

# ***Warragul Car Parking Study***

Baw Baw Shire Council



180336CPS002C-F

9 May 2019

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### DOCUMENT INFORMATION

<b>Prepared for</b>	Baw Baw Shire Council	<b>Report Date</b>	9 May 2019
<b>File Name</b>	180336CPS002C-F	<b>Reviewed by</b>	Valentine Gnanakone
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# 1 INTRODUCTION

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## 1.1 Background

**onemilegrid** has been requested by Baw Baw Shire Council to undertake an update to the Warragul Car Parking Study, to identify current car parking patterns and provide recommendations for future parking management within the Warragul central business area.

As part of this assessment the subject site has been inspected with an understanding of Council's initiatives, car parking data has been sourced and relevant background reports have been reviewed.

## 1.2 Study Objectives

The refresh of the Warragul Parking Study aims to:

- Provide a snapshot of the current car parking landscape within the Warragul Town Centre;
- Review the outcomes of previous actions outlined in the 2015 Warragul Parking Study;
- Provide recommendations to manage and adapt existing car parking arrangements to better suit community needs;
- Provide recommendations on managing future demand growth associated with increased residential and commercial growth within Warragul and its surrounds.

## 1.3 Research Area

The area of focus for the study has remained largely unchanged from that assessed in the 2015 study, with the primary focus being the major retail and commercial areas of Warragul. As per the previous study the parking areas were divided into the Principal CBD Area and Outer CBD Area.

Key differences between the 2015 and 2018 study areas include:

- Expansion of the Principal CBD Area to include off-street car parking associated with the Target and Woolworths as well as the Council operated off-street car park on William Street;
- Expansion of the Principal CBD Area to include the length of Victoria Street from Albert Street to Queen Street;
- Expansion of the Principal CBD Area to include William Street and Palmerstone Street between Smith Street and Mason Street;
- Removal of the western side of Smith Street between Queen Street and Victoria Street from the Principal CBD Area;
- Expansion of the Outer CBD Area to include off-street commuter car parking facilities at Warragul Station (opened in September 2014);
- Expansion of the Outer CBD Area to the east to incorporate car parking along Gladstone Street.

The boundaries of the Principal CBD Area and Outer CBD Area are shown in Figure 1 with the 2015 study area shown in Figure 2 for reference purposes.

Figure 1 Study Area – 2018



Figure 2 Previous Study Area - 2015





## 2 POLICY REVIEW

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### 2.1 Policy Documents and Previous Studies

In completing this report, a number of documents have been reviewed in order to ensure any recommendations and directions align with the objectives of local and state policy. Key documents reviewed include (but not limited to):

- Warragul Car Parking Study, Baw Baw Shire Council (2015);
- Baw Baw 2050;
- Warragul Town Centre Masterplan (2011);
- Warragul Precinct Structure Plan (2014).

## 3 EXISTING CONDITIONS

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### 3.1 Study Area

The study area includes the primary commercial and retail areas within Warragul, as well as Warragul Station and associated infrastructure. The study area is considered to represent the most highly utilised car parking in Warragul, arising from the concentration of office and retail uses in the area, attracting, employees and customers. It is noted that this is consistent with any town centre / activity centre.

The study area comprises a mixture of on-street and off-street car parking, with the study area divided into the Principal CBD area and Outer CBD area.

#### 3.1.1 Planning Zones and Overlays

As shown in Figure 3 the Principal CBD area is wholly located within a Commercial 1 Zone (C1Z) (formerly Business 1 Zone (B1Z), Business 2 Zone (B2Z), Business 5 Zone (B5Z)), for which permitted uses are listed in Clause 34.01 of the Baw Baw Planning Scheme.

The Outer CBD area is comprised of a number of planning zones, including Commercial 1 Zone (C1Z), Public Use Zone (PUZ), Public Park and Recreation Zone (PPRZ), General Residential Zone (GRZ), Road Zone (RDZ) and Commercial 2 Zone (C2Z) (formerly Business 3 Zone (B3Z), Business 4 Zone (B4Z)).

### 4.2.3 Car Parking Restrictions – Outer CBD Area

A summary of the parking restrictions within the Outer CBD area is provided in Table 4 and Table 5 and represented graphically in Figure 9 and Figure 10.

**Table 4 Car Parking Restrictions - Weekdays**

Parking Restriction	Supply								
	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM
Unrestricted	798	819	819	819	819	819	798	819	819
Short Term Parking (< 1P)	17	17	17	17	17	17	17	17	17
Medium Term Parking (2P – 4P)	598	598	598	598	598	598	598	598	598
Disabled Parking	33	33	33	33	33	33	33	33	33
Permit Car Parking	15	15	15	15	15	15	15	15	15
Private Car Parking	156	156	156	156	156	156	156	156	156
Customer Parking	302	302	302	302	302	302	302	302	302
Taxi Zones	11	11	11	11	11	11	11	11	11
Loading Zones	6	6	6	6	6	6	6	6	6
Emergency Zone	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1936</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1936</b>	<b>1957</b>	<b>1957</b>

**Table 5 Car Parking Restrictions - Saturday**

Parking Restriction	Supply								
	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM
Unrestricted	877	877	877	1292	1292	1292	1292	1292	1292
Short Term Parking (< 1P)	5	5	5	3	3	3	3	3	3
Medium Term Parking (2P – 4P)	554	554	554	142	142	142	142	142	142
Disabled Parking	33	33	33	33	33	33	33	33	33
Permit Car Parking	15	15	15	15	15	15	15	15	15
Private Car Parking	156	156	156	156	156	156	156	156	156
Customer Parking	302	302	302	302	302	302	302	302	302
Taxi Zones	11	11	11	11	11	11	11	11	11
Loading Zones	4	4	4	3	3	3	3	3	3
Emergency Zone	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>	<b>1957</b>

Figure 3 Planning Scheme Zones

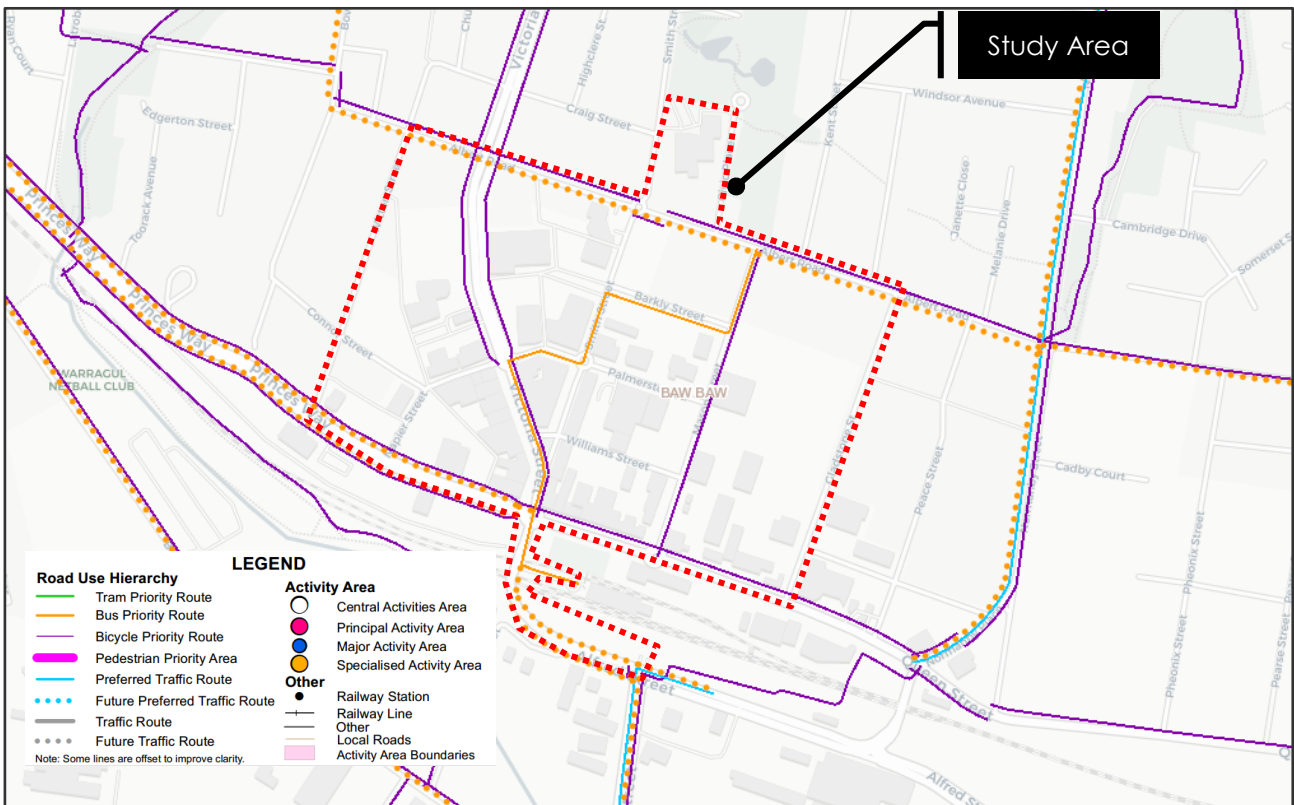


### 3.2 SmartRoads Road User Hierarchy Maps

In mid-2011 VicRoads developed the SmartRoads Road User Hierarchy Maps which aim to 'manage competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day.'

The SmartRoads map, reproduced in Figure 4, identifies the priority modes on each arterial road within the study area. As identified in the SmartRoads map Victoria Street, Mason Street, Queen Street and Albert Street are Bicycle Priority Routes. In addition, a number of future bus priority routes are identified running in and around the study area.

**Figure 4 SmartRoads Road User Hierarchy Map**

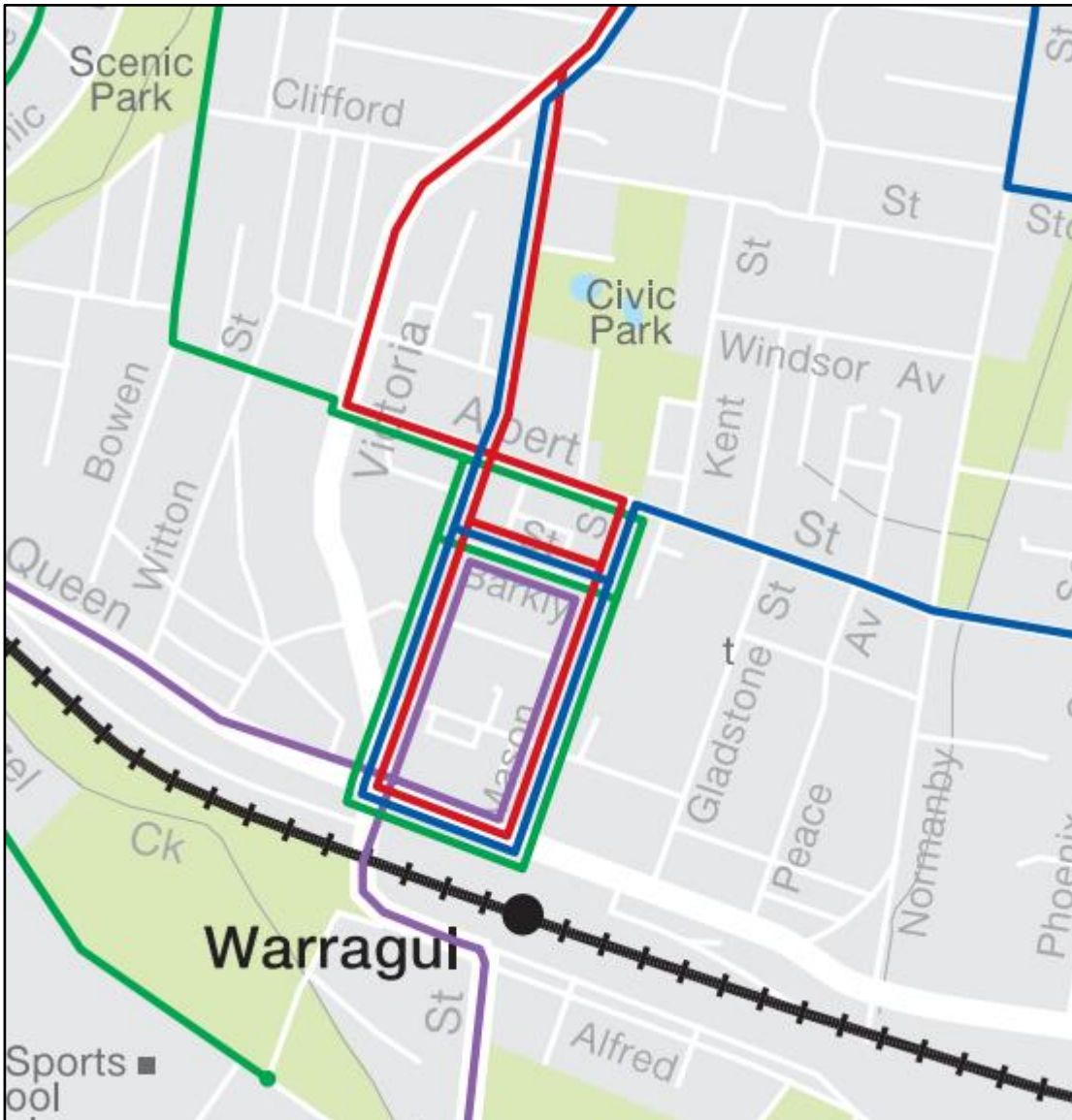


### 3.3 Sustainable Transport

#### 3.3.1 Public Transport

The full public transport provision in the vicinity of the site is shown in Figure 5.

**Figure 5 Public Transport Provision**



A number of bus routes connections help to connect the Warragul CBD to the broader Warragul community and the nearby town of Drouin. In addition, the CBD is connected to the V/Line rail network through Warragul Station on the Melbourne – Traralgon line.

### **3.3.2 Bicycle Facilities - Municipal Bicycle Network**

The Municipal Bicycle Network (MBN), is the network of cycling routes throughout regional Victoria. Each MBN is managed by local Councils, who also have primary responsibility for their development.

The Municipal Bicycle Network is now included on the SmartRoads Road User Hierarchy plans, as shown in Figure 4.

The Road User Hierarchy plans indicate that Victoria Street, Mason Street, Queen Street and Albert Street are Bicycle Priority Routes.

### **3.3.3 Pedestrian Accessibility**

In addition to having good access to public transport modes, the site is well-located for pedestrian accessibility, with the town centre readily traversable by foot, with walk times of 10 – 15 minutes to access the entirety of the study area. For reference purposes, typically a walk speed of 1.4 m/s is adopted, equating to a walk distance of 400m in 5 minutes.

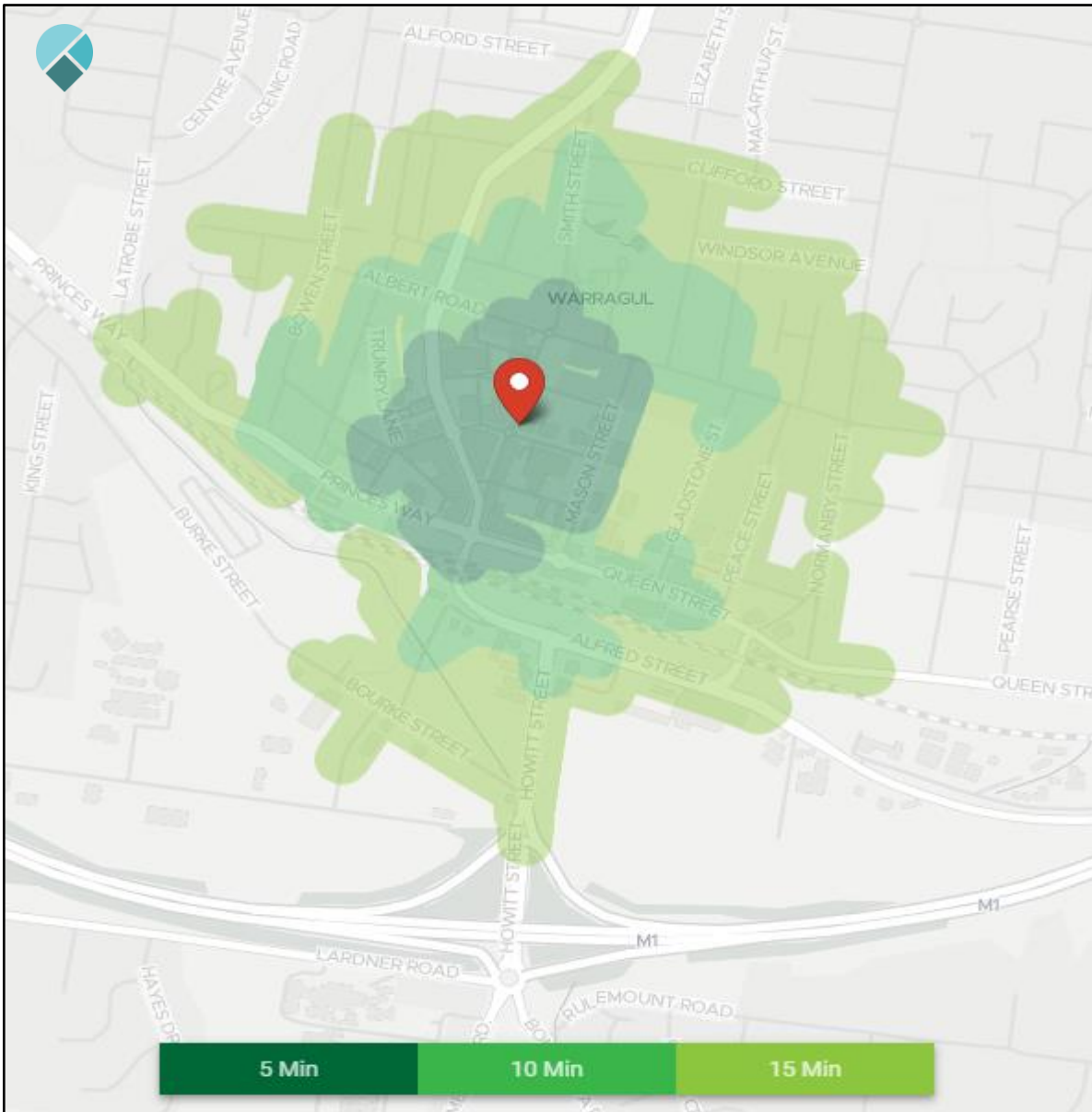
A walking distance of 400m (1/4 mile) typically cited as the distance people will willingly walk as part of a commute, however it should be noted that far greater walking distances are typically acceptable for people walking to/from other types of trips (e.g. not walking to transport).

Recent streetscape works within Warragul have further improved the pedestrian amenity of the area with a number of pedestrian crossings upgraded along Smith Street as part of these works.

It is noted, that although a number of pedestrian crossings are provided along Smith Street, limited pedestrian crossing opportunities exist along Victoria Street or Mason Street, which provide alternate north-south links through the Warragul CBD. Finally, as the majority of intersections within the Warragul CBD are roundabouts, pedestrian priority is reduced.

Figure 6 shows a pedestrian walk time map for the study area.

Figure 6 Pedestrian Walk-Time Map



(Source: [www.taragomo.com](http://www.taragomo.com))



## 4 CAR PARKING SURVEYS

### 4.1 Car Parking Surveys

To facilitate comparisons with the previous car parking study as well as establish current car parking requirements and trends throughout the research area, comprehensive car parking surveys were commissioned.

The surveys were completed on the following days and times:

- Wednesday 18 July 2018 from 9:00am to 5:00pm
- Friday 20 July 2018 from 9:00am to 5:00pm
- Saturday 21 July 2018 from 9:00am to 5:00pm.

The car parking surveys have been analysed based on hourly intervals.

### 4.2 Car Parking Restrictions & Supply

#### 4.2.1 Car Parking Categories

A number of different parking restrictions apply to the study area, for the purpose of this study car parking restrictions have been separated into the following categories.

**Table 1 Car Parking Typologies**

<i>Category</i>	<i>Description</i>	<i>Common Use</i>
Unrestricted	Any car parking where all day car parking is allowed with no time restrictions	Commuter parking, staff car parking
Short Term Parking (< 1P)	Any car parking that has a time restriction of 1 hour or less.	Pick-up/drop-off, quick visits to shops, deliveries
Medium Term Parking (2P – 4P)	Any car parking with a time restriction of between 2 hours and 4 hours.	Trips to multiple shops, dining
Disabled Parking	Any car parking that is allocated for disabled use.	People with accessibility requirements
Permit Car Parking	Any car parking that is signed permit zone, where permits are issued by Council	Residents, some businesses
Private Car Parking	Parking that is specifically signed for private use	Business carparking can be for customers or staff
Customer Parking	Car parking that is specifically signed for customer use in an area. Varying lengths of stay permitted, with overstay typically not enforced	Customer use
Taxi Zones	Areas allowing for Taxi use includes some bus zones	Taxi pick-up/drop-off, taxi storage/waiting
Loading Zones	Areas specifically set aside for loading activities only.	Business deliveries
Emergency Zone	Areas specifically for emergency vehicle parking.	Emergency vehicle parking and layover

## 4.2.2 Car Parking Restrictions Principal CBD Area

A summary of the car parking restrictions within the Principal CBD area is provided in Table 2 and Table 3, and shown graphically in Figure 7 and Figure 8.

