high between 60-80% with the highest occupancy rate detected on a Wednesday.

1P Parking Areas

- The 1P restricted parking space are located along the south side of Princes Highway and on both sides of Contingent Street. The average duration of stay for all days was between 70-80 minutes. It could be concluded that 1P may not be the appropriate restriction for the area and perhaps it could be extended to be 2P, however this change would reduce the parking turnover and in turn reduce the number of available short term parking.
- Overstay behaviour may again be due to the lack of the presence of enforcement. There was a high number of overstay vehicles detected within the 1P restricted areas – some 241 vehicles over the study period of 5 days. 1P restricted areas were more or less utilised at around 60% occupancy rates with a high occupancy rate on Saturday (81%).

2P Parking Areas

- Within the 2P restricted areas, there were 80 overstay vehicles detected with a few vehicles detected to have stayed 3-4 hours with one detected to have stayed up to 6 hours. The occupancy rates ranged from 15% to 25% which suggest that there is very little demand for long term parking within the CBD area as a whole.

Unrestricted Parking Areas

- Within the unrestricted parking areas, the average duration of stay ranged from 60 mins to 90 mins which suggests that within the Trafalgar CBD area, there is a greater demand for 1-2 hour restricted parking spaces.
- Results show 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 Contingent Street – Key Observations

Although data analysis has been provided for the overall study area, parking occupancy and the duration of stay rates are not comparative as different areas vary due to many factors. Different car parking areas have different functions and meets differing parking needs of the community. The data for the parking survey has been collected by areas. A rundown of parking observations have been made for each area in the various sections of the report.

The parking study revealed that one of areas where the highest occupancy of parking was detected was along Contingent Street. Contingent Street is the busiest area within the CBD. Contingent Street is essentially the main street in the town and it contains many cafes and restaurants, medical centres, bakeries, a local hotel and is the main thoroughfare from the residential area through town to the railway station across Princes Highway. Contingent Street is also the main access through to the Depot Lane car park as well as the car park located between Contingent Street and McCrorey Street.

There are 18 unrestricted parking spaces between Kitchener Street to the Public Hall. There are 18 1P parking spaces between Princes Highway and Kitchener Street. The key findings below summarises the parking occupancy and duration of stay in more detail.

- The patterns found for Contingent Street are typical of the entire study area with the peak occupancies detected between 12-2pm. The highest parking occupancy rate detected in Contingent Street was 62% on Saturday. The typical duration of stay was for one hour (78% of all vehicles parked in this area).
- During weekdays, about 77-78% of all car parking patrons along Contingent Street stayed for 1 hour or less with up to 19% staying for 2 hours.
- On Saturday, up to 82% of car parking patrons parked along Contingent Street stayed for 1 hour or less and 14% stayed for 2 hours.
- It can be concluded that generally occupancy rates of 60% is satisfactory 2P would suit the needs of most patrons along this section therefore, 2P is to be retained. However, increased enforcement would be recommended.

Please refer to Appendix C for occupancy rates and duration of stays in Contingent Street

4.7 Depot Lane – Key Observations

There is an off street car park along Depot Lane which consists of 39 unrestricted car parking spaces, two disabled bays and ten additional spaces that is reserved for the mobile library from 8am – 1.30 on Tuesdays and 8am - 6.30pm on Fridays. There are a few major facilities located off this car park including the post office, banks, the skate park, and community and training centres. The key findings for this car park were the following:

- The average daily occupancy rate for the unrestricted spaces over the five study days was 56% which indicates the car park is usually only half full on most days.
- The average daily occupancy rate for the disabled spaces over the five study days was 29%.

- As the town continues to grow, it is expected that any overflow from this car park will not be distributed to other on street or off street areas but onto the informal vacant land nearby purely due to proximity.
- It can be concluded that generally occupancy rates of 29% is low and more than satisfactory. If however the occupancy rates were to increase past 70-80% it would be advised that short term restrictions could be introduced.

Table 11 Parking Occupancies in Depot Lane Car Park

General Restrictions	DEPOT LANE – AVERAGE DAILY PARKING OCCUPANCY RATES (%)					
	Monday	Wednesday	Thursday	Friday	Saturday	Average
LONG VEHICLE	48	55	9	24	30	33
UNRESTRICTED	56	56	66	57	45	56
DISABLED	18	45	32	14	36	29
NO STOPPING	35	35	38	36	28	34



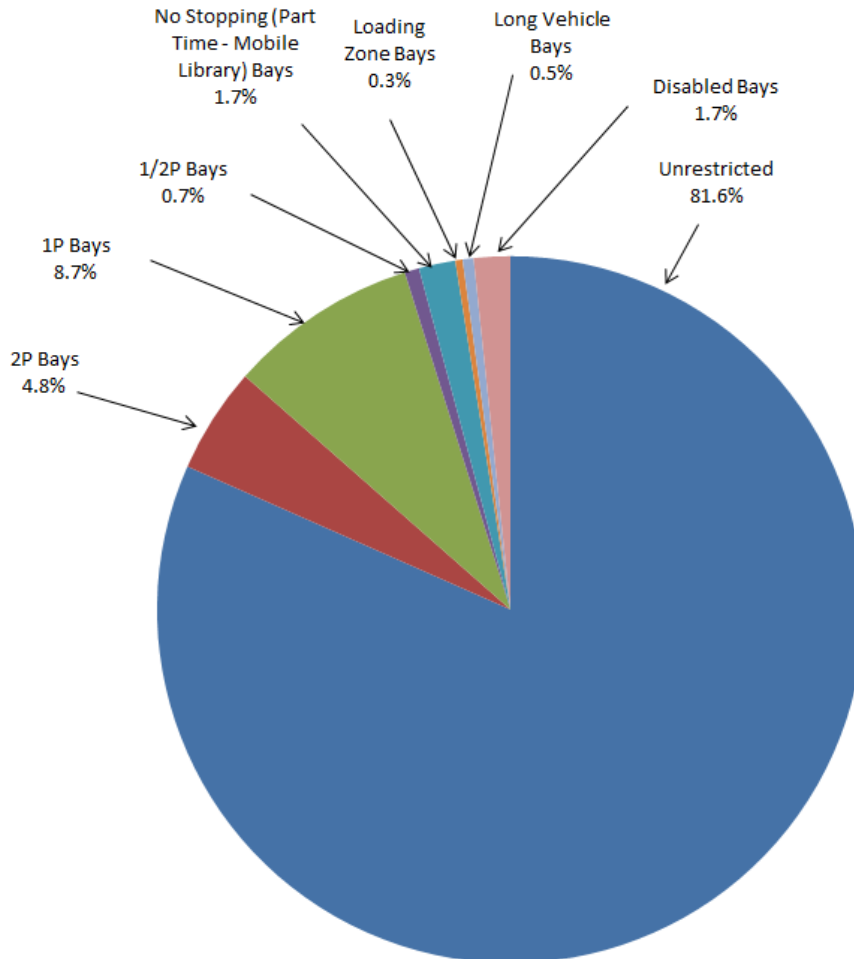
Figure 10 Depot Lane Car Park

Please refer to Appendix D for occupancy rates and duration of stays in Depot Lane

4.8 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 (52 spaces for 1P and 29 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 63% and 66% respectively) is much greater than for longer term parking (where the occupancy rates are on average about 21%).
- Both 1P and 2P Parking contribute to 8.7% and 4.8% (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 (with the exception of 1/2P where the occupancy rate was 73%). Opportunity exists, therefore to increase the number of 2P parking in favour of 1P and 1/2P parking.
- Given that up to 81.6% of the all parking available within Trafalgar CBD is unrestricted parking with 489 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.

4.8.1 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 Trafalgar there are no 1/4P parking areas and there are only four 1/2P parking spaces.

The duration of stay figures indicated that on a whole, more than 50% of all trip stays is for one or two hours or less, yet 1P parking restrictions within the Trafalgar CBD area of the parking study comprises only 8.7% 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.

All of the off street car parks are within walking distance of the shops and public amenities however due to the fact that unrestricted spaces within the Trafalgar CBD parking study area make up almost 81.5% 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 21%. 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.

4.8.2 Off Street Parking Areas

The table below indicates the parking supply by restriction type for **off street parking** areas.

Table 12 Off Street Parking Restriction Type Distribution

Parking Restriction	OFF STREET PARKING
	Supply
1/2P	0
1P	0
2P	29
Disabled	8
Loading Zone	3
Long Vehicle	3
No Stopping (Part Time)	10
Unrestricted	314

It was observed that at present Trafalgar CBD has a very high number of longer term parking opportunities within off street areas and on street areas. However much of the long term parking is located in the off street car parks located in the following areas:

- McCrorey Street west car park (IGA owned) – 47 spaces (+2 disabled bays)
- McCrorey Street east **Council** car park – 49 spaces (+3 disabled bays)
- Depot Lane car park **Council** – 39 spaces (+2 disabled bays)
- Public Hall in Contingent street **Council** owned car park– 30 spaces
- Princes Highway car park (Railway Station car park) – 29 spaces (+ 1 disabled bay)
- Waterloo Road north car park (**Council** vacant lot at Saleyards Road) – 40 spaces
- Waterloo Road south car park (VicTrack land leased to grain company) – 80 spaces

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

However it is noted that the number of privately owned smaller off street parking areas such behind the Baw Baw Technology Centre have limited to no natural surveillance and lighting with many parking areas not viewable from nearby streets. This parking area has been omitted from the study due to it being private property.

4.9 Management of Priority Parking Spaces

4.9.1 Overview

The parking study has highlighted that the most highly sought parking spaces in the study area of Trafalgar CBD are the on street parking spaces along Contingent Street. Efficiency of these spaces is vital to the effective functioning of Trafalgar CBD's parking. A good mixture of short, medium and long-term parking and the presence of loading zones and disabled parking zones are critical in order to cater for the needs of the entire public.

4.9.2 Disabled and Mobility Impaired Parking

Trafalgar 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 10 disabled spaces included in the Trafalgar CBD Parking Study study area with these spaces located in 4 different locations around the study area. There is one disabled bay in the back car park behind the Technology centre that is very faded and not sign posted so it ambiguous as to whether it is a disabled bay.

In reviewing these spaces, Council has taken into account the results of public surveys which included requests for more disabled parking bays.

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 although the public felt that there was inadequate disability and mobility impaired parking around, average occupancy rates for the existing disabled spaces were noted to be only 38%. This result shows that there are two possible scenarios occurring. Either, the disability parking spaces are under-utilised around Trafalgar 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. It is concluded that additional disabled parking bays need to be installed.

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

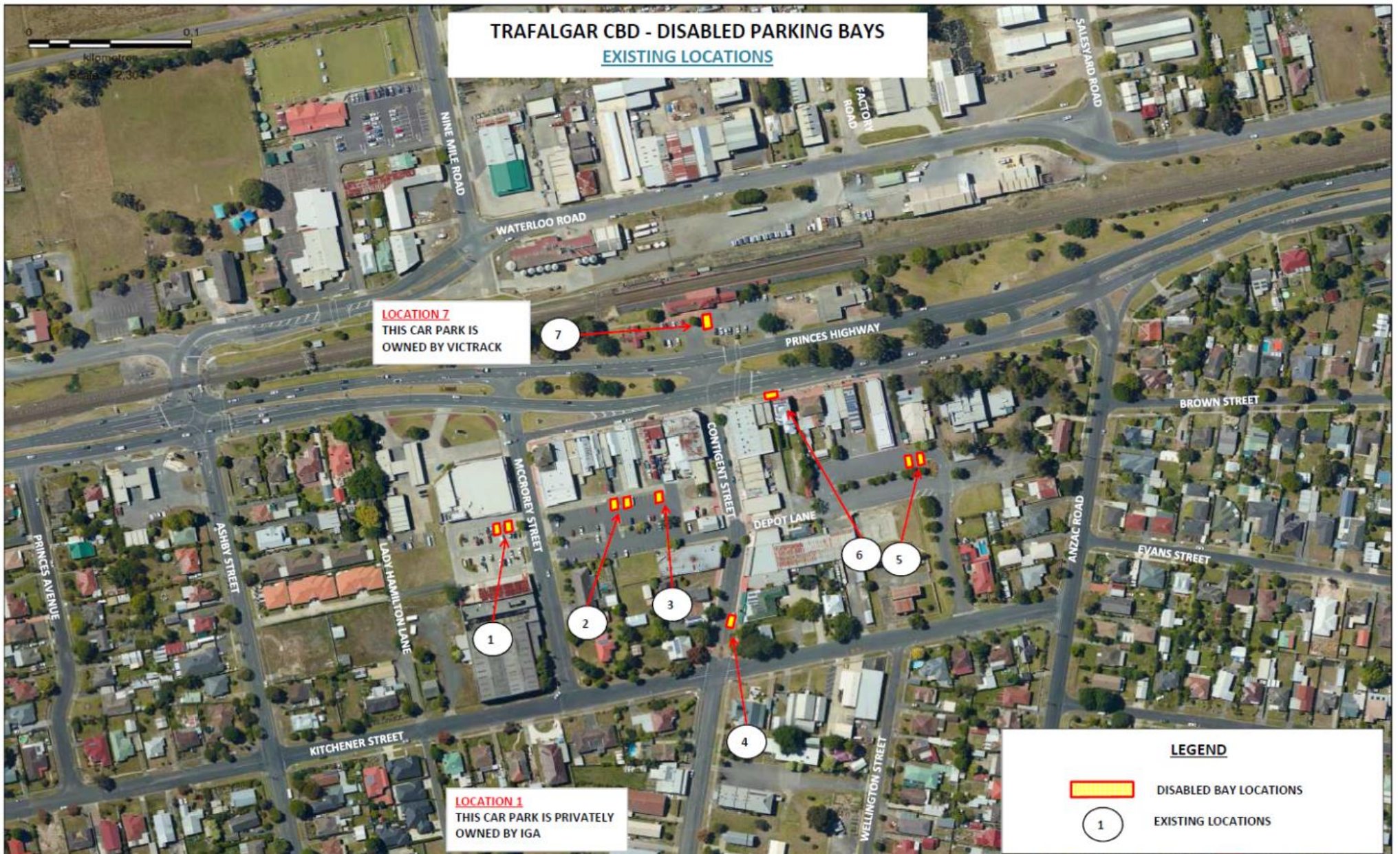


Figure 13 McCrory Street West Car Park – IGA Car Park



LOCATION 1

MCCROREY STREET WEST CAR PARK (IGA PRIVATE CAR PARK)

NO. SPACES: 2 OFF STREET

ISSUE: NO SHARED ZONE AND BOLLARD, NO SIGNAGE

LOCATION 1

REQUIRED WORKS: INSTALL NEW BAY. INSTALL NEW SHARED ZONE. INSTALL NEW BOLLARD. INSTALL SIGNAGE. THIS CAR PARK BELONGS TO IGA. ANY CHANGES WOULD BE ADMINISTED BY IGA.

