



# The Royal Parks

## Richmond Park

### Traffic Surveys Report

On behalf of **The Royal Parks**



Project Ref: 20827/095 | Rev: AA | Date: February 2017

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## Executive Summary

This report was produced to provide an account of the existing traffic conditions within Richmond Park. This report covers the results from a comprehensive set of traffic surveys undertaken by Peter Brett Associates LLP (PBA) in 2015 as commissioned by The Royal Parks (TRP) and Transport for London (TFL).

Traffic surveys carried out seek to provide data in relation to traffic volumes and movements within Richmond Park for the three principle users, vehicles, cyclists and pedestrians. The data can also be used to compare between peak, off-peak seasons, and using previous historical flows, the changes in traffic flow throughout the park over the years. The 2015 Surveys were carried out in a peak season month of August (summer peak) and a neutral month of September.

Richmond Park attracts millions of visitors each year, however the travel patterns within Richmond Park are not fully within the parks control they are subject to external factors such as weather and the local highway conditions. TRP are able to close Richmond Park early evening and overnight due to the presence of the deer, however, during the main commuter peak periods throughout the year the park is open to general traffic.

In 1998, a previous set of surveys commissioned estimated that in the AMcommuter peak, the park was accommodating in excess of 3,500 vehicles entering the park, of which only 2% were actually linked trips which had a destination within the park. The remaining 98% were through trips. In 2015, this flow has reduced to around 2,500 vehicle trips, of which around 12% are seeking a destination in the park (88% through traffic). As can be seen over the 17 years, the level of vehicle entering the park has reduced, but the park usage at this time has increased.

The pattern of the flows and percentage of park users defined above has had similar reductions in the afternoon peak for the neutral weekday. The traffic levels in the summer months appear to show a further reduction by up to 30% in the school holiday period during peak 'commuter times'.

In the am and pm peaks around 75% of the traffic entering the park uses 3 of the 5 gates, Kingston, Richmond and Roehampton. An outcome of Kingston and Richmond Gates being dominant is that primary north/south route across the park is Queens Road; this is replicated with Sawyers Hill being the primary east/west route between Richmond and Roehampton Gates. To illustrate the dominance, Queens Road carries more than 80% of all north/south movements in the park.

Automatic Traffic Counter surveys further revealed distinctive peak flows reflecting a lower demand of commuting traffic through the park in the summer period. They show that the internal roads are influenced heavily by the commuter traffic flows, and that certain road links have defined tidal patterns with alternate inbound and outbound directional uses in the am and pm peaks.

A 25 to 40% proportion of motorists stay within Richmond Park at the midday, Saturday and Sunday peak throughout the neutral and summer survey periods. We have anticipated that this fluctuation is likely to relate to the park users individual motivations behind visiting the park.

The data shows that the eastern and southern road links (Priory Lane and Broomfield Hill) are not heavily utilised by commuter trips, especially with Robin Hood Gate having been closed in 1994. This closure has resulted in a level of reassignment to the roads to the east of the park, however a percentage of these reassigned trips have sought to re-enter the Park via Roehampton Gate and then proceed to Sheen Gate.

The average road speed across the park as a whole is between 22.5mph and 30mph, with the majority of links being below the Department for Transport threshold for a 20mph limit that of 24mph. In general terms the previous speed data suggests that the introduction of the 20mph limit is warranted, and in part self-enforcing, with the exception of Broomfield Hill. Broomfield Hill experiences higher average speeds down the hill due to its topography.

Since the original 1998 surveys, a key change has been the increase number of cyclists within the Park, this leads to the park being a major attraction to cyclists especially at weekends. The cyclists who access the park via the five main vehicle gates in the weekday and Saturday peak hours can range from 243 to 445 cyclists.

The level of leisure and more sport related cyclists in the Park has a major impact on the road networks operation. In that the road speeds are reduced, the level of vehicle congestion is increased and the ability for users to cross the road are impeded.

In 2015, a questionnaire survey was issued to drivers as they entered the Park which resulted in a response rate of 24%. From the data provided the following was able to be determined,

- Generally 70% of all drivers passing through the park were linked to origin or destinations in the surrounding 3 boroughs, Kingston, Richmond and Wandsworth;
- The primary reason for the use of the park, was that it is the “quickest route”;
- Over 80% would use the park on a regular basis to carry out this journey; and
- had journeys and as such are more related to leisure and (please finish this sentence).

In addition to the traffic related surveys, a number of CCTV Observations were carried out at key car parks, access points and areas of possible conflict between users. These observations resulted in the following key points being determined, although this is not an exhaustive list;

- Conflicts at car park entry and exit points especially at peak times;
- Congestion from car park entry / exits cause through traffic on the main link to queue;
- High vehicle and cycle flows resulting in major delay for pedestrians crossing the road;
- Cyclists in platoons result in reduced traffic speeds and inability for vehicles to overtake/pass;
- Poor use of defined crossing points, results in unpredictable crossing locations; and
- Increased pedestrian and cyclist conflict in central area where paths are shared.

This report has sought to provide a baseline of data for The Royal Parks for the current usage patterns of the differing users across Richmond Park. The document has also begun to highlight a number of key issues and conflicts across the park.

The Parks are able to utilise this document as a bench mark, and also as a means of beginning to consider developing a range of possible measures and options to seek address some of the issues raised. This could lead to future policy development, physical intervention, and applying the principles of a code of conduct for all road users, within the unique nature of Richmond Park.

The report therefore provides the baseline data for TRP to consider all the key issues and conflicts when developing future options and to allow for a well informed wider discussions. These discussions will include the surrounding boroughs and key local stakeholders as to optimise the schemes going forward to support and maintain the unique park environment.

## 1 Introduction

### 1.1 Overview

- 1.1.1 The Royal Parks (TRP) and Transport for London (TfL) has commissioned Peter Brett Associates LLP (PBA) to undertake a comprehensive set of traffic surveys within Richmond Park. The purpose of the traffic surveys are to assess traffic volumes and movements within the park. These provide an opportunity to compare between peak and off-peak seasons, and historical changes in traffic flow throughout the park.
- 1.1.2 Data was collected via multiple methods including both Automatic Number Plate Recognition (ANPR), Manual Traffic Counters (MTC) and Automatic Traffic Counters (ATC). Having collected this data, the effects on the park can be analysed by comparing the traffic flows including before and after the past Robin Hood gate closure.

### 1.2 Richmond Park

- 1.2.1 Richmond Park is owned by the Monarch and maintained by the Royal Parks Agency (RPA). Richmond Park is a National Nature Reserve, a Grade 1 Listed Landscape and a Site of Special Scientific Interest, which the RPA are required to manage and preserve for this and for future generations.
- 1.2.2 The park is the largest enclosed space within London and attracts millions of visitors each year. The park is open to traffic from 07:00 in the summer and 07:30 in the winter, gates close at dusk all year round. Pedestrian gates are open 24 hours except during the deer cull in November and February. During these months, pedestrian gates open at 07:30 and close at 20:00.
- 1.2.3 The roads within the park are not public highways, or maintained by the local or regional highway authority. They are owned and maintained by TRP to provide access to the park.
- 1.2.4 When the park is open to traffic, vehicles are allowed to travel to and from the park and circulate through the park. There are five vehicular access gates into the park and these are as follows;
  - i. Richmond Gate
  - ii. Sheen Gate
  - iii. Roehampton Gate
  - iv. Kingston Gate
  - v. Ham Gate

## 2 2015 Traffic Surveys Specification

### 2.1 Introductions

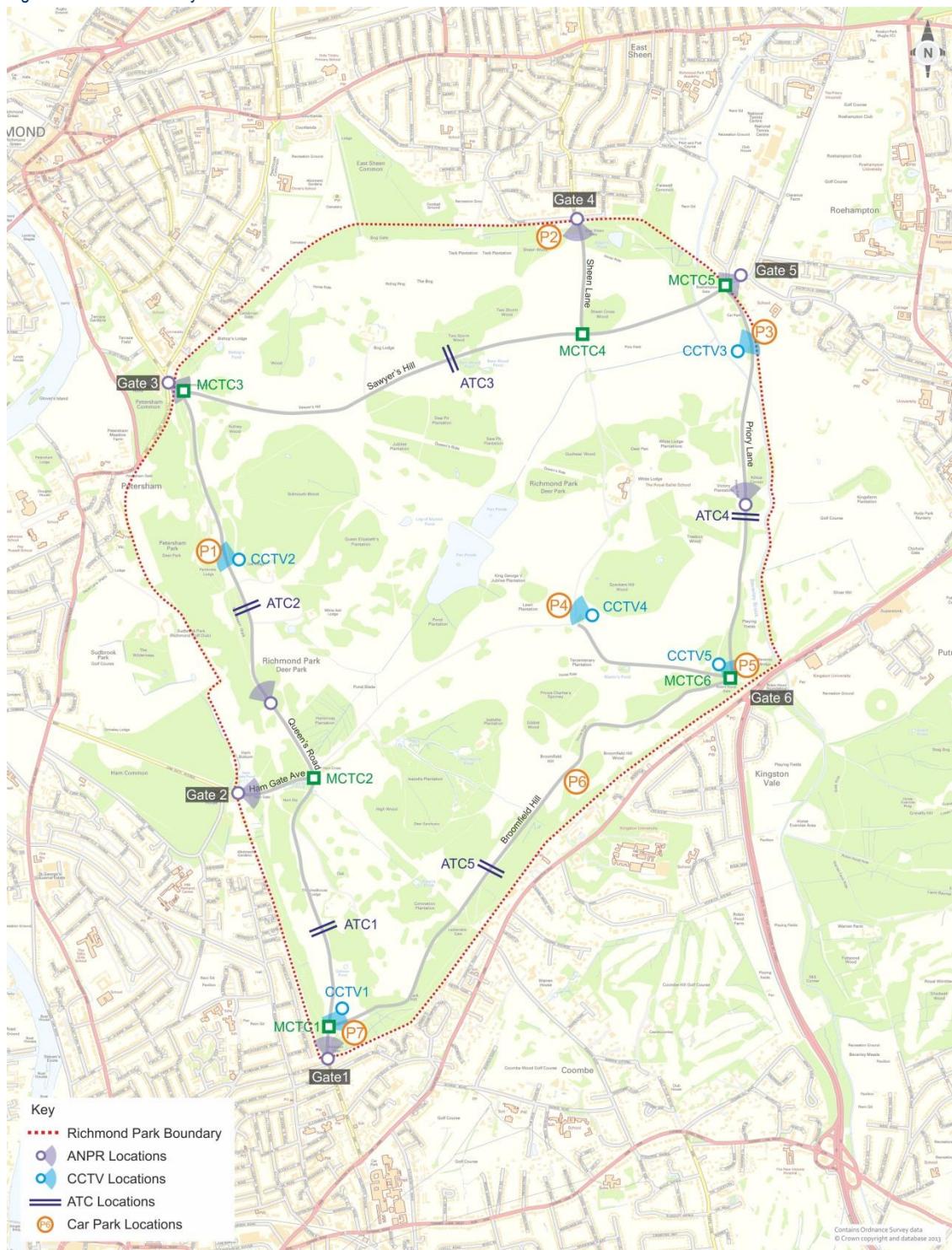
- 2.1.1 Traffic surveys were carried out across the park in 2015. The principle set of data was collected during a 'neutral' week that was considered as a representative month avoiding main and local holiday periods, local school holidays and half terms, and other abnormal traffic periods. However, as a 'neutral' week this would not take into account when the park is heavily utilised in the 'off-peak' periods (such as school summer holidays) and thus daily usage fluctuates and is somewhat dependent on weather and events. An August survey was carried out.

- 2.1.2 The following sections of this chapter discuss each set of surveys in more detail.

### 2.2 'Neutral' Week

- 2.2.1 This package of surveys provide the baseline situation and will form the basis to inform and support any future recommendations set out for the park.
- 2.2.2 The traffic surveys were undertaken on the week commencing 21<sup>st</sup> September 2015. This week was considered to be a 'neutral' week, as it also sought to avoid as much as possible the potential impact of the 2015 Rugby World Cup. As the world cup was holding a number of matches at Twickenham Stadium, which is located less than 2 miles away from the park.
- 2.2.3 **Figure 2-1** illustrates the location of traffic surveys undertaken during the neutral week across the park.

Figure 2-1: Traffic Survey Locations



### Origin and Destination, and Volumes of Vehicles through the Park

- 2.2.4 To understand the volumes and movements of traffic travelling within the park; an automatic number plate recognition (ANPR) survey was undertaken on Thursday 24<sup>th</sup> September 2015 between 07:00 and 10:00, 12:00 to 14:00 and 16:00 to 19:00; and on Saturday 26<sup>th</sup> September and Sunday 27<sup>th</sup> September between 10:00 to 16:00.

- 2.2.5 The ANPR survey used the five vehicular access gates around the park to create a complete enclosed cordon. A screen line across the park was also included that runs east – west across the park crossing Queens Road and Priory Lane, as shown on **Figure 2-1**.

### **Manual Classified Turning Counts**

- 2.2.6 To understand the volumes of traffic and turning movements at the six main junctions within the park. Manual classified turning counts (MCTC) with queue length surveys were undertaken on Thursday 24<sup>th</sup> September 2015 between 07:00 and 10:00, 12:00 to 14:00 and 16:00 to 19:00; and on Saturday 26<sup>th</sup> September and Sunday 27<sup>th</sup> September between 10:00 to 16:00.

- 2.2.7 The six junctions are as follows;

MCTC 1 – Kingston Gate / Queen’s Road / Broomfield Hill  
MCTC 2 – Ham Gate Avenue / Queen’s Road  
MCTC 3 – Richmond Gate / Queen’s Road / Sawyer’s Hill  
MCTC 4 – Sheen Lane / Sawyer’s Hill / White Lodge  
MCTC 5 – Roehampton Gate / Priory Lane / Sawyer’s Hill  
MCTC 6 – Robin Hood Gate / Priory Lane / Broomfield Hill / King George V Car Park.

- 2.2.8 All the MCTC’s were carried out via videos as such allowing additional observation of user behaviour to be viewed.

### **Automatic Traffic Counts**

- 2.2.9 To understand the volumes and speed of vehicles travelling along the roads within the park during the course of the surveyed week, six automatic traffic counts (ATCs) were installed within the park at the following locations.

ATC 1 - Queens Road (South)  
ATC 2 - Queens Road (North)  
ATC 3 - Sawyer’s Hill (West)  
ATC 4 - Sawyer’s Hill (East)  
ATC 5 - Priory Lane  
ATC 6 - Broomfield Hill

### **Conflict Observations**

- 2.2.10 To gain an understanding of how the different users within the park interact, observations have been made using footage collected at five locations within the park. Each location is perceived to have a high number of conflicting movements between different users.

- 2.2.11 Footage was collected at the five locations by the use of CCTV cameras, and observations

CCTV 1 – Kingston Gate  
CCTV 2 – Pembroke Lodge Access  
CCTV 3 – Golf Course Access  
CCTV 4 – King George V Car Park  
CCTV 5 – Robin Hood Gate

## Travel Survey

- 2.2.12 A travel survey was conducted to gain an insight into where each driver was travelling to and from when using Richmond Park. This survey indicates how many of the peoples journeys through the park are travelling to / from destinations within the local surrounding boroughs. The survey also provided an opportunity to find out the purpose of each drivers' journey.



## 2.3 Summer Week

- 2.3.1 A limited set of surveys were carried out throughout August 2015 in the park to provide volume only data to be used as a comparison to previous data and gauge the differing flow patterns that the park witnesses during the high season period.
- 2.3.2 A summary of the surveys undertaken within this set are set out below.

### Manual Classified Turning Counts

- 2.3.3 Six manual classified turning counts (MCTC) with queue length surveys were undertaken at the same locations as the neutral week for the Tuesday 25<sup>th</sup> August 2015 between 07:00 and 10:00, 12:00 to 14:00 and 16:00 to 19:00; and on Saturday 22<sup>nd</sup> August and Sunday 23<sup>rd</sup> August between 10:00 to 16:00.

### Automatic Traffic Counts

- 2.3.4 Six automatic traffic counts (ATCs) were also undertaken at the same locations used during the neutral week. The ATCs collected data for 7 days between 22/08/2015 and 28/08/2015.

### **Conflict Observations**

- 2.3.5 Conflict Observations were also carried out for the five locations mentioned within the neutral week set of surveys.

### **Additional Surveys**

Additional surveys were conducted in order to achieve a ground level perspective of the flow and user behaviour on the routes of the park. This consisted of two ride arounds by both bicycle and car in order to gain an unbiased perspective of the internal arrangements of the park. These journeys were capture by a GoPro device.

#### **Bicycle**

- 2.3.6 The survey was conducted by an individual utilising a hired Parkcycle from the parks Bicycle Hire Shop during a Summer Weekday, and travelling clockwise around the park in order to understand the park flows from a cyclist perspective.

#### **Car**

- 2.3.7 This survey was conducted by an individual driving clockwise around Richmond Park during a Winter Weekday and Sunday in order to establish the differential traffic flows.

## 3 2015 Traffic Survey Analysis

This chapter sets out the results of the traffic surveys that were carried out during the neutral and summer periods.

### 3.1 Traffic Flows into the Park

- 3.1.1 **Table 3-1** summarises the total number of vehicles entering the park during the neutral week, for the AM, midday and PM peak hours.

Table 3-1: Number of Vehicles Entering Richmond Park in Peak Hours – Neutral Week

Gate	AM Peak (08:00 – 09:00)	Midday (13:00 – 14:00)	PM Peak (17:00 – 18:00)	Saturday (13:00 – 14:00)	Sunday (13:00 – 14:00)
Kingston Gate	767	316	387	446	422
Ham Gate	279	85	85	116	92
Richmond Gate	688	381	723	421	501
Sheen Gate	346	206	338	265	284
Roehampton Gate	595	301	638	517	566
Total	2675	1289	2171	1765	1865

- 3.1.2 The travel survey established a general mean of the number of motorists that actually intended to use the park during these peaks. The results of which are summarised within **Table 3-2**.

Table 3-2: Percentage of Motorist Staying within the Park

	AM Peak Period	Midday Peak Period	PM Peak Period	Saturday Peak Period	Sunday Peak Period
Percentage Visiting the Park	12%	25%	9%	31%	41%

- 3.1.3 This is based on peak periods, and therefore does not show an insight into expected number of Park visitors during the early morning and early evening of the day (07:00 – 08:00 or 20:00 – 21:00), for activities such as exercise.
- 3.1.4 As shown in **Table 3-2** of the majority of motorists stay within the park during the midday, Saturday and Sunday peak period. This is likely to relate to the motivations behind visiting the park being more centrally related to these hours with the AM and PM being a higher proportion of commuter traffic running through the park.
- 3.1.5 **Table 3-3** summarises the total number of vehicles entering the park during the summer week, for the AM, midday and PM peak hours.

Table 3-3: Number of Vehicles Entering Richmond Park in Peak Hours – Summer Week

Gate	AM Peak (08:00 – 09:00)	Midday (13:00 – 14:00)	PM Peak (17:00 – 18:00)	Saturday (13:00 – 14:00)	Sunday (13:00 – 14:00)
Kingston Gate	563	229	307	411	349
Ham Gate	126	62	63	83	90
Richmond Gate	357	316	583	429	445
Sheen Gate	184	129	224	185	160
Roehampton Gate	366	247	356	430	401
Total	1596	983	1533	1538	1445

- 3.1.6 **Table 3-4** provides a comparison between neutral and summer survey results for vehicles entering the park.

Table 3-4: Number of Vehicles Entering Richmond Park in Peak Hours - Comparison

Gate	AM Peak (08:00 – 09:00)	Midday (13:00 – 14:00)	PM Peak (17:00 – 18:00)	Saturday (13:00 – 14:00)	Sunday (13:00 – 14:00)
Kingston Gate	-204	-87	-80	-35	-73
Ham Gate	-153	-23	-22	-33	-2
Richmond Gate	-331	-65	-140	8	-56
Sheen Gate	-162	-77	-114	-80	-124
Roehampton Gate	-229	-54	-282	-87	-165
Total	-1079	-306	-638	-227	-420
Average %age Difference	- 40.3%	- 23.7%	- 29.4%	- 12.9%	- 22.5%

- 3.1.7 **Table 3-4** shows that during a weekday there is on average less vehicular traffic entering Richmond Park during the summer seasons as expected.

