infraPlan

Henley Beach Car parking
Current Utilisation Survey

City of Charles Sturt

16 June 2015

Project	Henley Beach Car parking – Current Utilisation Survey
Client	City of Charles Surt
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Contents

1 Introduction

InfraPlan has been engaged by the City of Charles Sturt to undertake a car parking audit/study of current on-and off-street car parking provisions in the vicinity of the Henley Square Precinct.

The Henley Square Redevelopment Project is likely to result in increased utilisation of the precinct by visitors, with a corresponding increase in car parking demand. The purpose of this car parking audit/study is to provide base-line data regarding the current utilisation of existing car parking stock to inform future planning prior to commencement of major redevelopment works at Henley Square. The first stage of civil works has already commenced.

As outlined in the project brief, the goals of the study included the following:

1. To identify the current car parking capacity and utilisation throughout the year for the area immediately surrounding Henley Square in Henley Beach.
2. To include in the count two private carparks, being the undercover Pavilion Carpark and the open air carpark off Main Street on the corner of Military Road so that their capacity and utilisation is also fully understood.
3. In light of the above analysis consider the use of existing timed car parking spaces and whether capacity improvements could be achieved through alterations to the existing parking restrictions, their expansion and/or, enhanced enforcement of current and proposed areas.
4. In light of the above analysis provide a cost benefit analysis and justification or otherwise for Council to consider investing money in additional car parking in the precinct to respond to peak demand.

This has included the need to:

5. Identify a suitable boundary for a carpark count/analysis,
6. Determine appropriate dates/times throughout the year so that Council can accurately identify when the existing public and private carparks are most likely to be fully occupied.

This report seeks to describe the survey area and the periods over which data collection has taken place. The results of these surveys are provided both as independent snapshots of car parking demand hover time and as a summary of the changing demand for car parking across the precinct over the 6 month survey period.

Analysis of these results has enabled determination of the need or otherwise for the Henley Square Precinct to be further supported by investment in additional car parking stock or through changes to existing parking restrictions.

Each of the car parking surveys have been conducted by City of Charles Sturt personnel, with subsequent analysis undertaken in MS Excel.

2 Survey Area

Figure 1 below illustrates the extent of the study area, as agreed with the City of Charles Sturt. This has been based upon a 500m walking distance from the Henley Square Precinct. It also identifies the four major off-street parking facilities and their capacity.

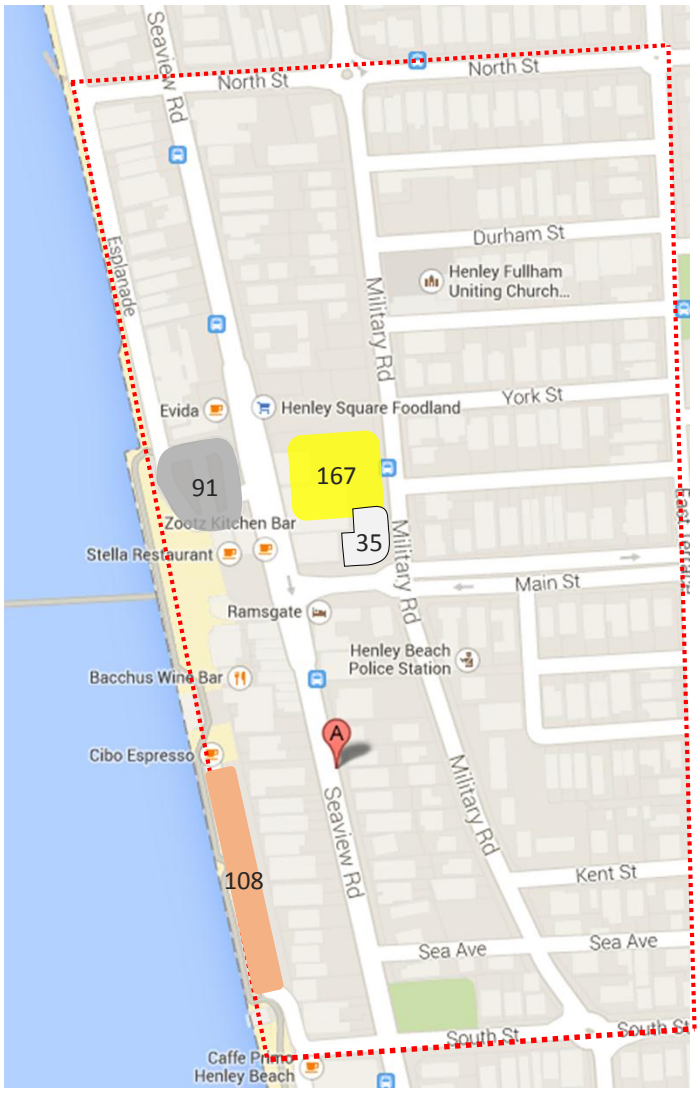

Figure 1 – Survey Area

Bounded by North Street, South Street, the Esplanade and East Terrace, the focus of the carpark utilisation survey is on on-street car parking and off-street carparks within the survey area. The off-street carparks, as marked on Figure 1 above, include the undercover Pavilion Carpark, the open air carpark off Main Street on the corner of Military Road and the carparks north and south of Henley Square.

Figure 1 also identifies a number of key land uses within the study area. Henley Square is characterised by the beach itself, the Surf Lifesaving Club, several cafés and restaurants, the Ramsgate Hotel, casual food outlets, apartment-style living and retail tenancies (including the Foodland Supermarket). These land uses extend along Seaview Road to both the north (approx. 180m) and south (approx. 100m) of the Square and along Main Street to Military Road.

East of Military Road lies the Henley Beach Police Station (on the southern side of Main Street) and residential housing. Similarly, residential housing extends further north and south along Seaview Road. The Henley Fulham Uniting Church Worship Centre is located on Military Road, just north of Durham Street.

The wider study area largely comprises residential housing. Some commercial development is also scattered along Military Road.

In order to more accurately identify the car parking demand across the survey area, a series of 6 precincts have been identified, as illustrated (and labelled) in Figure 2, below. This figure also includes a summary of the total number of on- and off-street carparking spaces available within each precinct.

Henley Beach Carparking Survey

Precinct Map

Figure 2 - Study area precincts

The precincts are characterised based on the location, proximity to Henley Square and attractions and the types of developments within each area. These characteristics are tabulated below.

Precinct	***Summary of Precinct characteristics***
1	*Beach front residential properties facing The Esplanade with rear access from Seaview Road.* *Henley Square car park (north) off-street parking (ID1) with 91 car capacity and timed 2-hour limit.* *Cafes and restaurants on the edge of Henley Square.*
2	*Henley and Grange public library at the corner of North Street and Seaview Road, the northern half of the precinct is medium density residential with frontages to both Seaview Road and Military Road.* *The southern half of the precinct is mixed retail / commercial with ground floor frontage to Seaview Road and apartments above and the large Foodland supermarket and Pavilion arcade with 167 space underground Pavilion Carpark below.*
3	*Largely residential with some small scale commercial frontage to Military Road (Real estate agent, Doctor's surgery etcetera) and the Henley Fulham Uniting Church on the corner of Military Road and Durham Street.* *On-street parallel parking on the kerbside and parallel and angle parking in the median on Main Street is unrestricted except for No Parking from 1am to 5am during Daylight Savings. The same restrictions exist in York Street and Durham Street*
4	*Esplanade car park off-street parking (ID2) with 108 car capacity and timed 3-hour limit.* *Cafes and restaurants on the edge of Henley Square, some commercial properties facing Seaview Road* *Beach front residential properties facing The Esplanade with rear access from Seaview Road.* *On-street angle parking on the western side of The Esplanade*
5	*The Ramsgate Hotel sits between Seaview Road and Military Road on Main Street.* *There are a couple of commercial / office premises immediately south of the hotel. The remainder of the Precinct is medium density residential with frontage to both Seaview Road and Military Road.*
6	*Medium density residential development throughout the precinct.* *St Michael & All Angels Anglican Church faces Military Road at the corner of South Street.* *On-street parallel parking on the kerbside and parallel and angle parking in the median on Main Street is unrestricted except for No Parking from 1am to 5am during Daylight Savings.*

Existing signed parking restrictions within the study area are summarised in Figures 3 and 4 on the following pages, as provided by the City of Charles Sturt.

