

Sorrento Activity Centre

Parking Action Plan



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EXECUTIVE SUMMARY

onemilegrid has been engaged by Mornington Peninsula Shire to prepare the Sorrento Activity Centre (SAC) Parking Action Plan (PAP). In preparing this report, the study area has been inspected, relevant background information has been collected and assessed, and car parking survey data has been analysed.

The objectives of this study are to:

- Identify and understand current car parking usage characteristics during peak, off-peak, and fringe periods;
- Identify any shortfalls or surpluses in the existing public car parking provision, including special use spaces such as:
 - + Accessible spaces;
 - + Loading Zones; and
 - + Taxi Zones.
- Forecast future car parking needs for the centre; and
- Identify strategies and devise an action plan for the short term, medium term, and long term.

Car parking surveys were undertaken on the following days:

- Thursday 19 January 2017 (fine weather, 25 °C);
- Sunday 22 January 2017 (fine weather 28 °C);
- Friday 17 March 2017 (fine weather 23 °C); and
- Saturday 18 March 2017 (fine weather 29 °C).

These survey days were selected to capture parking characteristics during the summer peak period (but not the absolute peak in late December / early January) and a 'shoulder' period in autumn between the summer peak and winter off-peak periods.

The results of the surveys are outlined in the table below. It can be concluded that:

- Parking provisions in the commercial precinct around Ocean Beach Road and the Morce Avenue off-street car park are not sufficient to accommodate existing demand in these areas during the summer period;
- Parking provisions at the foreshore area are not sufficient to accommodate existing demand for parking in this locality during the summer period, and are just sufficient to accommodate demand during the 'shoulder' autumn period;
- Demands for the commercial precinct and foreshore area currently overflow into residential areas;
- Parking around Hotel Sorrento looks to accommodate existing demands (albeit with very little spare capacity), however as much of this parking is informal the capacity depends on the manner in which vehicles are parked;
- 1 hour and 2 hour parking spaces were highly utilised on all survey days by virtue of their proximity to the Ocean Beach Road commercial precinct, the foreshore and ferry area, and Hotel Sorrento. The duration of stay surveys identified little compliance with these restrictions, so higher levels of enforcement may increase turnover and reduce overall demands.

Assessment	Result	Thu 19/1/17	Sun 22/1/17	Fri 17/3/17	Sat 18/3/17
Overall	Peak Time	1:00 PM	2:00 PM	12:00 noon	2:00 PM
	Max Occupancy	1172 (66 %)	1,343 (75 %)	999 (56 %)	1167 (65 %)
	Min Availability	611 (34 %)	440 (25 %)	784 (44 %)	616 (35 %)
Ocean Beach Road (Melb Rd to Pt Nep Rd)	Peak Time	12:00 noon	11:00 AM & 11:30 AM	12:00 noon & 2:00 PM	2:00 PM
	Max Occupancy	255 (96 %)	254 (95 %)	211 (79 %)	230 (86 %)
	Min Availability	12 (4 %)	13 (5 %)	56 (21 %)	37 (14 %)
Morce Ave off-street	Peak Time	12:00 noon & 12:30 PM	12:30 PM	11:30 AM	1:30 PM
	Max Occupancy	234 (97 %)	218 (90 %)	199 (82 %)	192 (77 %)
	Min Availability	8 (3 %)	24 (10 %)	43 (18 %)	50 (23 %)
Hotel Sorrento	Peak Time	1:00 PM	2:00 PM	1:30 PM	11:00 AM
	Max Occupancy	110 (74 %)	127 (92 %)	98 (71 %)	112 (81 %)
	Min Availability	28 (26 %)	11 (8 %)	40 (29 %)	26 (19 %)
Foreshore & Ferry	Peak Time	1:00 PM	12:00 noon to 1:30 PM	1:00 PM	2:00 PM
	Max Occupancy	183 (92 %)	198 (99 %)	162 (81 %)	178 (89 %)
	Min Availability	17 (8 %)	2 (1 %)	38 (19 %)	22 (11 %)
Unrestricted	Peak Time	1:00 PM	2:00 PM	12:00 noon	2:00 PM
	Max Occupancy	696 (58 %)	837 (70 %)	607 (50 %)	705 (59 %)
	Min Availability	508 (42 %)	367 (30 %)	597 (50 %)	499 (41 %)
Two Hour	Peak Time	12:00 noon	11:00 AM & 11:30 AM	11:30 AM	1:30 PM & 2:00 PM
	Max Occupancy	180 (99 %)	182 (100 %)	152 (84 %)	162 (89 %)
	Min Availability	2 (1 %)	0 (0 %)	30 (16 %)	20 (11 %)
One Hour	Peak Time	1:00 PM	11:00 AM & 11:30 AM	1:00 PM	3:30 PM
	Max Occupancy	124 (100 %)	123 (99 %)	106 (85 %)	108 (87 %)
	Min Availability	0 (0 %)	1 (1 %)	18 (15 %)	16 (13 %)
Accessible	Peak Time	12:00 PM & 1:00 PM	1:30 PM	2:00 PM	10:30 AM & 2:00 PM
	Max Occupancy	12 (52 %)	13 (57 %)	18 (78 %)	16 (70 %)
	Min Availability	11 (48 %)	10 (43 %)	5 (22 %)	7 (30 %)
Loading	Peak Time	12:00 noon & 1:30 PM	2:00 PM & 4:00 PM	11:30 AM, 4:00 PM & 8:30 PM	2:00 PM
	Max Occupancy	11 (37 %)	9 (30 %)	14 (47 %)	18 (60 %)
	Min Availability	19 (63 %)	21 (70 %)	16 (53 %)	12 (40 %)

It is clear that additional car parking is required to accommodate demands currently generated by the commercial and foreshore areas to reduce overspill into residential areas. Furthermore, additional car parking will be required to meet demands likely to be generated by future development in the area.

It is recognised that it can take time to provide additional public car parking, and as such recommendations have been broken down into short term, medium term, and long term measures as summarised below.

Timeframe	Recommendation	Description
Short Term	Wayfinding signage	During the shoulder period March surveys, it was identified that while parking on Ocean Beach Road was highly utilised, the Morce Avenue car park was less well utilised. It is recommended to install wayfinding signage on George Street to this car park.
	Formalise select informal parking areas	Formalising the Ocean Beach Road / Melbourne Road car park and the Point Nepean Road service road can increase the capacity in these areas at relatively low cost.
	Review restrictions in underutilised areas	On-street parking on Morce Avenue was largely underutilised throughout the survey period. The majority of these spaces are currently Loading Zones. It is considered that there is scope to review these restrictions and possibly the configuration of the street to increase the usable parking supply.
	Enforcement of restrictions	Short term parking restrictions are frequently overstayed. Stronger enforcement of restrictions could increase parking turnover, and therefore reduce the total number of spaces that need to be provided. It could also push longer term demands into more appropriate areas, such as the Morce Avenue car park, thereby freeing up parking on Ocean Beach Road for short term users.
Medium Term	Parking Overlay	<p>So that public car parking provisions are not adversely affected when developments are not able to accommodate car parking demands likely to be generated within the development site, it is recommended to implement a Parking Overlay with a cash-in-lieu scheme to collect funds for the provision of additional public car parking if there will be a reliance on off-site parking.</p> <p>It is suggested that funds collected could be put towards the construction of a new deck above the Morce Avenue car park. Any project should be modular to allow some additional parking to be constructed once funds become available. Pricing for the cash in lieu scheme will require further investigation.</p> <p>It is also recommended to standardise parking rates and measures across a broader range of land uses than is currently the case under Clause 52.06 of the Planning Scheme, to facilitate change of use applications. It is suggested to adopt a requirement of 4.0 spaces per 100 m² of leasable floor area for the following uses:</p> <ul style="list-style-type: none"> ➤ Convenience Restaurant; ➤ Hotel; ➤ Restaurant; ➤ Convenience Shop with a floor area exceeding 80 m²; and ➤ Market. <p>It is considered that parking for residential uses should be in line with historical car ownership data, with no mechanism to reduce resident parking through the cash in lieu scheme.</p>
	Formalise select informal parking areas	There is scope to upgrade Hotham Road near Hotel Sorrento to provide formal car parking, increasing the supply.

Timeframe	Recommendation	Description
	Investigate a paid parking scheme	A paid parking scheme is a potential measure to better manage car parking provisions within the SAC to encourage turn over, encourage more appropriate parking locations for staff, and to collect some revenue for the upkeep of car parking provisions. This will require further investigation.
	Investigate 'Smart Cities' technology	Smart Cities technology providing real time information on parking through mediums such as electronic signage and smart phone applications could assist with managing existing parking provisions. This will require further investigation.
Long Term	Advocate for improved public transport connectivity	More frequent bus services would provide an alternative mode of travel for staff of businesses. This would reduce car parking demands, and also reduce traffic volumes.
	Continue to improve bicycle infrastructure and connectivity	Increased uptake of travel by bicycle is a way to reduce demands for car parking within the SAC, at least amongst staff members and residents. The <i>Mornington Peninsula Bicycle Strategy – Ridesafe</i> sets out a number of strategies to encourage the uptake of cycling amongst various user groups including school children and staff. It is recommended to continue to pursue these initiatives.
	Promote group visitor travel	The majority of visitor travel to the SAC is currently undertaken by private car. It is considered that there is opportunity to reduce this reliance on private car travel through tourist coach services from Melbourne. While it is less likely that these services will be used by residents of Melbourne, it is considered that there is opportunity for international visitors to utilise these options, which could reduce car parking demands during the peak summer season.

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1 INTRODUCTION

1.1 Preamble

onemilegrid has been engaged by Mornington Peninsula Shire to prepare the Sorrento Activity Centre (SAC) Parking Action Plan (PAP).

Sorrento is one of the Mornington Peninsula's most visited Activity Centres with the Southern Peninsula being the most visited areas within the Mornington Peninsula (*Mornington Peninsula Visitor Journey Research Report, October 2015*).

Visitors, the community and traders have had concerns about parking in Sorrento for many years. Demand for parking in Sorrento is somewhat seasonal, peaking in summer (particularly late December to late January), however Sorrento is continually experiencing increased visitation and popularity through the year. This, in conjunction with continuing residential / commercial mixed use development, has resulted in higher parking demands and pressures.

In preparing this report, the study area has been inspected, relevant background information has been collected and assessed, and car parking survey data has been analysed.

1.2 Objectives

The objectives of this study are to:

- Identify and understand current car parking usage characteristics during peak, off-peak, and fringe periods;
- Identify any shortfalls or surpluses in the existing public car parking provision, including special use spaces such as:
 - + Accessible spaces;
 - + Loading Zones; and
 - + Taxi Zones.
- Forecast future car parking needs for the centre; and
- Identify strategies and devise an action plan for the short term, medium term, and long term.

2 SORRENTO ACTIVITY CENTRE

2.1 Study Area

The Sorrento Activity Centre (SAC), as considered in this study, is irregular in shape and is generally bound by Hotham Road in the north, Melbourne Road in the west, Coppin Road in the southeast, and the foreshore in the east. The study area extends a short distance to the west along Ocean Beach Road and to the southeast along Point Nepean Road. The extent of the study area is shown in Figure 1, while Figure 2 shows an aerial view of the area.

Figure 1 Study Area



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Figure 2 Study Area Aerial



Copyright Nearmap

2.2 Land Use Characteristics

Land use within the study area includes:

- A 'High Street' style shopping centre along Ocean Beach Road;
- A small commercial/retail pocket adjacent to Point Nepean Road / Esplanade;
- Sorrento Hotel;
- Sorrento Community Centre;
- Sorrento Primary School;
- St Joseph's Catholic School;
- St Mary's Catholic Church;
- Presbyterian Church of Australia;
- Sorrento Recreation Reserve;
- Sorrento Pier; and
- General residential uses.

The locations of a number of these key uses are shown in Figure 3.

Figure 3 Key Land Use Locations



Copyright Nearmap

2.3 Public Transport Network

The SAC is accessible via route 787 and 788 bus services. Route 787 services run between Safety Beach and Sorrento, while route 788 services run between Frankston and Portsea, via Sorrento.

The public transport network in the area is shown in Figure 4, with further details of services provided in Table 1.

Figure 4 Public Transport Network



Table 1 Public Transport Provision

Mode	Route No	Route Description	Frequency
Bus	787	Sorrento - Safety Beach	45 min - 2 h 15 min
	788	Frankston - Portsea via Dromana, Rosebud, Sorrento	45 min – 50 min

3 PREVIOUS STUDIES & SUPPORTING DOCUMENTATION

3.1 General

A number of previous studies have been undertaken on behalf of Mornington Peninsula Shire and other parties, that include relevant background information on matters such as car parking, traffic, visitations and planning policy, as described in the following sections.

3.2 Mornington Peninsula Activity Centres Strategy Review

The *Mornington Peninsula Activity Centres Strategy Review* (May 2018) identifies that activity centres are an important aspect of land use planning due to their significant influence on economic, social, and environmental outcomes for the communities they serve.

The report identifies the SAC as a 'small township' activity centre, which are classified as centres serving medium sized settlements of 5,000 people or more, and which meet most of the basic retail, commercial and other needs of the surrounding population.

The report references a *Council Floorspace Audit* which identified a total of 15,000 m² of retail and commercial floorspace within the SAC, including 12,000 m² of shopfront floorspace.

It was identified that around 14 % of total retail sales in the shire are attributed to non-permanent residents such as tourists and visitors, with this share being higher in Sorrento and other areas of high visitation.

The report concludes that Sorrento's strong street-based shopping environment is expected to continue to perform well over the coming years, albeit with the level of activity continuing to follow the current seasonal trends. Residential growth in the Sorrento catchment is expected to be limited, with no additional commercial land considered necessary. There is scope for infill / redevelopment based particularly on mixed use and visitor orientated development.

3.3 Sustainable Transport Strategy

The Mornington Peninsula Shire *Sustainable Transport Strategy 2015 – 2020* (STS) outlines Council's vision for sustainable transport within the municipality. The priorities of the STS are to:

- Increase transport options for an ageing population;
- Improve access to education and employment, particularly for young people;
- Lower traffic congestion around schools to improve safety and accessibility;
- Reduce dependency on private motor vehicle usage, through better cycling and walking facilities, and better public transport;
- Integrate transport and land use planning, especially in new residential and commercial developments; and
- Increase active transport use to improve health outcomes for residents.

3.4 Sorrento Ferry Terminal Traffic & Transport Assessment

The *Sorrento Ferry Terminal Traffic & Transport Assessment* (15 December 2016) was prepared by Cardno on behalf of Searoad Ferries to assess the traffic and car parking implications of proposed works at the Sorrento ferry terminal.

The proposed works entail a reconfiguration of the Esplanade / pier entrance interface, including modifications to car parking arrangements. These alterations would provide an additional 21 car parking spaces.

It is noted that car parking occupancy surveys were undertaken within the existing pier car park and along the Esplanade on Sunday 5 April 2015 (Easter Sunday). The surveys identified that this area reached capacity at 2:00 PM, and was near capacity from 11:00 AM through to 3:00 PM, with demands tailing off thereafter.

The report mentions that Council's preference for the Point Nepean Road / Hotham Road intersection is for a roundabout to be constructed in place of the existing cross-intersection. The concept layout plan for the intersection included with the Cardno report shows the formalisation of the existing informal car parking areas adjacent to Hotham Road to the east of Point Nepean Road.

3.5 Sorrento Recreational Boating Precinct Plan

The Mornington Peninsula Shire *Sorrento Recreational Boating Precinct Plan* (February 2011) prepared by GHD sets out guidelines for the use and management of the recreational boat launching facility, which is situated just north of the SAC.

3.6 Planning Scheme Amendment C203 & C204 Explanatory Reports

The Mornington Peninsula Shire *Planning Scheme Amendment C203 Explanatory Report* and *Planning Scheme Amendment C204 Explanatory Report* outline details of the Design Development Overlay which mandates height controls that apply to residential areas surrounding Ocean Beach Road.

3.7 Planning Scheme Amendment C203 & C204 Urban Design Analysis

The Ocean Beach Road, Sorrento *Planning Scheme Amendment C203 & C204 Urban Design Analysis Package* (April 2017) prepared by Hansen Partnership sets out future development potential of land in the Ocean Beach Road commercial area. The report shows that while there are some heritage matters that may limit development potential of a small number of sites, a significant proportion of sites are currently under-utilised in terms of their development potential. Additionally, at the time of the report, there were 4 recent planning approvals on or adjacent to Ocean Beach Road that had not yet been acted on.

3.8 Mornington Peninsula Visitor Journey Research Report

The *Mornington Peninsula Visitor Journey Research Report* (October 2015) provides an assessment of the way visitors travel through the Peninsula and its local tourism areas.

The report identifies that the southern portion of the Peninsula captures 66 % of all overnight visitors and 37 % of day trip visitors, whereas the northern portion of the Peninsula (particularly Frankston & Mornington) plays more of a regional service role attracting visitors for education, business, health, services and retail. The report notes that the southern portion of the Peninsula has a large holiday home base.

The report identifies that some 50 % of visitors to the Peninsula visit Sorrento at some point during their trip.

The report identified Peninsula Link as being the primary travel route to and from the area, accounting for 53 % of trips, while Point Nepean Road accounts for 17 % of trips.

3.9 Sorrento Ocean Beach Heritage Policy

The draft *Ocean Beach Road Commercial Precinct Sorrento Heritage Policy* (September 2015) provides guidance for the future conservation and development to protect the heritage of the Ocean Beach Road Commercial Heritage Precinct.

The report states that car parking should not be provided along the section of Point Nepean Road immediately to the east of Ocean Beach Road. If car parking is required, it should be provided behind properties using existing access points.

The report identified that in the Ocean Beach Road precinct there is opportunity for car parking and auxiliary access to occur from Morce Avenue.

4 TRAFFIC VOLUMES

4.1 General

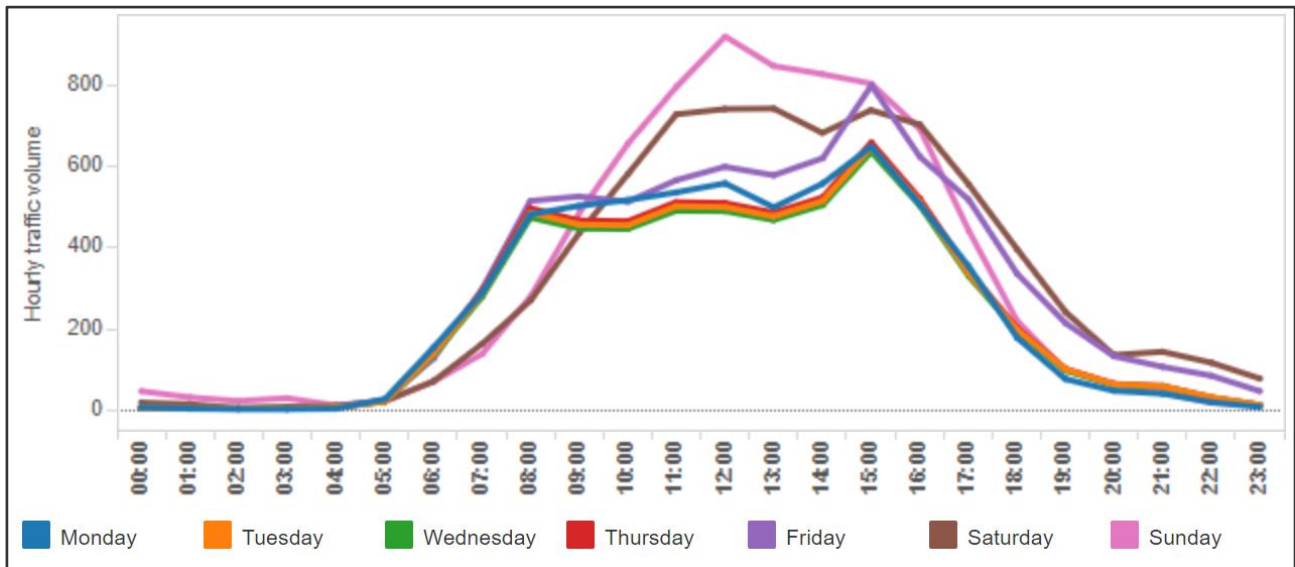
Traffic volume data was obtained via VicRoads Traffic Profile Viewer, to provide insight into trends regarding visitation to the area. Data is available for Point Nepean Road between Constitution Hill Road & Hughes Road, which is one of two key routes to and from the SAC (with Melbourne Road being the other). The following provides an overview of traffic volumes.

4.2 Hourly Volume Profiles

4.2.1 School Term

Figure 5 shows typically hourly traffic volumes across each day of the week during typical school term periods. It can be seen that traffic volumes are highest on Fridays, Saturdays and Sundays, with lower peak hourly volumes recorded on weekdays.

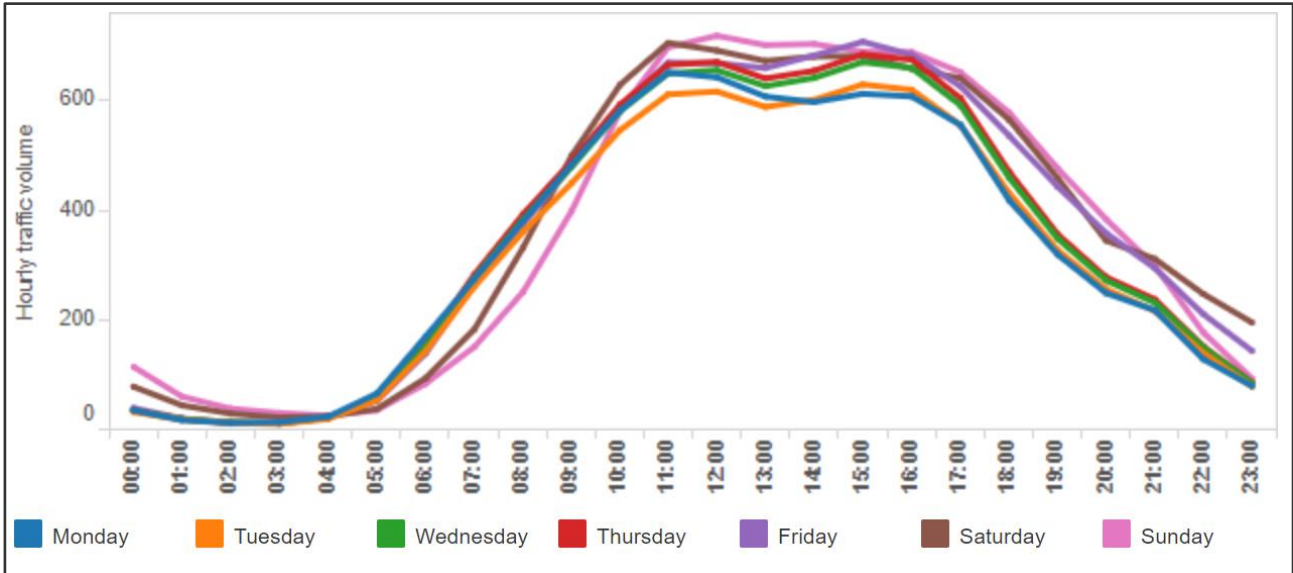
Figure 5 Traffic Profile (Two-Way) – School Term



4.2.2 School Holidays

Typical hourly traffic volumes for each day of the week during school holiday periods are shown in Figure 6. It can be seen that there is much less distinction between weekday and weekend volumes, with a similar profile recorded for each day of the week. The profile for each day during school holidays is akin to the Saturday profile during the school term.

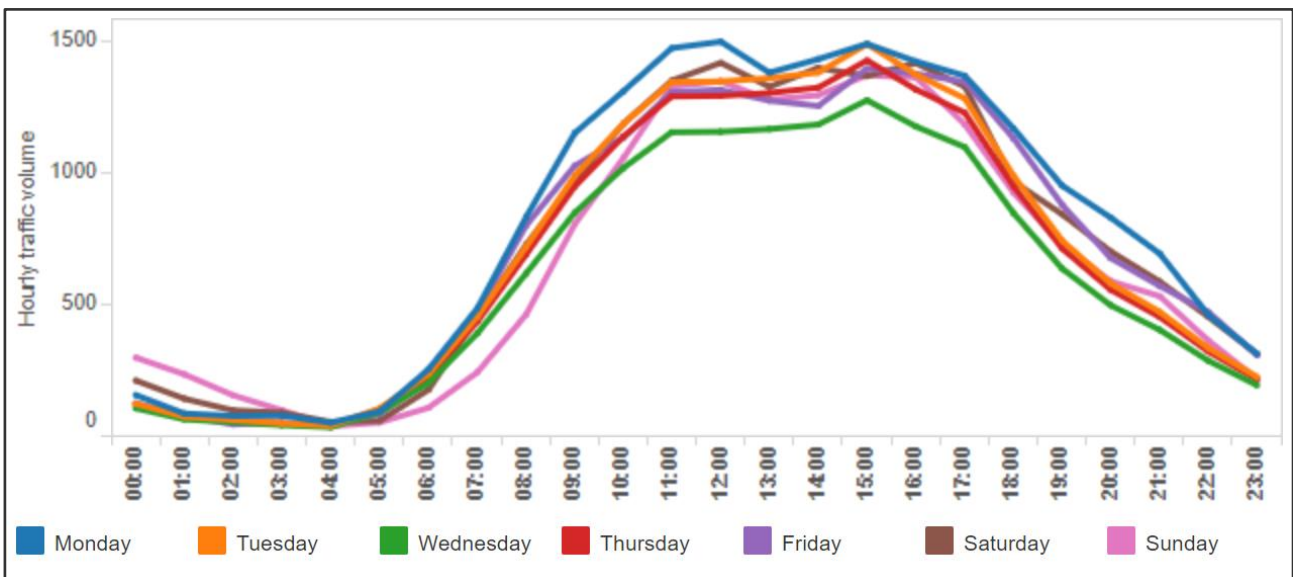
Figure 6 Traffic Profile (Two-Way) – School Holiday



4.2.3 Long Weekend / Public Holiday

Traffic volume profiles for long weekends and public holidays are shown in Figure 7. It can be seen that volumes on long weekends and public holidays are considerably higher than those recorded during the school term or during school holidays. Again, there is little differentiation between weekday and weekend volumes.

Figure 7 Traffic Profile (Two-Way) – Long Weekend / Public Holiday



4.3 Daily Volumes

Table 2 provides a breakdown of daily traffic volumes collected during 2016 and 2017 on Point Nepean Road between Coppin Road and Esplanade. It can be seen that traffic volumes vary significantly between peak periods and off-peak periods, with volumes recorded during the new year period being more than double those recorded in September.

Table 2 Daily Traffic Volumes – Pt Nepean Road between Coppin Rd & Esplanade

<i>Period</i>	<i>7 Day Average</i>	<i>Weekday Average</i>	<i>Weekend Average</i>
21 Dec 16 to 28 Dec 16	11,353	11,743	10,381
28 Dec 16 to 4 Jan 17	15,795	15,782	15,831
18 Jan 17 to 26 Jan 17	13,437	11,708	17,764
25 Jan 17 to 1 Feb 17	13,104	11,706	16,599
22 Feb 17 – 28 Feb 17	9,429	8,366	12,096
1 Mar 17 – 8 Mar 17	9,003	7,935	11,686
11 Mar 17 to 18 Mar 17	10,383	8,867	14,174
18 Mar 17 to 25 Mar 17	11,873	8,334	11,767
3 Sep 17 to 10 Sep 17	5,868	5,462	6,885

5 TRADER SURVEYS

To understand the views of traders within the Sorrento Activity Centre regarding parking, a trader questionnaire was delivered to 200 traders and 31 responses were received by reply paid envelope. The survey form provided to traders is provided in Appendix C.

The traders had mixed views regarding the adequacy of the various parking provisions (all day, one-hour, two-hour parking etc.), however the majority indicated that they felt that at least one of the provisions is inadequate, particularly in peak periods.

The traders also generally believed that public transport provision in Sorrento is inadequate and needs improvement. Most of the traders felt that improved public transport would likely result in a higher number of visitors and staff to Sorrento choosing to use public transport to travel to Sorrento, thereby reducing demand for car parking.

Assisting with the interpretation of survey results, a breakdown of the data by land use (percentage based) has been provided in Table 3 below. It should be noted surveyed businesses have been grouped under their broader land use terms, as per Clause 73.03 of the Planning Scheme.

Table 3 Land Use Proportion of Trader Survey Responders

<i>Land Use Term</i>	<i>Includes</i>	<i>No.</i>	<i>Proportion of Responders</i>
Art Gallery	Exhibition Centre	1	3.23%
Office	Bank Real Estate Agency Bookkeeping Legal Office	6	19.35%
Medical Centre	Physiotherapist	2	6.45%
Food and Drink premise	Café Restaurant	5	16.13%
Leisure and recreation	Day Spa	1	3.23%
Retail Premise	Postal Agency Pharmacy	11	35.48%
Trade Supplies	Hardware Store	1	3.23%
Hairdresser	-	1	3.23%
Open Sports Ground	Sports Oval	1	3.23%
Education Centre	Primary and Secondary School	1	3.23%
Place of Assembly	Information Centre	1	3.23%
Total		31	~100%

As shown in Table 3, the large majority of surveys received were classified under three main land uses, being retail (35.48%), office (19.35%) and food and drink premises (16.13%).

A summary of where staff live by distance from Sorrento has been provided in Table 4 below.

Table 4 Staff Place of Residence vs. Distance to Sorrento

<5km	5-15km	15-25km	Substantial Travel (~35km-50km)	Further Travel (50km<)
42.86%	40.91%	7.45%	6.10%	2.68%

As shown in Table 4, the large majority (83.77%) of staff working within Sorrento, reside within a 15km radius, while only a small portion (16.23%) of staff reside further.

Complementary to Table 4, a breakdown of staff travel modes has been provided in Table 5 below.

Table 5 Staff Travel Modes

Car	Passenger	Drop off	Public Transport	Walk	Cycling	Taxi/Uber
89.66%	0.42%	3.38%	2.74%	2.11%	1.69%	0.00%

As identified in Table 5, survey data indicates the main mode of transport by staff is via private vehicle (89.66%), with only a small percentage of staff utilising another means of transport to Sorrento.

It should be noted, public transport utilisation (2.74%) is considered very low, noting the large majority of staff live within 15km of the Sorrento activity centre.

Further supplementing the above information, a breakdown of staff parking areas has been provided in Table 6 below.

Table 6 Staff Parking Area Breakdown

Onsite private car park	Ocean Beach Rd	Point Nepean Rd	Side Streets	Morce Ave	*Other
31.44%	9.17%	0.00%	24.89%	34.06%	0.44%

*Car parking behind RSL

It is shown in Table 6, the majority staff working within Sorrento tend to park either along Morce Avenue or on-site (private car parking). In addition, it should be noted a substantial percentage of staff (24.89%) park within unnamed side streets in the surrounding area.

Review of the data indicates the busiest time of year for businesses is between November and February.

In order to gauge a consensus in relation to car parking and public transport adequacy, a review of survey results/opinions has been undertaken and summarised in Table 7 and Table 8 below.

Table 7 Parking Consensus Percentage Based

Opinion	Parking Provision						
	Long Term	Short Term	Very Short Term	Disabled	Loading	Taxi Zone	Bicycle
Far Too much	3.23%	9.68%	3.23%	-	-	3.23%	-
Somewhat too much	6.45%	3.23%	3.23%	-	3.23%	3.23%	-
About Right	32.26%	48.39%	58.06%	61.29%	54.84%	51.61%	48.39%
Somewhat insufficient	25.81%	9.68%	19.35%	6.45%	16.13%	12.90%	12.90%
Very insufficient	29.03%	19.35%	6.45%	6.45%	9.68%	3.23%	9.68%
No response	3.23%	9.68%	9.68%	25.81%	16.13%	25.81%	29.03%
Total	100%	100%	100%	100%	100%	100%	100%

As shown in Table 7, the existing parking provision (under all categories) servicing the subject site is considered sufficient to the majority of interviewees.

Notwithstanding, in relation to the long-term and short-term parking provision specifically, it was noted a reasonable portion of interviewees considered parking to be somewhat insufficient and very insufficient.

Table 8 Public Transport Consensus Percentage Based

Opinion 1 Provision of public transport		Opinion 2 Will improved public transport result in high public transport usage	
Adequate	41.94%	Yes	48.39%
Inadequate and needs improvement	51.61%	No	35.48%
Inadequate but should stay as is	3.23%	Maybe	6.45%
No response	3.23%	N/a	9.68%
Total	100%		100%

As shown in Table 8, the existing public transport servicing the subject site is considered inadequate (and needs improvement) by the majority (51.61%) of interviewees. Notwithstanding, a reasonable portion of interviewees (41.94%) believe the existing transport is adequate.

Furthermore, Table 8 identifies that most interviewees believe an improved public transport network servicing Sorrento will result in high public transport usage.

A summary of interviewee comments has been provided below:

- Shortage of full-time private parking;
- Seasonal parking discrepancy;
- Suggestion for on-street parking permits (staff);
- Corner car park (1/4P) at Melbourne Road is not enforced;
- Limited bus/caravan parking;
- Limited bicycle and pedestrian connections; and
- Signage to direct private vehicle users to the Morce Avenue car park.

6 EXISTING CAR PARKING CONDITIONS

6.1 General

To ascertain the availability of car parking in the Sorrento Activity Centre, **onemilegrid** has reviewed car parking occupancy data collected on behalf of Mornington Peninsula Shire on the following days from 8:00 AM to 10:00 PM at 30-minute intervals:

- Thursday 19 January 2017 (fine weather, 25 °C);
- Sunday 22 January 2017 (fine weather 28 °C);
- Friday 17 March 2017 (fine weather 23 °C); and
- Saturday 18 March 2017 (fine weather 29 °C).

These survey days cover a typical weekday and weekend during the summer peak period and during the 'shoulder' period between the peak summer season and the winter off-season.

Surveys were not undertaken during the very busy time of early January, as this is an extreme scenario for car parking and does not represent 'typical' summer period parking demands. It is common engineering practice to assess 85th percentile parking demands, being the peak level of demand for 85 % of the year. The rationale for this is to strike a balance for the provision of car parking, such that the majority of peak demands can be accommodated without being an oversupply of parking for the majority of the year, as car parking requires land that could otherwise be utilised for more productive purposes.

It should be noted that the Continental Hotel, which closed for renovations in the period after the surveys were undertaken, was open and trading on each of the abovementioned survey days. As such any demands for public car parking generated by this use were included in the survey results.