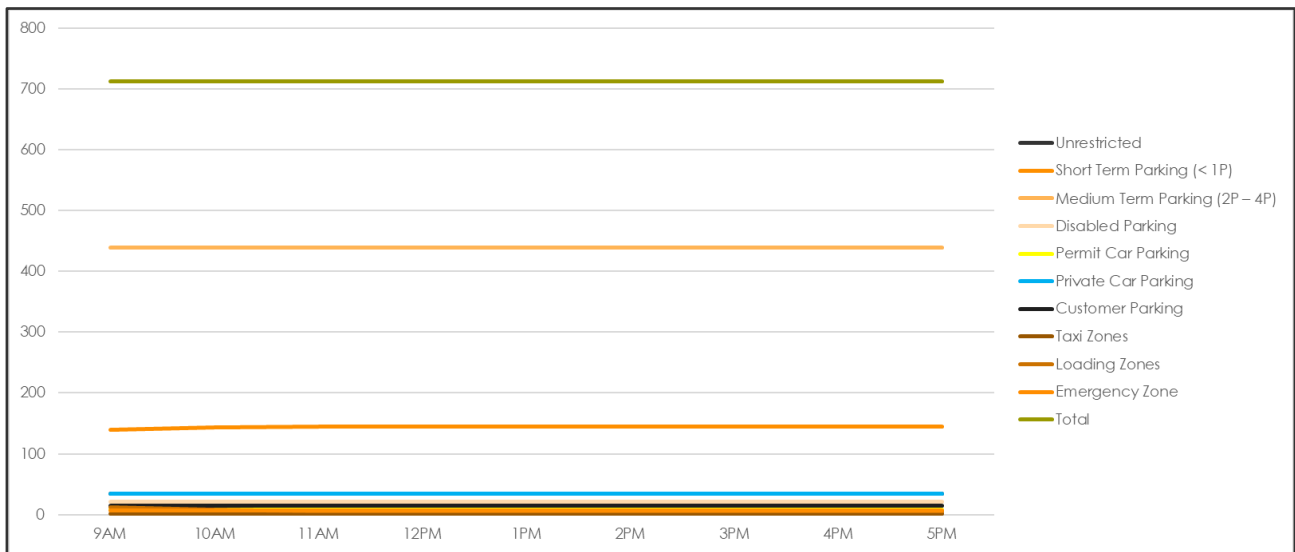
**Table 2 Car Parking Restrictions – Weekdays**

Parking Restriction	Supply								
	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM
Unrestricted	34	34	34	34	34	34	34	34	34
Short Term Parking (< 1P)	139	143	145	145	145	145	145	145	145
Medium Term Parking (2P – 4P)	439	439	439	439	439	439	439	439	439
Disabled Parking	21	21	21	21	21	21	21	21	21
Permit Car Parking	8	8	8	8	8	8	8	8	8
Private Car Parking	35	35	35	35	35	35	35	35	35
Customer Parking	15	15	15	15	15	15	15	15	15
Taxi Zones	2	2	2	2	2	2	2	2	2
Loading Zones	12	8	6	6	6	6	6	6	6
Emergency Zone	7	7	7	7	7	7	7	7	7
<b>Total</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>

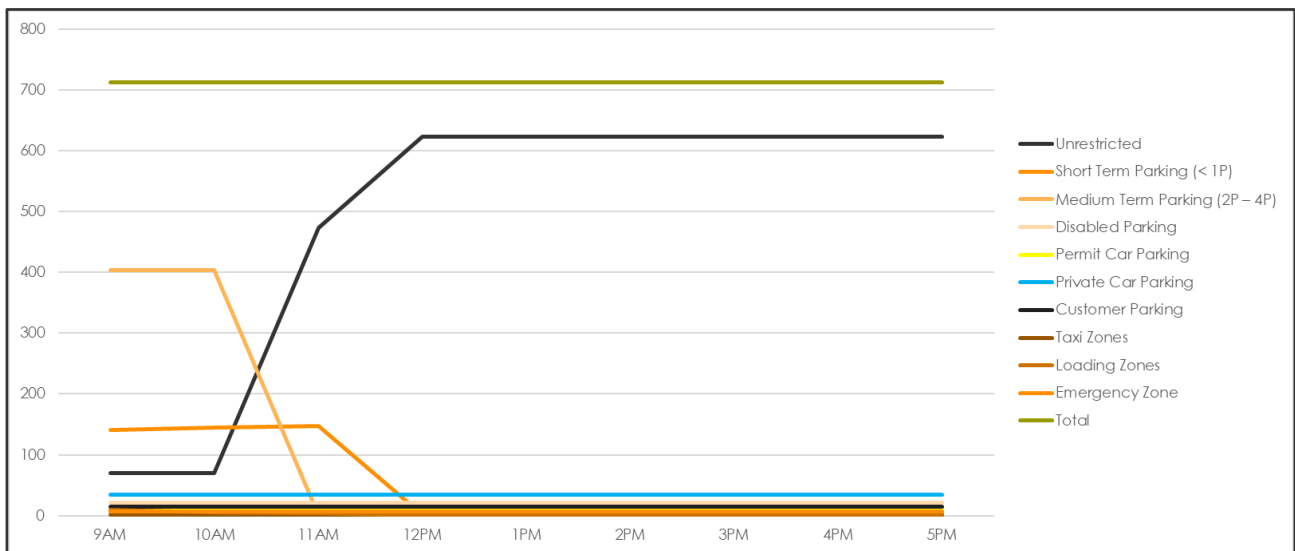
**Table 3 Car Parking Restrictions - Saturday**

Parking Restriction	Supply								
	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM
Unrestricted	70	70	473	623	623	623	623	623	623
Short Term Parking (< 1P)	141	145	147	1	1	1	1	1	1
Medium Term Parking (2P – 4P)	403	403	0	0	0	0	0	0	0
Disabled Parking	21	21	21	21	21	21	21	21	21
Permit Car Parking	8	8	8	8	8	8	8	8	8
Private Car Parking	35	35	35	35	35	35	35	35	35
Customer Parking	15	15	15	15	15	15	15	15	15
Taxi Zones	2	2	2	2	2	2	2	2	2
Loading Zones	10	6	4	0	0	0	0	0	0
Emergency Zone	7	7	7	7	7	7	7	7	7
<b>Total</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>	<b>712</b>

**Figure 7 Parking Restrictions - Weekdays**



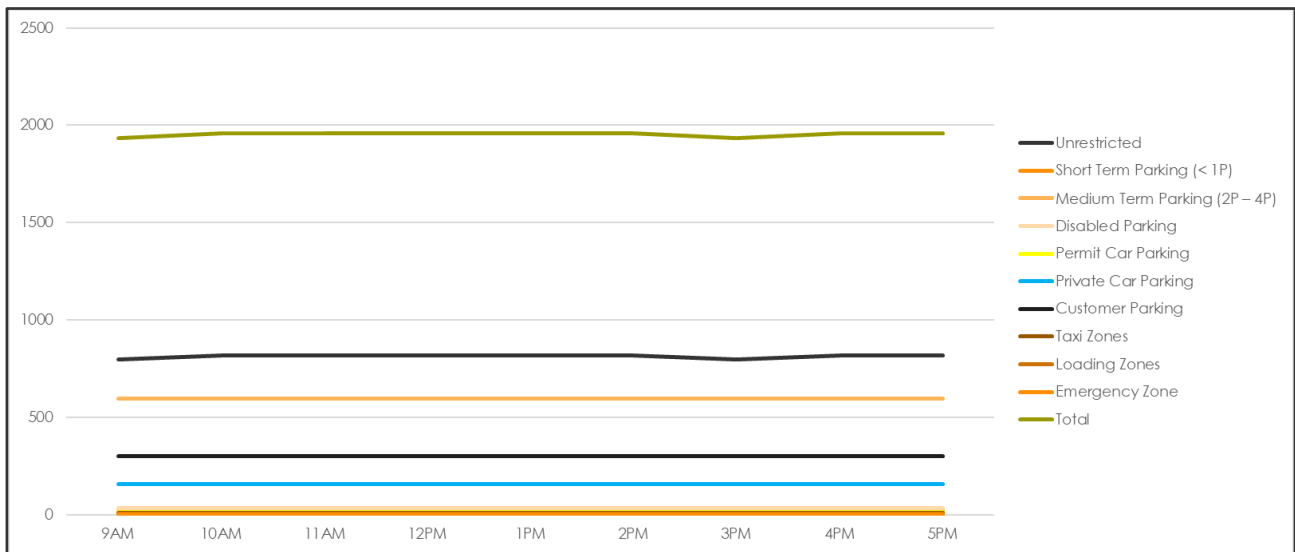
**Figure 8 Parking Restrictions - Saturday**



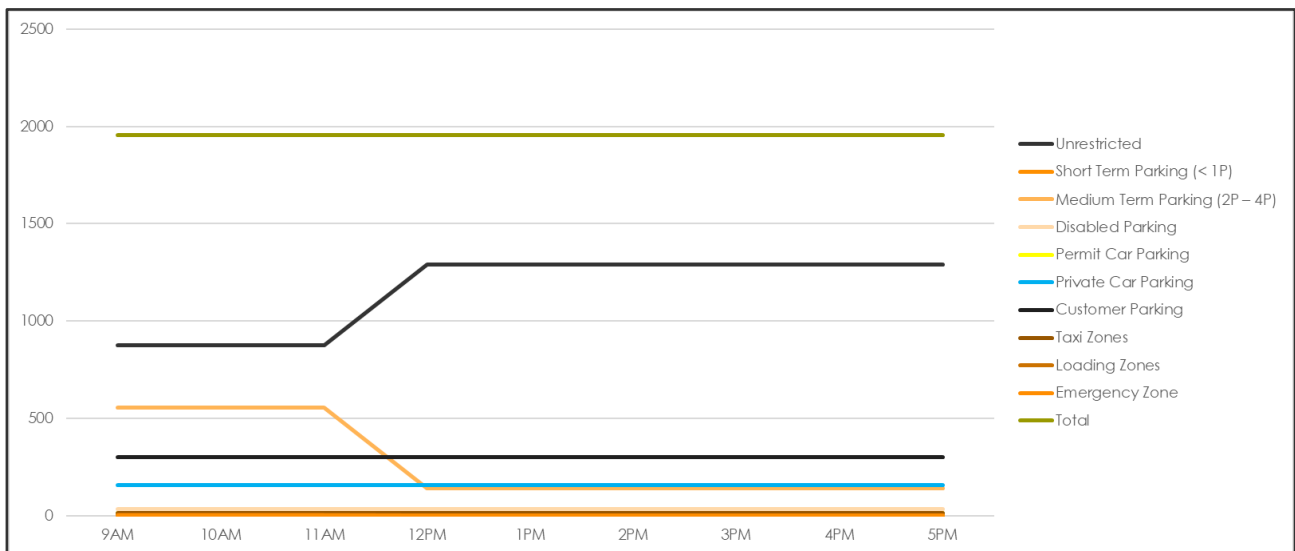
As highlighted above, the car parking supplies across each car parking type remain relatively constant over the day on weekdays, with the majority of available parking comprising either short term spaces (145 spaces) or medium-term spaces (439 spaces).

On Saturday, the supply of car parking across each car parking type changes dramatically from the weekday restrictions. As shown in Figure 8, between 9:00am and 11:00am the majority of short to medium term parking restrictions become ineffective, with 88% of the car parking within the Principal CBD area becoming long term unrestricted parking by midday.

**Figure 9 Car Parking Restrictions - Weekdays**



**Figure 10 Car Parking Restrictions - Saturday**



As highlighted above, the car parking supplies across each car parking type remain relatively constant over the day on weekdays, with the majority of available parking comprising a mixture of unrestricted (819), medium term (598 spaces), customer parking (302 spaces) and private car parking (156 spaces).

Similar to the Principal CBD area, parking is largely unrestricted within the Outer CBD area on Saturday, with a total of 1,292 spaces effectively operating as unrestricted car parking after 12:00pm (66% of available car parking).

Restrictions associated with other car parking types remain constant over the course of the weekday and Saturday periods, most notably a total of 302 dedicated customer spaces are available within the Outer CBD area representing 15% of the available parking supply.

## 4.3 Overall Car Parking Occupancy

### 4.3.1 Principal CBD Area

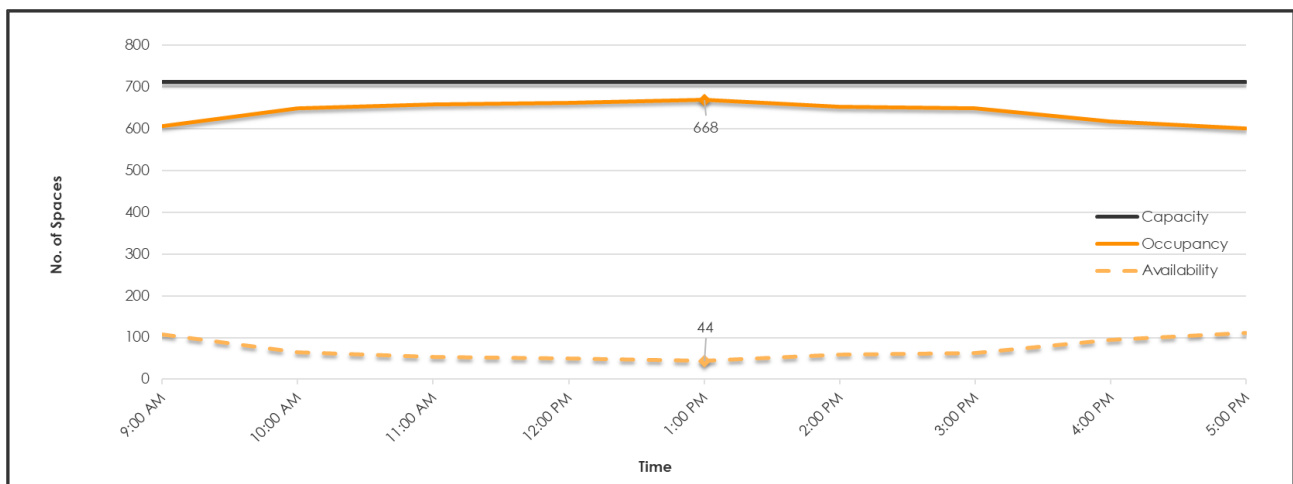
The surveys identified a constant overall supply of 712 car parking spaces within the Principal CBD area. As outlined previously, this car parking comprises a mixture of parking typologies and is predominately made up of medium-term car parking.

Throughout each of the surveyed days, parking utilisation was high, with utilisation between 81% and 94% on the Wednesday and Friday. Utilisation on the Saturday was notably reduced with occupancy varying between 52% and 78%. A summary of the utilisation is provided in Table 6, with the temporal demand across the day shown in Figure 11 to Figure 13.

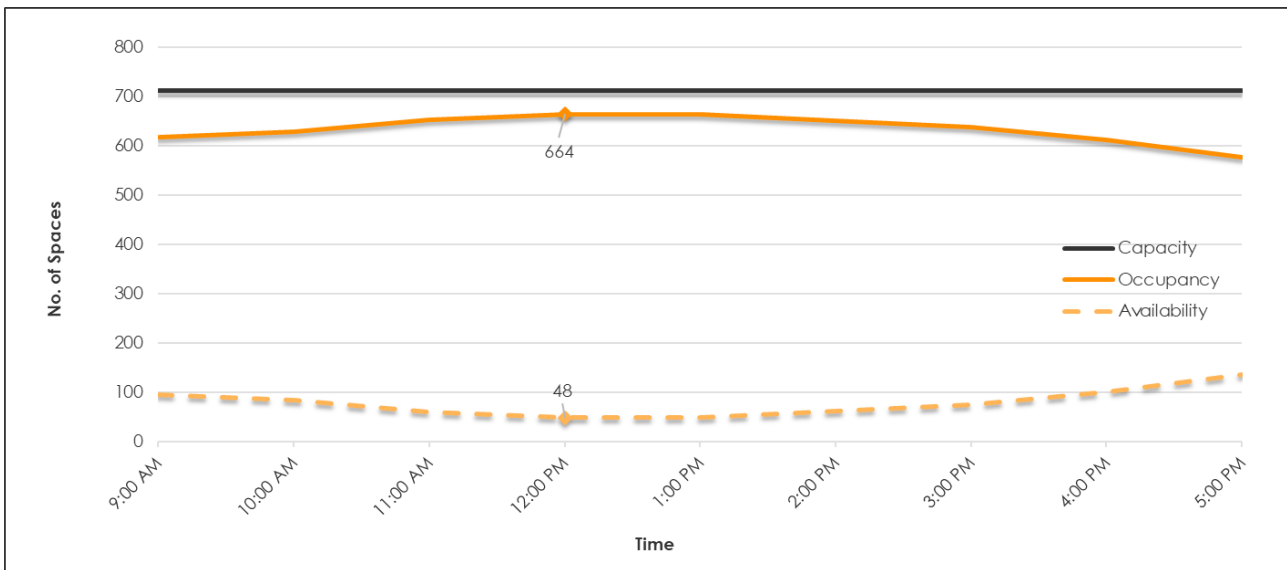
**Table 6 Car Parking Demand Summary- Principal CBD Area**

Survey Day	Peak Time	Peak Occupancy	Minimum Availability	Minimum Occupancy	Maximum Availability	Utilisation Range
Wednesday	1:00pm	668	44	600	112	84% - 94%
Friday	12:00pm	664	48	577	135	81% - 93%
Saturday	12:00pm	556	156	373	339	52% - 78%

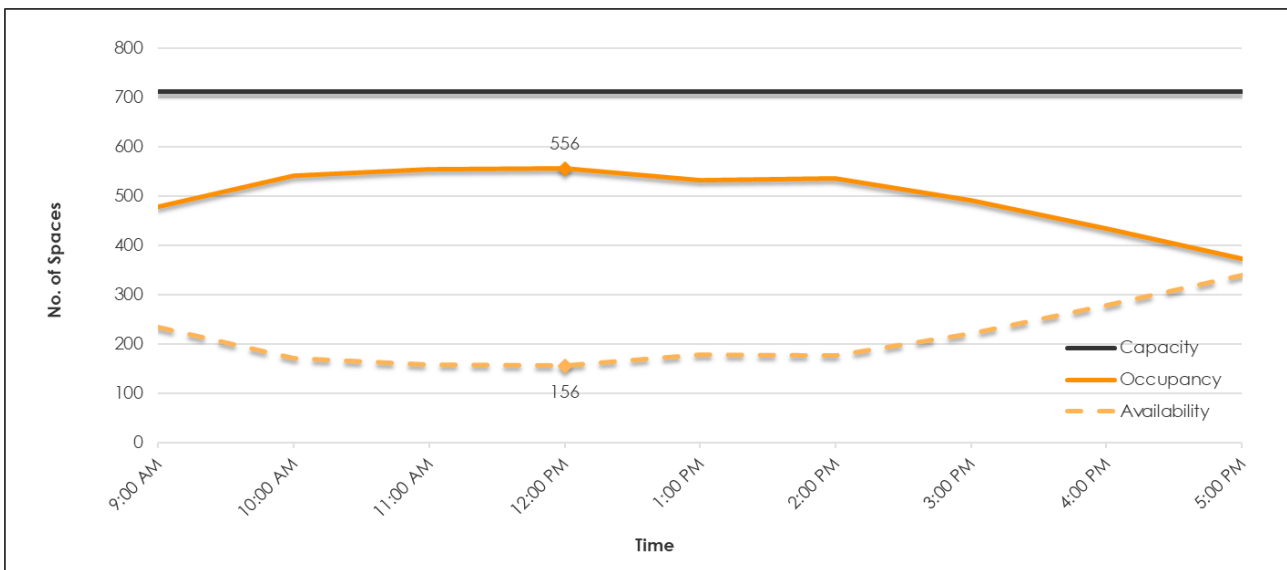
**Figure 11 Temporal Car Parking Occupancy - Wednesday**



**Figure 12 Temporal Car Parking Occupancy - Friday**

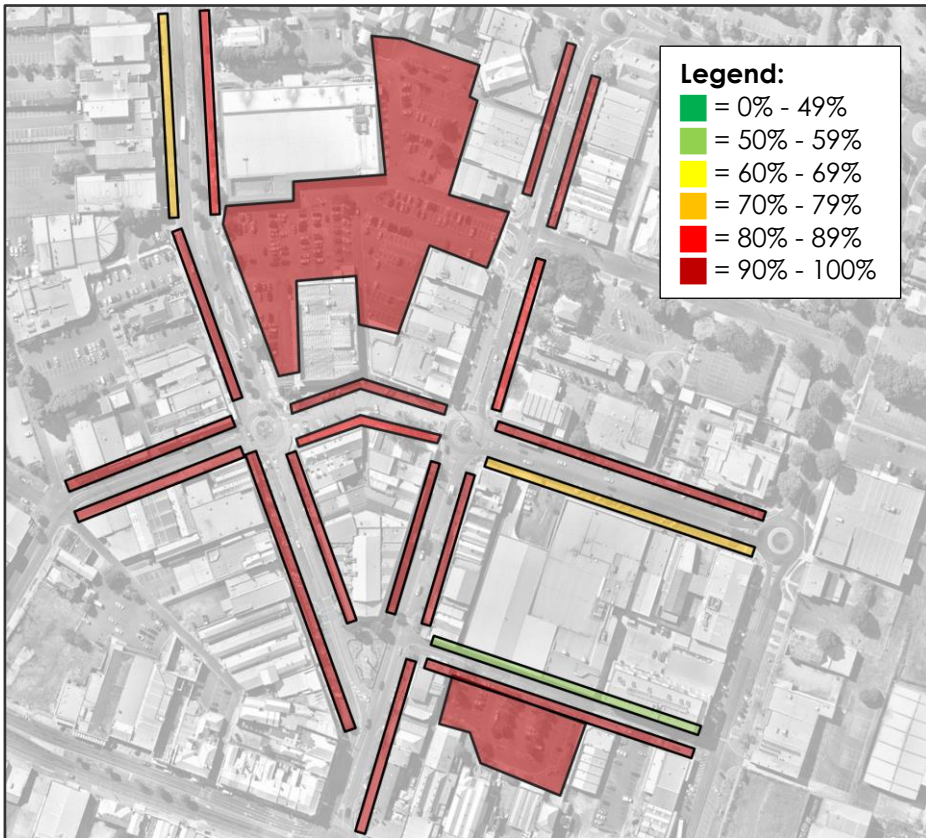


**Figure 13 Temporal Car Parking Occupancy - Saturday**

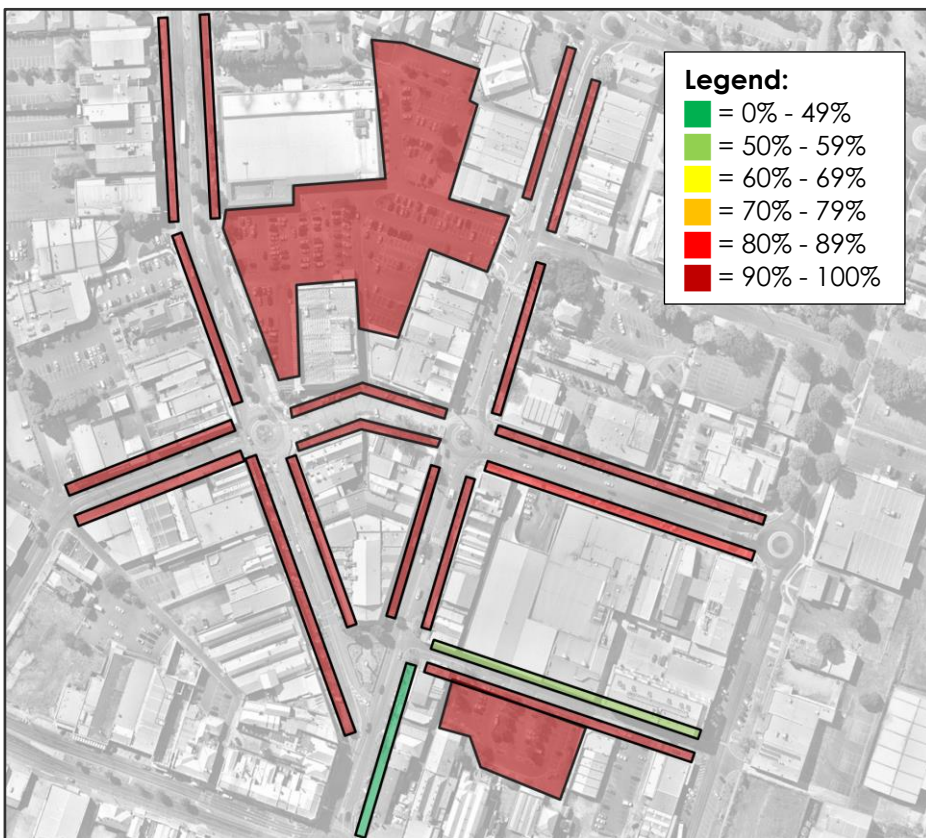


As indicated above, car parking is highly utilised within the Principal CBD area. To identify which car parking areas (if any) were being underutilised, graphical representations of the peak car parking occupancy on each of the days have been produced indicating the areas of highest and lowest utilisation. These are provided in Figure 14 to Figure 16.

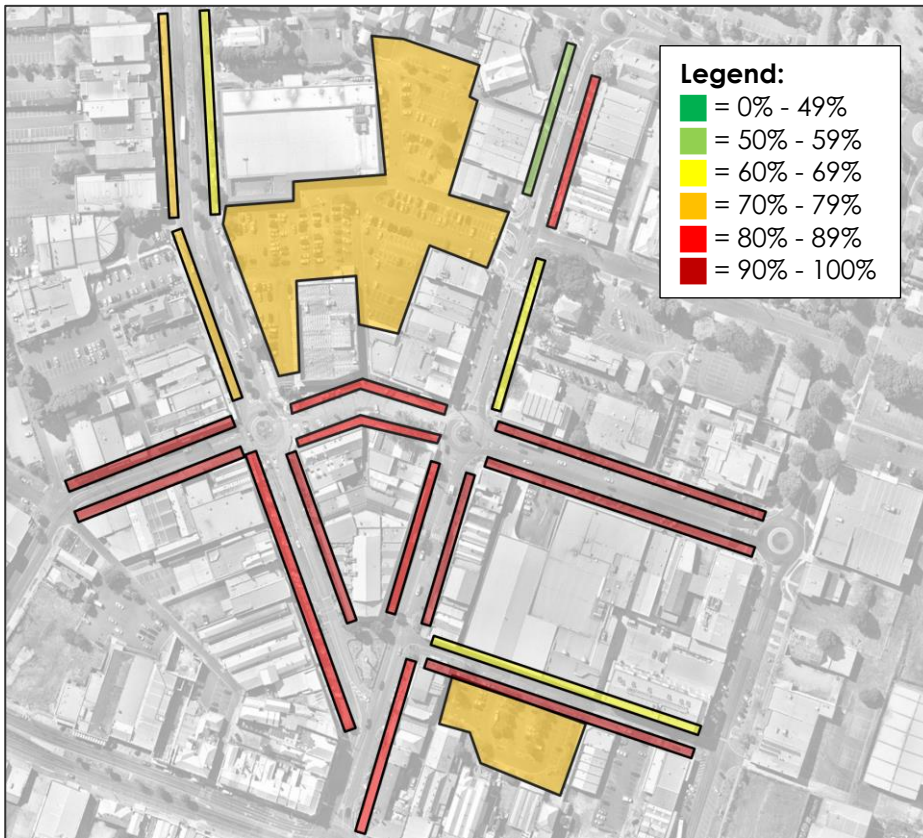
**Figure 14 Peak Car Parking Occupancy – Wednesday 1:00pm**



**Figure 15 Peak Car Parking Occupancy – Friday 12:00pm**



**Figure 16 Peak Car Parking Occupancy – Saturday 12:00pm**



Car parking during the weekday surveys was generally highly utilised, with occupation generally between 70% and 100%. The exception was the eastern side of Smith Street between Queen Street and William Street, which was under 50% occupied during the Friday peak.