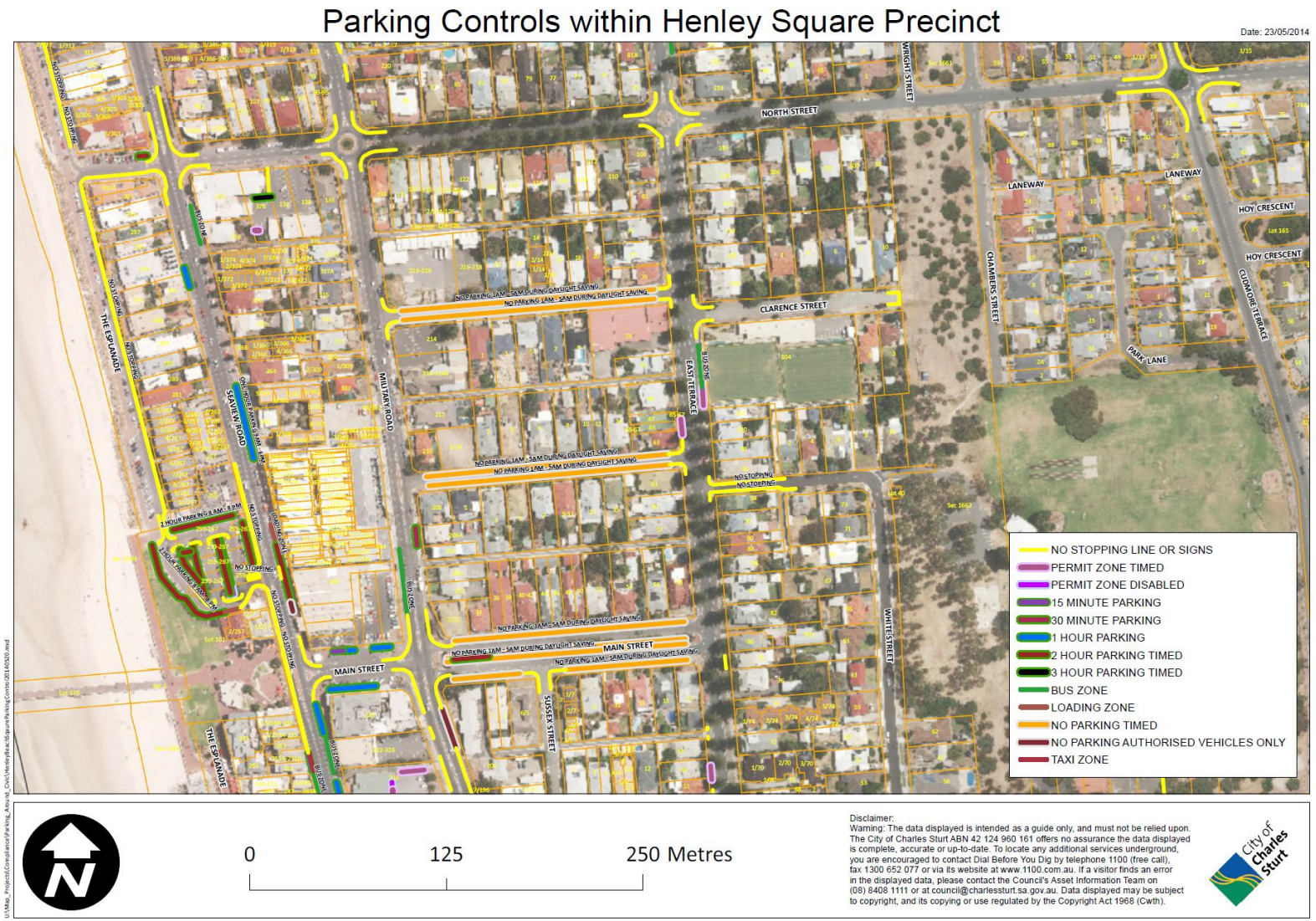

Figure 3 - Existing on-street parking restrictions, north of Main Street

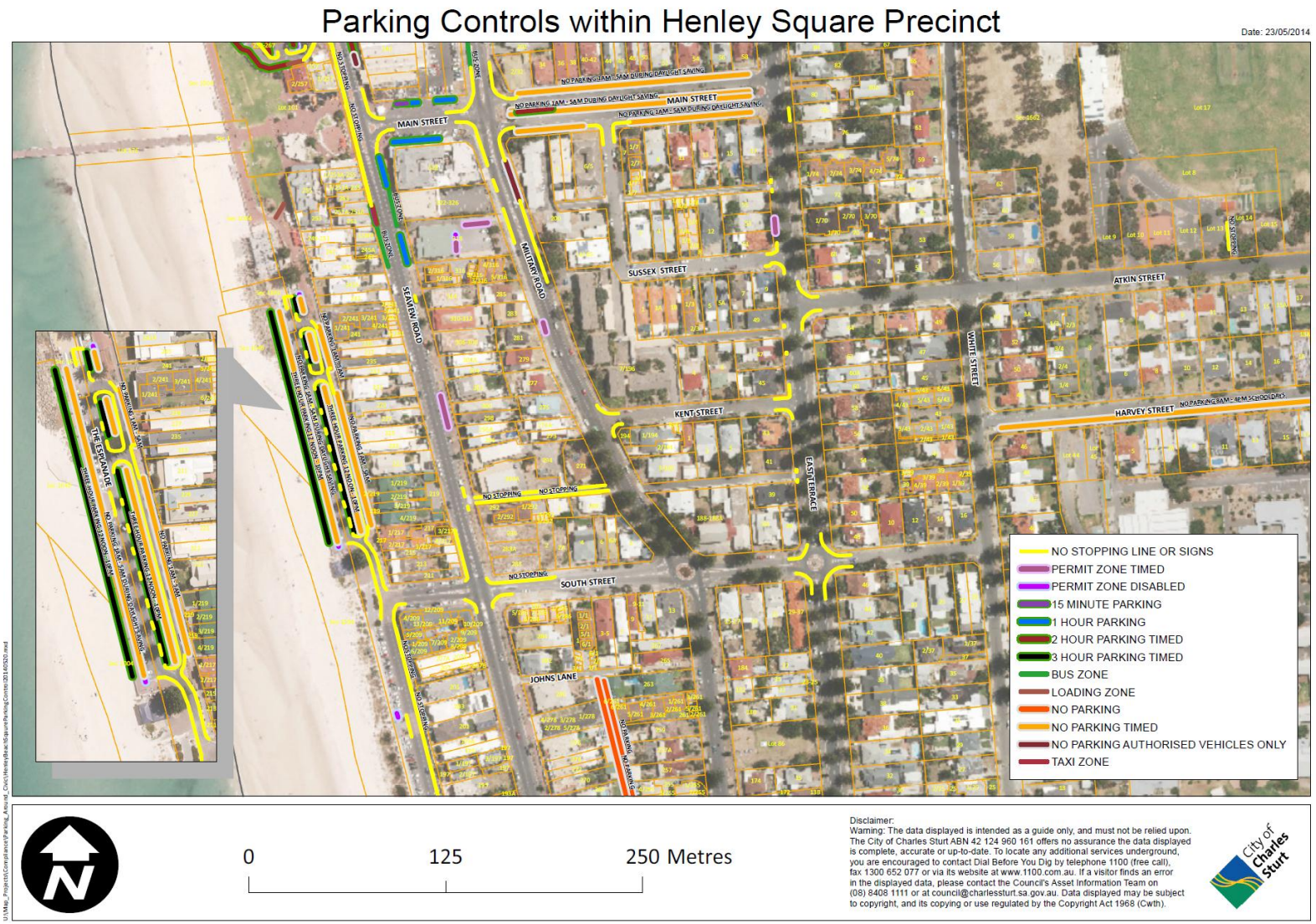

Figure 4 - Existing on-street parking restrictions south of Main Street

3 Survey Period

In consultation with Council, the study period was selected to capture the utilisation of car parking provisions within the Henley Beach Study Area across the warmer months of the year.

Surveys have been undertaken over a total of 12 days, between September 2014 and March 2015, as per the schedule below. The dates of the surveys have been grouped into 4 stages, designed to capture 'peak' car parking demands across the week and in particular, during the summer holiday season.

These survey dates have been determined in consultation with Council staff, in consideration of Council's Calendar of Events, and with regard to weather forecasts – inclement weather has been avoided.

As indicated in the Project brief, the counts in January were to be undertaken on hot, summer days with temperatures above 28°C. Unfortunately this project aim was not met due to oan unseasonably mild summer. Observed weather conditions are listed in the weather and event summary table on the following page.

