CALLOWLAND CPZ, WATFORD
PARKING TECHNICAL NOTE

SYSTRA

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PARKING TECHNICAL NOTE

IDENTIFICATION TABLE	
Client/Project Owner	Watford Borough Council
Project	Callowland CPZ, Watford
Type of Document	Parking Technical Note
Status	Final Report
Date	30/07/2021
Reference Number	110183

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 General

1.1.1 SYSTRA Ltd (SYSTRA) has been commissioned by Watford Borough Council (the Client) to provide transport and highway consultancy services in relation to the implementation of a Controlled Parking Zone (CPZ) in Callowland in Watford. The Local Planning Authority and Local Highway Authority is Watford Borough Council (WBC).

1.2 Project Overview & CPZ Proposals

1.2.1 WBC has assessed the feasibility of implementing a new CPZ in the Callowland area of Watford. Prior to implementation, the Council was keen to understand the potential impact of the CPZ in terms of migration of any parking activity from the CPZ onto neighbouring streets, and to determine actual impacts following implementation.

1.2.2 To understand parking supply and demand both prior to and following implementation of the CPZ, the Council has commissioned SYSTRA to undertake an on-street car parking occupancy survey to assess the impact of the CPZ's introduction upon parking stress on streets with unrestricted parking in the vicinity of the proposed CPZ location.

1.3 Report Scope & Structure

1.3.1 This Parking Technical Note sets out the results of the on-street parking survey undertaken in September 2020 and June / July 2021 to ascertain current levels of on-street parking supply and demand prior to and following the introduction of the CPZ.

1.3.2 Following this introductory section, the remainder of this Parking Technical Note is structured as follows:

- **Section 2: Parking Survey Methodology** – sets out the methodology and spatial scope of the survey.
- **Section 3: Parking Survey Results (2020)** – provides a detailed overview of the results of the survey undertaken prior to implementation of the CPZ.
- **Section 4: Parking Survey Results (2021)** – sets out results of the survey completed in June / July 2021 following implementation of the CPZ.

2. PARKING SURVEY METHODOLOGY

2.1 General

2.1.1 A parking beat survey was undertaken in the Callowland area by an independent survey company, MHTC Ltd, on Saturday 26 September, Tuesday 29 September and Wednesday 30 September 2020, and Tuesday 29 June, Wednesday 30 June and Saturday 3 July 2021. The survey was undertaken as a series of two-hour beats, with overnight surveys taken before 07:00 and subsequent beats carried out every two hours until 22:00.

2.1.2 In order to provide an accurate picture of parking occupancy levels, the survey was undertaken on two neutral weekdays and one weekend day, avoiding school holidays and dates with a major event occurring locally that could impact upon the survey results. Different parking restrictions were recorded and parking provision and utilisation segregated street by street.

2.1.3 In order to establish percentage parking stress, the total length of acceptable parking areas was recorded, with capacity based on a car length of 5.25 metres, as requested by the Council. The number of parked cars was recorded on a street-by-street basis, using junctions as dividers, to ascertain parking stress levels.