On Saturday, the utilisation of parking was varied throughout the Principal CBD area with many of the on-street parking areas between 60% and 100% occupied. Notably, the centrally located off-street car parking associated with the Target and Woolworths was only 70-79% occupied during the peak demand period.



### 4.3.2 Outer CBD Area

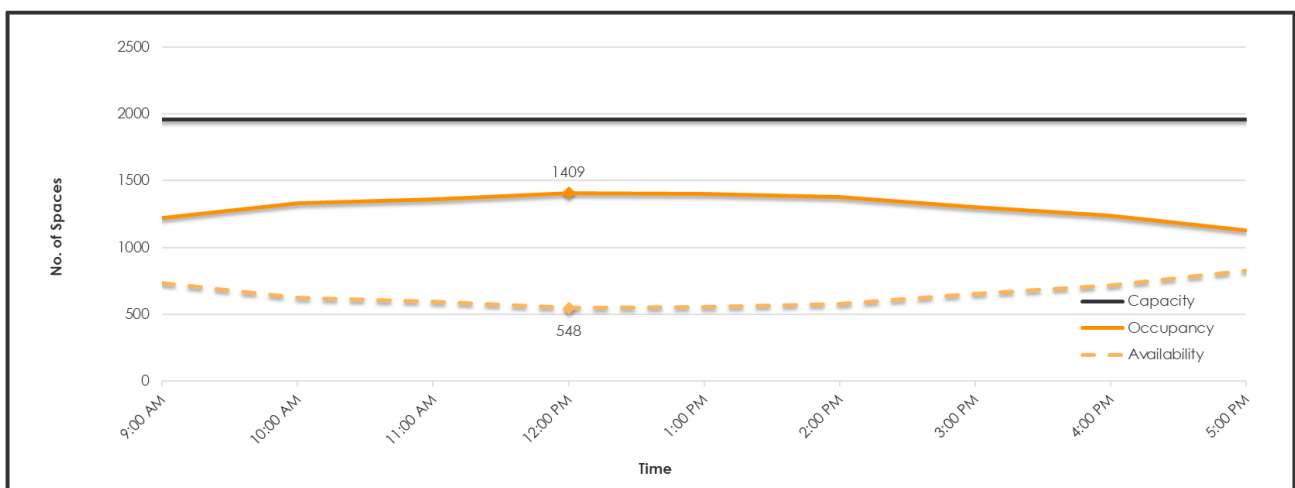
The surveys identified a supply of 1,957 car parking spaces within the Outer CBD area. As outlined previously, this car parking comprises a mixture of parking typologies and is predominately made up of short-term and medium-term car parking.

Throughout each of the surveyed days, parking utilisation was low to moderate, with utilisation between 51% and 72% on the Wednesday and Friday. Utilisation on the Saturday was significantly lower with occupancy varying between 31% and 52%. A summary of the utilisation is provided in Table 7, with the temporal demand across the day shown in Figure 17 to Figure 19.

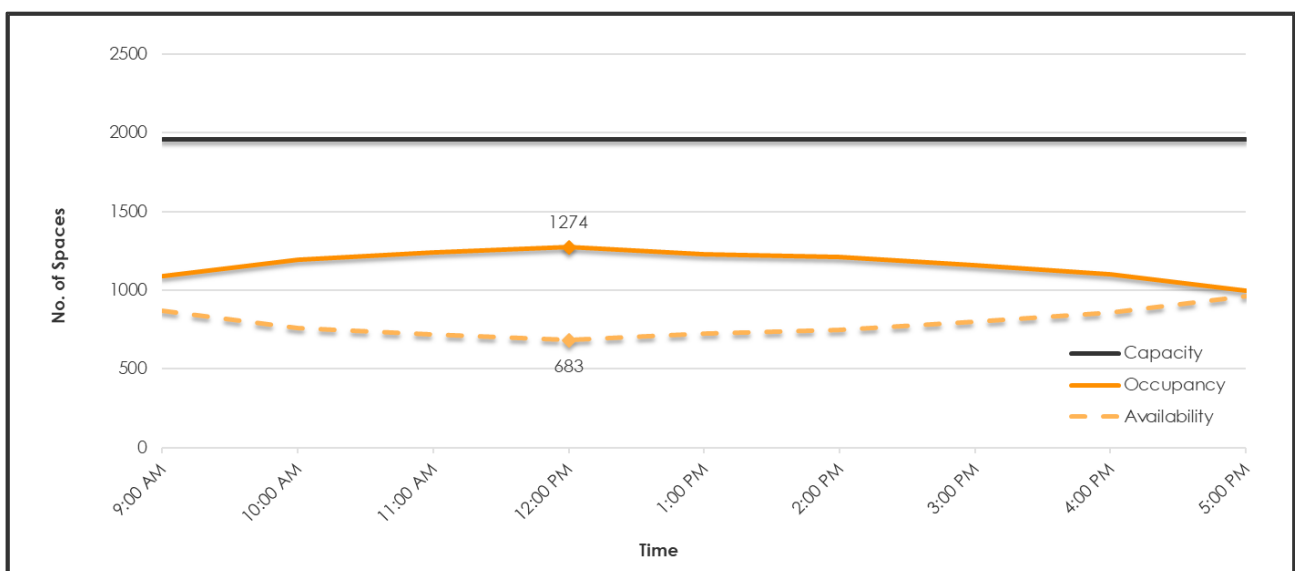
**Table 7 Car Parking Occupancy Summary- Principal CBD Area**

Survey Day	Peak Time	Peak Occupancy	Minimum Availability	Minimum Occupancy	Maximum Availability	Utilisation Range
Wednesday	12:00pm	1409	548	1130	827	58% - 72%
Friday	12:00pm	1274	683	996	961	51% - 65%
Saturday	11:00am	1026	931	599	1358	31% - 52%

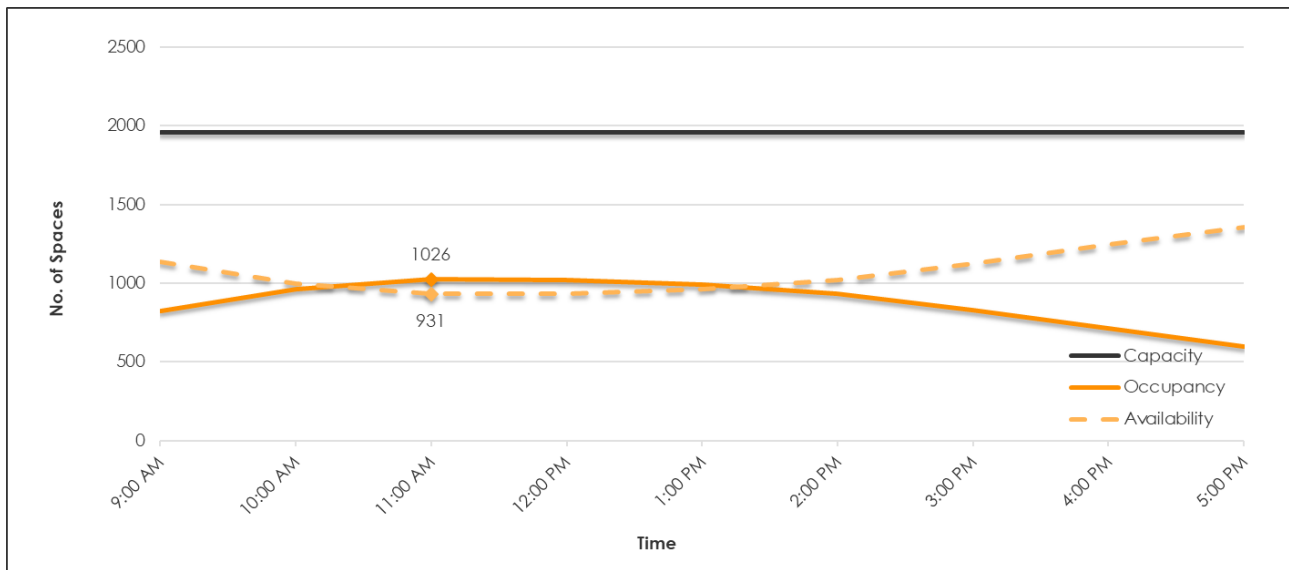
**Figure 17 Temporal Car Parking Occupancy - Wednesday**



**Figure 18 Temporal Car Parking Occupancy - Friday**



**Figure 19 Temporal Car Parking Occupancy - Saturday**



As indicated above, car parking is only moderately utilised within the Outer CBD area, with minimal variation in demands across the day. To identify which car parking areas (if any) are being under or over utilised, graphical representations of the peak car parking occupancy on each of the days have been produced indicating the areas of highest and lowest utilisation. These are provided in Figure 20 to Figure 22.

Figure 20 Peak Car Parking Occupancy – Wednesday 12:00pm

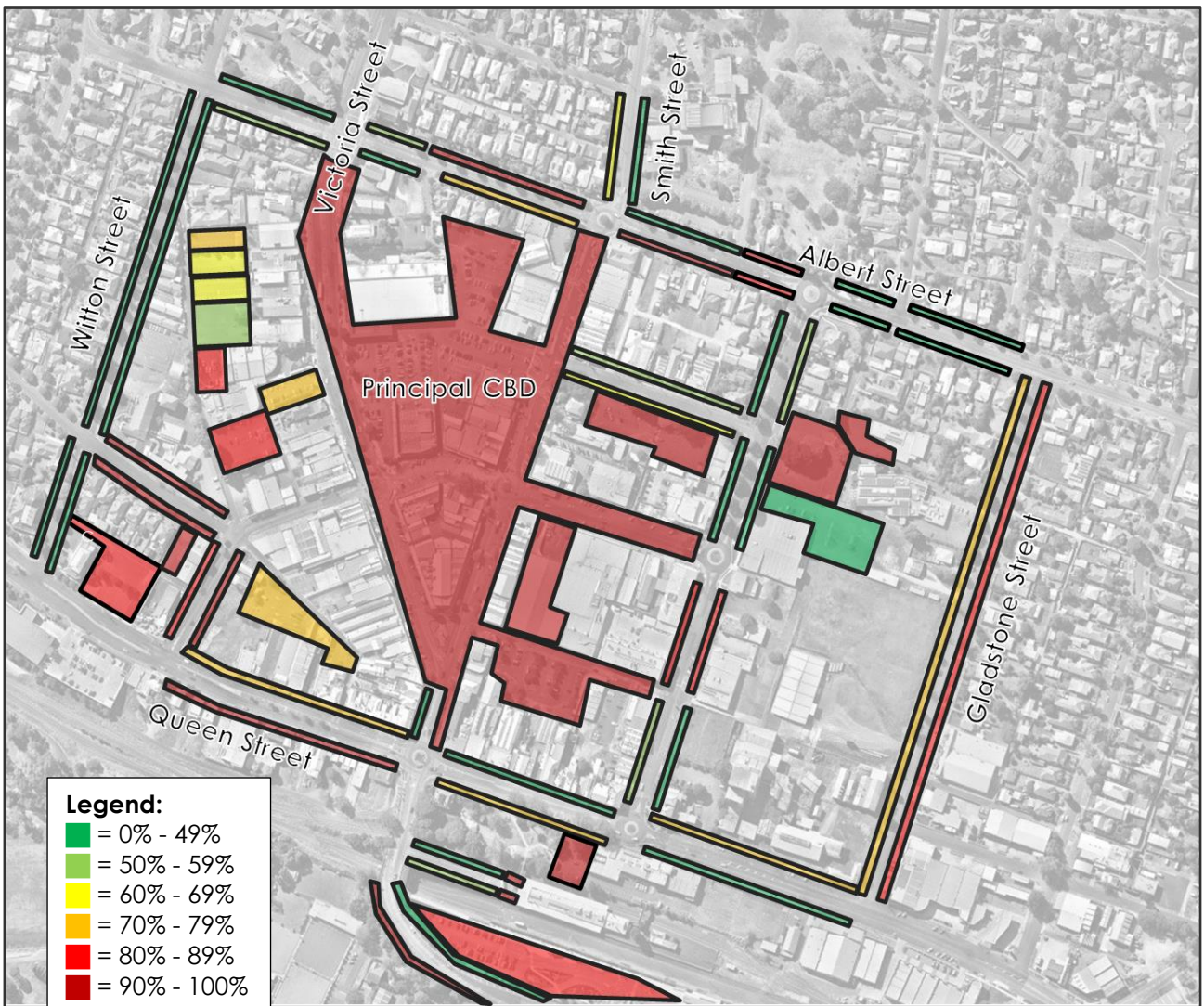
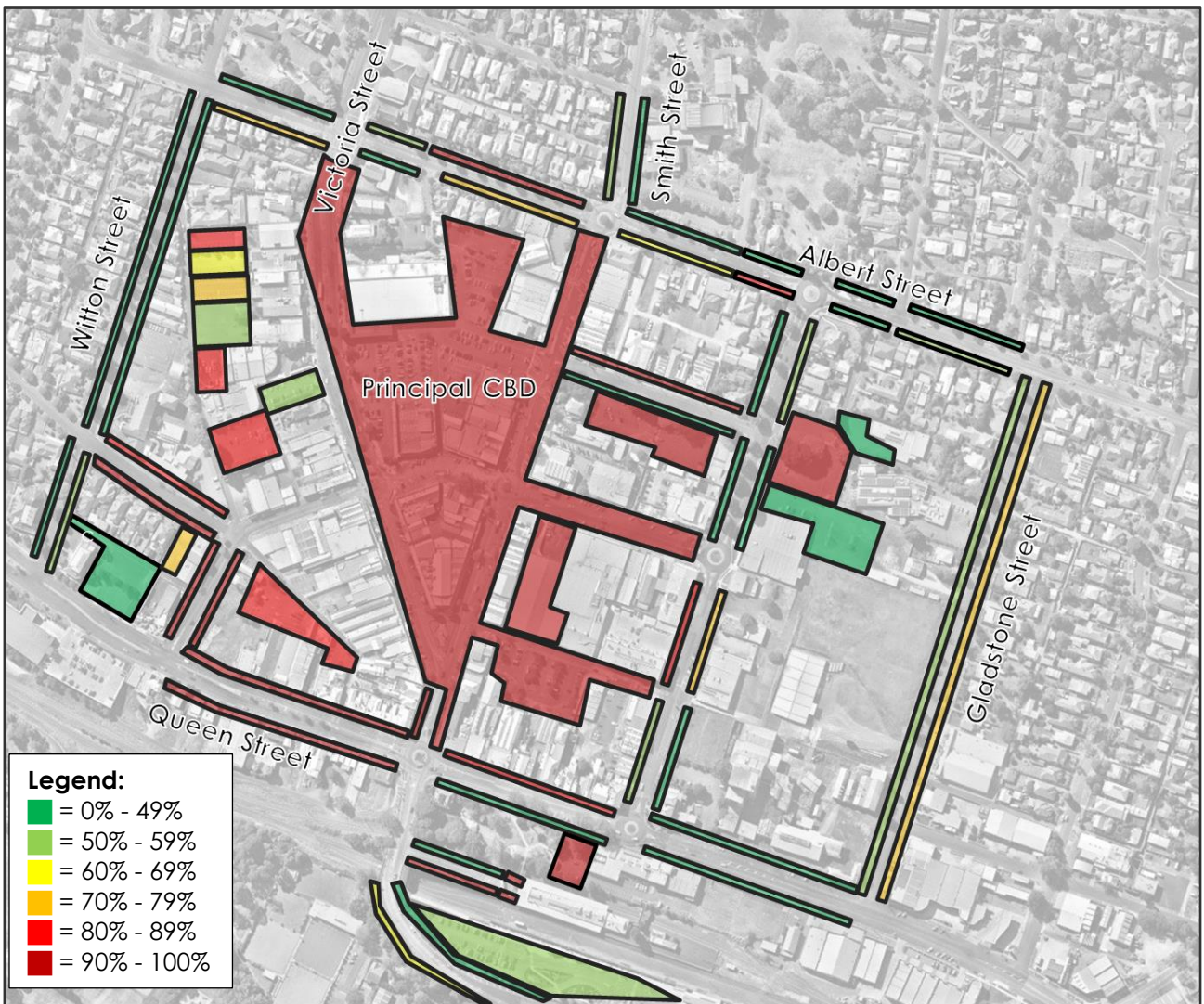
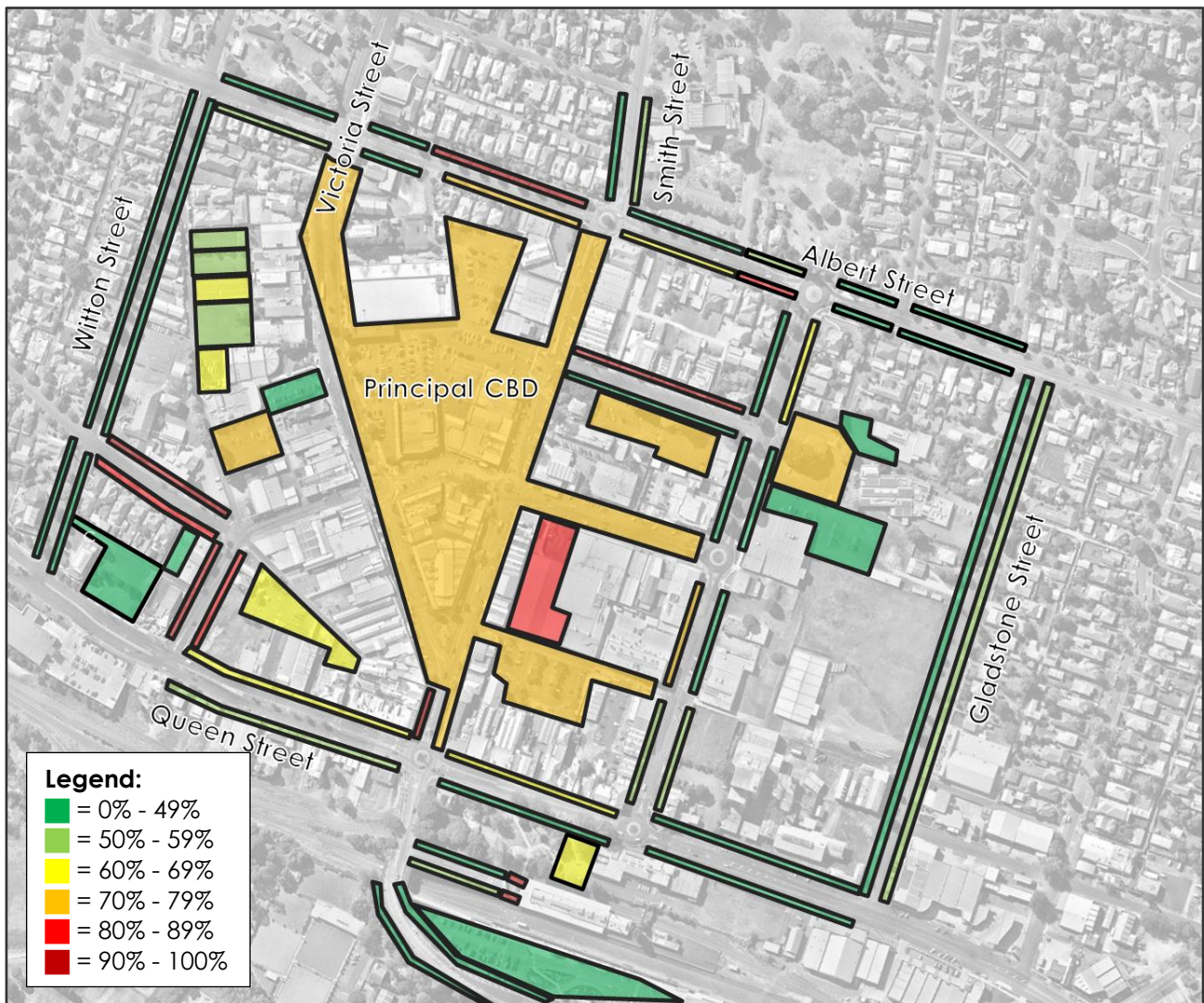


Figure 21 Peak Car Parking Occupancy – Friday 12:00pm



**Figure 22 Peak Car Parking Occupancy – Saturday 12:30pm**



The utilisation of car parking during the weekday periods in the Outer CBD was varied, with some areas highly utilised on the Wednesday and underutilised on the Friday. This is notably evident when examining occupancy along Gladstone Street and within the Warragul Station car park, with both of these areas experience 80%-100% utilisation on the Wednesday and 50% - 70% utilisation on the Friday.

During the Saturday period, the majority of parking in the Outer CBD area was underutilised, with the exception of a number of off-street car parks, which had occupancies between 80 and 100%. It is noted that these car parks, were also highly utilised during the Wednesday and Friday peak periods.

## 4.4 On-street Car Parking Occupancy

### 4.4.1 Principal CBD Area

#### 4.4.1.1 Short-Term Car Parking

As previously discussed, for the purposes of this report short-term car parking has been defined as car parking with a duration of 1 hour or less, representing sufficient timeframes to undertake quick errands with the lower end of this range (10minute/15 minute parking) allowing for pick-up/drop-off and delivery type activities.

As shown in Figure 23, short-term car parking spaces are generally distributed throughout the southern portion of Principal CBD area, with limited short term parking options available north of Napier Street/Palmerston Street.