## 3.2 Traffic Flows

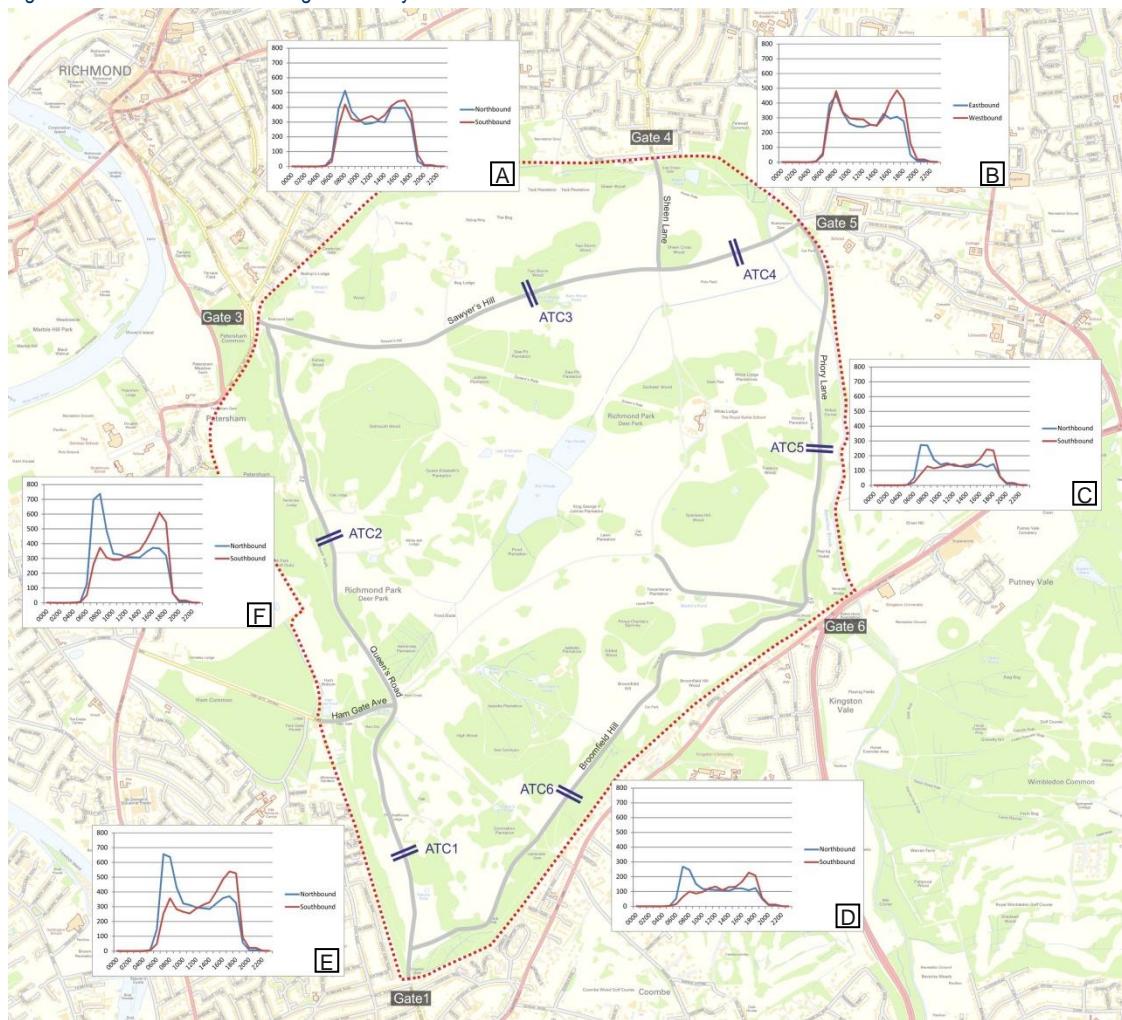
- 3.2.1 The results of the ATC surveys have been analysed to identify patterns within the traffic flow along the roads throughout the park for both sets of surveys. The survey data has been analysed to investigate tidal movements, changes in peak hours during the course of the surveyed weeks and differences between the neutral and summer surveys. A detailed analysis of this data can be found within **Appendix A**.

- 3.2.2 Some of the key highlights that were identified from this analysis were:

- There are distinctive peak flows for all ATCs during the neutral week in comparison with that of the summer, this reflects a lower demand for commuting traffic in the summer period;
- Generally, there are obvious tidal movements along links within the park on weekdays; however, during the majority of weekend daily profiles are flattened out in both directions; and
- During the weekend the usage in the two north/south links is allocated with a greater volume of traffic travelling south along Queens Road, and north along Priory Lane.

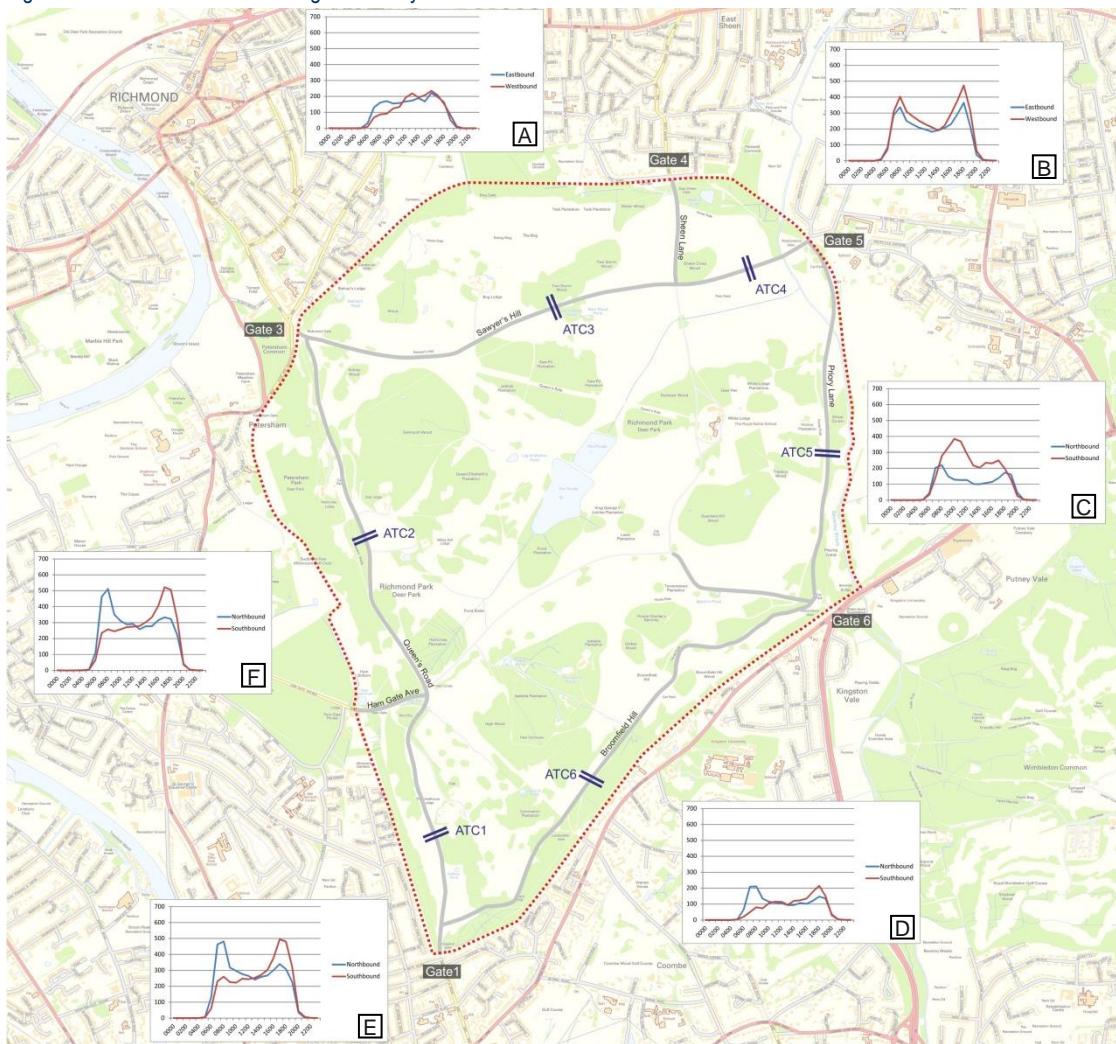
- 3.2.3 A review of the average weekday and weekend vehicle profiles for both sets of data have been illustrated within **Figures 3-1, 3-2, 3-3 and 3-4**.

Figure 3-1: Neutral Week – Average Weekday Traffic Flow Profile



Ref.	Location	Comments
A	Sawyers Hill (West)	More traffic generally travelling westbound along Sawyers Hill (East) than Sawyers Hill (West) in the PM peak. This may be a result in the closure of Robin Hood Gate.
B	Sawyers Hill (East)	During the day the volume of traffic travelling eastbound and westbound movements are similar with peaks in the parks in both hours.
C	Priority Lane	Lower volume of traffic than Queens Road, but consistent with the tidal flow of more traffic travelling north in the AM, and south in the PM.
D	Broomfield Hill	
E	Queens Road (South)	Tidal movement with a large volume of traffic travelling north in the AM, and south in the PM. This may also be a result of Robin Hood gate closing.
F	Queens Road (North)	

Figure 3-2: Summer Week – Average Weekday Traffic Flow Profile



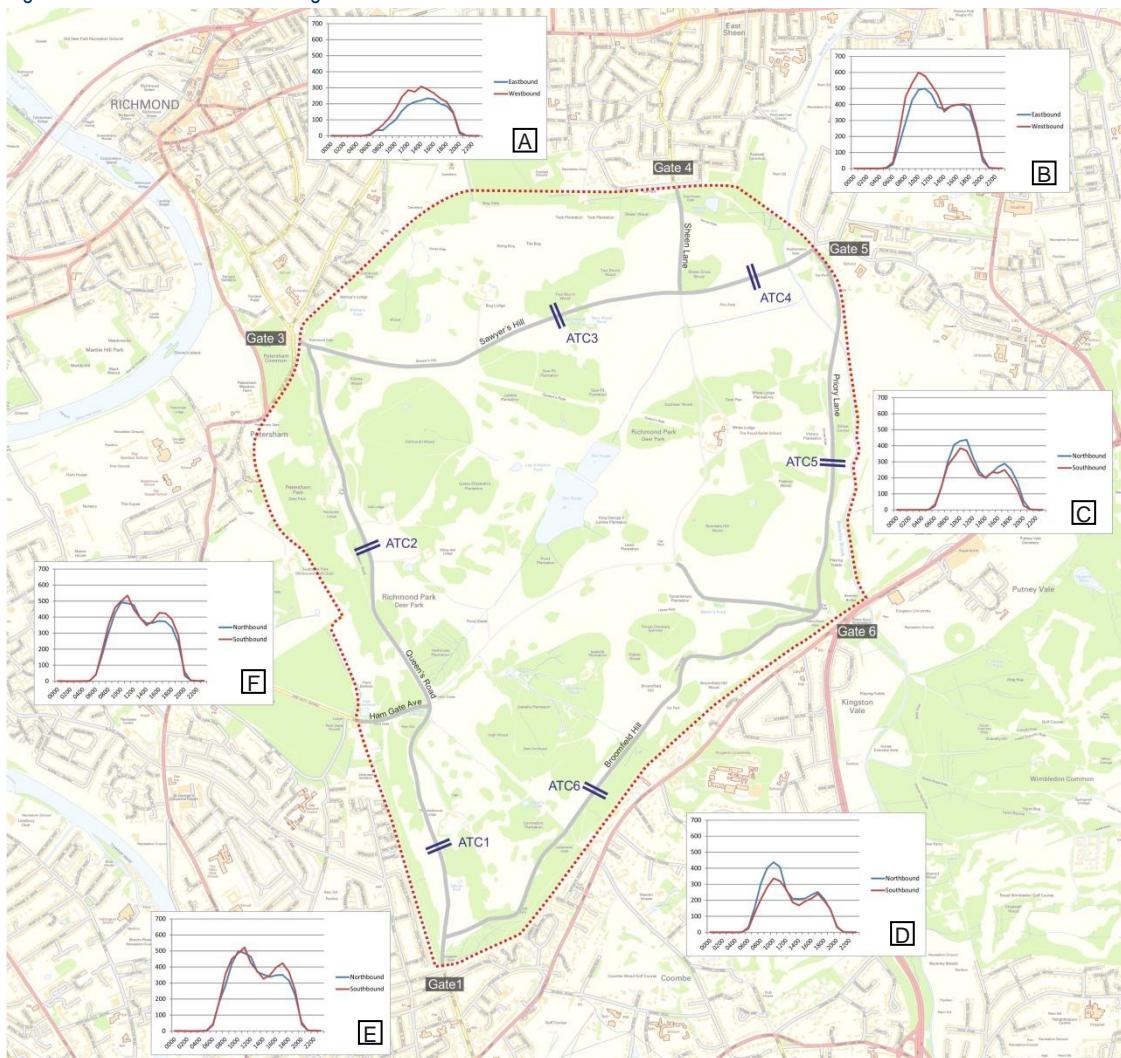
Ref.	Location	Comments
A	Sawyers Hill (West)	The AM and PM peak hours (0800, and 17:00) have a more defined peak compared to the neutral week.
B	Sawyers Hill (East)	Traffic patterns both east and westbound are considerably different compared to the neutral week.
C	Priority Lane	Considerably more traffic travelling southbound compared to the neutral week.
D	Broomfield Hill	
E	Queens Road (South)	Traffic pattern is similar to that of the neutral week, however with a slightly reduced volume.
F	Queens Road (North)	

Figure 3-3: Neutral Week – Average Weekend Traffic Flow Profile



Ref.	Location	Comments
A	Sawyers Hill (West)	Large volume of traffic travelling westbound between 10:00 and 14:00.
B	Sawyers Hill (East)	Between 10:00 and 11:00 there is a peak in vehicles travelling westbound. Apart from this peak traffic is consistent both east and westbound.
C	Priority Lane	More traffic travels northbound than southbound during the majority of the day.
D	Broomfield Hill	
E	Queens Road (South)	Generally more traffic travels southbound than northbound, with noticeable peaks at 10:00 and 18:00.
F	Queens Road (North)	

Figure 3-4: Summer Week – Average Weekend Traffic Flow Profile



Ref.	Location	Comments
A	Sawyers Hill (East)	Through the day there is more traffic travelling westbound than eastbound.
B	Sawyers Hill (West)	There is a larger volume of traffic travelling westbound between 08:00 and 14:00 than eastbound.
C	Priority Lane	More traffic travels northbound than southbound during the majority of the day.
D	Broomfield Hill	
E	Queens Road (South)	
F	Queens Road (North)	Generally more traffic travels southbound than northbound.

### 3.3 Gate to Gate Movements within Richmond Park

- 3.3.1 The ANPR survey data indicates the routing of vehicles within Richmond Park. The survey indicates which gate to gate movements are most popular.

#### Neutral Weekday

- 3.3.2 **Tables 3-5** shows which gate to gate movements are most popular during AM peak period (07:00 – 10:00) on a neutral weekday.

Table 3-5: Gate to Gate Movements – Neutral Weekday AM Peak Period (07:00 – 10:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
Kingston Gate	1%	2%	18%	4%	4%	29%
Ham Gate	2%	0%	4%	2%	1%	9%
Richmond Gate	10%	1%	1%	5%	9%	26%
Sheen Gate	2%	1%	3%	1%	9%	15%
Roehampton Gate	2%	0%	8%	11%	1%	21%
Total	16%	5%	34%	22%	24%	

- 3.3.3 This shows that during the AM peak period of the through park movements the largest movement is from Kingston Gate to Richmond Gate with 18% of through movements. The second largest movement is from Roehampton Gate to Sheen Gate with 11%, and the next largest movement being from Richmond Gate to Kingston Gate with 10% of through movements.

- 3.3.4 **Table 3-6** shows which gate to gate movements are most popular during the midday peak period (12:00 – 14:00).

Table 3-6: Gate to Gate Movements – Neutral Weekday Midday Peak Period (12:00 – 14:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
Kingston Gate	2%	3%	12%	2%	3%	22%
Ham Gate	2%	0%	2%	1%	0%	6%
Richmond Gate	14%	3%	1%	3%	9%	31%
Sheen Gate	2%	1%	3%	1%	9%	16%
Roehampton Gate	3%	1%	10%	11%	1%	25%
Total	24%	8%	29%	18%	22%	

- 3.3.5 This shows that during the midday peak period of the through park movements, the largest movement is from Richmond Gate to Kingston Gate with 14% of through movements. The second largest movement is from Kingston Gate to Richmond Gate with 12%, and the next largest movement being from Roehampton Gate to Sheen Gate with 10% of through movements.

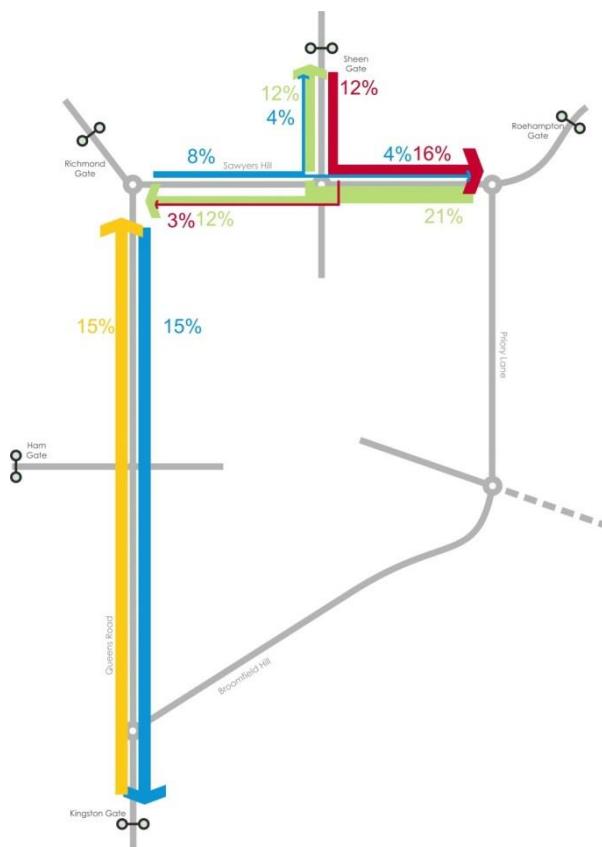
- 3.3.6 **Table 3-7** shows which gate to gate movements are most popular during the PM peak period (16:00 – 19:00).

Table 3-7: Gate to Gate Movements – Neutral Weekday PM Peak Period (16:00 – 19:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	1%	2%	12%	2%	2%	19%
<b>Ham Gate</b>	2%	0%	1%	1%	0%	4%
<b>Richmond Gate</b>	20%	2%	1%	4%	7%	33%
<b>Sheen Gate</b>	3%	1%	3%	1%	6%	14%
<b>Roehampton Gate</b>	5%	1%	9%	14%	0%	30%
<b>Total</b>	30%	7%	26%	22%	16%	

- 3.3.7 This shows that during the PM peak period of the through park movements, the largest movement is from Richmond Gate to Kingston Gate with 20% of through movements. The second largest movement is from Roehampton Gate to Sheen Gate with 14%, and the next largest movement being from Kingston Gate to Richmond Gate with 12% of through movements.
- 3.3.8 **Figure 3-5** provides an indication of the gate to gate movements across all the surveyed times for the neutral weekday.
- 3.3.9 A screen line within the ANPR survey was located east to west across Queens Road and Priory Lane. This allowed us to understand which route is preferred for each gate to gate movement.
- 3.3.10 **Figure 3-5** summarise the route preference for traffic across the vehicular gates with the movements to the vehicular gates taken during the weekday summer peak.

Figure 3-5: Vehicle turning count movements - August



- 3.3.11 The results show that approximately 80 - 86% of all north / south movements use Queens Road.
- 3.3.12 Approximately 96 - 100% of the traffic travelling between Richmond Gate, Ham Gate and Kingston Gate was found to use Queens Road. Approximately 89 – 95% of traffic travelling between Roehampton Gate and Kingston Gate was found to use Priory Lane.

### Neutral Weekend

- 3.3.13 **Table 3-8** and **Table 3-9** shows the gate to gate movements during a neutral Saturday and Sunday respectively

Table 3-8: Gate to Gate Movements – Average Neutral Saturday

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	2%	3%	14%	2%	2%	23%
<b>Ham Gate</b>	2%	0%	2%	2%	1%	6%
<b>Richmond Gate</b>	12%	2%	2%	4%	8%	28%
<b>Sheen Gate</b>	2%	1%	3%	1%	8%	15%
<b>Roehampton Gate</b>	4%	1%	9%	13%	2%	28%
<b>Total</b>	22%	7%	29%	21%	21%	

Table 3-9: Gate to Gate Movements – Average Neutral Sunday

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston</b>	3%	3%	14%	2%	2%	23%

Gate						
<b>Ham Gate</b>	2%	0%	1%	1%	1%	5%
<b>Richmond Gate</b>	12%	2%	3%	3%	8%	29%
<b>Sheen Gate</b>	2%	1%	3%	1%	7%	15%
<b>Roehampton Gate</b>	3%	1%	10%	11%	2%	28%
<b>Total</b>	22%	7%	32%	18%	20%	

- 3.3.14 These tables show that the movements between gates on a Saturday and a Sunday are similar. With most traffic entering the park from Richmond Gate (28 – 29%) followed by Roehampton Gate and Kingston Gate.

### 3.4 Average Journey Times and Speeds Gate to Gate

- 3.4.1 The ANPR survey data indicates the average journey time for routes between the vehicle access gates within Richmond Park. The data has been analysed to understand the average journey time and speed for each surveyed time period.

#### Neutral Weekdays

- 3.4.2 **Table 3-10** summarised the average journey times and speeds collected for the neutral weekday. A break down for each surveyed peak for the neutral weekday can be found within **Appendix B**.

Table 3-10: Gate to Gate Movements – Neutral Weekday Average

Minutes (mph)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
<b>Kingston Gate</b>	-	00:03:58 (17mph)	00:07:04 (18mph)	00:11:23 (20mph)	00:09:24 (25mph)
<b>Ham Gate</b>	00:04:25 (15mph)	-	00:05:31 (16mph)	00:11:23 (16mph)	00:10:37 (18mph)
<b>Richmond Gate</b>	00:06:58 (19mph)	00:06:16 (14mph)	-	00:06:02 (16mph)	00:05:36 (19mph)
<b>Sheen Gate</b>	00:12:06 (18mph)	00:10:36 (17mph)	00:06:10 (16mph)	-	00:03:10 (15mph)
<b>Roehampton Gate</b>	00:10:15 (23mph)	00:10:09 (19mph)	00:05:46 (19mph)	00:02:43 (18mph)	-

- 3.4.3 **Table 3-10** shows that across the park all but one of the routes recorded an average journey speed of less than 20mph. This journey was between Roehampton Gate and Kingston Gate.