The actual programme of counts is detailed below.

Table 1 Summary of car parking survey dates

Stage	Reason for survey date	Actual Survey Days and Times
Stage 1	Count during the early Spring (Civil works on Stage 1 of the Henley Square Redevelopment were occurring)	Friday night 12/9/14 Saturday 13/9/14
Stage 2	During the early summer period – December during school term	Friday night 5/12/14 Saturday 6/12/14
Stage 3	During the anticipated 'peak' period of January during the school holidays	Saturday 17/1/15 Sunday 18/1/15 Wednesday 21/1/15 Friday 23/1/15 Australia Day Monday 26/1/15
Stage 4	During early autumn (during the school term)	Friday night 13/3/15 Saturday 14/3/15 Sunday 15/3/15

4 Survey Results

City of Charles Sturt staff undertook each of the carpark utilisation surveys. The results of each survey were tabulated in MS Excel format proforma sheets. Numerical results were tabulated and graphed by date, time, precinct and individual car parking area.

Dates of surveys were initially chosen to identify typical days over the peak period and deliberately avoided events such as beach weddings, surf lifesaving carnivals and events over the Christmas – New Year period. Some surveys were rescheduled due to wet weather.

InfraPlan have collated the following summary of the survey dates including weather information as recorded by those undertaking the survey and from Bureau of Meteorology records where no data was recorded. Other significant events and activities around Adelaide that may have affected the numbers of visitors to the region has also been noted.

Table 2 Weather and event summary on survey dates

Day	Date	Weather	Date significance	other events
Friday	12/09/2014	sunny, clear, windy 15.6deg max No rain	pre Daylight savings	Royal Adelaide Show closing weekend OZ Asia Festival
Saturday	13/09/2014	Fine and sunny, but less than 20 degrees, still , no rain	pre Daylight savings	Royal Adelaide Show closing weekend OZ Asia Festival
Friday	5/12/2014	22.7 max - windy No rain		
Saturday	6/12/2014	23.5 max 23.5deg max no rain		
Saturday	17/01/2015	Max 22.8deg (20.2 @ 9am, 22.0 @ 3pm) No rain		Tour Down Under begins in City
Sunday	18/01/2015	Max 24.6deg (18.8 @ 9am, 23.4 @ 3pm) No rain		
Wednesday	21/01/2015	overcast am / windy 25 deg pm		Tour Down Under Unley to Adel Hills
Friday	23/01/2015	Max 23.9deg (20.6 @ 9am, 22.4 @ 3pm) No rain		Tour Down Under finish in Glenelg
Monday	26/01/2015	Max 21.5deg (17.2 @ 9am, 20.4 @ 3pm) No rain	Australia Day holiday	
Friday	13/03/2015	Max 25.5deg (20.9 @ 9am, 24.8 @ 3pm) No rain		final weekend Adelaide Festival & Fringe
Saturday	14/03/2015	sunny 26.9 deg max No rain		final weekend Adelaide Festival & Fringe
Sunday	15/03/2015	sunny 21 degrees No rain		final weekend Adelaide Festival & Fringe

The Bureau of Meteorology in summation of the 2014-15 summer season in Adelaide, concluded that the season was dry with generally mild temperatures (Bureau of Meteorology, 2015). Weather statistics show that other than a hot period during late December and the first week of January, temperatures in Adelaide were generally milder than average (Bureau of Meteorology, 2015). This hot period occurred when no surveys were conducted to avoid the event season over Christmas and New

Year. As such the survey period is characterised by generally milder than average temperatures and in many cases overcast conditions.

Within the 6 precincts 31 separate parking areas were identified, including on and off street parking areas. Table 3 below shows a typical set of tabulated survey results from the survey taken on Friday 12th September 2014. The ID column is colour coded by precinct and the Location name is coded black for off-street parking and grey for on-street parking.

Table 3 Example of car parking records for the survey area

Henley Beach Car Parking Survey
Data Collection Sheet

Date: 12/09/2014
Day: Friday
Weather: sunny, clear, windy

ID	Location	Capacity	5pm	9pm
			# of Cars Parked	# of Cars Parked
1	Henley Square car park (north)	91	59	89
2	South of Henley Square - Esplanade Car Park	108	66	46
3	Esplanade - South Street to # 203	21	13	7
4	Esplanade - # 203 to # 187	29	9	1
5	South Street - Seaview Road to The Esplanade	12	8	9
6	Seaview Road (South Street to Main Street - beach side)	14	5	12
7	Seaview Road (North Street to Main Street - beach side)	2	1	1
8	Seaview Road (North Street to Main Street - beach side - 1 hour parking)	2	0	0
9	Seaview Road (South Street to Main Street - east side - 1 hour parking)	6	6	3
10	Seaview Road (South Street to Main Street - east side - untimed)	10	6	10
11	Seaview Road (North Street to Main Street - east - 2 hour 9am - 6pm)	13	13	14
12	Seaview Road (North Street to Main Street - east - 1 hour 9am - 6pm)	5	5	5
13	Seaview Road (North Street to Main Street - east side - untimed parks)	11	10	6
14	Military Road (North Street to Main Street - beach side)	18	11	9
15	Military Road (South Street to Main Street - beach side)	18	12	12
16	Military Road (North Street to Main Street - east side)	14	9	10
17	Military Road (North Street to Main Street - east side 1/2 hour)	4	3	0
18	Military Road (South Street to Main Street - east side)	20	3	4
19	Sussex Street	43	11	12
20	Pavillion / Foodland Carpark (reading from sign)	167	49	15
21	Main Street - private car park behind shops	35	11	4
22	Main Street - Seaview Road to Military Road - north side 15 minutes	2	2	2
23	Main Street - Seaview Road to Military Road - north side 1 hour	2	2	2
24	Main Street - Seaview Road to Military Road - south side	11	11	7
25	Main Street - Military Road to East Terrace - timed	6	5	6
26	Main Street - Military Road to East Terrace - untimed	84	78	54
27	York Street	39	20	16
28	Durham Street	47	9	4
29	The Esplanade (north of Henley Square - angled car parking)	19	6	6
30	The Esplanade (north of Henley Square - parallel car parking)	21	5	1
31	North Street - Seaview Road to The Esplanade	15	5	8
	Total	889	453	375
			51%	42%

The three following graphs are generated from this table along with results of other surveys taken on Fridays across the survey period. They show seasonal variations by comparing surveys taken at similar

times of day, Precinct 1 usage by date across the survey period and a summary of off-street parking usage on Fridays, again showing usage by date with both 5pm and 9pm survey data shown.