The IGA car park is privately owned by IGA and any changes in the car park including upgrading of the disabled bays or any timed restrictions required will need to be administered by IGA. The works required at this bay include the installation of a new shared zone with line marking and bollard, and the relocation of one disabled bay to the next available space next to the shared zone.

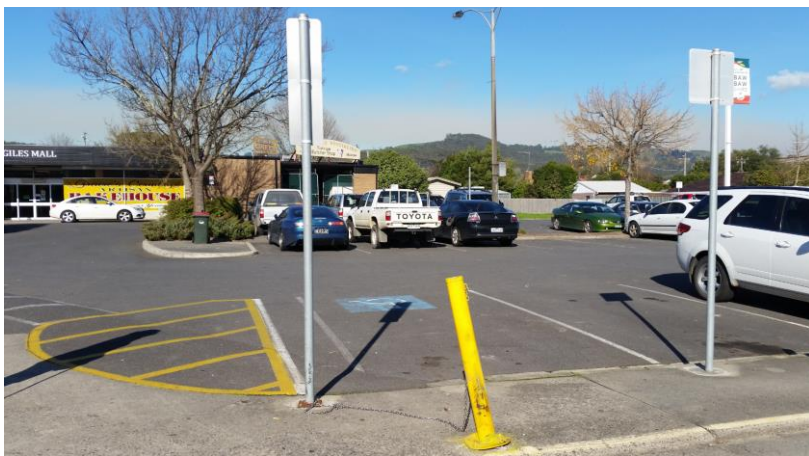
Figure 14 McCrorey East Car Park



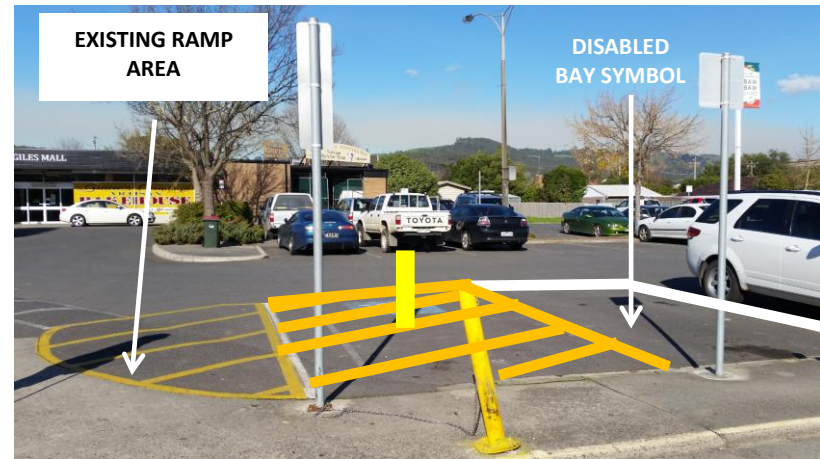
LOCATION 2
MCCROREY EAST CAR PARK
NO. SPACES: 2 OFF STREET ISSUE: NO BOLLARD



LOCATION 2
PROPOSED WORKS: INSTALL NEW BOLLARD



LOCATION 3
MCCROREY EAST CAR PARK
NO. SPACES: 1 OFF STREET
ISSUE: SHARED ZONE NOT TO STANDARD & NO BOLLARD



LOCATION 3
PROPOSED WORKS: INSTALL NEW BAY AS SHARED ZONE ,
INSTALL NEW DISBLED BAY

Figure 15 Contingent Street and Depot Lane Car Park



LOCATION 4

CONTINGENT STREET

NO. SPACES: 1 ON STREET NEXT TO MEDICAL CENTRE

ISSUE: IDEALLY REQUIRES ANOTHER RAMP AT THE TOP OF THE BAY



LOCATION 4

PROPOSED WORKS: UPDATE LINE MARKING. INSTALL NEW RAMP AT THE TOP OF THE BAY. MAY REQUIRE REMOVAL OF ONE SECTION OF HAND RAIL.

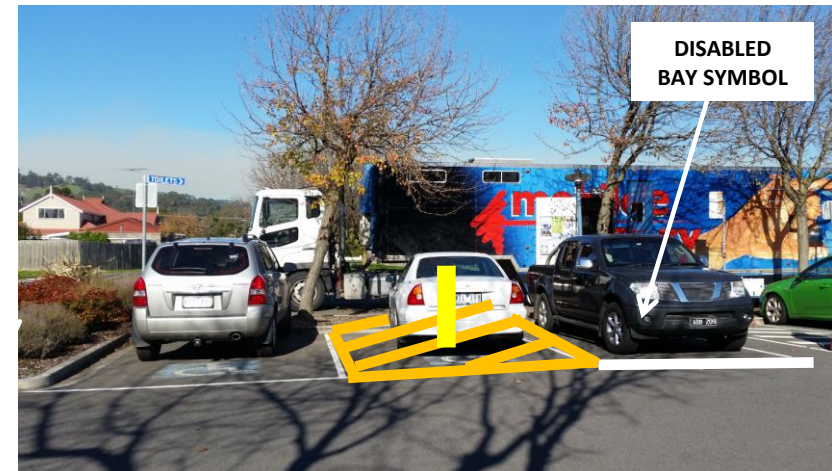


LOCATION 5

DEPOT LANE CAR PARK

NO. SPACES: 2 OFF STREET

ISSUE: NO SHARED ZONE OR BOLLARD, NO SIGNAGE.



LOCATION 5

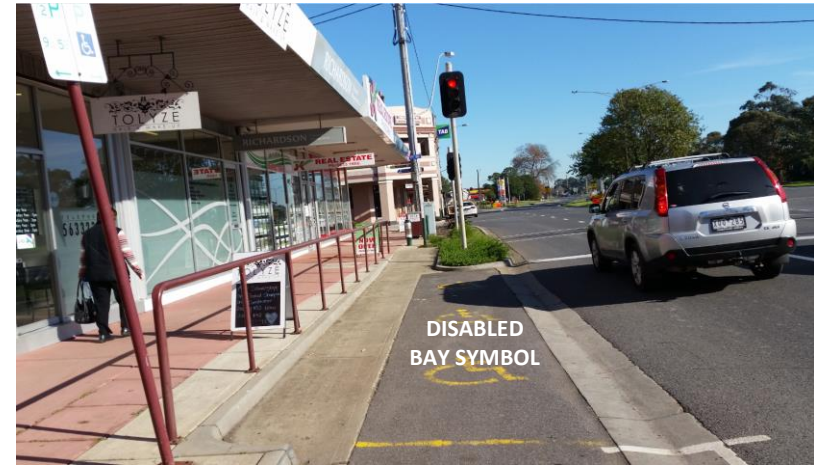
PROPOSED WORKS: INSTALL NEW BAY. INSTALL NEW SHARED ZONE. INSTALL NEW BOLLARD. INSTALL SIGNAGE.

Figure 16 Princes Highway and Trafalgar Railway Station Car Park



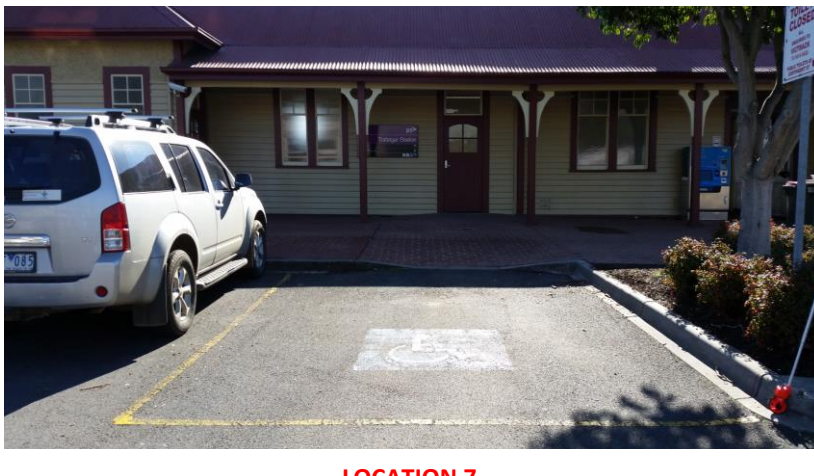
LOCATION 6

**PRINCESS HIGHWAY NO. SPACES: 1 ON STREET
ISSUE: WIDTH OF BAY NOT TO STANDARD (NEEDS TO BE 3.2m. IT IS 2.7m),
CONSTRAINED BY SPACE ON FOOTPATH**



LOCATION 6

**PROPOSED WORKS: UPDATE LINE MARKING OR REMOVE BAY.
INVESTIGATE NEW LOCATION TO RELOCATE THIS DISABLED BAY
(WITHIN CBD)**



LOCATION 7

**TRAFALGAR RAILWAY STATION NO. SPACES: 2 OFF STREET
ISSUE: NO SHARED ZONE OR BOLLARD. NO SIGNAGE.**



LOCATION 7

**PROPOSED WORKS: INSTALL NEW BAY. INSTALL NEW SHARED ZONE &
NEW BOLLARD. INSTALL SIGNAGE. THIS CAR PARK BELONGS TO
VICTRACK. ANY CHANGES WOULD BE ADMINISTED BY VICTRACK.**

4.9.3 Railway Station Parking

The extensive public consultation conducted during November 2015 revealed that parking related to the railway station was of great concern for the community. There are 30 available unrestricted car parking spaces at the Trafalgar Railway Station. The average daily occupancy rates detected for the car park were 53% (Monday), 56% (Wednesday), 62% (Thursday), 53% (Friday) and 59% (Saturday). Although lack of railway station parking was of great concern for the community, the parking study indicated that the parking occupancy rates are adequate with at least 10-12 car parking spaces still available on average. The highest occupancy detected was 24 vehicles on a Thursday at 2pm and Saturday at 1pm.

Railway commuters are able to utilise unrestricted on street parking located on the north side of Princes Highway (there are 8 on street spaces), on Waterloo Road (south side where there are 8 spaces). Unrestricted parking is available in the Depot lane car park which is less than 200m way from the railway station. Unrestricted parking is also available along McCrorey Street, Kitchener Street and Anzac Road as well as along both sides of Waterloo Road. There is a gravel area. Any parking north of the railway station is a least 300m away from the railway station and not desirable.

While the railway station parking available meets today's parking demand as well as 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. 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 car parking expansion if warranted.

Photo 3 Trafalgar Railway Station Car Park



4.9.4 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 Trafalgar CBD, there are two loading bay spaces in the car park between McCrory Street and Contingent Street. Investigations highlighted that the supplied loading zones are being utilised, with the average occupancy rate being 43%. It is utilised the most on Fridays with an average occupancy of 68% with both spaces being fully utilised at 8am and 12pm – 4pm.

4.9.5 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.

4.9.6 Long Vehicle Parking/ Truck Parking

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

There are three designated long vehicle parking spaces within the study area located in the off street car park east of Contingent Street at the end of Depot Lane. This includes parking for caravans. There is adequate signage indicating that these spaces are for caravan parking. The parking spaces have an occupancy rate ranging from 9% to 58% with the highest usage detected on Wednesday. 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 initial consultations held in November 2015, there were no comments or concerns in the public consultation sessions regarding the need for long vehicle parking. However, it was indicated in the public consultation comments and site observations that heavy vehicles park along Princes Highway (north side) near the petrol station. This area has no parking restrictions, however unless stopping at the service station, many of the drivers cross the highway (not at the crossing) to visit the eateries in Trafalgar.

This location was identified as a potential area for formalised for truck parking subject to VicRoads consideration in the context of their state/ regional strategy for truck rest stops.

Given that Trafalgar 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 identifies 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 that will provide a new rest area providing 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 10 minutes commuter travel time from Trafalgar.

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 Trafalgar 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.