In assessing the survey results, the survey area was broken down into different restrictions to better understand the demands for each specific type of parking space. The restriction breakdown was as follows;

- Overall;
- Unrestricted;
- 2 hour;
- 1 hour;
- Accessible; and
- Loading Zone.

A detailed review of each of the type of restrictions in the area has been undertaken below. In assessing car parking usage, utilisation of 90 % or higher is taken to be 'practical capacity'. It should be recognised that parking that is not being used, particularly for off-street locations, is an inefficient use of land that could be used for other purposes. As such a utilisation of less than 60 % is considered to be low. Table 9 provides a breakdown of parking utilisation ratings.

Table 9 Parking Utilisation Ratings

Parking Utilisation	Rating
90 % or higher	Practical capacity
80 % to 90 %	High
70 % to 80 %	Moderate to high
60 % to 70 %	Low to moderate
60 % or lower	Low

In addition, duration of stay data was also provided for each of these survey days, and has been assessed and analysed.

A map showing a breakdown of the car parking survey areas is provided in Appendix A, while the full survey results are enclosed as Appendix B.

6.2 Parking Restrictions

Figure 8 shows areas that contain the following car parking restrictions:

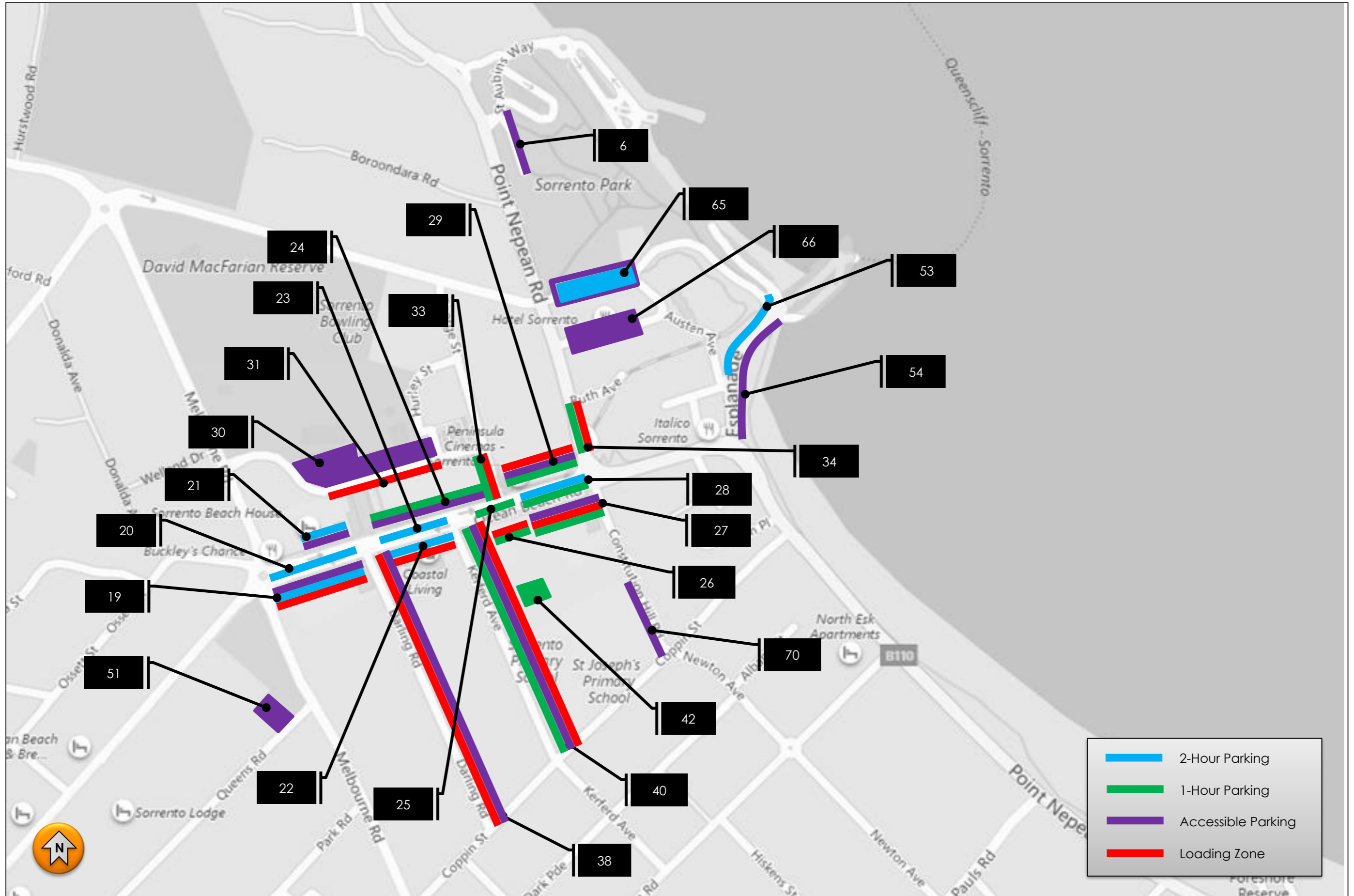
- 2P;
- 1P
- Accessible; and
- Loading Zone.

The number of these spaces within each area is outlined in Table 10. It should be recognised that this map shows the street sections and off-street car parks that include these parking restrictions. The map does not show the exact location of spaces bearing the various restrictions.

Table 10 Parking Restrictions & Provisions

Segment ID	2P	1P	Accessible	Loading Zone
6	-	-	2	
19	16	-	1	2
20	31	-	-	-
21	16	-	1	-
22	24	-	-	1
23	29	-	-	-
24	-	32	2	-
25	-	14	-	-
26	-	6	-	2
27	-	20	1	4
28	10	18	-	-
29	-	16	1	2
30	-	-	4	-
31	-	-	-	12
33	-	5	-	2
34	-	3	-	2
38	-	-	1	1
40	-	5	1	2
42	-	5	-	-
51	-	-	2	-
53	26	-	-	-
54	19	-	3	-
65	11	-	1	-
66	-	-	2	-
70	-	-	1	-
Total	182	124	23	30

Figure 8 Map of Parking Restrictions



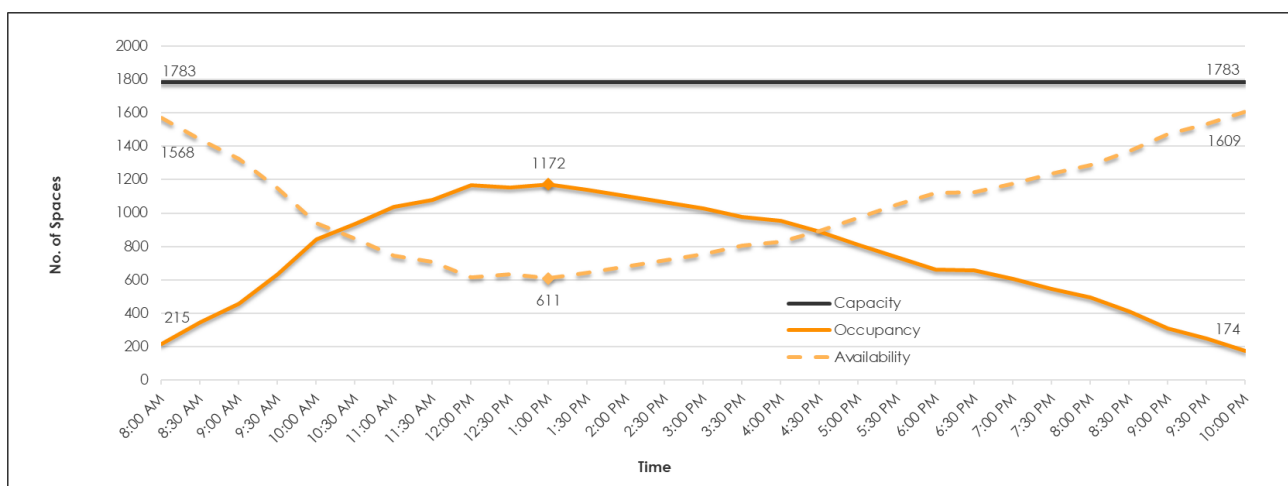
6.3 Overall Parking Demand

6.3.1 Thursday 19 January 2017

A total of 1,783 car parking spaces were identified within the survey area. On the Thursday, peak occupancy and minimum availability occurred at 1:00 PM when 1,172 of the 1,783 car spaces were occupied, leaving a minimum of 611 vacant spaces available for use. After the peak at 1:00 PM car parking occupancy dissipated throughout the evening with more than 1,100 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 9 below.

Figure 9 Thursday 19 January 2017 – Overall Parking Occupancy Profile



The on-street parking occupancy data can be further analysed to understand which locations are experiencing the highest parking demands.

Figure 10 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (1:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It can be seen that the commercial precinct around Ocean Beach Road and the pier and foreshore areas experienced high levels of utilisation, with many areas at practical capacity.

Figure 10 Thursday 19 January 2017 – Overall Parking Utilisation



The car parking survey data has been further assessed to determine usage in more localised precincts.

Figure 11 shows occupancy on Ocean Beach Road, between Melbourne Road and Point Nepean Road across the survey period. It can be seen that parking was at practical capacity (90 % utilisation or higher) from 10:00 AM through to 4:30 PM, with occupancy reducing thereafter. This left only 12 spaces available at peak. It is noted that this includes accessible space and loading zones that will not be suitable for all purposes, and as such practical parking availability was very limited during typical business hours.

Figure 11 Thursday 19 January 2017 – Ocean Beach Road Occupancy (Melb Rd to Pt Nep Rd)

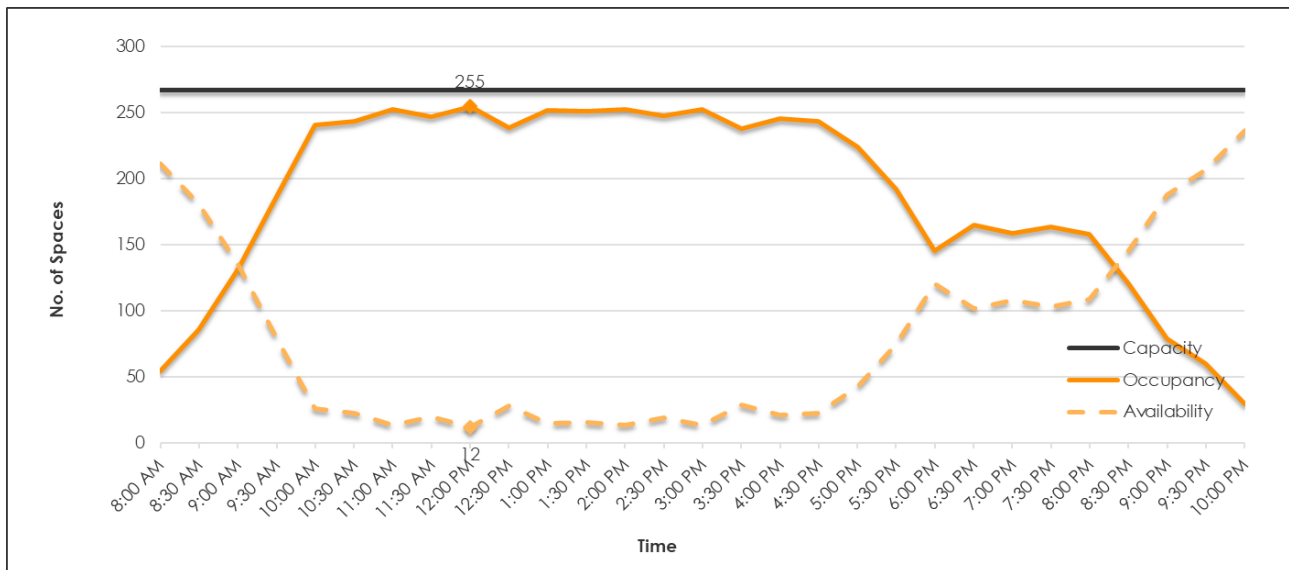


Figure 12 shows occupancy for the Morce Avenue car park. Occupancy levels were high (80 % or higher) between 11:00 AM and 3:00 PM, with the car park at practical capacity (90 % or more) between 12:00 noon and 3:00 PM. Only 8 spaces were available at peak occupancy, and as such this car park was very much at practical capacity.

Figure 12 Thursday 19 January 2017 – Morce Avenue Car Park Occupancy

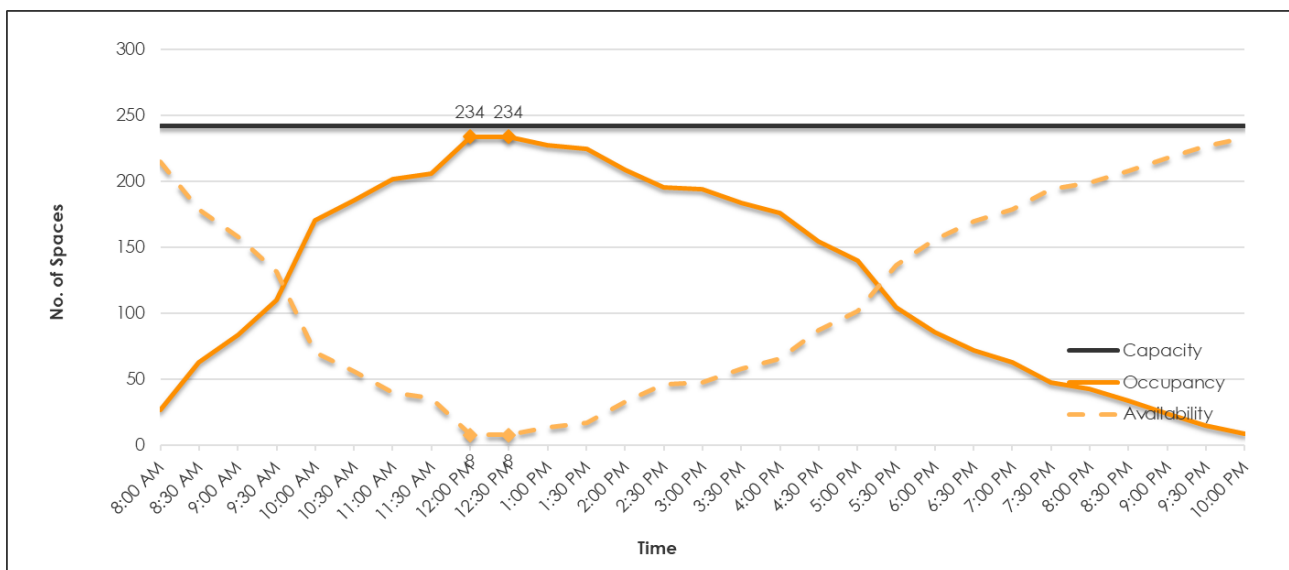


Figure 13 shows occupancy in the area immediately surrounding Hotel Sorrento, comprising:

- Hotham Road east of Point Nepean Road;
- Cooper Grove;
- Austin Avenue;
- Point Nepean Road, east side between Hotham Road & Cooper Grove.

It can be seen that occupancy peaked at 1:00 PM (80 % utilisation), with a secondary peak occurring at 6:30 PM (77 % utilisation). It should be recognised that parking in this area is informal, and the way in which vehicles were parked may have affected overall capacity. The survey results

showed that no vehicles parked on the east side of Point Nepean Road (capacity for around 10 vehicles) at any time during the survey period. In total there was generally capacity to accommodate at least another 28 vehicles at any time.

Figure 13 Thursday 19 January 2017 – Hotel Sorrento Area Car Park Occupancy

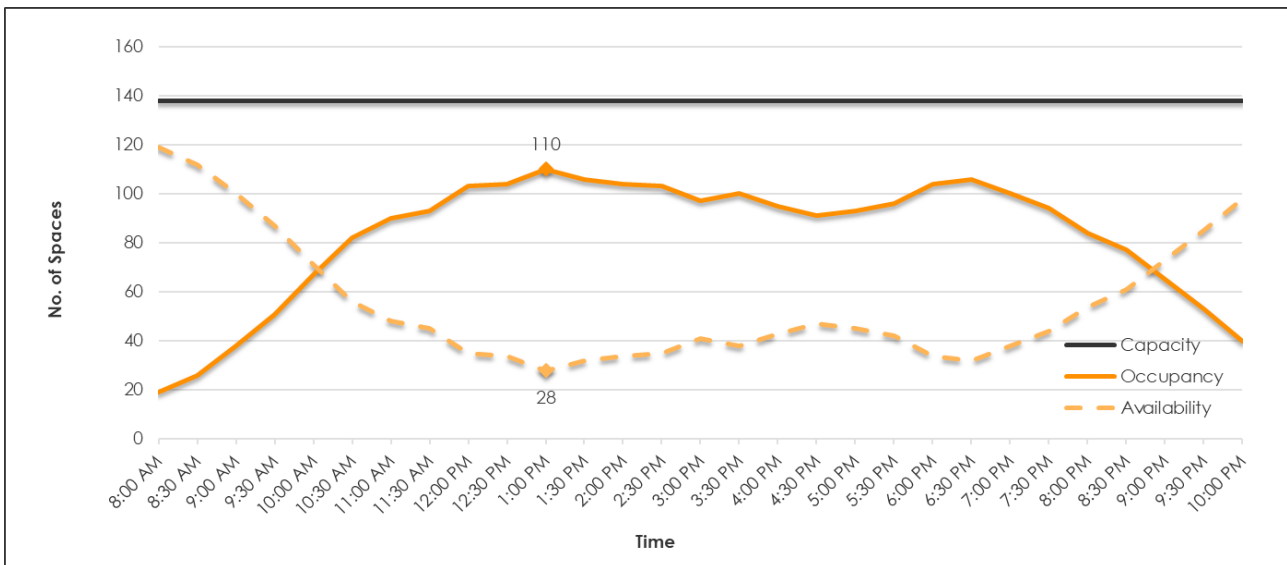
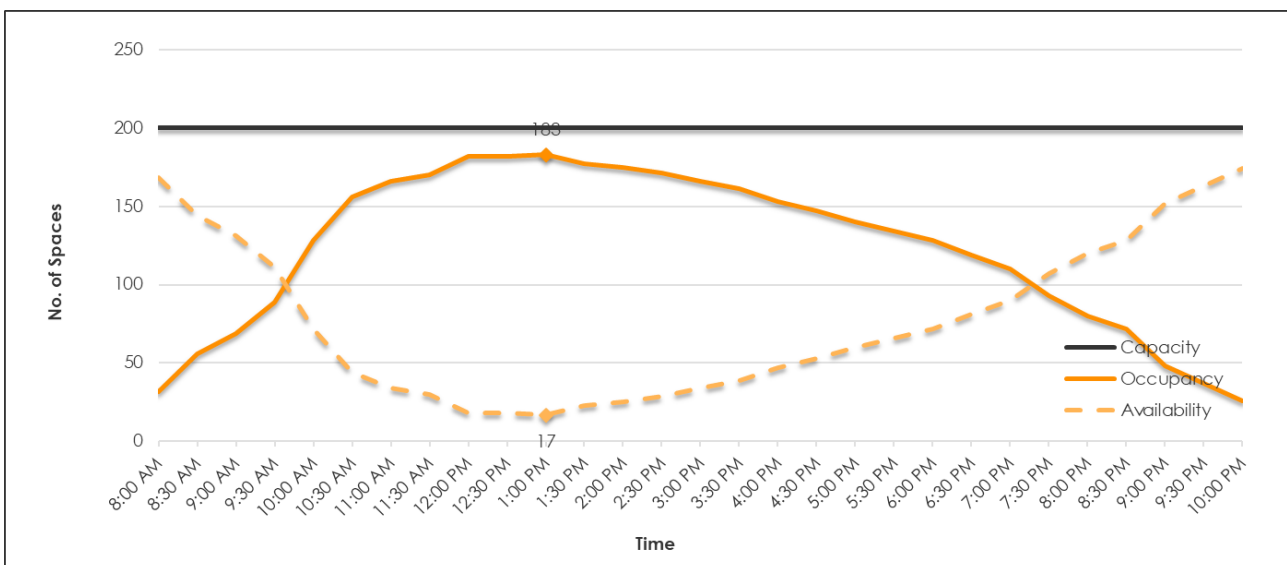


Figure 14 shows occupancy within the foreshore and ferry areas over the course of the survey period. Utilisation was high (over 80 %) from 11:00 AM to 3:30 PM and at practical capacity (90 % or higher) from 12:00 noon to 1:00 PM. There were 17 spaces available at peak occupancy, which given the extent of the foreshore are could lead to drivers circulating in search of a space.

Figure 14 Thursday 19 January 2017 – Foreshore & Ferry Occupancy



6.3.2 Sunday 22 January 2017

Peak occupancy and minimum availability on the Sunday occurred at 2:00 PM when 1,343 of the 1,783 car spaces were occupied, leaving a minimum of 440 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy dissipated throughout the evening with more than 1,000 spaces available after 7:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 15 below.

Figure 15 Sunday 22 January 2017 – Overall Parking Occupancy Profile

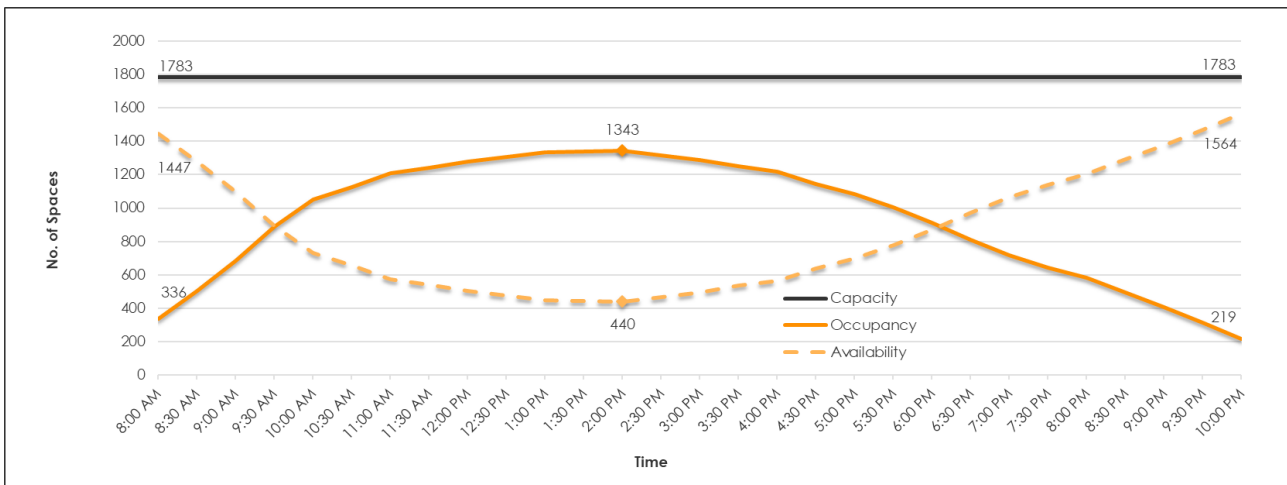


Figure 16 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). Again, it can be seen that high levels of utilisation were recorded in the commercial and beachfront areas. It can also be seen that on the Sunday, parking demands in the commercial precinct extended into non-commercial areas to the south of Ocean Beach Road and west of Melbourne Road.

Figure 16 Sunday 22 January 2017 – Overall Parking Utilisation

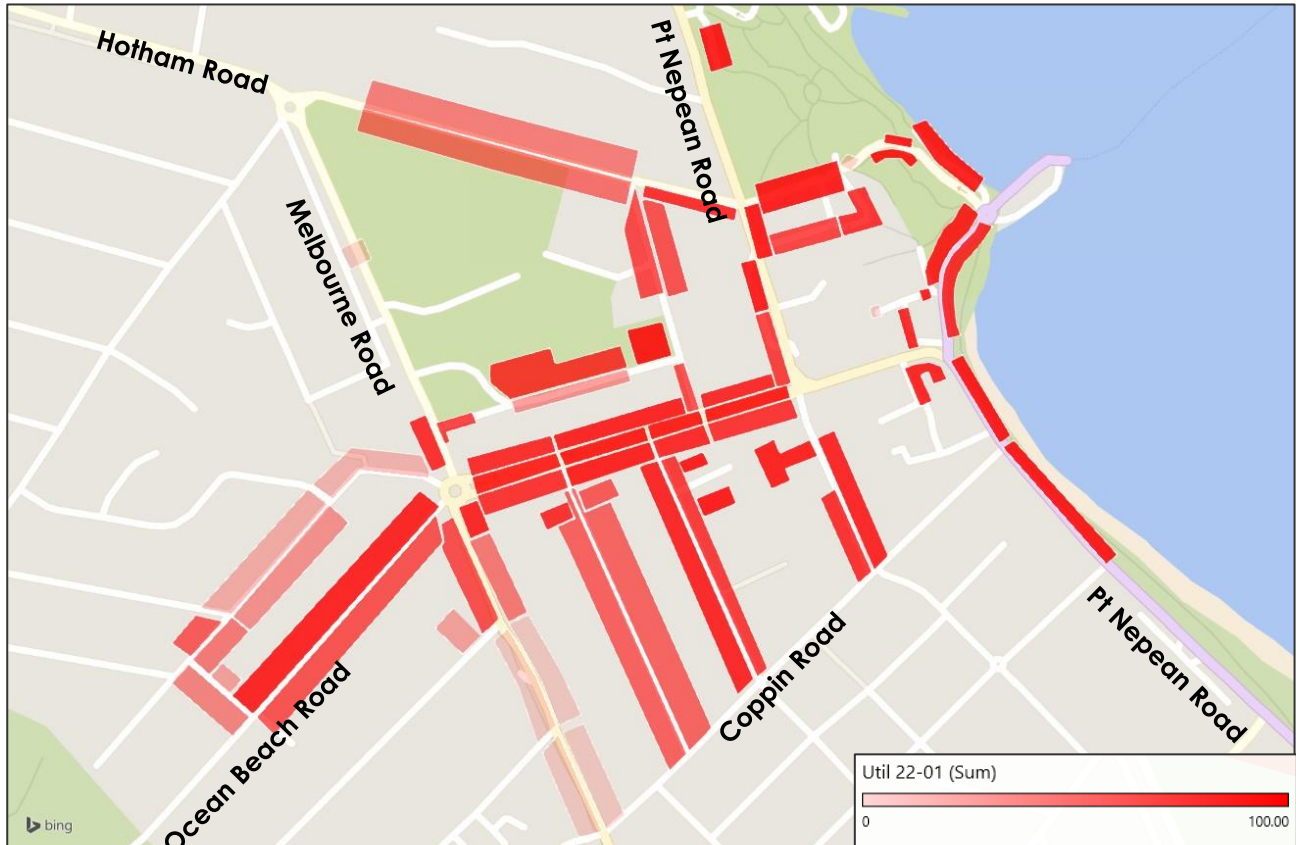


Figure 17 shows parking occupancy on the commercial portion of Ocean Beach Road. Occupancy was at or near practical capacity (90 % or higher) from 10:00 AM to 5:00 PM. At peak there were only 13 spaces available. As this could include spaces such as loading zones or accessible spaces that will not be suitable for all users, it is considered that this area was very much at practical capacity.

Figure 17 Sunday 22 January 2017 – Ocean Beach Road Occupancy (Melb Rd to Pt Nep Rd)

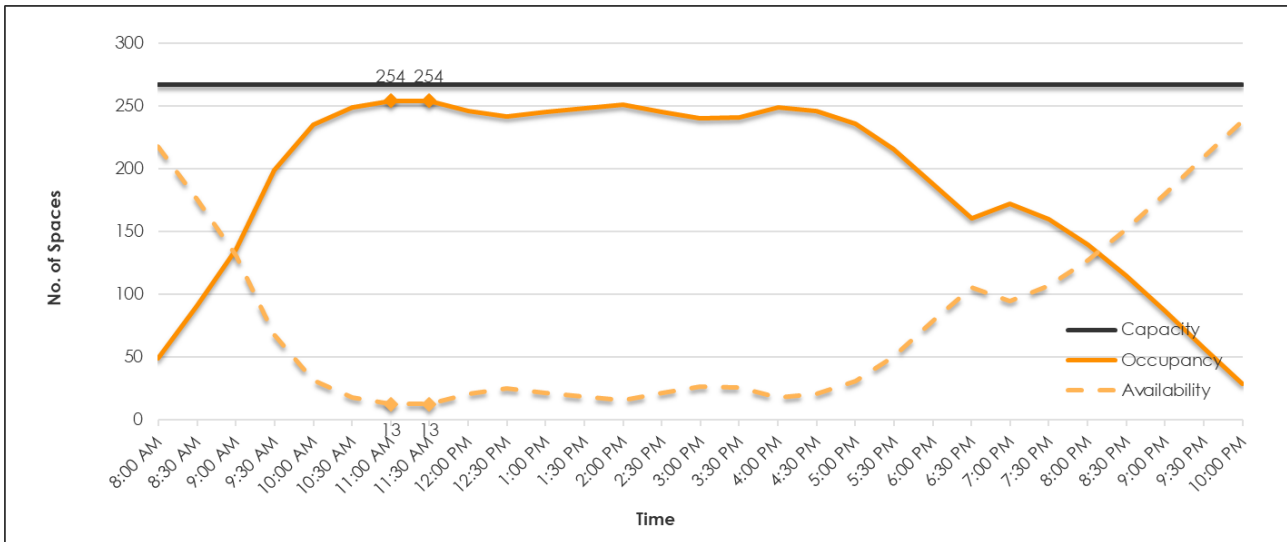


Figure 18 shows the occupancy profile for the Morce Avenue car park. Occupancy just reached practical capacity (90 %) at 12:30 PM. Occupancy was classed as high (80 % or higher) between 11:30 AM and 2:30 PM. No fewer than 24 spaces were available throughout the survey period.

Figure 18 Sunday 22 January 2017 - Morce Avenue Car Park Occupancy

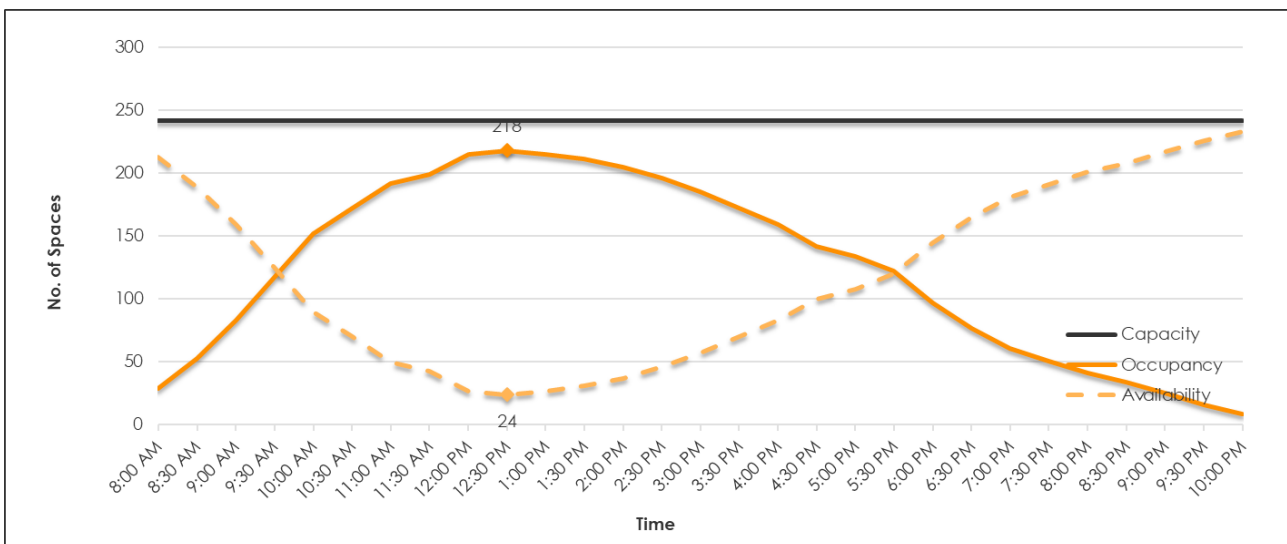


Figure 19 shows the occupancy profile around Hotel Sorrento. Utilisation was high (80 % or higher) between 10:00 AM and 6:00 PM, reaching practical capacity (90 % or higher) from 12:30 PM to 2:30 PM. This left 11 spaces available at peak, however as much of the parking in this area is informal, the manner in which vehicles are parked has an effect on the number of vehicles that can be accommodated.