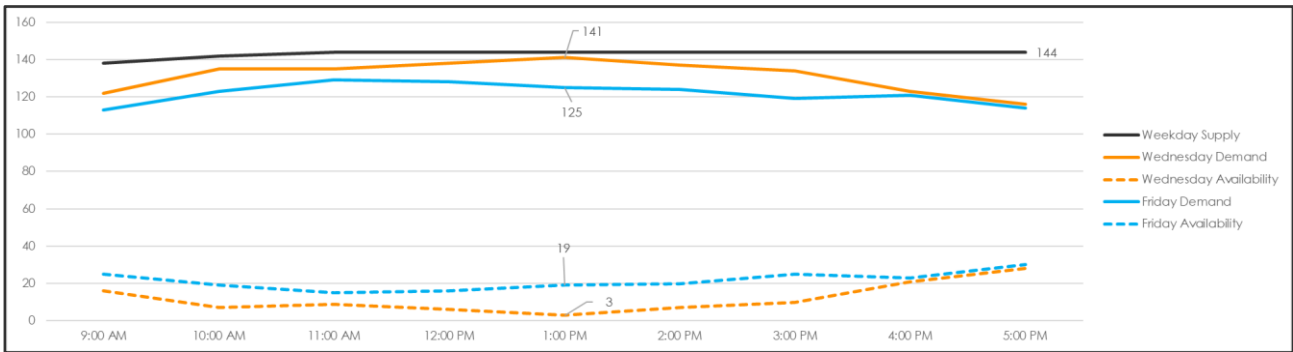
**Figure 23 Short-Term On-Street Parking Locations**



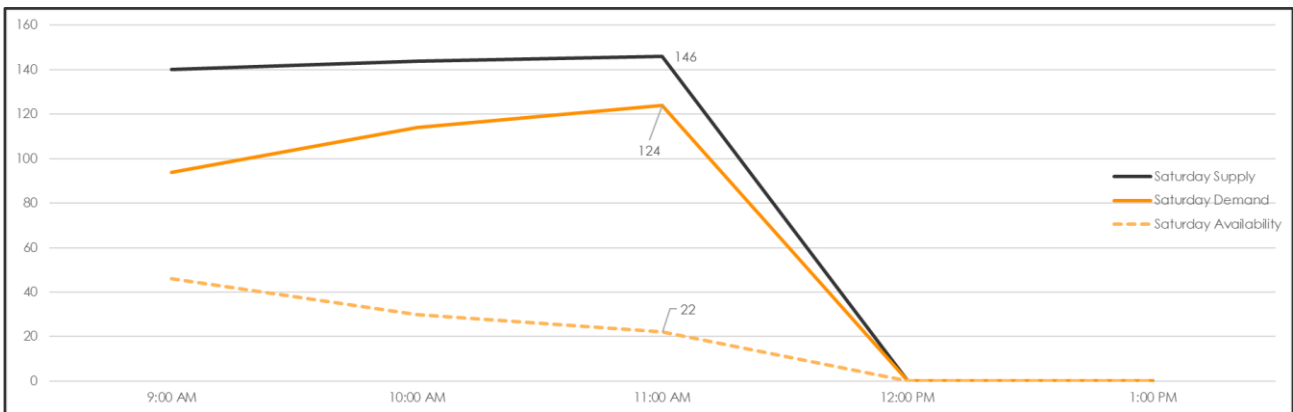
The temporal occupancies for short-term car parking spaces in the Principal CBD area are shown in Figure 24 and Figure 25. As highlighted in the figures, short-term car parking during both the weekday and Saturday periods is highly utilised, peaking with 98% occupancy during the Wednesday midday peak.

Additionally, as a result of changing parking restrictions, much of the short-term parking within the CBD becomes long-term parking from 5:00pm onwards on Weekdays and from 11:00am onwards on Saturday.

**Figure 24 Short-Term Parking Occupancy - Weekdays**



**Figure 25 Short-Term Parking Occupancy - Saturday**



#### 4.4.1.2 Medium-Term Parking

Medium term parking represents all parking that is limited to between 2 and 4 hours in duration, representing timeframes that are sufficient to allow for visits to multiple shops as well as dining and other activities that require moderate amounts of time.

Figure 26 indicates that there is a poor distribution of medium-term car parking within the Principal CBD area with the majority of this type of parking located north of Palmerston Street/Napier Street. A number of key streets within the Principal CBD area do not allow for any medium-term car parking opportunities.

**Figure 26 Medium-Term On-Street Parking Locations**

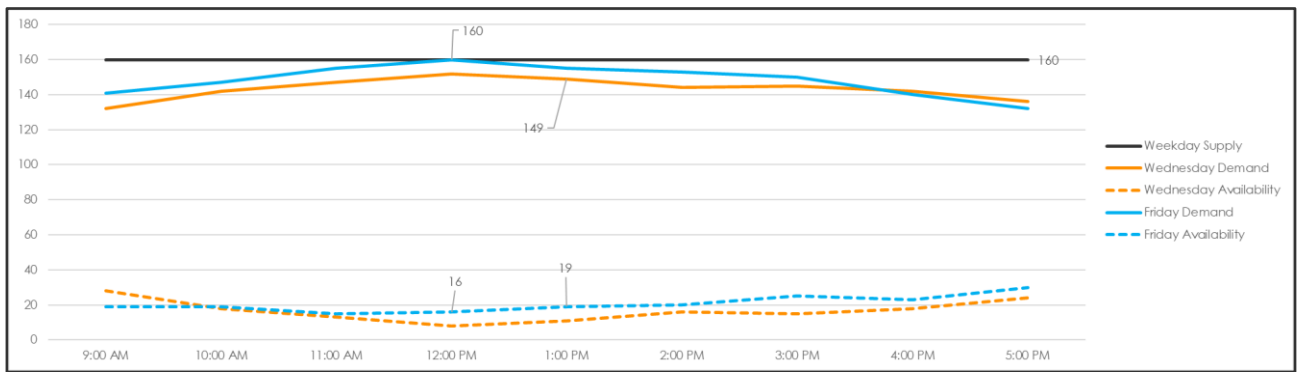


The temporal occupancies for medium-term car parking spaces is shown in Figure 27 and Figure 28. Medium-term car parking is highly utilised during the weekday periods, with peak demand on a Friday representing 100% occupancy.

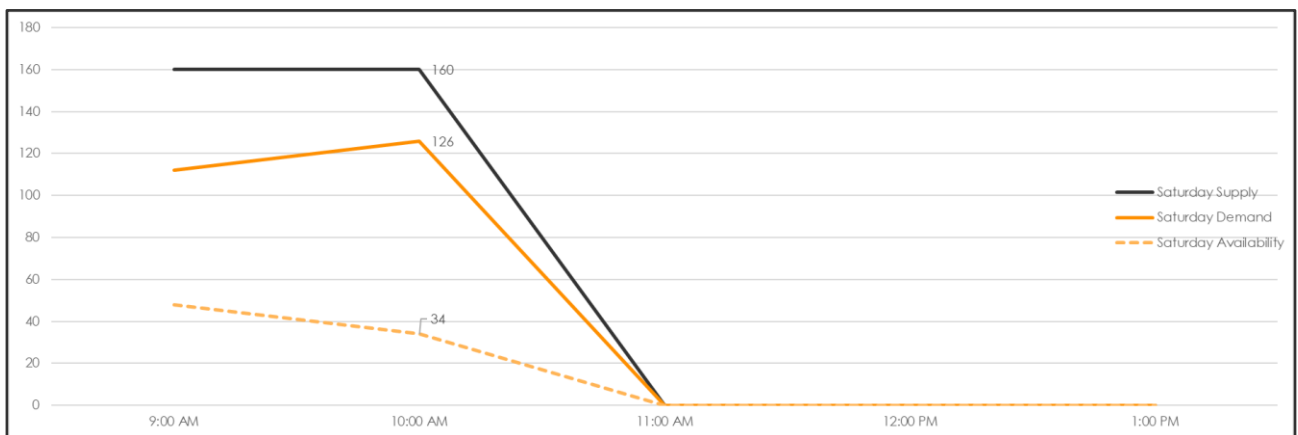
Similar to the short-term parking spaces, on a Saturday as a result of parking restrictions, all of the medium-term parking within the Principal CBD area becomes effectively unrestricted from 10:00am onwards. This changing of restrictions does not come into effect during the weekday periods until after 5:00pm, when the majority of parking restrictions within the Principal CBD area finish.



**Figure 27 Medium-Term Parking Occupancy - Weekdays**



**Figure 28 Medium-Term Parking Occupancy - Saturday**



### 4.4.1.3 Unrestricted Parking

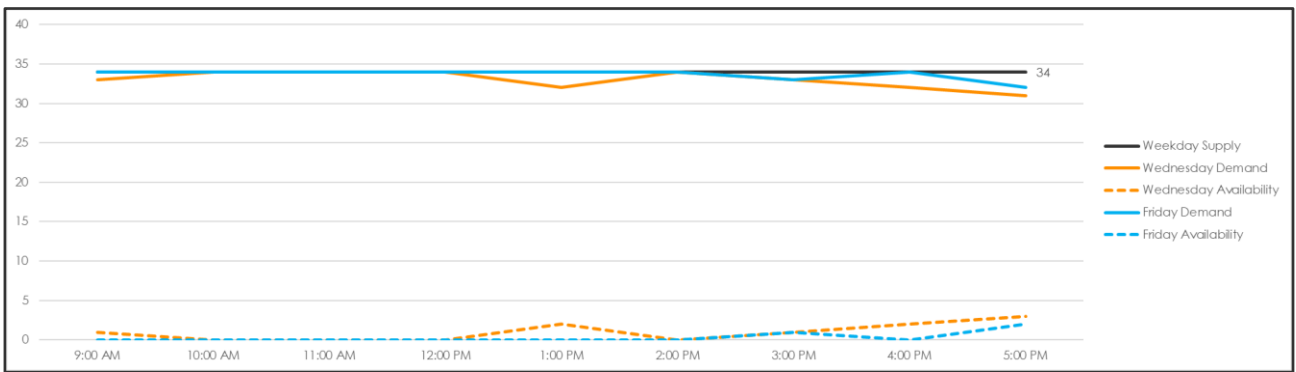
Unrestricted on-street car parking opportunities are effectively not available within the Principal CBD area as shown in Figure 29. It is noted that a small section is shown below of car parking being unrestricted however this is likely due to construction works which had recently concluded in the area with car parking signs not erected. It has been advised that this area has subsequently been signed as predominately 1P parking, with a single 1/4P parking space available.

**Figure 29 Unrestricted On-Street Parking Locations**

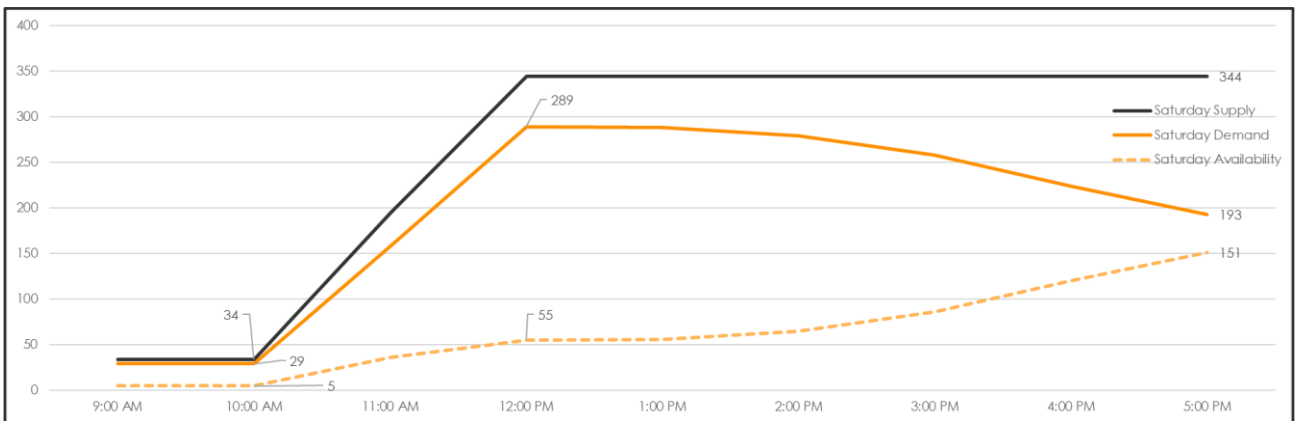


Naturally, based on the lack of unrestricted car parking opportunities, the temporal occupancy profile during business hours is nil. As previously noted, on a Saturday parking generally becomes unrestricted after 10:00am because of changing restrictions. This results in a level of unrestricted car parking availability, however as shown in Figure 31 this parking is still well utilised.

**Figure 30 Unrestricted Parking Occupancy - Weekdays**



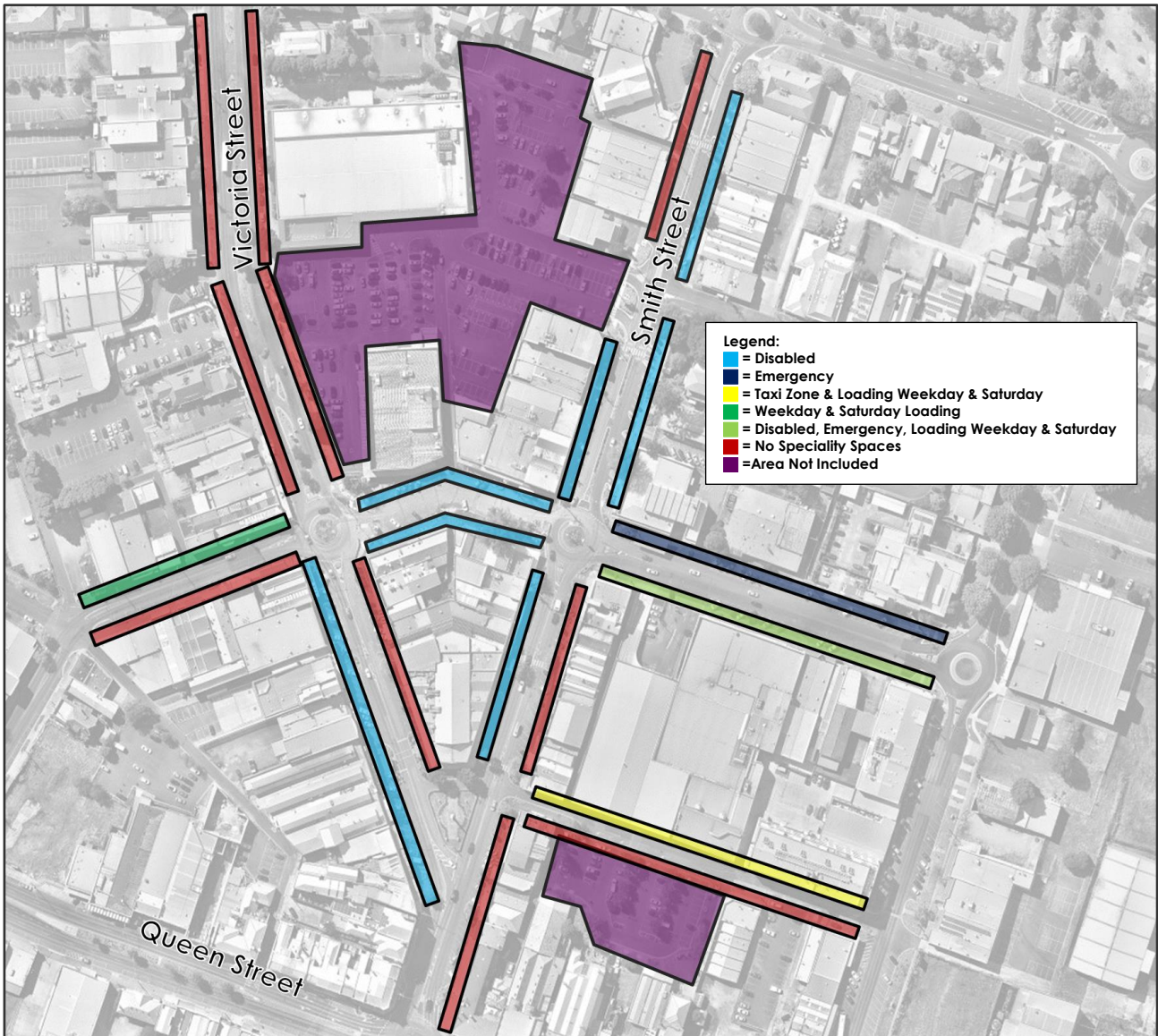
**Figure 31 Unrestricted Parking Occupancy - Saturday**



#### 4.4.1.5 Special Parking Areas

In addition to standard car parking spaces, a number of speciality car spaces exist within the Principal CBD area, including disabled spaces, taxi zones and loading zones. The distribution of these speciality spaces throughout the Principal CBD area is shown in Figure 32.

**Figure 32 Location of Speciality Parking**



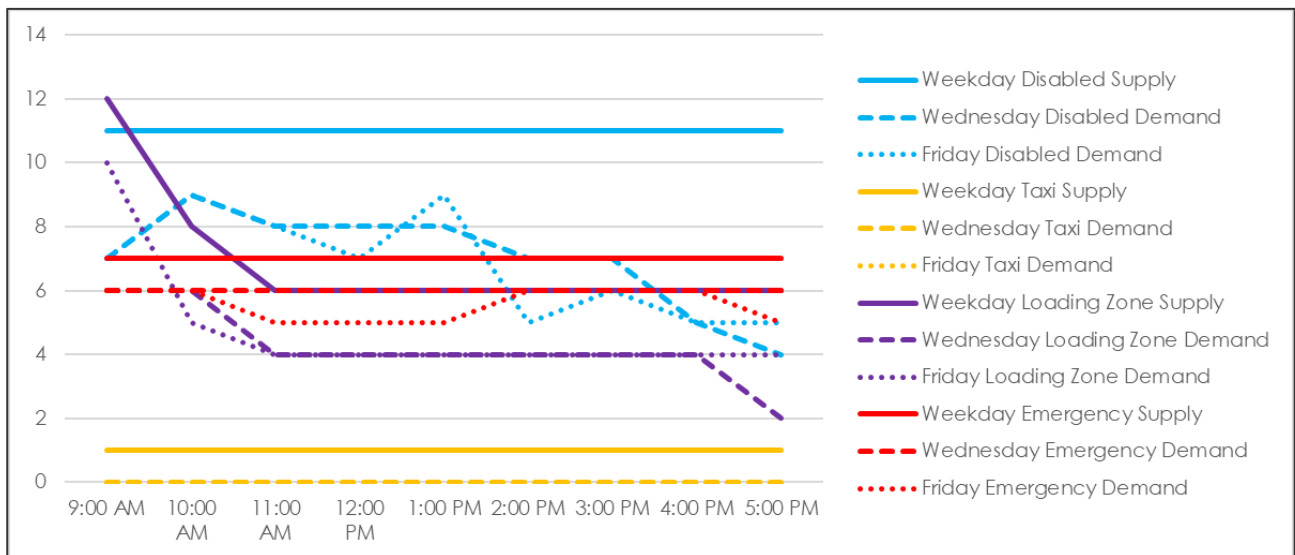
As highlighted in Figure 32, speciality parking spaces are generally distributed throughout the Principal CBD area, with disabled parking spaces experiencing the most even distribution, with spaces located throughout the Principal CBD area. It is noted limited disabled parking opportunities exist on Victoria Street north of Palmerston Street.

With respect to loading, the southern portion of the Principal CBD area (south of Palmerston Street) has a good distribution of loading zones. North of Palmerston Street, there are no on-street loading areas.

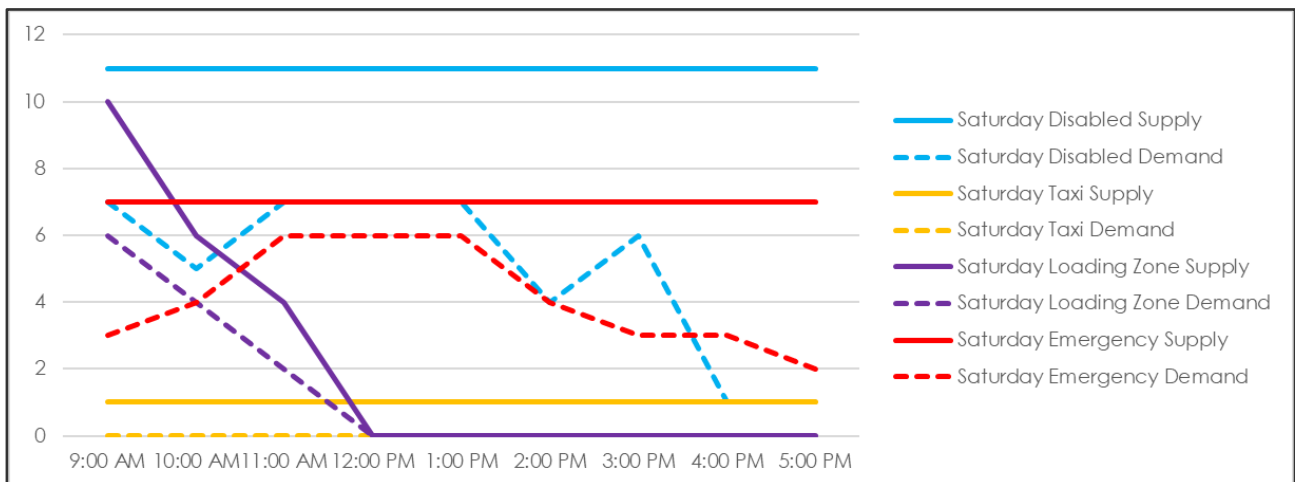
A single taxi zone exists within the Principal CBD area located on the northern side of William Street.

Figure 33 and Figure 34, highlight the demands for each of the speciality car parking typologies over the course of the survey periods.

**Figure 33 Weekday Special Parking Occupancy**



**Figure 34 Saturday Special Parking Occupancy**



As shown above, occupancies for many of the speciality parking spaces are highly variable across the course of the week and weekend.

On weekdays, the disabled parking is highly utilised, with demands generally above 80% during the middle of the day. On Saturday demands are higher in the morning and reduce over the course of the day.

With respect to loading, spaces are highly utilised on weekdays and Saturday in the morning periods before tapering off later in the day. Notably, on Saturday, there is minimal supply of dedicated loading zones within the Principal CBD area, with changes in parking restrictions resulting in the availability of loading reducing from 2 spaces to 0 spaces.

The taxi zone was unoccupied for the entire survey period.

## 4.4.2 Outer CBD Area

### 4.4.2.1 Short Term Parking

As shown in Figure 35, short-term car parking spaces are poorly distributed through the Outer CBD area, with the majority of short-term spaces concentrated along Queen Street at the southern boundary of the study area. Little to no short-term parking opportunities exist elsewhere within the Outer CBD.

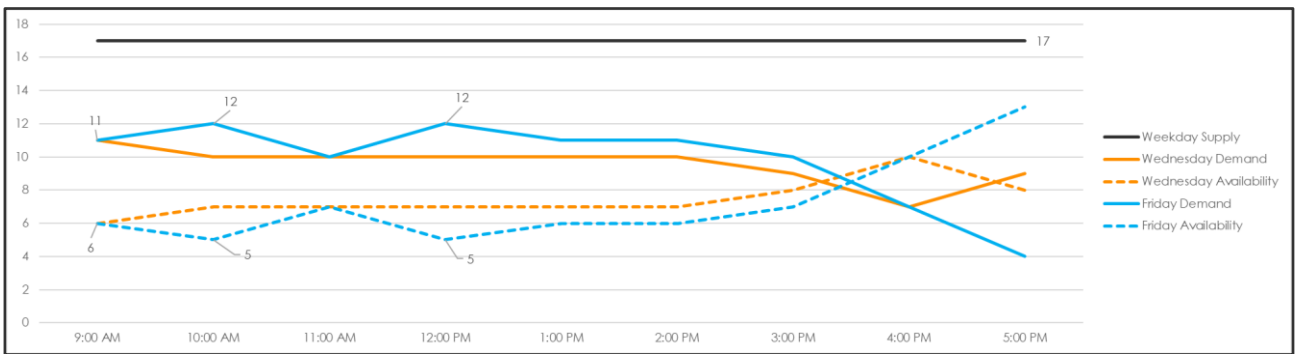
**Figure 35 Short Term Parking Locations – Outer CBD Area**



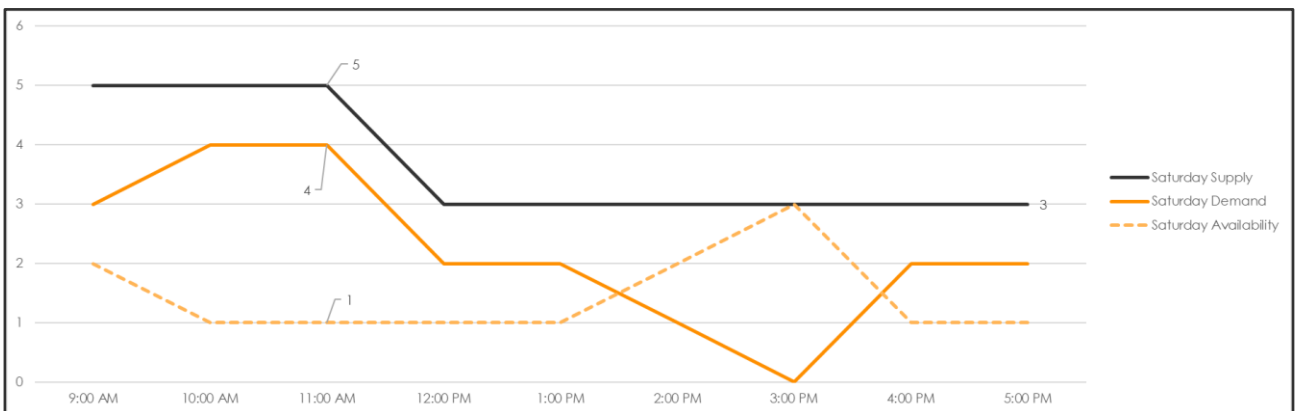
The temporal occupancy profile for short-term car parking spaces in the Outer CBD area are shown in Figure 36 and Figure 37. As highlighted in the figures, short-term car parking during both the weekday and Saturday periods is moderately utilised, peaking with less than 80% occupancy during the peak periods. It is also noted that the supply of short-term car parking within the Outer CBD area is relatively low compared with the overall supply of parking within the area (maximum supply of 17 spaces out of a possible 1,957 spaces).