#### Neutral Weekend

- 3.4.4 **Table 3-11** provides an indication to the average journey time and speeds between routes across the park for the Saturday peak hour (13:00 – 14:00).

Table 3-11: Gate to Gate Movements – Neutral Saturday Peak Hour (13:00 -14:00)

Minutes (mph)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
<b>Kingston Gate</b>	-	04:14 (16 mph)	07:45 (17 mph)	11:59 (19 mph)	12:59 (18 mph)

<b>Ham Gate</b>	03:49 (18 mph)	-	07:36 (12 mph)	10:37 (17 mph)	11:03 (18 mph)
<b>Richmond Gate</b>	07:34 (17 mph)	06:30 (14 mph)	-	06:52 (14 mph)	06:41 (16 mph)
<b>Sheen Gate</b>	13:55 (16 mph)	09:46 (19 mph)	05:50 (17 mph)	-	03:57 (12 mph)
<b>Roehampton Gate</b>	13:29 (17 mph)	10:17 (19 mph)	06:32 (17 mph)	03:16 (15 mph)	-

- 3.4.5 **Table 3-12** provides an indication to the average journey time and speeds between routes across the park for the Sunday peak hour (13:00 – 14:00).

Table 3-12: Gate to Gate Movements – Neutral Sunday Peak Hour (13:00 – 14:00)

Minutes (mph)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
<b>Kingston Gate</b>	-	06:37 (10 mph)	09:26 (14 mph)	15:20 (15 mph)	13:36 (17 mph)
<b>Ham Gate</b>	11:31 (6 mph)	-	09:45 (9 mph)	11:12 (16 mph)	12:16 (16 mph)
<b>Richmond Gate</b>	09:40 (14 mph)	08:25 (11 mph)	-	09:23 (10 mph)	07:07 (15 mph)
<b>Sheen Gate</b>	14:01 (16 mph)	12:03 (15 mph)	15 (15 mph)	-	04:48 (10 mph)
<b>Roehampton Gate</b>	14:57 (16 mph)	12:47 (15 mph)	07:26 (15 mph)	04:20 (11 mph)	-

- 3.4.6 The results of these journey times and speed tables show that traffic is slower on the weekend compared to a typical weekday. This is representative of the difference in behaviour of a weekend and weekday driver. During the weekend peak hours, the car parks within Richmond Park are often full. This leads to vehicles queuing to access the car park and thus results in congestion on the roads around the car park entrances. This would result in an increase in journey and reduced average journey speeds during this time. This queuing is likely to create a conflict between the road users, in particular with the cyclists. As the number of cyclists is also greater at the weekend.

### 3.5 Vehicle Turning Movements

- 3.5.1 The vehicle turning movement survey results have been analysed based on a neutral and summer weekday, Saturday, and Sunday. The turning counts for the neutral week are illustrated in **Figures 3-6, 3-7, 3-8, 3-9 and 3-10**. These figures also provide an indication of the total average difference in traffic flow across the park during the summer period. The turning count information for the summer period can be found in **Appendix C**.

Figure 3-6: Vehicle Turning Movements – Weekday – AM Peak (08:00 – 09:00)

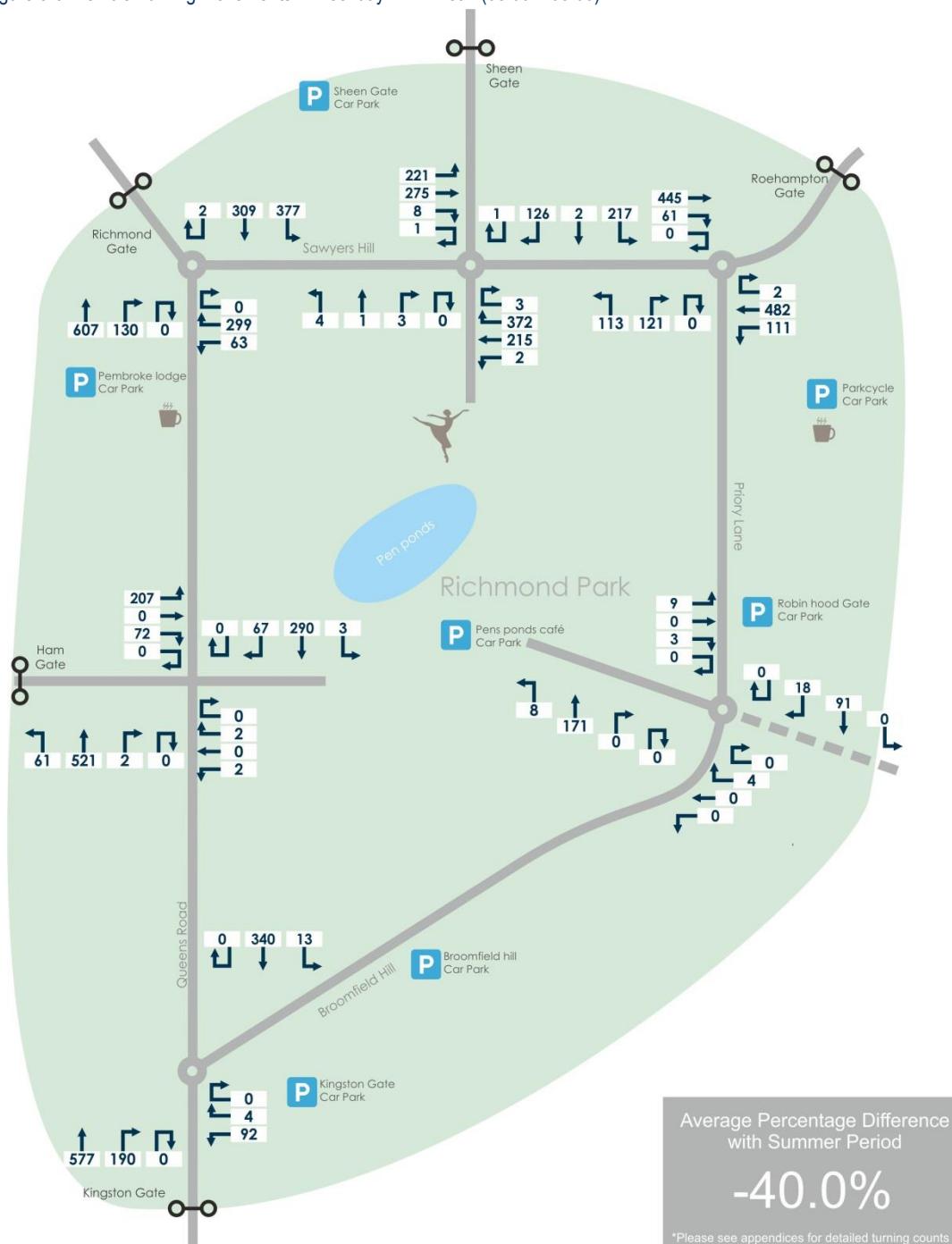


Figure 3-7: Vehicle Turning Movements – Weekday – Inter Peak (13:00 – 14:00)

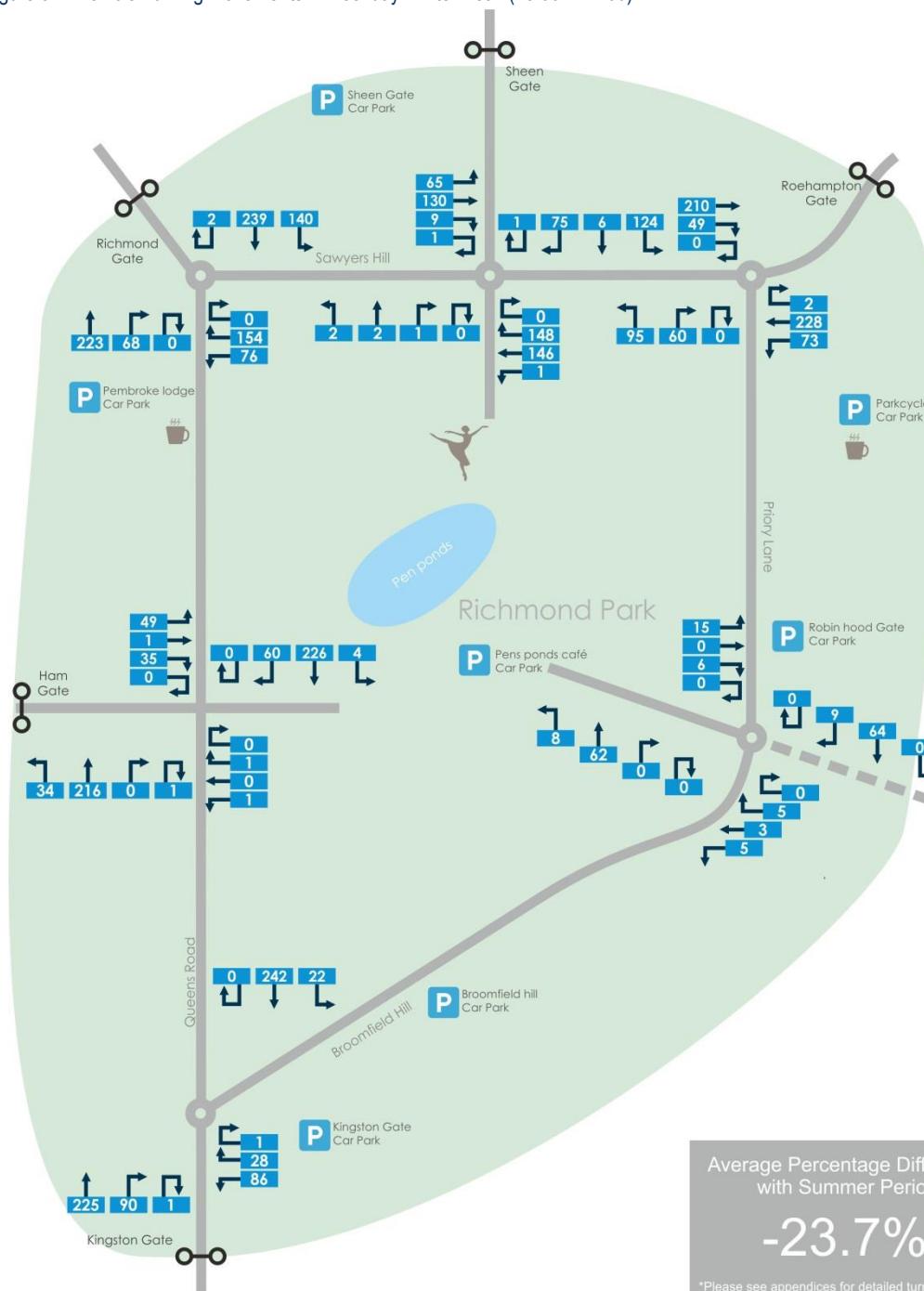


Figure 3-8: Vehicle Turning Movements – Weekday – PM Peak (17:00 – 18:00)

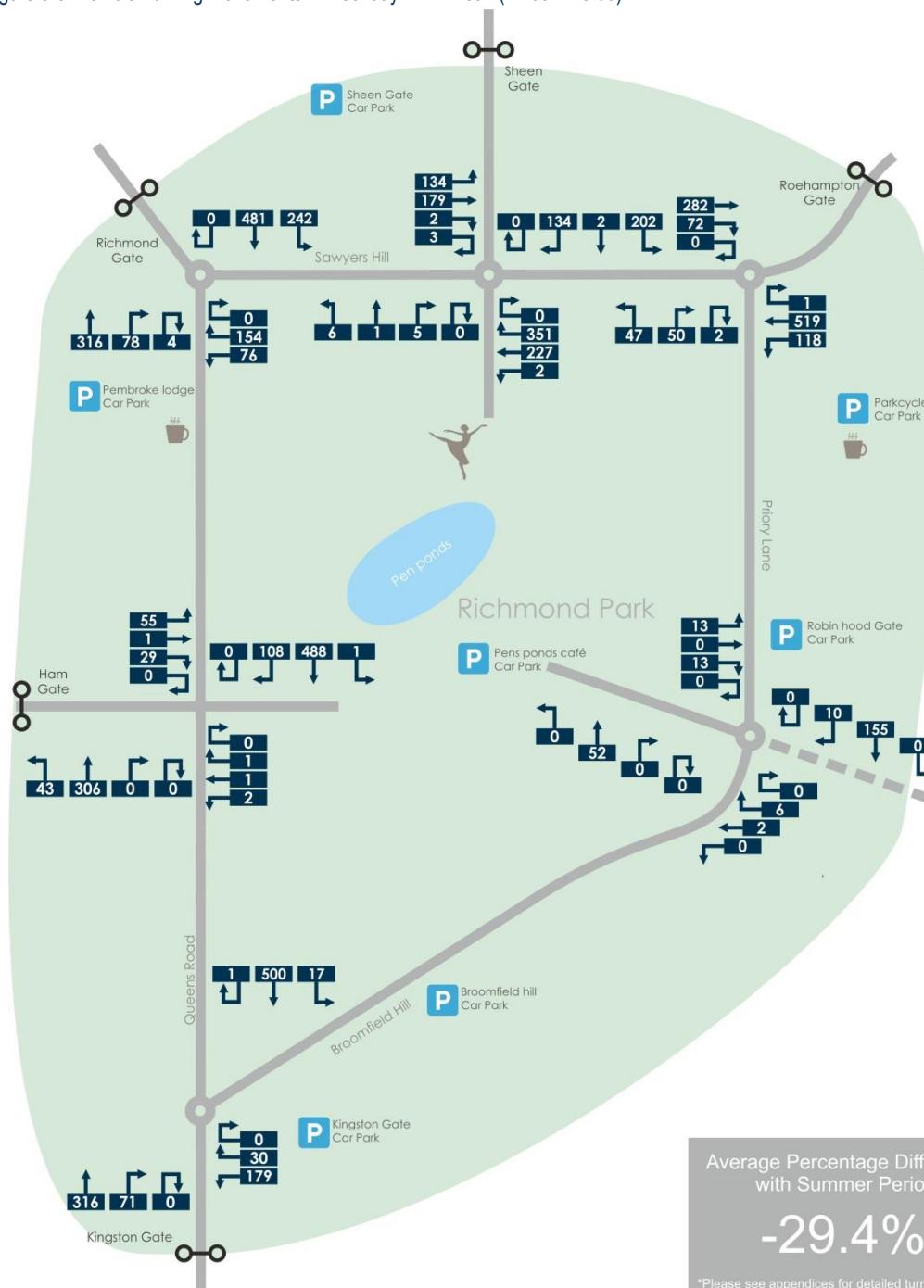


Figure 3-7: Vehicle Turning Movements – Saturday (12:00 – 13:00)

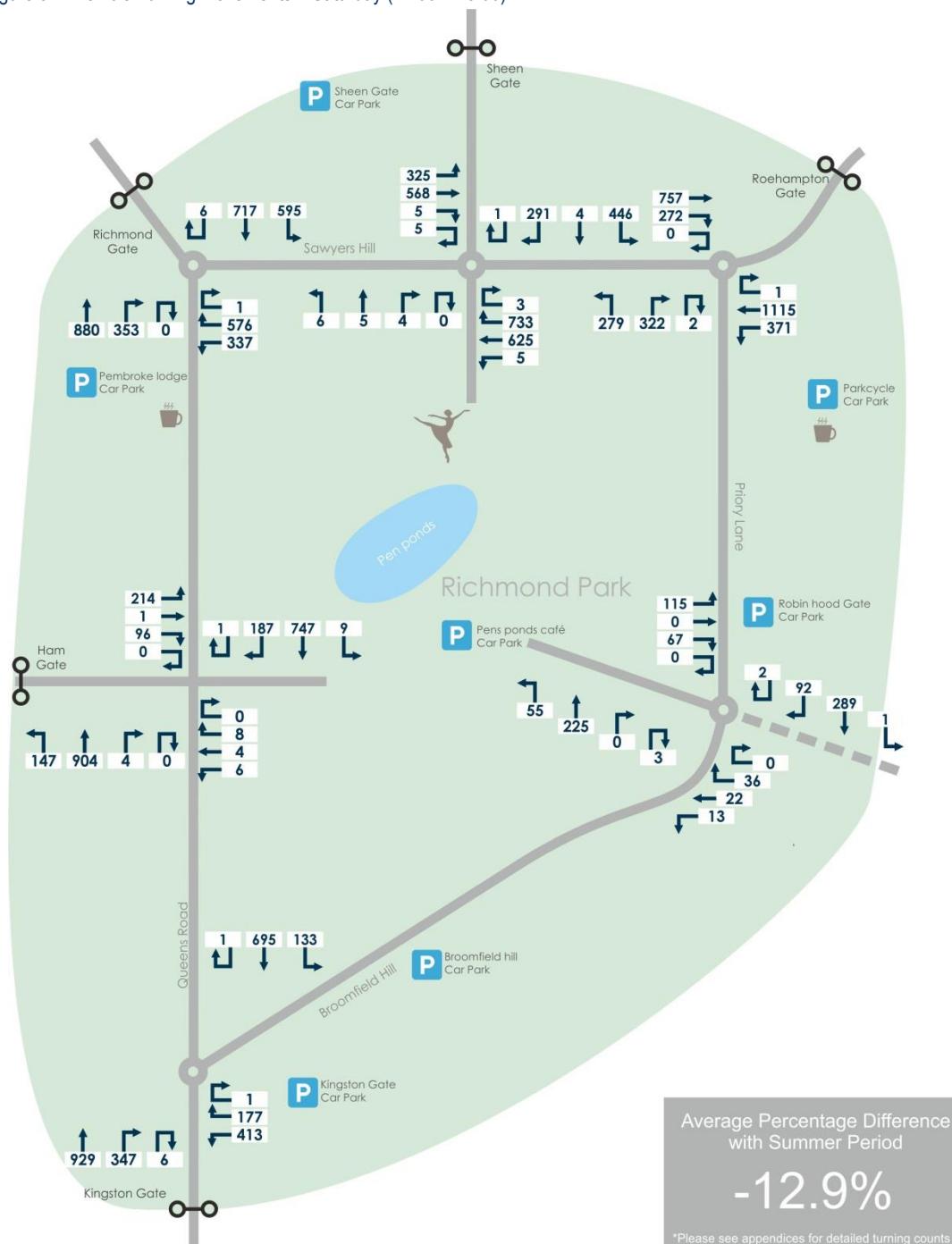
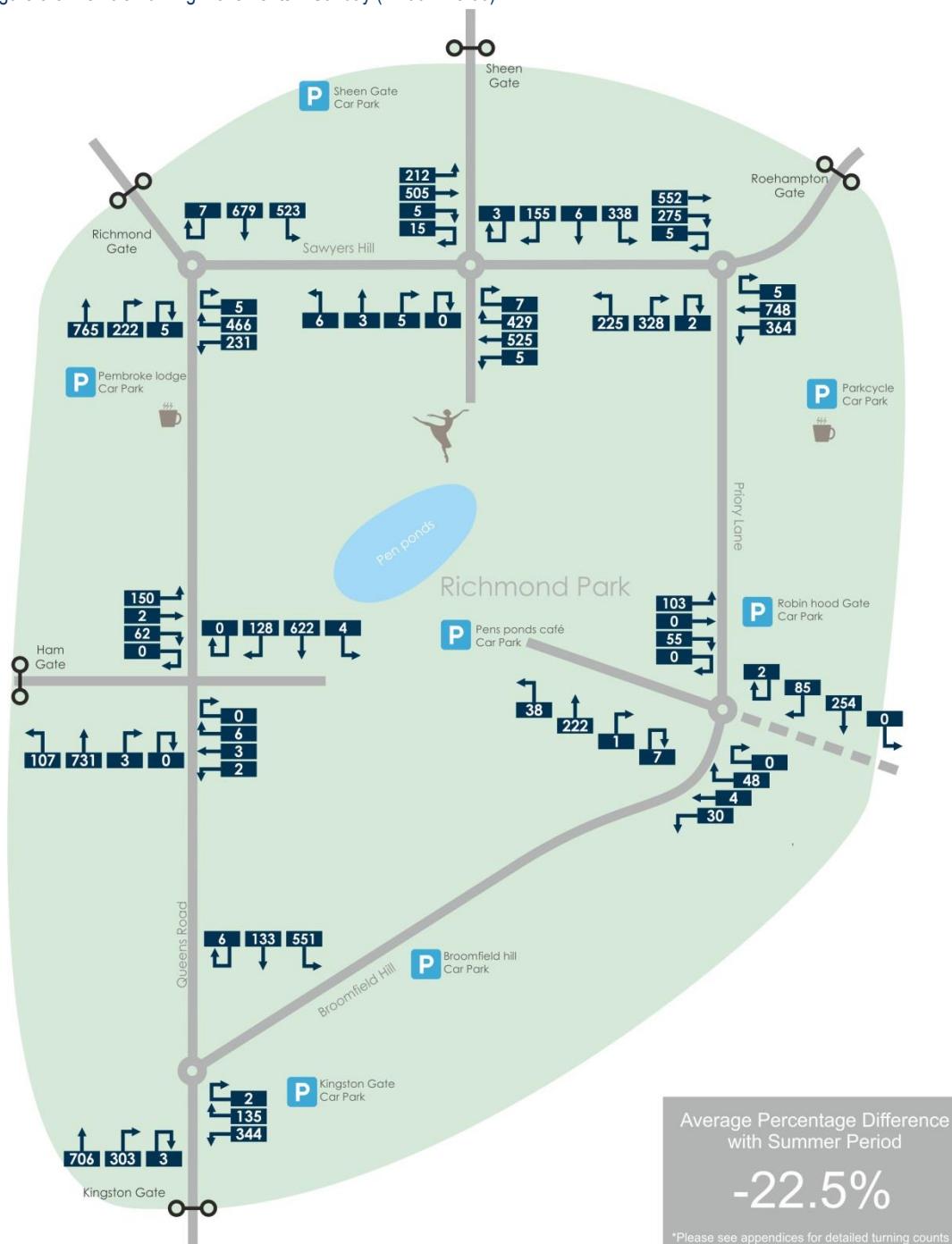


Figure 3-8: Vehicle Turning Movements – Sunday (12:00 – 13:00)



### 3.6 Traffic Speeds

- 3.6.1 The ATC data provides an indication of vehicle speeds at the surveyed locations. For each ATC, an average and 85<sup>th</sup> percentile speed has been calculated for an average weekday and weekend. This will identify locations within the park where traffic is travelling at or above the speed limit of 20mph.
- 3.6.2 **Figure 3-9 and 3-10** illustrate the speeds recorded within the park during the neutral and summer weekdays respectively.