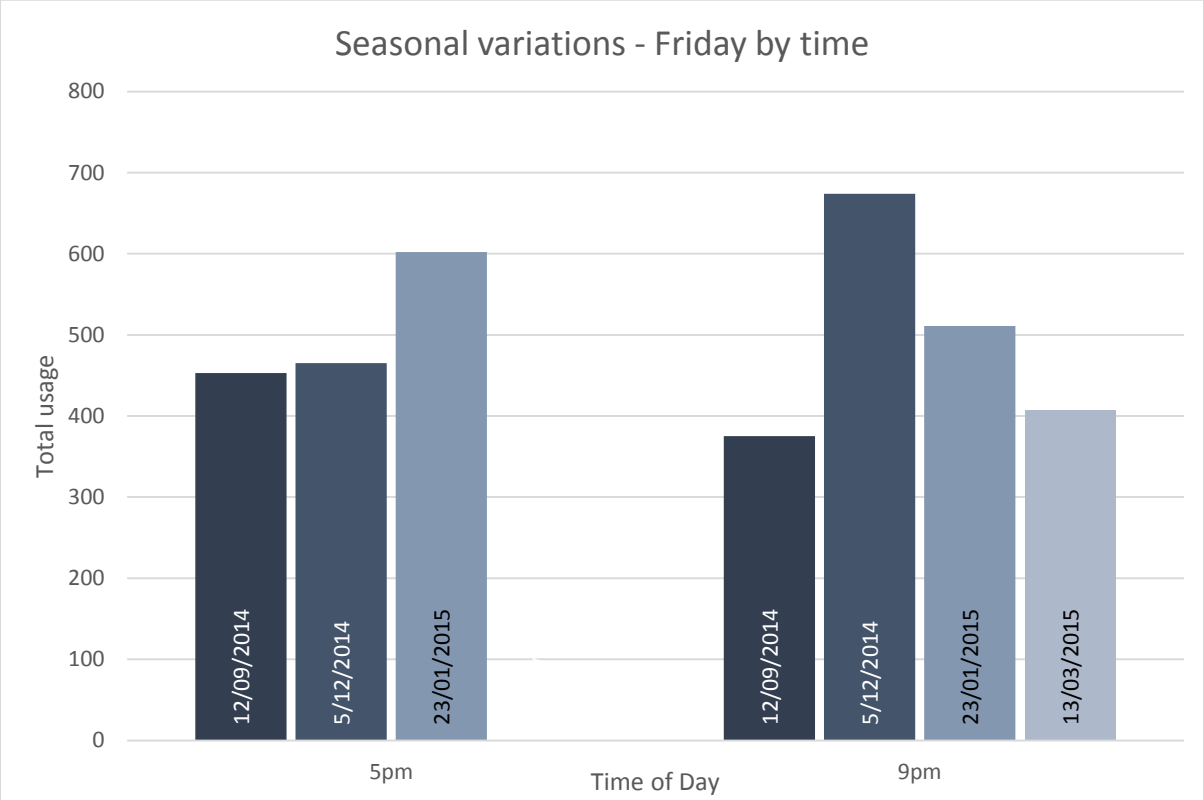

Figure 5 Typical output graph showing seasonal variation by survey time

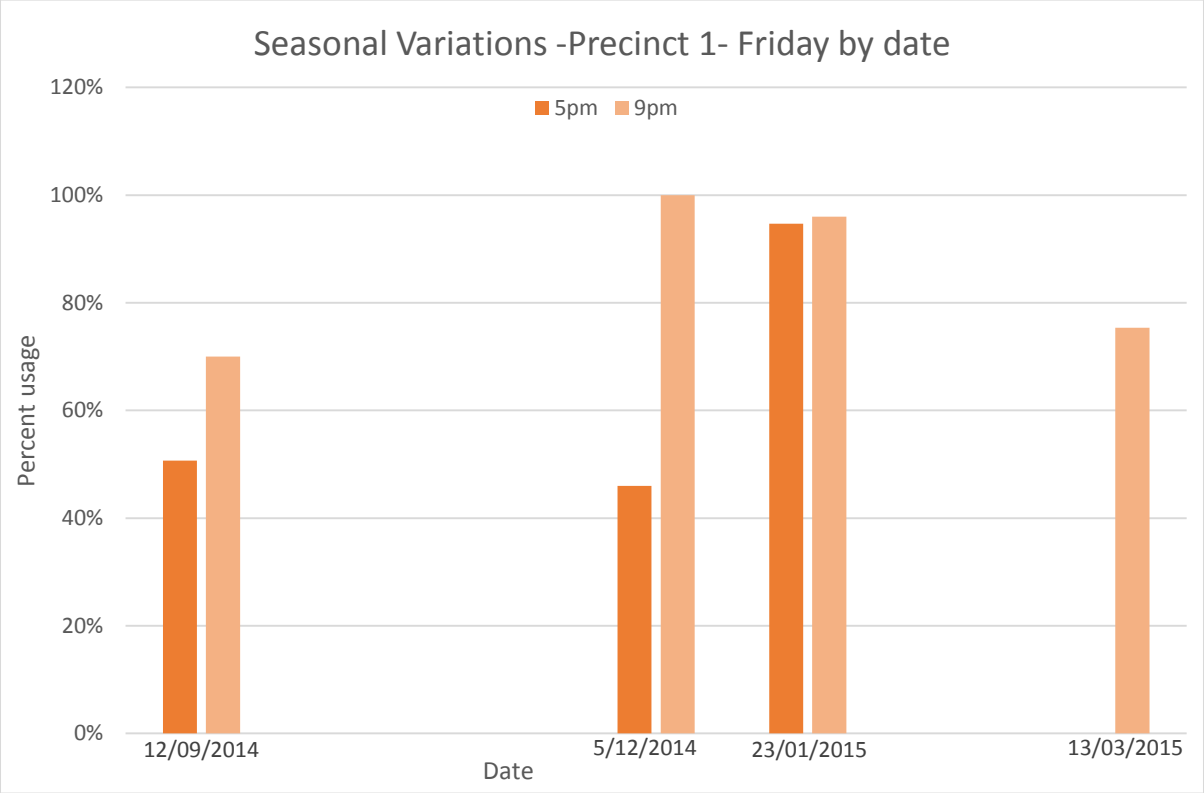

Figure 6 typical output graph showing percent utilisation of car parking in Precinct 1 on Fridays by date

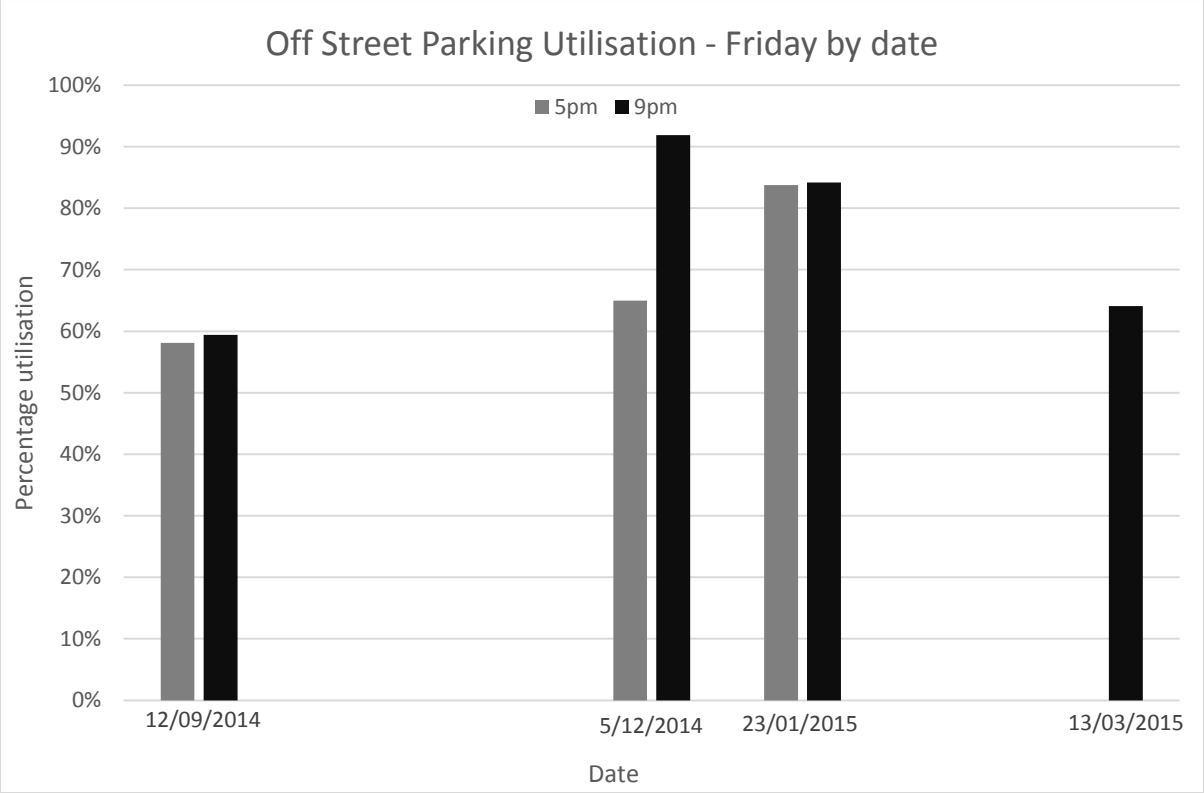

Figure 7 Typical output graph showing Off-Street parking utilisation percentage by date and time

Counts for the Pavilion Carpark serving the Foodland supermarket on Military Road were taken from the illuminated sign, survey staff did not enter this car park to count vehicles. Counts taken in early December showed 80 cars parked in this facility at all times of day, so it is assumed that the sign was in error. Following this date the sign was turned off and no counts were recorded for this facility. The sign was reported to be faulty in January and no values were recorded for this parking facility from this time. InfraPlan have chosen to ignore this carpark in this parking evaluation as the inconsistency created by this 167 space carpark (the largest in the survey area) would lead to errors in evaluating the true parking demand in the Henley Beach survey region.