Figure 19 Sunday 22 January 2017 - Hotel Sorrento Area Car Park Occupancy

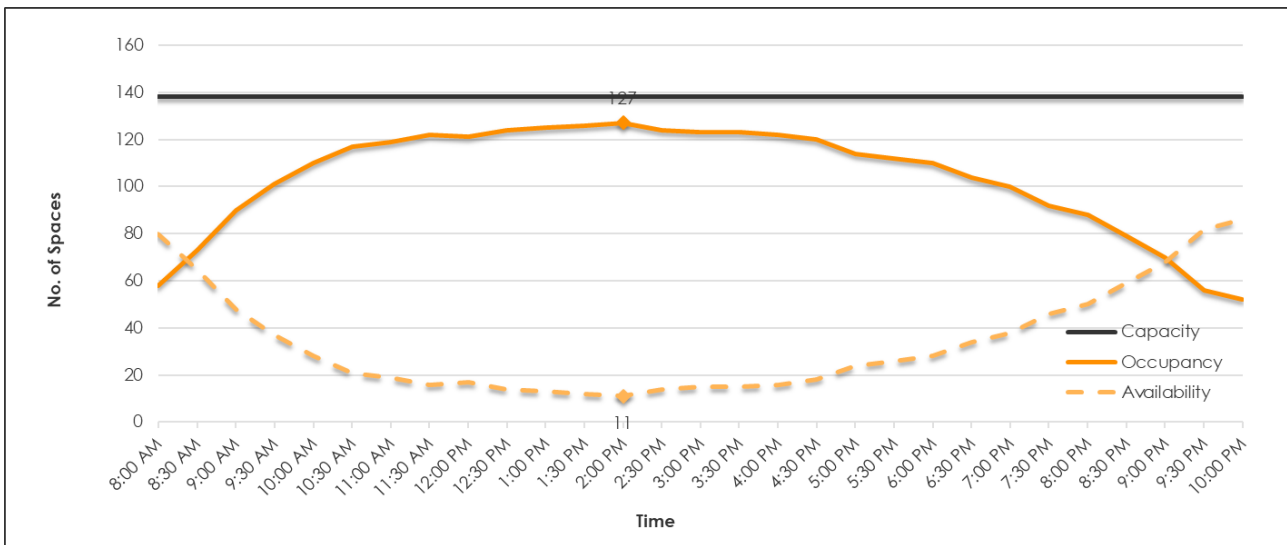
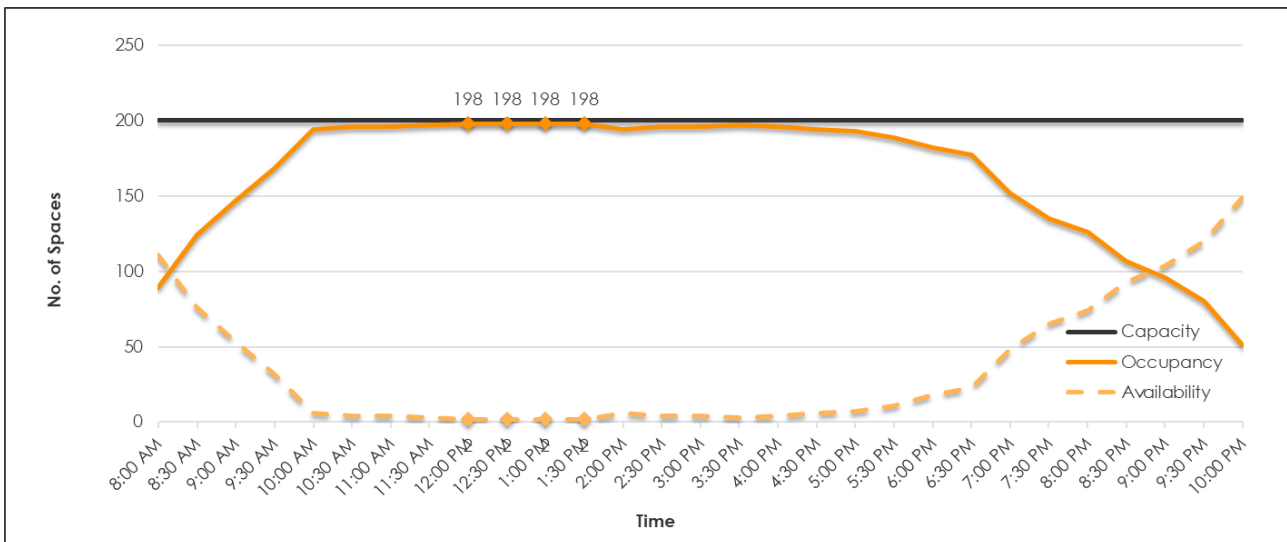


Figure 20 shows the occupancy profile for the foreshore area, including the ferry car park. It can be seen that occupancy in these areas was high from 9:30 AM to 6:30 PM and at practical capacity from 10:00 AM to 6:00 PM. Occupancy was 97 % or higher between 10:00 AM and 5:00 PM. As such this area was saturated throughout much of the day.

Figure 20 Sunday 22 January 2017 – Foreshore & Ferry Occupancy



6.3.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 12:00 PM when 999 of the 1,783 car spaces were occupied, leaving a minimum of 784 vacant spaces available for use. After the peak at 12:00 PM car parking occupancy dissipated throughout the evening with more than 1,000 spaces available after 5:00 PM.

A view of the parking occupancy profile for the Friday is provided in Figure 21 below.

Figure 21 Friday 17 March 2017 – Overall Parking Occupancy Profile

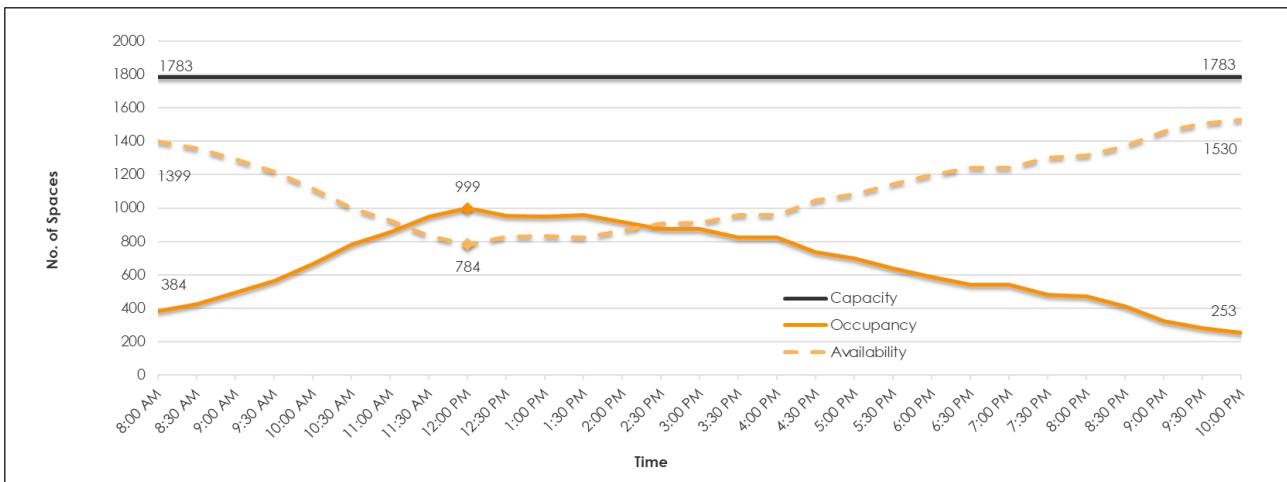


Figure 22 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (12:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). In the 'shoulder period' between the summer peak and winter off-peak it was observed that utilisation levels were lower on the whole than during the summer peak period, however there were still areas such as the pier that were highly utilised. Parking along Ocean Beach Road ranged from approximately 60% utilisation to fully occupied at peak, with most areas operating at around 75% of their respective capacities.

Figure 22 Friday 17 March 2017 – Overall Parking Utilisation (12:00 PM Peak)



Figure 23 shows the parking occupancy profile on Ocean Beach Road between Melbourne Road and Point Nepean Road. Utilisation peaked at 79 % meaning there was generally spare capacity (no fewer than 56 spaces) throughout the day.

Figure 23 Friday 17 March 2017 - Ocean Beach Road Occupancy (Melb Rd to Pt Nep Rd)

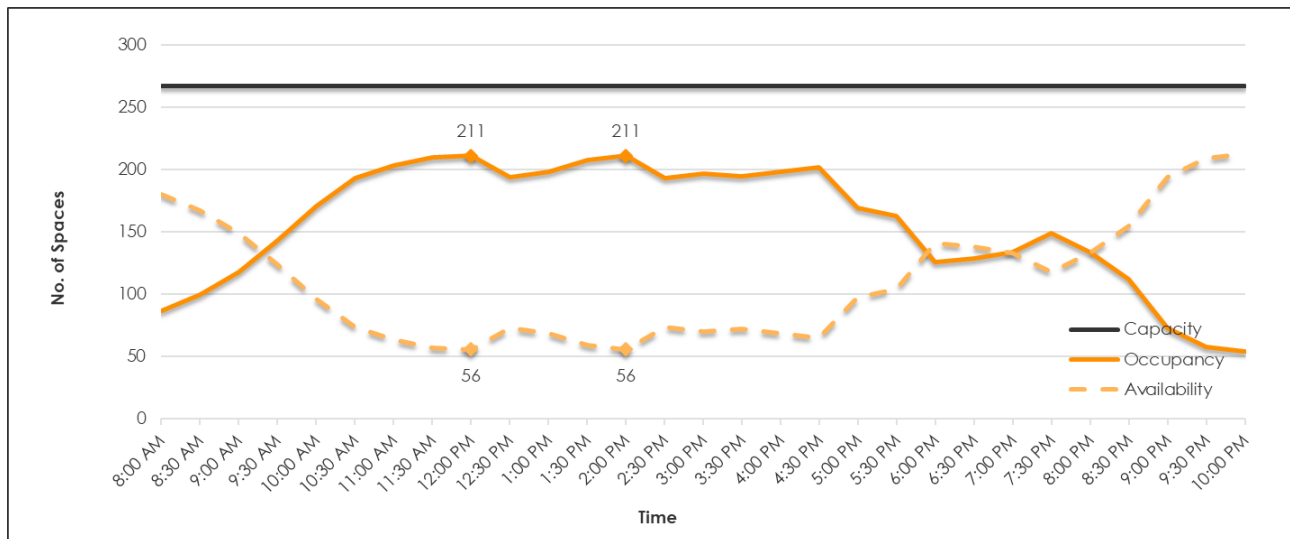


Figure 24 shows occupancy within the Morce Avenue off-street car park. Utilisation peaked at 82 % at 11:30 AM. At all other times utilisation was lower than 75 %, meaning there was generally availability within the car park. At least 43 spaces were available throughout the survey period.

Figure 24 Friday 17 March 2017 – Morce Avenue Car Park Occupancy

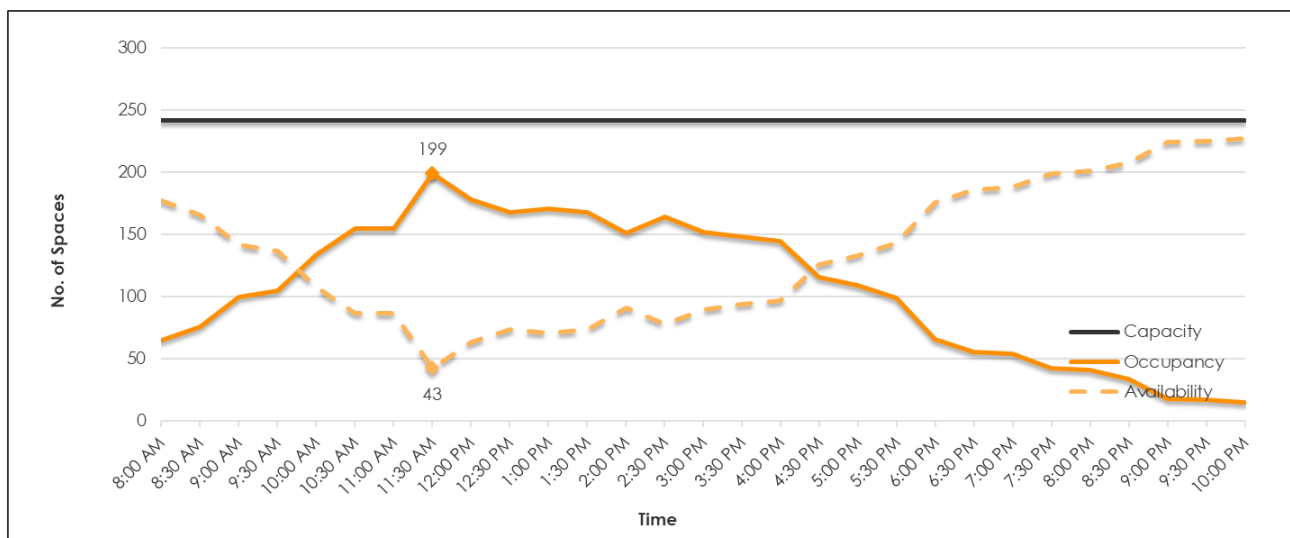


Figure 25 shows car parking occupancy around Hotel Sorrento. Peak utilisation was 71 % meaning there was generally availability in this area, with at least 40 spaces available at peak occupancy.

Figure 25 Friday 17 March 2017 – Hotel Sorrento Area Car Park Occupancy

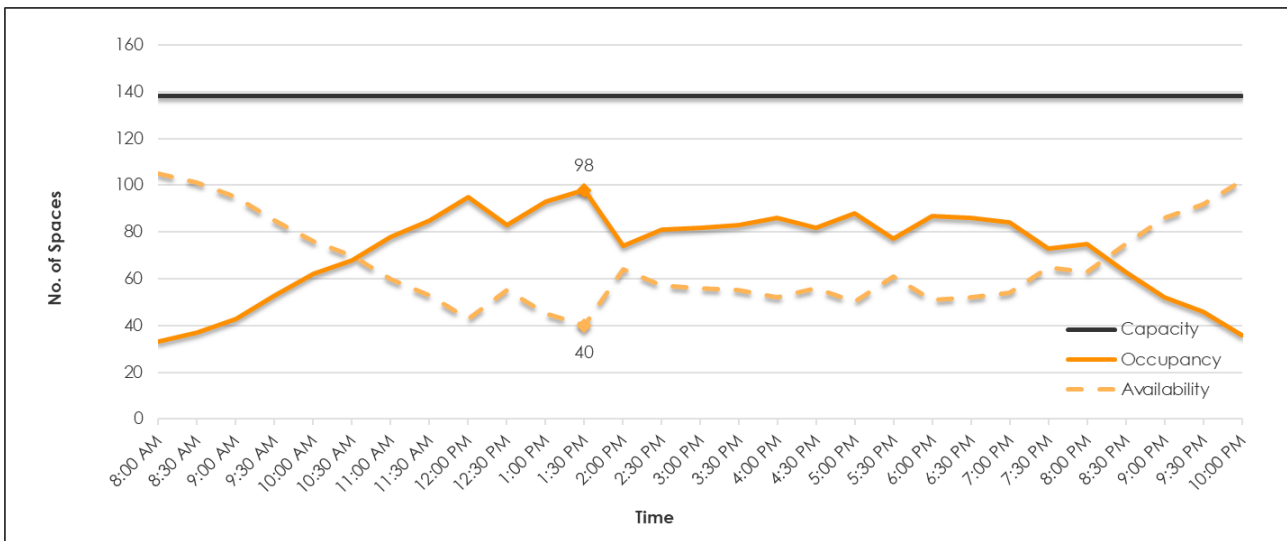
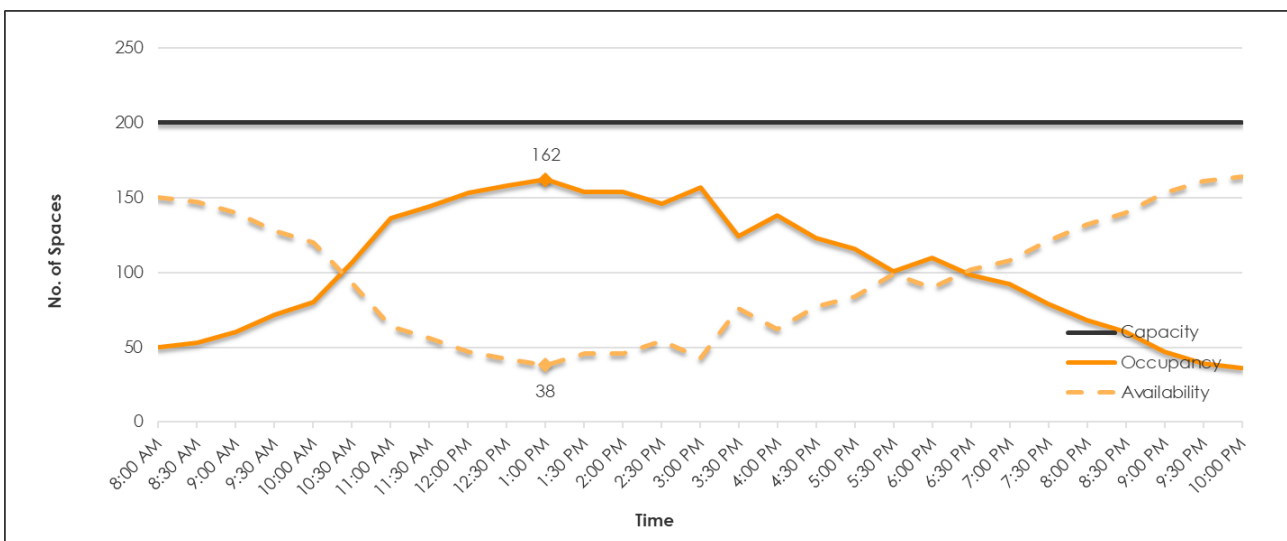


Figure 26 shows occupancy within the foreshore and ferry areas. Peak utilisation of 81 % was recorded at 1:00 PM. Parking was generally spread fairly evenly along the foreshore area and within the ferry paid parking area.

Figure 26 Friday 17 March 2017 – Foreshore & Ferry Area Car Park Occupancy



6.3.4 Saturday 18 March 2017

Peak occupancy and minimum availability occurred at 2:00 PM when 1,167 of the 1,783 car spaces were occupied, leaving a minimum of 616 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy dissipated throughout the evening with more than 1,000 spaces available after 6:30 PM.

A view of the parking occupancy profile for the Saturday is provided in Figure 27 below.

Figure 27 Saturday 18 March 2017 – Overall Parking Occupancy Profile

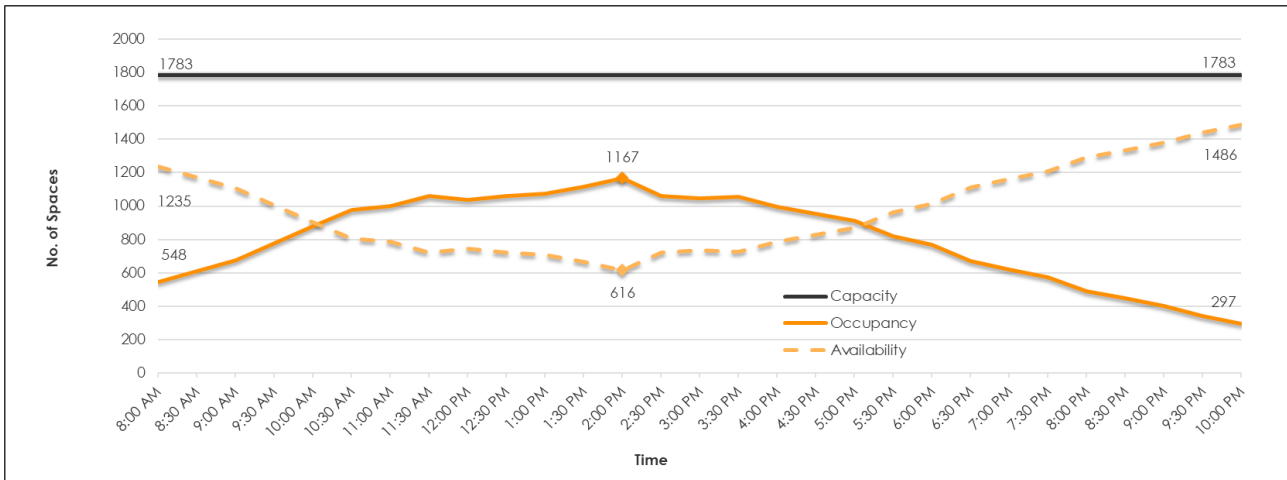


Figure 28 below graphically demonstrates the utilisation of parking in each segment during the Saturday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). Compared to the Friday, occupancy levels overall were higher on the Saturday, with many areas experiencing similar levels of utilisation to those recorded during the summer weekday (Thursday 19 January 2017).

Figure 28 Saturday 18 March 2017 – Overall Parking Utilisation (2:00 PM Peak)



Figure 29 shows the occupancy profile for the commercial portion of Ocean Beach Road. Utilisation was high (80 % or more) from 1:00 PM to 2:30 PM, peaking at 86 % at 2:00 PM when 230 spaces were occupied and 37 spaces were available.

Figure 29 Saturday 18 March 2017 - Ocean Beach Road Occupancy (Melb Rd to Pt Nep Rd)

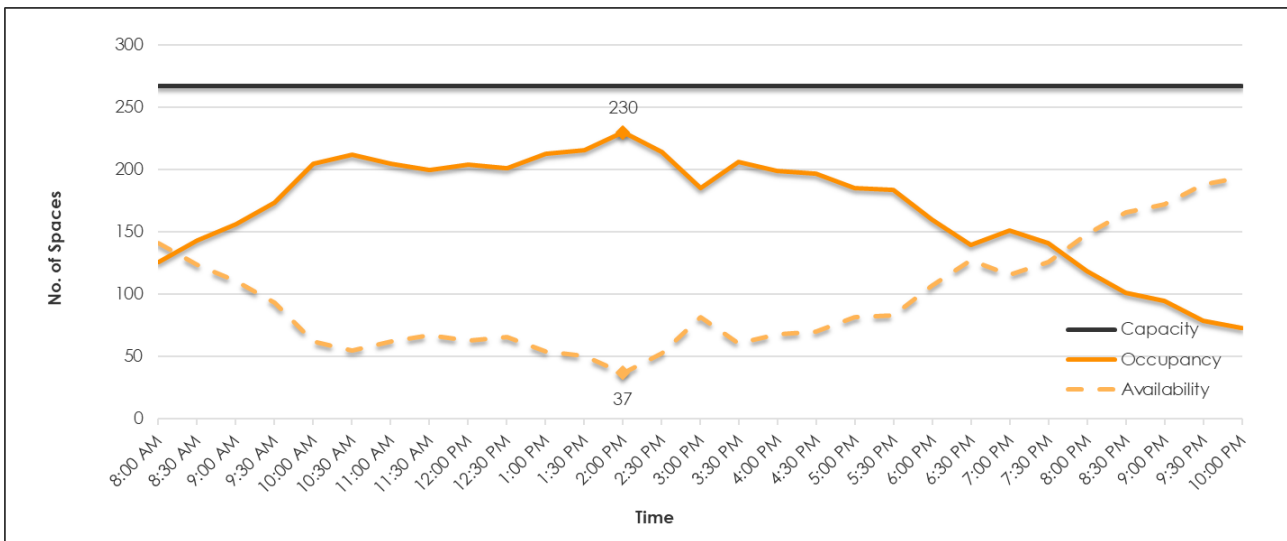


Figure 30 shows occupancy within the Morce Avenue off-street car park. Utilisation peaked at 77 % at 1:30 PM, meaning there was typically spare capacity within the car park, with no fewer than 50 spaces vacant at any time.

Figure 30 Saturday 18 March 2017 – Morce Avenue Car Park Occupancy

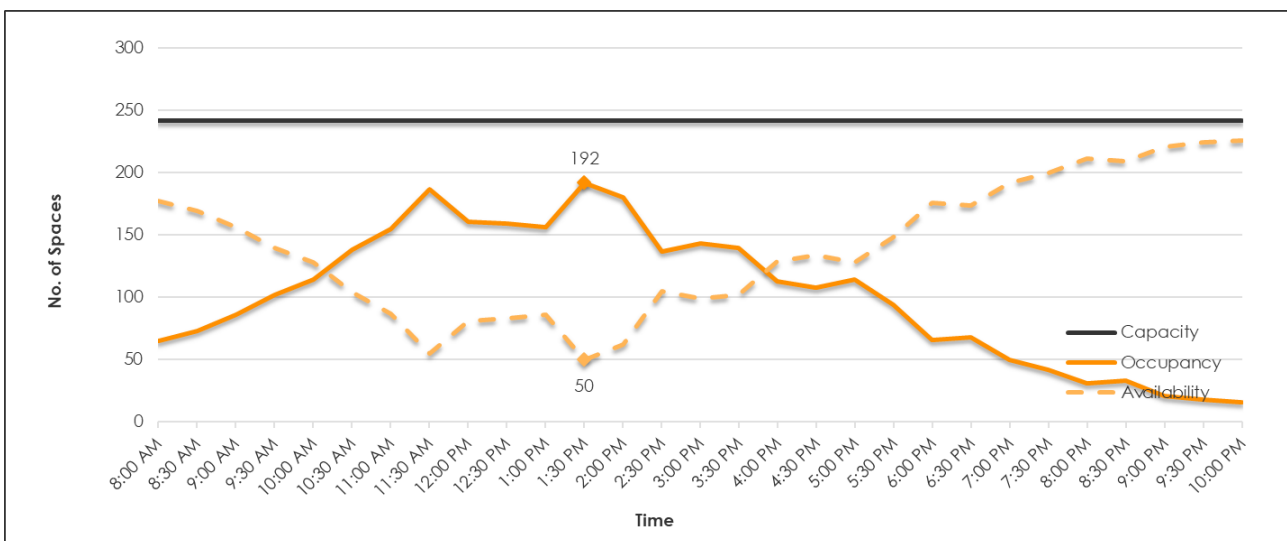


Figure 31 shows the occupancy profile for the area surrounding Hotel Sorrento. Utilisation varied between 70 % and 81 % between 10:30 AM and 5:00 PM. As such there was generally some capacity.

Figure 31 Saturday 18 March 2017 – Hotel Sorrento Area Car Park Occupancy

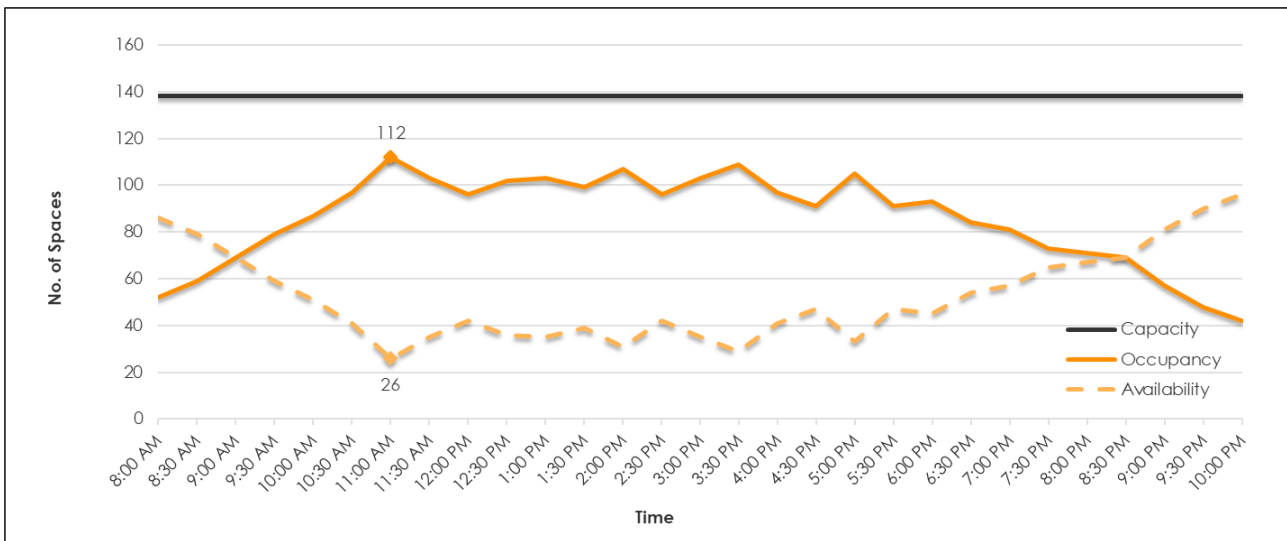
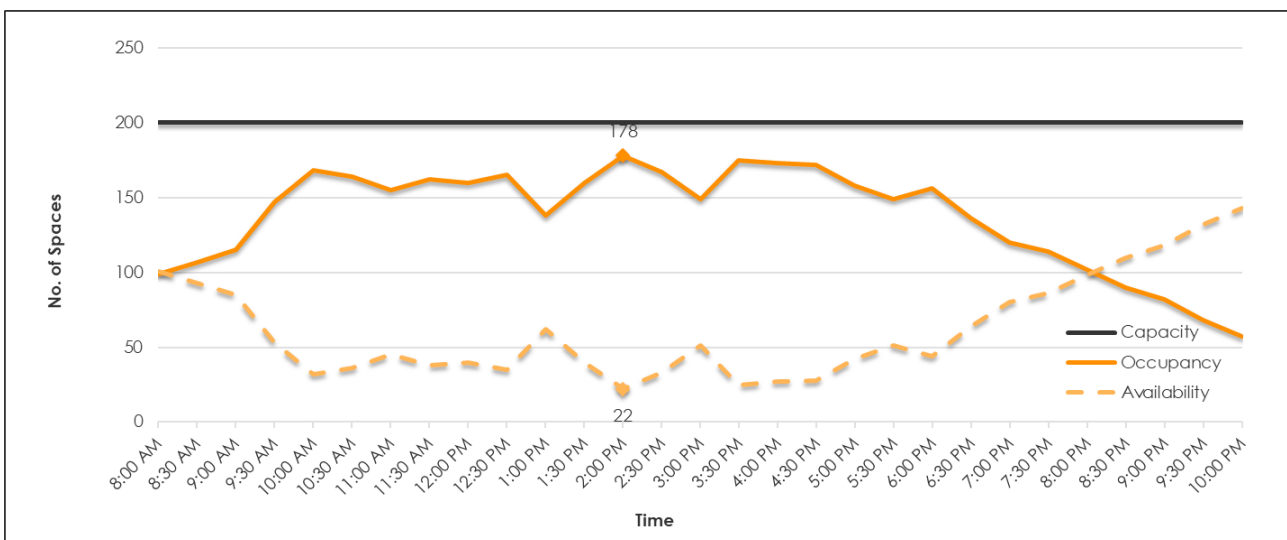


Figure 32 shows occupancy within the foreshore and ferry areas. Utilisation was high (80 % or higher) during the following time periods:

- 10:00 AM to 11:00 AM;
- 11:30 AM to 12:30 PM;
- 1:30 PM to 2:30 PM; and
- 3:30 PM to 4:30 PM.

Peak utilisation of 89 % was recorded at 2:00 PM when 22 spaces were available.

Figure 32 Saturday 18 March 2017 – Foreshore & Ferry Area Car Park Occupancy



6.3.5 Summary

During both the summer and autumn surveys, overall occupancy was higher on the surveyed weekday than the Saturday, by in the order of 170 vehicles. Additionally, the peak demand recorded during the summer surveys was around 170 spaces higher than recorded on the corresponding autumn survey day.

Localised demands vary within the survey area. During summer the commercial precinct around Ocean Beach Road remained at practical capacity for much of the weekday and Saturday survey periods. On the weekday the Morce Avenue car park also reached practical capacity, albeit for a shorter 3 hour period. On the Saturday the Morce Avenue car park just hit practical capacity at 12:30 PM, and the survey results show some encroachment of demands from the commercial precinct into parts of nearby residential streets.

The residential streets furthest away from Ocean Beach Road; being Hotham Road, Ossett Street and the southern end of Melbourne Road experienced a maximum average occupancy of 46% occupied over the four days surveyed. The majority of the parking areas along these roads had an average occupancy rate of 20% or less, making them largely underutilised during the peak period in the area, however, given the nature of uses fronting these streets, it is not desirable to have these areas accommodating high levels of parking demand associated with commercial areas or the pier and foreshore.

During the autumn surveys, the commercial precinct along Ocean Beach Road wasn't as highly utilised as during the summer period. While it did reach moderate to high levels of occupancy on the Friday and high on the Saturday, these peaks occurred over a much shorter duration than during the summer period. Peak occupancy in the Morce Avenue car park was similarly in the high and moderate to high categories for the Friday and Saturday survey periods respectively.

Parking around Hotel Sorrento was highly utilised during the summer surveys, particularly on the Saturday when occupancy was classed as high from 10:00 AM to 6:00 PM. On the Thursday occupancy was typically moderate to high from mid-morning until after the evening secondary peak. During the autumn surveys there was generally some spare capacity, with utilisation hovering between 70 % and 81 % between during typical business hours on the Saturday and peaking at 71 % utilisation on the Friday.

Parking at the foreshore and ferry areas was highly utilised during the summer weekday, and reached practical capacity from 12:00 noon to 1:00 PM. On the Saturday, parking in these areas was for all intents and purposes at saturation from 10:00 AM through to 5:00 PM. During the autumn surveys, utilisation was typically high on the Saturday and reached high utilisation at peak on the Friday.

6.4 Unrestricted Parking Demand

6.4.1 Thursday 19 January 2017

A total of 1,204 unrestricted car spaces were identified within the survey area. Peak occupancy and minimum availability occurred at 1:00 PM when 696 of the 1,204 car spaces were occupied, leaving a minimum of 508 vacant spaces available for use. After the peak at 1:00 PM car parking occupancy dissipated throughout the evening with more than 800 spaces available after 5:30 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 33 below.

Figure 33 Thursday 19 January 2017 – Unrestricted Parking Occupancy Profile

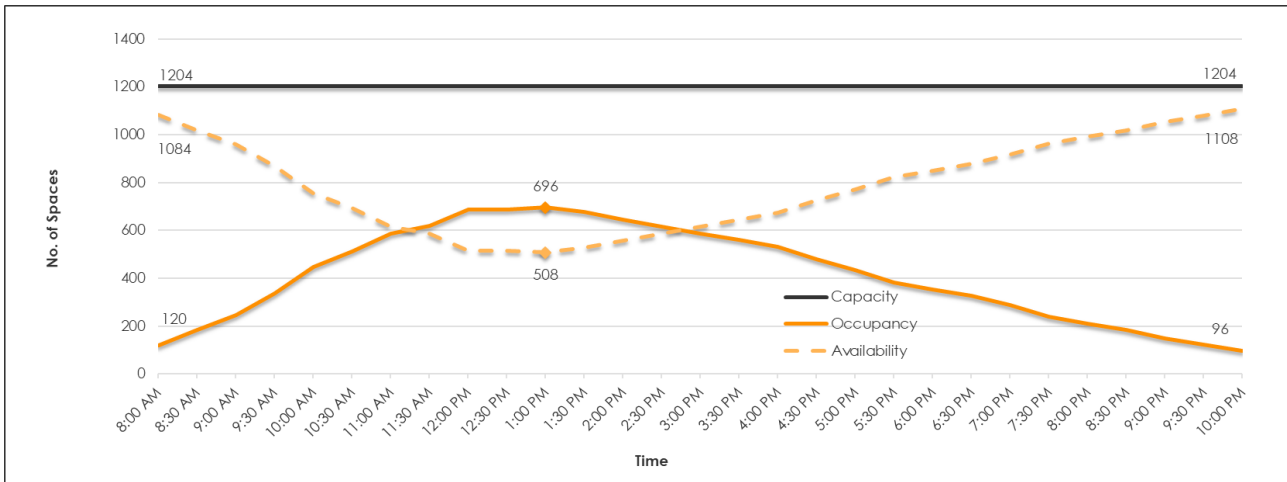


Figure 34 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (1:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It is noted that the majority of unrestricted parking spaces are provided on residential streets and are somewhat removed from the commercial centre. It should be recognised that this map is intended to show the areas that include unrestricted parking, and not the exact location of unrestricted parking spaces.

The Morce Avenue car park was highly utilised as was parking around Hotel Sorrento and at the pier.

Figure 34 Thursday 19 January 2017 – Unrestricted Parking Utilisation (1:00 PM Peak)



6.4.2 Sunday 22 January 2017

Peak occupancy and minimum availability occurred at 2:00 PM when 837 of the 1,204 car spaces were occupied, leaving a minimum of 367 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy dissipated throughout the evening with more than 600 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 35 below.