Finally, like the Principal CBD area, changing parking restrictions result in much of the short-term parking becoming long-term parking from 10:00am onwards on Saturday.

**Figure 36 Outer CBD – Weekday Short-Term Parking**



**Figure 37 Outer CBD – Saturday Short-Term Parking**



#### 4.4.2.2 Medium Term Parking

Figure 38 indicates a good distribution of medium-term parking opportunities within the Outer CBD area. Of note, the key streets bounding the study area (Witton Street, Albert Street and Gladstone Street) have little to no medium-term parking opportunities along them.

**Figure 38 Medium-Term Parking Locations – Outer CBD Area**

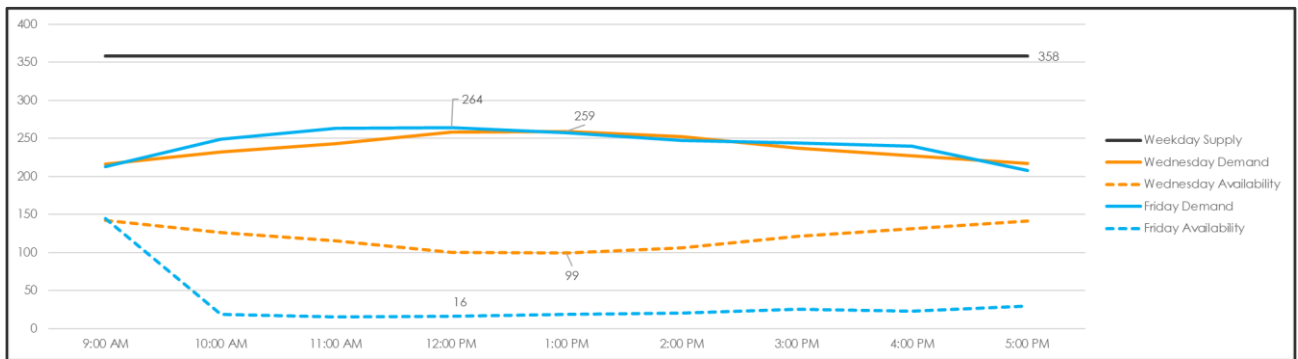


Figure 39 and Figure 40 outline the temporal car parking occupancy profile for medium-term car parking spaces within the Outer CBD area. Occupancy of these spaces was moderate to high over the surveyed periods, with peak demands on weekdays generally less than 75%.

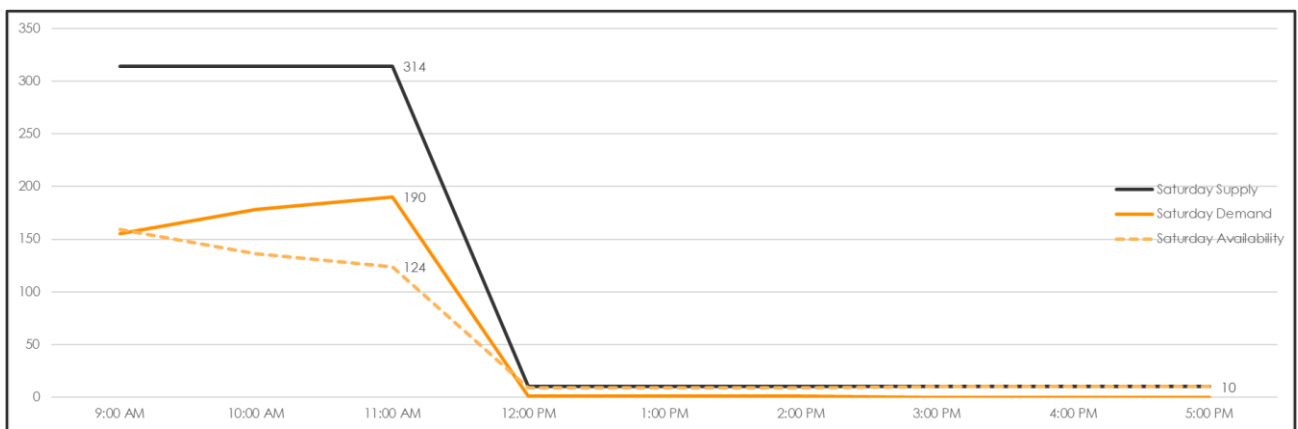
On Saturday, the supply of short-term parking dramatically decreases as a result of changing parking restrictions with 2P and 3P parking becoming effectively unrestricted spaces from between 9:00am and 10:00am.



**Figure 39 Outer CBD – Weekday Medium-Term Parking**



**Figure 40 Outer CBD – Saturday Medium-Term Parking**



### 4.4.2.3 Unrestricted Parking

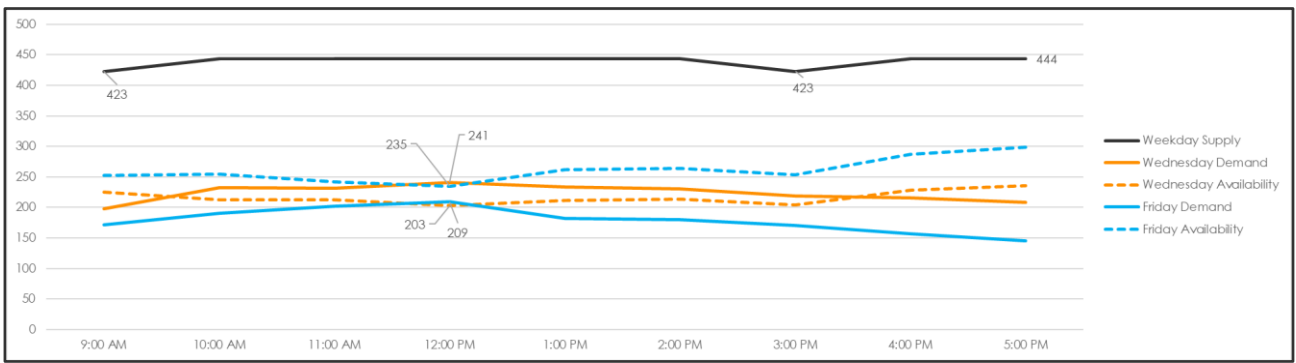
As shown in Figure 41, unrestricted car parking within the Outer CBD area is largely concentrated on the outer boundaries of the study area, along Witton Street, Albert Street and Gladstone Street, with the availability of unrestricted parking diminishing as the Principal CBD area is approached.

**Figure 41 Unrestricted Parking Locations – Outer CBD Area**

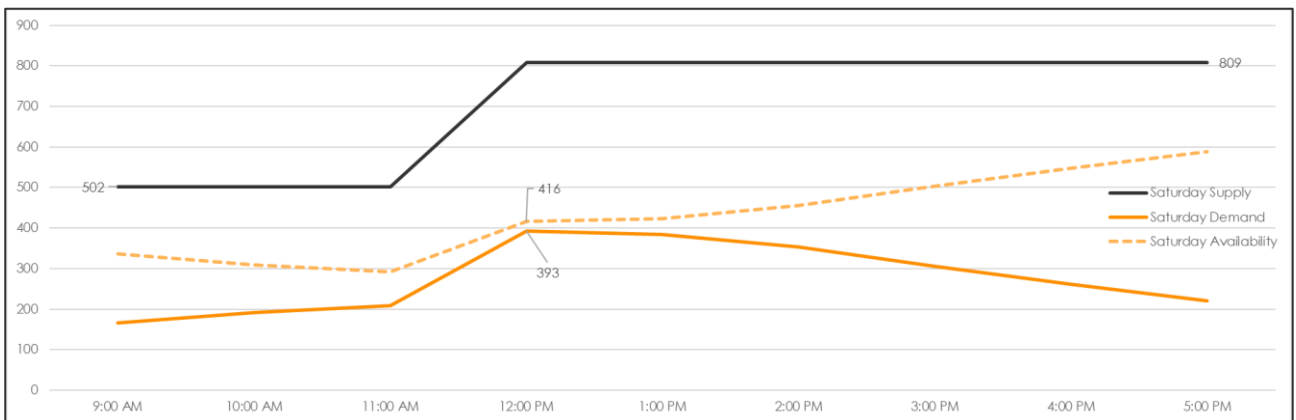


As outlined in Figure 42 and Figure 43 unrestricted car parking within the Outer CBD is largely underutilised, with occupancy rates of approximately 40% to 55%. Further, as highlighted, the supply of unrestricted car parking is relatively constant through both the weekday and Saturday periods, with the weekday period experiencing a spike in supply in the afternoon as a result of parking restriction changes.

**Figure 42 Outer CBD – Weekday Unrestricted Parking**



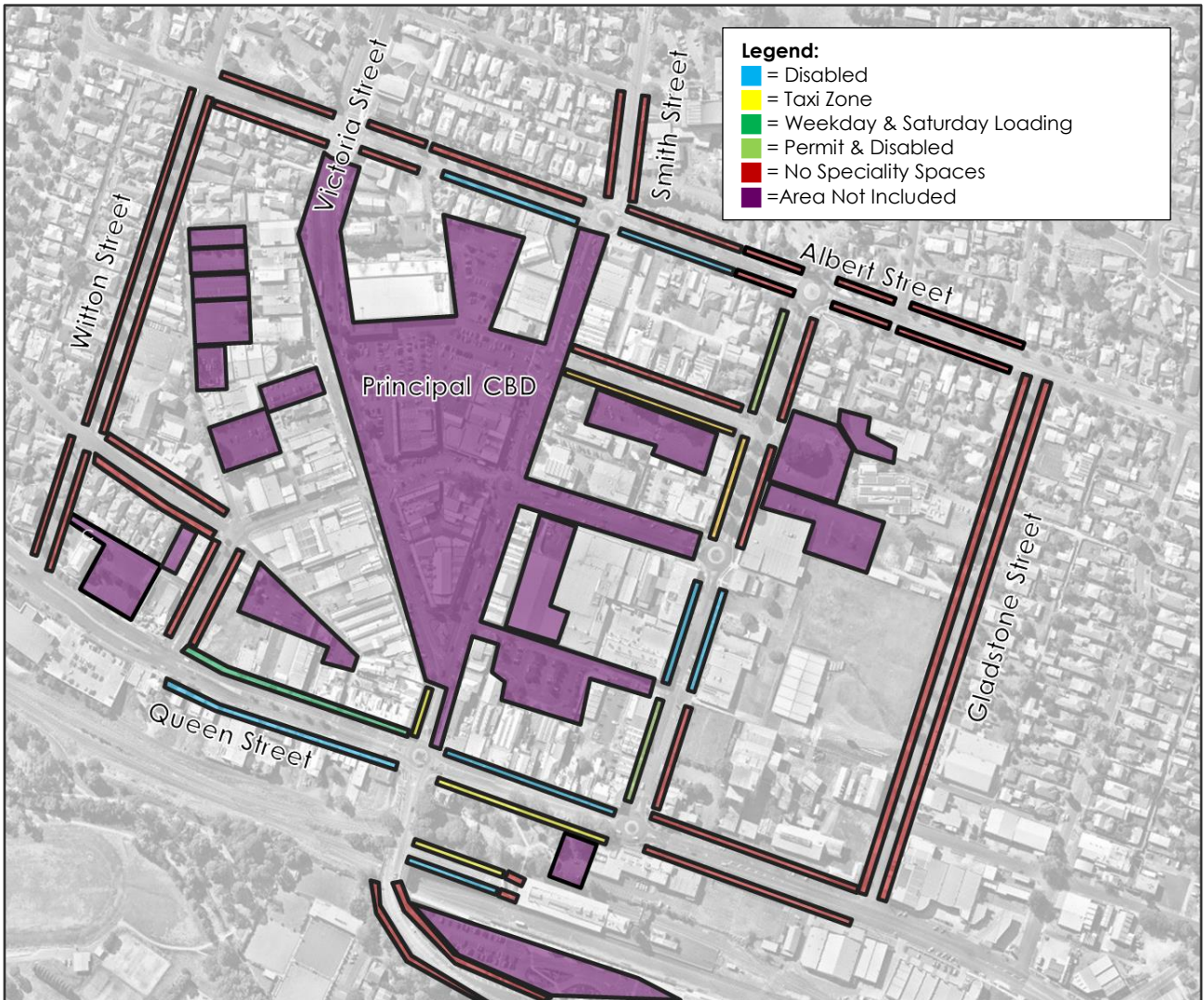
**Figure 43 Outer CBD – Weekday Unrestricted Parking**



#### 4.4.2.4 Special Parking

A number of speciality parking spaces exist within the Outer CBD area, including disabled spaces, taxi zones, emergency service vehicle zones and loading zones. The distribution of these spaces is shown in Figure 44.

**Figure 44** Speciality Parking Locations – Outer CBD Area



As shown in Figure 44, there is limited distribution of speciality parking within the Outer CBD area, with the majority of these spaces located along Mason Street or Queen Street.

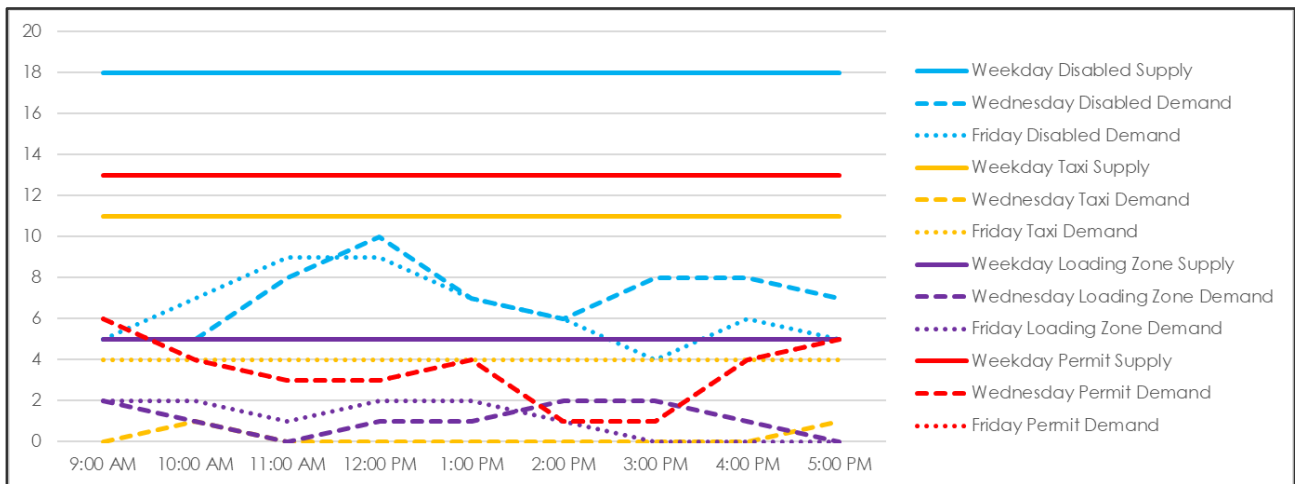
On-street loading zones are only provided on the east side of Mason Street between Palmerston Street and William Street, with no additional dedicated on-street loading zones provided within the Outer CBD area.

Taxi and disabled parking spaces are distributed through the south and inner eastern sections of the Outer CBD area, with no disabled or taxi spaces provided north of Palmerston Street.

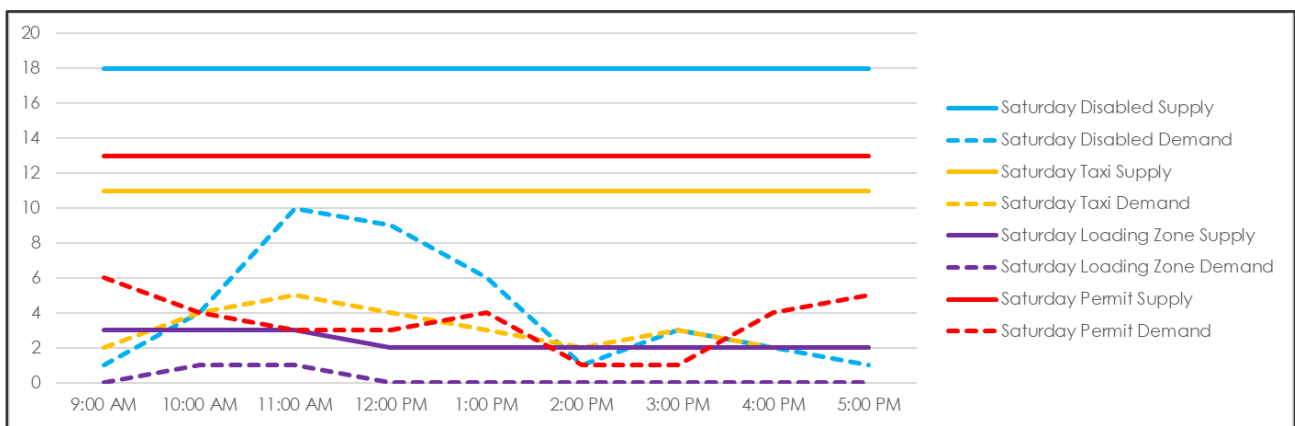
A number of permit zone car parking spaces exist along Mason Street and Barkly Street, with permits assumed to be provided to businesses in the immediate area.

Figure 45 and Figure 46 show the demands for each of the speciality parking typologies within the Outer CBD area.

**Figure 45 Outer CBD – Weekday Speciality Parking**



**Figure 46 Outer CBD – Saturday Speciality Parking**



As shown in Figure 45 and Figure 46, the occupancy of speciality car parking spaces is highly variable over the week and day.

The majority of speciality parking was under utilised over the survey period.

Among the speciality uses it is noted that the disabled parking was moderately utilised over both the weekday and weekend periods, with peak demands representing 50% occupancy.

Finally, and most notably, the permit zone parking was under utilised during the survey period, with a peak utilisation of less than 50%.

## 4.5 Off-Street Car Parking

### 4.5.1 Principal CBD Area

#### 4.5.1.1 Parking Types

Two off-street car parks are included within the Principal CBD area as shown in Figure 47. The off-street car park includes a mixture of parking types as follows:

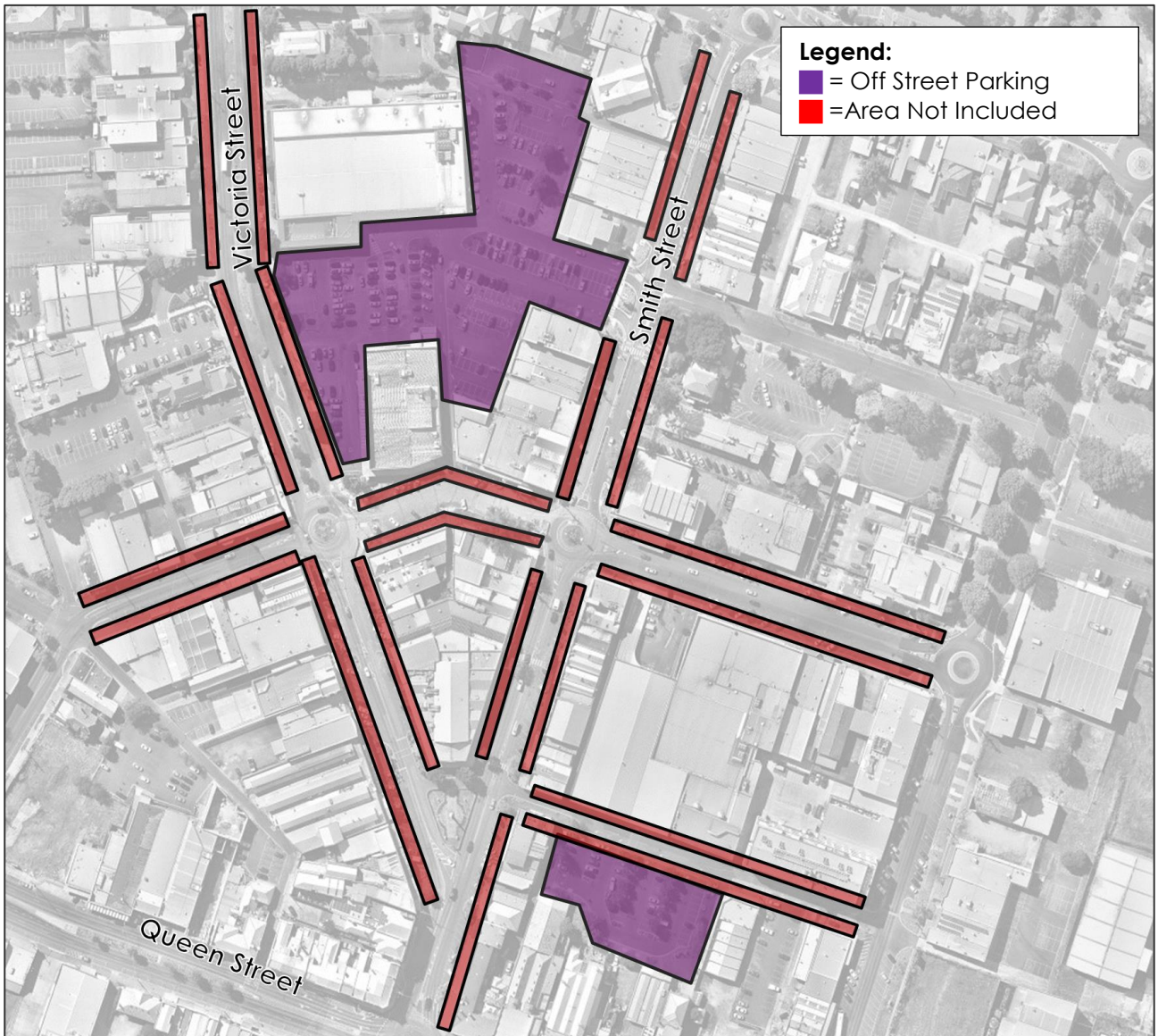
- 1/4P and 2P signed parking
- Disabled Parking
- Taxi Zone
- Permit Zone
- Private and Staff Parking
- 2P Customer Parking

For the purpose of assessment, the above parking types have been grouped into the following broader categories.

- Standard Parking:
  - + 1/4P
  - + 2P
  - + Disabled
- Private Parking:
  - + Private Parking
  - + Staff Parking
  - + Permit Zone
- Customer Parking:
  - + 2P Customer Parking

As only one taxi zone space exists within the off-street car parking, it has been omitted from the following analysis.