Counts taken for the Pavilion Car Park in mid-September showed Friday 5pm usage of approximately 25% then falling in the evening and on Saturday usage peaked between 12:30 and 1:30 at 56% of capacity.

The following radar graph is a comparative graphic showing the capacity of each precinct. It is deliberately laid out to reflect the precinct locations, with the beachfront precincts to the left of the graph. Similar graphs are used to show percentage utilisation of precincts later in this report. The coloured dots represent the colour coded precincts as used in other graphed output and the precinct map.

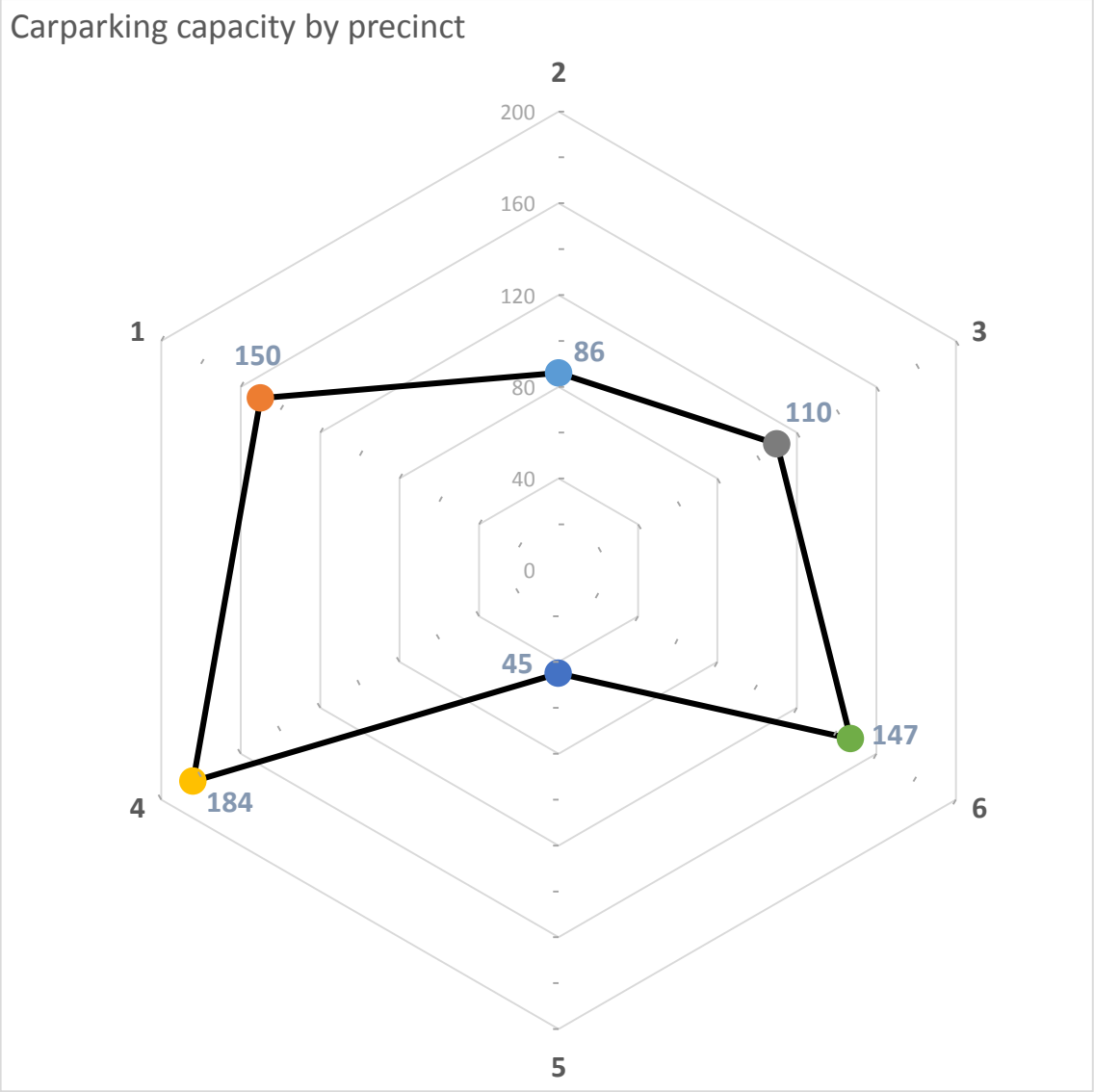

Figure 8 Radar graph showing relative car parking capacities (in blue) of the six precincts

5 Analysis of Survey Results

On-street parking demand is generally 10-20% lower than off-street demand despite off-street parking (excluding the Pavilion Carpark) making up less than 35% of the total supply in the area. If the Pavilion Carpark is included, average utilisation is just above 50%, increasing the gap between on and off street parking usage.

The peak demand times observed tended to focus around meal times, emphasising Henley Square and precinct as a dining destination. However the mild summer would have resulted in lesser numbers of beach visitors than anticipated and these people would have tended to fill some of the space between these meal times. Some peaks were also observed in the evening (9pm) surveys, probably linked to Ramsgate Hotel patrons and this is shown to be less regular, indicative of patronage dependant on special occasion visits. Regulars would tend to be from the local area and therefore may find alternative transport to and from the hotel to avoid drink driving.

Overall the results indicate that there is spare capacity within the area but that the areas in greatest demand are on the foreshore and around the main attractants of the Henley Square precinct. Given the mild temperatures experienced this summer, the additional loading from beachgoers on hot days will result in a shortfall of parking in the precincts most closely linked to the beach. While the Pavilion Carpark is suitably located, it is located to serve the shopping centre and does not encourage use by the general precinct visitor, as shown by the utilisation where recoded.

5.1 Precinct Summary

Precinct	*Summary of Car Parking Demand*
1	*Highest utilisation percentage of any precinct and shown to be operating at above 90% capacity for most survey periods and generally over 70%. This precinct is on the waterfront and is dominated by the carpark on the northern side of Henley Square, accommodating visitors to the beach front as well as restaurants, cafes and retail customers.*
2	*One of the lowest utilisation percentages and shown to fill only once precincts 1 and 4 are heavily utilised, therefore acting as overflow for the high demand areas. The Pavilion supermarket falls into this precinct but is not included in results due to incomplete data for this facility. Greatest usage recorded for 1pm and 9pm time periods, likely connected to Ramsgate Hotel and other restaurant patronage*
3	*Lowest utilisation percentage of all precincts. Characterised by suburban residential nature and is the greatest distance from the beach front and Henley Square. Greatest numbers recorded in this precinct are around the intersection of Main Street and Military Road, located closest to the Henley Square attractions. Typically below 50% utilisation.*
4	*Utilisation percentage fluctuates with no clear patterns of behaviour. Usage generally sits just below Precinct 1 utilisation. This precinct includes the southern portion of beachfront including the large Esplanade parking areas providing for beach visitors and restaurants around Henley Square. Utilisation fluctuates from less than 60% to 100% occupancy*
5	*Second highest average percentage utilisation behind Precinct 1 and shows consistent usage throughout the day. This precinct includes the eastern side of Seaview Road and western side of Military Road, both major local arterials. Overall capacity of this precinct is the lowest of all precincts as it features on street parking only.*
6	*Third highest capacity behind precincts 4 and 1 respectively, features only on-street parking and largely untimed parking. Usage patterns tend to follow behind precincts 4 and 5 suggesting it is not a first choice destination and is often utilised as overflow parking. This precinct, along with precinct 3 is the furthest from the beach front and without direct connection to the shopping and restaurant district of Henley Square and Military Road. Demand appears greatest around midday and late evening survey times.*

5.2 Summary by Day of the Week

Graphs have been produced to present patronage on Fridays, Saturdays and Sunday and Public Holiday times separately. The following sections are assessments of parking demand on each day.