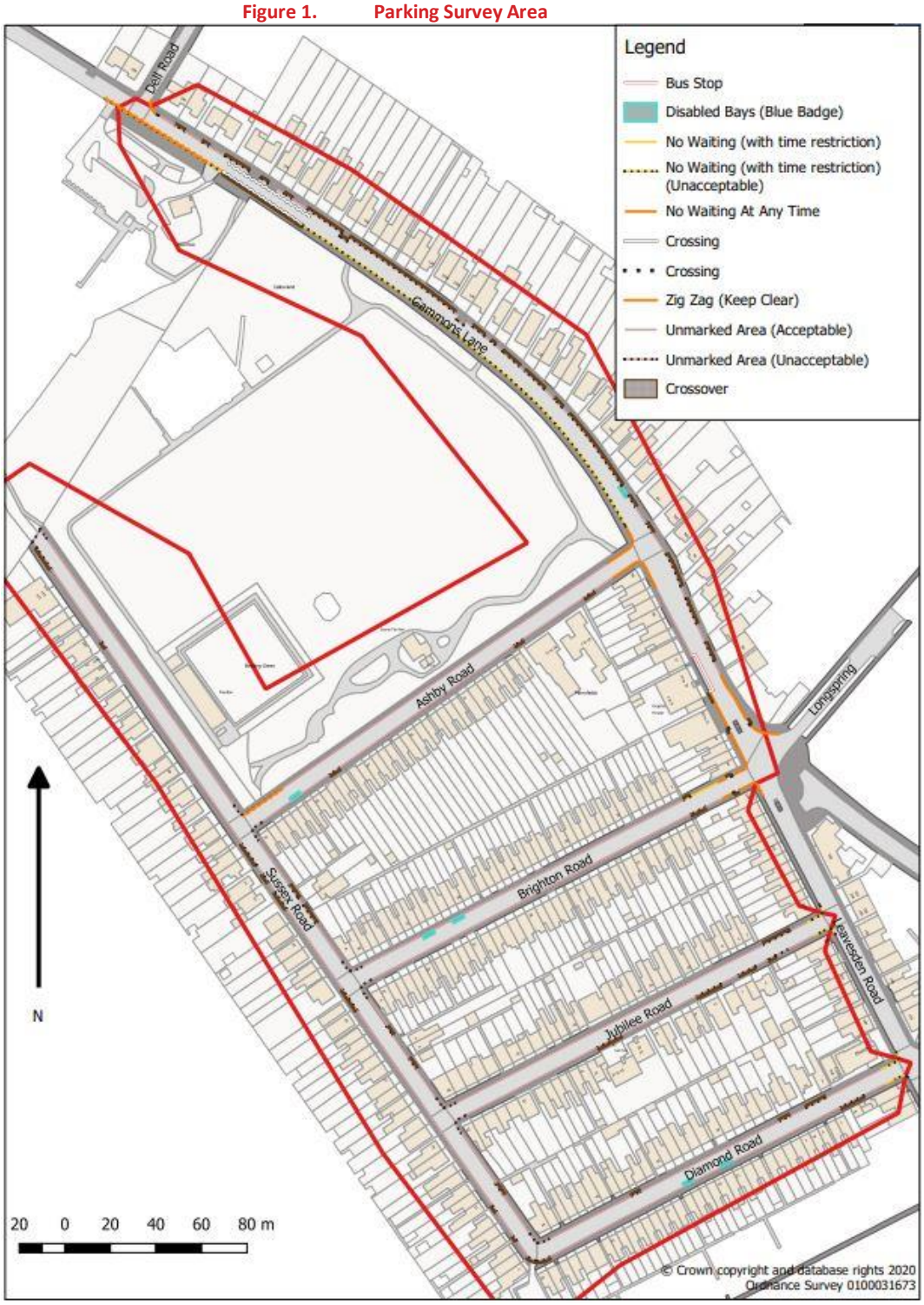
2.1.4 It should be noted that the parking surveys were undertaken during a period of travel restrictions as a result of the COVID-19 pandemic, with increased numbers of the population working from home. This allows for the surveys to capture overall parking demand at its highest, providing a clearer picture of genuine parking demand than would be otherwise possible.

2.2 Survey Extent

2.2.1 The spatial scope of the parking survey is shown in Figure 1 overleaf, alongside an overview of parking availability by type and street. The survey incorporated the following streets:

- Diamond Road;
- Jubilee Road;
- Sussex Road;
- Brighton Road;
- Ashby Road; and
- Part of Gammons Lane.

Figure 1. Parking Survey Area



MHTC, October 2020

2.3 Parking Capacity

2.3.1 Table 1 overleaf provides an overview of parking capacity by street, split by parking type.

Table 1. Parking Capacity by Street

STREET	UNRESTRICTED (UNMARKED)	SINGLE YELLOW LINES	DISABLED BAYS	TOTAL
Ashby Road	62	0	1	63
Brighton Road	57	2	2	61
Diamond Road	51	1	2	54
Gammons Lane	19	0	1	20
Jubilee Road	53	0	0	53
Sussex Road	108	0	0	108
Total	350	3	6	359

2.3.2 It can be seen in Table 1 that, in permitted areas, there is parking capacity for a total of 359 vehicles, the vast majority of which (98%) is in unrestricted areas. Sussex Road provides the largest parking capacity, comprising roughly 30% of all provision within the survey area.

2.3.3 A total of six disabled parking bays are located within the survey area; two on Brighton Road, two on Diamond Road, one on Ashby Road and one on Gammons Lane.