Figure 35 Sunday 22 January 2017 – Unrestricted Parking Occupancy Profile

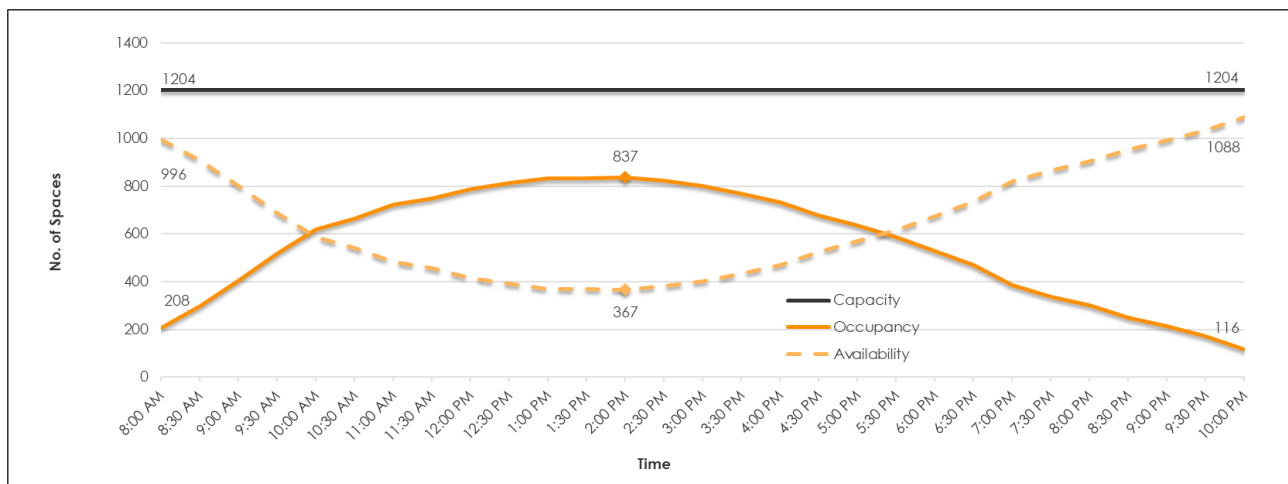
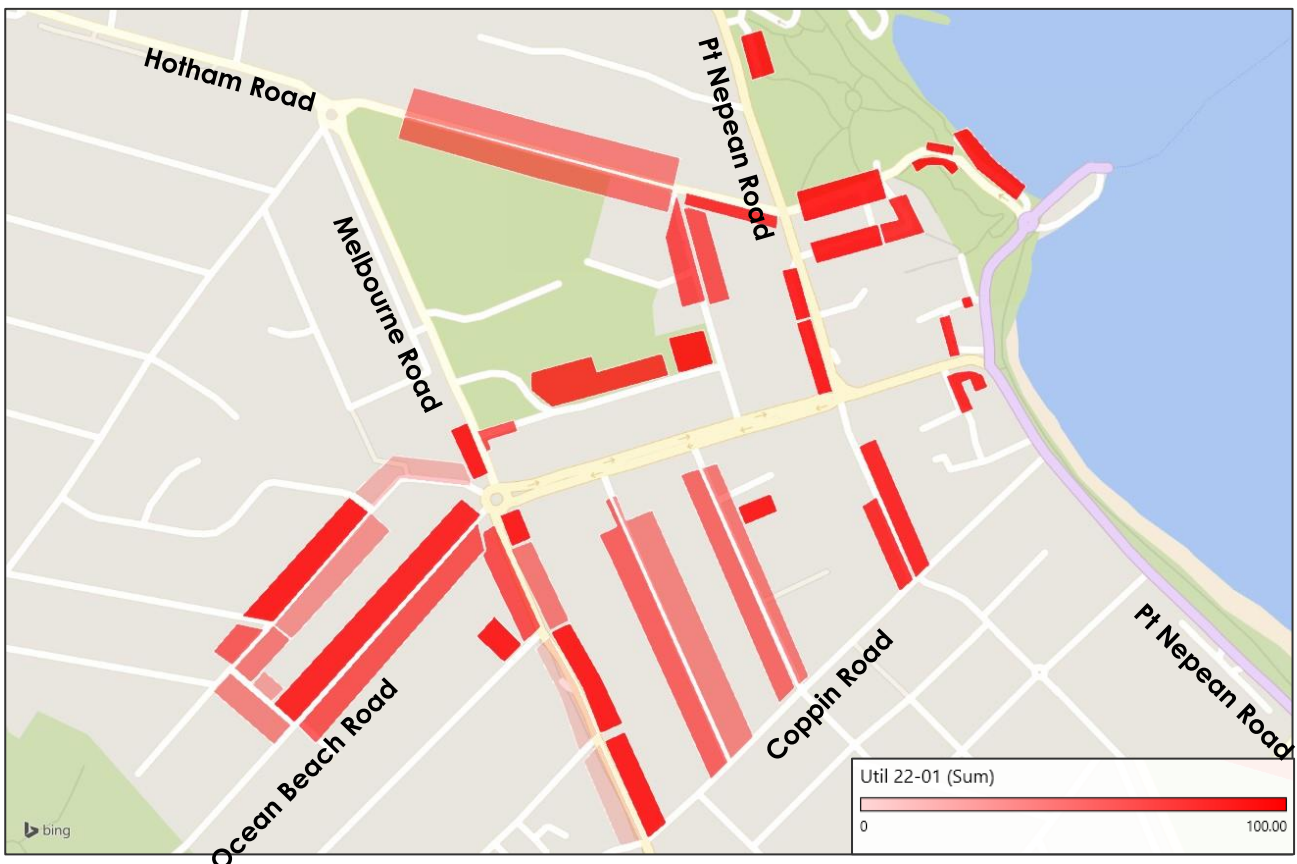


Figure 36 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It is evident that on the Sunday, with higher parking demands on the whole, there is greater infiltration of parking into residential areas in the southern and western portions of the study area.

It should be recognised that this map is intended to show the areas that include unrestricted parking, and not the exact location of unrestricted parking spaces.

Figure 36 Sunday 22 January 2017 – Unrestricted Parking Utilisation (2:00 PM Peak)



6.4.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 12:00 PM when 607 of the 1,204 car spaces were occupied, leaving a minimum of 597 vacant spaces available for use. After the peak at 12:00 PM car parking occupancy dissipated throughout the evening with more than 850 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Friday is provided in Figure 37 below.

Figure 37 Friday 17 March 2017 – Unrestricted Parking Occupancy Profile

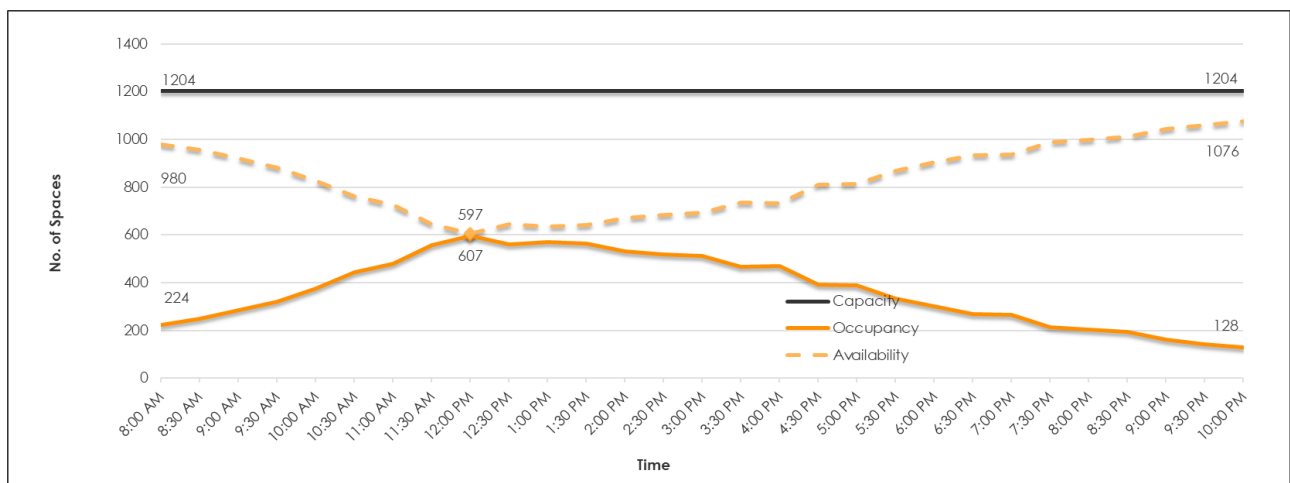
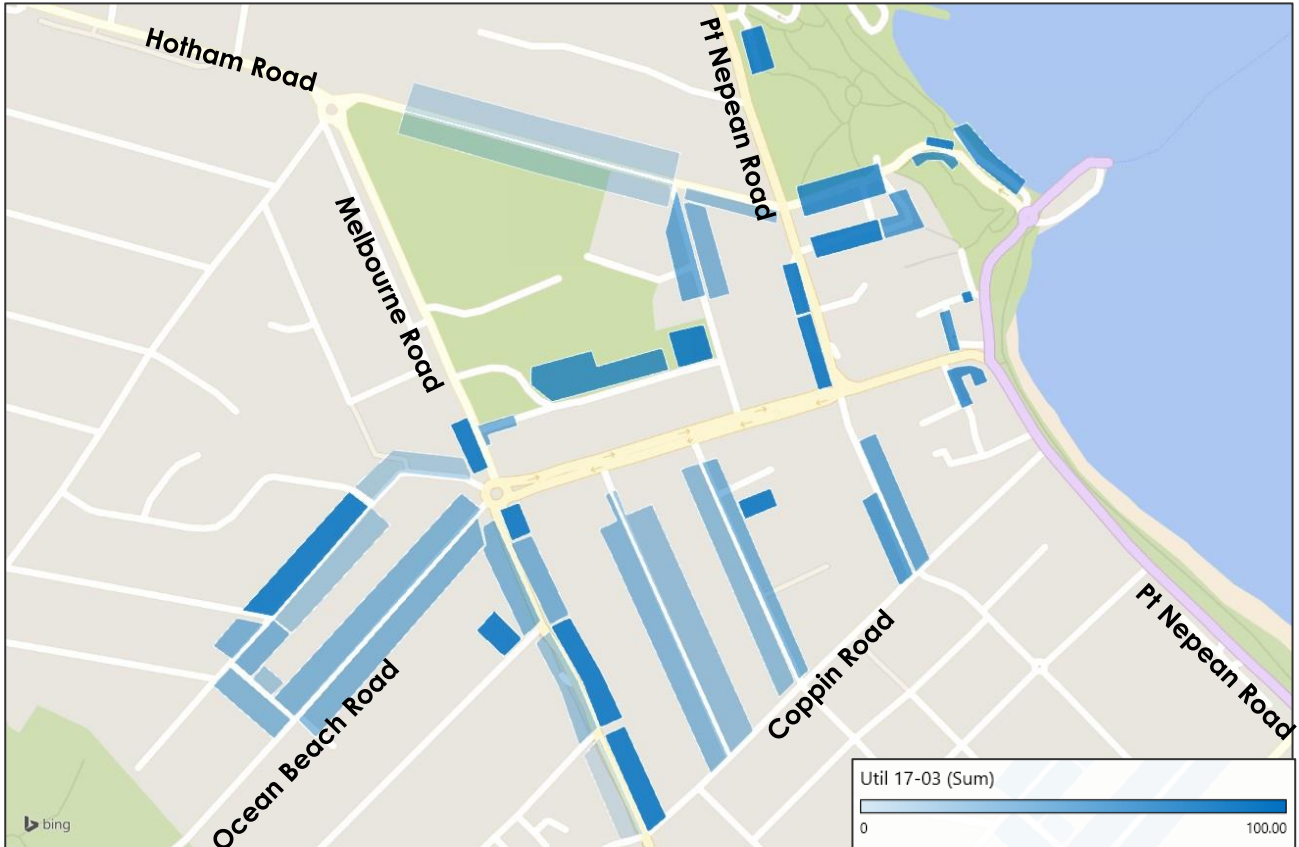


Figure 38 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (12:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include unrestricted parking, and not the exact location of unrestricted parking spaces.

Figure 38 Friday 17 March 2017 – Unrestricted Parking Utilisation (12:00 PM Peak)



6.4.4 Saturday 18 March 2017

On the Saturday, a total of 1,204 unrestricted car spaces were identified within the survey area. Peak occupancy and minimum availability occurred at 2:00 PM when 705 of the 1,204 car spaces were occupied, leaving a minimum of 499 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy dissipated throughout the evening with more than 750 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Saturday is provided in Figure 39 below.

Figure 39 Saturday 18 March 2017 – Unrestricted Parking Occupancy Profile

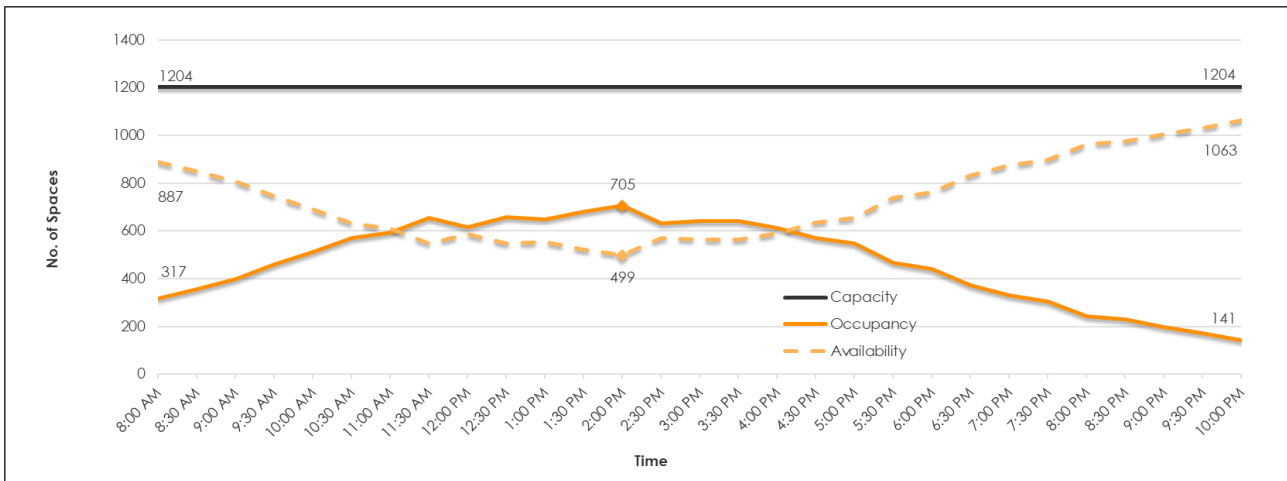


Figure 40 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). Again, there is some infiltration into residential areas in the southern and western portions of the study area.

It should be recognised that this map is intended to show the areas that include unrestricted parking, and not the exact location of unrestricted parking spaces.

Figure 40 Saturday 18 March 2017 – Unrestricted Parking Utilisation (2:00 PM Peak)



6.4.5 Summary

As can be seen previously, utilisation ranges widely across the study area, with some unrestricted areas reaching 100% utilisation across all four days, whilst other areas are largely underutilised, recording average rates of below 50% occupancy during the peak period.

The two large car parks to the north of Ocean Beach Road off Morce Avenue were a popular parking spot during the peak period, with the eastern portion being fully occupied on all four days at the peak, and the larger western portion of the car park having an average utilisation of unrestricted parking spaces of 82% across the four days surveyed.

Slightly different to the overall car parking trends, the unrestricted parking was somewhat utilised in some of the residential streets to the south and east of Ocean Beach Road. In particular, the eastern side of Melbourne Road, the northern side of Ossett Street and the continuation of Ocean Beach Road into the residential area all experienced strong utilisation of the unrestricted car spaces on-street.

6.5 Two-Hour Parking Demand

6.5.1 Thursday 19 January 2017

A total of 182 two-hour restricted car spaces were identified within the survey area. The majority of 2P restrictions in the commercial area apply from 9:00 AM to 5:00 PM seven days a week, while in the vicinity of the foreshore area / ferry area they apply from 8:00 AM to 8:00 PM.

Peak occupancy and minimum availability occurred at 12:00 PM when 180 of the 182 car spaces were occupied, leaving a minimum of 2 vacant spaces available for use. After the peak at 12:00 PM car parking occupancy remained high until around 4:30 PM then dissipated throughout the evening with more than 75 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 41 below.

Figure 41 Thursday 19 January 2017 – 2 Hour Parking Occupancy Profile

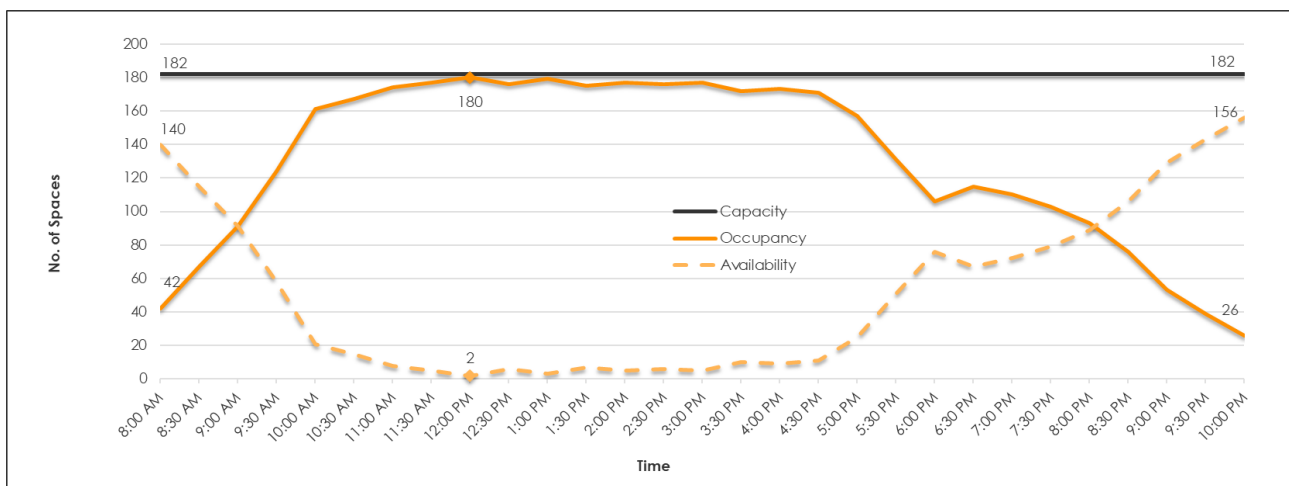
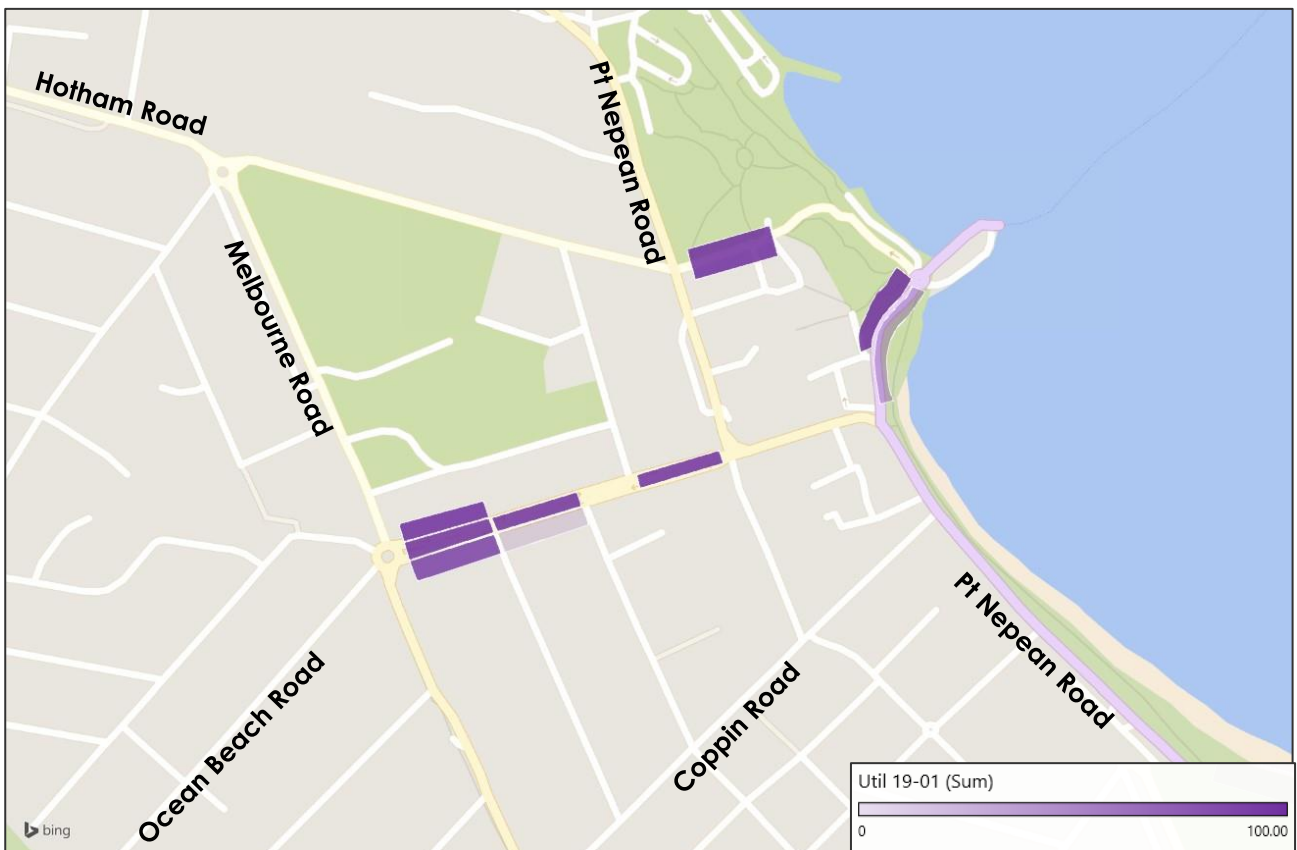


Figure 42 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (12:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 2 hour parking, and not the exact locations of 2 hour parking spaces.

It can be seen that the majority of two-hour parking was at practical capacity.

Figure 42 Thursday 19 January 2017 – 2 Hour Parking Utilisation (12:00 PM Peak)



6.5.2 Sunday 22 January 2017

Peak occupancy and minimum availability occurred at 11:00 AM and 11:30 AM when 182 of the 182 car spaces were occupied, leaving no vacant spaces available for use. After the peak at 11:30 AM car parking occupancy remained high until around 4:30 PM then dissipated throughout the evening with more than 40 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 43 below.

Figure 43 Sunday 22 January 2017 – 2 Hour Parking Occupancy Profile

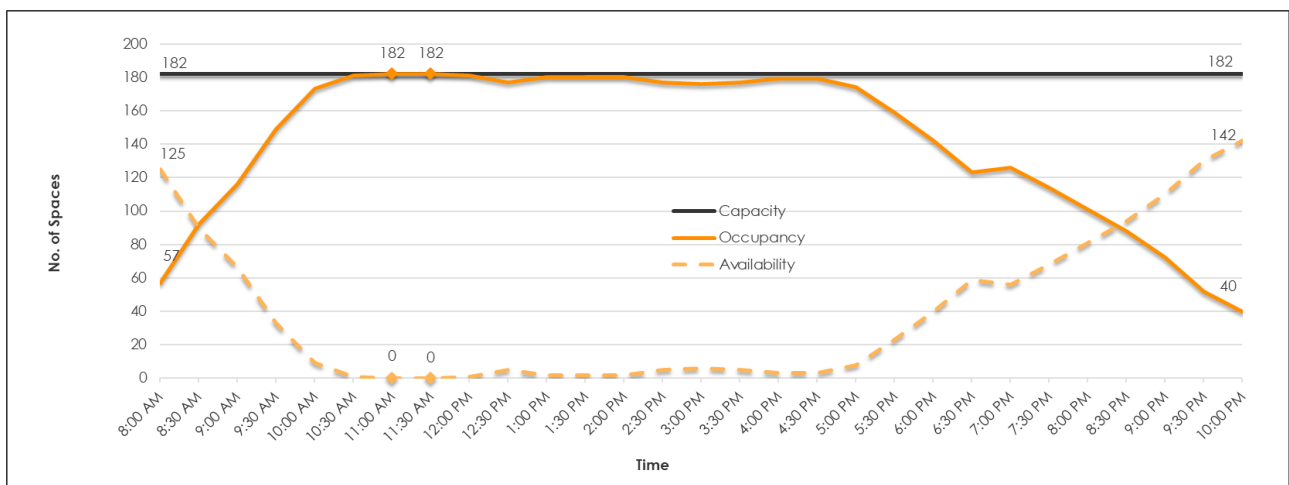
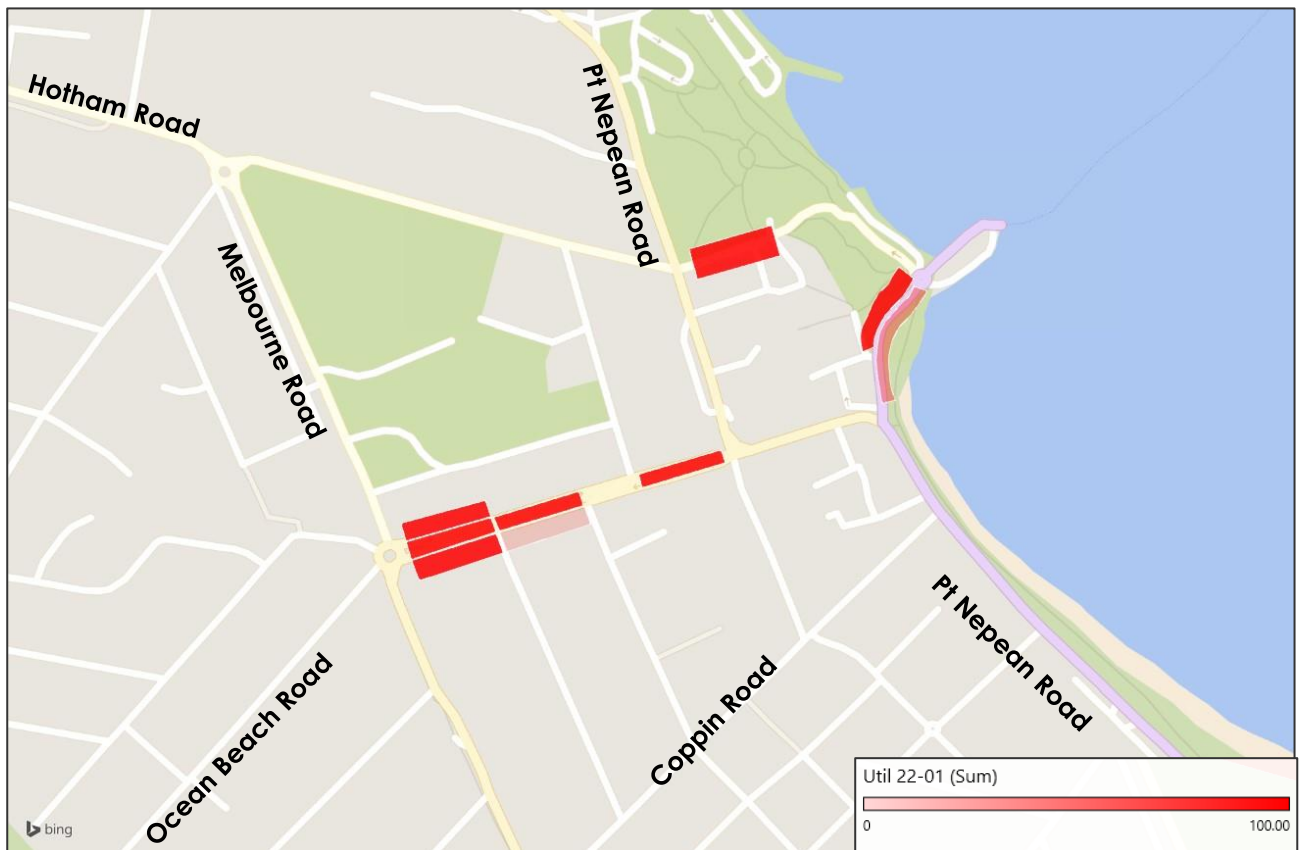


Figure 44 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (11:30 AM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 2 hour parking, and not the exact locations of 2 hour parking spaces.

Figure 44 Sunday 22 January 2017 – 2 Hour Parking Utilisation (11:30 AM Peak)



6.5.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 11:30 AM when 152 of the 182 car spaces were occupied, leaving a minimum of 30 vacant spaces available for use. After the peak at 11:30 AM car parking occupancy remained high until around 4:30 PM then dissipated throughout the evening with more than 95 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Friday is provided in Figure 45 below.

Figure 45 Friday 17 March 2017 – 2 Hour Parking Occupancy Profile

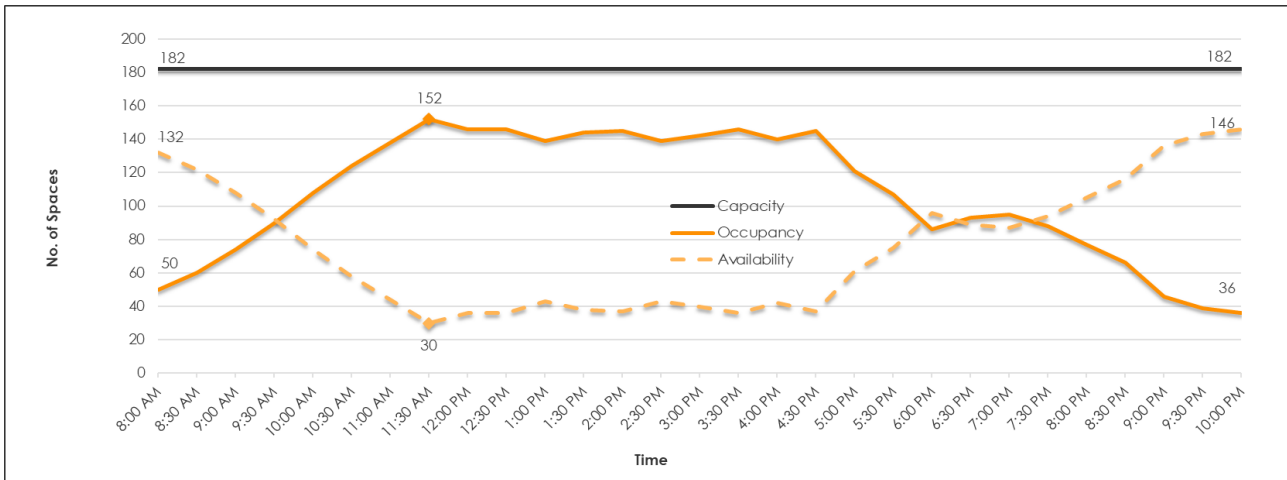
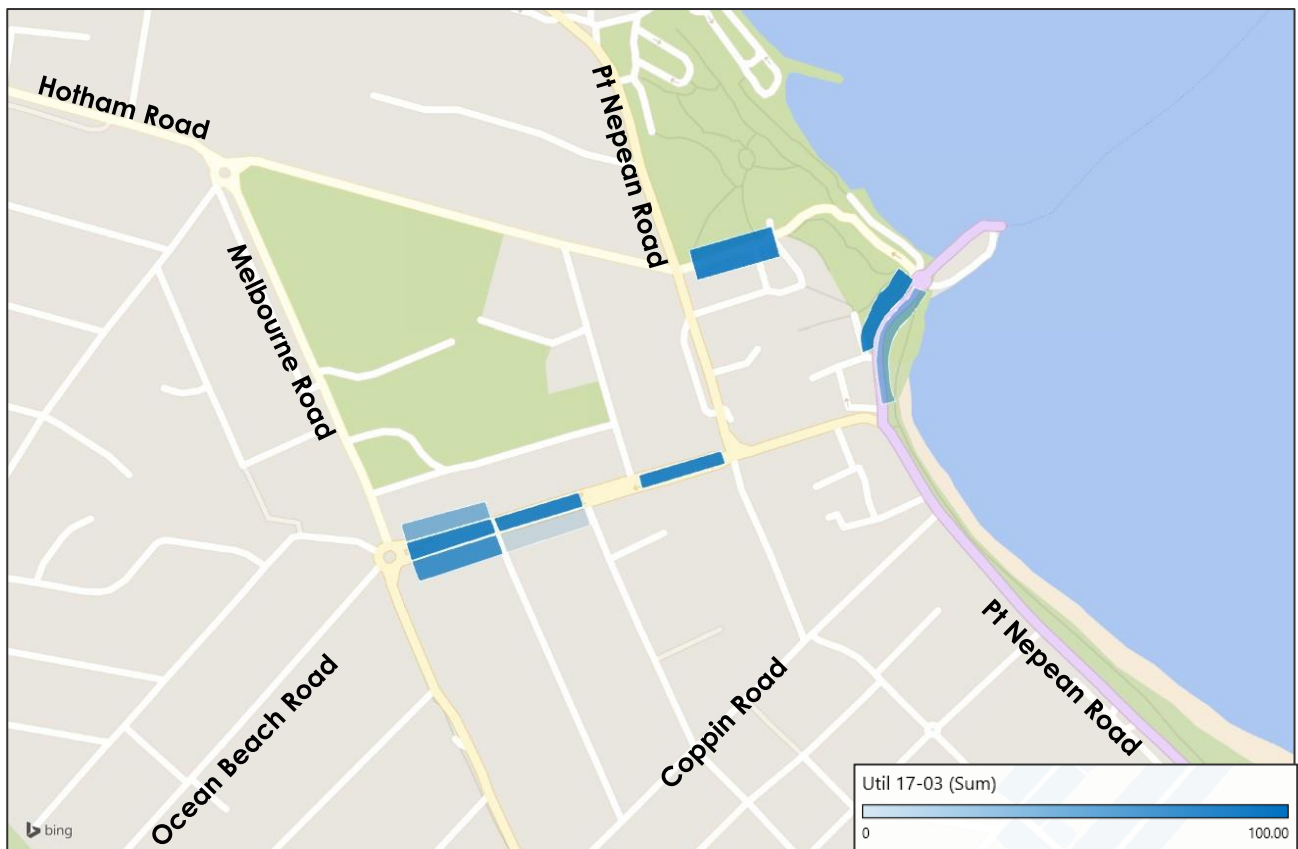


Figure 46 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (11:30 AM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 2 hour parking, and not the exact locations of 2 hour parking spaces.