Friday Surveys

Four Fridays were surveyed and parking recorded at 5pm and 9pm. The graphs below show that demand on Fridays increases later in the evening as patrons enjoy the end of the working week. Neither 5pm or 9pm patronage figures present a strong pattern in themselves but all dates show an increase later in the evening. No recorded data was provided for 9pm on March 13 2015. *Overall, the highest demand was recorded at 9pm on Friday 5 December 2014.*

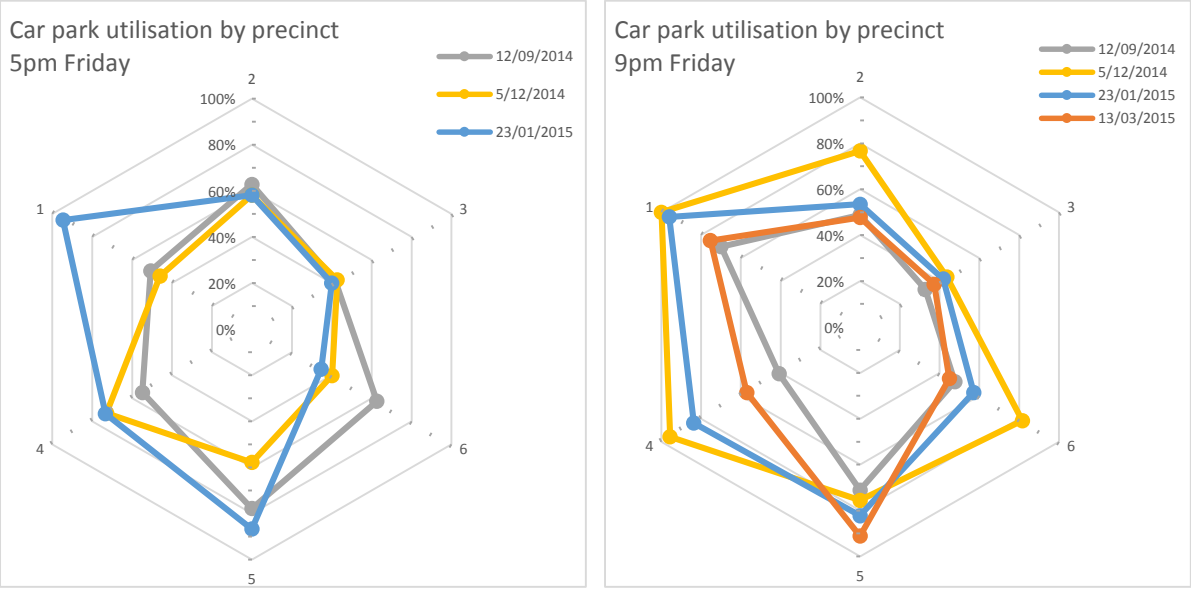

Figure 9 Car park utilisation on Fridays at 5pm and 9pm

Precinct	*Comment on Results*
1	*Highest % utilisation in Precincts 1, 5 and 4.* *Generally, above 50% utilisation* *Greater demand at 9pm*
2	*Significant range in demand* *In two of the three cases demand fell from 5pm to 9pm indicating usage for retail and other 9-5 businesses.*
3	*<45% utilisation over the survey period, lowest recorded utilisation on Fridays* *Generally between 35-45% utilisation* *Relatively consistent demand across the survey period*
4	*Generally above 55% utilisation* *Higher demand over December/January survey periods*
5	*All above 55% utilisation* *Majority above 70% utilisation*
6	*Generally between 35-65% utilisation*

Saturday Surveys

Four Saturdays were surveyed and parking recorded between 8:30-9:30am, 12:30-1:30pm, 6-7pm and 8:30-9:30pm. Saturday results were generally the most consistent day across the survey dates and show some close patterns of behaviour. Precincts 2, 5 and 6 show the greatest variation across the day while Precinct 1 remains above 80% on most occasions (excluding the 14th March records) and exhibits the highest utilisation percentage for fifteen of the sixteen survey date and time combinations.

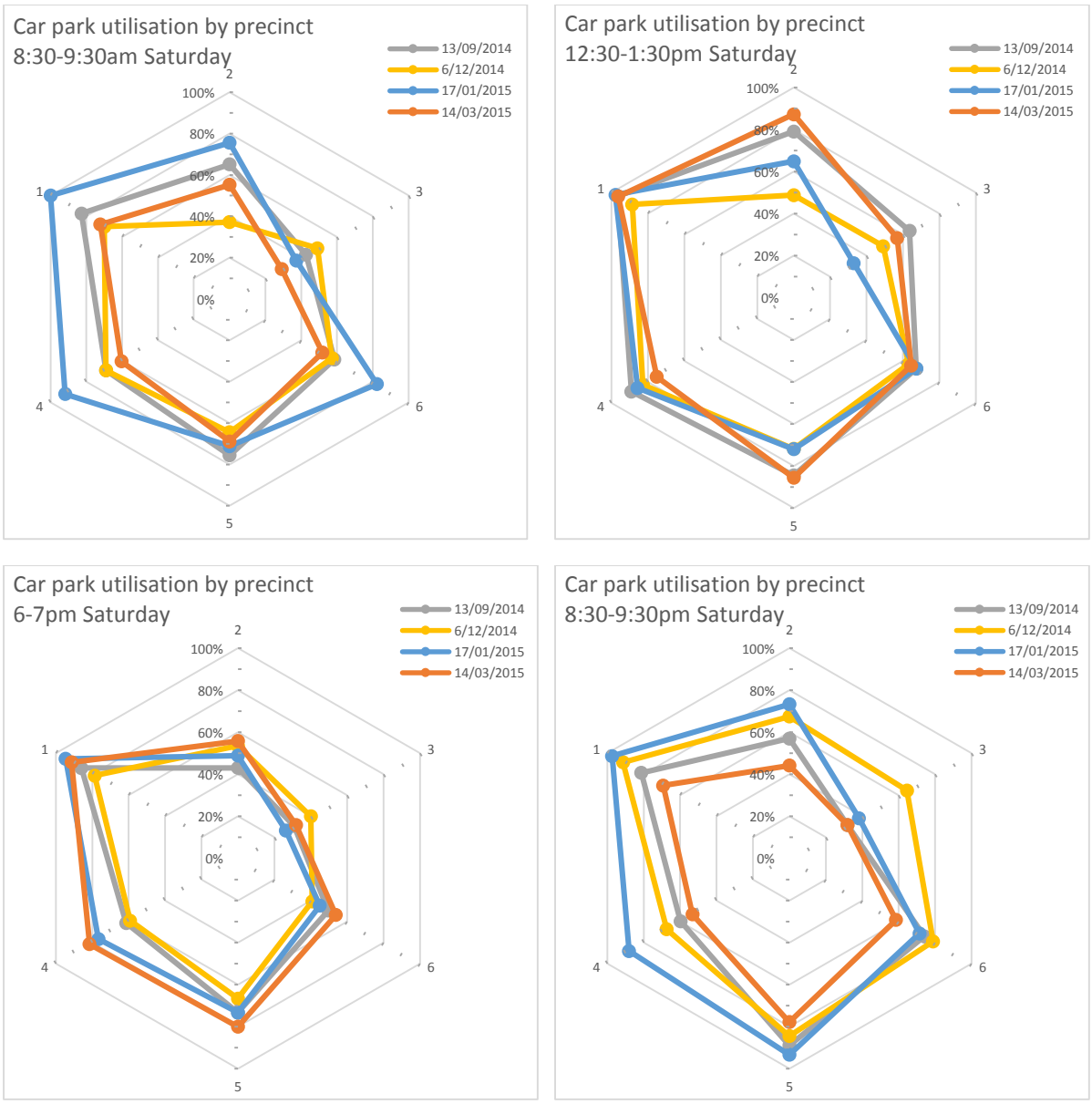

Figure 10 Patronage graphs for Saturdays over the survey period by time and by precinct

Precinct	*Comment on Results*
1	*Generally, above 80% utilisation, with highest daily demand occurring between 12:20 and 1:30pm* *Highest demand occurred on Sat 17/1* *Overall, daily parking demand was greatest during the December/January period* *Highest demand of all precincts across all Saturday dates and times*
2	*Generally, between 20 and 55% utilisation with the lowest daily demand occurring between 6 and 7pm* *Higher demand between 12:30 and 1:30pm in both this precinct and in Precinct 3 on Saturday 13/9 – perhaps an event at the Henley Fulham Uniting Church?* *With the exception of 13/9, there is generally less than a 15% change in parking demand across the day*
3	*Generally, between 30 and 50% utilisation with the lowest daily demand occurring between 6 and 7pm* *Highest daily demand generally recorded between 8:30 and 9:30pm* *Higher demand between 12:30 and 1:30pm in both this precinct and in Precinct 2 on Saturday 13/9 – perhaps an event at the Henley Fulham Uniting Church?*
4	*Demand fluctuates between 40% and 90% with highest demand experienced at 12:30-1:30 survey time.* *17th Jan experienced much higher demand than other survey dates and demand remained consistently above 80% for the whole day, perhaps some event in the area?*
5	*Generally above 65% utilisation.* *Demand appears to be greater around midday and later in the evening.* *Highest demand for car parking occurred during March, lowest demand during December.*
6	*Parking demand varies between below 40% and just over 80% utilisation.* *Markedly lower car parking demand between 6 and 7pm.* *Lowest demand for parking was recorded during the December survey.*

Sunday/Public Holiday Surveys

3 days were surveyed, two of them Sundays and the Australia Day Public Holiday which fell on a Monday in 2015. Results are inconsistent and a limited sample size makes it difficult to draw clear conclusions from the data however it shows that demand peaks in the middle of the day. Precinct 1 continues to show the greatest demand, followed closely by Precincts 4 and 5. Precinct 2 shows limited demand on Sundays, reflective of the retail connection to this parking precinct. The 8:30-9:30pm survey was only completed on Australia Day so it is not possible to draw conclusions about parking demand for late Sunday evenings. The Australia Day holiday shows significantly different morning demand compared to the other survey dates.