Figure 3-9: Speed Survey – Average Weekday – Neutral Week

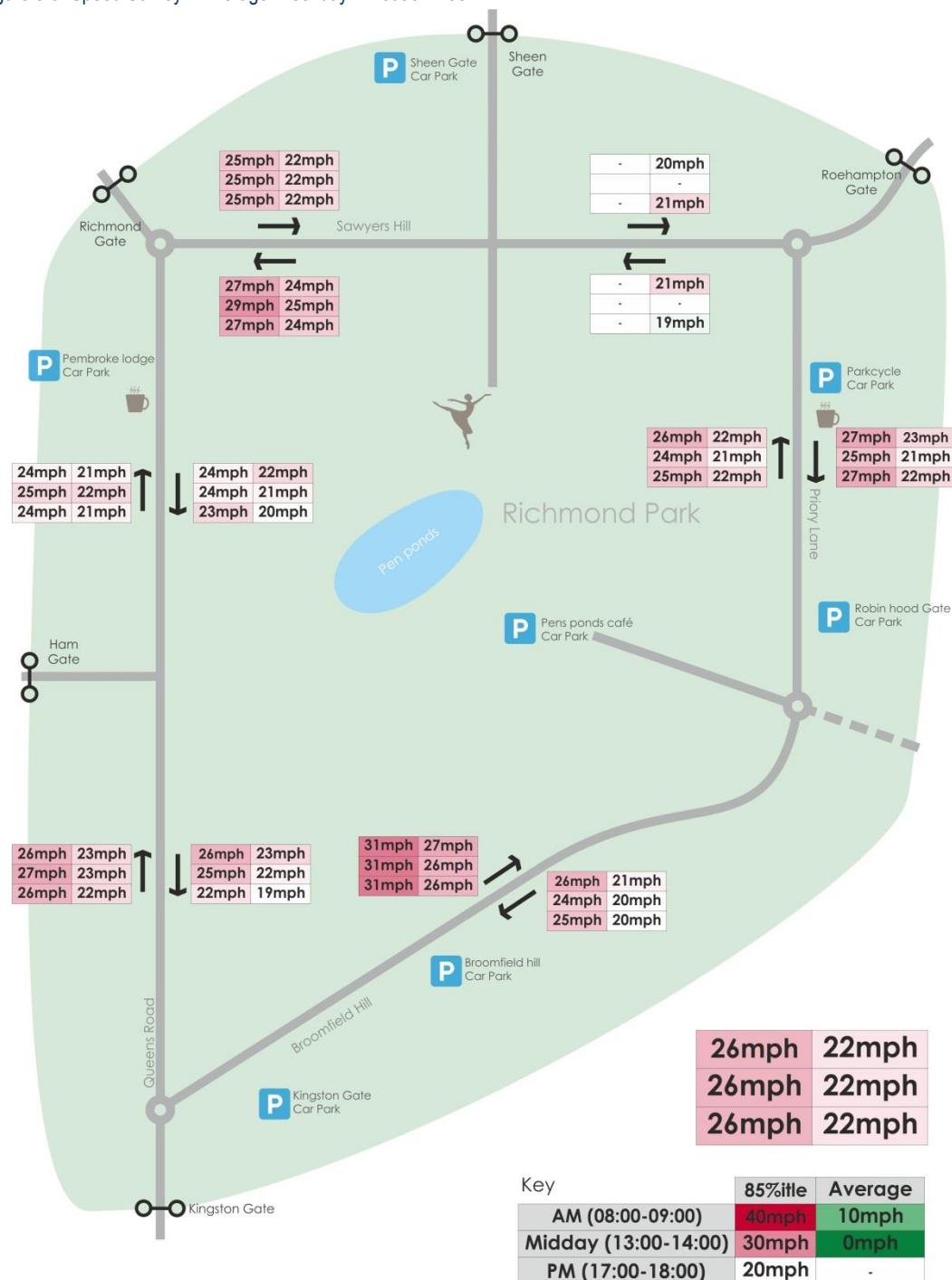
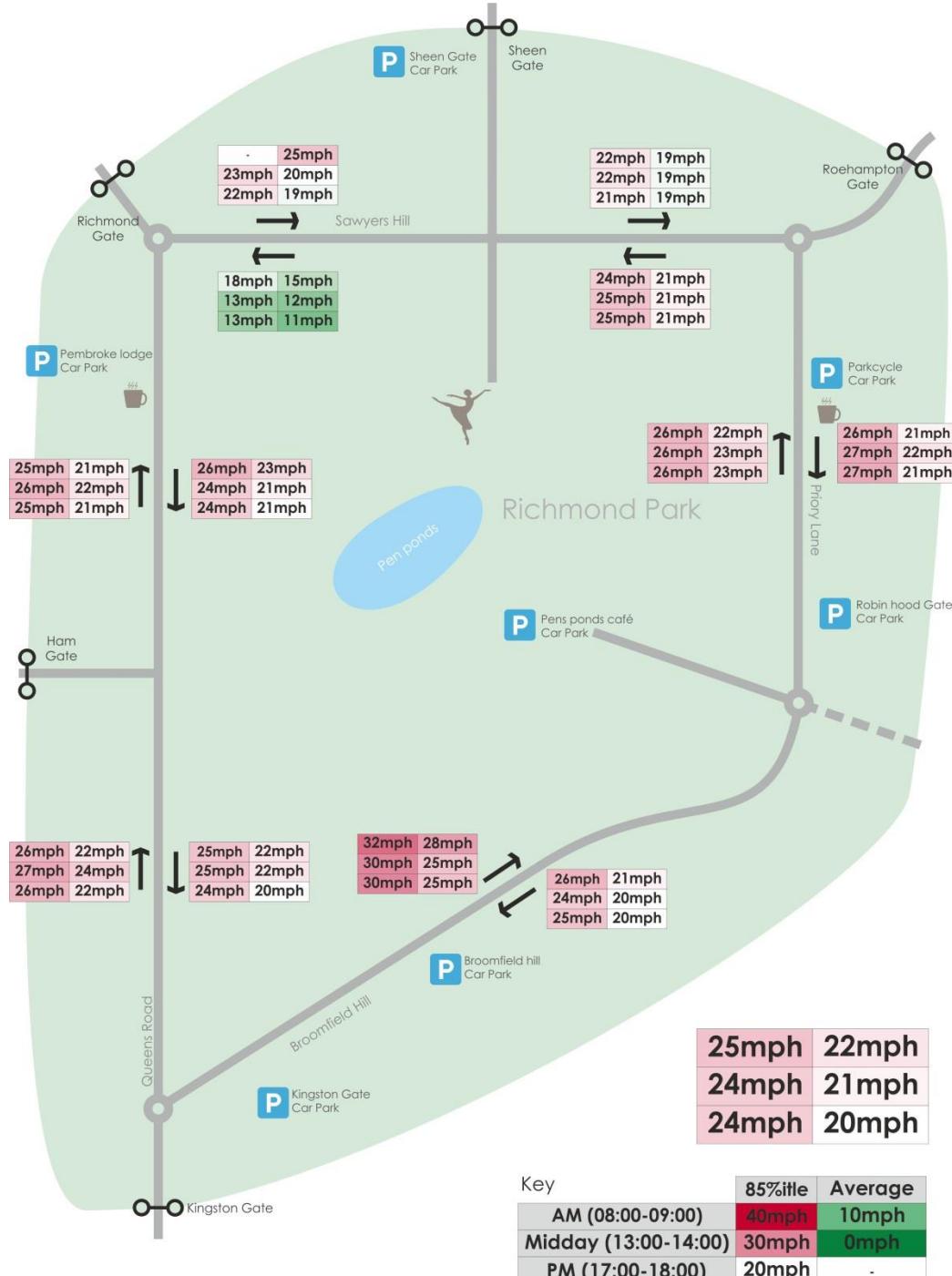


Figure 3-10: Speed Survey – Average Weekday – Summer Week



- 3.6.3 These figures show that generally speeds across the park during the summer period are lower than speeds during the neutral period. It may be suitable to suggest that this may be a result of a change in the type of driver travelling through the park in those periods.
- 3.6.4 **Figure 3-11** and **3-12** illustrate the speeds recorded within the park during the neutral and summer weekdays respectively.

Figure 3-11: Speed Survey – Average Weekend – Neutral Week

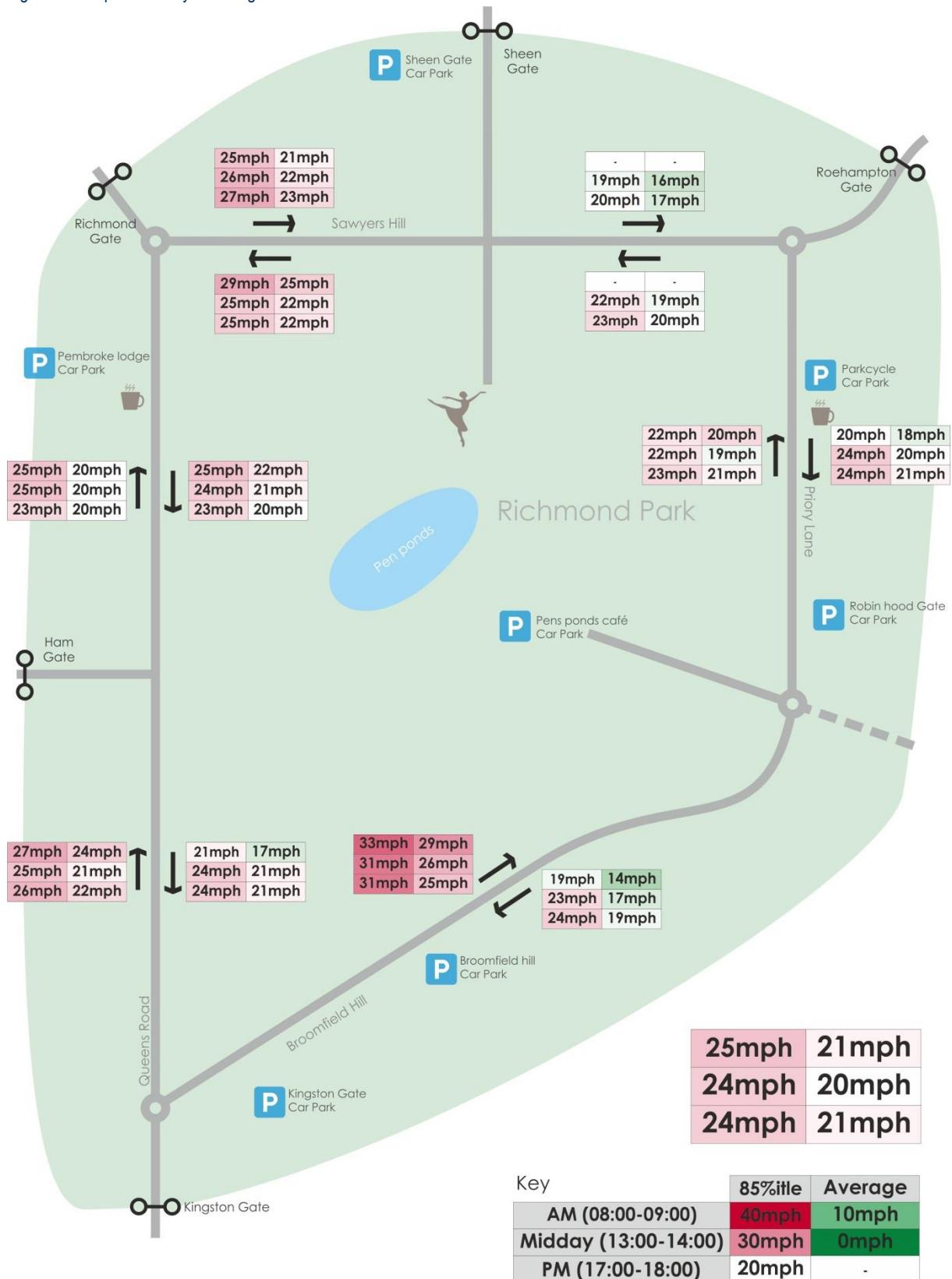
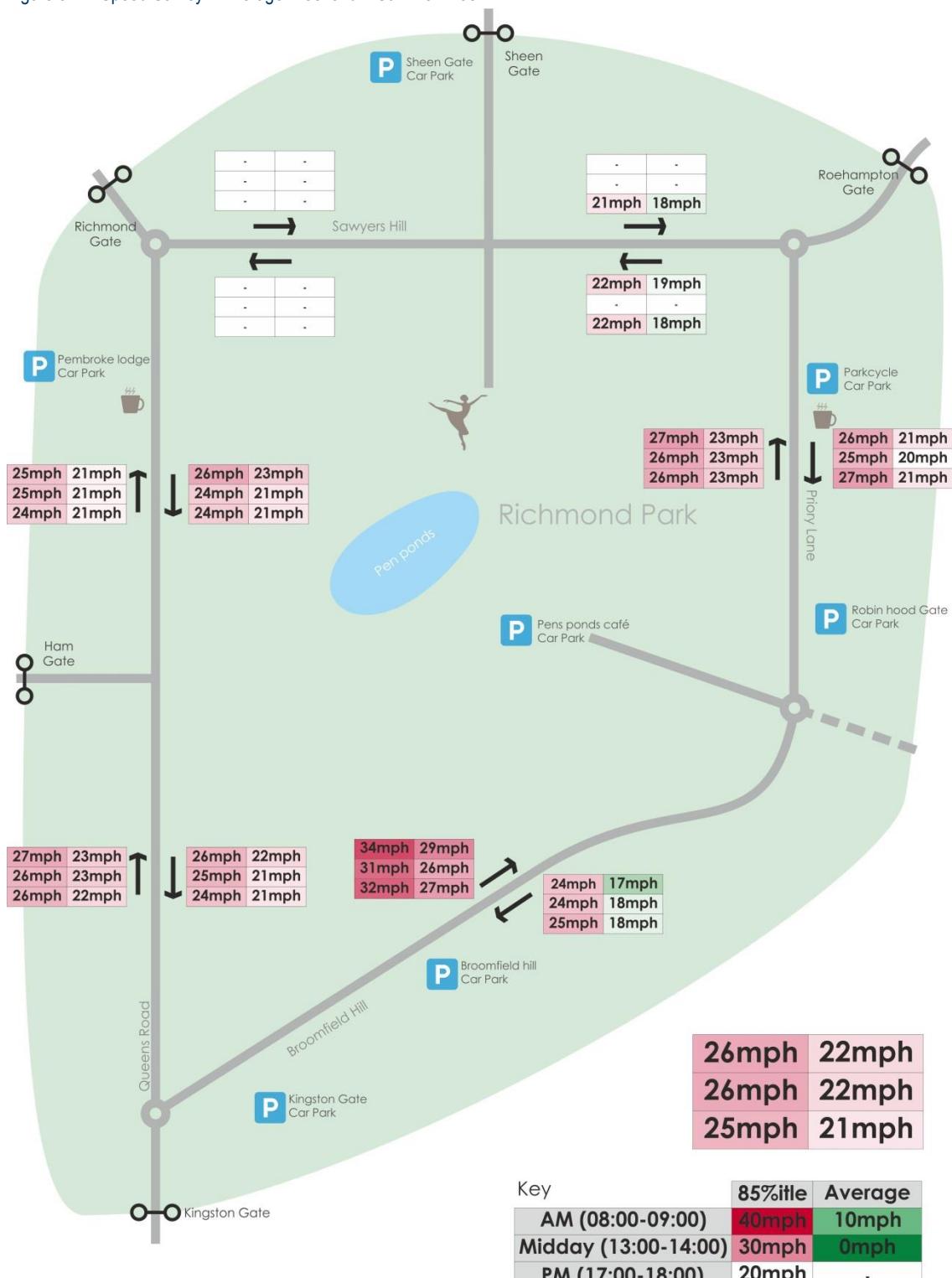


Figure 3-12: Speed Survey – Average Weekend – Summer Week



- 3.6.5 These figures show that traffic speeds within the park are similar in the neutral and summer periods.
- 3.6.6 There was an error in some data collection at times across the park during the summer period due to a fault occurring with the ATC equipment likely stemming from a puncture in the tubing, these errors have been indicated with a '-'.

- 3.6.7 **Figure 3-14** and 3-15 illustrate the average and 85<sup>th</sup> percentile speed profiles for the eastbound movement along Broomfield Hill.

Figure 3-13: Average Speed Daily Profiles – Broomfield Hill, Eastbound

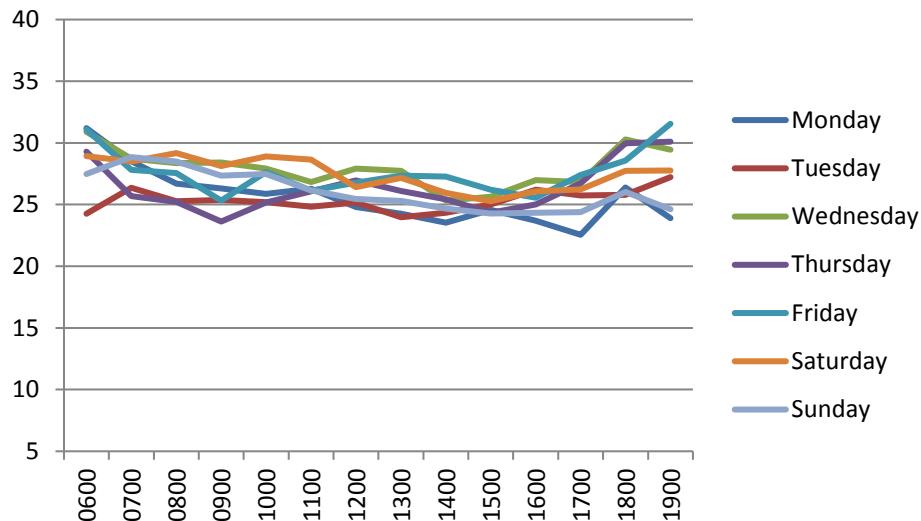
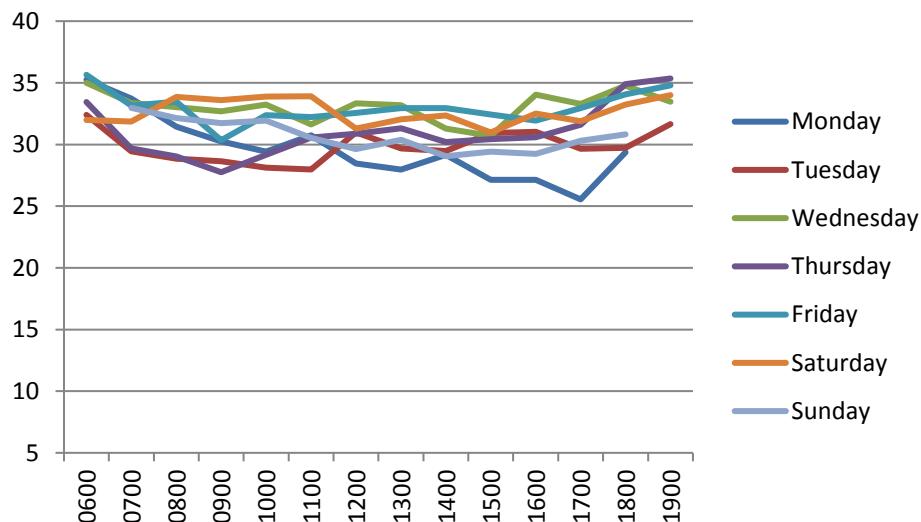


Figure 3-14: 85<sup>th</sup> Percentile Speed Daily Profile – Broomfield Hill, Eastbound

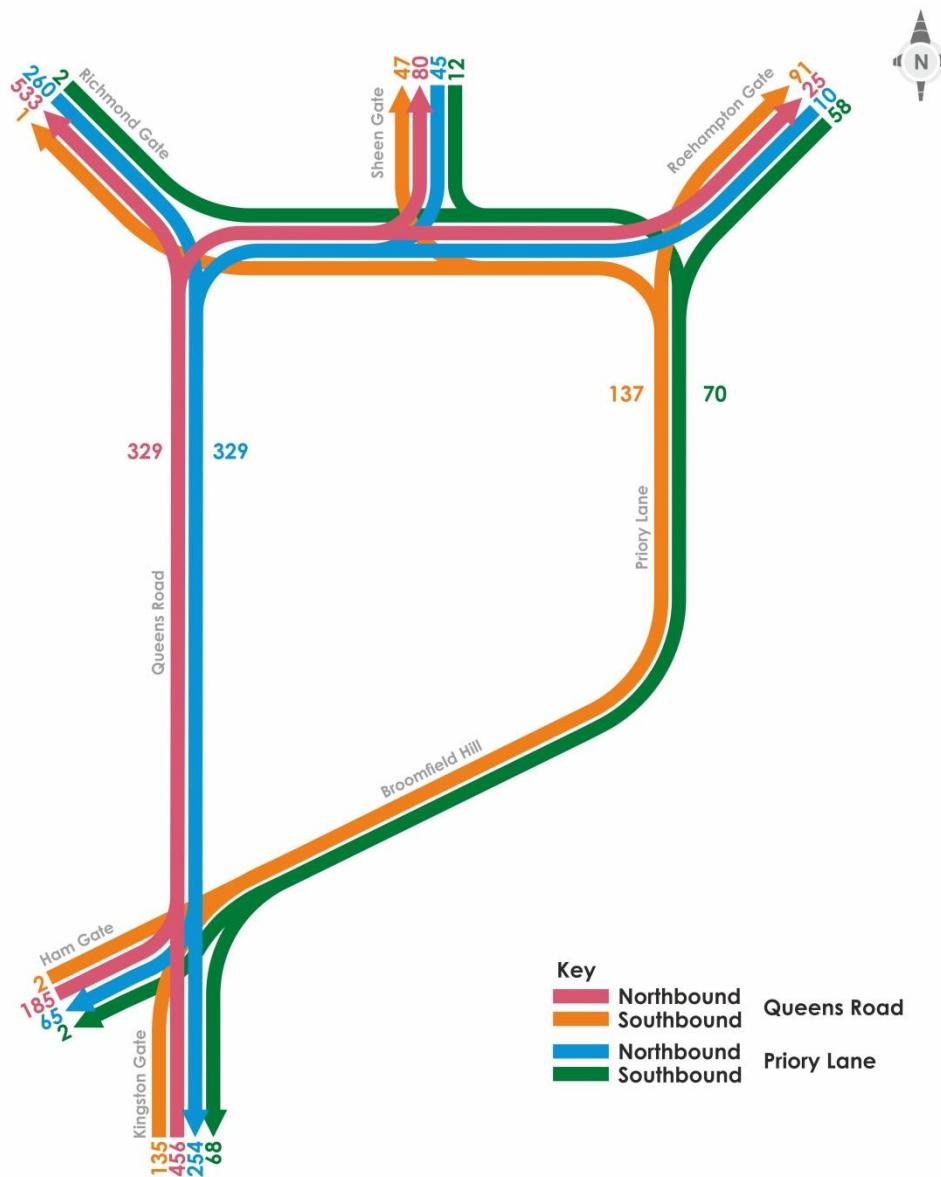


- 3.6.8 These graphs show that during the course of each day the average speeds fluctuate between 22.5mph and 30mph, and the 85<sup>th</sup> percentile speeds fluctuate between 25.5 and 35mph.
- 3.6.9 The figures highlight that traffic speeds eastbound along Broomfield Hill have an average speed greater than 25mph, with the highest 85<sup>th</sup> percentile speed reaching 34mph, which is 14mph greater than the 20mph speed limit within the park. It must be noted that the ATC for Broomfield Hill was located along a hill, where eastbound traffic was descending down the hill.
- 3.6.10 Average speed and 85<sup>th</sup> percentile speed graphs for each ATC has been summarised within **Appendix D**.