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

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

4.11 Directional Signage

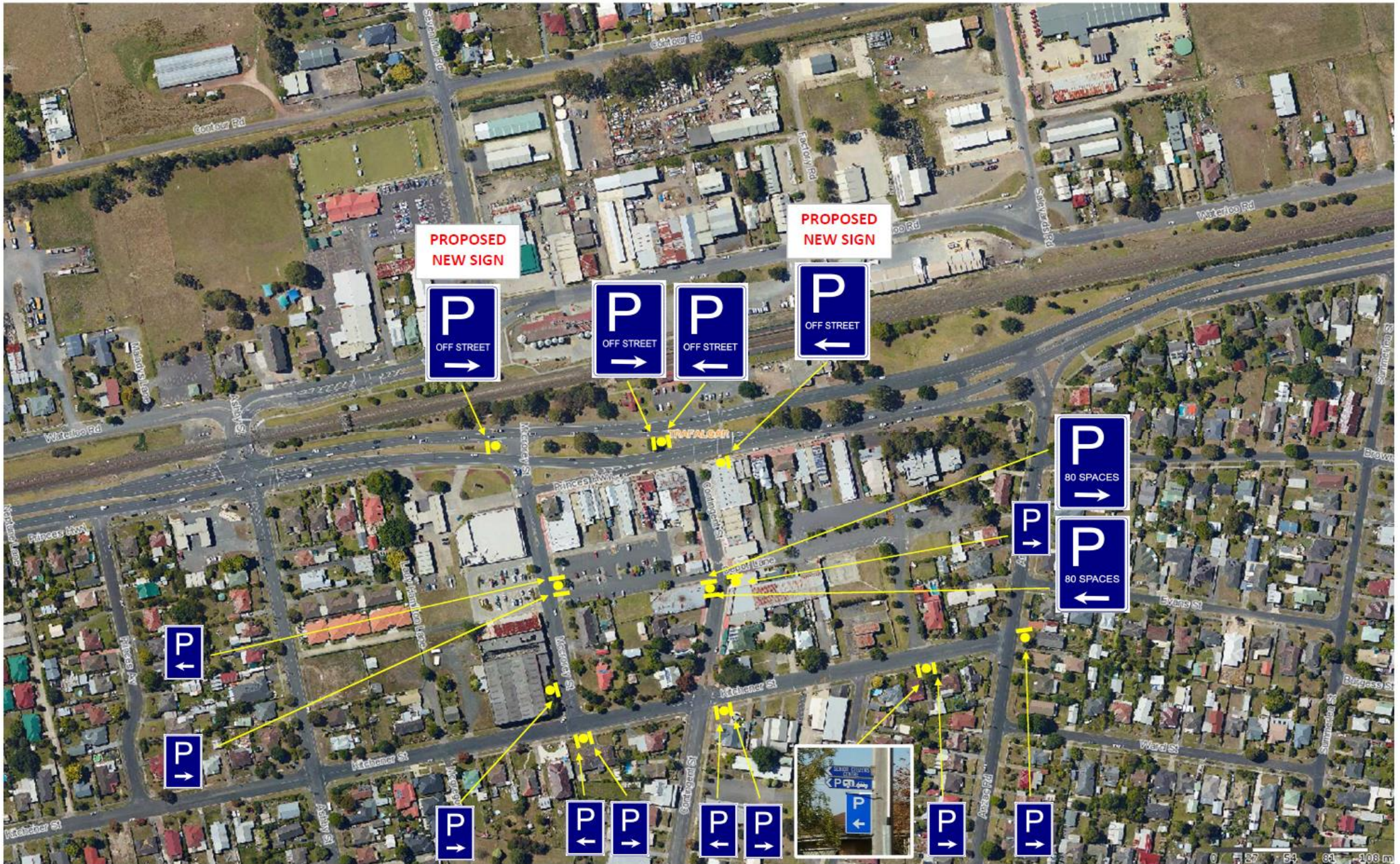
Investigations have shown that throughout the Trafalgar CBD study area, there are plenty of directional signage for public parking areas including or caravans.

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 Trafalgar 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. Once again the formalised for 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 parking directional signage as well as proposed new signage is shown in the figure below.

Figure 17 Existing and Proposed Parking Directional Signage - Trafalgar CBD Study Area



4.12 Future Parking and Increasing Supply

4.12.1.1 On Street Parking

A review of the existing design and layout of on street parking within the Trafalgar 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. At this point in time there is little 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 CBD area experiencing less than 20% occupancy rates. There were however moderate to high occupancy rates in the on street short term parking areas in Contingent Street and Princes Highway (south side). There is scope for installing angle parking along Kitchener Street where the road width is wide.

4.12.1.2 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 in the three main off street parking areas (McCorey West car park outside IGA, McCrory East car park and the Depot Lane car park) have variable average daily occupancy rates between 20% to 80%:

- McCorey West car park – highest occupancy rates were recorded on Saturday (52%)
- McCorey East car park - highest occupancy rates were recorded Saturday (81%) but average was between 50-60% all other days
- Depot Lane car park – the highest occupancy rate was recorded on Thursday (66%) and was between 45%-60% all other days
- These occupancy rates are moderate but there is some scope to investigate potential locations where additional off street car can be installed as the town grows, including formalising areas such as the gravel and vacant land between Depot Lane and Kitchener Street
- The Urban Design Framework for Trafalgar will be investigating future potential parking areas

5.0 Planning for Future Growth

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 Trafalgar 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 170 hectares of industrial zoned land within Trafalgar. Much of this zone is currently vacant with lots ranging from less than 1 hectare to up to 8 hectares. The industrial area has good access to Princes Highway giving direct access to major markets such as Melbourne. A high percentage of Industrial 1 Zoned land remains vacant and is used solely for the grazing of livestock is ample evident that therefore the report concludes there is no need for addition industrial zoned land.

There is a large area of land to the west of the township which has been rezoned to general residential zone for future residential development. It is anticipated this land will be developed in the near future. The Trafalgar Recreational Reserve is located to the north and the majority of residential development is located on the south, which presents safety and access issues for commuters and pedestrians.

The Recreational Masterplan identified the need to provide a shared trail (walking and cycling) network that links residents to sporting, educational and recreational facilities. It recommends the construction of new shared paths and trails, upgrade and improvements to existing paths, and the development of a circuit through the municipality.

In 2013, Council prepared the *'Baw Baw Settlement Management Plan (SMP)'* which provided a shire wide settlement framework and direction for growth to 2036. The SMP provides key directions for growth for the towns within Baw Baw Shire including Trafalgar, which reflect the constraints of the growth of the town. Overall, the population of Trafalgar is growing at a medium rate.

As stated in the Baw Baw Planning Scheme, Trafalgar is a town providing a wide range of commercial, industrial, educational, recreational and residential services to residents and the surrounding community. It began as a railway town serving the surrounding farming area. Set at the base of the Strzelecki Ranges, its urban character is attributed to its farmland setting with views to adjacent hills and distant ranges, flat topography, garden suburb

residential settings in the older parts of town, a range of buildings of heritage significance particularly along the main streets.

According to the SMP, there is sufficient residential land supply available within the zoned areas of the township to meet the projected demand to the year 2036. The annual average population growth within Trafalgar is about 2.3%.

The Planning Scheme for Trafalgar details the description of proposed land use for the future:

Residential

- A development plan for the entire western Residential 1 Zone expansion area is required to establish strategic planning aims and effective integration with the existing urban area. This area should include a centrally-located community hub.
- Rezone, at an appropriate time, the Industrial 1 Zone area within the western residential expansion area to the General Residential Zone. An Environmental Audit Overlay will be required for the rezoned land.
- Discourage any further linear spread (east or west) of the town along the Freeway given the town is already 3 kilometres wide. Further linear spread will impact town character and landscape buffers.

Commercial

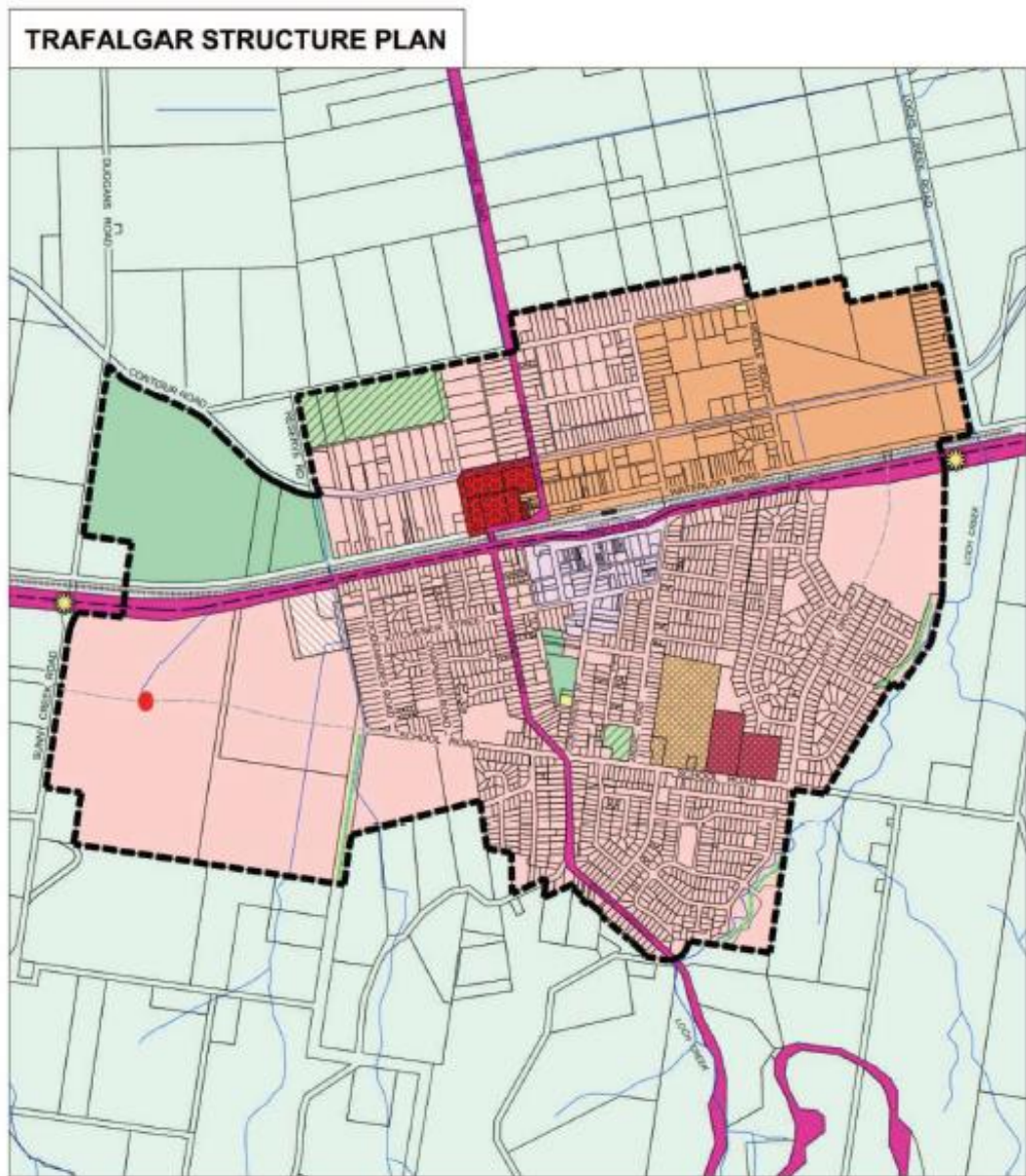
Support mixed use style development or in-fill townhouse style medium-density housing in the town centre.

Industrial

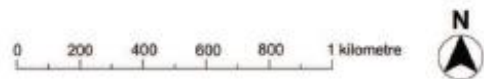
Encourage industrial development within the nominated industrial precinct to the north of and along Waterloo Road.

Figure 18 Trafalgar 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 Activity Centre/Community Hub
 - ▬▬▬ Commercial 1 Zone
 - ▬▬▬ Mixed Use Zone
 - ▬▬▬ Industrial 1 Zone
 - ▬▬▬ Public Park and Recreation Zone
 - ▬▬▬ Future Open Space Linear Corridor
 - ▬▬▬ Public Conservation and Resource Zone
 - ▬▬▬ Service, Utility or Other Public Use (Public Use Zone)
 - ▬▬▬ Primary School (Public Use Zone)
 - ▬▬▬ Secondary School (Public Use Zone)
 - ▬▬▬ Farming Zone
 - ▬▬▬ Waterway
 - ▬▬▬ Future Connector Road Link
 - ⊙ 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 medium grow rate of resulting in an increase from 3,044 from 2011 (an increase of 1,758) figures bringing Trafalgar's total population to 4,802. It has been identified that Trafalgar will be a medium-sized township per the capacity to accommodate future growth.

According to the SMP, there is sufficient land supply to 2036 (with development of land to the west and south east area rezoned for residential) over the medium to long term. The settlement plan also states that the Trafalgar towns centre has potential for mixed-use or medium-density infill housing which should aim for 20 dwellings a hectare, with average dwelling yield of 8.5 dwelling a hectare for large block sizes.

Redevelopment of some larger lots close to the centre for dual occupancy or medium density housing would be encouraged, subject to heritage considerations. Commercial use and development is to be accommodated within the existing Commercial 1 zone.