2.3.4 It is noted that, for stretches of unmarked and single yellow line locations where parking can be undertaken, an assumed vehicle length of 5.25m has been utilised to calculate the number of theoretical spaces available. Locations which are considered unacceptable for parking (such as at approaches to junctions or at vehicle crossovers and driveways) are not included within the parking capacity figures detailed in Table 1.

2.3.5 No parking suspensions or temporary obstructions were observed during the three survey periods.

3. PARKING SURVEY RESULTS – SEPTEMBER 2020

3.1 General

3.1.1 As previously noted, a first parking beat survey was undertaken by an independent survey company, MHTC Ltd on Saturday 26 September, Tuesday 29 September and Wednesday 30 September 2020, prior to implementation of the CPZ.

3.1.2 Conditions were generally mild, but rainy, for the three survey days.

3.2 Parking Demand

3.2.1 The survey recorded parking capacity for a total of 359 vehicles within the survey area. A summary of occupancy levels across the three survey days is set out in the following section.

Overnight

3.2.2 In order to record overnight resident parking, a beat was undertaken between the hours of 05:00 and 07:00, with all parking recorded in this period assumed to be associated with residents. Table 2 provides a summary of overnight parking stress levels recorded across the three survey days.

Table 2. Parking Demand by Street – Overnight (All Vehicles)

STREET	CAPACITY	DAY 1 (SATURDAY)		DAY 2 (TUESDAY)		DAY 3 (WEDNESDAY)	
		OCCUPIED	STRESS	OCCUPIED	STRESS	OCCUPIED	STRESS
Ashby Road	63	67	106%	69	110%	68	108%
Brighton Road	61	64	105%	64	105%	66	108%
Diamond Road	54	65	120%	59	109%	60	111%
Gammons Lane	20	35	175%	31	155%	34	170%
Jubilee Road	53	60	113%	63	119%	62	117%
Sussex Road	108	110	102%	114	106%	123	114%
Total	359	401	112%	400	111%	413	115%

3.2.3 It can be seen that, on each of the survey dates, over 400 vehicles were recorded as parked overnight across the area, resulting in a parking stress level exceeding 100%.

3.2.4 Such levels of parked vehicles compared to reported demand can be attributed to a confluence of several factors. Notably, on Gammons Lane, there are a number of instances where marked parking is provided across driveways / crossovers, and there are instances where vehicles are parked over the driveway; Figure 2 shows an example of this on Gammons Lane.

3.2.5 In undertaking the survey, all crossovers have been recorded as such and not considered as appropriate parking locations (and so are not included in the capacity figures detailed in Table 1). However, instances were recorded during the survey parked across these crossovers; it is assumed occupants of the relevant houses utilise the carriageway parking in a similar manner to a driveway.

3.2.6 In addition, there are instances of unmarked roads that are long in length and could accommodate a larger number of vehicles than recorded in the capacity study through a 5.25m vehicle length. For example, a section of carriageway of 20.74m has a theoretical capacity of three cars, but could easily accommodate four cars.

Figure 2. Example of Vehicle Parking Across Driveway

Google Streetview, 2020

3.2.7 When looking at parking demand on a street-by-street basis, Table 2 demonstrates that overnight parking stress is uniformly high across the survey area. This is particularly true on Gammons Lane, where there is a significant amount of crossover parking.

Daytime

3.2.8 Parking beats were undertaken every two hours between the hours of 07:00 and 21:00 during the three survey days to record changes in parking demand across the daily period. Tables 3 to 5 overleaf set out parking stress levels recorded during the eight daytime beats on the respective survey days.

Table 3. Parking Demand by Street, Saturday Survey

ROAD	07:00 - 08:00	09:00 - 10:00	11:00 - 12:00	13:00 - 14:00	15:00 - 16:00	17:00 - 18:00	19:00 - 20:00	21:00 - 22:00
Ashby Road	105%	100%	100%	84%	81%	87%	90%	103%
Brighton Road	106%	101%	79%	92%	92%	94%	104%	105%
Diamond Road	113%	100%	100%	91%	109%	113%	102%	111%
Gammons Lane	165%	130%	100%	90%	115%	115%	105%	90%
Jubilee Road	115%	108%	96%	102%	106%	111%	117%	113%
Sussex Road	106%	101%	86%	89%	92%	100%	109%	111%