## 3.7 North/South Route Preference

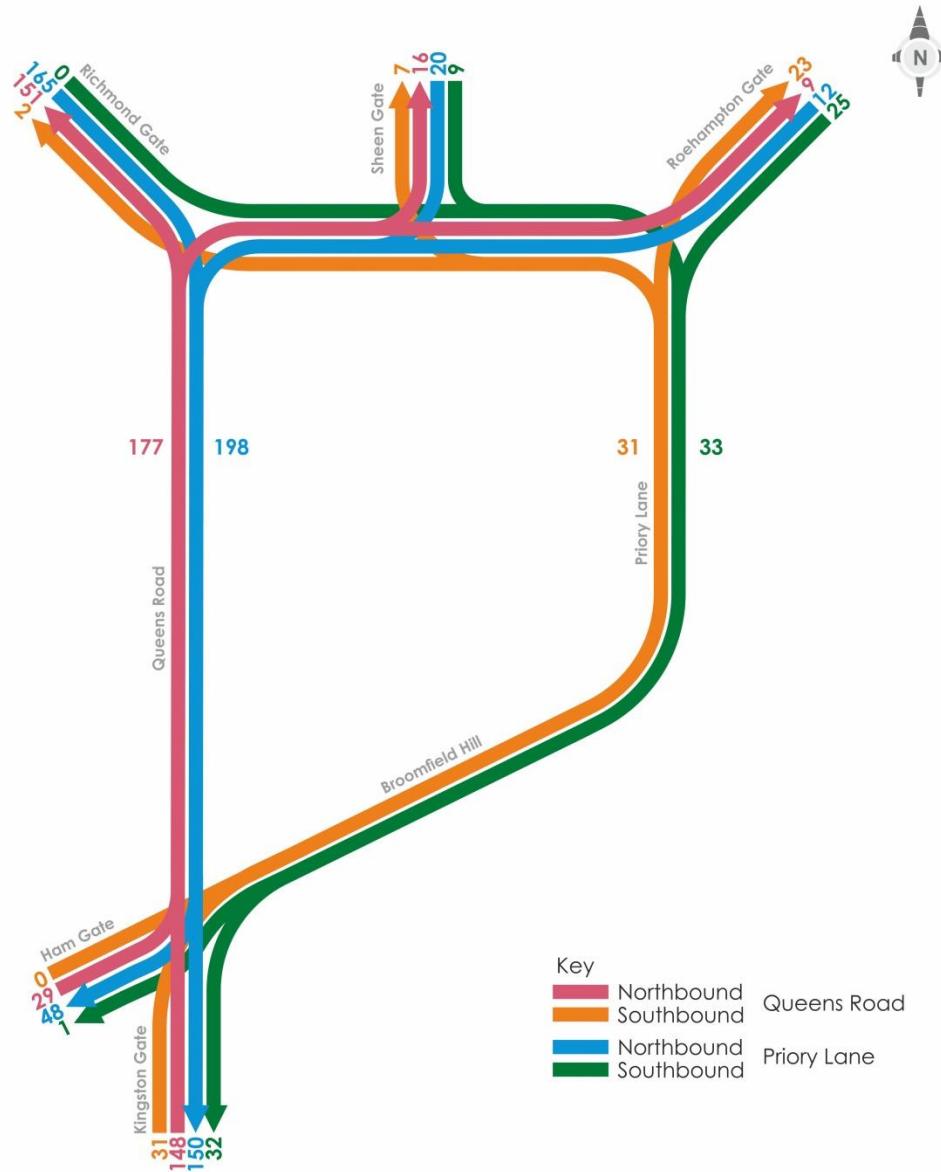
- 3.7.1 **Figure 3-15** shows the north and south route preferred along Queens Road and Priory Lane during the neutral AM peak.

Figure 3-15: Reduced Traffic Flow AM



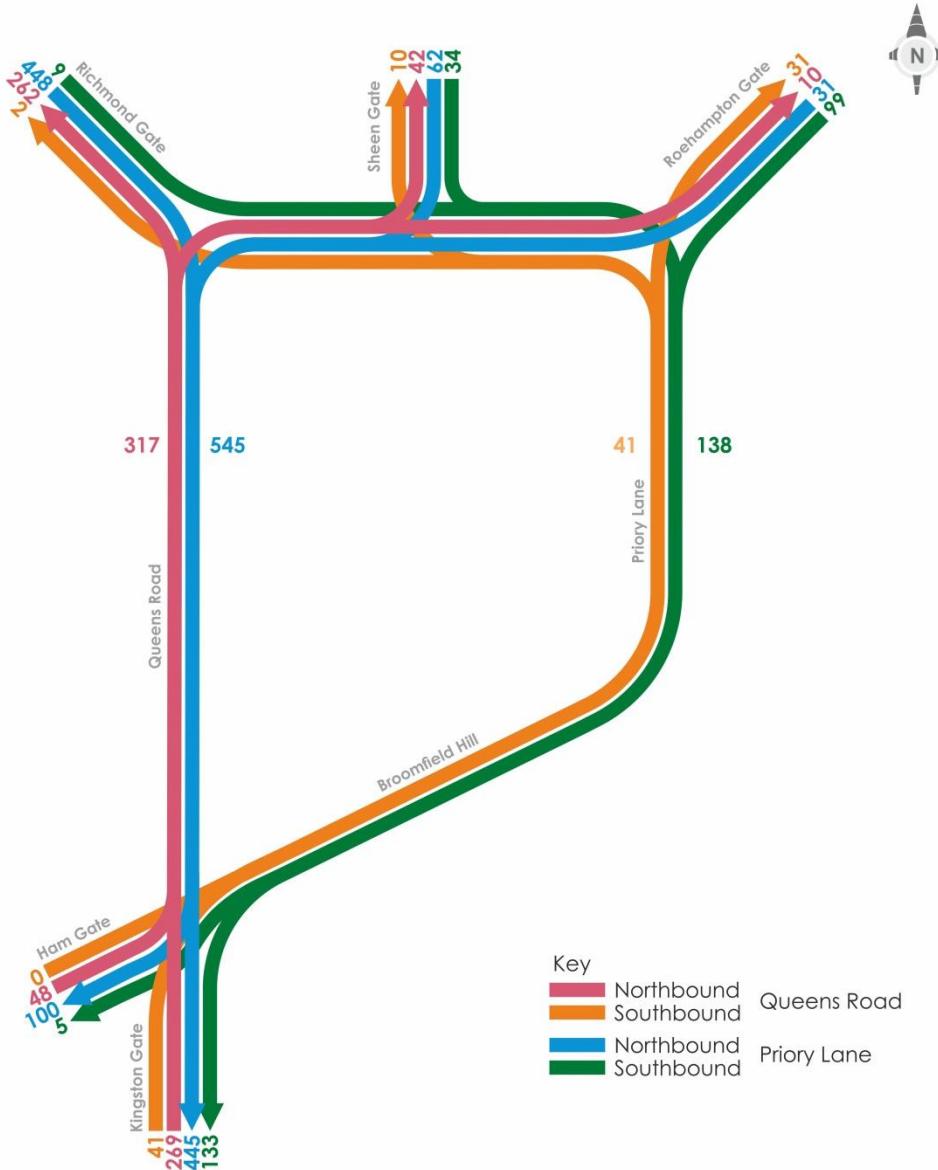
- 3.7.2 **Figure 3-15** shows that a greater flow of traffic uses Queens Road in comparison to Priory Lane. The figure shows that this is mainly due to the large traffic flow between Richmond Gate and Kingston Gate and vice versa.
- 3.7.3 The figure also shows that the majority of traffic travelling along Priory Lane is due to traffic travelling between Kingston Gate and Sheen Gate, and Kingston Gate and Roehampton Gate.
- 3.7.4 **Figure 3-16** shows the north and south route preferred along Queens Road and Priory Lane during the neutral inter peak.

Figure 3-16: Reduced Traffic Flow Inter Peak



- 3.7.5 **Figure 3-16** shows that again there is more traffic using Queens Road in comparison to Priory Lane during the Inter Peak. The figure shows that this is mainly due to the large traffic flow between Richmond Gate and Kingston Gate and vice versa.
- 3.7.6 The figure also shows that the majority of traffic travelling along Priory Lane is due to traffic travelling between Kingston Gate and Sheen Gate, and Kingston Gate and Roehampton Gate.
- 3.7.7 **Figure 3-17** shows the north and south route preferred along Queens Road and Priory Lane during the neutral PM peak.

Figure 3-17: Reduced Traffic Flow PM

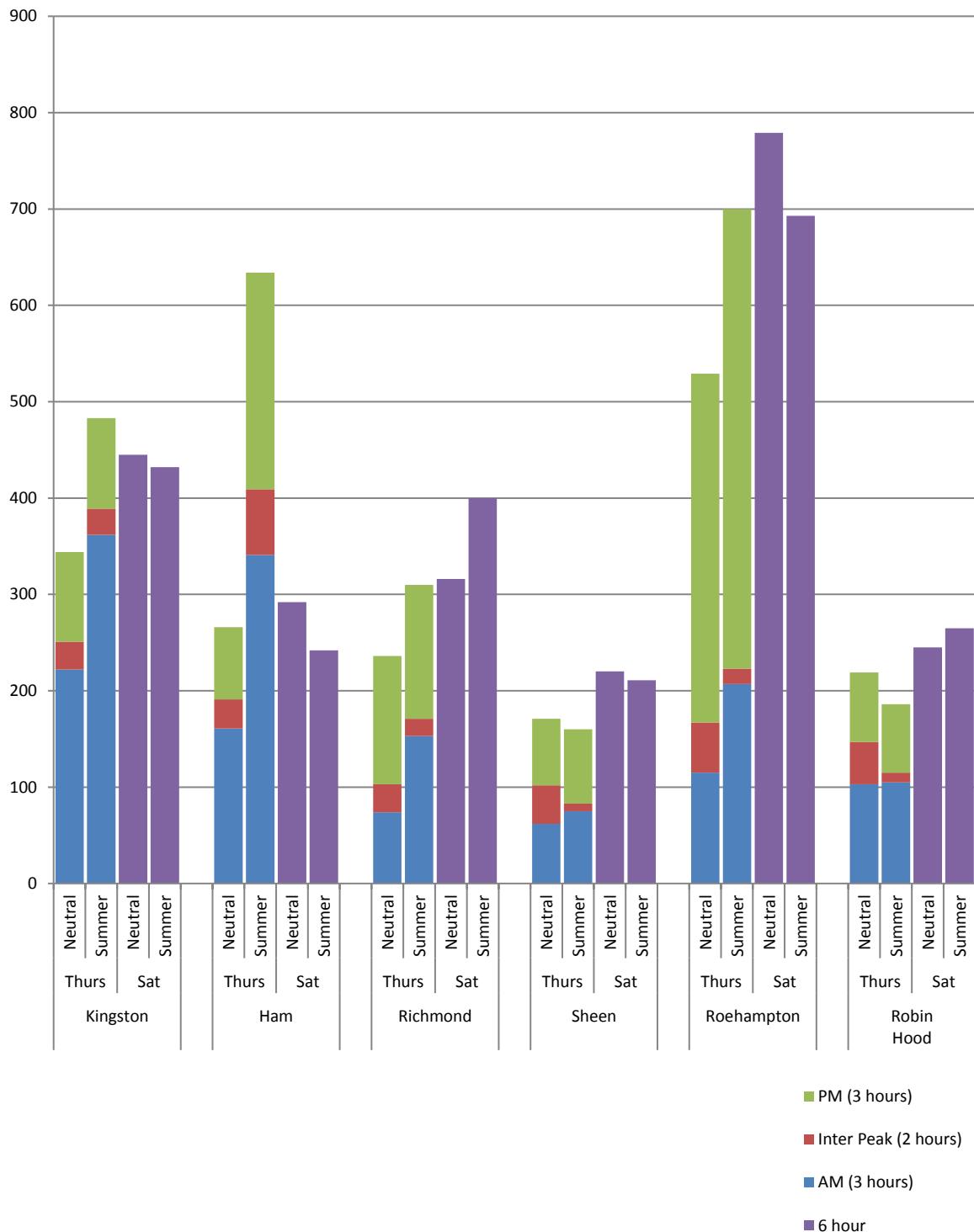


- 3.7.8 **Figure 3-17** shows that again there is more traffic using Queens Road in comparison to Priory Lane during the PM Peak. The figure shows that this is mainly due to the large traffic flow between Richmond Gate and Kingston Gate and vice versa.
- 3.7.9 The figure also shows that the majority of traffic travelling along Priory Lane is due to traffic travelling between Kingston Gate and Sheen Gate, and Kingston Gate and Roehampton Gate.

## 4 Cycling within the Park

- 4.1.1 **Figure 4-1** shows that there is a vast increase in cyclists entering the park on the weekend when compared to the weekday. It must be noted that the figures shown in the graph are only cyclists that have entered the park on-road, and does not include those cyclists that have driven into the park to cycle.

Figure 4-1: Cyclist Entering the Park

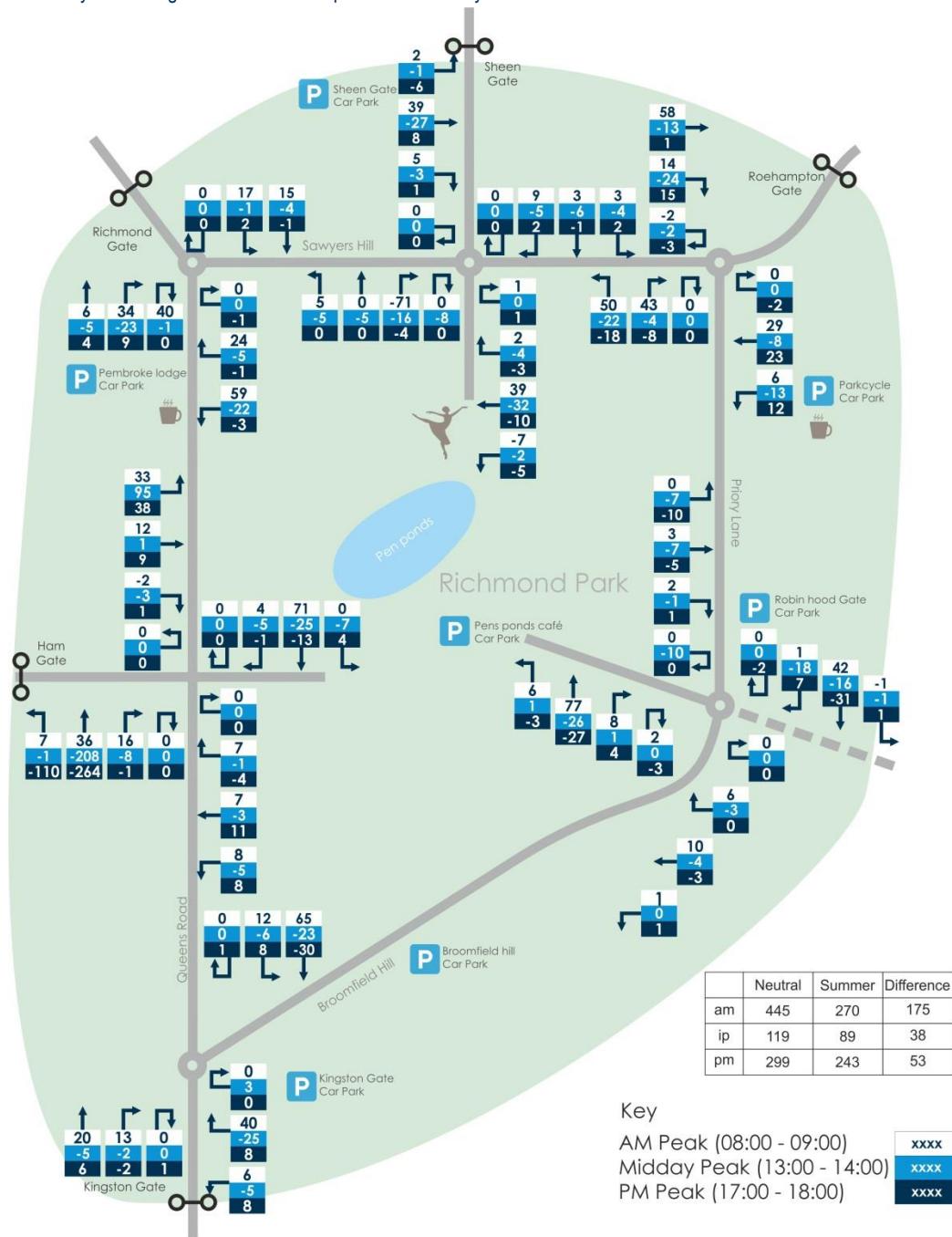


- 4.1.2 Further to this it is important to note the impact which the differentiation in weather of each survey period may have on the results as expressed within **Figure 4-1**. Matters such as the Strava race, commencing at Roehampton, will also impact the data. Typical behavioural patterns affecting the manner in which the park itself is used, for example commuting or leisure, across the tidal periods of the weekday and weekend are also influential on the data.
- 4.1.3 The roads around Richmond Park attract not only commuters but also leisure and sports cycle enthusiasts that wish to cycle around the 7-mile circuit, that has sharp bends and some long gradual inclines. Most road cyclists travel anti-clockwise around the park as it reduces the number of times cyclists stop at the junctions.
- 4.1.4 The cycle turning movement have been collected from the MCTC surveys, and results have been illustrated in **Appendix D**.
- 4.1.5 However, comparisons of the neutral and summer data sets have been discussed further.

## Weekday

- 4.1.6 **Figure 4-2** illustrates a comparison between the cycle turning movements for a typical weekday during a neutral and summer week.