5.3.1 Estimated Future Growth of Parking Demand

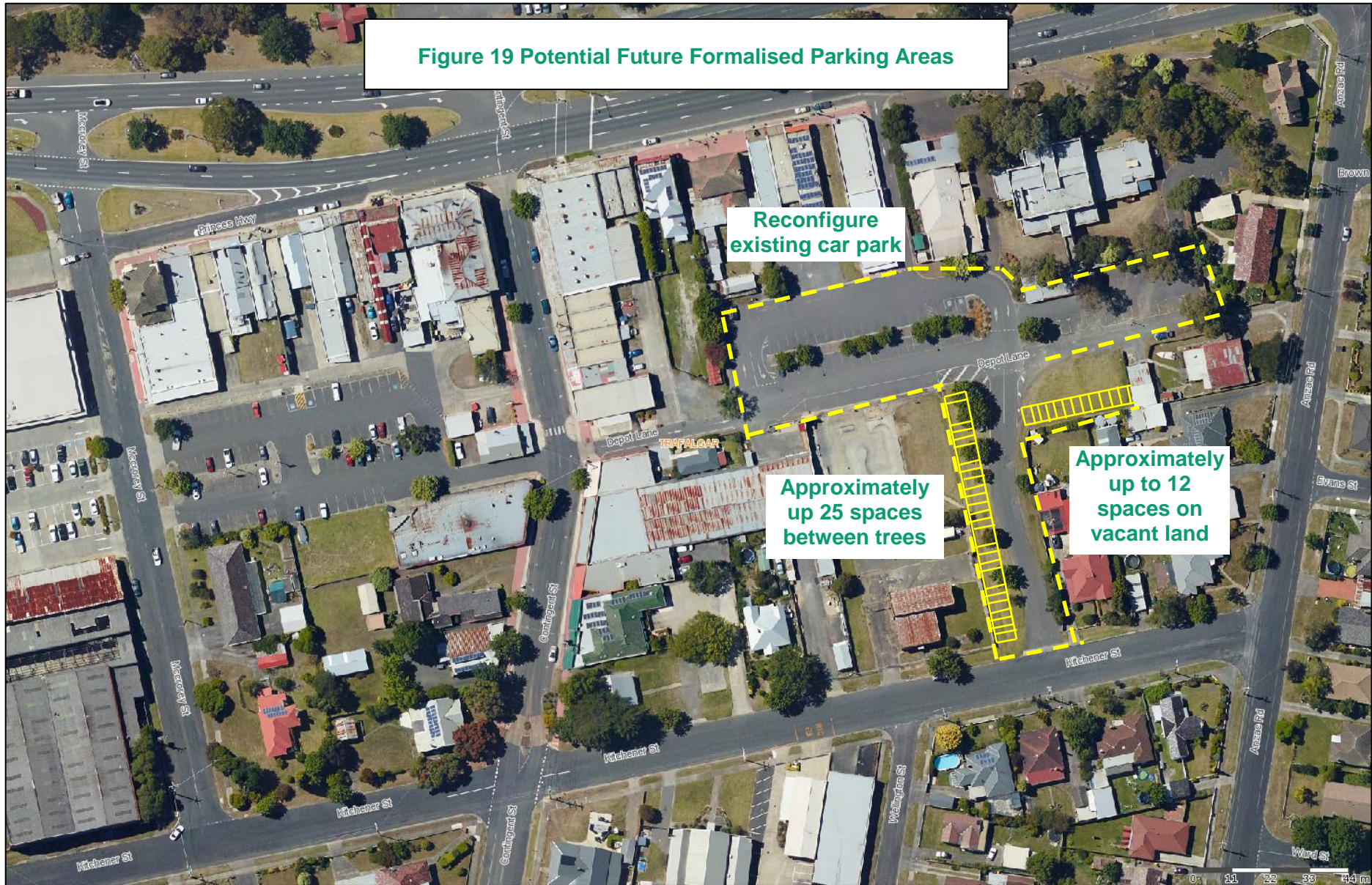
The population growth rate will have an appreciable effect on the demand for parking but the growth rate is not substantial enough to warrant parking inefficiencies. Based on taking into account the growth expected between 2011 to 2036 of 1,758 persons (from 3,044 persons in 2011) to 4,802 and using today's highest parking occupancy rate of 44%, the expected highest average parking occupancy rate within the Trafalgar CBD is 69% (this figure is derived from multiplying the population growth ratio by today's peak occupancy rate).

Although the 69% car parking occupancy rate is still very much acceptable for the Trafalgar CBD area, it is suggested that consideration should be given to retain vacant Council land in the vicinity of Depot Lane for the purpose of provision of future parking. This is to ensure areas which are in close proximity of the busy Trafalgar commercial and retail areas is available to cater any overspill of Parking from Princes Highway.

It is envisage there is a potential of provision of up to 37 parking spaces as shown in the Figure 19 below.

The provision of future parking to take into consideration the principles of Trafalgar Urban Design Framework (Draft 2016) and maximises the opportunity to recognise existing off street car park along Depot Lane.

Figure 19 Potential Future Formalised Parking Areas



6.0 Summary

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

1. The total of 599 parking spaces within the Trafalgar CBD study area included 341 on street spaces and 258 off street spaces.
2. The highest occupancy rates within the study area was detected during lunch hour between 12pm – 2pm generally but more specifically was recorded at 44% on a Saturday during lunch time.
3. The maximum occupancy rates were recorded along Contingent Street which experienced its highest occupancy rate of 62% on a Thursday at lunch time.
4. The highest occupancy rates within entire the study area was experienced in the 2P areas (29 available spaces) with 81%, 1P (52 available spaces) with 80% and 1/2P (4 available spaces) with 69%.
5. For the 489 unrestricted parking spaces available, the highest occupancy rate was 25% and the average occupancy was 21%. There are 10 disabled parking bays available of which the highest daily occupancy was 53%. These bays are not all to Australian Standards.
6. For all study days, the duration of stay by just over 50% of all parking patrons was for one hour or less and just under 20% 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 (1/2P – 23, 1P – 241 and 2P – 80), a total of 344 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 4,097 by 2036, using today's highest parking occupancy rate of 44%, the expected average parking occupancy rate within the Trafalgar CBD in 2036 is 69%.
9. Railway station car parking (which was a major community concern) accounts for 30 parking spaces within the study area. The highest average occupancy rate was experienced on a Wednesday (62%) leaving at least 10 free spaces.
10. Alternative parking is available for railway commuters less than 200m away in Depot Lane, where there are 39 spaces where the average occupancy rate is 56% (only half full).

7.0 Recommendations and Implementation Plan

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 1/2P, 1P and 2P 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: Undertake investigations into locating additional loading bays

Council to investigate locations where additional loading bays could be introduced in consultation with businesses and key stakeholders.

Recommendation 4: Augment Council's parking directional signage

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

Recommendation 5: Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for potential future growth of towns

Council to continue 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 6: Review Parking conditions within Trafalgar CBD in 5 years' time (2021) to determine parking demand based on town growth. Retain vacant Council land in the vicinity of Depot Lane and investigate potential future formalised parking areas

Council to review parking within the Trafalgar 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 good time would also be when the newly rezoned residential area to the west is fully developed. Investigate future parking areas near Depot Lane where additional formal parking areas could be installed on Council land including reconfiguration

of existing car park along Depot Lane to provide more parking and and create safe and activated community space.

Recommendation 7: 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 Trafalgar 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 Trafalgar CBD Parking Study Action Plan

Recommendation		Responsible	Timing	Cost Estimate
1	Increase parking enforcement in the Trafalgar town centre area	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	Undertake investigations into locating additional loading bays	Council's Infrastructure Planning and Growth Team	FY 16/17	\$1,000
4	Augment Council's parking directional signage	Council's Infrastructure Planning and Growth Team,	FY 16/17	\$1,000
5	Advocate with PTV for improved public transport connections and strategic planning for railway station car parking for potential growth of town	Council's Infrastructure Planning and Growth Team, PTV, VLine and VicTrack	Ongoing	N/A
6	Review Parking conditions within Trafalgar CBD in 5 years' time (2021) to determine parking demand based on town growth. Investigate potential future formalised parking areas e.g. Depot Lane	Council's Infrastructure Planning and Growth Team and Strategic Planning Team	2019-2021	TBD
7	Improve truck parking facilities along Princes Highway including developing town specific action plans	Council's Infrastructure Planning and Growth Team and VicRoads	Ongoing	TBD