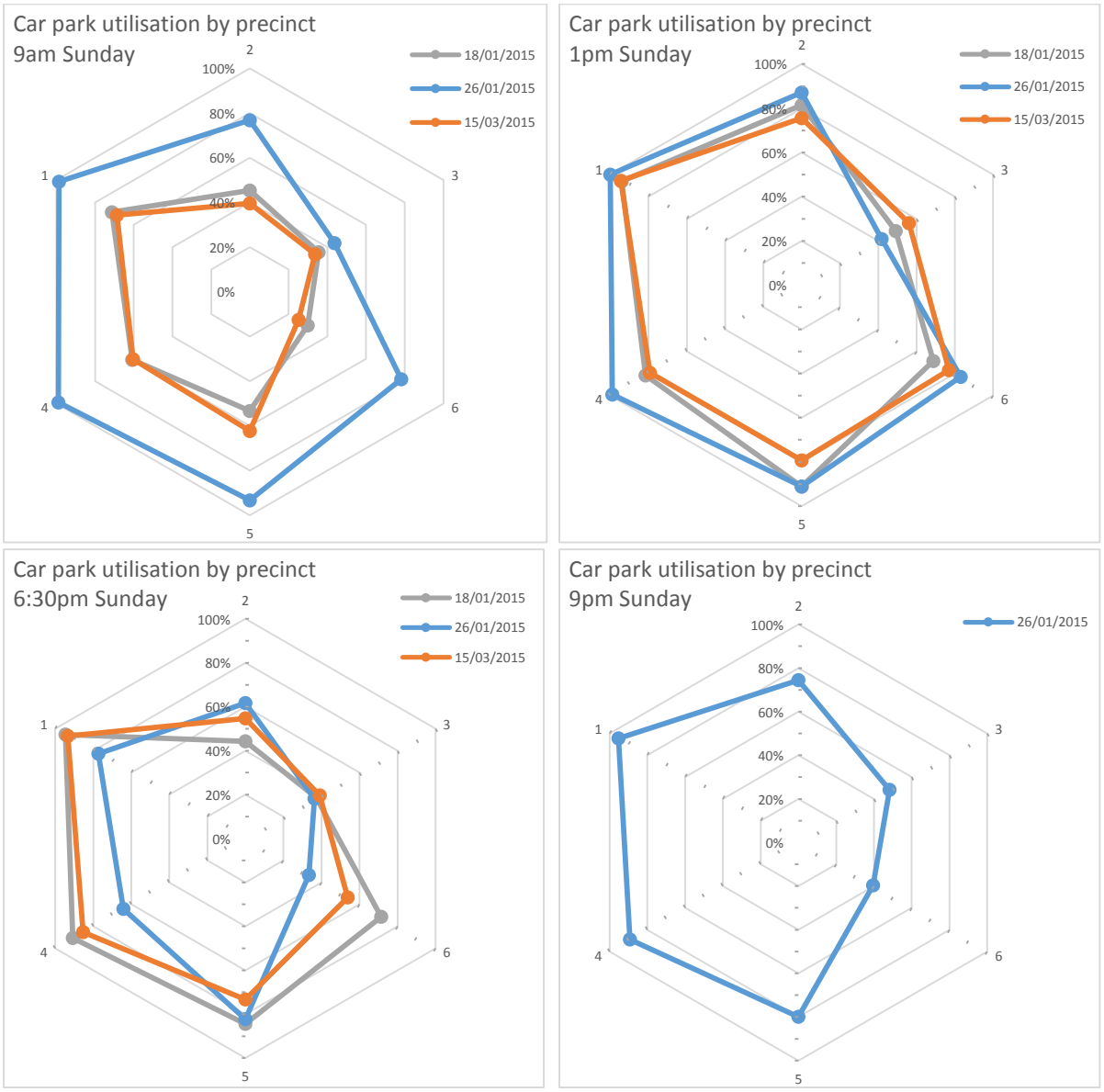

Figure 11 Patronage graphs for Sundays and Public Holidays over the survey period

Precinct	*Comment on Results*
1	*Car park utilisation is consistently high at midday across each of the survey periods.* *The day of highest average car parking demand was Australia Day.* *Overall, car parking demand ranges between 70 and 100%*
2	*Utilisation is generally less than 50% for all Sunday / Public Holiday periods with the exception of Australia Day where higher than normal demand was experienced in the morning and late evening*
3	*Generally, car park utilisation lies between 35 and 55%, reaching a maximum of 53% at 12:30-1:30 on 15th March.*
4	*Utilisation is consistently high and closely related to the usage in Precinct 1.* *Usage peaked on Australia Day with demand at 100% for the first two survey periods before dropping significantly in the afternoon.* *Overall recoded demand between 60% and 100%*
5	*Demand generally following the same patterns as Precincts 1 and 4 but slightly lower usage.* *Usage fluctuates between 50% in the morning to 80-90% at midday.* *Highest demand experienced on Australia Day*
6	*Similar to Precinct 4, an unusually high demand was experienced in the morning of Australia Day.* *The surveys show demand peaks in the early afternoon.* *Demand fluctuates between below 25% in the morning to over 80% at midday.*

Wednesday 21st January 2015

A single weekday survey was conducted on this day with recordings made between 8:30-9:30am, 12:30-1:30pm, 6-7pm and 8:30-9:30pm. The combined observations are presented on the graph below with the purple arrows indicating the change across precincts throughout the day. This day's profile differs significantly from other days surveyed and as such has been kept separate so not to compromise other data. These results clearly show the effect of the working day on parking demand in the Henley Square region.

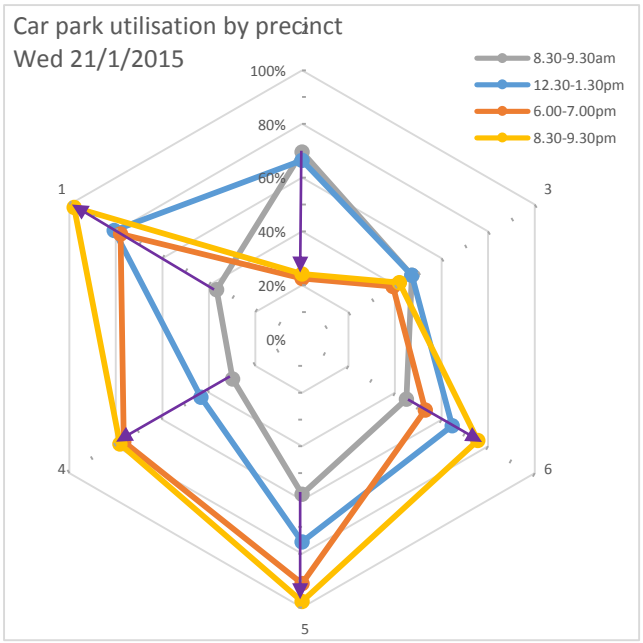

Figure 12 Wednesday 21st Jan observations

Precinct	***Comment on Results***
1	*Generally the highest demand throughout the day and peaking in the 8:30-9:30pm period.*
2	*Daytime activity (retail shopping hours) has parking usage at around 70% which then falls to approximately 20% from 6pm.*
3	*Consistent utilisation of less than 30% falls slightly during the day.* *This supports the assumption of predominantly local residential parking with perhaps some employee parking during the day in unrestricted parking areas.*
4	*Low level utilisation during business hours (below 30%) increases to approximately 80% in the evening as visitors access local restaurants, cafes etcetera.*
5	*Morning (8:30-9:30am) utilisation of around 60% increases throughout the day to be over 95% between 8:30 and 9:30pm.*
6	*Utilisation fluctuates from 40% in the morning to just under 80% in the late evening.*

5.3 Summary by Season

The 2014-2015 summer season was unusually mild and the surveyed dates did not capture the short period of very hot weather in late December and early January. As such it is difficult to draw conclusions about the seasonal effects on parking demand as the normal driver of this change would be the attractiveness of the beach in hot weather. Instead variations are likely to have been the result of school terms, daylight savings and other events, both on a large scale and private gatherings. The impact of these are by nature varied and specific and therefore it is not possible to draw accurate conclusions as to how they may have affected parking demand in the Henley Square precinct over this period.