Table 4. Parking Demand by Street, Tuesday Survey

ROAD	07:00 - 08:00	09:00 - 10:00	11:00 - 12:00	13:00 - 14:00	15:00 - 16:00	17:00 - 18:00	19:00 - 20:00	21:00 - 22:00
Ashby Road	97%	67%	59%	60%	63%	84%	97%	110%
Brighton Road	88%	73%	66%	81%	78%	99%	106%	108%
Diamond Road	96%	93%	104%	109%	102%	113%	119%	117%
Gammons Lane	125%	95%	75%	75%	105%	100%	135%	140%
Jubilee Road	89%	89%	89%	94%	100%	115%	117%	119%
Sussex Road	90%	74%	73%	79%	70%	97%	111%	114%

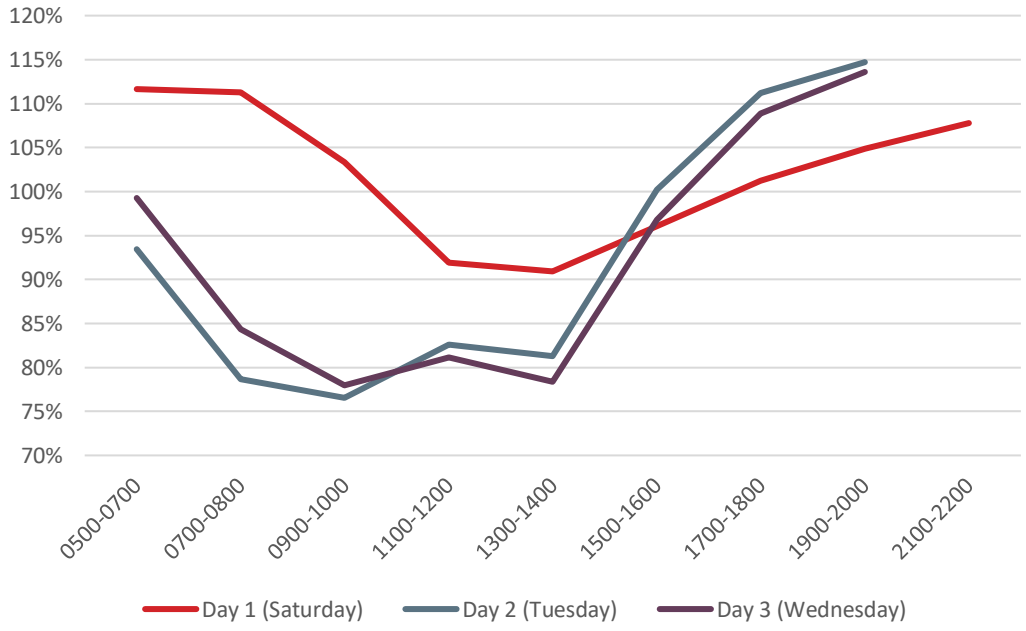
Table 5. Parking Demand by Street, Wednesday Survey

ROAD	07:00 - 08:00	09:00 - 10:00	11:00-12:00	13:00-14:00	15:00-16:00	17:00-18:00	19:00-20:00	21:00 - 22:00
Ashby Road	94%	75%	65%	67%	56%	79%	97%	110%
Brighton Road	92%	78%	68%	83%	73%	101%	106%	108%
Diamond Road	111%	102%	104%	96%	104%	111%	117%	115%
Gammons Lane	140%	110%	100%	85%	110%	100%	125%	155%
Jubilee Road	94%	89%	92%	92%	96%	115%	117%	119%
Sussex Road	95%	78%	68%	75%	68%	88%	106%	108%

3.2.9 The results of the survey are shown graphically in Figure 3, which details overall parking occupancy levels recorded across the survey area as a whole on the three days. It can be seen that parking demand generally reduced during daytime hours, which can be attributed to residents travelling to work; this reduction is less pronounced during the Saturday survey. During the Tuesday and Wednesday survey there is a decrease of approximately 20 to 25 percentage point in the number of vehicles parked.

3.2.10 However, occupancy levels do not drop below 75% at any point during the survey. A maximum of 84 available parking spaces were recorded, during the 11:00-12:00 beat on the Tuesday survey, equating to a 77% stress level.

Figure 3. Daytime Parking Demand



3.2.11 It would be expected that the implementation of the CPZ would result in minor reductions in parking demand in the survey area; however, given the extent of parking demand currently recorded, it is not expected to significantly reduce parking demand below the 80% threshold used to define areas subject to high parking stress levels.