Appendix A – Trafalgar CBD Parking Occupancy Rates

Figure 20 Occupancy Rates – Monday 7th December 2015

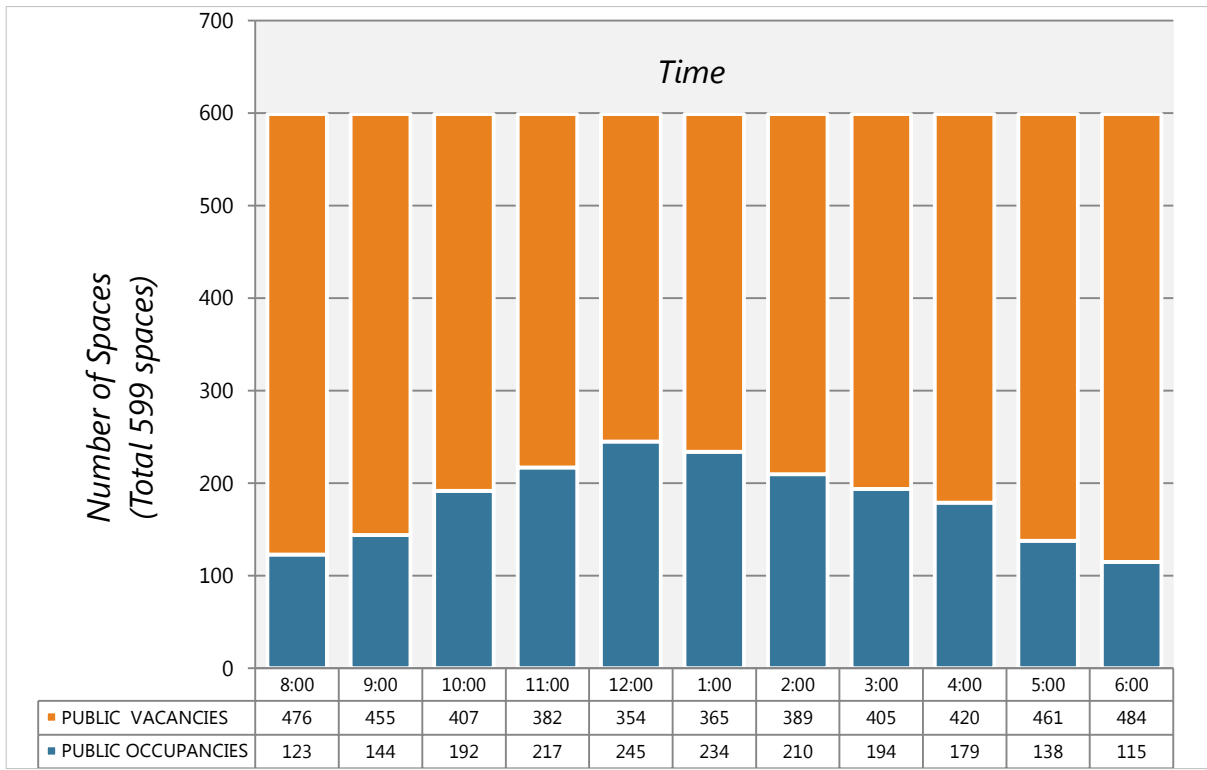


Figure 21 Occupancy Rates – Wednesday 9th December 2015

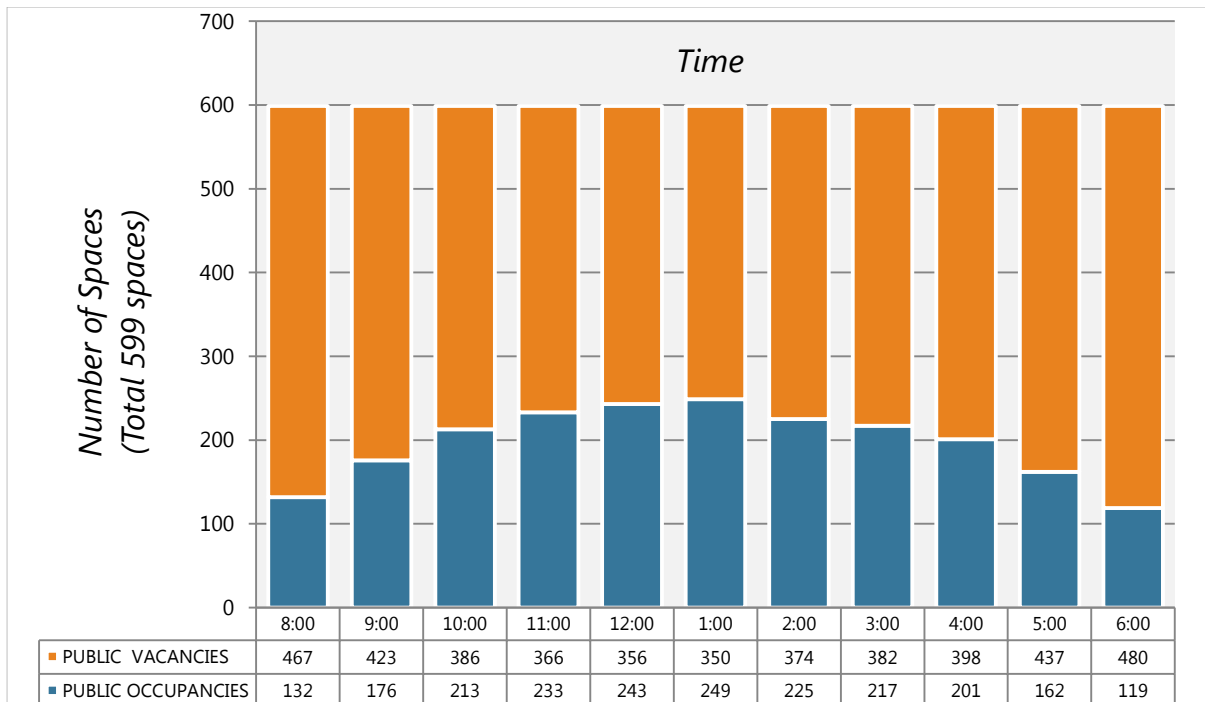


Figure 22 Occupancy Rates – Thursday 10th December 2015

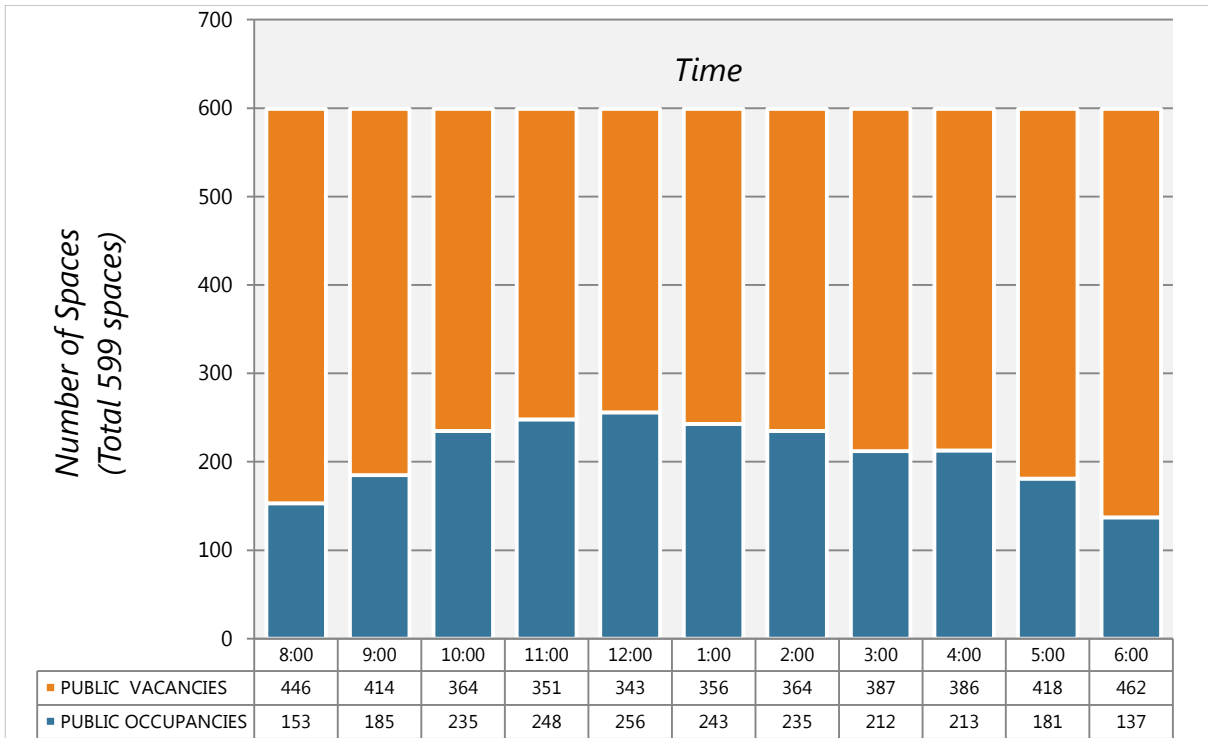


Figure 23 Occupancy Rates – Friday 11th December 2015

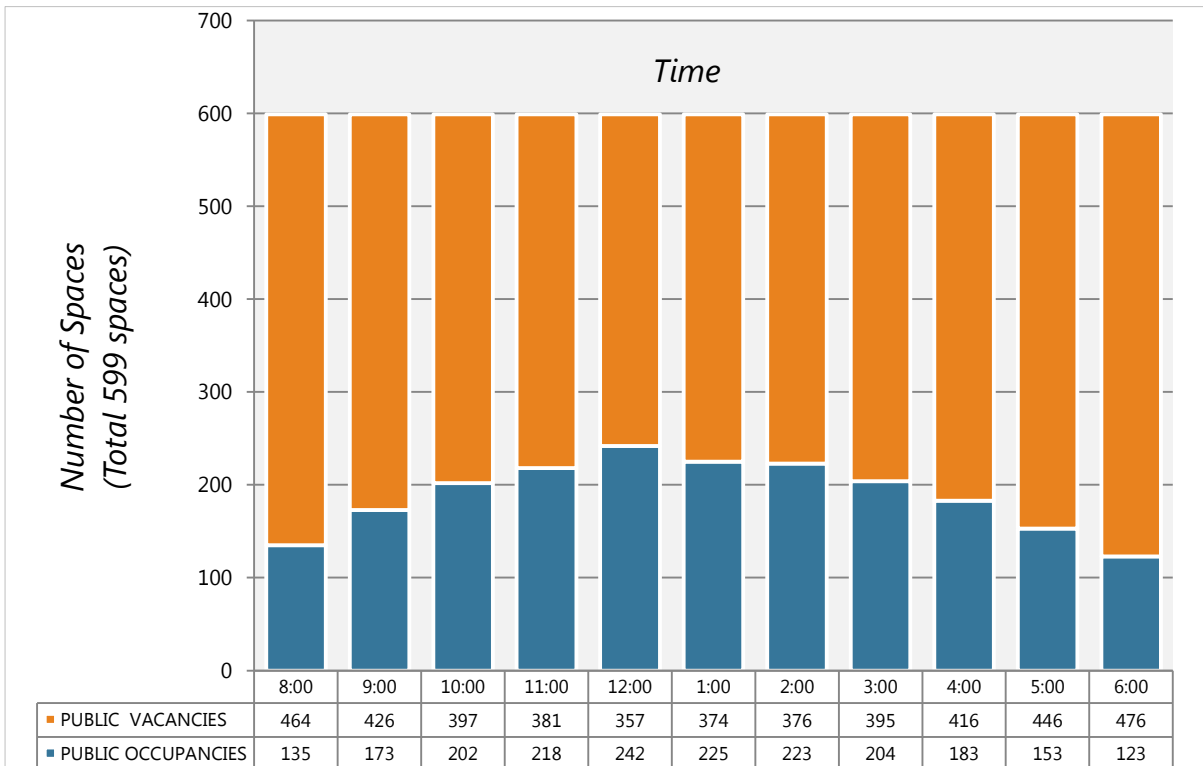
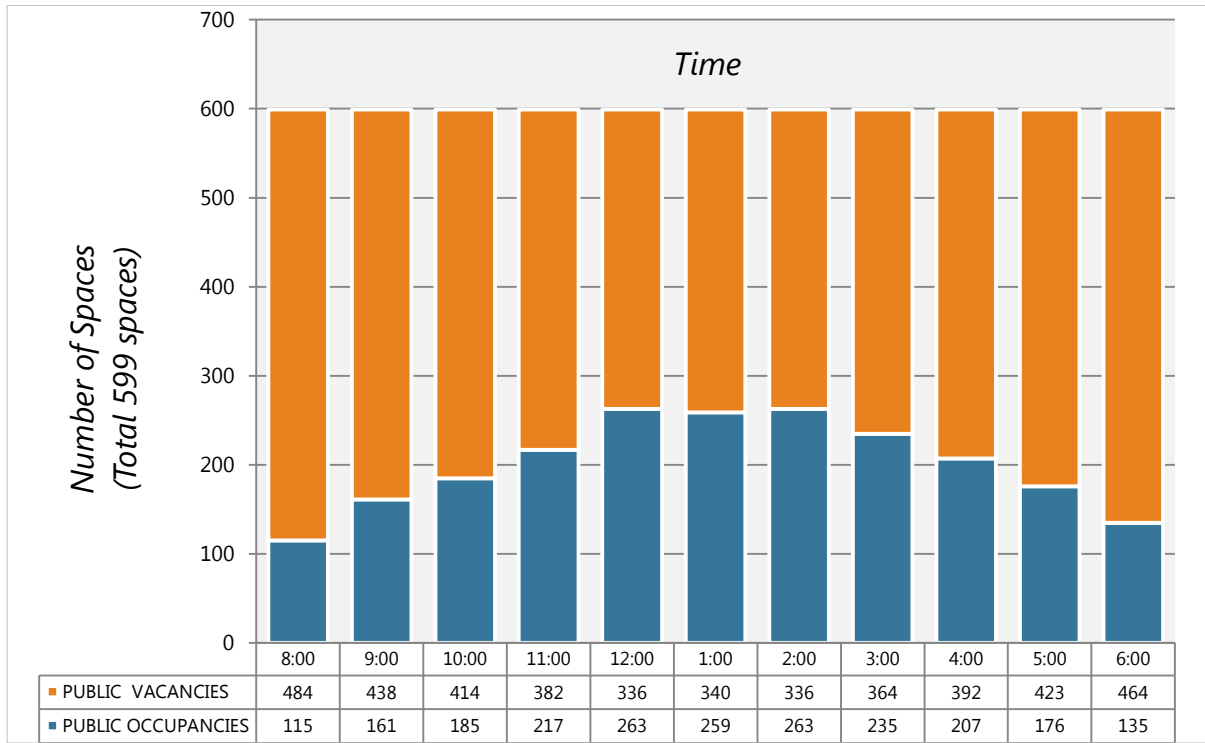