Figure 46 Friday 17 March 2017 – 2 Hour Parking Utilisation (11:30 AM Peak)



6.5.4 Saturday 18 March 2017

On the Saturday, a total of 182 two-hour restricted car spaces were identified within the survey area. Peak occupancy and minimum availability occurred at 1:30 PM and 2:00 PM when 162 of the 182 car spaces were occupied, leaving a minimum of 20 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy dissipated throughout the evening with more than 60 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Saturday is provided in Figure 47 below.

Figure 47 Saturday 18 March 2017 – 2 Hour Parking Occupancy Profile

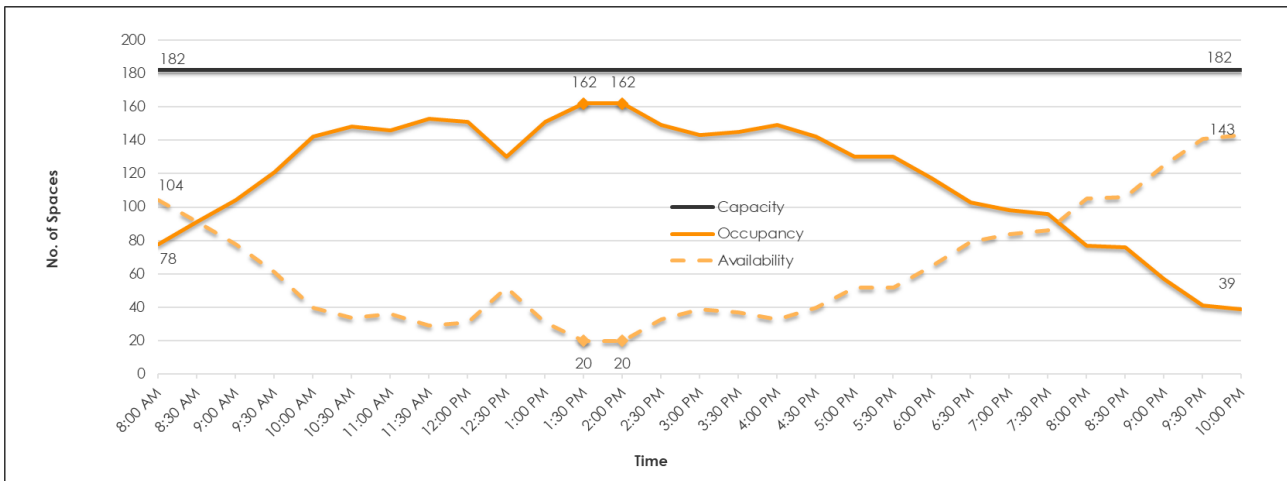
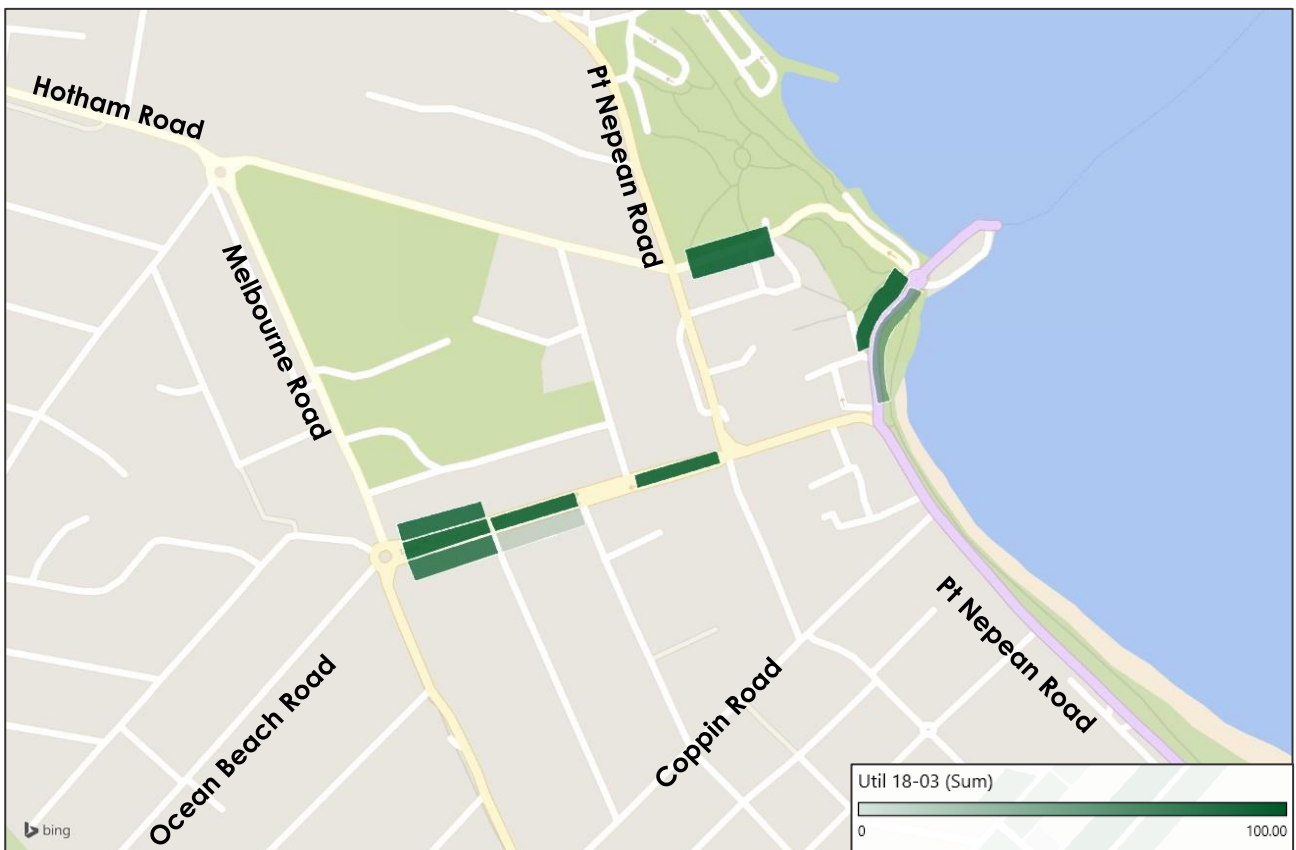


Figure 48 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 2 hour parking, and not the exact locations of 2 hour parking spaces.

Figure 48 Saturday 18 March 2017 – 2 Hour Parking Utilisation (2:00 PM Peak)



6.5.5 Summary

As can be seen previously, the 2 hour parking spaces in the area were heavily utilised for most of the day, with all four days showing a utilisation of over 80% occupancy for several consecutive hours.

6.6 One-Hour Parking Demand

6.6.1 Thursday 19 January 2017

A total of 124 one-hour restricted car spaces were identified within the survey area. All 1P parking in Sorrento applies 9:00 AM to 5:00 PM, seven days a week.

Peak occupancy and minimum availability occurred at 1:00 PM when 124 of the 124 car spaces were occupied, leaving no vacant spaces available for use. After the peak at 1:00 PM car parking occupancy remained high until around 4:30 PM then dissipated throughout the evening with more than 35 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 49 below.

Figure 49 Thursday 19 January 2017 – 1 Hour Parking Occupancy Profile

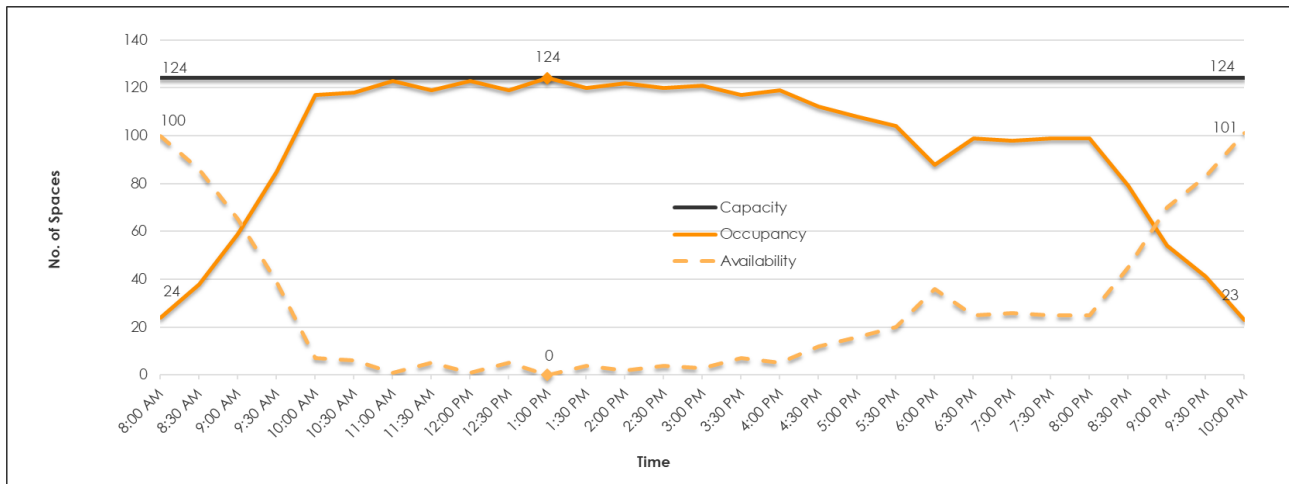
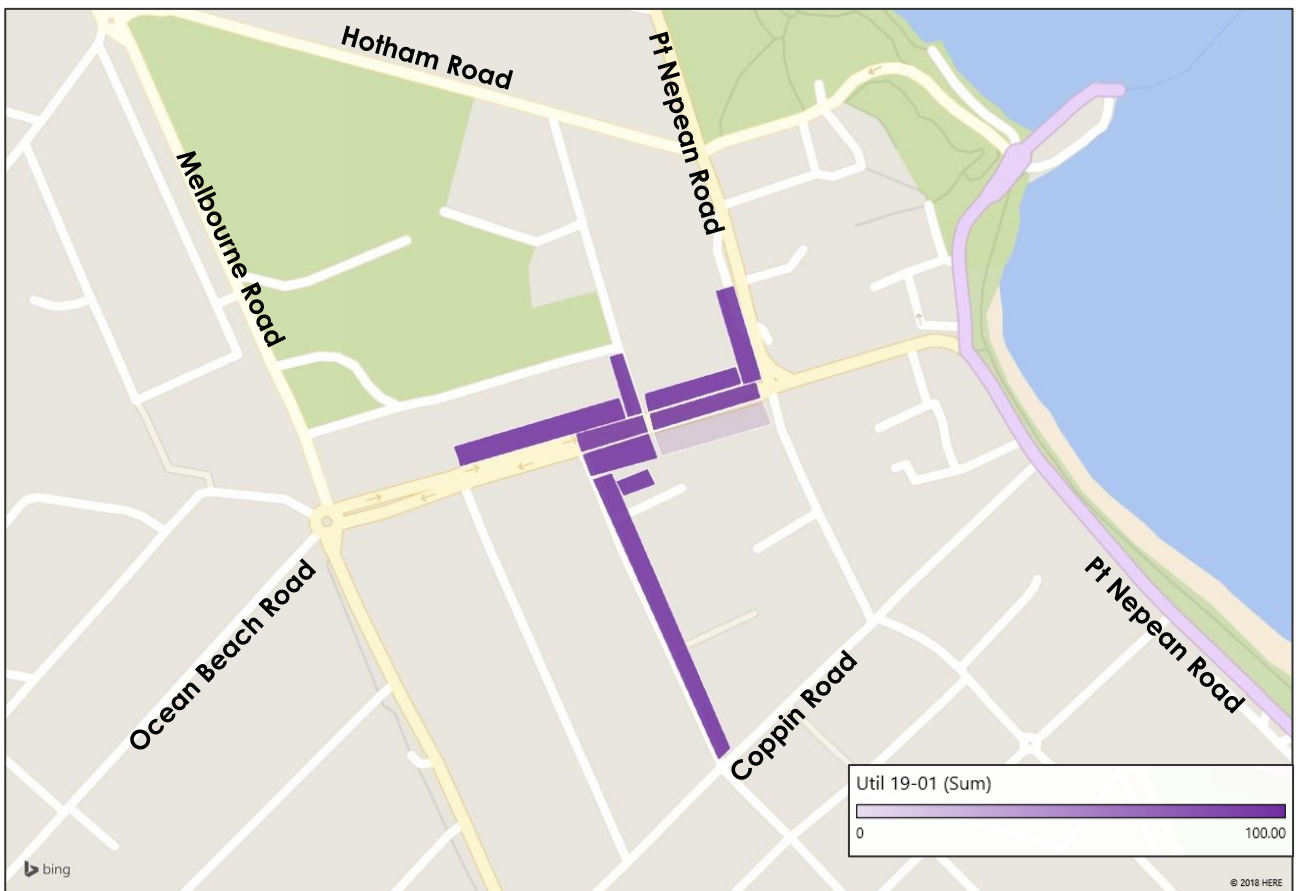


Figure 50 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (1:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It can be seen that all areas were at practical saturation.

Figure 50 Thursday 19 January 2017 – 1 Hour Parking Utilisation (1:00 PM Peak)



6.6.2 Sunday 22 January 2017

Peak occupancy and minimum availability occurred at 11:00 AM and 11:30 AM when 123 of the 124 car spaces were occupied, leaving no vacant spaces available for use. After the peak at 11:30 AM car parking occupancy remained high until around 4:30 PM then dissipated throughout the evening with more than 20 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 51 below.

Figure 51 Sunday 22 January 2017 – 1 Hour Parking Occupancy Profile

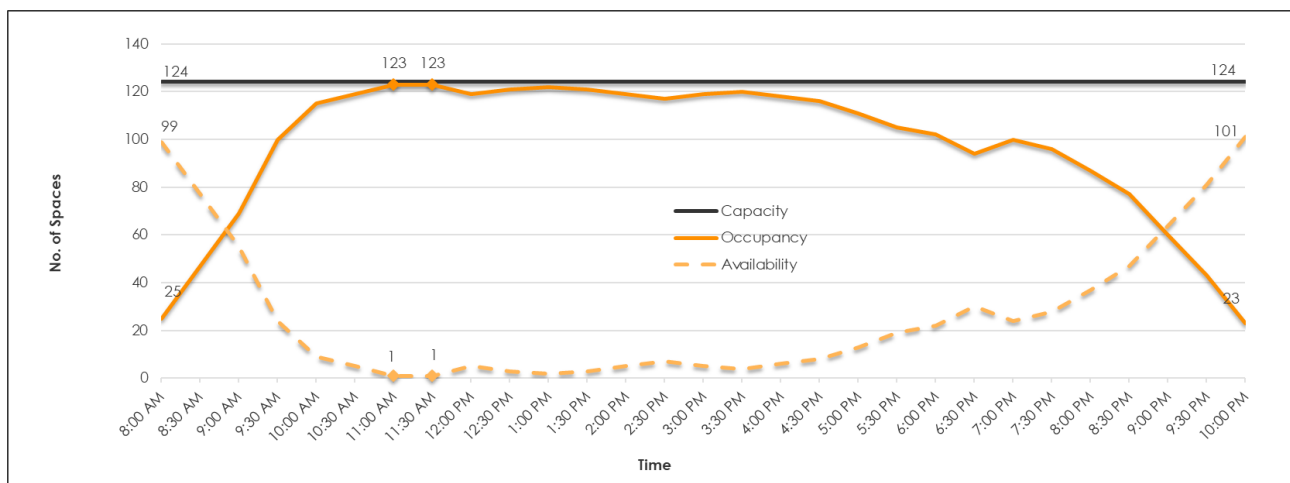
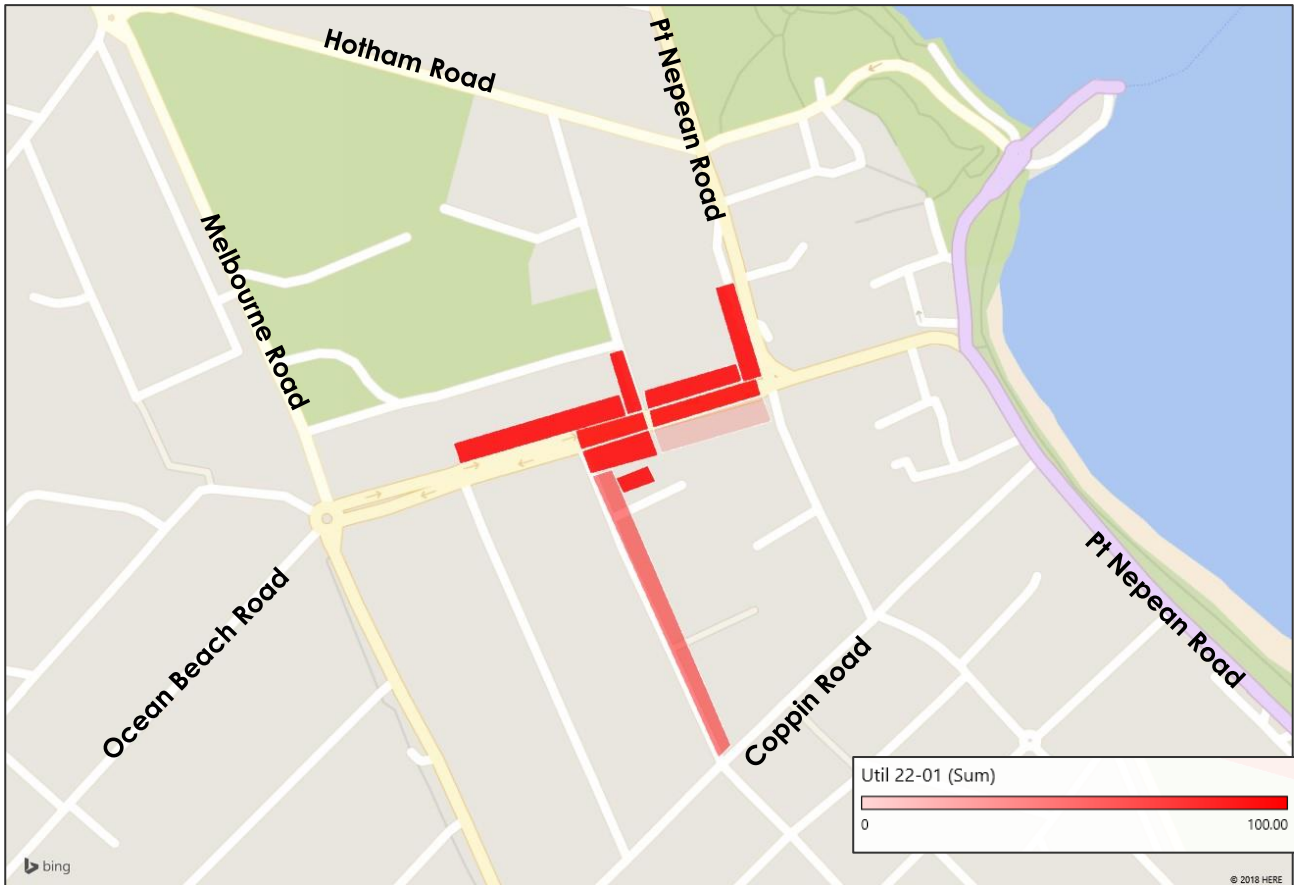


Figure 52 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (11:30 AM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 1 hour parking, and not the exact locations of 1 hour parking spaces.

Figure 52 Sunday 22 January 2017 – 1 Hour Parking Utilisation (11:30 AM Peak)



6.6.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 1:00 PM when 106 of the 124 car spaces were occupied, leaving a minimum of 18 vacant spaces available for use. After the peak at 1:00 PM car parking occupancy dissipated throughout the evening with more than 50 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Friday is provided in Figure 53 below.

Figure 53 Friday 17 March 2017 – 1 Hour Parking Occupancy Profile

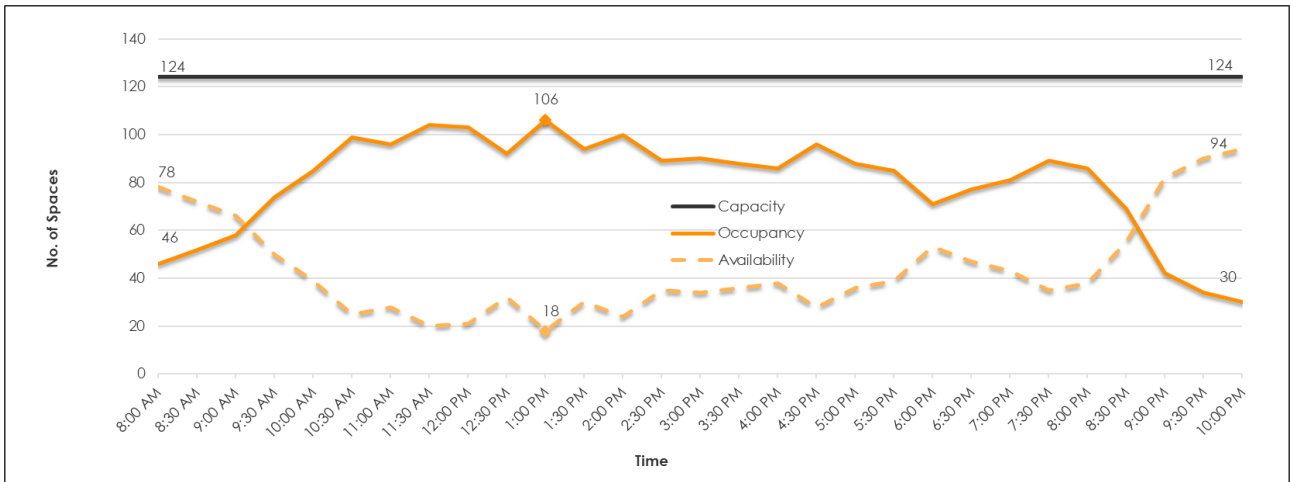
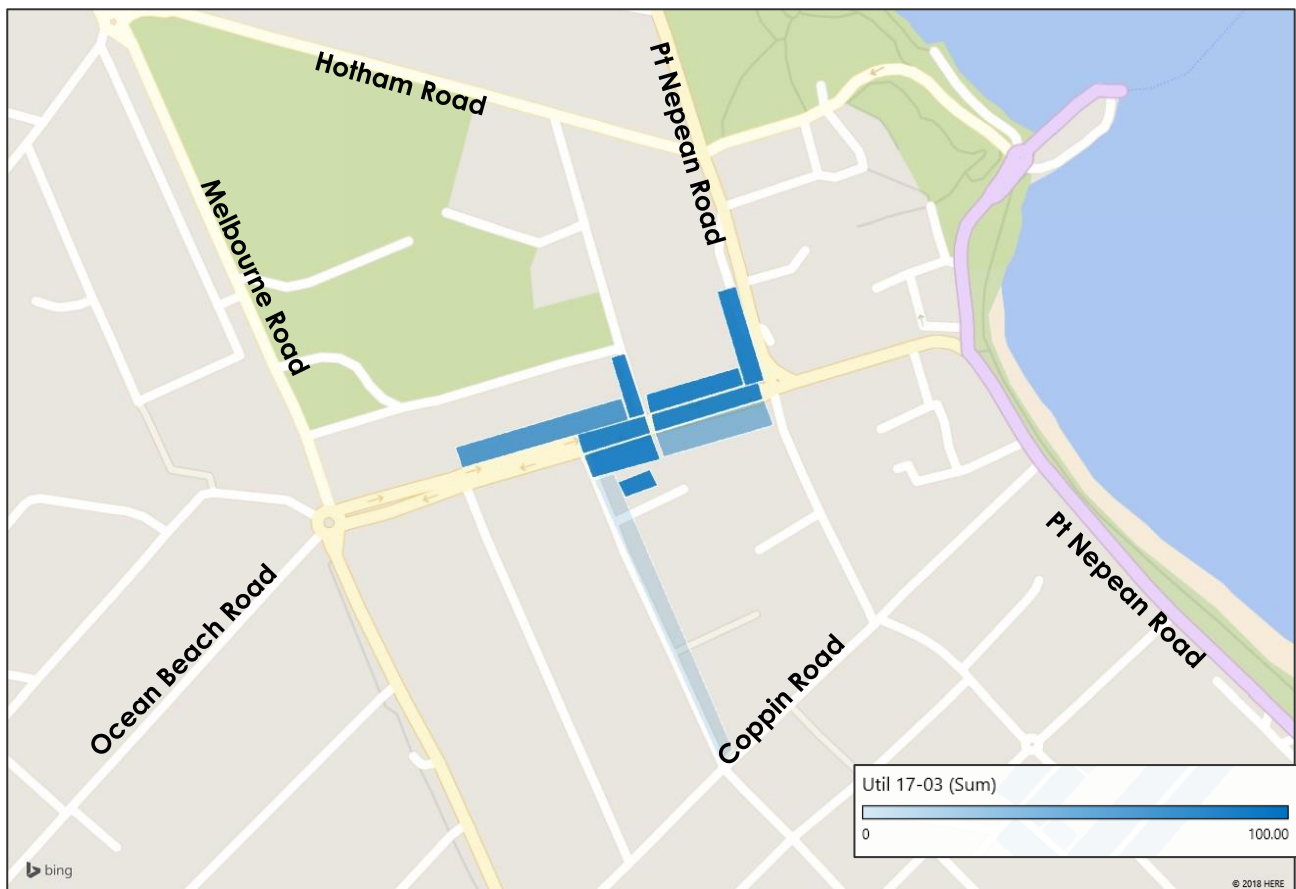


Figure 54 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (1:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 1 hour parking, and not the exact locations of 1 hour parking spaces.

Figure 54 Friday 17 March 2017 – 1 Hour Parking Utilisation (1:00 PM Peak)



6.6.4 Saturday 18 March 2017

Peak occupancy and minimum availability occurred at 3:30 PM when 108 of the 124 car spaces were occupied, leaving a minimum of 16 vacant spaces available for use. After the peak at 3:30 PM car parking occupancy dissipated throughout the evening with more than 35 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Saturday is provided in Figure 55 below.

Figure 55 Saturday 18 March 2017 – 1 Hour Parking Occupancy Profile

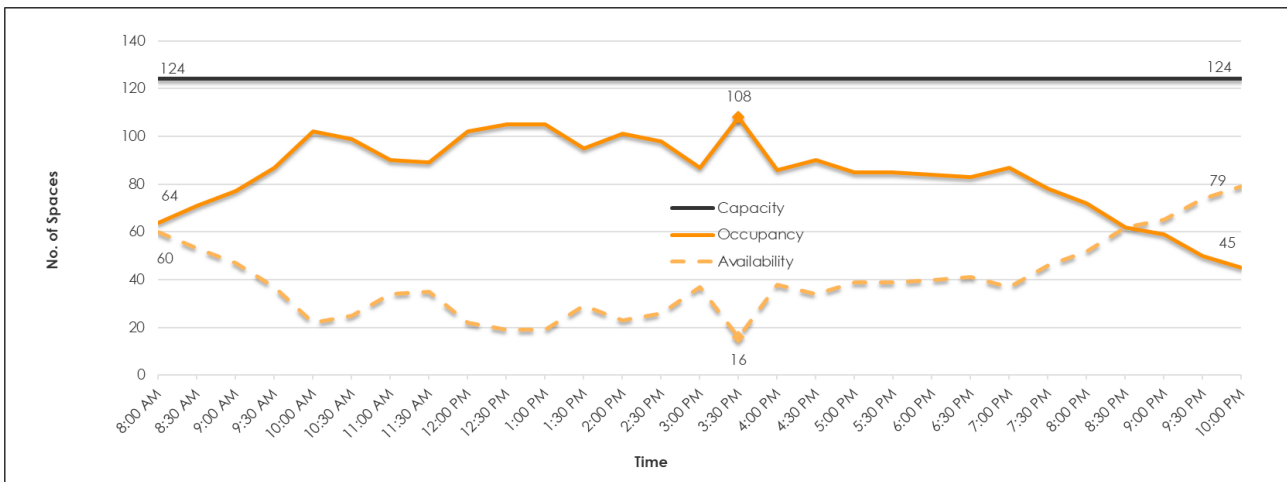
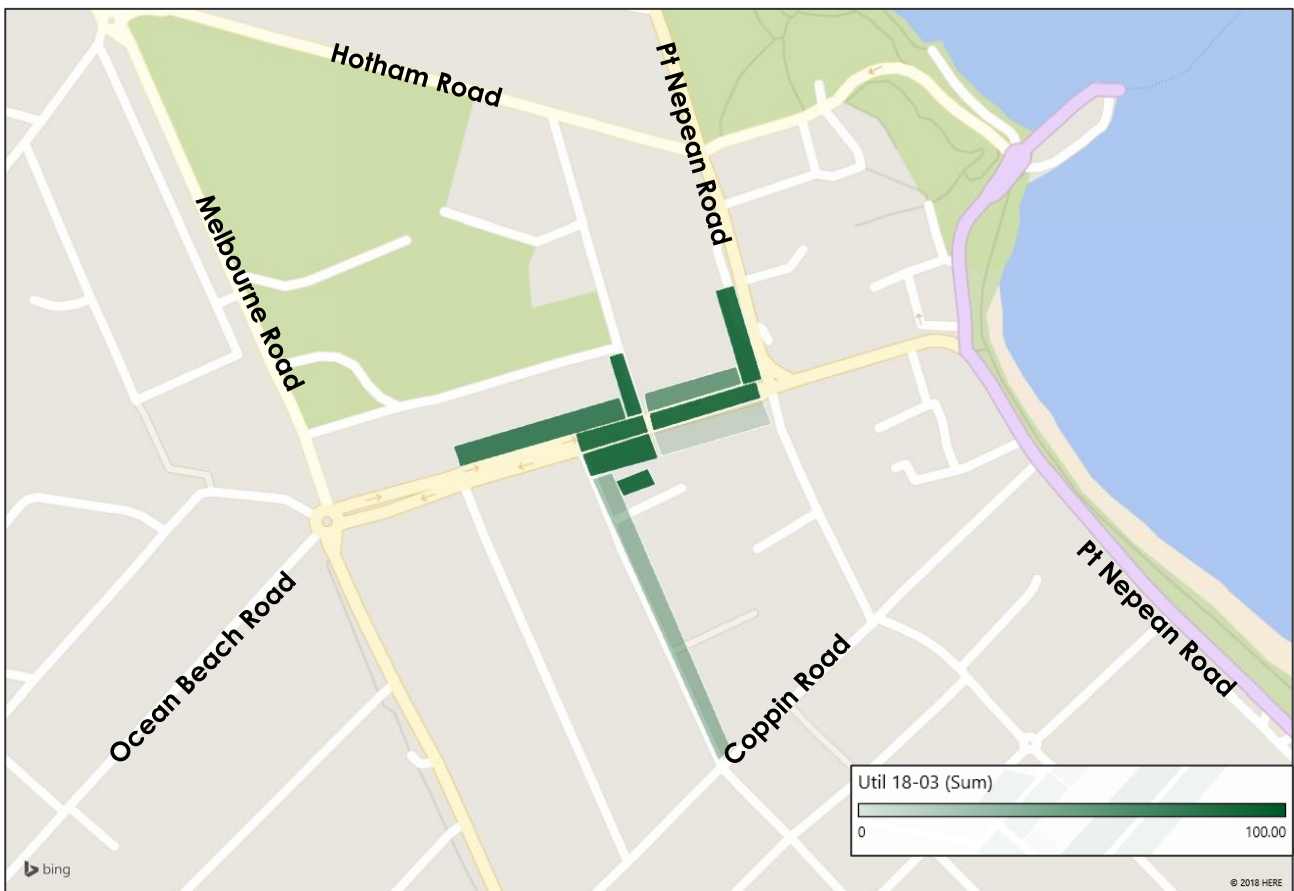


Figure 56 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (3:30 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include 1 hour parking, and not the exact locations of 1 hour parking spaces.

Figure 56 Saturday 18 March 2017 – 1 Hour Parking Utilisation (3:30 PM Peak)



6.6.5 Summary

As can be seen previously, utilisation in January for the one-hour car parking spaces in the area was extremely high, with nearly every space occupied during the peak hour. In March however, utilisation of the 1 hour parking spaces was slightly reduced, with the spaces along Kerferd Avenue and on the south side of Ocean Beach Road much lower than early in the year.

The 1 hour car parking spaces in the northern car park in the vicinity of the Sorrento Ferry were consistently occupied on all four survey days.

6.7 Accessible Parking Demand

6.7.1 Thursday 19 January 2017

A total of 23 accessible car spaces were identified within the survey area. Peak occupancy and minimum availability occurred at 12:00 PM and 1:00 PM when 12 of the 23 car spaces were occupied, leaving a minimum of 11 spaces available for use. After the peak at 1:00 PM car parking occupancy dissipated throughout the evening with more than 15 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 49 below.