5.4 Key Areas of Parking Demand

Precincts 1 and 4 consistently show the highest parking utilisation and also are the two precincts with the largest capacity with both featuring large, off-street parking areas. They are also the two precincts in closest proximity to both the beach and Henley Square. As the two major attractants in the area, it must be concluded that the location of these major off-street parking facilities is appropriate.

It appears that Military Road acts as a natural barrier to visitors and that parking east of this major roadway appears to be predominantly for local residents. Visitors as a rule appear to head to Seaview Road and the beachfront parking areas as a preference. The differential between Precinct 3 and 6 indicates that this separation is not consistent along the length of Military Road in this area. However the difference between Precincts 5 and 6 reinforce the preference for proximity to the beachfront and Seaview Road attractions. It is also notable that the majority of parking within Precinct 6 and the area most in demand is the on-street parking on Main Street which is by nature directly connected to the Henley Square Precinct.

The Esplanade also features extensive on-street parallel and angled parking both north and south of Henley Square and the off-street parking area. In both locations visitors make good use of the available parking and appear to prefer to walk along the beachfront to access Henley Square, even at night time rather than parking an equivalent distance away on the eastern side of Military Road. This demonstrates that proximity to attractions is as much perceived as measured and amenity such as the water views makes longer walking distances more acceptable.

Precinct 3 shows consistent demand and parking figures of around 35% of capacity. The consistency of the recorded figures indicates that the parking may largely be local residents rather than these suburban streets being used by visitors to the area. Even at times of greatest demand, for example Australia Day, Precinct 3 did not experience much change in overall parking numbers. The exception to this is Saturday 6th December which most likely indicates a local event, perhaps at a house in the precinct that attracted an unusually high number of vehicles to the area. It is notable that at the time of this spike there was significant spare capacity in other precincts closer to the main attractants.

5.5 Summary of Analysis

From the surveyed results it appears that the parking provision for Henley Beach and the Henley Square Precinct in particular is suitable, or at least was so for the summer of 2014-2015. It is anticipated that during hotter periods there would be more visitors driving to the area and therefore parking demand would be greater. However, surveys also indicate that there is additional capacity,

particularly east of Military Road, to meet additional demand. The results of this survey and analysis do not indicate any need for additional parking provisions.

The Pavilion Carpark appears underutilised from the few surveys that included counts of this facility. Improved signage and way finding to this car park would encourage greater utilisation of this facility, located as it is in close proximity to the precinct's major attractants. This is also likely to encourage more foot traffic through the Pavilion centre which is likely to result in improved trade for the retail outlets in this location.

It has been difficult to assess the adequacy of on-street parking restrictions due to a lack of demand and without data that shows the residence time of parked vehicles. Utilisation data in itself does not indicate the turnover of vehicles, particularly in high-demand, short-stay facilities such as those immediately north and south of Henley Square. However, as the esplanade on-street parking is unrestricted and utilisation of these areas were not in excess of the utilisation of the timed car parking areas, it is determined that the parking restrictions are not acting as a deterrent to the use of these off-street facilities. It is concluded that the parking restrictions are not discouraging visitors to the precinct nor forcing them into unmetered streets so therefore the existing restrictions are deemed adequate. However, as enforcement of parking limitations is understood to be limited, the influence and effectiveness of parking restrictions is difficult to properly assess.

Improving pedestrian permeability of Military Road in particular will, during times of peak demand, encourage use of the on-street provisions east of this major roadway. Improvements to the pedestrian provisions on Seaview Road (which have already been undertaken) will also assist in sharing the demand for parking, relieving the pressure on the facilities immediately north and south of the square. Street signage and way finding throughout the precinct will assist visitors in finding their way to parking facilities, throughout the precinct and to major attractions.

6 Conclusions and Recommendations

6.1 Signage

It is recommended that greater signage indicating major parking areas be erected in the area along with way finding signage to assist visitors to the precinct find their way around. This signage needs to be erected at points of entry to the region, such as at Henley Beach Road and at North Street to direct traffic as it enters the region. Under existing conditions, visitors to the Henley Beach area tend to head to the beachfront and Seaview Road and therefore available parking accessed from Military Road appears underutilised.

6.2 Enforcement and Paid Parking

Better management of car parking, including enforcement of parking time limits in and around the Henley Square precinct would encourage greater turnover of car parking facilities which would be beneficial for shorter stay patrons (retail shoppers), the local community and car park owners and operators. Those looking for longer stays would be encouraged to find alternative parking and could be directed to facilities such as the underground facility at the Pavilion Shopping Centre. At present there is little enforcement of the posted parking time limits and regular users may be taking advantage of this, reducing overall available capacity in the high demand areas. To avoid a local community and trader backlash, it is advised that an information campaign warning local traders and residents of changes in enforcement be undertaken prior to changes in issuing of infringement notices.

Introduction of paid, ticketed systems in the most popular parking areas would also aid in encouraging turnover of car parking. However, this approach may have the knock-on effect of encouraging long term parkers (particularly traders and employees) to access free and unrestricted parking in neighbourhood streets which may annoy local residents. Low level fees would encourage adherence to parking limits while minimising the impacts of relocating demand. Council would need to determine the costs and benefits associated with such a scheme to determine appropriate rates for parking.

6.3 Parking Guidance Systems

Parking guidance systems direct motorists to available parking spaces (both on and off-street) and divert them from areas where no parking is available through electronic real-time signage and vacancy technology (in road detectors). This in turn reduces fuel consumption, emissions, noise pollution, circulating traffic and associated congestion as well as time spent finding a parking space, while improving overall road safety (Figure 13).

Figure 13: Car park guidance system in the City of Melbourne.

How it works – a sensor similar in shape and size to an ice hockey puck is set flush into the road surface of each car park to instantly detect when a vehicle is present (see Figure 14). The devices include a transmitter and battery that lasts about five years requiring little maintenance. The sensors collect this real-time data before transmitting it wirelessly to where it is converted into displayable information.

Figure 14: The circular sensor that wirelessly detects the presence of a car has a five year battery and transmits real-time parking data that can be displayed.

Some systems in the US have the additional capability to link with on-street parking meters allowing the user to add more time to their space remotely, link with smartphone apps to allow people to reserve spaces in off-street garages in advance and assist in the efficiency of car park monitoring[1].

6.4 Pavilion Carpark

Improving the utilisation of the Pavilion Carpark is an opportunity that will provide increased parking provision in close proximity to the Henley Square precinct and will increase foot traffic through the primary retail precinct. The key to this is increasing the visibility and access to the car park through signage on approach to the region and as diversion from the Henley Square North car park. Ensuring access after-hours and on the weekend in particular is important if this facility is to be used regularly.

[1] See for example: http://www.streetline.com/ and http://www.telemetrylabs.com/SiteMedia/Telemetry-Labs/Documents/CS_StreetSmart_12-11.pdf

6.5 Pedestrians and Cyclists

Creating greater pedestrian access and permeability of the midblock areas will encourage foot traffic and increase the range of parking areas deemed to be in close proximity to the beach, retail and dining areas. These measures will also help to share the parking demand over a greater area and is likely to reduce some congestion on Seaview Road around the preferred parking facility north of Henley Square.

Providing for a wider variety of transport types will also help to increase the overall parking provision without needing to build more car parks. Increased provision of bicycle lock up facilities within the Henley Square precinct will increase overall parking provisions. As the greatest demand period is at times when the weather is good, it is likely that an increasing number of visitors to the precinct will choose to cycle and can assist in furthering the impression of a cycle friendly council and neighbourhood.

7 References

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