4. PARKING SURVEY RESULTS – JUNE / JULY 2021

4.1 General

4.1.1 Following implementation of the CPZ, a second parking beat survey was undertaken by MHTC Ltd on Tuesday 29 June, Wednesday 30 June and Saturday 3 July 2021. The survey followed the same timings, approach and spatial scope as that undertaken in September 2020.

4.1.2 As for the September 2020 surveys, the survey period was generally mild, but rainy, across all three dates.

4.1.3 Results of the survey are set out below, split by parking type (unrestricted parking areas, disabled bays and single yellow lines where parking is acceptable).

4.2 Parking Demand

4.2.1 A summary of occupancy levels across the three survey days is set out in the following section.

Overnight

4.2.2 In order to record overnight resident parking, a beat was undertaken between the hours of 05:00 and 07:00, with all parking recorded in this period assumed to be associated with residents. Table 6 provides a summary of overnight parking stress levels recorded across the three survey days.

Table 6. Parking Demand by Street – Overnight (All Vehicles)

STREET	CAPACITY	DAY 1 (TUESDAY)		DAY 2 (WEDNESDAY)		DAY 3 (SATURDAY)	
		OCCUPIED	STRESS	OCCUPIED	STRESS	OCCUPIED	STRESS
Ashby Road	63	64	102%	68	108%	69	110%
Brighton Road	61	63	103%	64	105%	65	107%
Diamond Road	54	59	109%	62	115%	61	113%
Gammons Lane	20	30	150%	30	150%	28	140%
Jubilee Road	53	60	113%	61	115%	62	117%
Sussex Road	108	121	112%	120	111%	117	108%
Total	359	397	111%	405	113%	403	112%

4.2.3 It can be seen that, on each of the weekday survey dates, over 400 vehicles were recorded as parked overnight across the area, with 397 vehicles recorded in the Saturday survey, resulting in a parking stress level exceeding 100%.

4.2.4 As with the September 2020 survey, such levels of parked vehicles compared to reported demand can be attributed to a confluence of several factors. Notably, on Gammons Lane, there are a number of instances where marked parking is provided across driveways / crossovers, and there are instances where vehicles are parked over the driveway.

4.2.5 In undertaking the survey, all crossovers have been recorded as such and not considered as appropriate parking locations (and so are not included in the capacity figures detailed in Table 1). However, instances were recorded during the survey parked across these crossovers; it is assumed occupants of the relevant houses utilise the carriageway parking in a similar manner to a driveway.

4.2.6 In addition, there are instances of unmarked roads that are long in length and could accommodate a larger number of vehicles than recorded in the capacity study through a 5.25m vehicle length. For example, a section of carriageway of 20.74m has a theoretical capacity of three cars, but could easily accommodate four cars.

4.2.7 When looking at parking demand on a street-by-street basis, Table 6 demonstrates that overnight parking stress is uniformly high across the survey area.

Daytime

4.2.8 Parking beats were undertaken every two hours between the hours of 07:00 and 21:00 during the three survey days to record changes in parking demand across the daily period. Tables 7 to 9 set out parking stress levels recorded during the eight daytime beats on the respective survey days.

Table 7. Parking Demand by Street, Tuesday Survey

ROAD	07:00 - 08:00	09:00 - 10:00	11:00-12:00	13:00-14:00	15:00-16:00	17:00-18:00	19:00-20:00	21:00 - 22:00
Ashby Road	89%	67%	63%	65%	62%	90%	105%	110%
Brighton Road	82%	62%	67%	65%	85%	107%	109%	109%
Diamond Road	106%	104%	104%	93%	107%	109%	113%	109%
Gammons Lane	130%	125%	110%	100%	110%	110%	120%	135%
Jubilee Road	100%	98%	103%	93%	103%	118%	114%	123%
Sussex Road	101%	85%	79%	82%	89%	100%	108%	108%

Table 8. Parking Demand by Street, Wednesday Survey

ROAD	07:00 - 08:00	09:00 - 10:00	11:00-12:00	13:00-14:00	15:00-16:00	17:00-18:00	19:00-20:00	21:00 - 22:00
Ashby Road	86%	67%	56%	59%	68%	87%	95%	100%
Brighton Road	84%	74%	64%	82%	84%	97%	107%	107%
Diamond Road	106%	106%	106%	102%	106%	104%	109%	117%
Gammons Lane	140%	125%	120%	115%	125%	115%	125%	125%
Jubilee Road	95%	91%	82%	84%	84%	105%	120%	123%
Sussex Road	98%	77%	76%	72%	82%	90%	97%	110%