Figure 24 Occupancy Rates – Saturday 12th December 2015



Appendix B – Trafalgar CBD Parking Occupancy



TRAFALGAR CBD PARKING OCCUPANCY
SURVEY DATE: WEDNESDAY 9th DECEMBER 2015

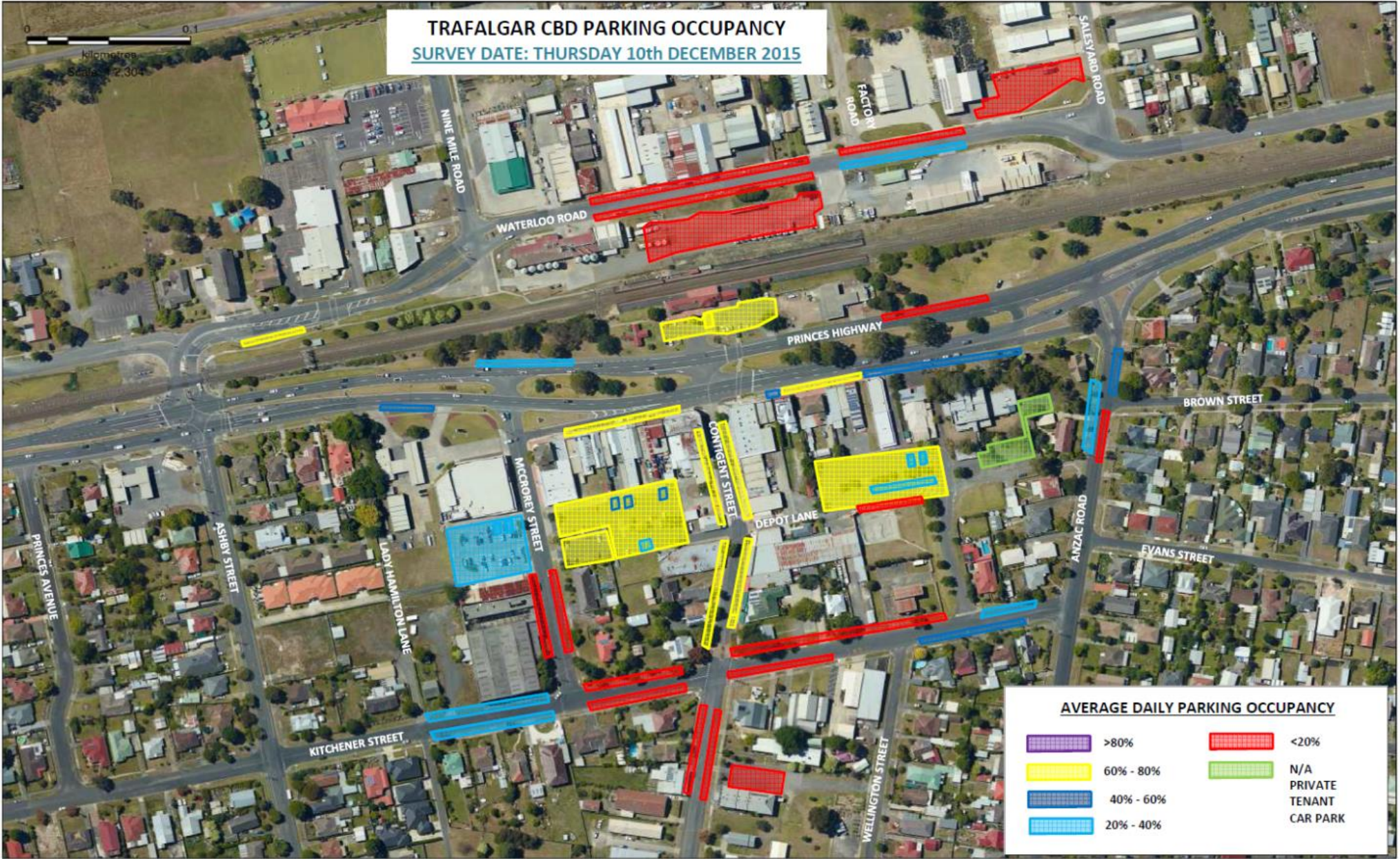


AVERAGE DAILY PARKING OCCUPANCY

	>80%		<20%
	60% - 80%		N/A
	40% - 60%		PRIVATE
	20% - 40%		TENANT
			CAR PARK

TRAFALGAR CBD PARKING OCCUPANCY
SURVEY DATE: THURSDAY 10th DECEMBER 2015

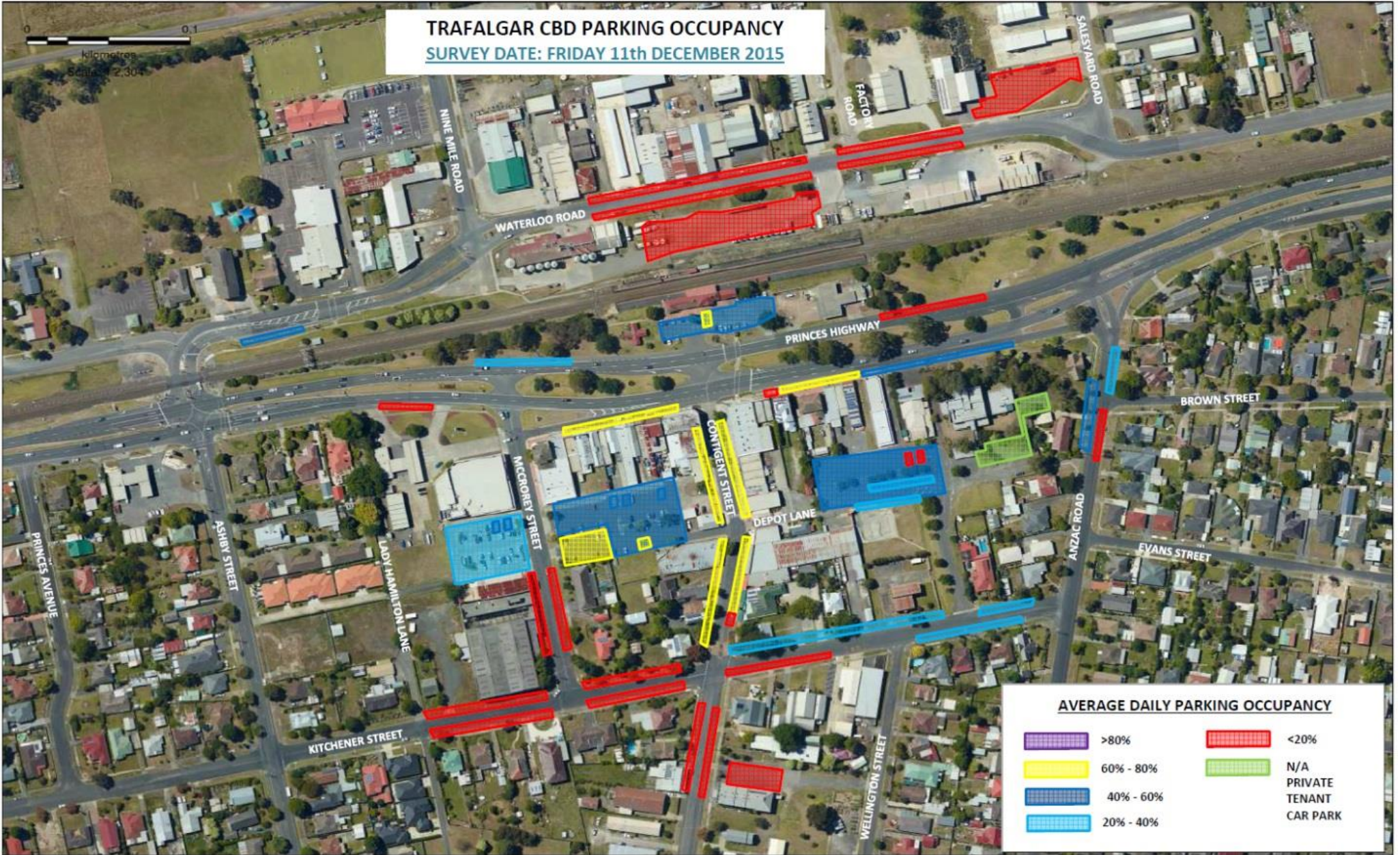
0 0.1
 Kilometres
 Scale: 1:2,300



AVERAGE DAILY PARKING OCCUPANCY

	>80%		<20%
	60% - 80%		N/A
	40% - 60%		PRIVATE
	20% - 40%		TENANT
			CAR PARK

TRAFALGAR CBD PARKING OCCUPANCY
SURVEY DATE: FRIDAY 11th DECEMBER 2015





Appendix C – Contingent Street, Trafalgar – Car Park Occupancy Rates & Duration of Stay