Figure 57 Thursday 19 January 2017 – Accessible Parking Occupancy Profile

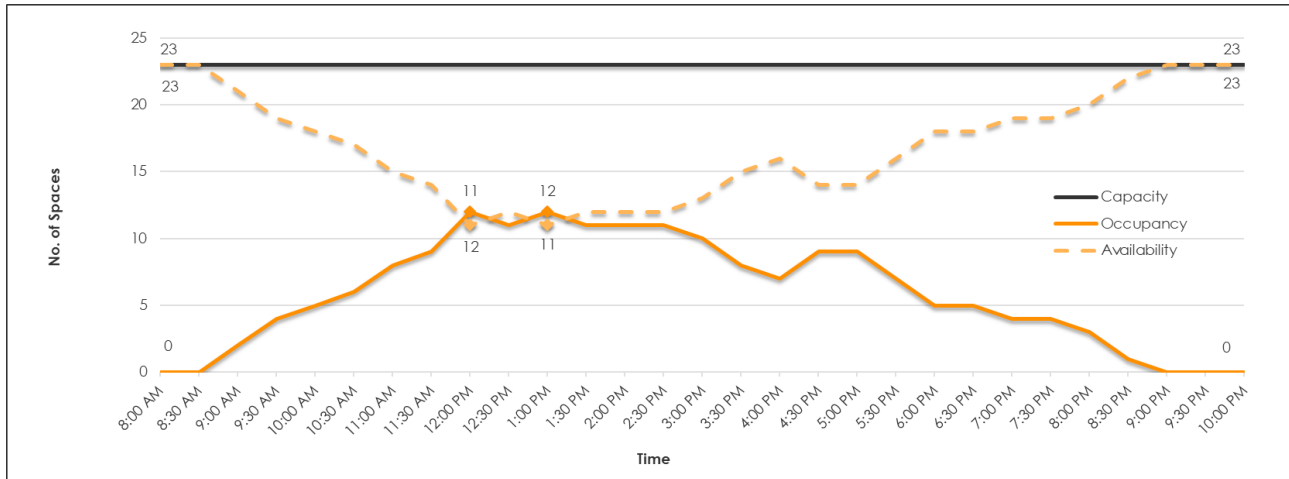
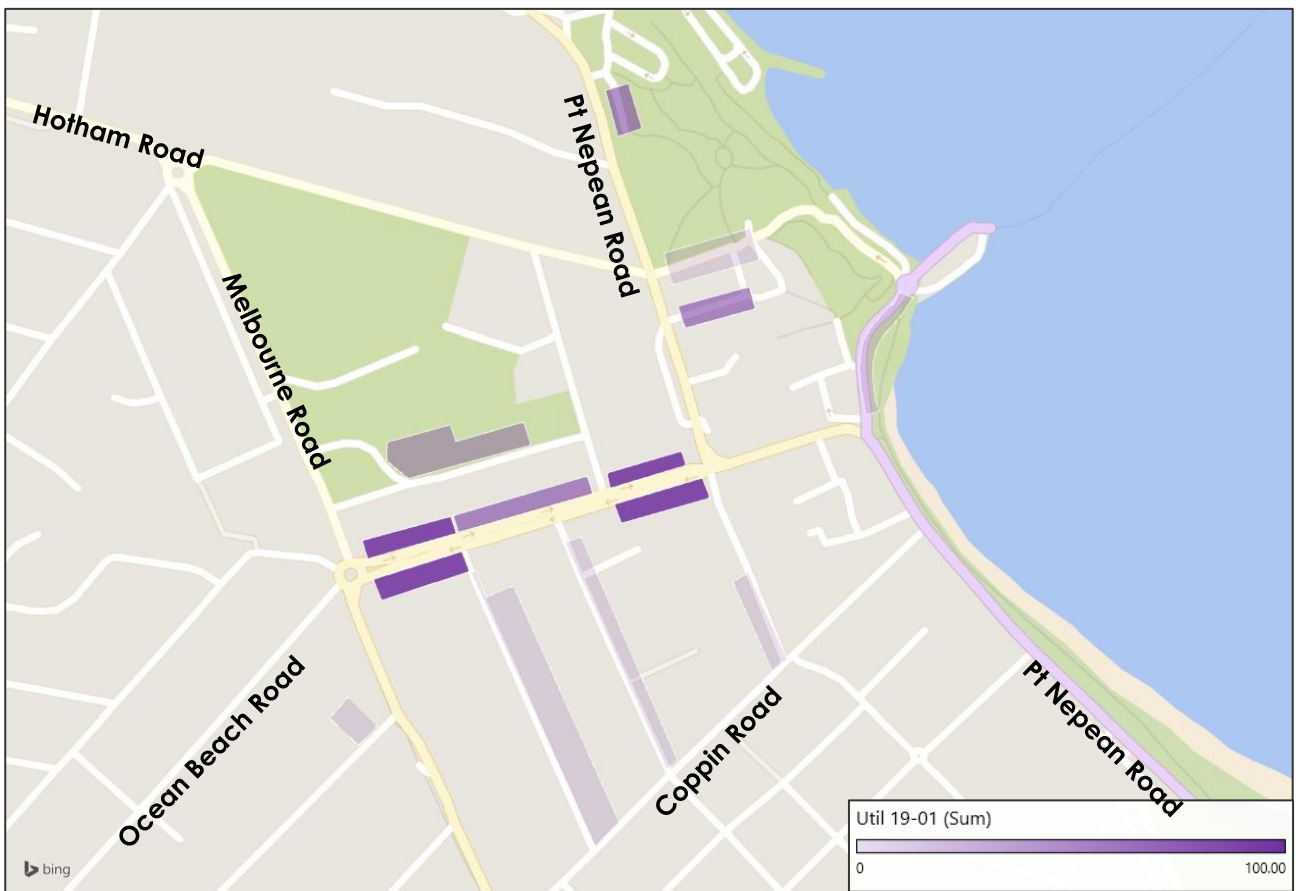


Figure 50 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (1:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include accessible parking, and not the exact locations of accessible parking spaces.

Accessible spaces in the Morce Avenue off-street car park were underutilised throughout the survey period. While provided predominantly for the community centre and RSL, the relative difficulty of accessing the Ocean Beach Road commercial precinct, particularly for mobility impaired users, could explain the underutilisation of these spaces.

Figure 58 Thursday 19 January 2017 – Accessible Parking Utilisation (1:00 PM Peak)



6.7.2 Sunday 22 January 2017

Peak occupancy and minimum availability occurred at 1:30 PM when 13 of the 23 car spaces were occupied, leaving a minimum of 10 spaces available for use. After the peak at 1:30 PM car parking occupancy dissipated throughout the evening with more than 15 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 51 below.

Figure 59 Sunday 22 January 2017 – Accessible Parking Occupancy Profile

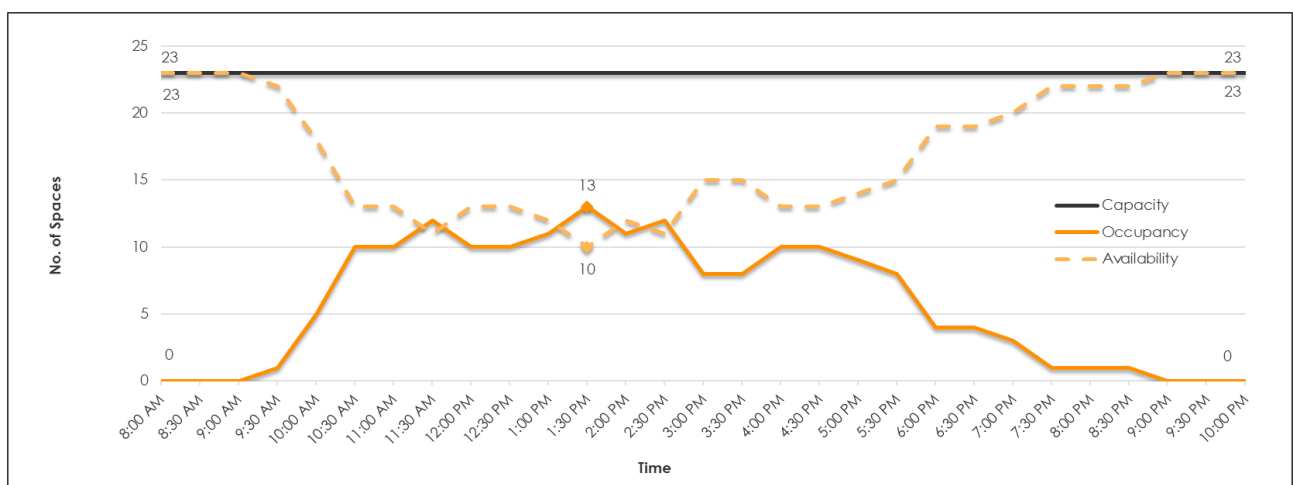


Figure 52 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (11:30 AM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include accessible parking, and not the exact locations of accessible parking spaces.

Figure 60 Sunday 22 January 2017 – Accessible Parking Utilisation (11:30 AM Peak)



6.7.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 2:00 PM when 18 of the 23 car spaces were occupied, leaving a minimum of 5 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy remained fairly steady with around 50% saturation throughout the rest of the survey period.

A view of the parking occupancy profile for the Friday is provided in Figure 53 below.

Figure 61 Friday 17 March 2017 – Accessible Parking Occupancy Profile

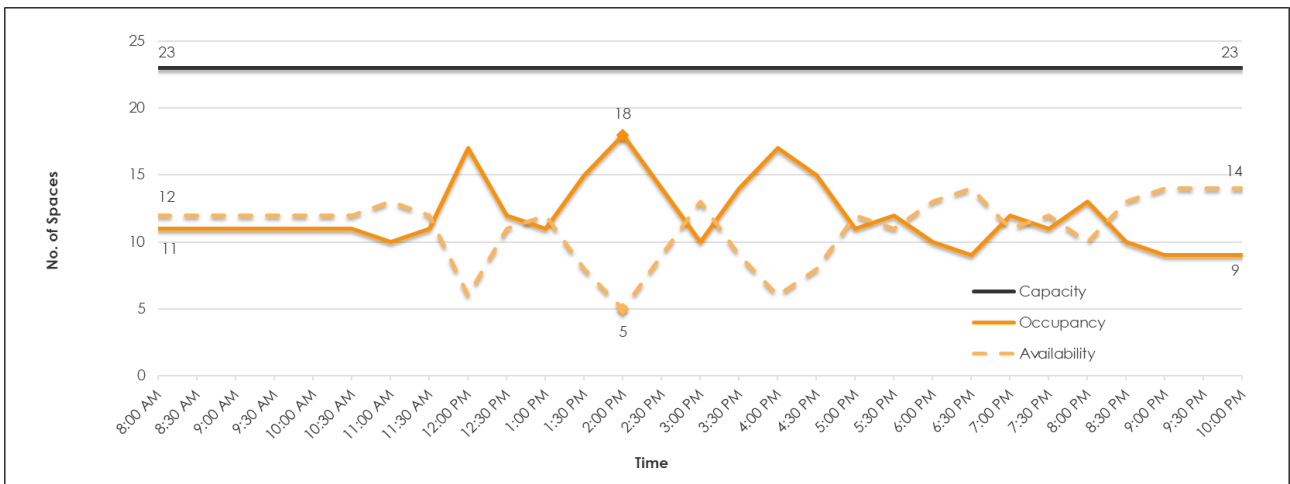
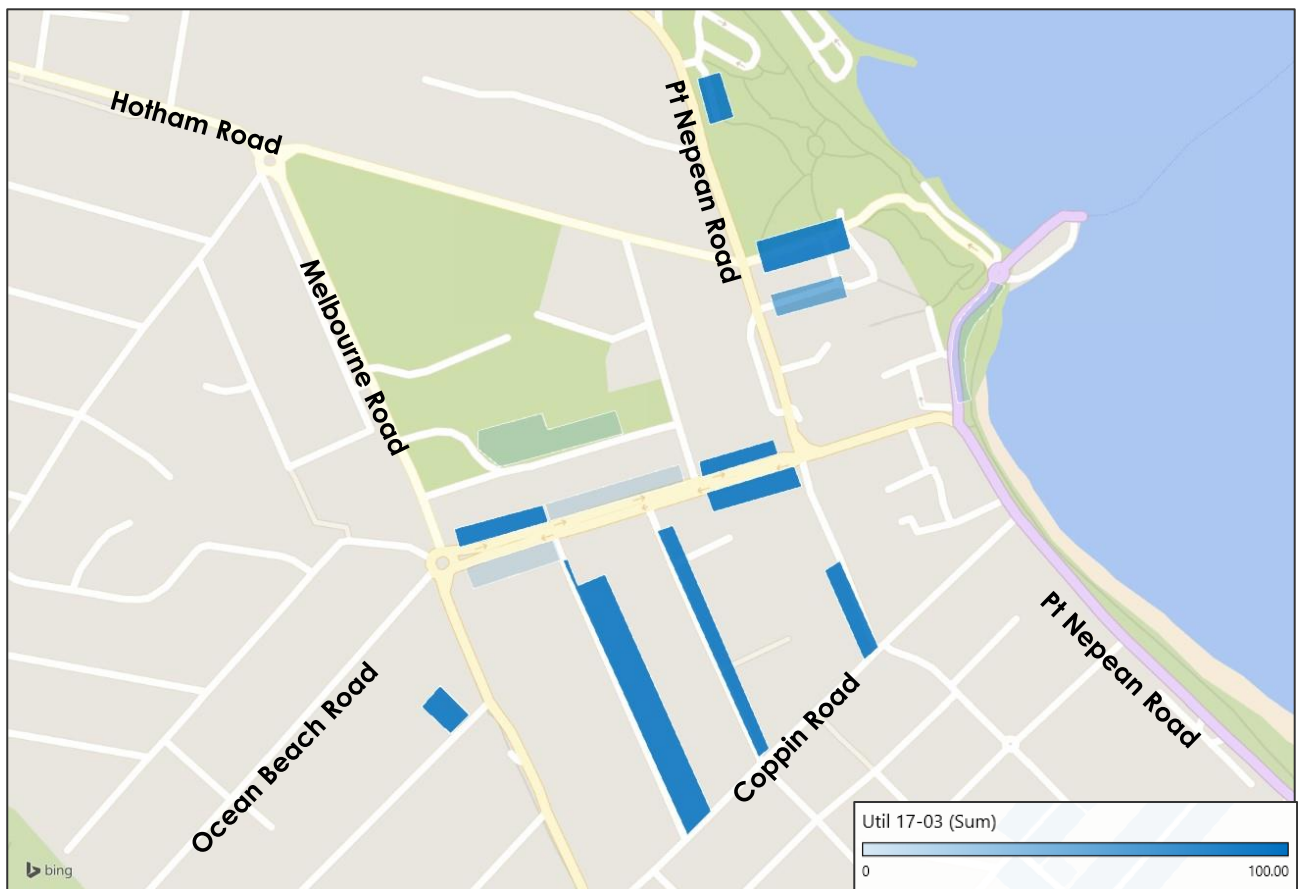


Figure 54 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include accessible parking, and not the exact locations of accessible parking spaces.

Figure 62 Friday 17 March 2017 – Accessible Parking Utilisation (2:00 PM Peak)



6.7.4 Saturday 18 March 2017

Peak occupancy and minimum availability occurred at 10:30 AM and 2:00 PM when 16 of the 23 car spaces were occupied, leaving a minimum of 7 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy remained fairly steady with around 50% saturation throughout the rest of the survey period.

A view of the parking occupancy profile for the Saturday is provided in Figure 55 below.

Figure 63 Saturday 18 March 2017 – Accessible Parking Occupancy Profile

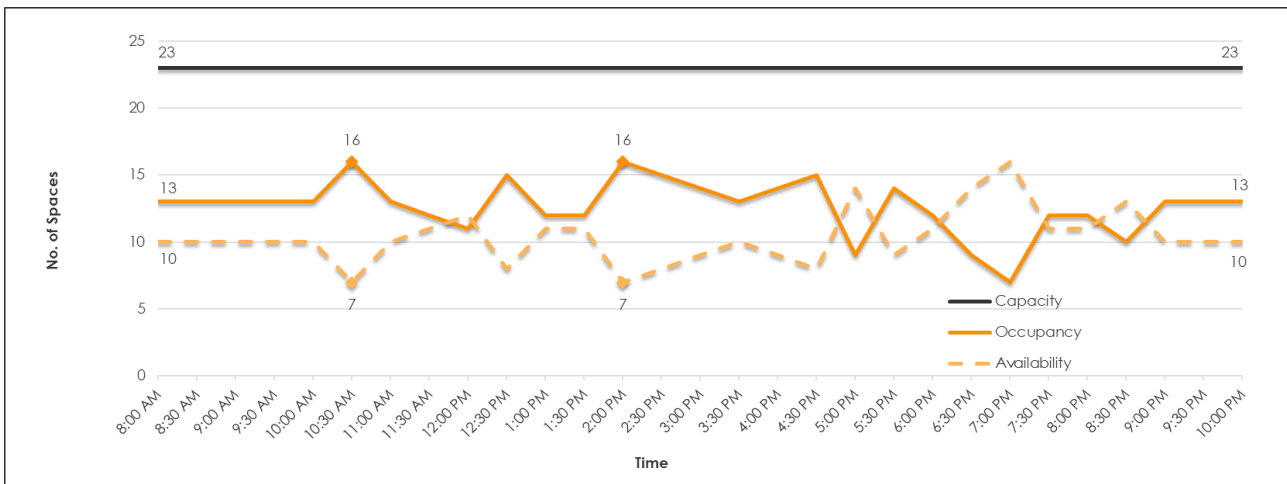
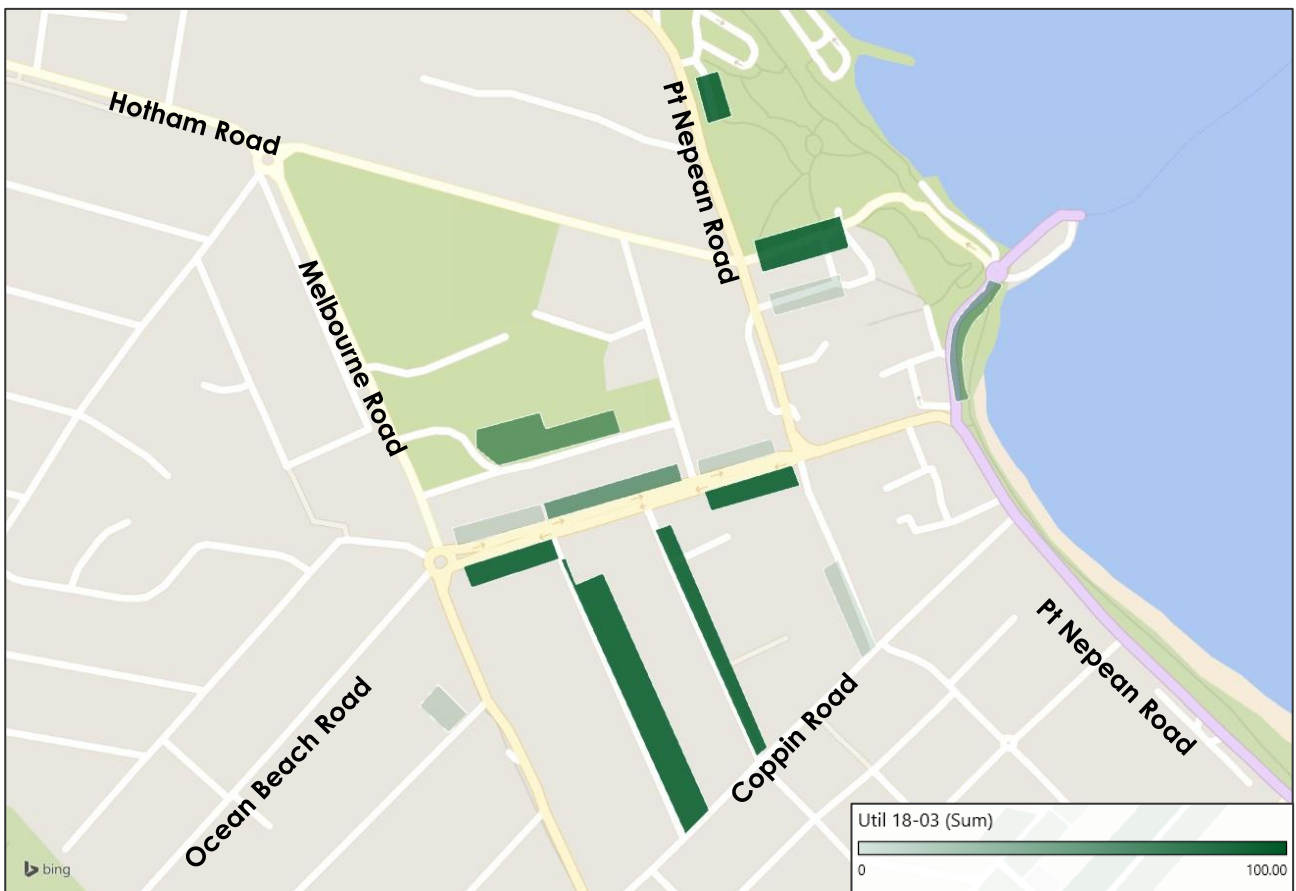


Figure 56 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include accessible parking, and not the exact locations of accessible parking spaces.

Figure 64 Saturday 18 March 2017 – Accessible Parking Utilisation (2:00 PM Peak)



6.7.5 Summary

As can be seen previously, utilisation ranges widely across the study area, with the occupancy of the accessible parking spaces in the area changing each of the days surveyed. There were consistently available spaces along Ocean Beach Road during the peak periods of all four days and the spaces along Darling Road and Kerferd Avenue (near Sorrento Primary School) were only occupied in March, not January.

6.8 Loading Zone Demand

6.8.1 Thursday 19 January 2017

A total of 30 loading zone spaces were identified within the survey area. Peak occupancy and minimum availability occurred at 12:00 PM and 1:30 PM when 11 of the 30 car spaces were occupied, leaving a minimum of 19 spaces available for use. After the peak at 1:30 PM car parking occupancy dissipated throughout the evening with more than 24 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Thursday is provided in Figure 49 below.

Figure 65 Thursday 19 January 2017 – Loading Zone Occupancy Profile

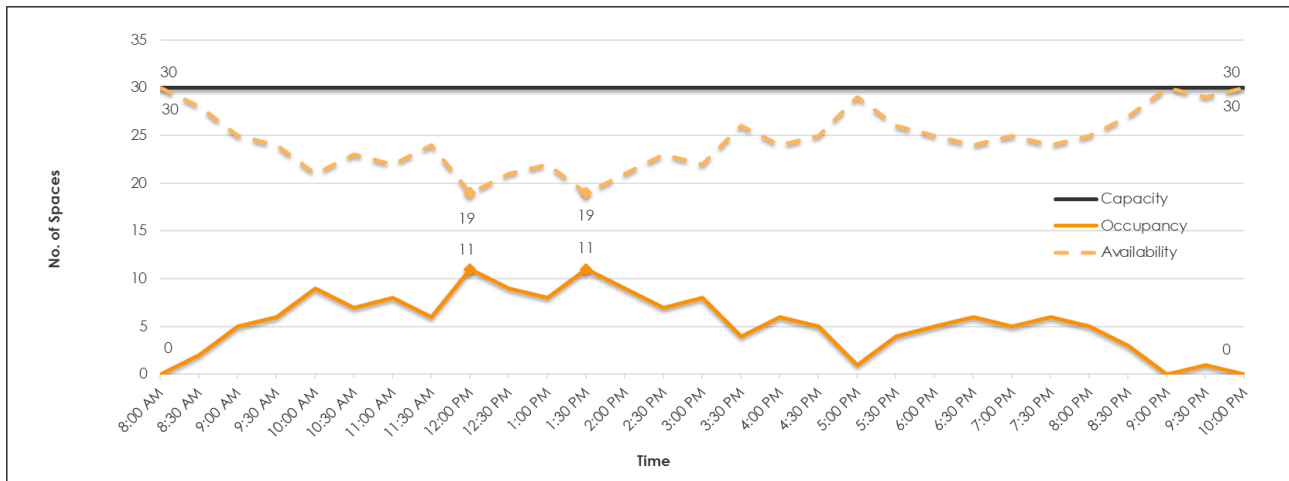
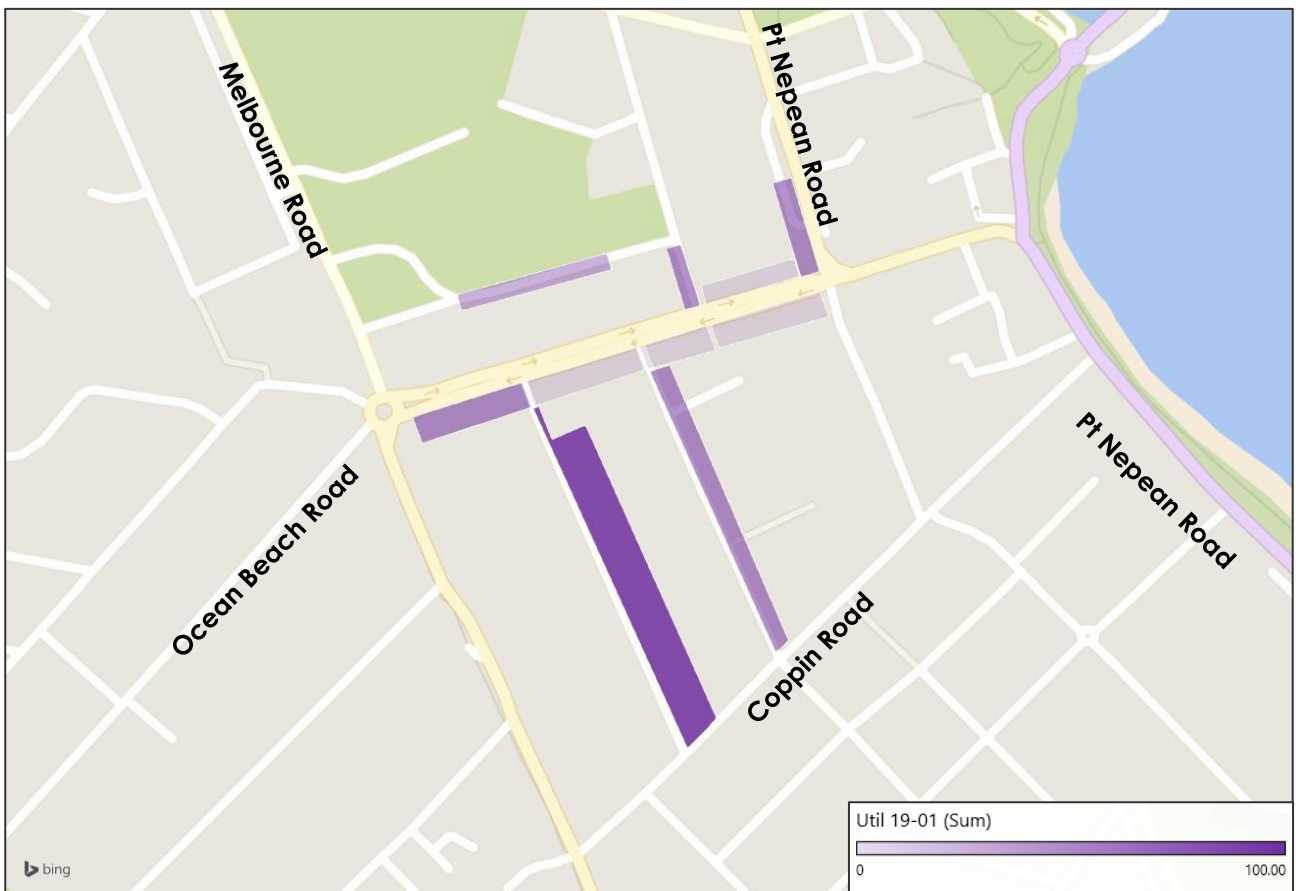


Figure 50 below graphically demonstrates the utilisation of parking in each segment during the Thursday peak period (12:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include loading zones, and not the exact locations of loading zone spaces.

Figure 66 Thursday 19 January 2017 – Loading Zone Utilisation (12:00 PM Peak)



6.8.2 Sunday 22 January 2017

Peak occupancy and minimum availability occurred at 2:00 PM and 4:00 PM when 9 of the 30 car spaces were occupied, leaving a minimum of 21 spaces available for use. After the peak at 4:00 PM car parking occupancy dissipated throughout the evening with more than 24 spaces available after 6:00 PM.

A view of the parking occupancy profile for the Sunday is provided in Figure 51 below.

Figure 67 Sunday 22 January 2017 – Loading Zone Occupancy Profile

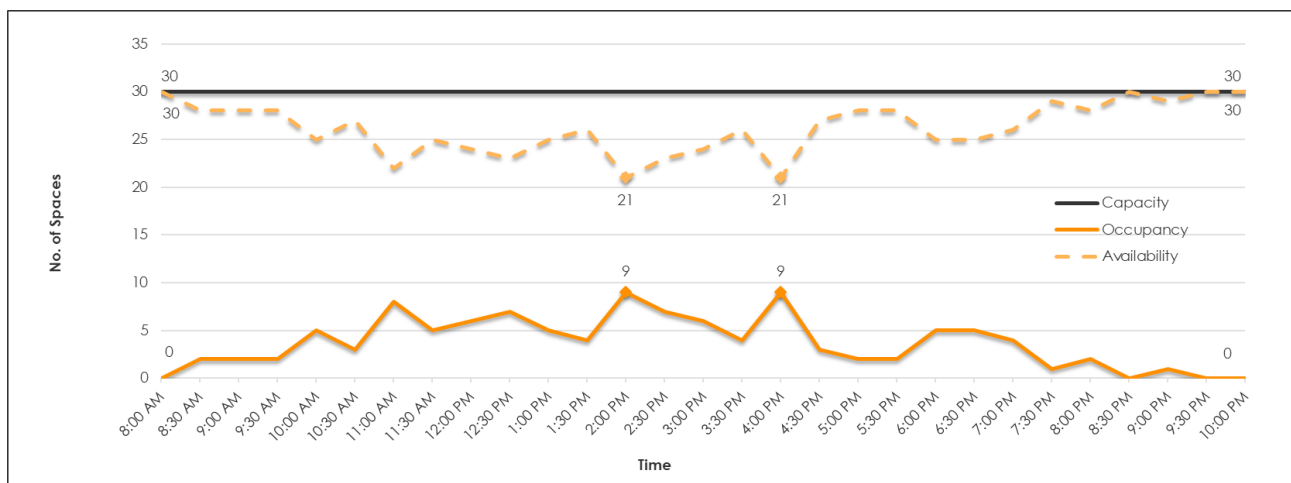
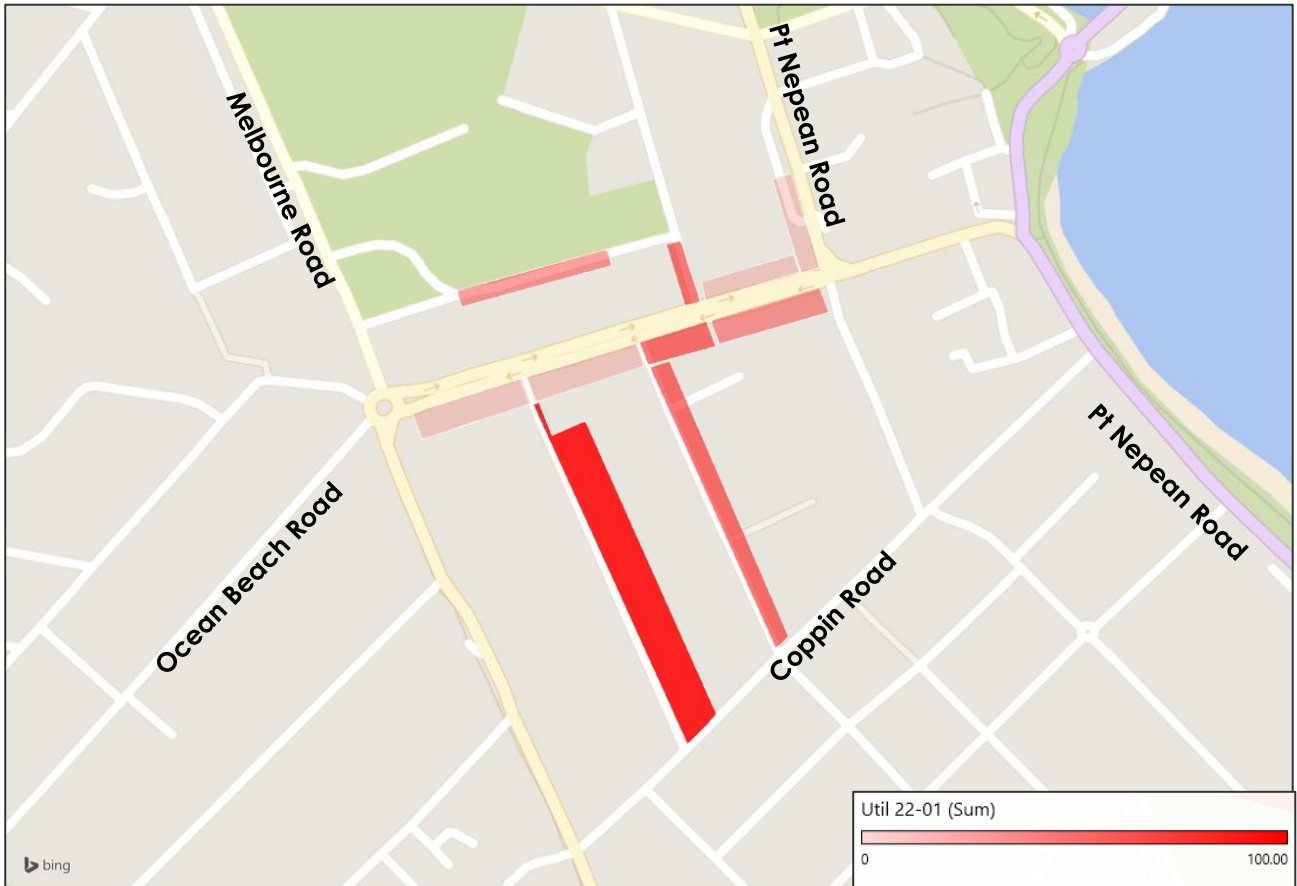


Figure 52 below graphically demonstrates the utilisation of parking in each segment during the Sunday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include loading zones, and not the exact locations of loading zone spaces.

Figure 68 Sunday 22 January 2017 – Loading Zone Utilisation (2:00 PM Peak)



6.8.3 Friday 17 March 2017

Peak occupancy and minimum availability occurred at 12:00 PM, 4:00 PM and 8:30 PM when 14 of the 30 car spaces were occupied, leaving a minimum of 16 vacant spaces available for use. Car parking occupancy remained fairly steady with around 50% saturation throughout the entirety of the survey period.

A view of the parking occupancy profile for the Friday is provided in Figure 53 below.