Table 9. Parking Demand by Street, Saturday Survey

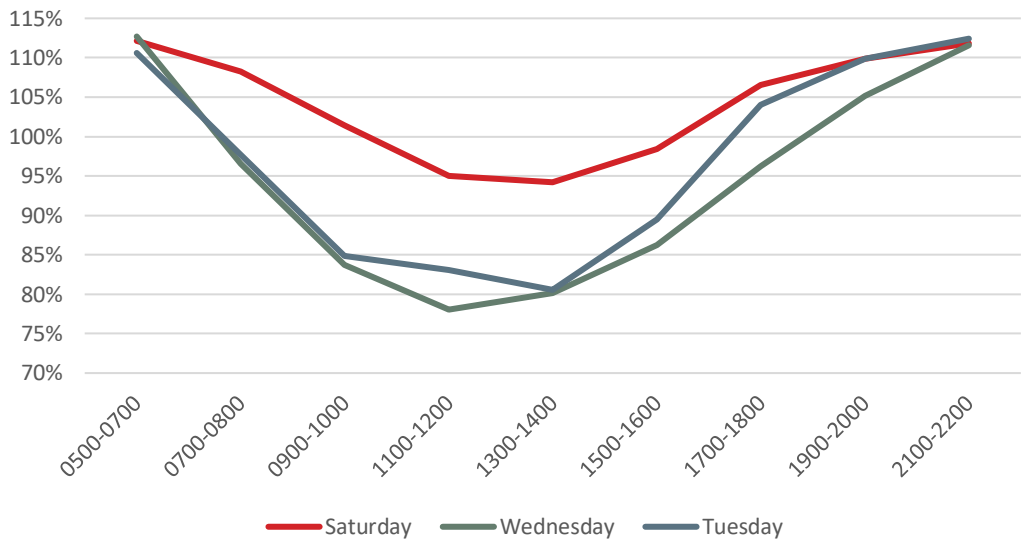
ROAD	07:00 - 08:00	09:00 - 10:00	11:00-12:00	13:00-14:00	15:00-16:00	17:00-18:00	19:00-20:00	21:00 - 22:00
Ashby Road	102%	98%	76%	89%	105%	100%	100%	105%
Brighton Road	104%	90%	88%	91%	96%	100%	107%	109%
Diamond Road	109%	102%	107%	106%	100%	113%	109%	113%
Gammons Lane	135%	135%	105%	115%	135%	140%	120%	130%
Jubilee Road	116%	112%	110%	106%	105%	108%	122%	122%
Sussex Road	106%	98%	94%	83%	85%	104%	110%	109%

4.2.9 The results of the survey are shown graphically in Figure 3, which details overall parking occupancy levels recorded across the survey area as a whole on the three days. It can be seen that, as with the September 2020 survey, parking demand generally reduced during daytime hours, which can be attributed to residents travelling to work; this reduction is less pronounced during the Saturday survey where parking occupancy levels are considerably higher during daytime hours.

4.2.10 During the Tuesday and Wednesday survey there is a decrease of approximately 20 to 25 percentage point in the number of vehicles parked.

4.2.11 However, occupancy levels do not drop below 75% at any point during the survey. A maximum of 78 available parking spaces were recorded, during the 11:00-12:00 beat on the Wednesday survey, equating to a 78% stress level.

Figure 4. Daytime Parking Demand



4.2.12 It can be seen that implementation of the CPZ has resulted in some reductions in parking demand on some streets within the survey area; however, due to the extent of parking occupancy recorded prior to the CPZ introduction, there have not been significant reductions in parking demand.

5. SURVEY COMPARISON & CONCLUSIONS

5.1 Survey Results Comparison

5.1.1 Figures 5 to 7 provide a comparison of overall parking occupancy levels recorded between the September 2020 and June / July 2021 surveys for the Tuesday, Wednesday and Saturday surveys respectively. Parking stress levels recorded across the survey area are shown in grey for the September 2020 survey and red for the June / July 2021 survey.