Figure 25 Occupancy Rates for Contingent Street - Monday

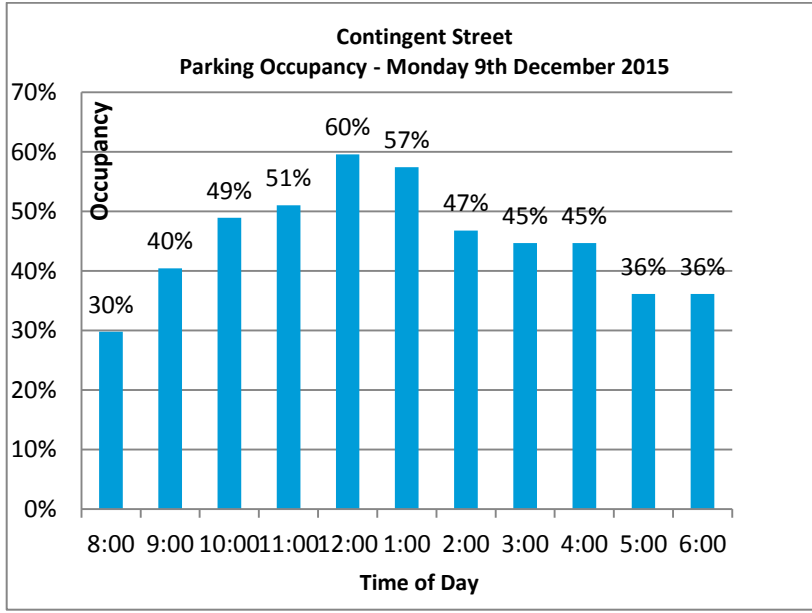


Figure 26 Occupancy Rates for Contingent Street - Wednesday

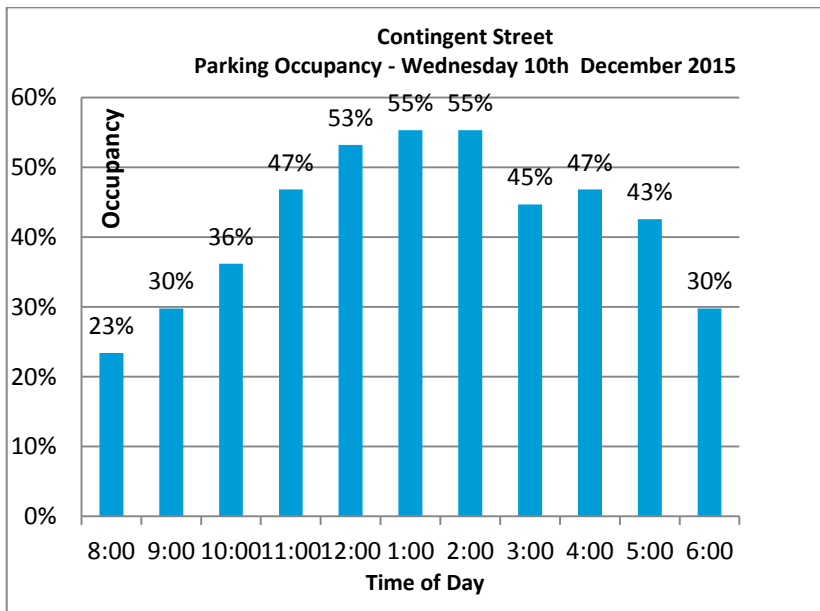


Figure 27 Occupancy Rates for Contingent Street - Thursday

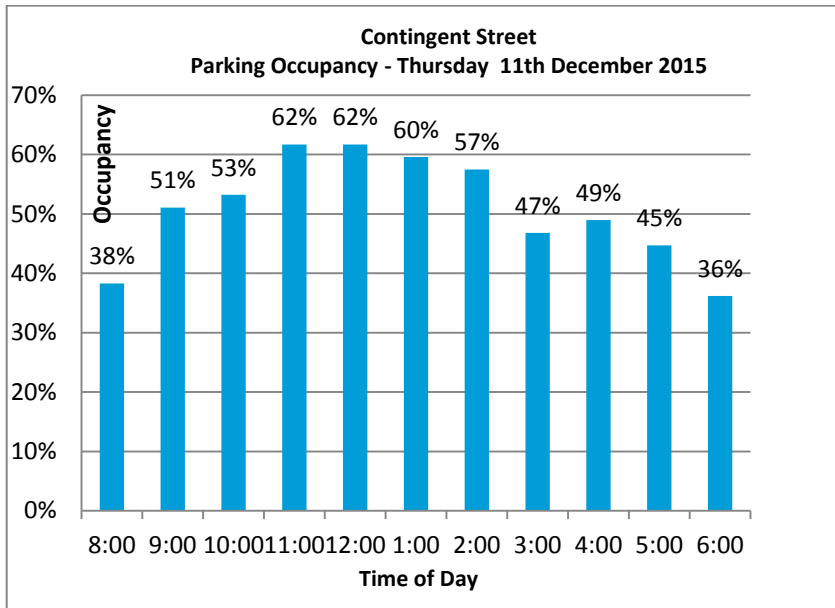


Figure 28 Occupancy Rates for Contingent Street - Friday

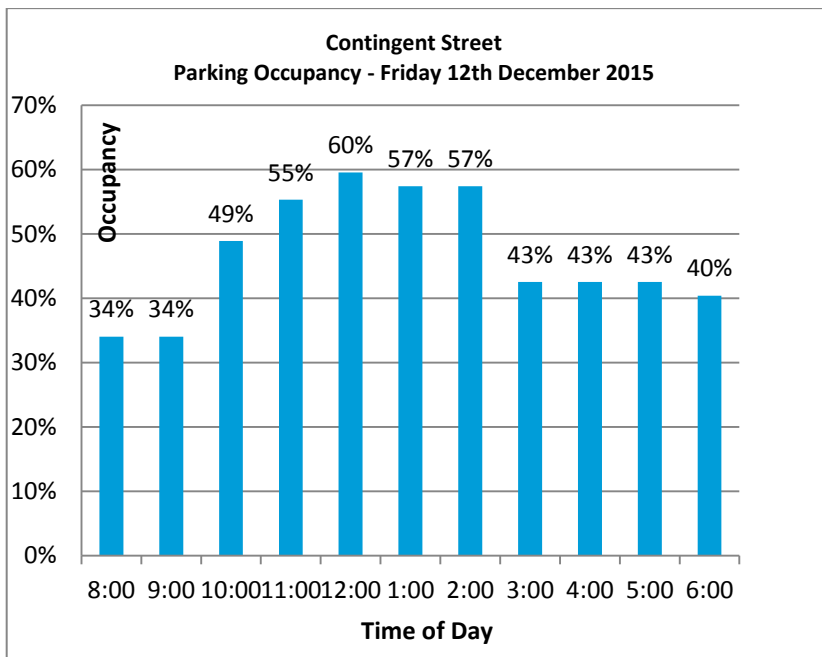


Figure 29 Occupancy Rates for Contingent Street - Saturday

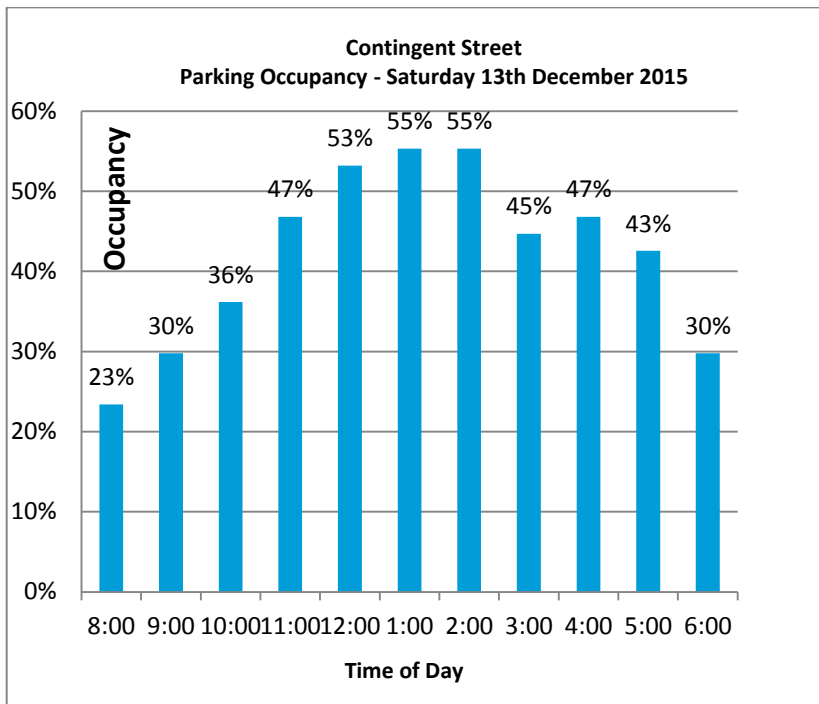


Figure 30 Parking Duration of Stay for Contingent Street – Monday

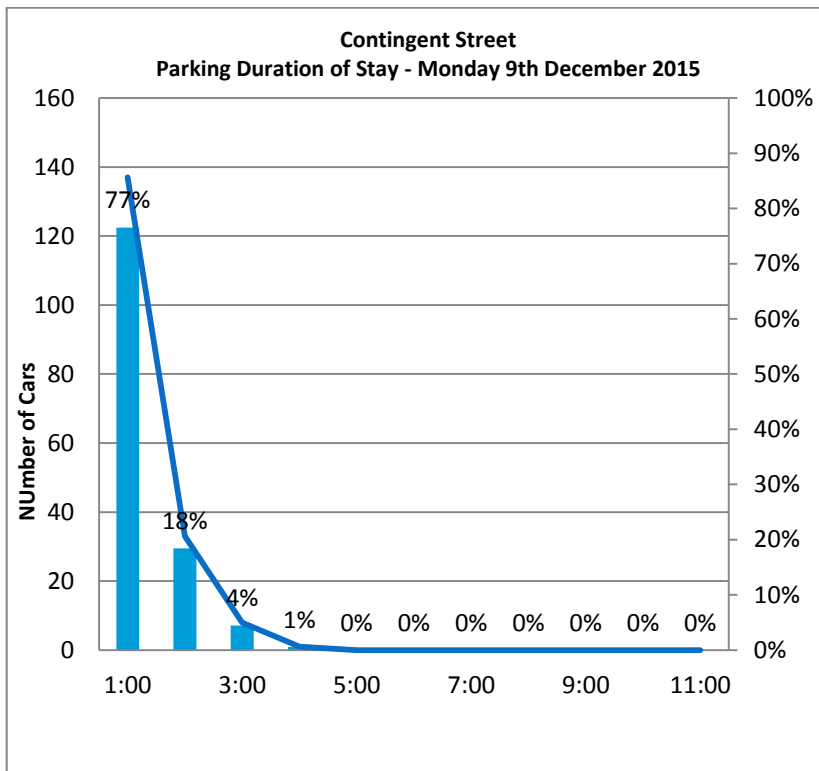


Figure 31 Parking Duration of Stay for Contingent Street - Wednesday

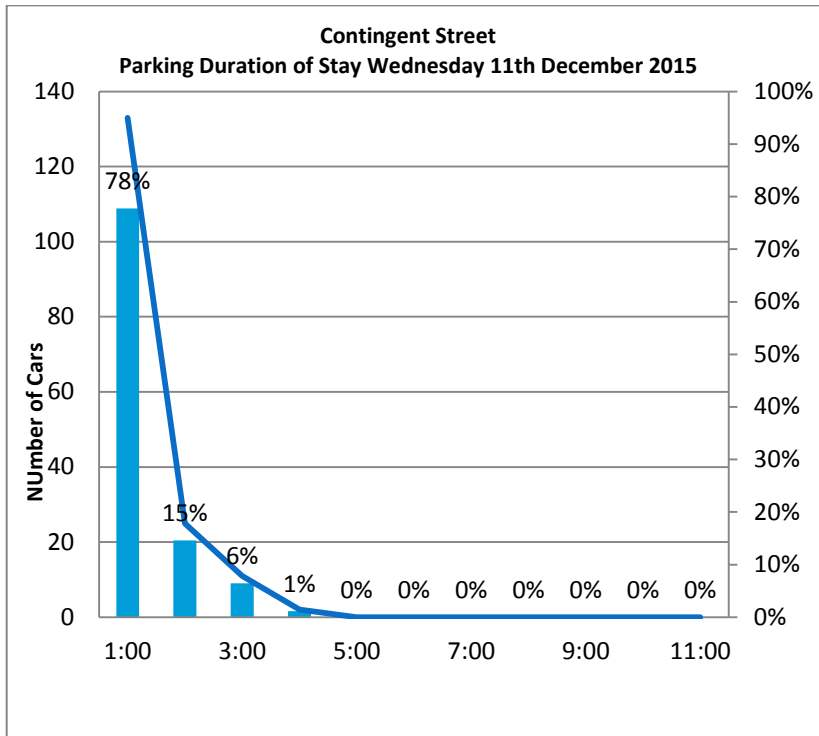


Figure 32 Parking Duration of Stay for Contingent Street - Thursday

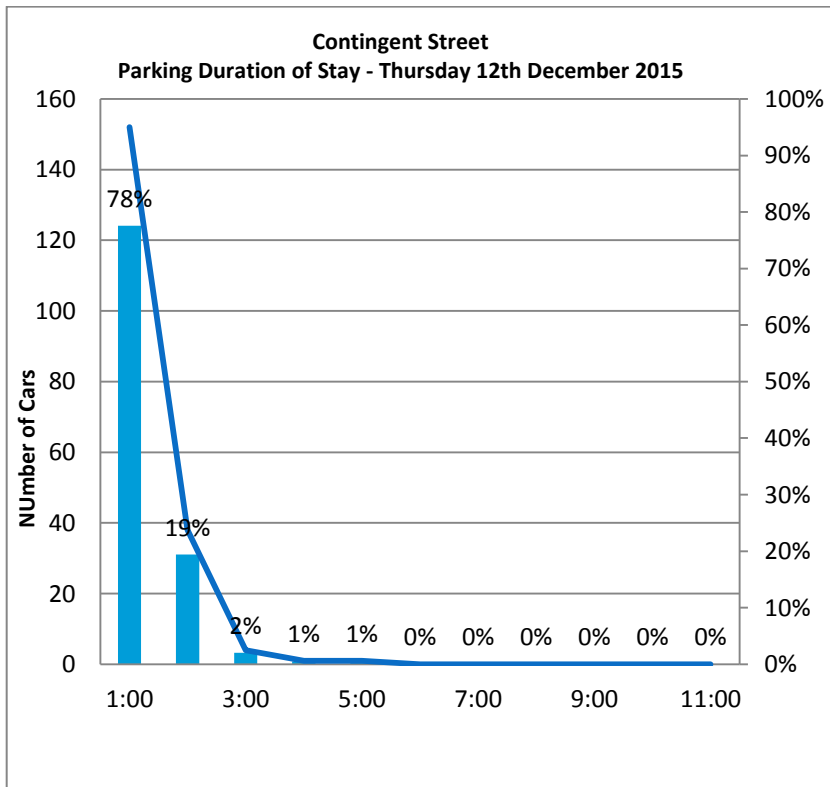


Figure 33 Parking Duration of Stay for Contingent Street - Friday

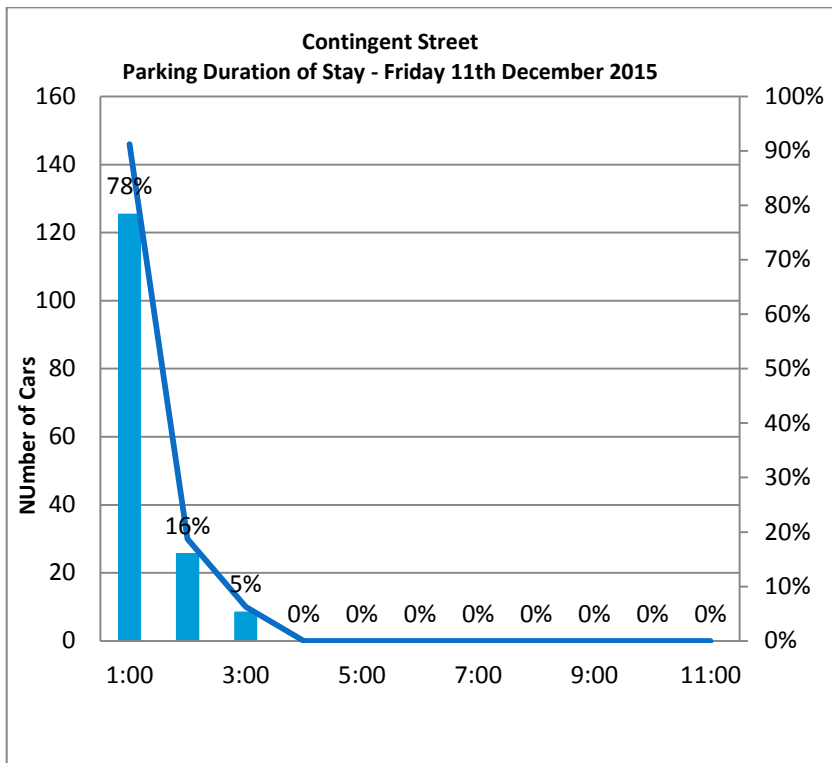


Figure 34 Parking Duration of Stay for Contingent Street - Saturday