Figure 4-2: Cycle Turning Movements – Comparison - Weekday

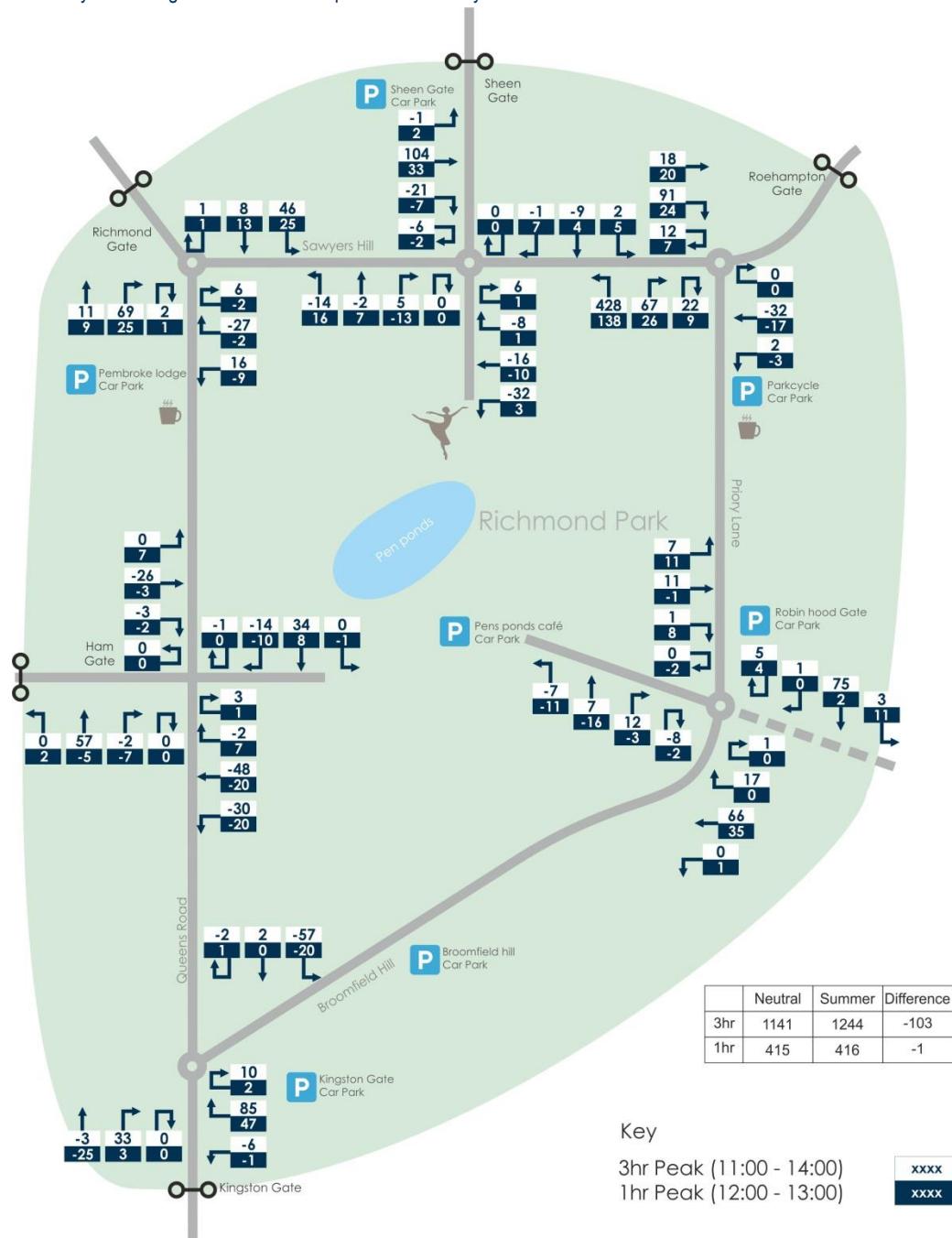


- 4.1.7 This figure shows that there were more cyclists within the park in the AM during the summer weekday than a neutral weekday. However, in the midday and PM peak hours there was generally more cyclists in the neutral week, especially around Kingston Gate and Ham Gate.

## Saturday

- 4.1.8 **Figure 4-3** illustrates a comparison between the cycle turning movements for a Saturday during a neutral and summer week.

Figure 4-3: Cycle Turning Movements – Comparison - Saturday

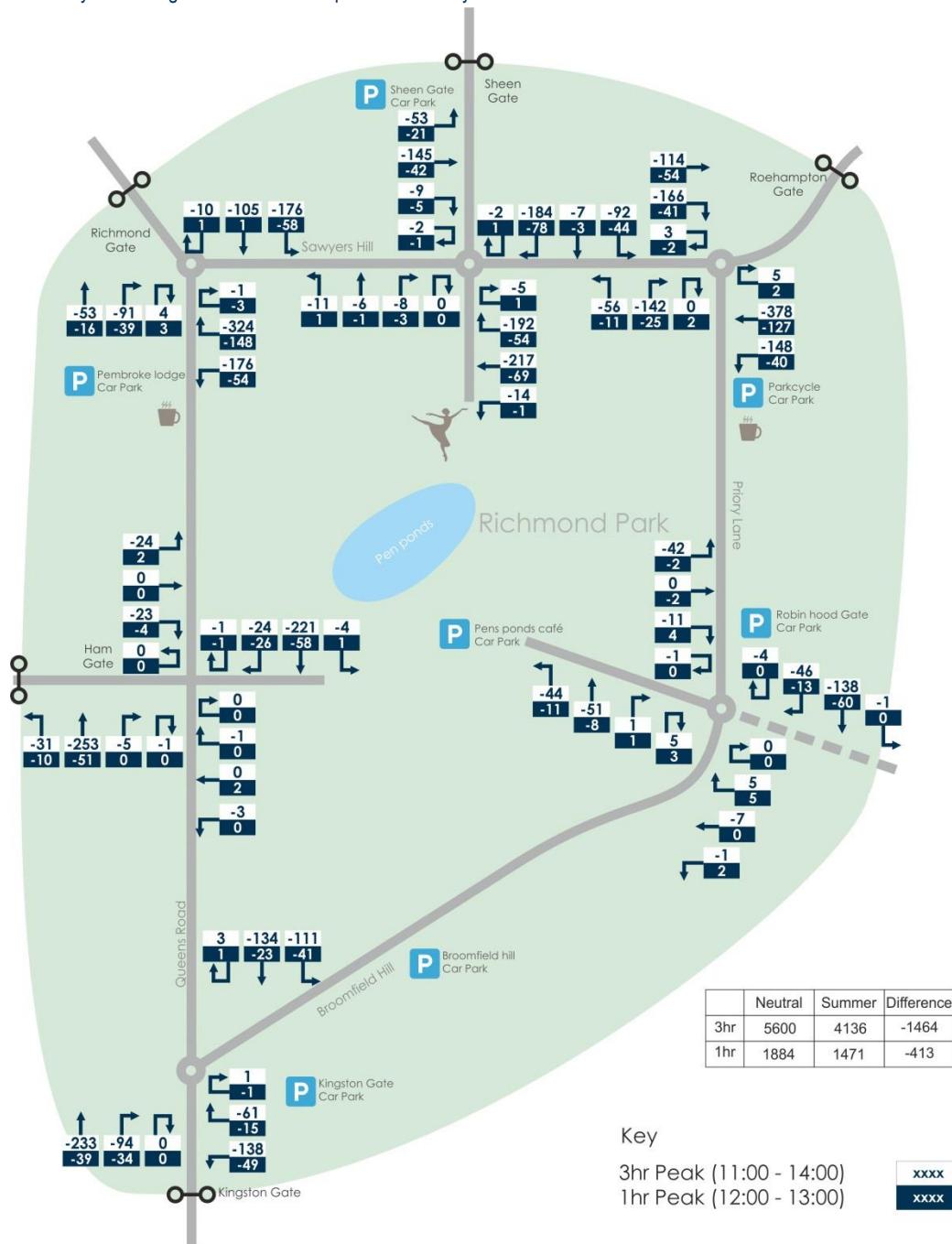


- 4.1.9 This figure shows that generally across the park there were more cyclists on a Saturday during the summer season rather than the neutral season.

## Sunday

- 4.1.10 **Figure 4-4** illustrates a comparison between they cycle turning movements for a Sunday during a neutral and summer week.

Figure 4-4: Cycle Turning Movements – Comparison - Sunday



- 4.1.11 This figure shows that generally across the park there were more cyclists on a Sunday during the summer season rather than the neutral season.

## 5 Travel Survey

### 5.1 Introduction

- 5.1.1 Travel surveys were carried out across Richmond Park through the use of postcard questionnaires with surveyors standing in a safe location at the 5 vehicles gates handing the questionnaires to drivers and they enter the park through the primary junction locations.
- 5.1.2 The travel survey asked the four following questions;
- What was the purpose of your Journey?
  - Do you generally use the park to undertake this journey?
  - Why do you use the park to undertake this journey?
  - What was the origin and destination of your journey?
- 5.1.3 The results of the travel survey have been analysed based on responses to these questions.

### 5.2 Number of Responses

- 5.2.1 **Table 5-1** summarises the response rate for completed travel surveys across all surveyed time periods.
- 5.2.2 Across all the survey days, we were able to hand out travel surveys to approximately 70% of all motorists entering the park.
- 5.2.3 Thursday AM experienced the highest survey responses at 33.1%. Thursday INTER at 26.3%, Thursday PM at 24.1%. Response rates were expected to be slightly lower in the weekday surveys with commuters not necessarily having the time to complete the survey. Saturday and Sunday experienced a steady response rate at 28%. Kingston Gate was seen to have consistently high responses averaging at 30%.
- 5.2.4 As expressed in **Table 5-1** the peak vehicle entry day was Sunday at 10,475, the peak gate entry point was seen to be Roehampton Gate on Sunday. The following peak entry was Roehampton again on the Saturday. When looking to the weekday survey of Tuesday we see that most consistently high entry point being Richmond Gate averaging out at 1452 vehicle entries across the AM, INTER and PM. The single highest peak entry was seen to be Kingston during the AM peal at 2053.

Table 5.1: Response Rate

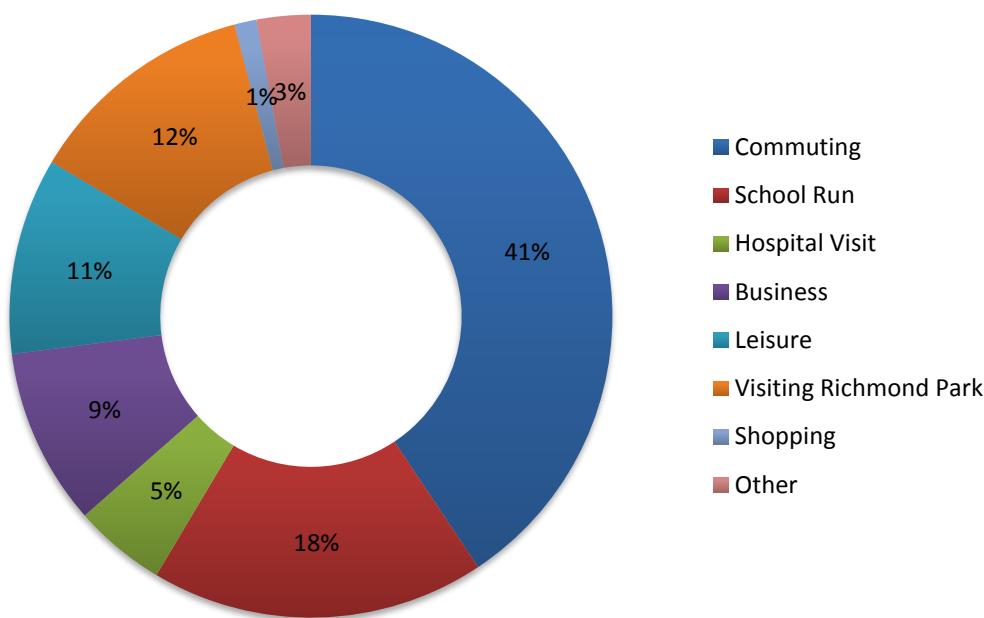
		Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	All
Thursday AM	Total Entering	2053	561	1653	927	1397	6591
	Estimated	1157	393	1157	649	978	4614
	Number of Postcards	491	120	428	287	202	1528
	Response Rate	34.2%	30.6%	37%	44.2%	20.7%	33.1%
Thursday Inter	Total Entering	616	159	790	407	631	2603
	Estimated	431	111	553	285	442	
	Number of Postcards	135	16	132	80	117	480
	Response Rate	31.3%	14.4%	23.9%	28.1%	26.5%	26.3%
Thursday PM	Total Entering	1095	244	1912	850	1649	5750
	Estimated	767	171	1338	595	1154	4025
	Number of Postcards	248	26	302	150	243	969
	Response Rate	32.4%	15.2%	22.6%	25.2%	21.1%	24.1%
Saturday	Total Entering	2503	580	2650	1378	2707	9818
	Estimated	1752	406	1855	965	1895	6873
	Number of Postcards	459	88	502	276	625	1950
	Response Rate	26.2%	21.7%	27.1%	28.6%	33%	28.4%
Sunday	Total Entering	2574	496	3039	1460	2906	10475
	Estimated	1802	347	2127	1022	2034	7333
	Number of Postcards	529	77	572	254	624	2056
	Response Rate	29.4%	22.2%	26.9%	24.9%	30.7%	28%

### 5.3 What was the purpose of your Journey?

#### Neutral Weekday – AM

- 5.3.1 **Figure 5-1** illustrates the responses to the question, “What was the purpose of your journey?” for the neutral weekday AM peak period.

Figure 5-1: What was the Purpose of Your Journey? – Neutral Weekday – AM Peak

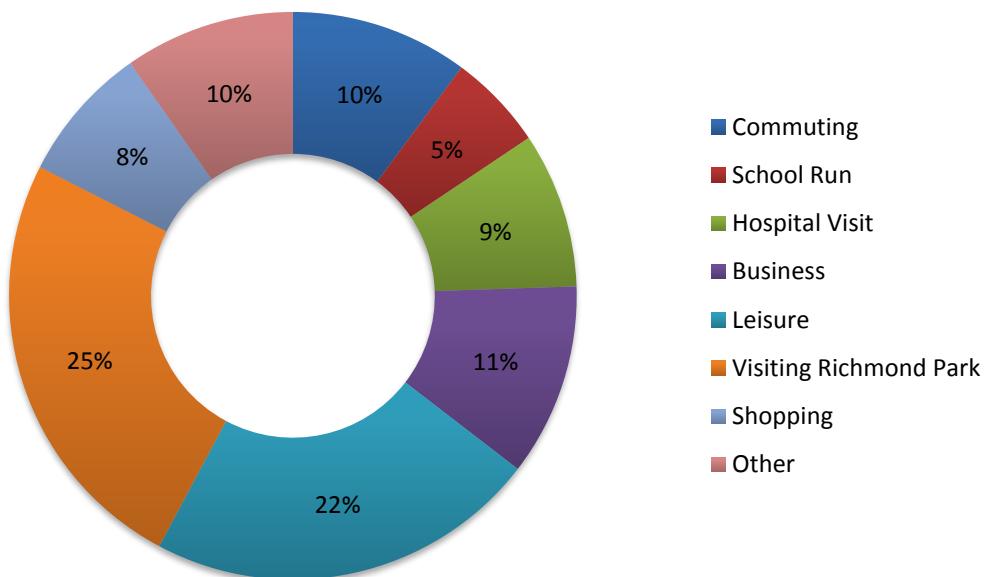


- 5.3.2 The results of this question show that on a neutral weekday during the AM peak, the majority of the parks traffic flow stemmed from that of commuters at 41% with 91% saying that commuting through the park is a regular journey for them making commuters a reliable proportion of traffic across the year.
- 5.3.3 A further 18% proportion of traffic flow stems from that of people doing the school run through the park suggesting a weighted population of local users dropping children off which are likely to have fluctuating travel patterns based on that of school term times. As such only 13% stated that travelling through the park for this matter was not a regular occurrence.
- 5.3.4 12% of recorded journeys are seen to be for the purpose of visiting Richmond Park directly.

### Neutral Weekday – Midday Peak

- 5.3.5 **Figure 5-2** illustrates the responses to the question, "What was the purpose of your journey?" for the neutral weekday Midday peak period.

Figure 5-2: What was the Purpose of Your Journey? – Neutral Weekday – Midday Peak

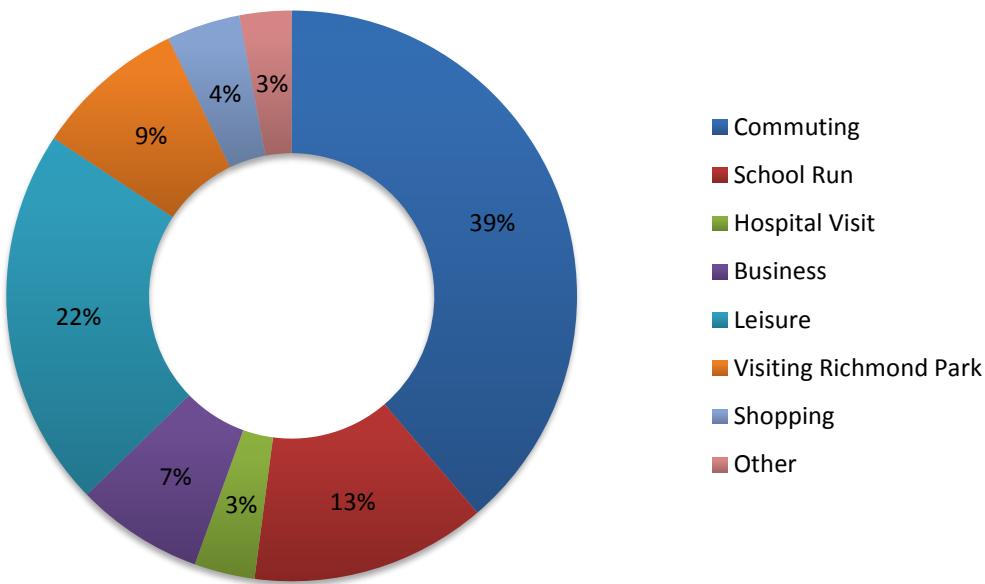


- 5.3.6 During the Midday peak the composition of journey purpose is reasonably mixed. With the majority of motorists travelling into the park for 'Leisure' or to visit the park itself.

### Neutral Weekday – PM

- 5.3.7 **Figure 5-3** illustrates the responses to the question, “What was the purpose of your journey?” for the neutral weekday PM peak period.

Figure 5-3: What was the Purpose of Your Journey? – Neutral Weekday – PM Peak

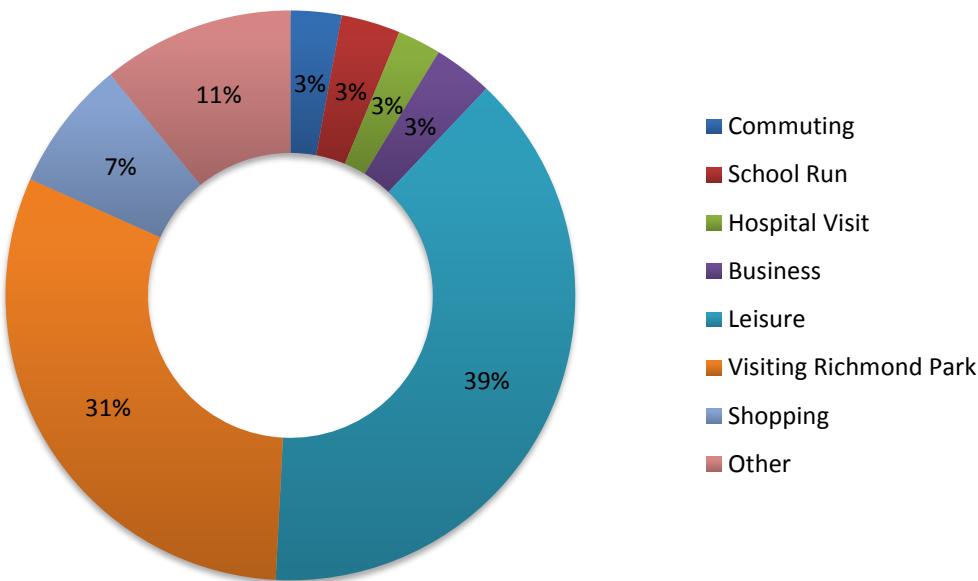


- 5.3.8 The results of this question show that on a neutral weekday during the PM peak, the majority of the parks traffic flow stemmed from that of commuters at 39% with 88% saying that commuting through the park is a regular journey for them making commuters a reliable proportion of traffic across the year.
- 5.3.9 The percentage of commuting traffic is comparable with the AM peak. It may be due to the same motorists travelling to / from work through the park in these peak periods.
- 5.3.10 22% of traffic flow is travelling for ‘Leisure’ purposes through the park; and 9% of recorded journeys are seen to be for the purpose of visiting Richmond Park directly.

## Neutral Saturday

- 5.3.11 **Figure 5-4** illustrates the responses to the question, "What was the purpose of your journey?" for the neutral Saturday.

Figure 5-4: What was the Purpose of Your Journey? – Neutral Saturday



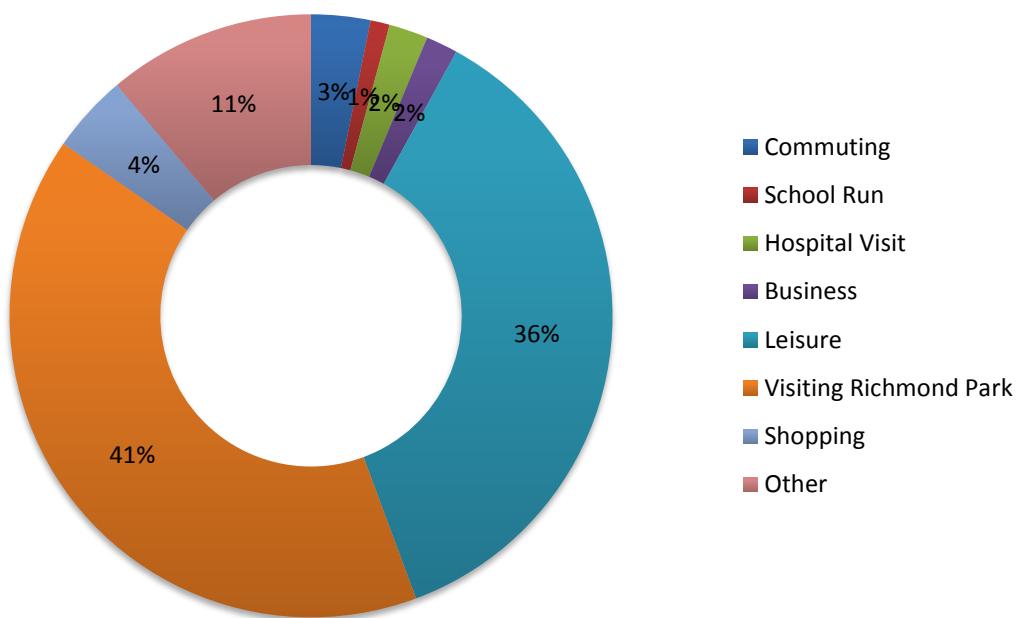
- 5.3.12 The results of this question shows that on a neutral Saturday there is a change in journey purposes travelling through the park when compared to the results of the neutral weekday. 39% of motorists are travelling through the park for 'Leisure' reasons, of which 84% of these journeys stated they generally used the park to make this journey.