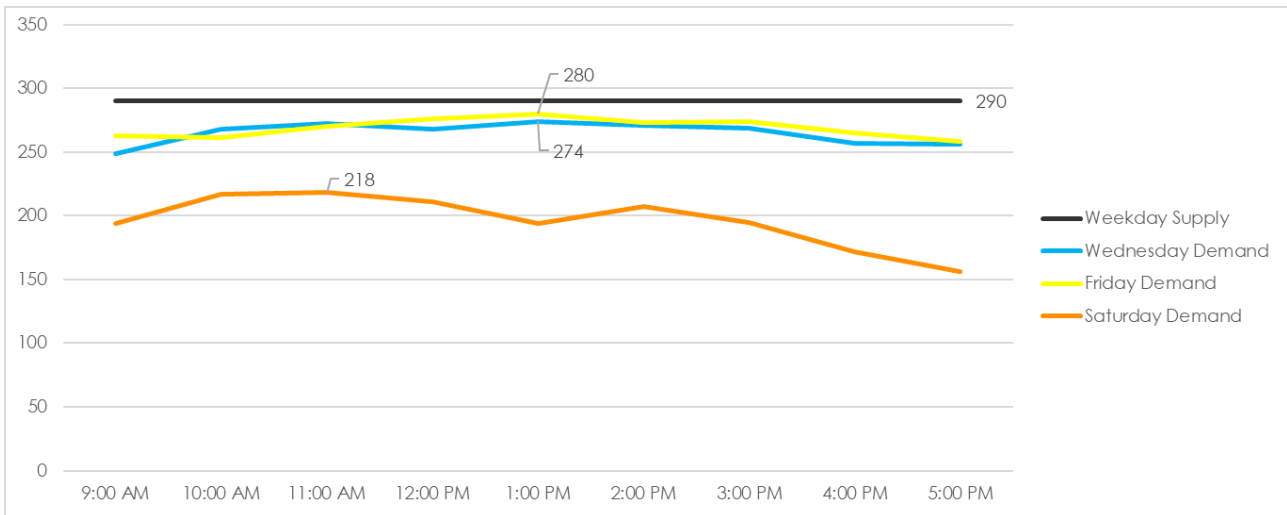
Figure 47 Off-Street Parking Location Map



### 4.5.1.2 Standard Spaces

The temporal occupancy profile for the standard car parking spaces within the off-street car parking is shown in Figure 48.

**Figure 48 Principal CBD Area – Off-Street Parking – Standard Spaces**

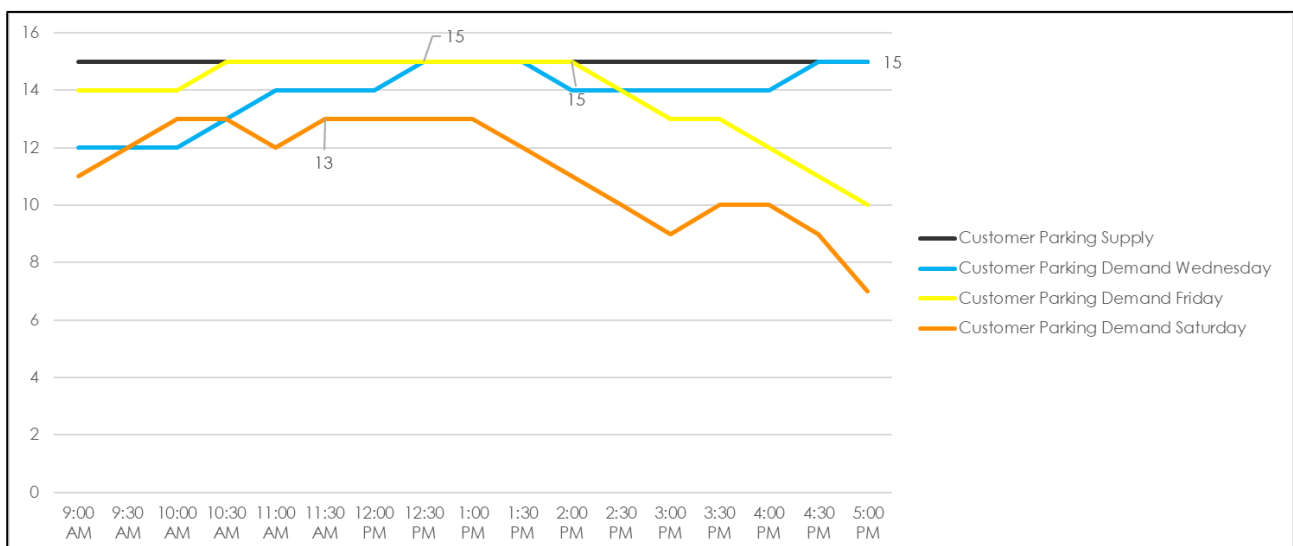


As shown in Figure 48, the standard off-street car parking spaces were highly utilised during the weekday period with occupancy generally at 85% to 90%. During the Saturday period, occupancy was reduced to moderate levels, with a peak utilisation of 75%.

### 4.5.1.3 Customer Parking

Figure 49 highlights the occupancy profile for dedicated customer parking. This parking was highly utilised across all of the survey periods, with demand for these spaces generally declining in the afternoon, with the exception of Wednesday where demands remained high across the survey period.

**Figure 49 Principal CBD Area – Off-Street Parking – Customer Spaces**

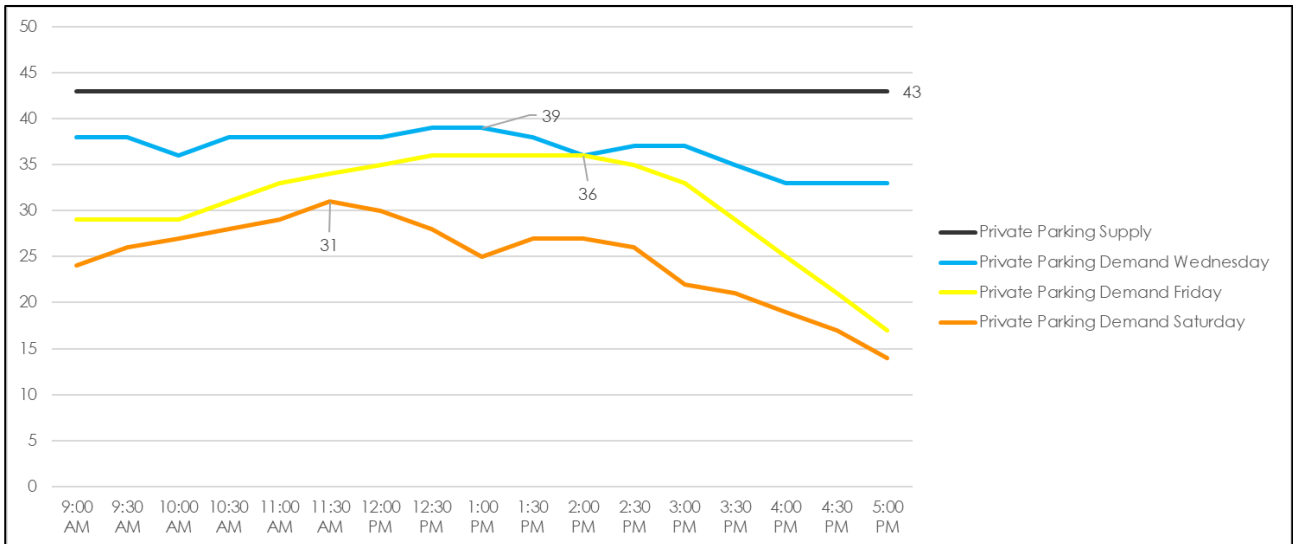




#### 4.5.1.4 Private Parking

The demands for private off-street parking spaces within the Principal CBD area are shown in Figure 50. As highlighted, demand for these spaces is moderate to high, with consistent demands during the Wednesday survey period and highly tapered demands on the Friday and Saturday.

**Figure 50 Principal CBD Area – Off-Street Parking – Private Spaces**



## 4.5.2 Outer CBD Area

### 4.5.2.1 Parking Types

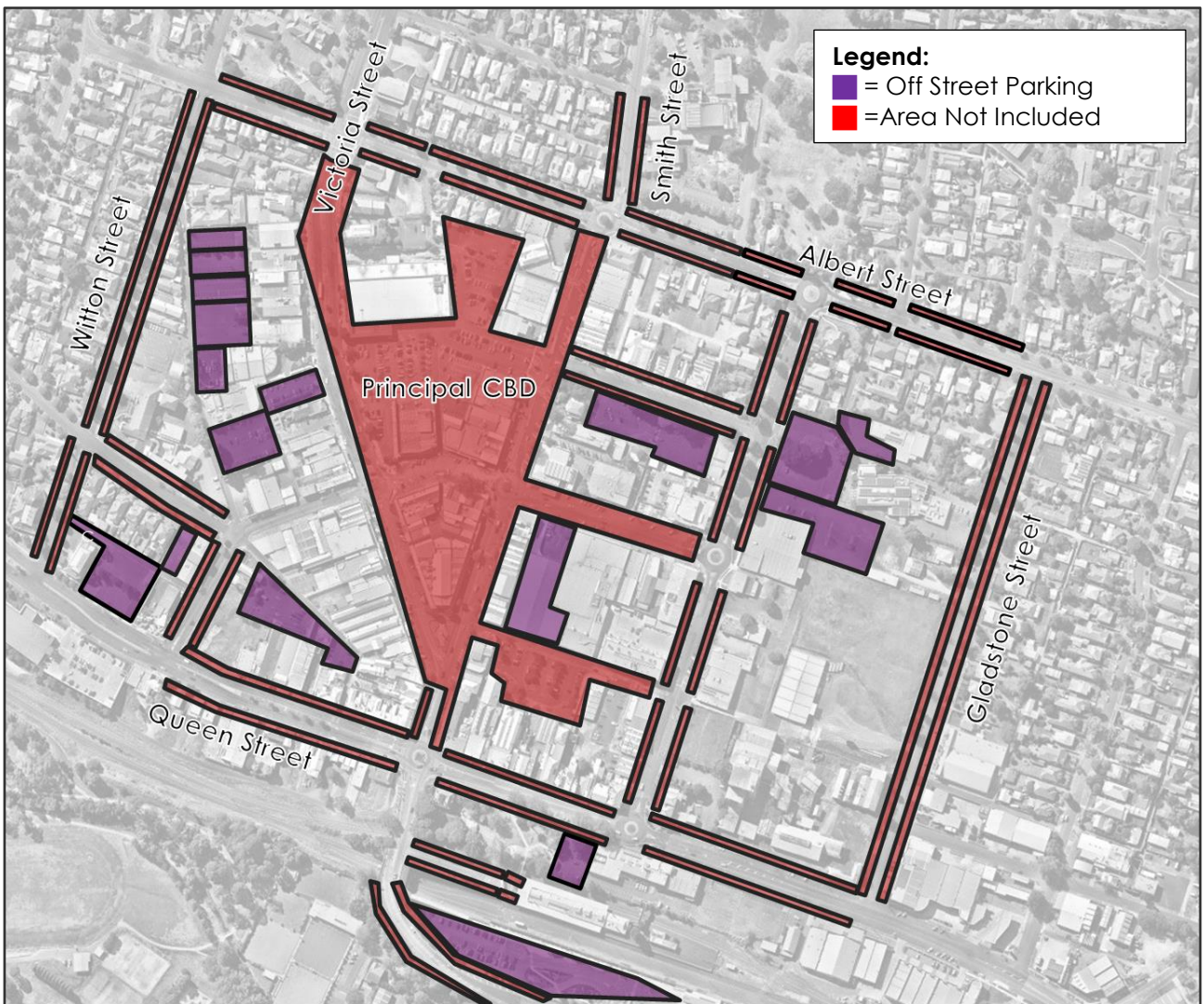
There a number of private and public off-street car parks within the Outer CBD area, with the locations of these car parks shown in Figure 51. The off-street car parking includes a mixture of parking types as follows:

- Unrestricted parking
- 2P & 3P time restricted parking
- Loading Zones
- Disabled Parking
- Permit Zone
- Private and Staff Parking
- Customer Parking
- Warragul Station Car Parking

For the purpose of assessment, the above parking types have been grouped into the following broader categories.

- Unrestricted Parking
- Standard Parking:
  - + 1P
  - + 2P
  - + 3P
  - + Disabled
- Private Parking:
  - + Private Parking
  - + Staff Parking
  - + Permit Zone
- Customer Parking
- Warragul Station Car Parking

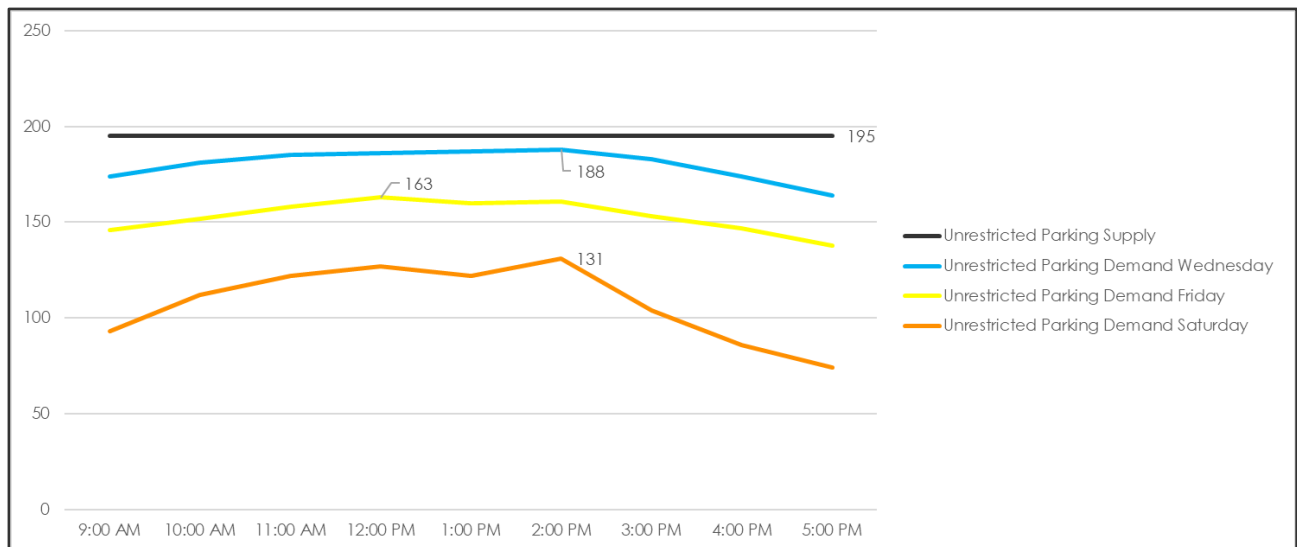
Figure 51 Outer CBD Area Off Street Car Parking



### 4.5.2.2 Unrestricted Spaces

Parking occupancies for unrestricted off-street car parking spaces located within the Outer CBD are shown in Figure 52.

**Figure 52 Outer CBD Area – Off-Street Parking – Unrestricted Spaces**

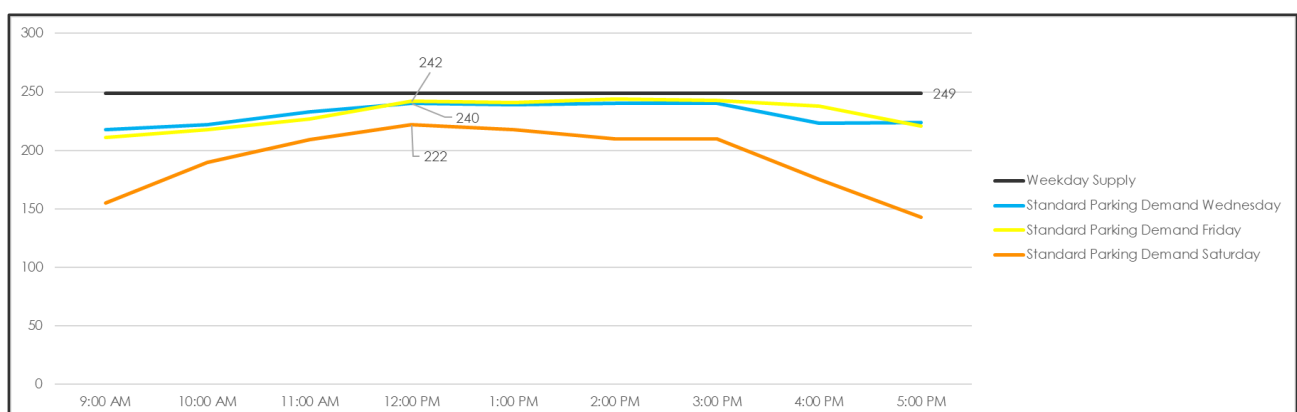


As highlighted above, occupancies for unrestricted car parking in the Outer CBD are variable through the week, with steadily high demands surveyed on the Wednesday, with demands reducing on the Friday to more moderate levels and reducing even further by the Saturday to a moderate to low utilisation.

### 4.5.2.3 Standard Spaces

The parking occupancies for standard parking spaces, is shown in Figure 53 which indicates that this type of parking was highly utilised during the weekday and Saturday periods with close to 100% occupancy rates over the weekdays recorded.

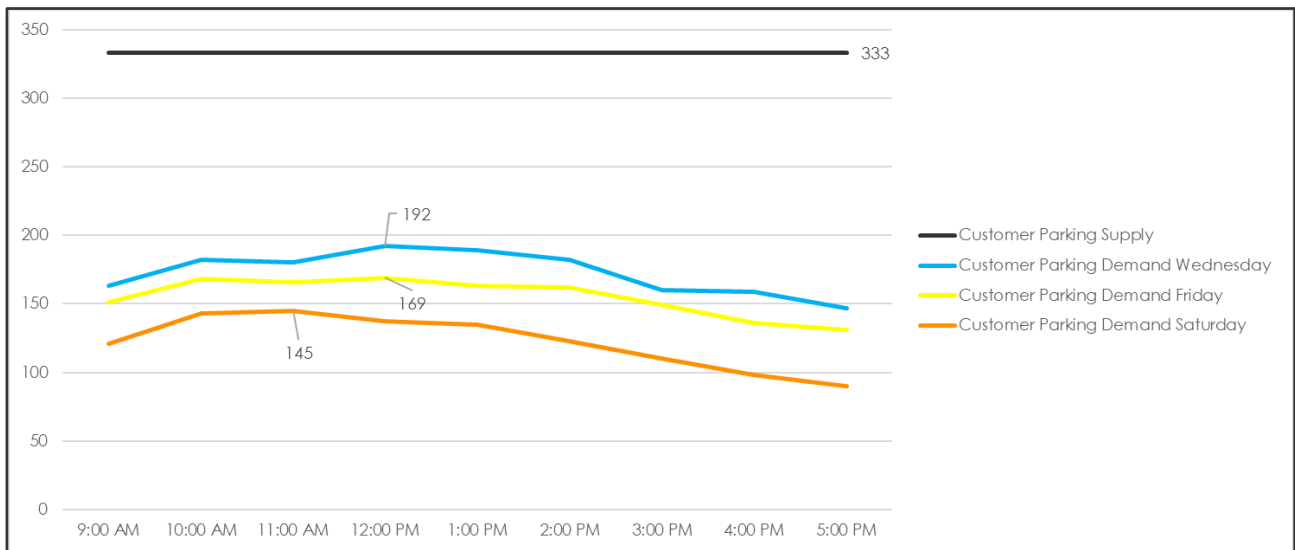
**Figure 53 Outer CBD Area – Off-Street Parking – Standard Spaces**



### 4.5.2.4 Customer Parking

Figure 54 shows the temporal demand for off-street customer car parking within the Outer CBD. As shown, demands for these spaces were low to moderate during the study period with peak demands representing less than 60% occupancy.

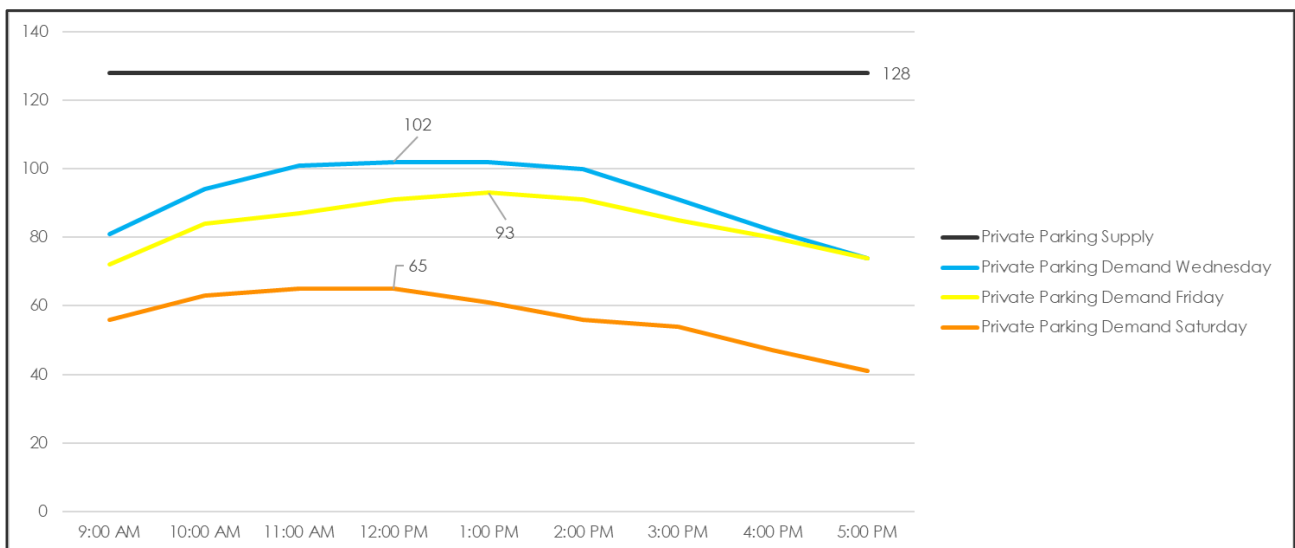
**Figure 54 Outer CBD Area – Off-Street Parking – Customer Spaces**



#### 4.5.2.5 Private Car Parking

Figure 55 indicates that private parking spaces had a moderate usage during the weekday surveys, with lower usage levels during the Saturday. Usage of these spaces was generally steady throughout the day with minimal variance over the day.

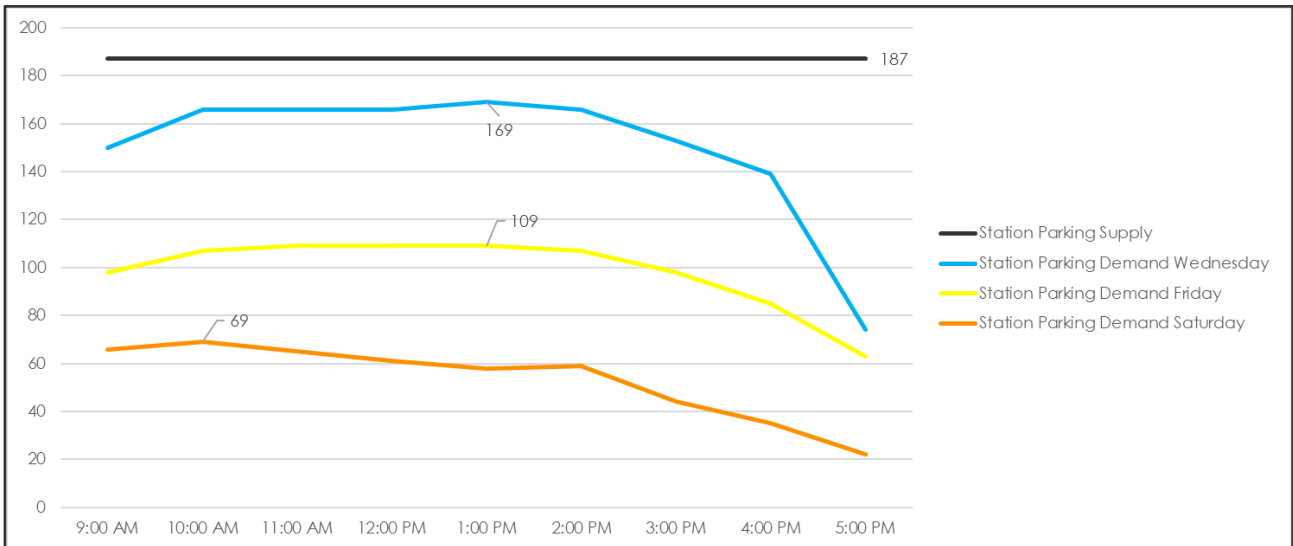
**Figure 55 Outer CBD Area – Off-Street Parking – Private Spaces**



#### 4.5.2.6 Warragul Station Car Parking

Car parking occupancies within the Warragul Station car park had a high variance across the week as demonstrated in Figure 56. The car park was highly utilised during the Wednesday period with demands dropping significantly to approximately 60% of supply on the Friday and even lower again during the Saturday period.