Figure 69 Friday 17 March 2017 – Loading Zone Occupancy Profile

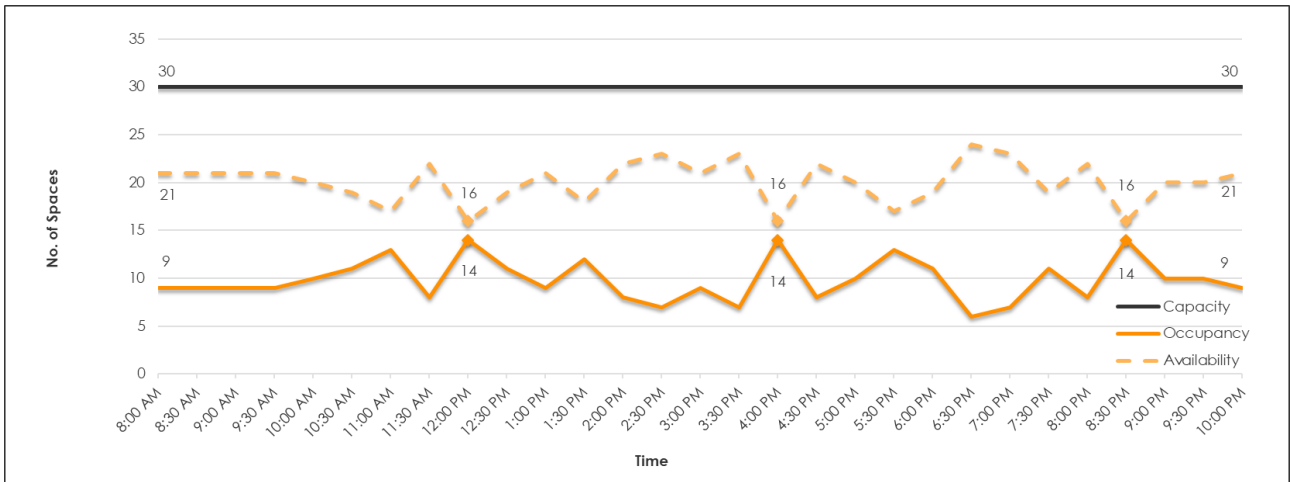
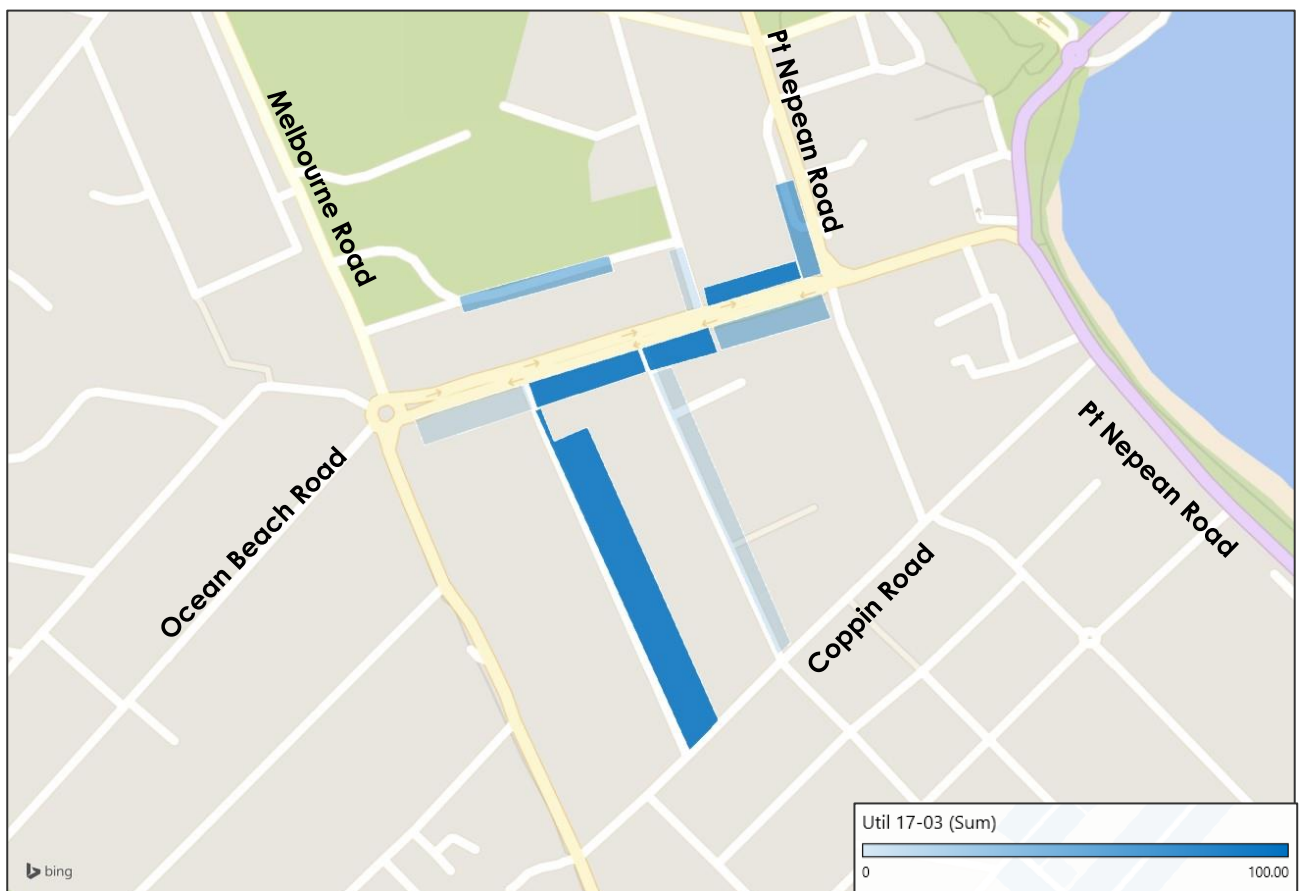


Figure 54 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (12:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include loading zones, and not the exact locations of loading zone spaces.

Figure 70 Friday 17 March 2017 – Loading Zone Utilisation (12:00 PM Peak)



6.8.4 Saturday 18 March 2017

Peak occupancy and minimum availability occurred at 10:30 AM and 2:00 PM when 18 of the 30 car spaces were occupied, leaving a minimum of 12 vacant spaces available for use. After the peak at 2:00 PM car parking occupancy remained fairly steady with around 50% saturation throughout the rest of the survey period until later in the evening.

A view of the parking occupancy profile for the Saturday is provided in Figure 55 below.

Figure 71 Saturday 18 March 2017 – Loading Zone Occupancy Profile

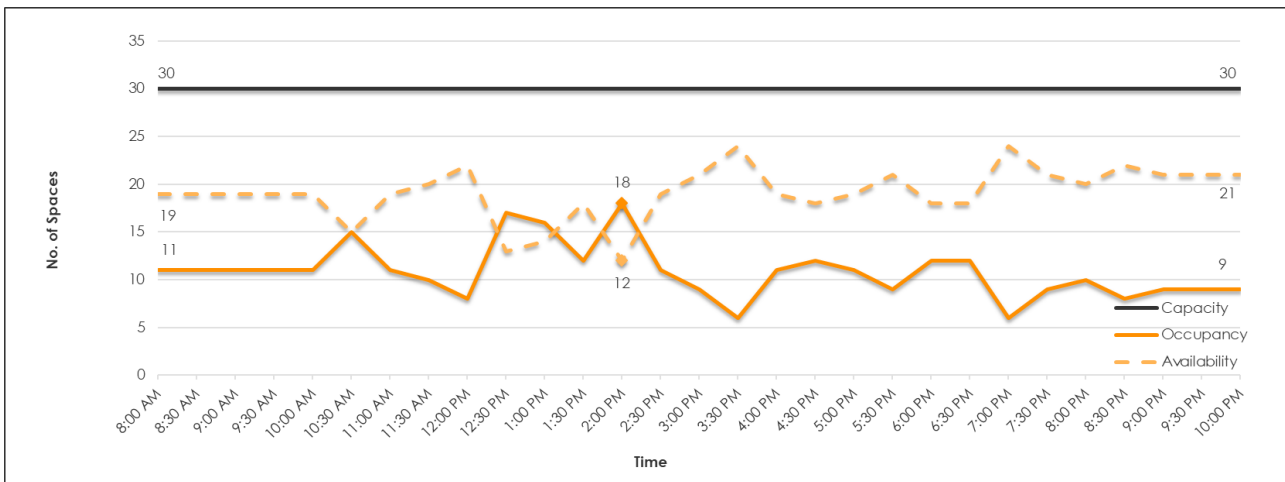
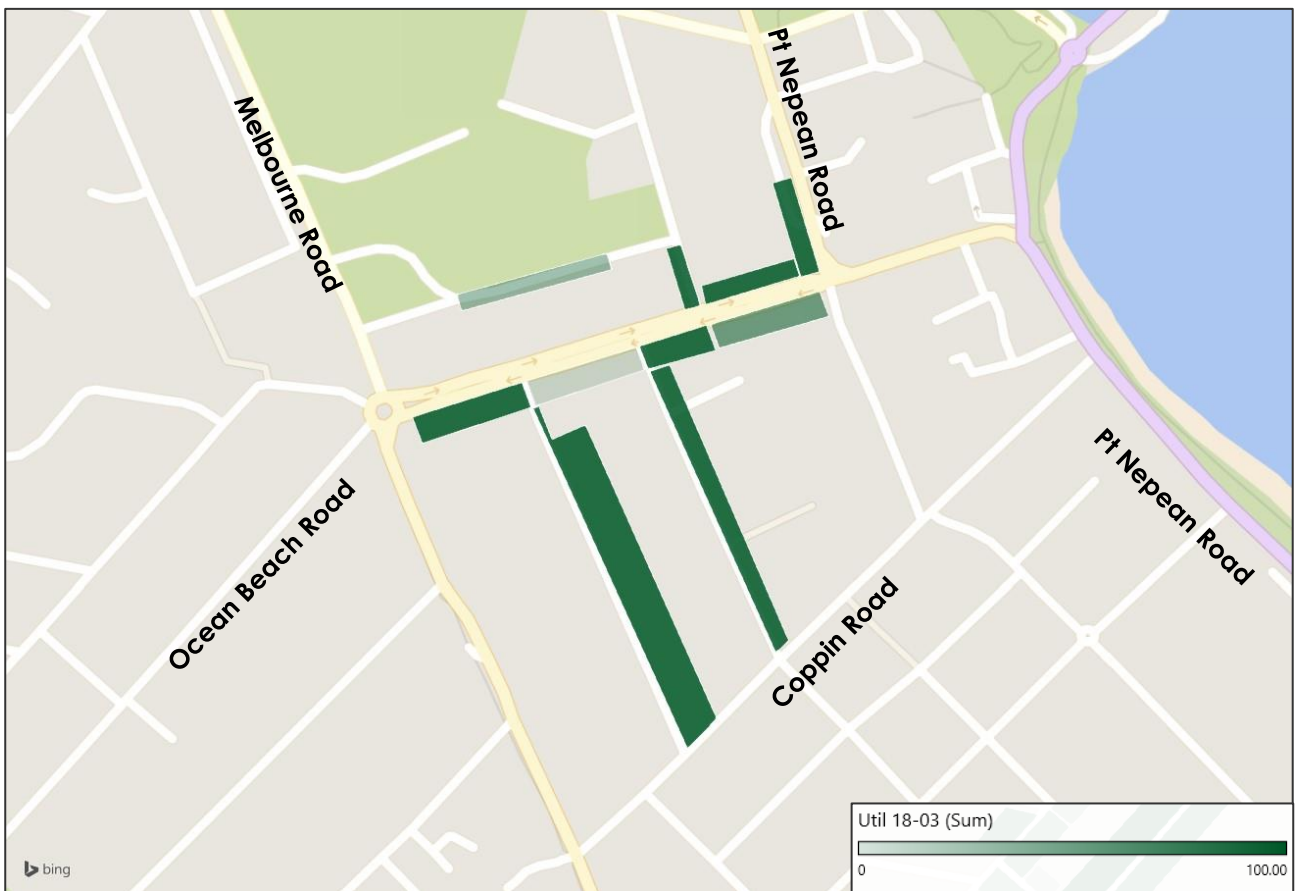


Figure 56 below graphically demonstrates the utilisation of parking in each segment during the Friday peak period (2:00 PM). Higher utilisation rates are illustrated with darker shades, with values ranging from 0% (unutilised) to 100% (fully utilised). It should be recognised that this map is intended to show the areas that include loading zones, and not the exact locations of loading zone spaces.

Figure 72 Saturday 18 March 2017 – Loading Zone Utilisation (2:00 PM Peak)



6.8.5 Summary

As can be seen previously, utilisation ranges widely across the study area, with the highest values recorded along Darling Road where the loading bay is located at the northern end of the street near Ocean Beach Road. Overall, the surveys demonstrate that the loading zones in the area are not fully utilised during the peak period and there is an adequate supply in the area to service the current demands.

6.9 Duration of Stay

Parking spaces within the survey area that are restricted to one-hour parking experienced an average duration of stay of between 1.2 and 1.5 hours per unique car over the four days surveyed. The surveys indicate that the average car stayed longer than the actual restriction, resulting in an inefficient use of the spaces. Some of the one-hour spaces experienced maximum durations of stay of over 6 hours (recorded in multiple areas). This was the case across several car parking spaces and typically is a result of low levels of parking enforcement. Table 11 provides a summary of duration of stay within 1 hour parking areas across the four survey days.

Table 11 1 Hour Parking Duration of Stay Summary

<i>Survey Day</i>	<i>Average Stay (h)</i>	<i>Maximum Stay (h)</i>
Thu 19 Jan 17	1.2	6.5
Sat 22 Jan 17	1.3	6.5
Fri 17 Mar 17	1.5	2.5
Sat 18 Mar 17	1.5	2.5

Parking spaces within the survey area that are restricted to two-hour parking experienced an average duration of stay slightly below 2 hours per unique car over the four days surveyed. During the January surveys, the maximum duration of stay was 3.5 hours. In contrast, during the March surveys, the maximum duration of stay was well above the 2 hour parking restrictions, being up to 5 hours per unique vehicle, which occurred across numerous spaces. The maximum duration of stay results indicates that during January the turnover of the two-hour spaces was fairly high compared to the turnover of spaces during March. Table 12 provides a summary of duration of stay within 2 hour parking areas across the four survey days.

Table 12 2 Hour Parking Duration of Stay Summary

<i>Survey Day</i>	<i>Average Stay (h)</i>	<i>Maximum Stay (h)</i>
Thu 19 Jan 17	1.8	3.5
Sat 22 Jan 17	1.9	2.2
Fri 17 Mar 17	1.6	5.0
Sat 18 Mar 17	1.7	5.0

Parking spaces within the survey area that are restricted to four-hour parking experienced an average duration of stay between 2 and 3 hours per unique car over the four days surveyed. Similar to the two-hour restrictions, the maximum duration of stay was much higher during March than in January (in January the maximum duration was roughly around a maximum of a four-hour stay). This, along with the two-hour restriction duration of stay data, indicates a clear trend that during March motorists are willing to leave their vehicles in time restricted spaces longer than permitted compared with January where parking restrictions are typically abided by. Table 13 provides a summary of duration of stay within 4 hour parking areas across the four survey days.

Table 13 4 Hour Parking Duration of Stay Summary

<i>Survey Day</i>	<i>Average Stay (h)</i>	<i>Maximum Stay (h)</i>
Thu 19 Jan 17	2.2	5.0
Sat 22 Jan 17	2.0	4.5
Fri 17 Mar 17	2.9	8.0
Sat 18 Mar 17	3.0	8.0

Parking spaces within the survey area that are unrestricted experienced an average duration of stay between 1.9 and 3.6 hours per unique vehicle, with a maximum duration of stay of over 10 hours. This indicates that the unrestricted spaces surveyed were utilised by a variety of users, being visitors for shorter periods of time as well as residents and employees of the area that were parked for the entire day. Table 14 provides a summary of duration of stay within unrestricted parking areas across the four survey days.

Table 14 Unrestricted Parking Duration of Stay Summary

<i>Survey Day</i>	<i>Average Stay (h)</i>	<i>Maximum Stay (h)</i>
Thu 19 Jan 17	1.9	8.0
Sat 22 Jan 17	2.7	8.0
Fri 17 Mar 17	2.5	14.5
Sat 18 Mar 17	3.6	14.5

6.10 Parking Survey Summary

Table 15 provides a summary of the parking survey results. The following conclusions can be made from these results:

- Parking provisions in the commercial precinct around Ocean Beach Road and the Morce Avenue off-street car park are not sufficient to accommodate existing demand in these areas during the summer period;
- Parking provisions at the foreshore area are not sufficient to accommodate existing demand for parking in this locality during the summer period, and are just sufficient to accommodate demand during the 'shoulder' autumn period;
- Demands for the commercial precinct and foreshore area currently overflow into residential areas;
- Parking around Hotel Sorrento looks to accommodate existing demands (albeit with very little spare capacity), however as much of this parking is informal the capacity depends on the manner in which vehicles are parked;
- 1 hour and 2 hour parking spaces were highly utilised on all survey days by virtue of their proximity to the Ocean Beach Road commercial precinct, the foreshore and ferry area, and Hotel Sorrento. The duration of stay surveys identified little compliance with these restrictions, so higher levels of enforcement may increase turnover and reduce overall demands.

Table 15 Parking Survey Summary

Assessment	Result	Thu 19/1/17	Sun 22/1/17	Fri 17/3/17	Sat 18/3/17
Overall	Peak Time	1:00 PM	2:00 PM	12:00 noon	2:00 PM
	Max Occupancy	1172 (66 %)	1,343 (75 %)	999 (56 %)	1167 (65 %)
	Min Availability	611 (34 %)	440 (25 %)	784 (44 %)	616 (35 %)
Ocean Beach Road (Melb Rd to Pt Nep Rd)	Peak Time	12:00 noon	11:00 AM & 11:30 AM	12:00 noon & 2:00 PM	2:00 PM
	Max Occupancy	255 (96 %)	254 (95 %)	211 (79 %)	230 (86 %)
	Min Availability	12 (4 %)	13 (5 %)	56 (21 %)	37 (14 %)
Morce Ave off-street	Peak Time	12:00 noon & 12:30 PM	12:30 PM	11:30 AM	1:30 PM
	Max Occupancy	234 (97 %)	218 (90 %)	199 (82 %)	192 (77 %)
	Min Availability	8 (3 %)	24 (10 %)	43 (18 %)	50 (23 %)
Hotel Sorrento	Peak Time	1:00 PM	2:00 PM	1:30 PM	11:00 AM
	Max Occupancy	110 (74 %)	127 (92 %)	98 (71 %)	112 (81 %)
	Min Availability	28 (26 %)	11 (8 %)	40 (29 %)	26 (19 %)
Foreshore & Ferry	Peak Time	1:00 PM	12:00 noon to 1:30 PM	1:00 PM	2:00 PM
	Max Occupancy	183 (92 %)	198 (99 %)	162 (81 %)	178 (89 %)
	Min Availability	17 (8 %)	2 (1 %)	38 (19 %)	22 (11 %)
Unrestricted	Peak Time	1:00 PM	2:00 PM	12:00 noon	2:00 PM
	Max Occupancy	696 (58 %)	837 (70 %)	607 (50 %)	705 (59 %)
	Min Availability	508 (42 %)	367 (30 %)	597 (50 %)	499 (41 %)
Two Hour	Peak Time	12:00 noon	11:00 AM & 11:30 AM	11:30 AM	1:30 PM & 2:00 PM
	Max Occupancy	180 (99 %)	182 (100 %)	152 (84 %)	162 (89 %)
	Min Availability	2 (1 %)	0 (0 %)	30 (16 %)	20 (11 %)
One Hour	Peak Time	1:00 PM	11:00 AM & 11:30 AM	1:00 PM	3:30 PM
	Max Occupancy	124 (100 %)	123 (99 %)	106 (85 %)	108 (87 %)
	Min Availability	0 (0 %)	1 (1 %)	18 (15 %)	16 (13 %)
Accessible	Peak Time	12:00 PM & 1:00 PM	1:30 PM	2:00 PM	10:30 AM & 2:00 PM
	Max Occupancy	12 (52 %)	13 (57 %)	18 (78 %)	16 (70 %)
	Min Availability	11 (48 %)	10 (43 %)	5 (22 %)	7 (30 %)
Loading	Peak Time	12:00 noon & 1:30 PM	2:00 PM & 4:00 PM	11:30 AM, 4:00 PM & 8:30 PM	2:00 PM
	Max Occupancy	11 (37 %)	9 (30 %)	14 (47 %)	18 (60 %)
	Min Availability	19 (63 %)	21 (70 %)	16 (53 %)	12 (40 %)

7 RECOMMENDATIONS

7.1 Overview

Car parking survey data shows that parking within the following areas is full or practically full during peak periods:

- Town Centre;
- Community Centre & Surrounds;
- Pier & Surrounds;
- Foreshore; and
- Hotel Sorrento & Surrounds.

It is therefore clear from the 2017 car parking surveys that additional car parking is required within the SAC to meet the demands currently generated by the commercial precinct and around the foreshore, without pushing car parking demands further into residential areas.

Indeed, the survey results show that parking within the commercial and foreshore areas currently reaches practical capacity during the summer period, with parking already pushed into residential areas during these periods. As such, additional car parking is required to accommodate the demands currently generated in these areas.

It is recognised that providing additional parking, particularly additional public parking, can take time. As such a number of short term recommendations have been provided to assist with managing existing provisions, as well as longer term recommendations that aim to more evenly match demands and supplies.

With the seasonal nature of car parking demands, it would not be practical to accommodate absolute peak demands of early January, which would result in an oversupply of parking for the remainder of the year. An oversupply of car parking would result in an inefficient use of land that could be utilised for other purposes.

It is considered that car parking provisions should aim to cater for '85th percentile' car parking demands. It is not possible to determine the 85th percentile demand day, as this would require surveys from every day of the year, however it is considered that the January 2017 car parking surveys provide a good approximation of 85th percentile demands, being near but not within the early January absolute peak period. As such it is such it is considered that car parking provisions should be designed around this level of demand, seeking to provide sufficient parking within the various sub regions of the SAC such as the commercial and foreshore areas, without unacceptable levels of encroachment of parking associated within these uses / activity generators into residential areas.

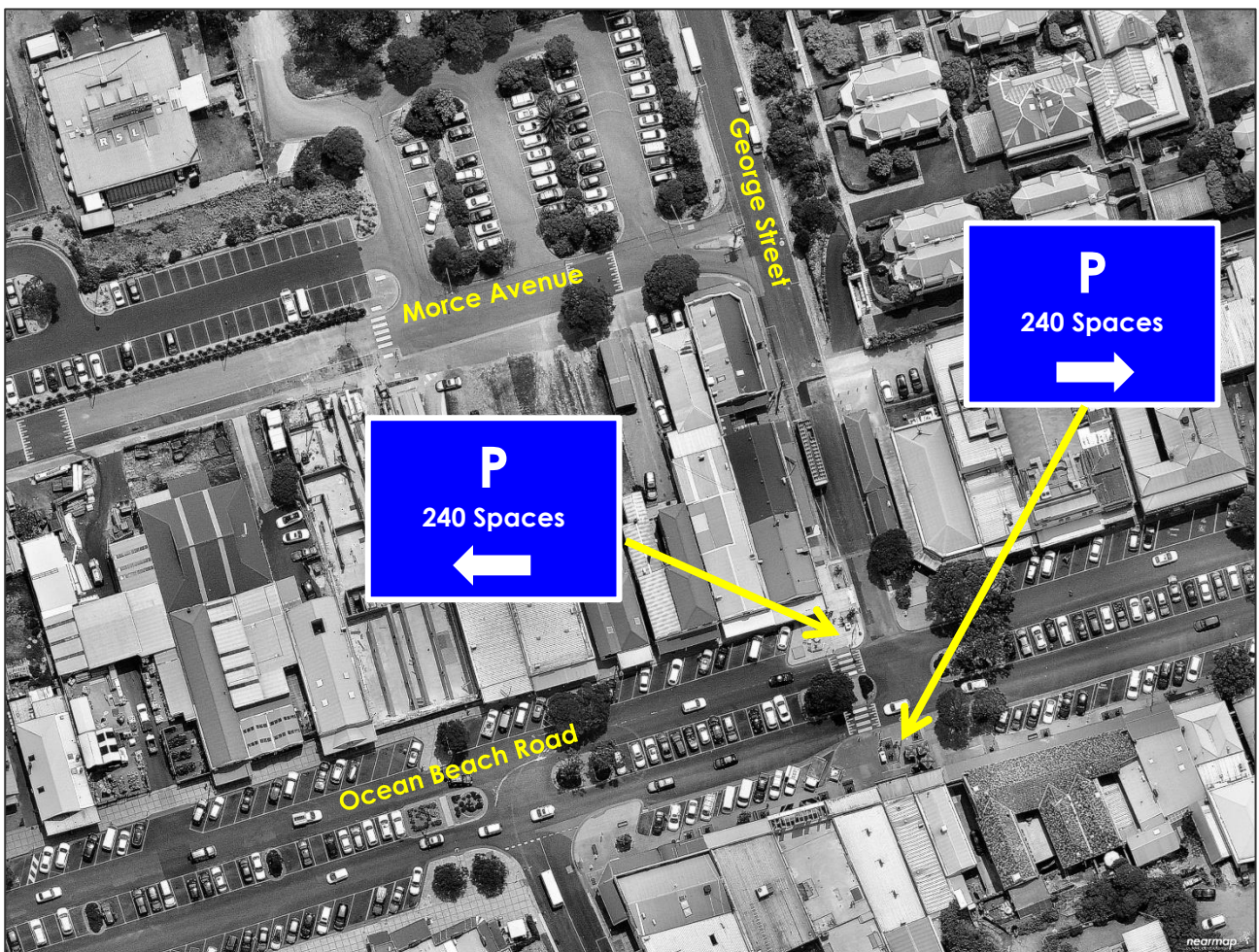
7.2 Short Term Recommendations

7.2.1 Wayfinding

It was observed that the Morce Avenue off-street car park, while well utilised during the peak summer months, was underutilised during the 'shoulder' period March surveys, when parking along Ocean Beach Road was highly utilised or at practical capacity. While it is likely in part due to the convenience of parking on Ocean Beach Road when accessing the commercial precinct, it could also be due to visitors to the area not being aware of the Morce Avenue car park.

It is noted that although there is some wayfinding signage providing direction to this car park on George Street, there is no signage on Ocean Beach Road advising visitors of the additional parking available adjacent to Morce Avenue. It is recommended to install static wayfinding signage at the George Street / Ocean Beach Road intersection to advise people as to the location of the Morce Avenue car park. It is anticipated that that would reduce instances of people circulating along Ocean Beach Road in search of an on-street car parking space. Figure 73 shows the suggested additional wayfinding signage.

Figure 73 Wayfinding Signage – Morce Avenue Car Park



7.2.2 Formalise Select Informal Car Parking Areas

7.2.2.1 General

There are a number of informal car parking areas throughout the SAC. It is recommended to investigate formalising some of these areas to improve car parking capacity.

It is noted that there are some informal car parking areas where formalising the layout would reduce the number of vehicles that could park in these areas compared to existing usage, therefore it is not recommended to investigate formalising these areas at this stage.

There are other informal car parking areas that could be formalised in the medium to long term which would require greater capital works expenditure (discussed later in this report), however it is considered that the following areas could be formalised at relatively low cost.

7.2.2.2 Ocean Beach Road / Melbourne Road Asphalt Car Park

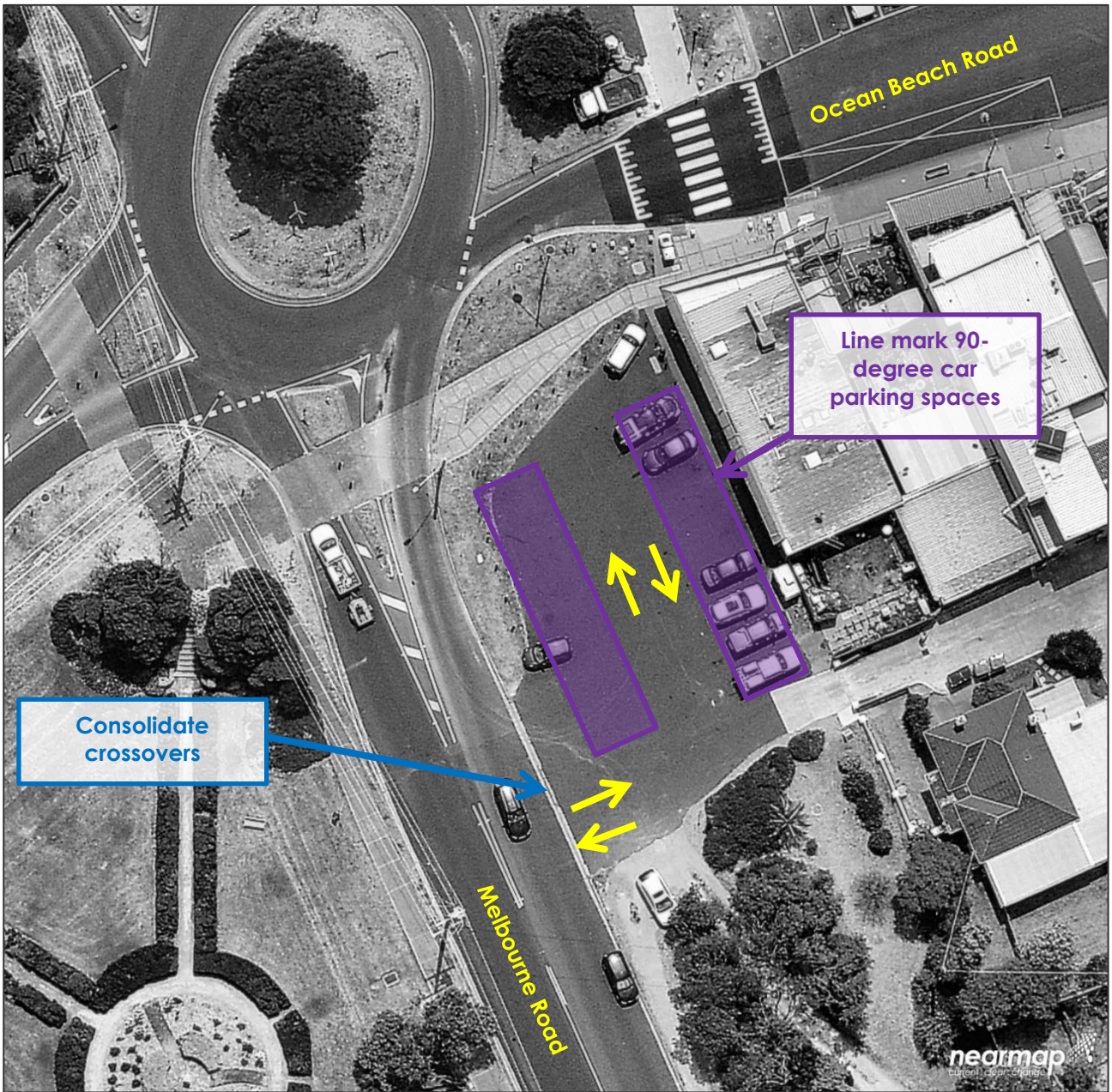
The asphalt car park at the southeast corner of the Ocean Beach Road / Melbourne Road intersection is considered to be a suitable candidate for a formal car parking layout to be implemented. The 2017 surveys identified a maximum of 16 vehicles parked in this car park at any given time, while a review of aerial photography identifies that vehicles parking in this area in a range of configurations including parallel parking and various angles of parking which affects how many vehicles can be accommodated. Review of aerial photography identifies that at times no more than 12 vehicles can be accommodated due to the manner in which vehicles are parked.

A preliminary review of the dimensions of the car park suggests that it would be possible to accommodate two rows of Planning Scheme dimension 90-degree angled car parking spaces within this area (4.9 m long by 2.6 m wide spaces accessed from a 6.4 m wide aisle) as shown in Figure 74. The car park currently features two separate crossovers from Melbourne Road, however it is considered that these could be consolidated into a single double width crossover to maximise the number of spaces while still allowing concurrent entry and exit manoeuvres.

While further investigation would be required, it is estimated that in the order of 17-18 formal spaces would be accommodated. It is acknowledged that this is only a minor increase compared to maximum number of vehicles accommodated during the surveys, however it would mean that the capacity would be constant instead of depending on the parking behaviours of users. The car park would also be more convenient and operate more efficiently.

As this car park is currently sealed, it is expected that minimal capital works would be required to formalise this car park.

Figure 74 Ocean Beach Road / Melbourne Road Car Park



7.2.2.3 Point Nepean Road Service Road

There is a small informal area of car parking within the Point Nepean Road service road between Ocean Beach Road and Hotham Road, where vehicles currently park informally. Again, a review of aerial photography indicates that vehicles currently park in this area in a number of different arrangements.

As this area is currently unsealed, it would be difficult to line mark spaces. Nevertheless, it is considered that parking signage could be installed to dictate how vehicles should park. It is considered that 'No Stopping' signage should be installed on the western side of the service road, while 'P 90° Angle' signage could be installed on the eastern side of the service road to improve yield. This suggested arrangement is shown in Figure 75.

Figure 75 Point Nepean Road Service Road



7.2.3 Review Restrictions in Underutilised Areas

Car parking on the southern side of Morce Avenue is currently designated as a Loading Zone for the majority of its length, while parking along the northern side is currently prohibited. The 2017 car parking surveys identified that this area was underutilised across all survey days.

It is considered that there is opportunity to review the management and operations of parking in this area, particularly as there are no sensitive land uses (such as dwellings or schools) along the length of the road.

The southern side of the road serves access to a number of back-of-house areas for commercial uses that front Ocean Beach Road. It is noted that many of these do not have formal crossovers and instead rely on semi-mountable kerb to provide access. This can make it difficult for users to ascertain where they can and can't park.

It is considered that there are number of options that should be investigated to improve car parking along Morce Avenue, including:

- Changing some sections of the existing Loading Zone to medium term parking (such as 4P) to provide additional capacity and a 'bridge' in restrictions between the short term parking along Ocean Beach Road and the unrestricted parking in the adjacent off-street car park.
- Providing formal crossovers to land uses that abut Morce Avenue, to provide clarity regarding where vehicles can and can't park. Where possible, crossovers should be provided near the side boundary of each lot, adjacent to the crossover for the neighbouring site to maximise the number of on-street car parking spaces provided.
- Relocating car parking from the southern side of the road onto the northern side of the road. This would increase the number of spaces provided, as there are minimal access points off the northern side of the road (only the accesses to the off-street car park). It is noted that some work to reconfigure the cross-section would be required to push the traffic lanes south into the existing indented parking area, and to provide kerb outstands near the pedestrian crossing and potentially the car park accesses on the north side of the road. Furthermore, assessment of swept paths for larger vehicles may be required in some locations.

7.2.4 Maintain Enforcement of Car Parking Restrictions

The duration of stay survey data identified an element of vehicles overstaying car parking restrictions. It is important, particularly in the commercial precinct around Ocean Beach Road, that car parking spaces turn over as intended. As such it is recommended to maintain an appropriate level of enforcement, particularly during peak periods.

Before detailed recommendations can be provided in relation to car parking restrictions and whether existing arrangements are appropriate, a level of enforcement needs to be achieved.

In general, it is desirable to maintain the short duration parking (1P) in the kerbside areas on Ocean Beach Road, while providing slightly longer duration parking (such as 2P) in the centre of the road provisions. This allow for a consistent turnover of parking on both sides of the road for customers of businesses in the area, with flexibility for a slightly longer stay in the centre of the road parking. The longer duration parking should generally be provided in the centre of the road, as this will turnover less frequently, meaning fewer pedestrian crossing movements between the parking and the footpath.