- 5.3.13 31% of recorded journeys are seen to be for the purpose of visiting the park.

## Neutral Sunday

- 5.3.14 **Figure 5-5** illustrates the responses to the question, "What was the purpose of your journey?" for the neutral Sunday.

Figure 5-5: What was the Purpose of Your Journey? – Neutral Sunday



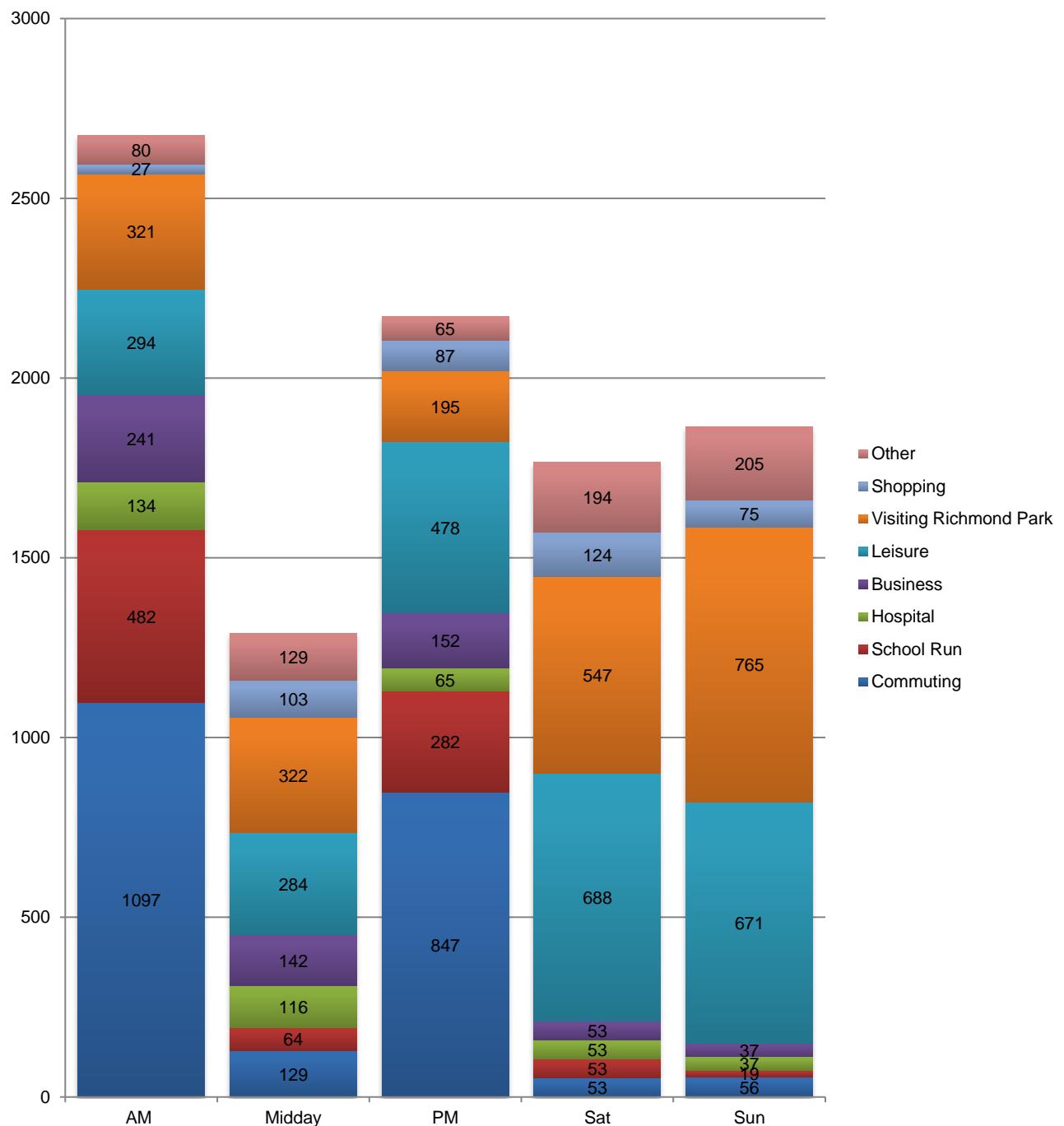
5.3.15 The results of this question show that on a neutral Saturday there is a change in journey purposes travelling through the park when compared to the neutral weekday and Saturday.

5.3.16 **Figure 5-5** shows that on a Sunday 'Visiting Richmond Park' is the most popular response for motorists travelling through the park. The second most popular response was for 'Leisure' purposes.

5.3.17 39% of motorists travelling through the park for 'Leisure' reasons, of which 84% of these journeys stated they generally used the park to make this journey.

5.3.18 **Figure 5-6** highlights the relationship between the flows into Richmond Park and the response rate.

Figure 5-6: Summary graph of the flows into Richmond Park vs Response Rate



## 5.4 Do you generally use the park to undertake this journey?

- 5.4.1 **Table 5-2** summarises the response to the question 'Do you generally use the park to undertake this journey' for all the surveyed time periods.

Table 5-2: Do you generally use the park to undertake this journey?

Neutral Surveyed Time Period	Yes	No
Weekday AM	89.1%	10.9%
Weekday Midday	83.4%	16.6%
Weekday PM	81.7%	18.3%
Saturday	84.5%	15.5%
Sunday	84.2%	15.8%

- 5.4.2 The table shows that approximately 80 - 85% of all journeys through the park are regular.

## 5.5 Why do you use the park to undertake this journey?

- 5.5.1 From all the responses received from the travel survey there is a large catalogue of reasons why motorist travel through the park. **Appendix H** contains word clouds which summarise some of the key words raised from the responses from the surveyed time periods.

- 5.5.2 The top ten key words that were used in these responses are listed below:

1. Journey
2. Quickest
3. Direct
4. Pleasant
5. Dog
6. Walking
7. Family
8. Leisure
9. Scenic
10. Beautiful

- 5.5.3 It is through the most common phrases we received through the travel survey in which we begin to understand the psychology of the park user's rationale for using the park.

- 5.5.4 The word clouds further revealed that the profile in the weekday is very different to that of the weekend. The weekday reflects phrases relating to the matter of having the quickest journey

to work by diving through the park. The weekend however reflects the park being the primary destination with walking and family coming up often.

- 5.5.5 Further to this “dog” came up throughout the weekday and weekend responses which reflects the CCTV observations where dog walkers were very common.

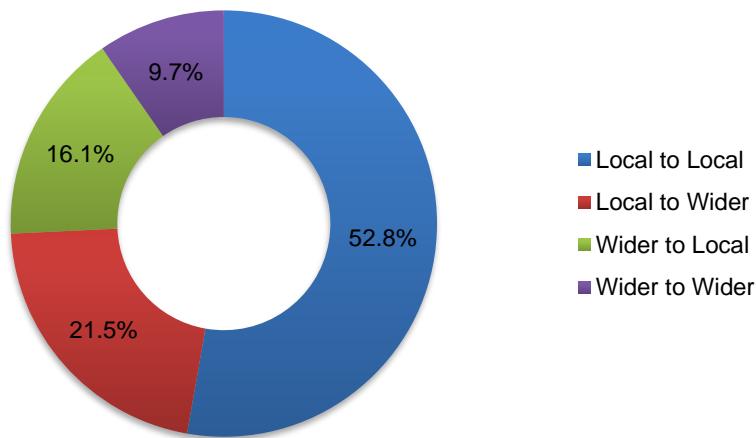
## **5.6 What was the origin and destination of your journey?**

- 5.6.1 With such a high proportion of respondents stating the travel through Richmond Park is that of a regular journey, it is likely that this is formed up of large proportion of local residents. This was explored through that matter of a Post Code Analysis.
- 5.6.2 For the purpose of this report the analysis of the origin and destination points have been assessed based on the assumption that any trip to/ from the three neighbouring boroughs of; London Borough of Richmond upon Thames (LBRT), The Royal Borough of Kingston upon Thames (RBKT) and Wandsworth Council (WC) are to be classified as local trips.
- 5.6.3 This will provide an understanding of the general catchment of motorists travelling through the park.

## Neutral Weekday – AM Peak

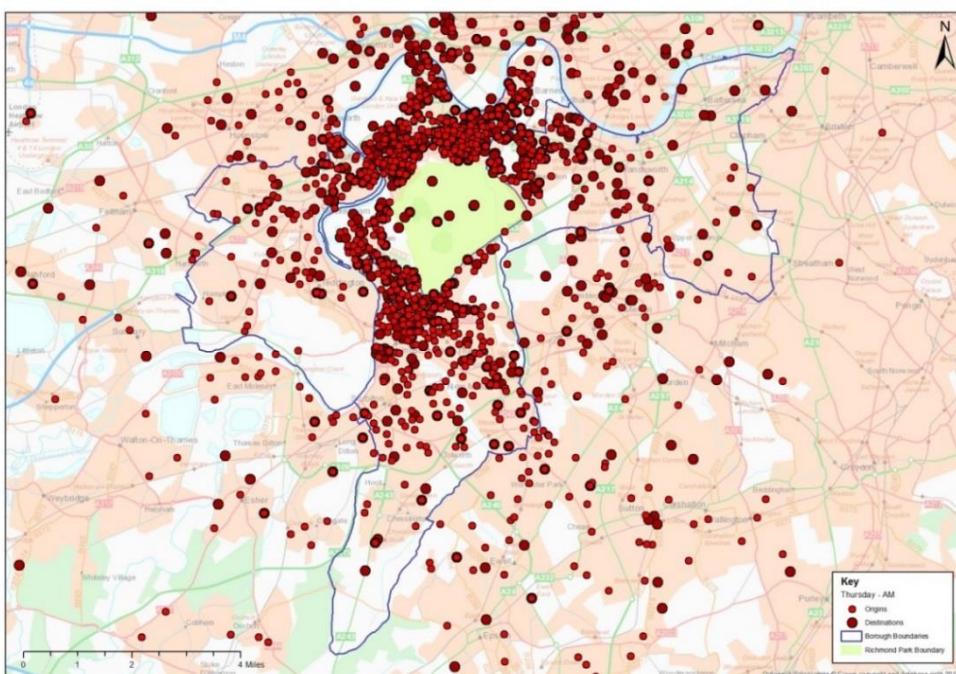
- 5.6.4 For the neutral weekday AM peak survey it can be assumed that the majority of trips travelling through the park have originated from the motorist home location.
- 5.6.5 **Figure 5-7** shows the proportions of movements that travel through the park to and from locations within the three boroughs.

Figure 5-7: What was the origin and destination of your journey? – Neutral Weekday – AM Peak



- 5.6.6 The pie chart shows that in the AM the majority, 74.3% of trips through the park have originated from one of the three boroughs surrounding the park; and therefore 25.7% of trips travelling through the park have originated from outside of the three surrounding boroughs.
- 5.6.7 **Figure 5-8** illustrates the locations of the journey origins and destinations the neutral weekday AM peak.

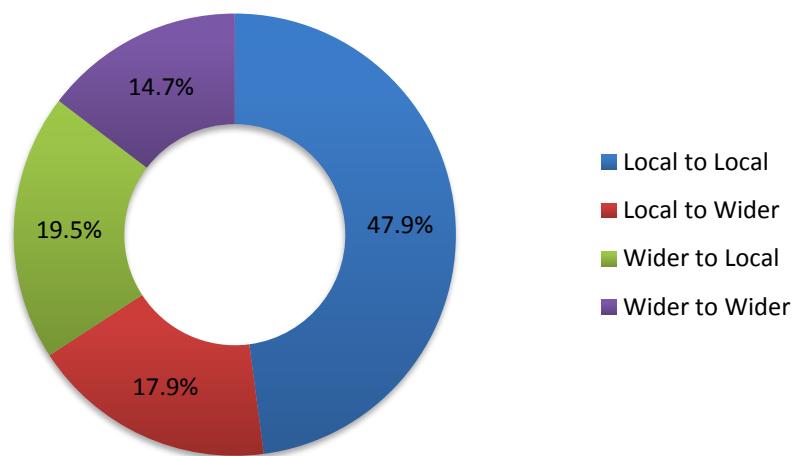
Figure 5-8: Origin and Destination – Scatter Plot – Neutral Weekday – AM Peak



## Neutral Weekday – Midday Peak

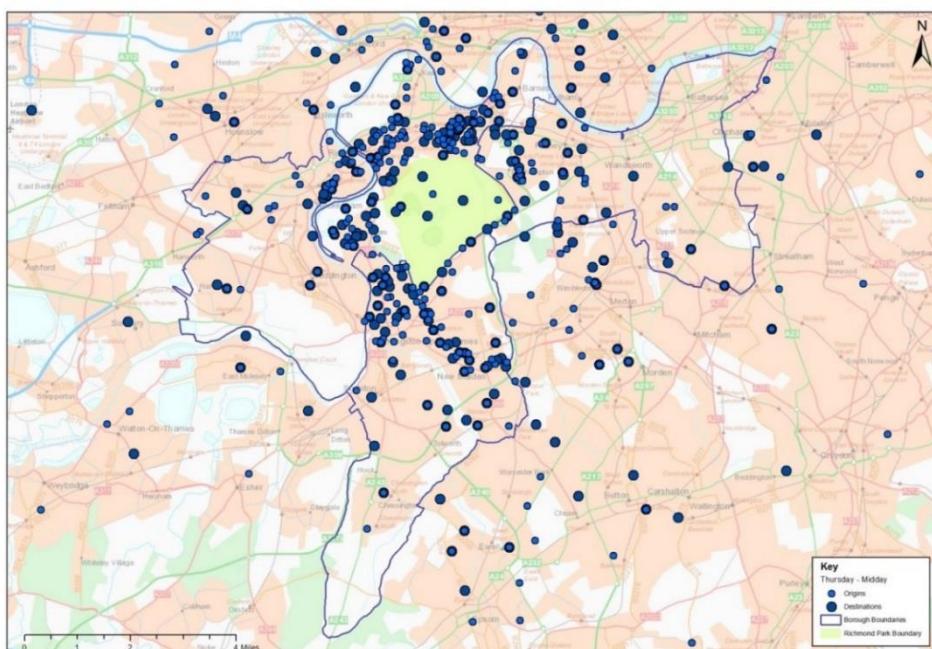
- 5.6.8 For the neutral weekday midday peak survey it is not possible to assume that either the origin or destination is to the driver's home location.
- 5.6.9 **Figure 5-9** shows the proportions of movements that travel through the park to and from locations within the three boroughs.

Figure 5-9: What was the origin and destination of your journey? – Neutral Weekday – Midday Peak



- 5.6.10 The pie chart shows that in the midday approximately 48% of trips through the park have travelled between the three boroughs surrounding the park; and therefore 52% of trips are travelling outside of the three surrounding boroughs.
- 5.6.11 **Figure 5-10** illustrates the locations of the journey origins and destinations the neutral weekday midday peak.

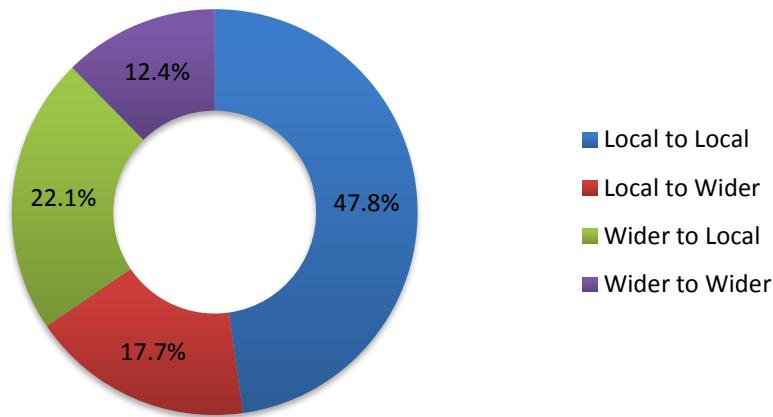
Figure 5-10: Origin and Destination – Scatter Plot – Neutral Weekday – Midday Peak



## Neutral Weekday – PM Peak

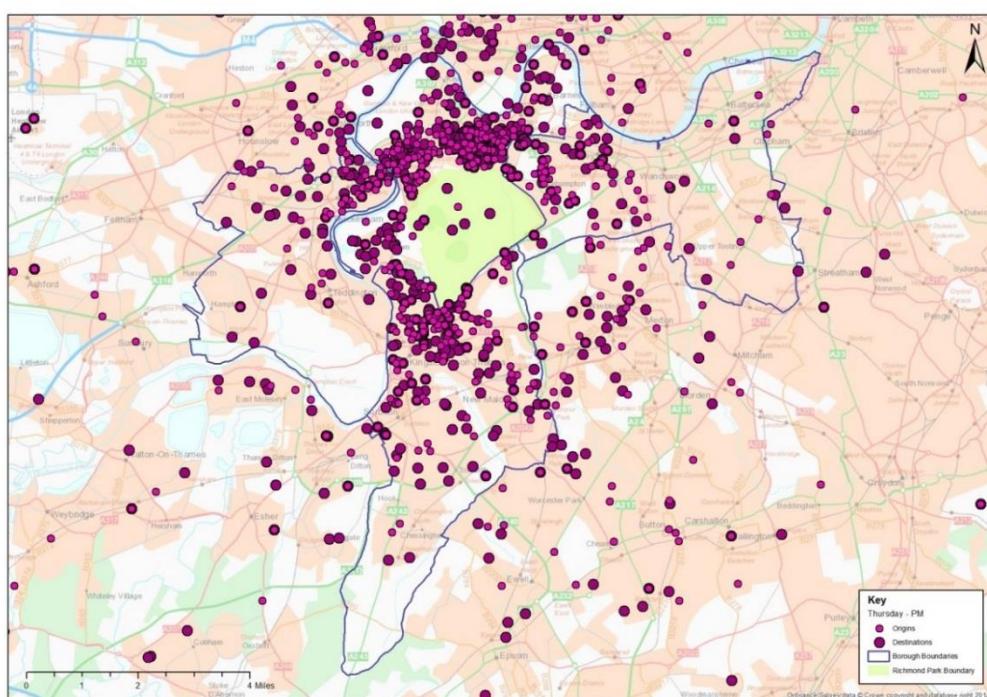
- 5.6.12 For the neutral weekday PM peak survey, it can be assumed that the majority of motorists are travelling to their home destination.
- 5.6.13 **Figure 4-11** shows the proportions of movements that travel through the park to and from locations within the three boroughs.

Figure 5-11: What was the origin and destination of your journey? – Neutral Weekday – PM Peak



- 5.6.14 The pie chart shows that in the PM peak approximately 70% of all motorists are travelling to destinations in the surrounding three boroughs; and therefore 30% of trips travelling through the park are travelling to destinations outside of the three surrounding boroughs.
- 5.6.15 **Figure 5-12** illustrates the locations of the journey origins and destinations the neutral weekday midday peak.

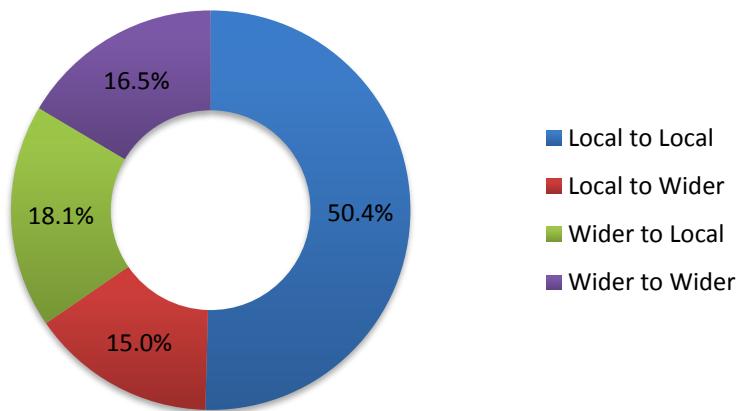
Figure 5-12: Origin and Destination – Scatter Plot – Neutral Weekday – PM Peak



## Neutral Weekday – Saturday

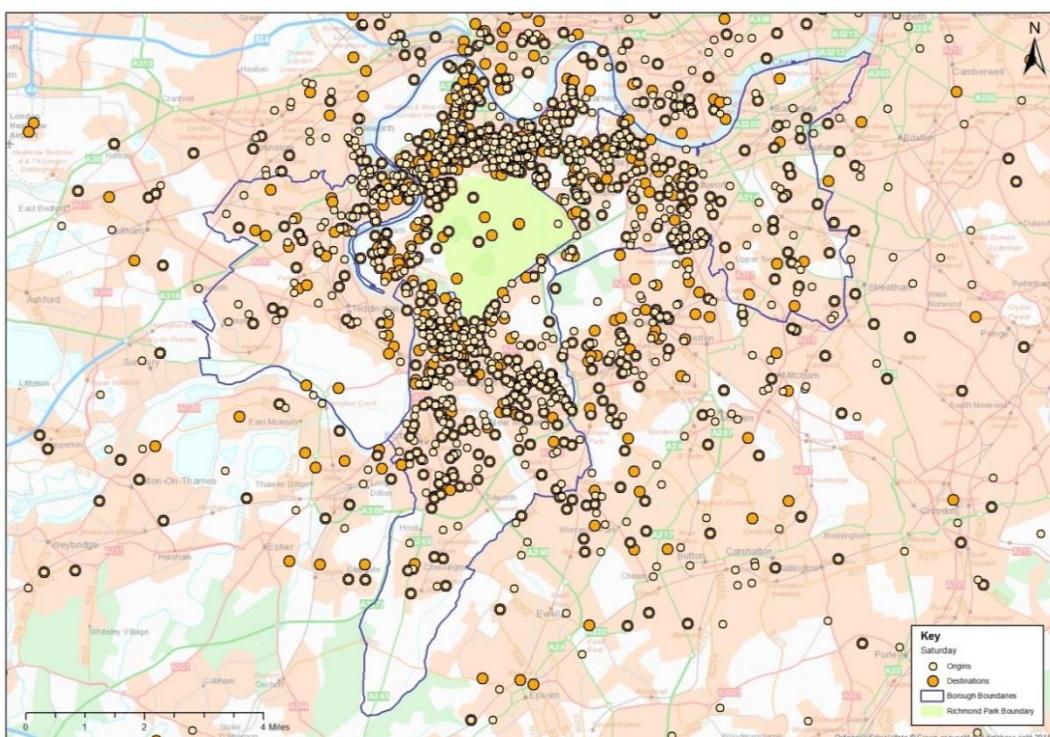
- 5.6.16 For the neutral Saturday survey it is not possible to assume that either the origin or destination is to the driver's home location.
- 5.6.17 **Figure 5-13** shows the proportions of movements that travel through the park to and from locations within the three boroughs.