5.1.2 Comparison of the two survey results do not show a consistent pattern in terms of overall parking occupancy prior to and following implementation of the CPZ. It can be seen that, for the Tuesday survey, daytime parking demand is higher following CPZ implementation in all daytime survey beats with the exception of 13:00-14:00, with this trend less pronounced for the Wednesday datasets.

5.1.3 Recorded weekend (Saturday) parking demand is generally higher for the June / July 2021 survey for all beats recorded after 11:00.

Figure 5. Tuesday Survey Comparison

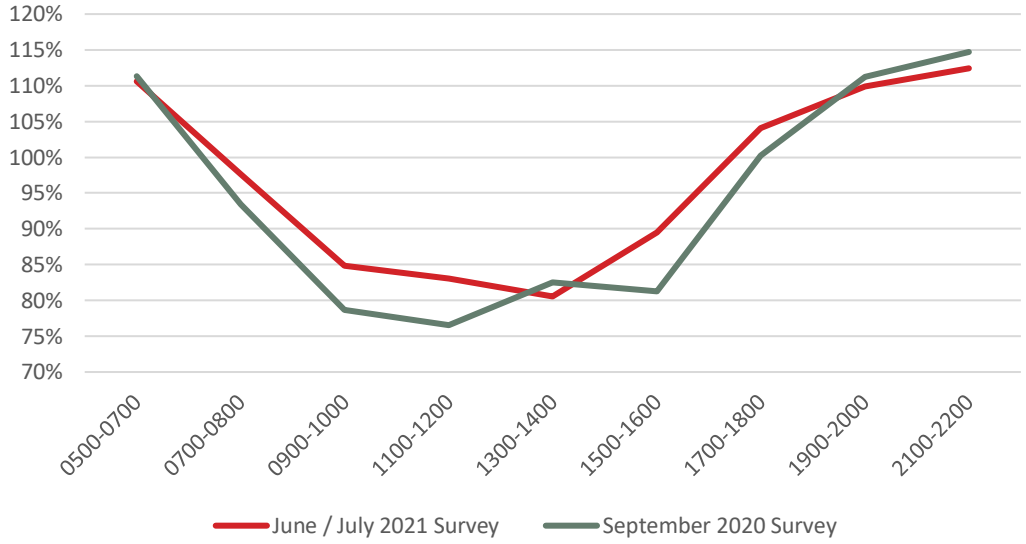


Figure 6. Wednesday Survey Comparison

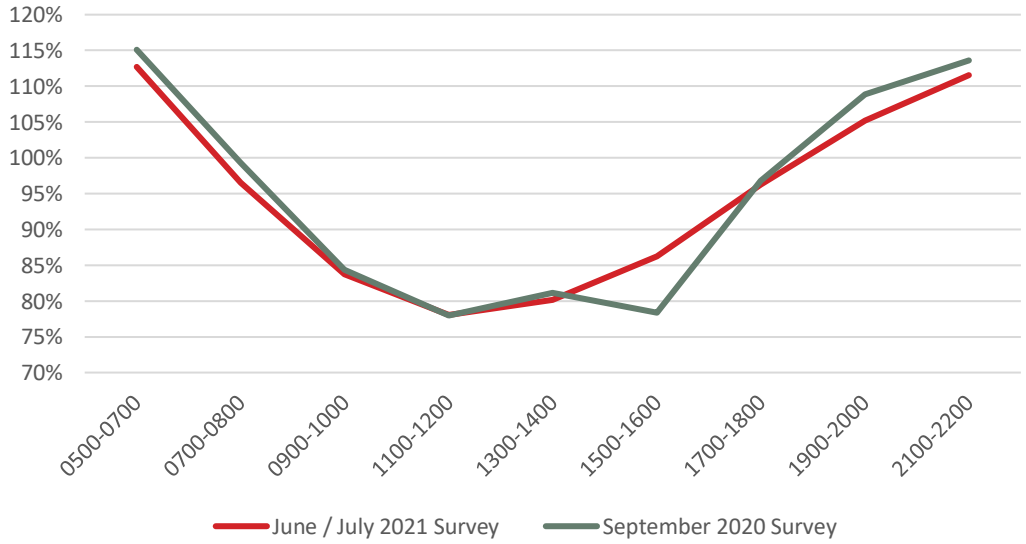
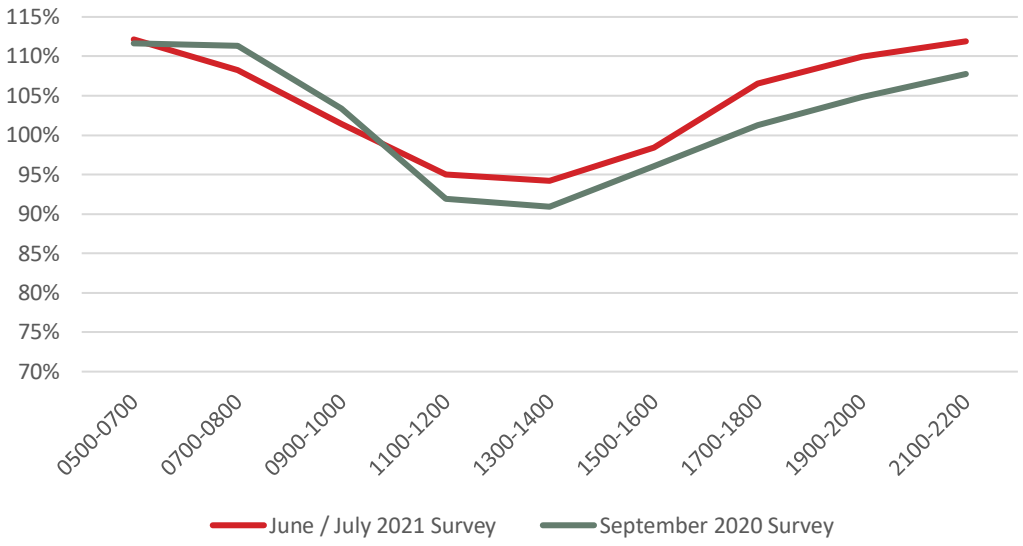