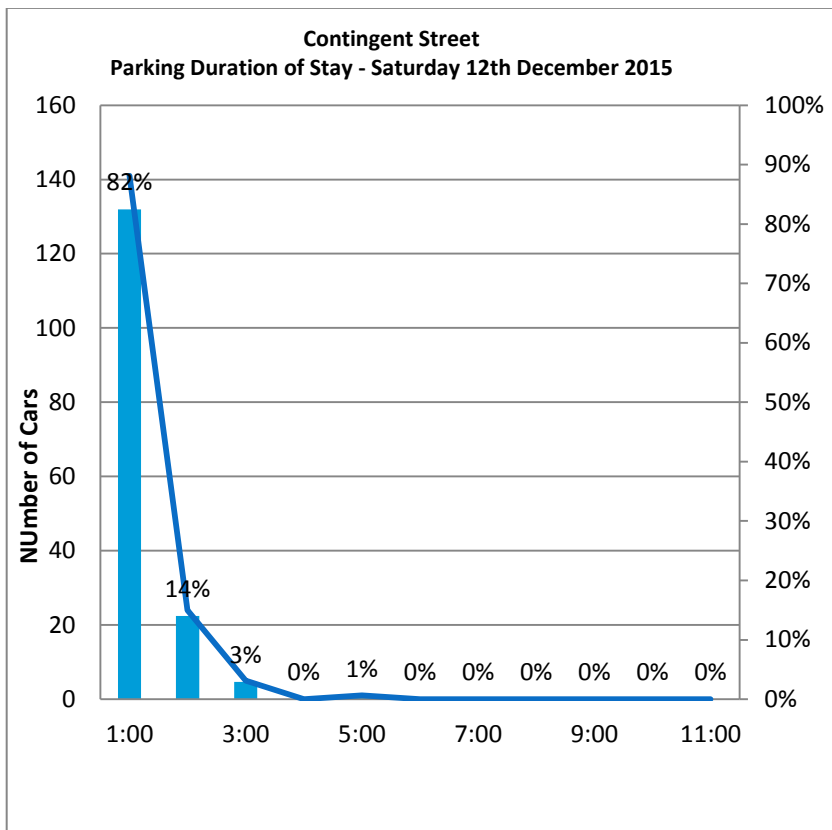


Figure 35 Parking Occupancy for Depot Lane Car Park - Monday

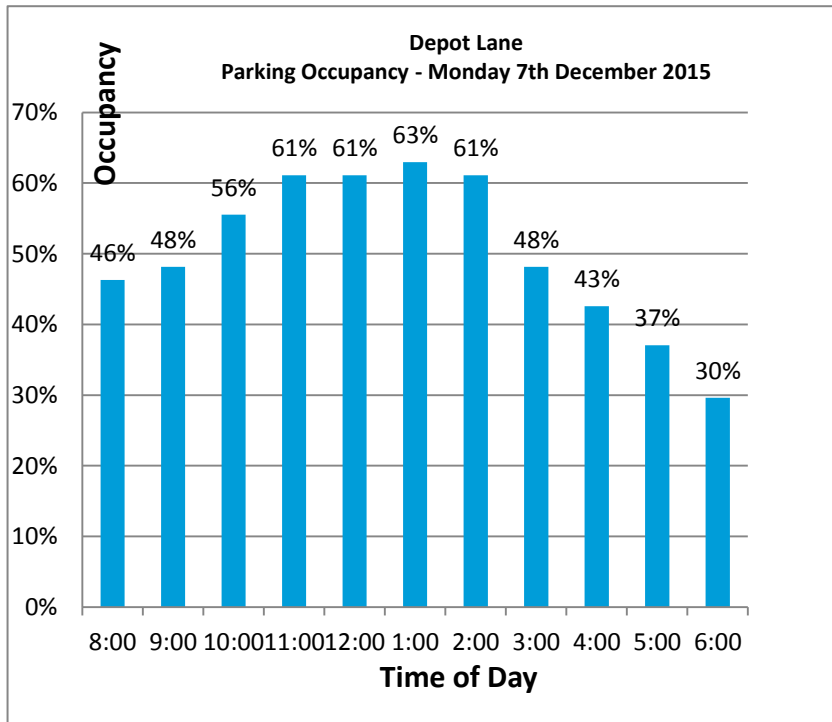


Figure 36 Parking Occupancy for Depot Lane Car Park - Wednesday

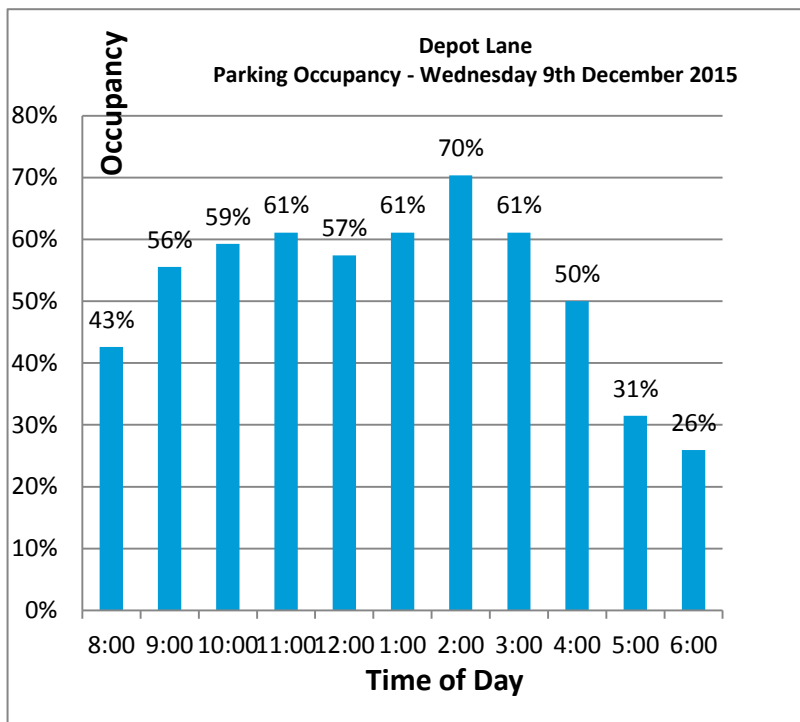


Figure 37 Parking Occupancy for Depot Lane Car Park - Thursday

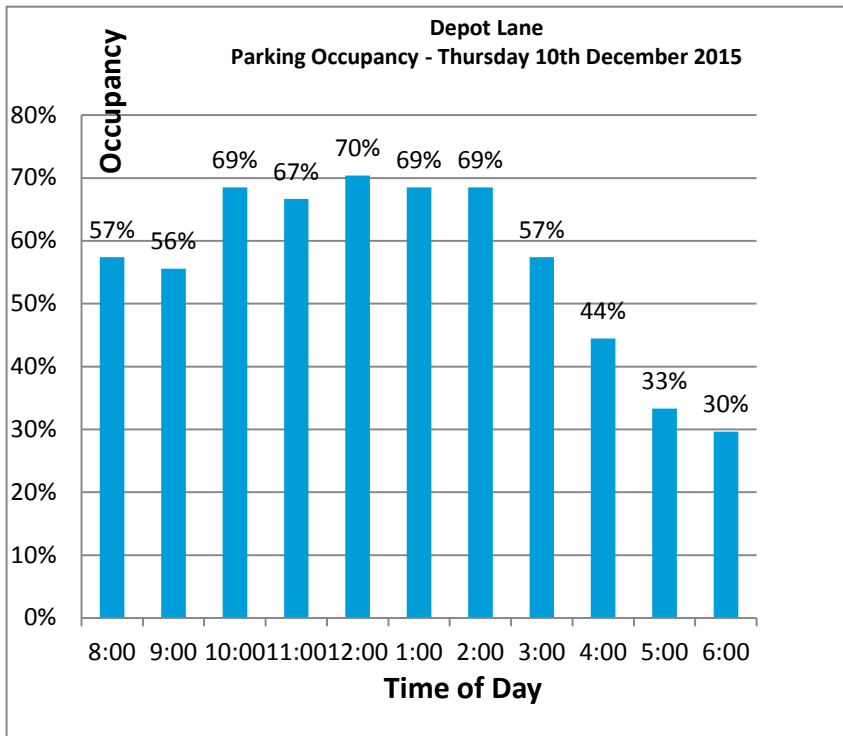


Figure 38 Parking Occupancy for Depot Lane Car Park – Friday

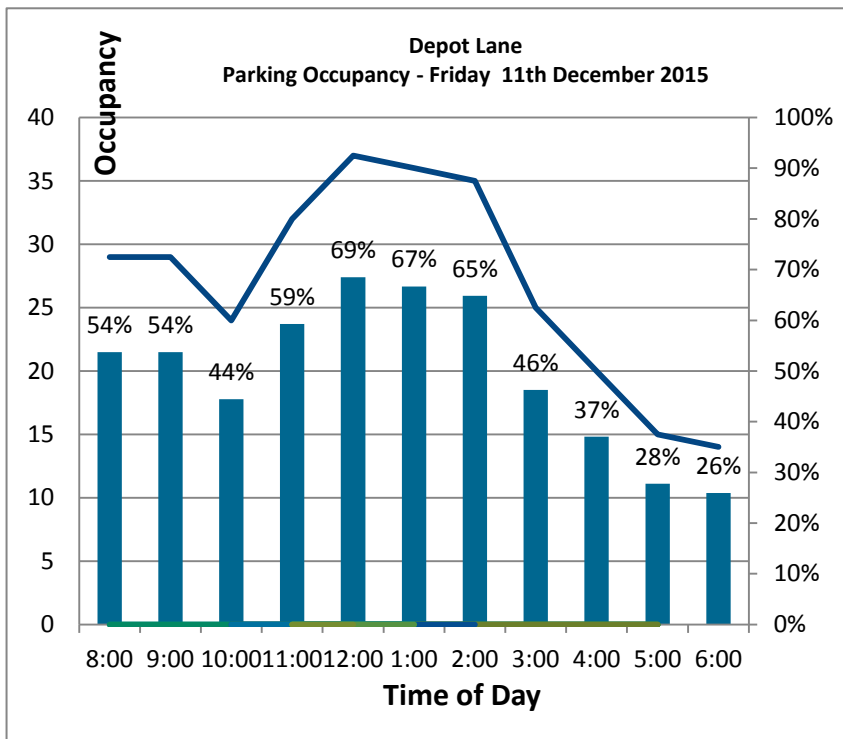


Figure 39 Parking Occupancy for Depot Lane Car Park - Saturday

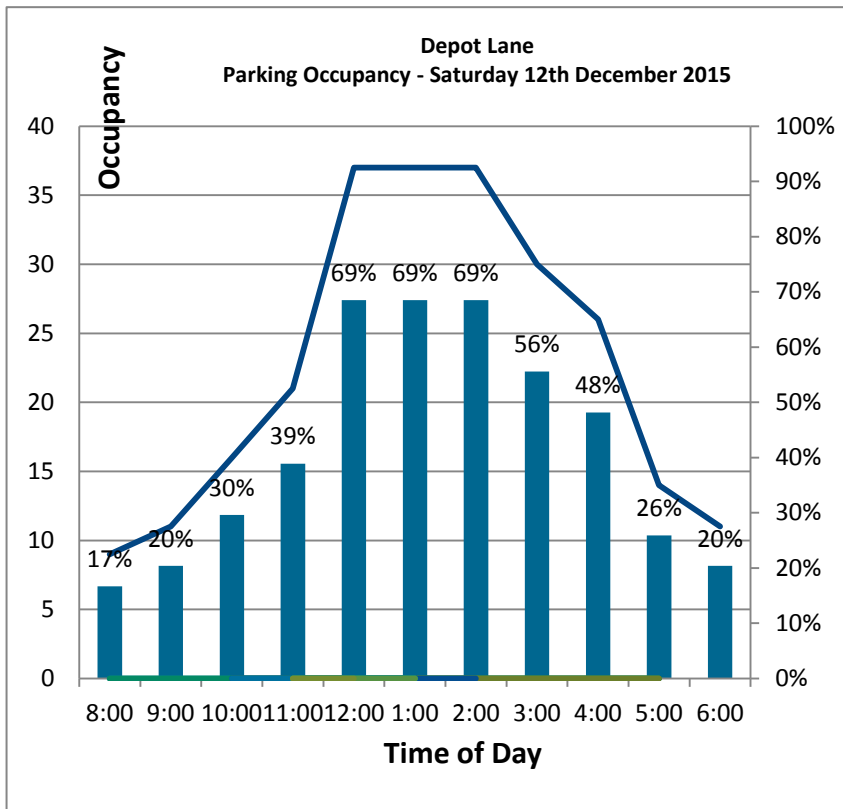


Figure 40 Parking Duration of Stay for Depot Lane – Monday

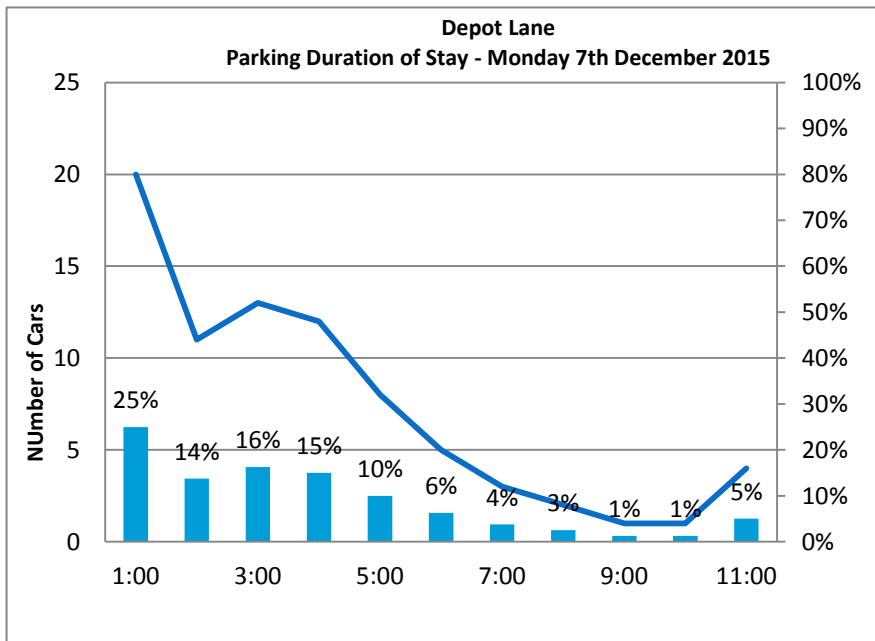


Figure 41 Parking Duration of Stay for Depot Lane – Wednesday

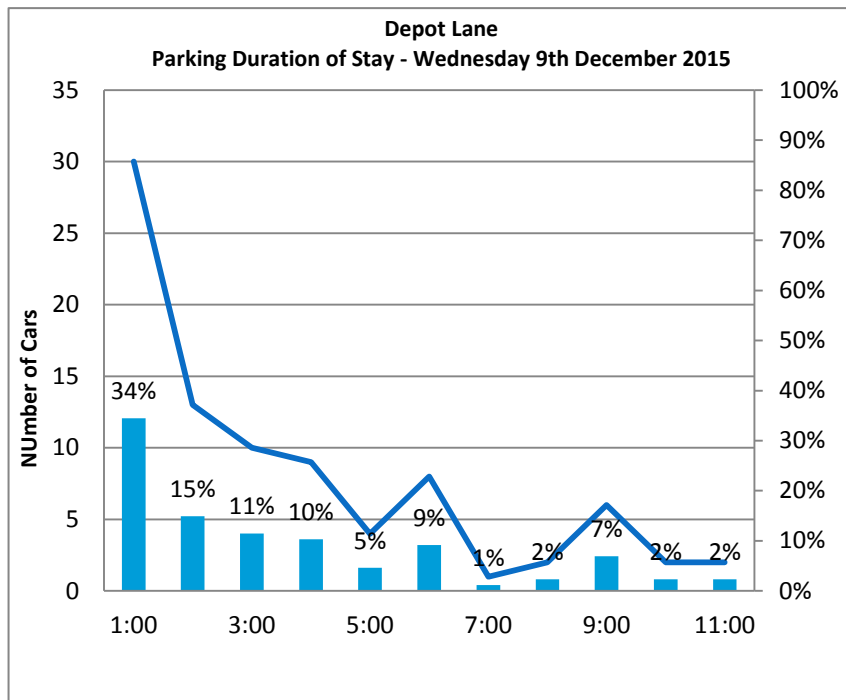


Figure 42 Parking Duration of Stay for Depot Lane – Thursday

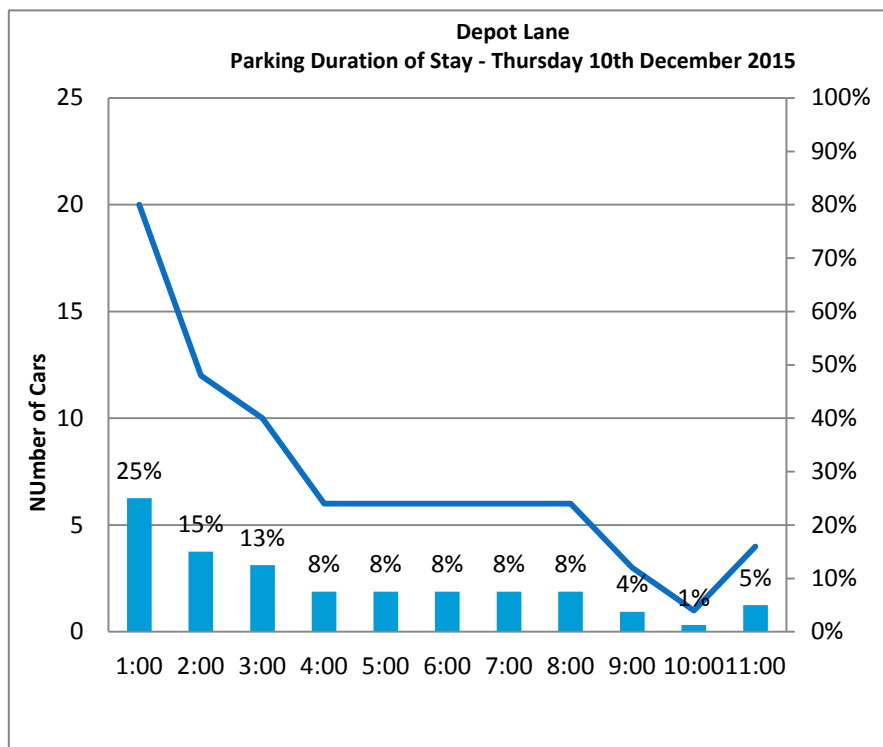


Figure 43 Parking Duration of Stay for Depot Lane – Friday

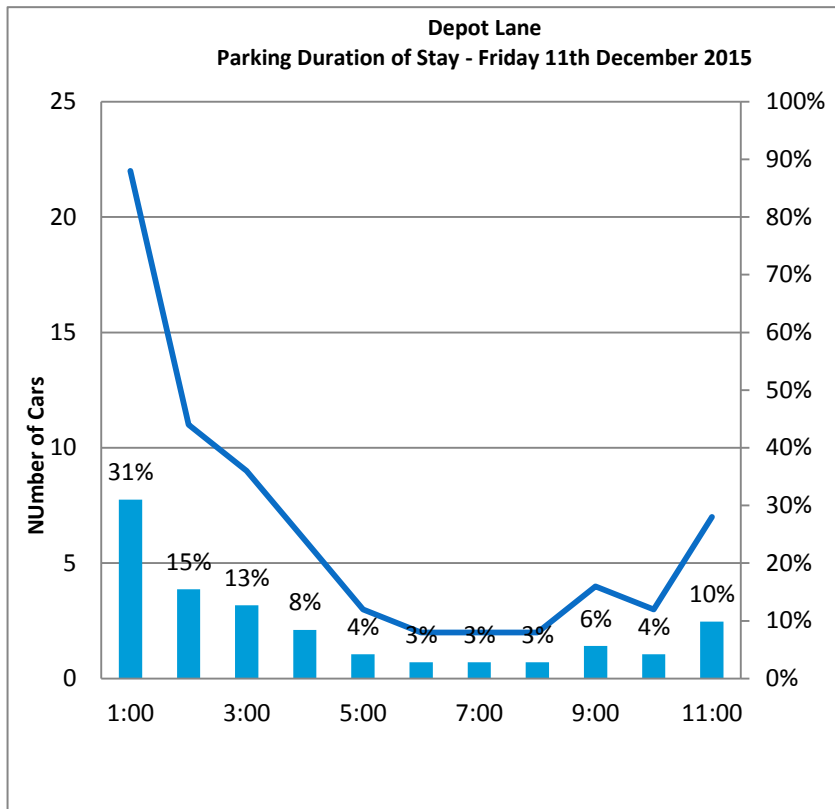


Figure 44 Parking Duration of Stay for Depot Lane – Friday