7.3 Medium Term Recommendations

7.3.1 Car Parking Overlay

It is understood that a number of car parking waivers have been granted within the SAC in the past 5 to 10 years to reduce the parking requirements of planning applications against the requirements specified under Clause 52.06 of the Mornington Peninsula Shire Planning Scheme. Due to current pressure on parking within the SAC during critical periods of the year, granting car parking waivers for new developments is not sustainable. A Parking Overlay with a cash-in-lieu scheme is one way to address this issue and provide for future car parking demand as the SAC continues to develop.

It is clear from the 2017 car parking surveys that additional car parking would be required to meet any increase in car parking demands brought about by future development in the area, as existing public car parking provisions are at practical capacity, at least around the lunchtime peak period. At the same time, it is desirable to not impede change of use applications or indeed other development through statutory car parking requirements. It is considered that a Car Parking Overlay, including a cash in lieu payment scheme, provides a mechanism to facilitate development and changes of land use, while allowing for public car parking provisions to be increased in the future.

Parking Overlays, incorporated into the Planning Scheme under a Schedule to Clause 45.09, allow Councils to respond to local car parking issues and can outline variations to standard car parking requirements specified under Clause 52.06. A Parking Overlay can specify:

- Parking rates;
- Financial contributions;
- Design requirements; and
- Decision guidelines.

A Parking Overlay must specify clear objectives to be achieved through application of the provisions.

7.3.1.1 Objectives

It is considered that the objectives of the Parking Overlay should be to:

- Identify appropriate car parking rates for various land uses within the Sorrento Activity Centre;
- Facilitate change of use applications through consistent car parking rates and measures where applicable;
- Provide for the collection of financial contributions for the construction of shared car parking facilities for the centre, and to provide a mechanism for more intensive development to contribute to public car parking provisions where it is not possible for car parking to be provided on-site.

7.3.1.2 Parking Rates

While the standard 'Column A' rates specified under Clause 52.06 of the Planning Scheme go some way to providing standardised rates and measures to facilitate change of use applications, it is considered that there is scope to increase this standardisation across a broader range of uses.

The car parking occupancy profiles from the 2017 surveys identified that demands peaked over the midday lunchtime period, but that there was spare capacity in the evening, especially after 6:00 PM. This suggests that uses such as restaurants could be changed to a per floor area rate, in line with shops, as demands generated by these uses are generally formed of shared trade with other uses in the activity centre over the lunch time period, with demands generated in their own right peaking in the evening when there is a greater pool of car parking available. This would facilitate

change of use from shops to restaurant uses without additional car parking being an unnecessary hurdle.

It is considered that car parking requirements for the following uses could be changed to be a function of the floor area, nominally 4.0 spaces to each 100 m² of leasable floor area to bring the rate into line with shop uses:

- Convenience restaurant;
- Hotel; and
- Restaurant.

It is also considered that there is merit in reducing the car parking requirement for the following retail uses to 4.0 spaces per 100 m² of leasable floor area to match the requirement for most other retail uses:

- Convenience shop with a floor area exceeding 80 m²; and
- Market.

To assist in determining car parking demands for residential uses, car ownership data collected by the Australian Bureau of Statistics (ABS) during the 2016 Census (9 August 2016) has been sourced and assessed. Residents of 651 dwellings within Sorrento provided information with regard to the number of vehicles parked at or near their place of residence on the Census night. Table 16 provides a breakdown of the ABS car ownership data.

Table 16 ABS Car Ownership Data, Sorrento – 2016 Census

No. Bedrooms	Respondents	Average Cars per Dwelling	Number of Vehicles and % of dwellings				
			0 Cars	1 Car	2 Cars	3 Cars	4 Cars or More
One	10	0.6	40%	60%	0%	0%	0%
Two	77	1.2	14%	55%	27%	4%	0%
Three	301	1.6	4%	44%	41%	8%	3%
Four	199	1.9	0%	34%	48%	15%	4%
Five	45	2.0	0%	33%	47%	11%	9%
Six or more	14	2.1	0%	29%	29%	43%	0%
Not stated	11	0.6	36%	64%	0%	0%	0%

Although the sample size for some dwelling types is small, it is clear that dwellings within the area typically generate demand for at least 1 car parking space, with larger dwellings generating demand for additional spaces.

It is understood that there have recently been residential developments approved within the SAC where car parking requirements have been waived entirely. Considering the seasonal nature of demands within the SAC (noting that dwellings are more likely to be occupied during the peak summer period) and the desire to cater for the '85th percentile' demand, it is considered inappropriate to grant total waivers for residential uses. For the benefit of future residents and for other uses within the SAC, it is considered that at least 1 car parking space should be provided for each dwelling. It is clear that a minimum of 2 spaces should be provided for each dwelling with four bedrooms or more, however it is suggested that there is scope to reduce the requirement for dwellings with three bedrooms based on the ABS data. Accordingly, it is suggested that the following requirements for resident car parking could be adopted:

- One-bedroom or two-bedroom dwelling: 1.0 space to each dwelling
- Three-bedroom dwelling: 1.5 spaces to each dwelling
- Four-bedroom or more dwelling: 2.0 spaces to each dwelling

It is considered that these rates should also apply to serviced apartments and self-contained accommodation.

It is suggested that the visitor parking rate of 1 space to every 5 dwellings in developments of 5 or more dwellings should be retained.

It is considered that resident parking should be provided on-site, and should not be reduced through a cash-in-lieu scheme or through any other mechanism. It is acknowledged that there can be difficulty in terms of access controls and on-going management to provide visitor parking on-site, particularly for smaller developments. As such it is considered that the visitor parking component could be reduced through a cash-in-lieu scheme to mitigate any impact on the pool of public car parking.

For all remaining uses it is recommended to retain the 'Column A' rates specified under Clause 52.06, but to implement a cash-in-lieu scheme to ensure that where an intensified use is proposed, the parking supply for the centre can still be increased even if car parking cannot be provided on the site. The cash-in-lieu scheme is discussed in the following section.

7.3.1.3 Financial Contributions

It is recommended to implement a financial contributions or cash-in-lieu scheme as part of any Parking Overlay. The premise of the cash-in-lieu scheme is to collect financial contributions where a use is proposed to be intensified, but it is not possible to provide the required car parking on the subject site. This contribution is then used to provide additional public car parking to serve the centre to maintain an appropriate supply of parking while not unnecessarily impeding development.

Any requirement for a cash-in-lieu scheme needs to be assessed against the following criteria:

- Need;
- Nexus;
- Accountability; and
- Equity.

Financial contributions must:

- Relate to a use (or change in use) of land or development of land;
- Designate the area to which it applies;
- Be financially proportionate to the statutory right for which they are exchanged. Councils can only require payment for car parking that actually reflects the cost of providing a car parking space; and
- Identify a proper planning purpose to be funded by the contribution. A project that provides car parking facilities, or other measures which reduce the demand for car parking would generally be regarded as a proper planning purpose.

The following information must be set out within the schedule:

- The area in which the financial contribution may be collected in place of providing car parking spaces;
- The amount required in dollars per car parking space;
- The method of indexing the amount; and
- Financial arrangements associated with holding and spending funds paid, including the purposes for which the funds must be used.

Each payment made under a cash-in-lieu scheme should be made into a separate 'car parking and access fund' established by the municipality. This fund should only be used for the purposes identified within the schedule.

It is clear from the 2017 car parking surveys that additional car parking demands cannot be accommodated within current provisions in the commercial and foreshore precincts. Prior to implementing such a scheme, it is necessary to identify a suitable project for which funds collected will be used, and to establish a price to be charged per space.

Considering the need for additional car parking, the remote location of the SAC, and relatively limited prospects for uptake of alternative transport modes, it is considered that any funds collected should go towards providing additional car parking for the centre. Accordingly, there are two avenues that could be explored:

- Provide additional car parking on land currently owned by Council; or
- Acquire additional land for the purposes of constructing a new car parking facility.

The Morce Avenue off-street car park is owned by Council, and funds collected could be used to provide decked car parking, or expanding the boundaries of the existing at grade car park into adjacent Council owned land.

If land were to be acquired for the construction of a new parking facility, it is recommended that the site should be within convenient walking distance of the commercial precinct and preferably the foreshore area. Any site or sites selected would need to be suitably sized to allow for an efficient car parking layout.

The selection of a site should account for a number of factors to ensure that the project is viable, including:

- Location;
- Land cost;
- Construction costs; and
- Number of spaces that could be accommodated.

It is recommended that further investigations should be undertaken to determine a suitable project.

To assist in determining a suitable project, the following guidance on construction costs for various types of car park are provided, as summarised in Table 17. These figures have been sourced from the *Rawlinsons Australian Construction Handbook* edition 35 (2017) and should be used as a guide only. Actual costs will be subject to a range of site specific factors.

It is understood that recent at grade parking facilities in the shire have cost in the order of \$8,000 per space. It is also understood that a new 750 space multi-level car park at Frankston Hospital cost \$19,333 per space, and that a new 274 space multi-level car park in Oakleigh recently cost \$27,000 per space.

Table 17 Car Parking Construction Cost Guide

Facility	Cost Range (per space)
At-grade parking	\$2,990 - \$3,240
Multi-storey above ground car park (ground plus 1 level)	\$14,100 - \$15,200
Multi-storey above ground car park (ground plus 2 levels)	\$17,100 - \$18,400
Underground (1 level)	\$50,100 - \$54,000
Underground (2 levels)	\$49,600 - \$53,400

Irrespective of which option is selected, it is recommended that the project is designed to be modular, so that components can be built in stages to provide increases in the car parking supply as funds become available, rather than having to wait for a longer period of time to accrue funds to complete the car park as a single larger project.

The price charged per space as part of any cash-in-lieu scheme should consider factors such the construction cost and land cost, which are dependent on the project selected. The price should also consider the extent to which Council is prepared to subsidise parking for the centre. The cost price should acknowledge the fact that any car parking paid for under the scheme would contribute to the public car parking pool and would therefore be available for public use, whereas

car parking provided as part of a private development would be exclusively provided for that use. Conversely, the price for the cash-in-lieu scheme should not be so low that it is seen as being a 'easy' option, meaning no effort is made by developers to accommodate parking on individual sites due to cash-in-lieu payments being a cheaper alternative. It is therefore recommended that further investigations into an appropriate price are undertaken. For comparative purposes, rates charged by other municipalities around Victoria are summarised in Table 18 below.

Table 18 Schedule to 54.09 Parking Overlay

Municipality	Area	Comparison (Financial Contribution)	Index
Benalla	Benalla CBD	\$6431 per parking space	Compound basis, at the end of each financial year, according to movements in either the Consumer Price Index or Producer Price Index
Campaspe	Echuca CBD	\$2,000 per parking space	Amount increased annually, in accordance with Construction Industries Producer Price Index-General Construction Industry
Casey	Berwick Village Commercial Centre	\$16,935 per parking space (excluding GST)	Land component of the contribution, being \$13,650. Amount adjusted quarterly, applying Consumer Price Index (Melbourne) in Rawlinsons Australian Construction Handbook. Capital Works component, being \$3,285, applying Building Price Index (Melbourne) in Rawlinsons Australian Construction Handbook
Colac Otway	Apollo Bay CBD	\$13,000 per parking space	Amount adjusted annually, in accordance with the relevant Building Price Index (Melbourne) in Rawlinsons Australian Construction Handbook.
Greater Bendigo	Bendigo City Centre	\$10,561.67 per parking space (excluding GST)	Amount adjusted annually, in accordance with the relevant Building Price index (Melbourne) in Rawlinsons Australian Construction Handbook.
Greater Dandenong	Springvale Activity Centre	\$19,000 per parking space	Amount adjusted annually, in accordance with the relevant Building Price index (Melbourne) in Rawlinsons Australian Construction Handbook.
Greater Shepparton	Shepparton CBD	\$4,500 per parking space	Amount is to be increased annually in accordance with the Construction Industries Producer Price Index-General Construction Industry,
La Trobe	Traralgon Activity Centre	\$8,000 per space (excluding GST)	Amount adjusted annually, in accordance with the relevant Building Price index (Melbourne) in Rawlinsons Australian Construction Handbook.
Moira	Yarrawonga	\$8060 per parking space	Amount reviewed annually, in accordance with the Construction Industries Producer Price Index – General Construction Index
Monash	Glen Waverly Activity Centre	\$11,000 per parking space (plus GST)	Amount adjusted annually using the Consumer Price Index (CPI) (all groups) as the index.
Monash	Oakleigh Major Activity Centre	\$6,000 per parking space (plus GST)	Amount adjusted annually using the Consumer Price Index (CPI) (all groups) as the index.

Municipality	Area	Comparison (Financial Contribution)	Index
Southern Grampians	Hamilton Central Activity Centre	\$8,000 per parking space (plus GST)	Adjusted annually using the CPI all groups as an index
South Gippsland	Leongatha CBD	\$4,800 for each car space from 5 to 8 \$7,200 for each car space from the ninth to the twentieth space \$9,600 per car space from the twenty-first space	Amount is to be increased by applying the ABS 6427.0 Producer Price Index Number 3101 Road and Bridge Construction Victoria contained within the Construction Industry Output Price Indexes
Surf Coast	Torquay Town Centre	\$13,828 per parking space	Amount Adjusted annually in accordance with Section 3.3 of the Torquay Town Centre Parking Precinct Plan, December 2012.
Wodonga	Wodonga Central Business District	\$5,000 per parking space	Not specified
Wyndham	Werribee City Centre	\$12,500 per parking space (plus GST)	Amount adjusted annually, in accordance with the relevant Building Price index (Melbourne) in Rawlinsons Australian Construction Handbook

It should be understood that any shared car parking facility constructed under a cash-in-lieu scheme should not require 1 space to be constructed for every space for which payment is received. Parking within the new facility would be shared amongst many uses within the activity centre, with users likely to visit multiple uses while parked. Similarly, different uses generate different temporal demands creating efficiencies in the way the shared parking pool is used. As such it is considered that the price nominated for the cash-in-lieu scheme could be adjusted downwards from the provision cost to account for these efficiencies.

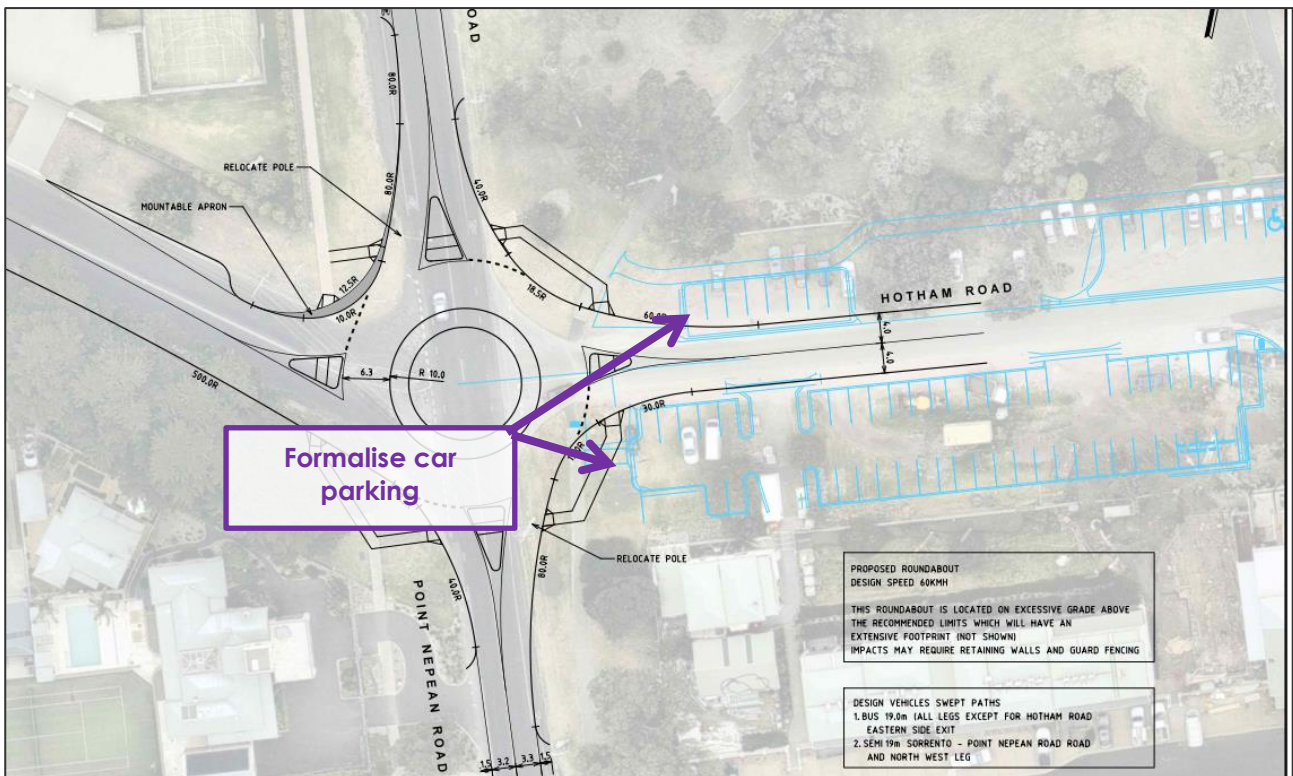
7.3.1.4 Design Requirements

The Parking Overlay allows for alternative design standards to those specified under Clause 52.06 to be introduced if required, however it is considered that there is no need to specify any additional or alternative design requirements.

7.3.2 Formalise Select Informal Car Parking Areas

The Searoad Ferries Traffic and Transport Assessment report prepared by Cardno includes plans showing a concept design for the formalisation of existing informal parking provision on both sides of Hotham Road, east of Point Nepean Road, which has been reproduced in Figure 76. Although some informal parking already occurs in this area, particularly in peak times, this design would result in an increase in the number of cars that could be accommodated in this area, thereby providing much needed additional car parking with good pedestrian connectivity to the pier and foreshore area.

Figure 76 Hotham Road Informal Car Parking



It is understood that this arrangement accommodates the additional car parking within the road reserve, and as such no land acquisition would be required.

Whether or not these works are to be undertaken as part of the Searoad Ferries proposal, it is recommended to further investigate the option of formalising this car parking.

7.3.3 Investigate a Paid Parking Scheme

Paid parking can be a useful tool for managing car parking within a precinct such as the SAC. While it was beyond the scope of this study to investigate whether paid parking should be implemented within the SAC, it is recommended to undertake such an investigation in the medium term. This could be done as part of any broader, shire wide investigation into paid parking.

It should be recognised that the provision and maintenance of car parking facilities has an associated cost. Currently within the SAC, this cost is currently borne indirectly through residents and businesses through Council rates, which are then typically passed on to the broader community through measures such as rents, the price of goods or services, or other means. The implementation of a paid parking scheme would pass the cost of parking onto the end user.

The primary benefit of paid parking is that it tends to lead to a higher turnover of parking. This in turn reduces instances of vehicles circulating in search of a parking space, and reduces the total number of spaces that are required to accommodate demands.

Paid parking in key areas can encourage longer term parkers, such as staff, to use parking in less convenient locations such as off-street or fringe areas, leaving shorter term parking available for customers of local businesses. It can also encourage staff to utilise alternative transport modes.

Paid parking generates revenue that can be used for the upkeep of parking facilities.

Conversely, paid car parking can unfavourably relocate car parking demands if not appropriately managed. Users will tend to favour free car parking over paid parking, which can push demands into residential areas, unless other mechanisms such as resident permit schemes manage parking in these areas.

Additionally, there is often the perception amongst traders that paid parking will turn away visitors and customers. It should be recognised that free parking is not an attractor of visitors and customers to an area, rather it is the presence of quality businesses and key attractions such as the foreshore area that attract people to the SAC. As such it is expected that paid parking is unlikely to deter people from visiting the SAC, however depending on where paid parking is implemented, it could favour a business on the periphery of the paid parking area if free parking is available nearby over a similar business without nearby free parking.

It should be recognised that if paid parking were to be considered in the future, it could not be implemented within any car park paid for or partially paid for through a cash-in-lieu scheme, as Council would have already collected contributions for the construction of such a car park.

7.3.4 Investigate 'Smart Cities' Technology

It is understood that the shire is currently investigating the use of 'Smart Cities' technology elsewhere in the municipality, but with potential to expand into other townships such as the SAC. This technology would utilise sensors to monitor a range of Council assets, including car parking usage. This information would then be fed into analytics software, with relevant information provided to the public through mediums such as electronic signage and smart phone applications.

As such this technology could be used to provide real time information to drivers about parking opportunities, thereby reducing instances of drivers circulating in search of a car parking space.

Unlike previous iterations of this technology, which required an induction loop or sensor to be cut into every car parking space, or recorded inbound and outbound movements from an off-street car park and were prone to errors, it is understood that recent technology advances have reduced costs and improved accuracy.

It is recommended that this technology is further investigated for use in the Sorrento SAC as a means to help manage use of car parking provisions.

7.4 Long Term Recommendations

It is not sustainable to continue to build additional car parking to accommodate an ever-increasing level of demand. As such the long-term recommendations seek to manage car parking demands through provision and promotion of viable alternative modes of transport to private vehicle use, rather than increasing car parking provisions.

Whilst the following have been provided as long-term recommendations, work on these areas should commence as early as possible. They have been listed as long-term recommendations to reflect likely achievement timeframes.

7.4.1 Advocate for Improved Public Transport Connectivity

Bus services that currently service the SAC are shown Section 2.3. More frequent bus services through the area would provide an alternative for staff of businesses in the area to travel from elsewhere within the municipality. At present buses currently operate at around 45-minute intervals for route 788 services while there can be over a 2 hour wait for route 787 services. These long wait times can discourage staff who work in the area to travel by bus, as it gives less freedom in arrival and departure times than the convenience offered by car travel.

It is suggested that bus headways could be brought down gradually over time to improve uptake and reduce demands for car parking within the centre.

7.4.2 Continue to Improve Bicycle Infrastructure and Connectivity

Increased uptake of travel by bicycle is another effective way to reduce demands for car parking within the SAC, at least amongst staff members and residents. The *Mornington Peninsula Bicycle Strategy – Ridesafe* sets out a number of strategies to encourage the uptake of cycling amongst various user groups including school children and staff. It is recommended to continue to pursue these initiatives.

7.4.3 Promote Group Visitor Travel

The majority of visitor travel to the SAC is currently undertaken by private car. It is considered that there is opportunity to reduce this reliance on private car travel through tourist coach services from Melbourne. While it is less likely that these services will be used by residents of Melbourne, it is considered that there is opportunity for international visitors to utilise these options, which could reduce car parking demands during the peak summer season.

8 CONCLUSIONS

Based on car parking surveys during the summer peak period (but not the absolute peak in late December / early January) and a 'shoulder' period in autumn between the summer peak and winter off-peak period, it is clear that:

- Parking provisions in the commercial precinct around Ocean Beach Road and the Morce Avenue off-street car park are not sufficient to accommodate existing demand in these areas during the summer period;
- Parking provisions at the foreshore area are not sufficient to accommodate existing demand for parking in this locality during the summer period, and are just sufficient to accommodate demand during the 'shoulder' autumn period;
- Demands for the commercial precinct and foreshore area currently overflow into residential areas;
- Parking around Hotel Sorrento looks to accommodate existing demands (albeit with very little spare capacity), however as much of this parking is informal the capacity depends on the manner in which vehicles are parked;
- 1 hour and 2 hour parking spaces were highly utilised on all survey days by virtue of their proximity to the Ocean Beach Road commercial precinct, the foreshore and ferry area, and Hotel Sorrento. The duration of stay surveys identified little compliance with these restrictions, so higher levels of enforcement may increase turnover and reduce overall demands.

As such, additional car parking is required to accommodate demands currently generated by the commercial and foreshore areas to reduce overspill into residential areas. Furthermore, additional car parking will be required to meet demands likely to be generated by future development in the area.

It is recognised that it can take time to provide additional public car parking, and as such recommendations have been broken down into short term, medium term, and long term measures as summarised in Table 19.

Table 19 Summary of Recommendations

Timeframe	Recommendation	Description
Short Term	Wayfinding signage	During the shoulder period March surveys, it was identified that while parking on Ocean Beach Road was highly utilised, the Morce Avenue car park was less well utilised. It is recommended to install wayfinding signage on George Street to this car park.
	Formalise select informal parking areas	Formalising the Ocean Beach Road / Melbourne Road car park and the Point Nepean Road service road can increase the capacity in these areas at relatively low cost.
	Review restrictions in underutilised areas	On-street parking on Morce Avenue was largely underutilised throughout the survey period. The majority of these spaces are currently Loading Zones. It is considered that there is scope to review these restrictions and possibly the configuration of the street to increase the usable parking supply.
	Enforcement of restrictions	Short term parking restrictions are frequently overstayed. Stronger enforcement of restrictions could increase parking turnover, and therefore reduce the total number of spaces that need to be provided. It could also push longer term demands into more appropriate areas, such as the Morce Avenue car park, thereby freeing up parking on Ocean Beach Road for short term users.

Timeframe	Recommendation	Description
Medium Term	Parking Overlay	<p>So that public car parking provisions are not adversely affected when developments are not able to accommodate car parking demands likely to be generated within the development site, it is recommended to implement a Parking Overlay with a cash-in-lieu scheme to collect funds for the provision of additional public car parking if there will be a reliance on off-site parking.</p> <p>It is suggested that funds collected could be put towards the construction of a new deck above the Morce Avenue car park. Any project should be modular to allow some additional parking to be constructed once funds become available. Pricing for the cash in lieu scheme will require further investigation.</p> <p>It is also recommended to standardise parking rates and measures across a broader range of land uses than is currently the case under Clause 52.06 of the Planning Scheme, to facilitate change of use applications. It is suggested to adopt a requirement of 4.0 spaces per 100 m² of leasable floor area for the following uses:</p> <ul style="list-style-type: none"> ➤ Convenience Restaurant; ➤ Hotel; ➤ Restaurant; ➤ Convenience Shop with a floor area exceeding 80 m²; and ➤ Market. <p>It is considered that parking for residential uses should be in line with historical car ownership data, with no mechanism to reduce resident parking through the cash in lieu scheme.</p>
	Formalise select informal parking areas	There is scope to upgrade Hotham Road near Hotel Sorrento to provide formal car parking, increasing the supply.
	Investigate a paid parking scheme	A paid parking scheme is a potential measure to better manage car parking provisions within the SAC to encourage turn over, encourage more appropriate parking locations for staff, and to collect some revenue for the upkeep of car parking provisions. This will require further investigation.
	Investigate 'Smart Cities' technology	Smart Cities technology providing real time information on parking through mediums such as electronic signage and smart phone applications could assist with managing existing parking provisions. This will require further investigation.
Long Term	Advocate for improved public transport connectivity	More frequent bus services would provide an alternative mode of travel for staff of businesses. This would reduce car parking demands, and also reduce traffic volumes.
	Continue to improve bicycle infrastructure and connectivity	Increased uptake of travel by bicycle is a way to reduce demands for car parking within the SAC, at least amongst staff members and residents. The Mornington Peninsula Bicycle Strategy – Ridesafe sets out a number of strategies to encourage the uptake of cycling amongst various user groups including school children and staff. It is recommended to continue to pursue these initiatives.

<i>Timeframe</i>	<i>Recommendation</i>	<i>Description</i>
	Promote group visitor travel	The majority of visitor travel to the SAC is currently undertaken by private car. It is considered that there is opportunity to reduce this reliance on private car travel through tourist coach services from Melbourne. While it is less likely that these services will be used by residents of Melbourne, it is considered that there is opportunity for international visitors to utilise these options, which could reduce car parking demands during the peak summer season.

Appendix A Parking Survey Map











Appendix B Parking Survey Results



Car Parking Occupancy

170609 - Sorrento Parking Study

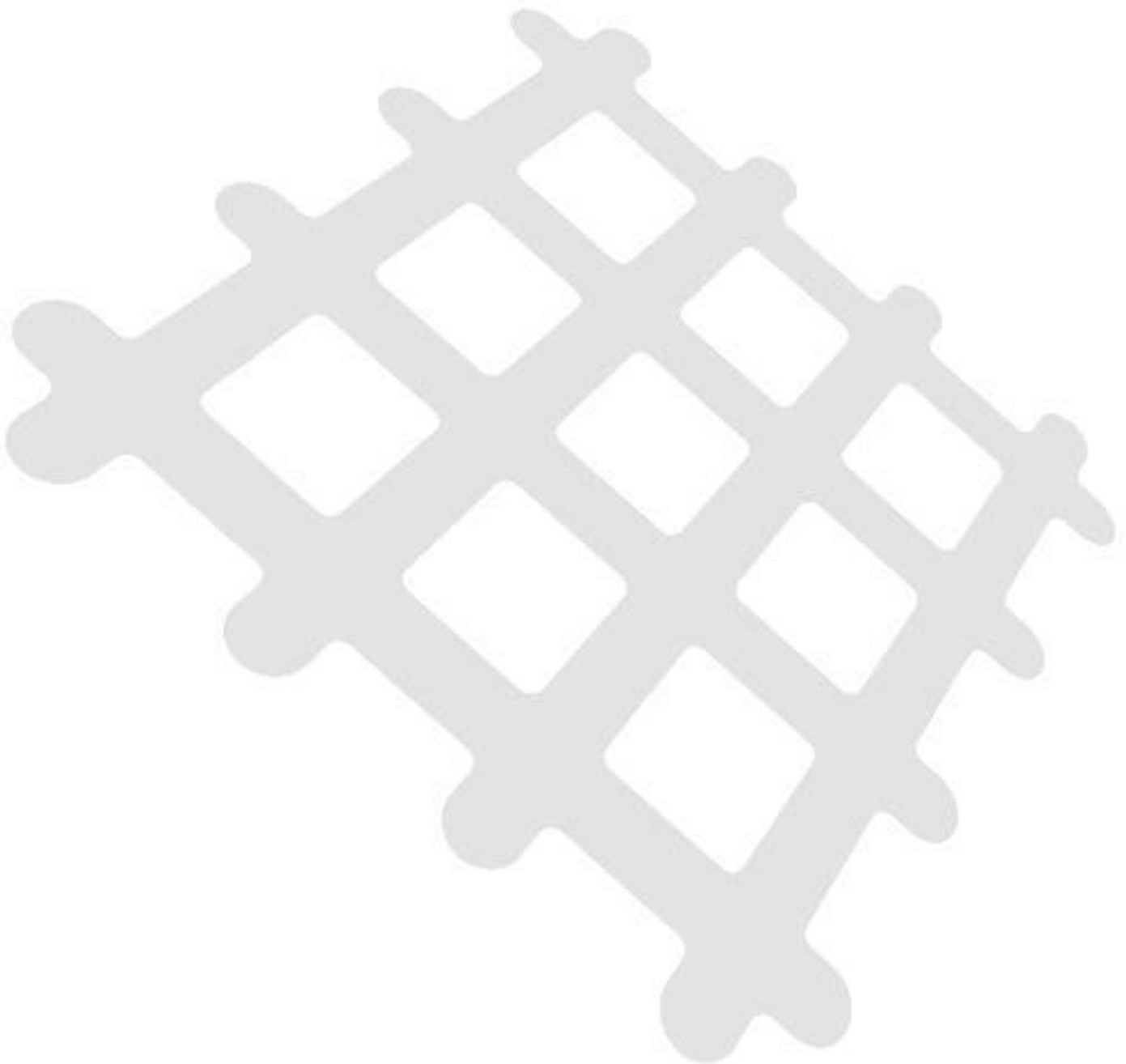
Project Number: 170609
Project Name: Sorrento Parking Study

Survey Details: Location: Sorrento, Date: Fri 17/03/2017, Survey Start: 8:00:00 AM, Survey End: 0:30:00

Table with columns: Area, Street, Section, Side, Restriction 1, Restriction 2, Restriction 3, Supply, and 24 columns for Parking Occupancy (HV, DV, EV, etc.). Rows list various streets and sections with their respective parking data.

Summary table with columns: Total Occupied Spaces, Max. Occupancy, Available Spaces, Min. Available, Capacity, Utilization. Values: 1783, 999, 784, 1783, 443, 26.6%

Appendix C Trader Survey Pro Forma



SORRENTO ACTIVITY CENTRE TRADER PARKING QUESTIONNAIRE

The information requested on this form is being collected by Mornington Peninsula Shire for the purpose of understanding trader's travel characteristics and view regarding parking in the area. The information collected will be used solely by the Shire for that primary purpose or directly related purposes. General (non-personal) information collected may be shared with the Sorrento Portsea Chamber of Commerce.

Please return completed questionnaire via Reply Paid envelope provided

Name (optional): _____

Email/ Phone (optional): _____

Business Address: _____

Question 1: What business do you own or operate?

Business name	
Type of business (eg shop, office, café, restaurant, supermarket, hairdresser etc.)	

Question 2: Do you know the size of the premises your business occupies?

Measure	Size (leasable floor area, number of seats etc)
Square metres of floor area (for office, shop, etc)	
Total seat number for restaurant or café	
Any other capacity indicator	

Question 3: What is the maximum number of staff you have working at once on an average day?

Question 4: What is the maximum number of staff you have working at once during your busiest days/ busiest times of year?

Question 5: What percentage or number of staff (approx.) tend to travel to work from the following areas:

Location	Number/ percentage
Nearby (less than 5km): Portsea, Sorrento, Blairgowrie etc	
Relatively nearby (5-15km): Rye, Capel Sound, Boneo, Rosebud etc	
Further out (15-25km): Main Ridge, Red Hill, McCrae, Dromana, Safety Beach etc	
Substantial travel: Mount Martha, Mornington, Frankston, Hastings, Somerville, Langwarrin etc	
Further than Frankston	

Question 6: What percentage or number of staff (approx.) tend to travel to work using the following transport methods?

Car driver		Walk	
Car passenger (car pool)		Cycle	
Dropped off		Taxi/ Uber	
Public transport		Other	

Comments: _____

Question 7: For all staff that tend to drive, what percentage or number of staff (approx.) park in the following locations?

On-site private carpark (only if business has on-site parking)		Nearby side streets	
Ocean Beach Road		Morce Avenue rear off-street carpark	
Point Nepean Road		Other off-street public carpark	

Comments: _____

Question 8: What is the busiest time of year for your business?

Question 9: Does your patronage/ number of customers per day vary significantly at different times of year? How seasonal is your business?

Question 10: What is the busiest time of day for your business on a typical day?

Question 11: What is your opinion of the amount of the following parking provision in Sorrento in relation to your business activities?

	Far too much	Somewhat too much	About right	Somewhat insufficient	Very insufficient
All day parking					
Long term time restricted (2P or longer)					
Shorter term (1 hour)					
Very short term (15 mins or less)					
Disabled parking					
Loading Zones					
Taxi Zones					
Bicycle parking					
Other:					

Comments: _____