Figure 7. Saturday Survey Comparison



5.2 Conclusions

5.2.1 Parking demand is high in the Callowland area, particularly during the overnight period, when parking demand can be attributed to residents. Instances of vehicles parked across driveways (including in locations where marked parking bays are provided across crossovers) result in parking stress levels exceeding theoretical capacity during the overnight period. Parking demand reduce//s during daytime hours, particularly during the weekday surveys, as residents travel to work via car. However, recorded parking stress levels do not drop below 75% at any point across the area as a whole during the survey periods, across both surveys.

5.2.2 Travel patterns, including the proportion of residents working at home, may differ from standard behaviour as a result of COVID-19 restrictions and therefore influence daytime parking demand. However, allows for the survey to capture overall parking demand at its highest, providing a clearer picture of genuine residential parking demand than would be otherwise possible.

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For more information visit www.SYSTRA.co.uk

BIRMINGHAM, NEWALL ST
Lancaster House
67 Newhall Street
Birmingham
United Kingdom
B3 1NQ

BIRMINGHAM, STUFFOLK ST
8th Floor
Alpha Tower
Crowne Plaza
Suffolk Street
Birmingham
B1 1TT

BRISTOL
One Temple Quay
Temple Back East
Bristol
United Kingdom
BS1 6DZ

DUBLIN
2nd Floor
Riverview House
21-23 City Quay
Republic of Ireland
Dublin 2

EDINBURGH
Prospect House
5 Thistle Street
Edinburgh
United Kingdom
EH2 1DF

GLASGOW
The Centrum Business Centre
38 Queen Street
Glasgow
G1 3DX

LEEDS
100 Wellington Street
Leeds
United Kingdom
LS1 1BA

LIVERPOOL
5th Floor
Horton House
Exchange Flags
Liverpool
United Kingdom
L2 3PF

LONDON
3rd Floor
5 Old Bailey
London
United Kingdom
EC4M 7BA

MANCHESTER
16th Floor
City Tower
Piccadilly Plaza
Manchester
United Kingdom
M1 4BT

NEWCASTLE
South Corridor, Milburn House
Dean Street
Newcastle
United Kingdom
NE1 1LE

PERTH
13 Rose Terrace
Perth
United Kingdom
PH1 5HA

READING
Davidson House
Forbury Square
Reading
United Kingdom
RG1 3EU

WOKING
Dukes Court
Duke Street
Woking
Surrey
United Kingdom
GU21 5BH

YORK
Meridian House
The Crescent
York
United Kingdom
YO24 1AW

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