**Figure 56 Outer CBD Area – Off-Street Parking – Warragul Station Spaces**



## 5 PARKING STRATEGY

### 5.1 Introduction

The design and provision of car parking is most efficient when the majority of the car parking supply is occupied consistently throughout the day. An oversupply of car parking can increase reliance on private vehicle usage over time and an undersupply without the provision of readily accessible alternate transport options causes driver frustration. It is commonly accepted that the most efficient utilisation of car parking occurs at 80%-90% occupancy levels especially within activity type centres.

To ensure that parking is utilised in an efficient manner, a parking strategy should be implemented and maintained. The following section highlights the most effective ways of managing parking, with consideration given to the study area and its surrounds.

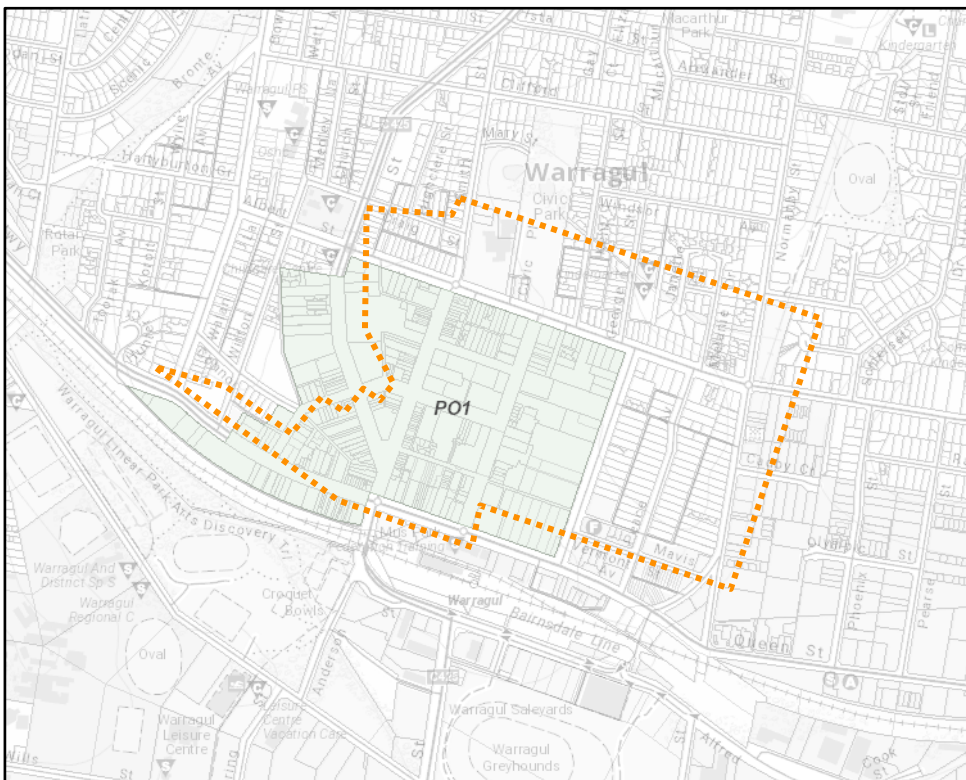
### 5.2 Current Car Parking Requirements

The standard car parking requirements within the study area are currently outlined within Table 1 of Clause 52.06 of the Baw Baw Planning Scheme.

In addition to the standard car parking rates outlined in Clause 52.06, areas within the Warragul CBD are also incorporated into a Parking Overlay, with rates specified in Schedule 1 of Clause 45.09 of the Baw Baw Planning Scheme, which further specifies the use of Table 1, 'Column B' rates from Clause 52.06.

The area where the parking overlay is applicable is shown in Figure 57.

**Figure 57 Warragul Parking Overlay Area**



## 5.3 Future Parking Requirements

### 5.3.1 Estimating Future Parking Demands

Estimating future car parking requirements is a multi-faceted exercise, noting that numerous factors can influence car parking demand, including (but not limited to), population growth, new development as well as economic and demographic factors.

Traditionally, future car parking demands are estimated using existing car parking demand data collected from surveys of various uses. However, this methodology for predicting future car parking demands is often flawed in that many existing uses are supplied with an overabundance of car parking, encouraging the use of the private car over alternative modes of transport, which in turn leads to overestimation of the car parking demands generated by development.

Notwithstanding, as Warragul continues to grow and develop it is anticipated car parking demands are likely to continue to increase within the CBD and surrounds. On this basis, the following section outlines a number of the growth factors within Warragul and anticipated future parking demands.

### 5.3.2 Population Growth

Based on work undertaken as part of the 2015 Warragul Parking Study, by 2036 the population of Warragul was expected to increase to in the order of 28,000 people from 15,071 people, representing a compounding growth rate of 2.5% per annum.

As of the 2016 census Warragul had a population of 15,757 people, an increase of 686 people over the five-year period, representing growth rate of 0.9% per annum.

For reference purposes, current population modelling indicates Baw Baw Shire is expected to grow at an annual growth rate of 2.3% per annum to 2026, with growth slowing to 1.7% to 2036.

On this basis and adopting the more aggressive growth rates projected for Baw Baw Shire as a whole, Warragul could be expected to have a population of 19,780 by 2026 and 23,412 by 2036. These numbers are in the order of 4,000 less than those anticipated under the 2015 study, noting that 2016 Census data has likely influenced the reduction in projected population growth.

### 5.3.3 Development Growth

The 2015 Warragul study estimated that by 2036 in the order of 49,000sqm of additional office and retail floor space would be constructed within Warragul, or an additional 2,100sqm per year (3.5% growth in floor area per annum).

On this basis, it is estimated that an additional 6,300sqm of retail/office floor area has been constructed since the previous parking study was completed bringing the total retail/office floor space to 47,158sqm.

There is currently a total car parking supply of 2,669 spaces this equates to a current car parking provision rate of 5.65 spaces per 100sqm. A rate that is significantly higher than the rates suggested within the Planning Scheme for Office and Retail uses, noting that this parking also includes Council operated assets including all on-street car parking, Council operated off-street car parks and the Warragul Station car park.

Conservatively assuming all future development in Warragul CBD provides car parking at a rate of 3.0 spaces per 100m<sup>2</sup>, by 2036 approximately 1,500 additional private car parking spaces will have been constructed within the Warragul CBD increasing the total car parking supply to approximately 4,169 spaces, representing a 56% increase in car parking within the CBD, at car parking growth rate of 2.5% per annum compounding.



### 5.3.4 Surveyed Car Parking Demand Growth

The 2015 Warragul Parking Study indicated an average car parking demand of 66% on weekdays, noting the previous surveys were undertaken in October of 2014. The results presented in this report indicate that the average occupancy has increase since the 2014 counts to 70%, noting that there has also been a decrease in the available car parking supply in the study area.

This increase equates to a growth rate in average parking demand of 4% over four years or 1.5% compounding annual growth. Adopting this rate over the next 10 years to 2028 indicates average occupancies could reach 81%, noting that growth in car parking demand over the next ten years will be largely driven by a range of factors including population growth, new development as well as economic and demographic factors.

This rate is considered optimal with regards to parking utilisation efficiency, noting a range an optimal utilisation range of 80% to 90%. On this basis, it is anticipated that the current car parking supply will be capable of adequately accommodating the projected long-term average demand growth within Warragul.

By way of comparison, as stated in Section 5.3.2, the population of Baw Baw Shire is anticipated to grow at a rate of 2.3%, with office/retail floor area anticipated to increase at a rate of 3.5% per annum. It is anticipated that much of the development within the Warragul CBD area will provide car parking at rates consistent with those outlined within the Planning Scheme and Parking Overlay, resulting in the potential 56% increase in the number of car parking spaces within Warragul. This level of car parking growth would outstrip the current car parking growth rate calculated above, outlining the difficulties in determining which of many metrics is most likely to accurately anticipate future car parking demand.

With respect to peak occupancies, an average peak weekday occupancy of 76% was recorded (12:00pm). By way of comparison the 2014 surveys indicated an average peak weekday occupancy of 82%, representing a 6% decline in peak car parking demands within Warragul between 2014 and 2018 (-1.9% per annum). This decrease in peak car parking demand levels could be the result of a variety of factors, and is most notably driven by significantly reduced car parking demands within the Outer CBD area, noting that peak parking utilisation within the Principal CBD area was over 90% and consistent with the utilisation recorded as part of the 2014 surveys (93%).

## 5.4 Management of Existing Parking

Whilst an increase of car parking supply is commonly seen as an ideal way to cater for future parking demands, the increase in parking supply can lead to increased vehicle dependency and thereby form part of a cycle that continues to increase the future car parking demands.

The efficient management of an existing car parking supply can provide similar benefits to the provision of additional spaces and provides strategies to decrease reliance on private vehicle usage. On this basis, there are a number of strategies that can be implemented to better manage existing car parking supplies as follows.

### 5.4.1 Transport Demand Management

Transport demand management more generally seeks to improve the efficiency of the transport system by altering travel behaviours. Generally, transport demand strategies will complement the strategies implemented to improve parking management, with strategies such as modal shift playing roles in reducing car parking demands and increasing parking efficiency.

The role of transport demand management will be critical within the broader Warragul area, noting that the 'business as usual' approach can no longer be relied on as space in central areas becomes a premium, the population grows and demographics change.

A number of local governments throughout Victoria have been leading the way with respect to implementing transport demand management strategies to combat the ever increasing congestion with Councils such as Moreland, Yarra, Melbourne and Port Phillip implementing a variety of changes to promote alternate transport and reduce reliance on the private car. It is acknowledged that these areas represent some of the most highly connected in Victoria, however they offer great insight into how transport behaviours can be changed and transport demands more appropriately managed, noting the improved transport outcomes in these areas compared to some other similarly located local government areas without strong transport demand policy in place.

It should be noted that Baw Baw Shire already has a number of strategic documents that are complimentary to a transport demand agenda, including the 'Being Healthy in Baw Baw Shire' the municipal health and wellbeing plan, the Warragul Town Centre Masterplan, Baw Baw Open Space Strategy and the Warragul PSP.

### 5.4.2 Sharing of Car Parking

Sharing of car parking allows for two or more uses to share the same car parking supply. In its simplest form car parking sharing is seen in the provision of standard kerbside car parking spaces which are often shared between a number of commercial uses in the vicinity of the spaces.

In addition to this form of shared car parking, the ability to share private or allocated car parking is also a method of more efficiently utilising available car parking. For example, a bank located next to a restaurant with the bank typically operating during the day time hours and requiring car parking 9-5 with the restaurant needing increased car parking supply outside of these hours in the evening and on the weekends.

As identified in Section 5.4, a number of car parking areas both private and public become highly underutilised on Saturday, with nearby parking areas highly utilised which illustrates a lack of car parking sharing.

### **5.4.3 Car Parking Signage**

The use of car parking may be optimised by altering the car parking signage. This may involve changing the time restrictions in specific locations to allow short term parking and a high turnover rate during the day, then after retail stores close, parking restrictions can be changed to allow for a longer parking period for visitors to restaurants and similar uses.

As highlighted in Section 5.5.1 the distribution of different car parking typologies is generally clustered in areas instead of being distributed to allow for different parking types throughout certain areas. The reallocating of parking through these areas to include a range of car parking restrictions could encourage changed parking behaviours.

### **5.4.4 Car Parking Requirements**

Car Parking overlays are designed to reduce the statutory car parking requirement for allocated uses. Overlays are typically found in areas where there is proven to be a high level of car parking occupancy, to minimise future impacts on car parking and traffic within the area. A car parking overlay is currently in effect within the Warragul CBD area. Management of this overlay from Baw Baw Shire Council is recommended, to adjust rates listed within the parking overlay as required.

With consideration to the future expansion of the CBD area, the parking overlay should also be monitored to encompass the CBD area.

### **5.4.5 Remote Parking**

Generally, within CBD areas, the majority of the land uses are devoted to retail/shop and office uses. The number of staff expected to be generated to these uses varies depending on the type of development.

As observed from the surveys, the majority of the parking supply within the CBD is restricted to 2P, as such, it is expected that employees will move their car to a nearby location also within the CBD after the time period has lapsed.

A decreased restriction of the CBD car parking area to 1P is expected to result in staff driving further away from their place of work to seek unrestricted car parking. Providing unrestricted car parking within a remote area (though still within a reasonable walking distance) will aid in reducing the congestion of car parking within an area shown to have a high occupancy rate and encourages a higher turnover of parking within the CBD.

Encouraging the use of remote car parking can be further facilitated by improving walking networks throughout the CBD, noting that as shown in Section 4.3.3 the Warragul CBD are generally speaking highly walkable with less than 15 minutes required to walk it end-to-end.

### **5.4.6 Walking and Cycling Network**

It is observed that the further the distance from the Melbourne CBD an area is, the more likely a person is to rely on a private vehicle for transportation. This is backed by the Victorian Transport Atlas Journey to Work Data, showing a higher percentage of personal motor vehicle trips and a lower percentage of public/sustainable transport use when travelling away from Melbourne CBD.

With consideration to the size and location of Warragul, it is not considered necessary or practical to provide similar sustainable transport modes to the Melbourne CBD, though an improved bicycle network and linked pedestrian connections expanding from the outer regions to the CBD will provide an alternate means of transport for locals. Additionally, improving walking and cycling connections within the Warragul CBD will help to guide residents into more active and healthy

decisions connecting with Baw Baw Shires recent adoption of 'Being Healthy in Baw Baw Shire' the municipal health and wellbeing plan.

Additionally, given the size of the Warragul CBD the provision of improved pedestrian facilities will allow for more efficient utilisation of parking as harder to access spaces become more readily accessible.

Finally, although not a high priority mode of transport, the provision of additional bicycle facilities and improved bicycle networks would provide alternative transport options for many residents, noting that providing bicycle facilities is a relatively low cost option when compared to providing car parking in an area.

#### **5.4.7 Increasing the Capacity of Existing Parking Facilities**

One method of increasing the car parking supply is to upgrade existing car parking facilities to allow a higher capacity of vehicles. Whilst it is noted that this is an expensive method, funding can be achieved through enforcement of parking infringements, the implementation of priced parking and payments made in lieu of a shortfall in the statutory rate of car parking supplied by new developments.

The second method of increasing car parking capacity would be to consider the redesign of any existing car parking areas to achieve additional car parking spaces and improved access.

#### **5.4.8 Priced Parking**

Changing an area of existing car parking from a free 1P or 2P area to a payment system has been shown to ultimately reduce the car parking demand within the area, provided alternate transport options are made available. The allocated parking rate generally dictates the reduction in demand, as the rate increases in price the demand subsequently decreases.

In parking areas that include existing free parking, it is considered best to implement a parking cost slowly over time, localised to specific areas. This can be done as a testing method to gauge the community's reaction, the reduction in parking demand and the appropriate price for the area to achieve optimal demand.

The implementation method of priced parking and the potential community benefits from the chosen method are crucial to the success of this strategy. A range of methods are outlined below.

- A financial incentive for employees who have arrived through alternate means of transport rather than a private vehicle. The benefit may be equivalent to the cost of a few hours parked within the allocated priced parking areas.
- The rate of priced parking should be higher for shorter term parking areas rather than the longer term. For example, in the 1P area the cost may be \$3 per hour, whilst in a 2P area, the cost may be \$5, equivalent to \$2.50 per hour.
- Similar to the above, parking structures may offer daily/ weekly or monthly parking. The cost should take into consideration a lower rate for longer durations. For example, the cost of a daily parking space may be equivalent to 6 hours of parking, whilst weekly parking may be the cost of 5 days etc.
- Provide more accurate parking metres within the CBD area. Rather than charging for the next full hour, charge per minute.

#### **5.4.9 Enforcement**

As investment is made towards the improvement of parking by ways of parking management strategies, consideration should be given to the method of enforcement. Assuming that numerous management strategies are in effect, enforcement should be more effective and more considerate.

It is often observed that the majority of car parking offences are a result of the motorist being unaware of the parking restrictions within the area, and a certain level of ignorance is considered to be a factor if signs are spaced too far apart or a parking meter is a considerable walking distance away. It is considered that if parking signage and meters are provided more frequently that a reduction in violations will result.

A degree of leniency should be provided to motorists, with the aim of informing motorists of the correct information rather than a direct fine. This may involve a general rule that the first parking violation does not result in any cost to the motorist, but rather provides a pamphlet to inform the motorist of correct parking rules so they have the opportunity to avoid any future infringements.

To better understand why motorists are incurring an infringement, an online survey can be made available to those who received an infringement notice. Parking management strategies can then be further analysed based on these survey results.

To maximise efficiency, parking enforcement should be generally localised in areas where infringements are more likely to occur and where an infringement will ultimately cause the most problems (e.g. spaces where utilisation is consistently above 90%).

Similar to the implementation of paid car parking, car parking enforcement can encourage a modal shift and reduce the reliance of private vehicles. For example, a staff member working within the CBD who lives within a reasonable walking/cycling distance to work prefers to drive as they know they can park within a 2P zone all day without being fined. If active enforcement is implemented, the motorist may prefer to walk or ride to work, rather than move their vehicle every two hours.

Touching further onto the aspect of being considerate to motorists, parking inspectors should be given adequate training and be friendly and helpful. They should be there to not only enforce the car parking regulations but to help motorists avoid fines by providing information such as maps of parking areas and the associated parking restrictions that those areas include.

To allow the parking enforcement officers to be more efficient and check more vehicles per hour, smart car parking technology, such as PayStay can be implemented within parking metres. PayStay offers on-street and off-street car parking payment without having to buy a ticket or deposit coins into a meter. Payment is made through the Pay Stay app which can be downloaded to a smart phone. PayStay offers many benefits for motorists compared to the standard paid parking meter including:

- Pay for the time that the vehicle is parked within the space (by the minute), rather than overpaying for an hour.
- Reminder notifications sent to the motorist 10 minutes before their time is about to expire.
- Real-time parking availability via the PayStay app, allowing motorists to drive directly to their most preferred parking location.

Utilising technology such as PayStay would also provide benefits with respect to providing visibility to Council and enforcement officers of parking utilisation and duration of stay allowing for more targeted management and enforcement to be undertaken.

It is noted that PayStay has been implemented in a number of Councils throughout Victoria.

Parking inspectors should also enforce agreements with operators of neighbouring developments such as a shared parking arrangement.

Further to the above, the revenue generated from the parking infringements will aid in the implantation of additional car parking management strategies.

#### **5.4.10 Improved Wayfinding & Information**

To improve the efficiency of parking usage it is critical that sufficient information is provided to user groups to ensure that different parking typologies are used to their maximum efficiency. This includes the provision of information through standard measure such as wayfinding signage

throughout the CBD areas but also extends to providing specific advice to residents and business owners through mediums such as brochures and mail outs as well as internet based advice.

Methods of improving wayfinding start at simple measure such as static directional signage all the way up to dynamic electronic signage. In addition, when implementing improved wayfinding a holistic approach should be adopted including provision for improved services for pedestrians, cyclists and public transport services, to help facilitate the use of alternate transport modes and allow parking to be utilised more efficiently.

With respect to other forms of information that can be provided to the community at large, information such as this car parking study as well as maps and advice regarding parking locations, walking and cycling routes can be provided.

#### **5.4.11 Funding Parking Initiatives**

It is understood that a car parking overlay is in place within the Warragul CBD area, which specifies a reduced car parking rate as indicated within Column B of Clause 52.06 of the Baw Baw Planning Scheme. In conjunction with this already used rate, a common policy measure that has been adopted is the implementation of a cash-in-lieu scheme where developers are required to pay Council for any shortfall in parking on a site. Money attained from this may then be invested back into improving the transport and parking infrastructure within Warragul.

## 6 RECOMMENDATIONS AND IMPLEMENTATION

### 6.1 Recommendation 1: Expand Existing Parking Overlay Area

#### **Expand the existing Parking Overlay Area to Incorporate the Entire CBD area**

The existing parking overlay within Warragul is bound by Albert Street to the north, Gladstone Street to the east and Queens Street to the south. To facilitate a more even distribution of development and car parking in and around the CBD as well as ensure more appropriate parking rates are adopted for developments within Warragul it is recommended that the existing Parking Overlay area be expanded to incorporate additional area to the north, east and south, specifically, existing Commercial Zone 2 land to the south and east and the existing Council buildings to the north, as shown in Figure 58.

**Figure 58 Parking Overlay Expansion Area**



### 6.2 Recommendation 2: Implement Cash-in-lieu Scheme

Cash-in-lieu schemes have become commonplace throughout Victoria, and typically require a cash payment to be made to Council by developers for every car space not provided on-site. The cash raised from these schemes is typically proposed to be utilised to fund the construction of additional communal car parking in areas.

If a cash-in-lieu scheme was to be implemented, key considerations should be the amount to be charged per car space and how funds will be utilised. It is recommended that any cash-in-lieu scheme should be used to fund a range of initiatives, not just the construction of additional car parking. These alternative initiatives should include the funding of a range of parking management measures to help better utilise the existing parking facilities within the CBD and could include (but not be limited to) funding the recommendations of this strategy.

It is noted that cash-in-lieu schemes may represent a risk, with developers likely to be wary of the additional cost this may place on development. In this respect, any cash-in-lieu scheme should be thoroughly investigated to determine an appropriate price point for the scheme, that will allow Council investment in parking improvement works whilst maintain developer confidence.

## 6.3 Recommendation 3: Alter Parking Restrictions

### Update & alter existing car parking restrictions in key areas

Within the Principal CBD area, the mix of different parking restrictions is largely concentrated within specific areas, with shorter term parking predominately concentrated south of Palmerston Street and longer term parking generally more concentrated to the north.

Additionally, several areas within the Principal CBD area would benefit from the introduction of some 90-minute carparking spaces to allow for enough time for a shopping trip/dining whilst still encouraging a higher rate of turnover when compared to 2 hours spaces.

To facilitate a better mixture of car parking types to better serve business the following changes to car parking restrictions are recommended. Noting that post implementation car parking surveys should be undertaken to review and assess the impact of restriction changes.

### 6.3.1 Smith Street

- Convert 20 of the existing 2P spaces along Smith Street between Albert Street and Barkly Street to 1P or 1 ½ P parking restrictions;
- Convert 12 of the existing 2P spaces along Smith Street between Barkly Street and Palmerstone Street to 1P or 1 ½P parking restrictions;
- Convert 19 of the existing 1P spaces along Smith Street between Palmerstone Street and William Street to 2P parking restrictions;
- Convert 11 of the existing 1P spaces along Smith Street between William Street and Queen Street to 2P parking restrictions; and
- Extend all parking restrictions to operate until 5:30pm on Saturday.

### 6.3.2 Queen Street

- Convert 10 of the existing 2P spaces along the northern side of Queen Street between Smith Street and Witton Street to 1P parking restrictions;
- Convert 8 of the existing 2P spaces along the southern side of Queen Street between Smith Street and Witton Street to 1P or 1 ½P parking restrictions;
- Convert 10 of the existing 2P spaces along Queen Street between Smith Street and Mason Street to 1P or 1 ½ P parking restrictions; and
- Extend all parking restrictions to operate until 5:30pm on Saturday.

### 6.3.3 Albert Street

- Convert existing 25 unrestricted spaces along Albert Street between Victoria Street and Mason Street to 2P parking restrictions;
- Convert existing 20 unrestricted spaces along Albert Street between Mason Street and Gladstone Street to 4P parking restrictions; and
- Extend all parking restrictions to operate until 5:30pm on Saturday.



### 6.3.4 Mason Street

- Convert 20 of the unrestricted spaces along Mason Street between Albert Street and Queen Street to 4P parking restrictions; and
- Extend all parking restrictions to operate until 5:30pm on Saturday.

### 6.3.5 Permit Parking

13 on-street Council operated permit parking spaces exist within the Outer CBD area. As outlined in Section 4.4, the occupancy of these spaces is low with a peak utilisation of 50%. In this respect, given the location of these spaces adjacent strip shops it would be recommended that these permit zones be relocated to a more under-utilised parking area, freeing up these spaces for higher turnover shopper use.

More broadly, the provision of permit parking within the Warragul CBD does not represent an efficient use of Council assets, noting that many businesses within the Warragul CBD are already provided with on-site parking and unrestricted parking within the Outer CBD area is currently underutilised.

The provision of a satellite car park within walking distance of the CBD represents a better outcome for businesses allowing customers (who are less likely to walk greater distances) to park closer to shops whilst forcing workers (more likely to walk greater distances) into parking in locations that are currently underutilised.

## 6.4 Recommendation 4: Improve Walking and Cycling

### 6.4.1 Work with Key Businesses within Principal CBD Area

#### **Work with Key Businesses within Principal CBD Area to implement improved east-west pedestrian connections between Victoria Street and Smith Street**

As shown in Figure 59, within the northern part of the Principal CBD area there are limited east-west pedestrian connections available, offering limited opportunities for pedestrians to walk the CBD in a convenient manner. In this respect, it is recommended that Council engage with business stakeholders with regards to the potential implementation of a formalised pedestrian connection between Smith Street and Victoria Street.

It is noted that this pedestrian link is nominated within the Warragul Town Centre Masterplan.

Figure 59 Improved Pedestrian Network Map



#### 6.4.2 Pedestrian/cycling connections between Gladstone Street and Mason Street

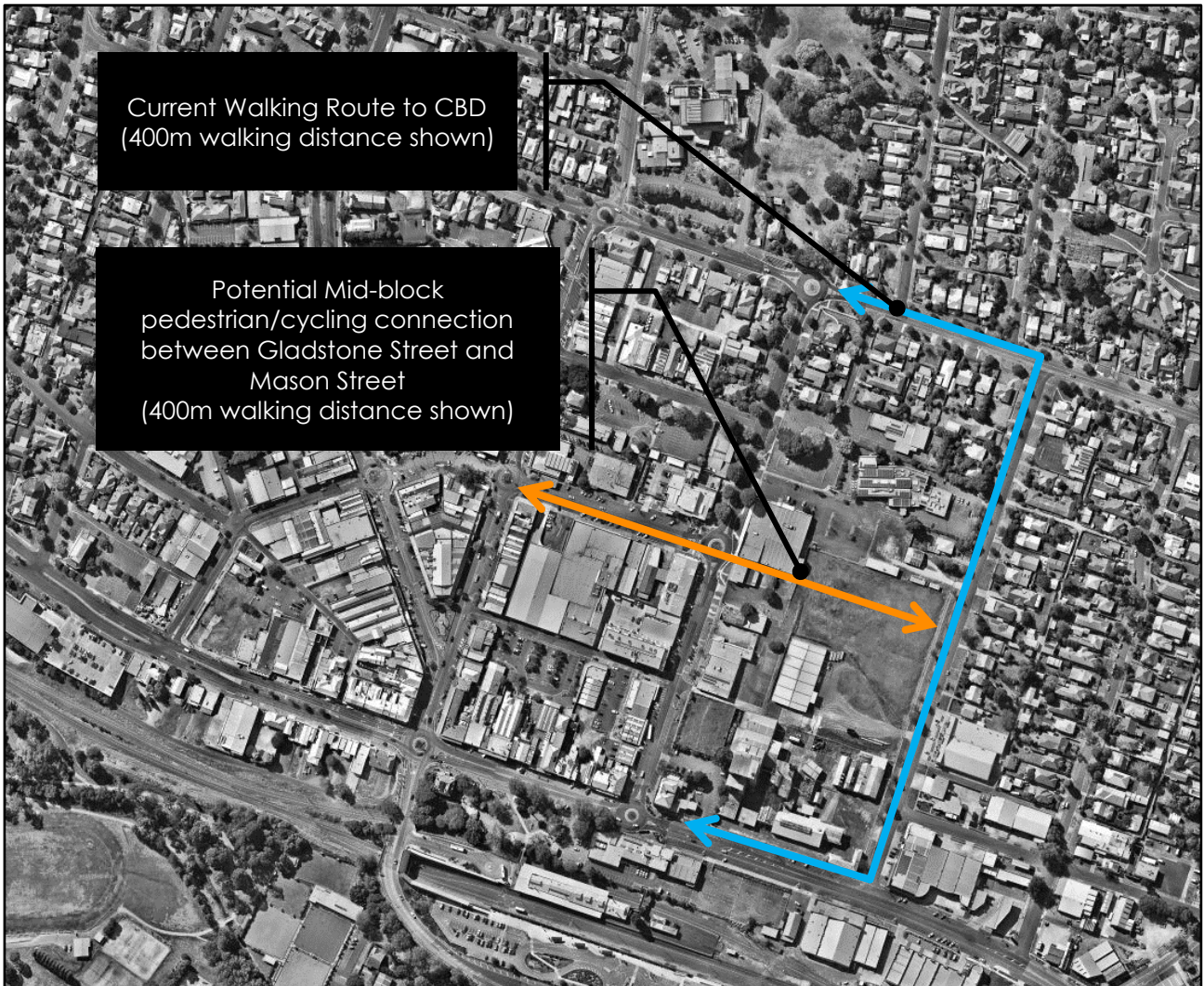
**Ensure any development along Gladstone Street provides for pedestrian/cycling connections between Gladstone Street and Mason Street**

There is currently no mid-block connectivity between Gladstone Street and Mason Street, limiting the ability for parking along Gladstone Street to be utilised by people seeking to go into the Warragul CBD. As shown in Figure 60, persons parking on Gladstone Street are currently required to walk either north to Albert Street or South to Queen Street to be able to head west into the Warragul CBD.

In this respect, it is noted a significant amount of land midblock on Gladstone Street is currently unoccupied and undeveloped, as such this land represents an opportunity for Council to encourage developers to provide for increased pedestrian/cyclist amenity within the CBD benefiting not only any development on the site, but also encouraging a more efficient use of parking as car spaces on Gladstone Street become more accessible, noting that the land is privately owned this solution may be difficult to implement, however the lack of east-west link along this block significantly reduces the accessibility of the CBD to the east.

Any pedestrian connection on this land will require negotiation with land owners, noting that the location of this proposed pedestrian link and a number of future links are identified within the Warragul Town Centre Masterplan, which was adopted by Baw Baw Shire Council in 2010.

**Figure 60 Gladstone Street/Mason Street Pedestrian Connection**



### 6.4.3 Pedestrian crossings along Mason Street

#### Investigate the provision of unsignalised pedestrian crossings along Mason Street

Currently no formal pedestrian crossings are available along Mason Street. Given the large amount of vacant land along Mason Street and Gladstone Street this area of the CBD represents a natural growth corridor for the city.

On this basis, as development in this area proceeds, it is recommended that increased pedestrian connectivity similar to that recently implemented along Smith Street in the form of unsignalised pedestrian crossings be implemented to maintain and improve east-west pedestrian links through Warragul.

The provision of additional pedestrian facilities should be investigated in conjunction with future development in this area.

## 6.5 Recommendation 5: Community Bus Service

### Explore opportunities for providing community bus service, providing trips around the CBD area, and incorporating Warragul Station

Community bus services provide a relatively cost effective method of reducing parking demands in central highly trafficked areas by allowing people to park in remote or satellite locations, these services also allow for mobility impaired persons (the young and elderly) transport around city centres.

A community bus service within the Warragul CBD could expand on existing public transport service, by providing high quality services servicing the CBD allowing, inter-CBD trips to be taken minimising the need for additional car based trips to get to destinations within the CBD area.

The effectiveness of a community bus service could be readily explored during the peak Christmas shopping periods, where a worker bus service could be provided from the showgrounds or other car parking to the CBD, with workers provided free trips into the CBD freeing up spaces for use by customers.

## 6.6 Recommendation 6: Implementation of Paid Parking

### 6.6.1 On-Street Parking

Currently, no parking within the Warragul CBD private or public requires payment. In this respect, it is noted that the implementation of any paid parking would be difficult technically and politically. Notwithstanding, the implementation of an incrementally expanding paid parking scheme would provide parking demand management benefits for the Warragul CBD.

The implementation of any paid parking scheme should start from within the Principal CBD area, with systems in place to readily facilitate parking payment such as online systems and machines capable of accepting notes, coins and cards. Paid parking should be implemented along with a system for actively measuring parking demands, in this way prices will be able to be adjusted to encourage optimal parking utilisation (80-90% occupancy).

Finally, any revenue generated through the implementation of paid parking should be invested back into funding parking initiatives to further manage car parking demands within Warragul as well as potentially funding the construction of additional car parking.

## 6.7 Recommendation 7: Construction of Additional Parking

The construction of additional car parking within the Warragul CBD represents a longer-term strategy to assist in the management of car parking within Warragul, however in the short to medium term 1- 10 years it is unlikely that substantial additional public car parking will be constructed, noting the already heavily built out nature of the Warragul CBD and the negative design outcomes associated with creating multi-deck parking. As outlined within numerous Council documents, the desire for increased car parking within the Warragul CBD is to provide basement car parking to allow for ground level activated frontages.

Additionally, the construction of additional car parking within the Warragul CBD should be carefully considered noting that parking activity is heavily centralised within the Principal CBD area, where there is the least opportunity for additional car parking to be provided. There runs a risk that if not constructed in the correct location any car parking development may end up under utilised.

Consideration could be given to a Public Private Partnership (PPP), which could allow the joint funding of any project.

## 6.8 Recommendation 8: Improved Wayfinding

As outlined in Section 4.5 there are numerous off-street car parking areas within the Warragul CBD, including both privately operated and Council car parks. These car parks are generally highly utilised, however it is noted that they often do not reach full capacity.

In this respect, it is recommended that Council implement dynamic electronic car parking signage within its off-street car parks to enable improved decision making by users. The implementation of dynamic electronic signage will also require the installation of detectors within the car parking areas.

In conjunction with any implementation of dynamic electronic signage, consideration should also be had to any improvements in car park design that can be implemented concurrently with detector installation to improve or increase car parking supply and access.

It is also recommended that Council partner with private car park operators to assist in the required approvals for the installation of dynamic electronic signage for privately operated off-street car parking (e.g. Woolworths and Coles car parks).

It is noted that the installation of dynamic electronic wayfinding represents a significant cost, and as such should be funded through parking enforcement income and the cash-in-lieu scheme (if implemented).

## 6.9 Recommendation 9: Implementation of Parking Enforcement

It is understood that there is currently limited parking enforcement within Warragul. It is recommended to implement at least one car parking inspector to check the duration of stay of each vehicle relative to the parking restriction, localised within the Warragul CBD area.

As noted in Section 5.4.9, assuming that other parking management strategies will also recently be in effect (such as the changing of parking restrictions), some degree of leniency should be provided to motorists, with the aim of informing motorists of the correct information rather than a direct fine. This may involve a general rule that the first parking violation does not result in any cost to the motorist, but rather provides a pamphlet to inform the motorist of correct parking rules so they have the opportunity to avoid any future infringements.

Further consideration can be given to when car parking enforcement is needed most (when the car parking occupancy increases substantially during a given time). For example, it may be preferable to increase the number of parking inspectors during Christmas peak periods or during special events that generate a high volume of parking within Warragul.

Further to the above, the revenue generated from the parking infringements is generally more than sufficient to not only pay for the parking inspector, creating a self-sustained parking management strategy, but also provides funding to assist in the implantation of additional car parking management strategies.

## 6.10 Implementation Timelines

Table 8 provides a summary of the recommended implementation timelines for each of the recommendations listed above.

**Table 8 Implementation Timelines**

Recommendation		Timeframe	Comments
Recommendation 1 : Expand Existing Parking Overlay Area		Short to Medium Term (0 – 5 years)	Planning scheme amendment process should be run in concurrently with Recommendation 2
Recommendation 2: Implement Cash-in-lieu scheme		Short to Medium Term (0 – 5 years)	Planning scheme amendment process should be run in concurrently with Recommendation 1
Recommendation 3: Review of car parking restrictions		Short Term (0 – 2 years)	-
Recommendation 4: Improve Walking and Cycling Networks	Work with Key Businesses in the Principal CBD area	Short to Medium Term (0 – 5 years)	Dependent on cooperation of key business stakeholders
	Pedestrian/Cycling Connections between Gladstone Street & Mason Street	Medium to Long Term (5 – 8 years +)	Dependent on development of key sites along Gladstone Street
	Mason Street pedestrian crossings	Short to Medium Term (0 – 5 years)	-
Recommendation 5: Community Bus Service		Short to Medium Term (0 – 5 years)	-
Recommendation 6: Implementation of Paid Parking		Short to Long Term (0 – 8 years+)	-
Recommendation 7: Construction of Additional Parking		Long Term (8 years+)	Planning for any parking should be commenced in the short term to ensure construction can be completed prior to issues being caused by demand
Recommendation 8: Improved Wayfinding		Medium to Long Term (5 – 8 years+)	
Recommendation 9: Implementation of Parking Enforcement		Short Term (0 – 1 year)	

## 6.11 Implementation Strategy

It is acknowledged that car parking demands within Warragul are likely to increase over the next 10 – 20 years, however, it is unclear to what extent this growth will occur, noting a variety of factors can impact car parking demands.

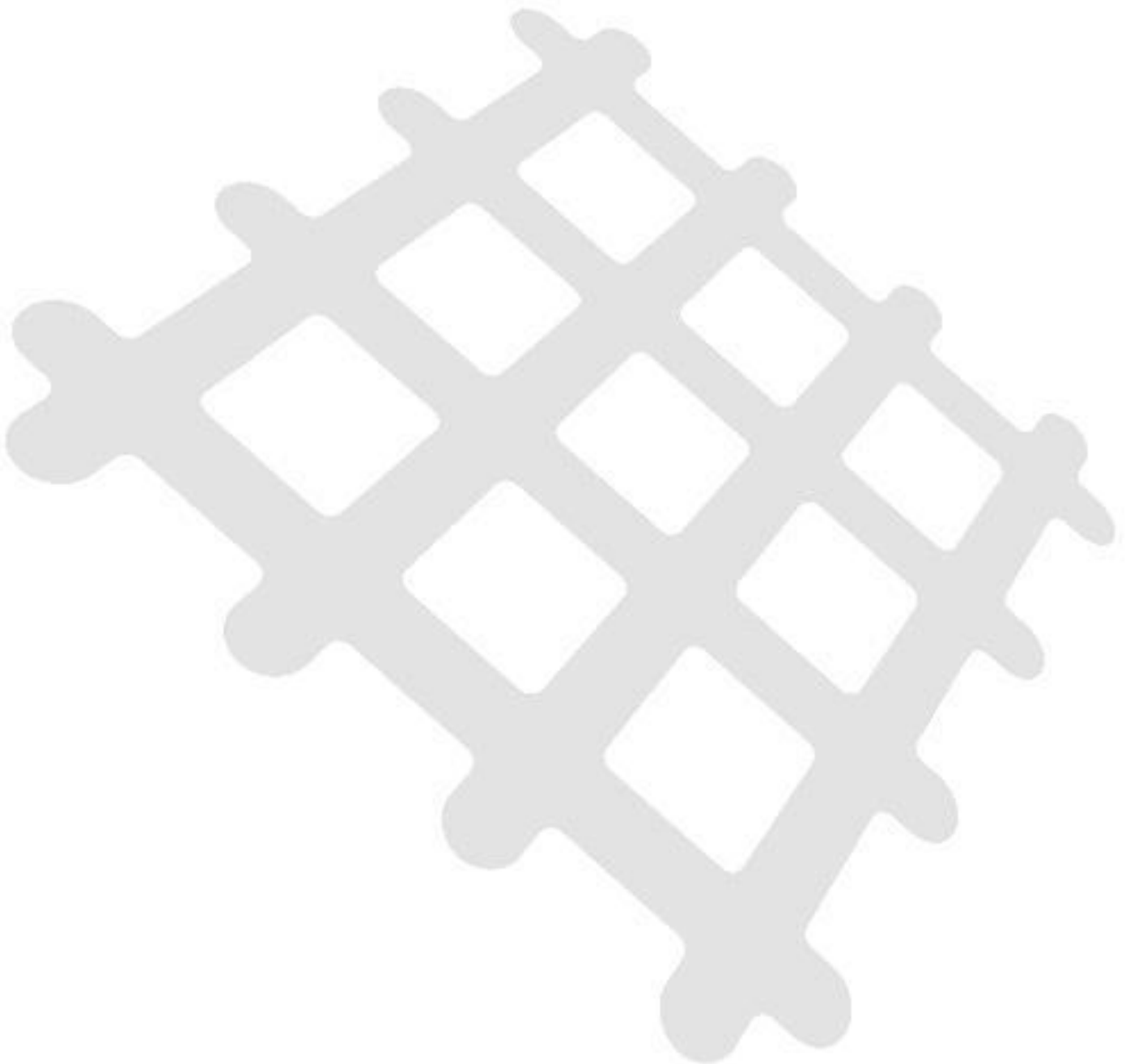
In this respect, in the short to medium term implementation of initiatives that will promote car parking behaviour change and manage existing car parking resources within the Warragul CBD will be critical, noting that the construction of additional parking is both a costly and time intensive exercise as well as noting the significant space limitations within the Warragul CBD area.

It is critical that as part of the implementation of car parking management measures that a monitoring program be implemented alongside to ensure any impacts are measured to determine which measures are producing desirable results and which measures are resulting in cost effective outcomes.

Ultimately many of the measures recommended will require partnerships between Council and various stakeholders throughout Warragul to achieve, noting the importance of efficient and cost effective CBD for all.



# ***Appendix A Car Parking Survey Results***













Library Trumpy Ln C	Private Parking	27	17	22	23	21	19	20	16	14	13	18.3	23
Community Health	Private Parking	32	17	21	22	21	22	22	19	16	16	19.6	22
Gippland Foot Clini	Customer Parking Only	34	21	22	22	21	19	20	17	17	15	19.3	22
Partison Partners Cc	Client Parking Only	47	22	25	25	24	22	22	20	20	17	21.9	25
The Warragul Club (	Members car Park	26	16	19	21	21	22	20	17	18	16	18.9	22
Tab Carpark	Customer Parking Only	30	24	25	25	24	26	26	23	21	20	23.8	26
	Disabled	1	0	0	1	1	0	0	1	0	0	0.3	1
Mcdonalds Carparl	1 Hour Customer Parking Only	82	51	52	50	59	58	53	44	45	47	51	59
	Disabled	1	1	1	1	0	0	1	0	0	0	0.4	1







	From Mason St To Kent	S	No Stopping	0	0	0	0	0	0	0	0	0	0	0		
		N	No Stopping	0	0	0	0	0	0	0	0	0	0	0		
	From Kent To Gladstone St	S	Unrestricted	10	3	4	4	5	5	5	5	4	4			
		N	Unrestricted	10	2	3	3	3	4	6	5	5	4			
Civic Pl	From Albert St To Bend	W	Unrestricted	9	1	1	1	1	1	1	1	1	1			
			Loading Zone 8:30am-5:00pm	2	1	1	0	1	1	0	0	0	0			
			2P 8:30am-5:30pm Mon-Fri	13	2	3	3	3	3	3	5	7	5			
		E	No Stopping	0	0	0	0	0	0	0	0	0	0			
	From Bend To Smith St	S	Council Vehicle Only	2	0	0	0	0	0	0	0	0	0			
		N	3P 8:30am-5:30pm Mon-Fri	7	0	0	0	1	1	1	1	1	0			
Smith St	From Civic Pl To Albert St	E	Unrestricted	5	2	2	3	2	2	2	2	2	2			
			1/4P 8:30am-5:30pm Mon-Fri	3	1	1	1	1	1	1	1	1	1			
		W	Unrestricted	14	6	7	6	7	7	7	5	6	7			
Club Ln	From Queen St To Bend		No Parking	0	0	0	0	0	0	0	0	0	0			
			No Parking	0	0	0	0	0	0	0	0	0	0			
	From Bend To Napier St		No Parking	0	0	0	0	0	0	0	0	0	0			
			No Parking	0	0	0	0	0	0	0	0	0	0			
Club Ln Carpark			Private Parking	18	16	16	15	15	16	14	14	13	12			
Trumpy Ln	From Napier St To Witton St	E	No Stopping	0	0	0	0	0	0	0	0	0	0			
		W	No Stopping	0	0	0	0	0	0	0	0	0	0			
Library Trumpy Ln Carpark			Private Parking	27	16	21	22	22	20	20	18	15	13			
Community Health Car Pa			Private Parking	32	20	22	22	22	22	21	21	18	15			
Gippland Foot Clinic Carp			Customer Parking Only	34	19	23	23	24	22	21	18	17	17			
Partison Partners Carpark			Client Parking Only	47	24	26	25	25	23	21	21	19	18			
The Warragul Club Carpar			Members car Park	26	14	18	20	22	20	20	18	16	15			
Tab Carpark			Customer Parking Only	30	21	23	23	24	23	23	22	20	18			
			Disabled	1	1	1	0	1	0	1	1	0	0			
Mcdonalds Carpark			1 Hour Customer Parking Only	82	47	49	46	44	45	45	41	38	36			
			Disabled	1	1	0	0	1	0	0	0	1	1			





	From Mason St To Kent	S	No Stopping	0	0	0	0	0	0	0	0	0	0	0	0
		N	No Stopping	0	0	0	0	0	0	0	0	0	0	0	0
	From Kent To Gladstone St	S	Unrestricted	10	2	4	3	3	2	4	3	3	3	3	4
		N	Unrestricted	10	1	2	2	3	5	4	4	2	2	2.8	5
Civic Pl	From Albert St To Bend	W	Unrestricted	9	1	1	2	2	1	0	1	0	0	0.9	2
			Loading Zone 8:30am-5:00pm	2	0	1	1	0	0	0	0	0	0	0.2	1
			2P 8:30am-5:30pm Mon-Fri	13	1	2	4	4	3	4	3	2	3	2.9	4
		E	No Stopping	0	0	0	0	0	0	0	0	0	0	0	0
	From Bend To Smith St	S	Council Vehicle Only	2	0	0	0	0	0	0	0	0	0	0	0
		N	3P 8:30am-5:30pm Mon-Fri	7	0	1	1	0	1	1	0	1	0	0.6	1
Smith St	From Civic Pl To Albert St	E	Unrestricted	5	1	1	2	1	1	2	2	1	1	1.3	2
			1/4P 8:30am-5:30pm Mon-Fri	3	0	1	2	1	1	0	0	1	0	0.7	2
		W	Unrestricted	14	4	6	6	5	6	6	4	4	4	5	6
Club Ln	From Queen St To Bend		No Parking	0	0	0	0	0	0	0	0	0	0	0	0
			No Parking	0	0	0	0	0	0	0	0	0	0	0	0
	From Bend To Napier St		No Parking	0	0	0	0	0	0	0	0	0	0	0	0
			No Parking	0	0	0	0	0	0	0	0	0	0	0	0
Club Ln Carpark			Private Parking	18	11	13	12	14	12	11	9	10	6	10.9	14
Trumpy Ln	From Napier St To Witton St	E	No Stopping	0	0	0	0	0	0	0	0	0	0	0	0
		W	No Stopping	0	0	0	0	0	0	0	0	0	0	0	0
Library Trumpy Ln Carpark			Private Parking	27	12	14	14	15	14	14	13	11	10	13	15
Community Health Car Pa			Private Parking	32	15	16	16	14	14	12	14	11	11	13.7	16
Gippland Foot Clinic Carp			Customer Parking Only	34	17	21	21	20	20	16	16	15	12	17.6	21
Partison Partners Carpark			Client Parking Only	47	20	24	24	24	24	21	20	18	14	21	24
The Warragul Club Carpar			Members car Park	26	13	16	16	15	15	15	12	11	11	13.8	16
Tab Carpark			Customer Parking Only	30	20	20	22	21	21	19	17	17	15	19.1	22
			Disabled	1	1	1	1	0	0	1	1	0	0	0.6	1
Mcdonalds Carpark			1 Hour Customer Parking Only	82	29	33	35	34	31	31	27	22	24	29.6	35
			Disabled	1	0	1	0	0	1	1	0	0	1	0.4	1