Figure 5-13: What was the origin and destination of your journey? – Neutral Saturday



- 5.6.18 The pie chart shows that in the midday approximately 50% of trips through the park have between the three boroughs surrounding the park.
- 5.6.19 **Figure 5-14** illustrates the locations of the journey origins and destinations for the neutral Saturday.

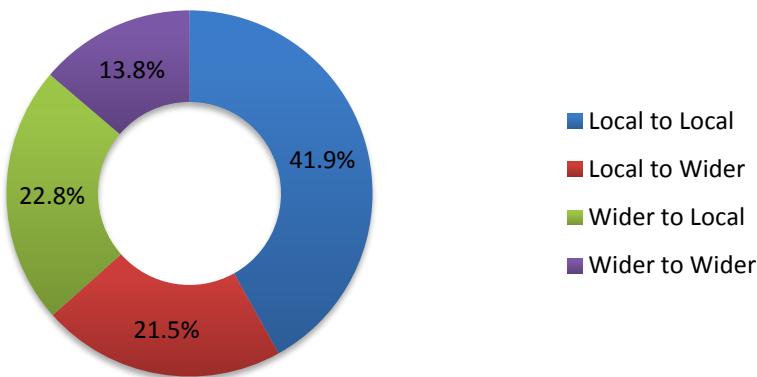
Figure 5-14: Origin and Destination – Scatter Plot – Neutral Saturday



## Neutral Weekday – Sunday

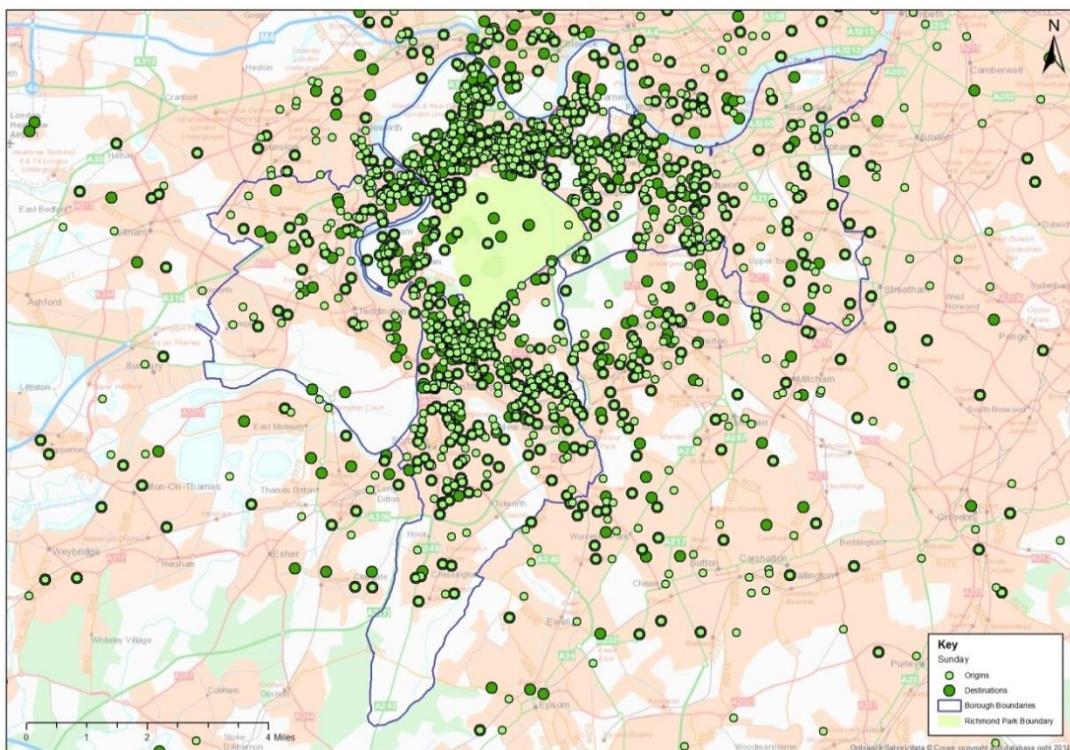
- 5.6.20 For the neutral Sunday survey it is not possible to assume that either the origin or destination is to the driver's home location.
- 5.6.21 **Figure 5-15** shows the proportions of movements that travel through the park to and from locations within the three boroughs.

Figure 5-15: What was the origin and destination of your journey? – Neutral Sunday



- 5.6.22 The pie chart shows that in the midday approximately 42% of trips through the park have between the three boroughs surrounding the park.
- 5.6.23 **Figure 5-16** illustrates the locations of the journey origins and destinations for the neutral Sunday.

Figure 5-16: Origin and Destination – Scatter Plot – Neutral Sunday



## 6 Comparison against Historic Surveys

- 6.1.1 This chapter compares the results of historical data collected within the park against the 2015 surveys.
- 6.1.2 It must be noted that in 2003 Robin Hood Gate was closed to vehicular traffic and must be considered when comparing movements within the park.

### 6.2 Traffic Flow Comparisons

- 6.2.1 When comparing that of the 2015 traffic surveys to the historic surveys we begin to see patterns occurring. The inbound weekday data reflects a general reduction in traffic flow across all peak hours of the park across the survey years (1998, 2000, 2002, 2003, 2004, and 2015).
- 6.2.2 It is important to note that the month of August is seen to be that of the summer data and September is Neutral.

Table 6-1: Traffic Entering the Park Comparison – Traffic Flow – AM Peak Hour

Gate	Wed 10 <sup>th</sup> Feb 98	Wed 12 <sup>th</sup> Jul 00	Thurs 26 <sup>th</sup> Sept 02	Thurs 25 <sup>th</sup> Sept 03	Tues 6 <sup>th</sup> Jul 04	Thurs 24 <sup>th</sup> Sept 15
Kingston Gate	726	434	718	1066	1085	767
Ham Gate	268	136	295	252	309	279
Richmond Gate	746	615	279	770	967	688
Sheen Gate	461	460	274	285	273	346
Roehampton Gate	865	476	897	682	609	595
Robin Hood Gate	791	712	749	-	-	-
<b>Total</b>	<b>3874</b>	<b>2833</b>	<b>3212</b>	<b>3056</b>	<b>3243</b>	<b>2675</b>

Table 6-2: Traffic Entering the Park Comparison – Traffic Flow – Inter Peak Hour

Gate	Wed 10 <sup>th</sup> Feb 98	Wed 12 <sup>th</sup> Jul 00	Thurs 26 <sup>th</sup> Sept 02	Thurs 25 <sup>th</sup> Sept 03	Tues 6 <sup>th</sup> Jul 04	Thurs 24 <sup>th</sup> Sept 15
Kingston Gate	291	276	329	410	396	316
Ham Gate	120	78	139	107	102	85
Richmond Gate	590	471	263	526	672	381
Sheen Gate	262	260	214	158	202	206
Roehampton Gate	355	319	504	368	419	301
Robin Hood Gate	361	320	294	-	-	-
<b>Total</b>	<b>1987</b>	<b>1724</b>	<b>1743</b>	<b>1569</b>	<b>1791</b>	<b>1289</b>

Table 6-3: Traffic Entering the Park Comparison – Traffic Flow – PM Peak Hour

Gate	Wed 10 <sup>th</sup> Feb 98	Wed 12 <sup>th</sup> Jul 00	Thurs 26 <sup>th</sup> Sept 02	Thurs 25 <sup>th</sup> Sept 03	Tues 6 <sup>th</sup> Jul 04	Thurs 24 <sup>th</sup> Sept 15
<b>Kingston Gate</b>	366	283	341	457	498	387
<b>Ham Gate</b>	111	89	109	102	127	85
<b>Richmond Gate</b>	960	879	492	785	1125	732
<b>Sheen Gate</b>	343	292	301	289	328	338
<b>Roehampton Gate</b>	532	452	673	547	572	638
<b>Robin Hood Gate</b>	373	399	403	-	-	-
<b>Total</b>	<b>2685</b>	<b>2394</b>	<b>2319</b>	<b>2180</b>	<b>2650</b>	<b>2171</b>

- 6.2.3 The AM total inbound data is seen to have reduced by approximately 1000 vehicles, the afternoon (total inbound) by 700 and the PM (total inbound) by 500 vehicles. This further reflects the existing patterns of which the AM peak is heavier set than that of the PM, highlighting the “rat-run” trend of the park in the morning hours. The afternoon traffic flow levels are seen to be that of a relatively consistent measure throughout the years, experiencing a reduction of approximately 700 vehicles (total inbound).
- 6.2.4 In the AM Peak hour the surveys indicate that there is a preference for a northbound movement through the Park, and the reverse movement in the PM. This can be assumed to be due to the geographical locations of gates in the Park.
- 6.2.5 Richmond and Roehampton Gate are favoured in the AM with Kingston in the PM showing a south-north flow through the park in the AM and north-south flow in the PM.
- 6.2.6 East Sheen and Ham Gate are seen to have a steady reduction in traffic flow over the years with Ham Gate becoming the least used option in the Afternoon and PM peaks. It is however still seen to be reliant on for the AM peak suggesting that “rat-runners” are attempting to cut around the traffic of Kingston Gate.
- 6.2.7 The comparison of the Summer and Neutral surveys of 2015 are particularly interesting as they highlight the use of Kingston Gate in the AM and Richmond in the PM reflecting a northbound direction with the length of Queens Road being used as a scenic exit road.

### 6.3 Modal Share

6.3.1 To understand the general changes in modal shift trends over the last 15 years, the 2001 and 2011 census data for method of travel to work has been used to provide a suitable method for comparison.

6.3.2 **Table 6-4** summarises the modal shares in 2001 and 2011 for the three boroughs surrounding the park.

Table 6-4: Modal Share

Borough	Work from Home	Underground	Train	Bus	Motorcycle	Car Driver	Car Passenger	Taxi	Bicycle	Foot	Other
2001 Census Data											
Richmond	11.0%	8.3%	18.8%	7.1%	1.7%	38.8%	2.0%	0.3%	3.9%	7.7%	0.5%
Kingston	9.1%	2.5%	19.5%	8.4%	1.7%	42.5%	2.7%	0.5%	3.1%	9.6%	0.4%
Wandsworth	7.7%	28.1%	17.9%	10.1%	2.3%	20.4%	1.2%	0.3%	3.9%	7.7%	0.4%
Average	9.0%	16.1%	18.6%	8.8%	2.0%	31.2%	1.8%	0.3%	3.7%	8.2%	0.4%
2011 Census Data											
Richmond	8.9%	10.7%	21.9%	7.6%	1.7%	32.5%	1.4%	0.2%	6.1%	8.2%	0.7%
Kingston	6.3%	3.6%	22.9%	10.4%	1.4%	38.1%	2.2%	0.3%	4.1%	10.1%	0.6%
Wandsworth	5.4%	28.2%	20.0%	13.2%	2.1%	14.4%	0.7%	0.3%	7.4%	7.6%	0.6%
Average	6.6%	17.8%	21.2%	11.0%	1.8%	24.8%	1.2%	0.3%	6.3%	8.4%	0.6%
Net Change											
Richmond	-2.1%	2.4%	3.2%	0.5%	-0.1%	-6.2%	-0.6%	0.0%	2.2%	0.5%	0.2%
Kingston	-2.8%	1.1%	3.4%	2.0%	-0.3%	-4.4%	-0.6%	-0.2%	1.0%	0.5%	0.2%
Wandsworth	-2.3%	0.1%	2.1%	3.1%	-0.1%	-6.0%	-0.5%	-0.1%	3.5%	-0.1%	0.2%
Average	-2.4%	1.7%	2.6%	2.2%	-0.1%	-6.4%	-0.6%	-0.1%	2.6%	0.2%	0.2%

6.3.3 The table demonstrates that in 2011 the three boroughs surrounding the park had an average net reduction in 'Car Drivers' of 6.4%, which as a result led to an increase in modal share for sustainable methods of travel such as 'Bicycle' and 'Train' at 2.6%.

### 6.4 Origin and Destination within Richmond Park

6.4.1 In 1998, PBA undertook an origin and destination survey within Richmond Park on behalf of TRP. The results of which has been compared against the results of the 2015, to understand how vehicular movements across the park have changed.

6.4.2 The 1998 origin and destination data can be found within **Appendix E**.

6.4.3 **Table 6-5, 6-6 and 6-7** demonstrate the percentage changes in origin and destination movements between the 1998 and 2015 surveys for AM, midday and PM peak.

Table 6-5: Origin Destination Comparison – AM Peak

Sept 98	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
Kingston Gate	0%	0%	3%	1%	-1%	4%
Ham Gate	0%	0%	2%	0%	-1%	1%
Richmond Gate	0%	0%	0%	2%	-4%	-2%
Sheen Gate	-1%	0%	0%	1%	1%	2%
Roehampton Gate	-2%	0%	-4%	0%	0%	-5%
Robin Hood Gate	0%	0%	0%	0%	0%	0%
<b>Total</b>	<b>-2%</b>	<b>1%</b>	<b>2%</b>	<b>4%</b>	<b>-4%</b>	<b>0%</b>

6.4.4 **Table 6-5** shows that since 1998 there has been a change in the popularity of routes across the park, with more traffic travelling from Kingston Gate and Sheen Gate, and traveling to Richmond Gate and Sheen Gate in the AM peak.

Table 6-6: Origin Destination Comparison – Inter Peak

June 98	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
Kingston Gate	2%	1%	0%	0%	0%	2%
Ham Gate	0%	0%	0%	0%	-1%	-1%
Richmond Gate	-6%	1%	1%	0%	-2%	-6%
Sheen Gate	-2%	0%	0%	0%	1%	-1%
Roehampton Gate	-2%	0%	2%	5%	1%	5%
Robin Hood Gate	0%	0%	0%	0%	0%	0%
<b>Total</b>	<b>-8%</b>	<b>1%</b>	<b>2%</b>	<b>6%</b>	<b>-1%</b>	<b>0%</b>

- 6.4.5 **Table 6-6** shows that since 1998 there has been a change in the popularity of routes across the park, with more traffic travelling from Roehampton Gate and Kingston Gate, and traveling to Sheen Gate and Richmond Gate in the midday peak.

Table 6-7: Origin Destination Comparison – PM Peak

June 98	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	1%	-1%	2%	0%	-1%	1%
<b>Ham Gate</b>	0%	0%	0%	0%	-1%	-1%
<b>Richmond Gate</b>	-9%	-1%	0%	2%	-3%	-11%
<b>Sheen Gate</b>	-1%	0%	1%	1%	0%	0%
<b>Roehampton Gate</b>	0%	0%	1%	9%	0%	10%
<b>Robin Hood Gate</b>	0%	0%	0%	0%	0%	0%
<b>Total</b>	-9%	-1%	3%	13%	-5%	0%

- 6.4.6 **Table 6-7** shows that since 1998 there has been a change in the popularity of routes across the park, with more traffic travelling from Roehampton Gate, and traveling to Sheen Gate PM Peak.

## 7 External Surveys

7.1.1 This chapter compares the data received from Transport for London (TfL) and London Borough of Richmond upon Thames (LBRT) against the 2015 surveys.

7.1.2 It should be noted that the data received from TfL and LBRT is Automatic Traffic Counts outside of Richmond Park.

### 7.2 Traffic Flow Comparisons

7.2.1 When comparing that of the 2015 traffic surveys within Richmond Park to the 2015 surveys outside of the park it is apparent that during the AM peak hour there is a higher flow of vehicles going eastbound and westbound along Sawyer's Hill within the park than the alternative route Richmond Road outside the park. The data received from TfL shows a higher volume of vehicles traveling eastbound and westbound along Richmond Road West in the AM period in comparison to Sawyer's Hill.

7.2.2 It has been noticed that there is a consistent flow of vehicles across the AM, PM and midday peak travelling across Richmond Road. In comparison to Sawyer's Hill within the park, there is a noticeable difference. Sawyers Hill has an increase in traffic eastbound during the morning peak and westbound in the evening peak.

7.2.3 It is apparent that during the AM peak hour there is a higher flow of vehicles going northbound and southbound along Queen's Road within the park, rather than the alternative route Petersham Road outside the park. The data received from LBRT shows a consistent volume of vehicles travelling northbound and southbound along Petersham Road.

Figure 7-1: September – External Surveys

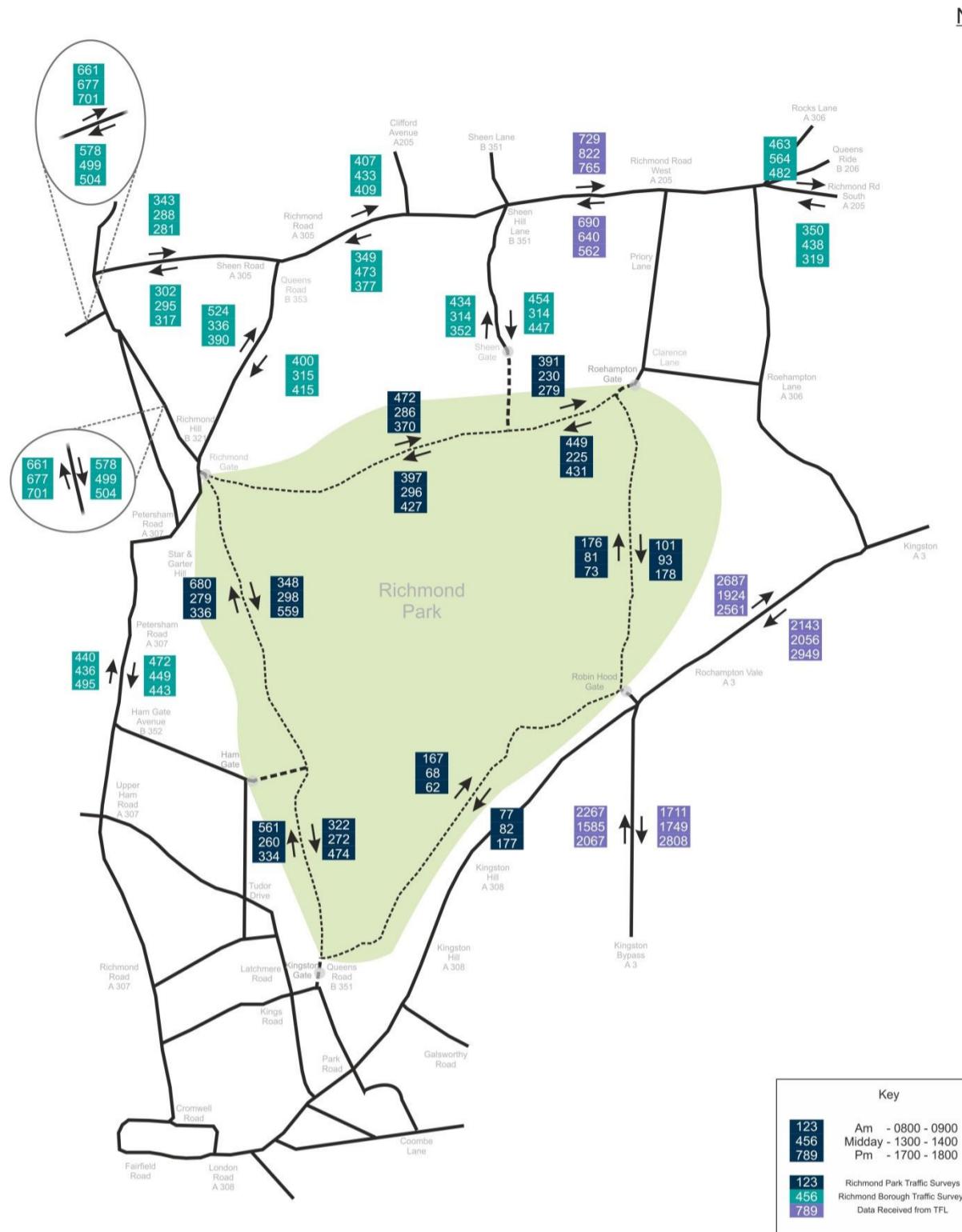
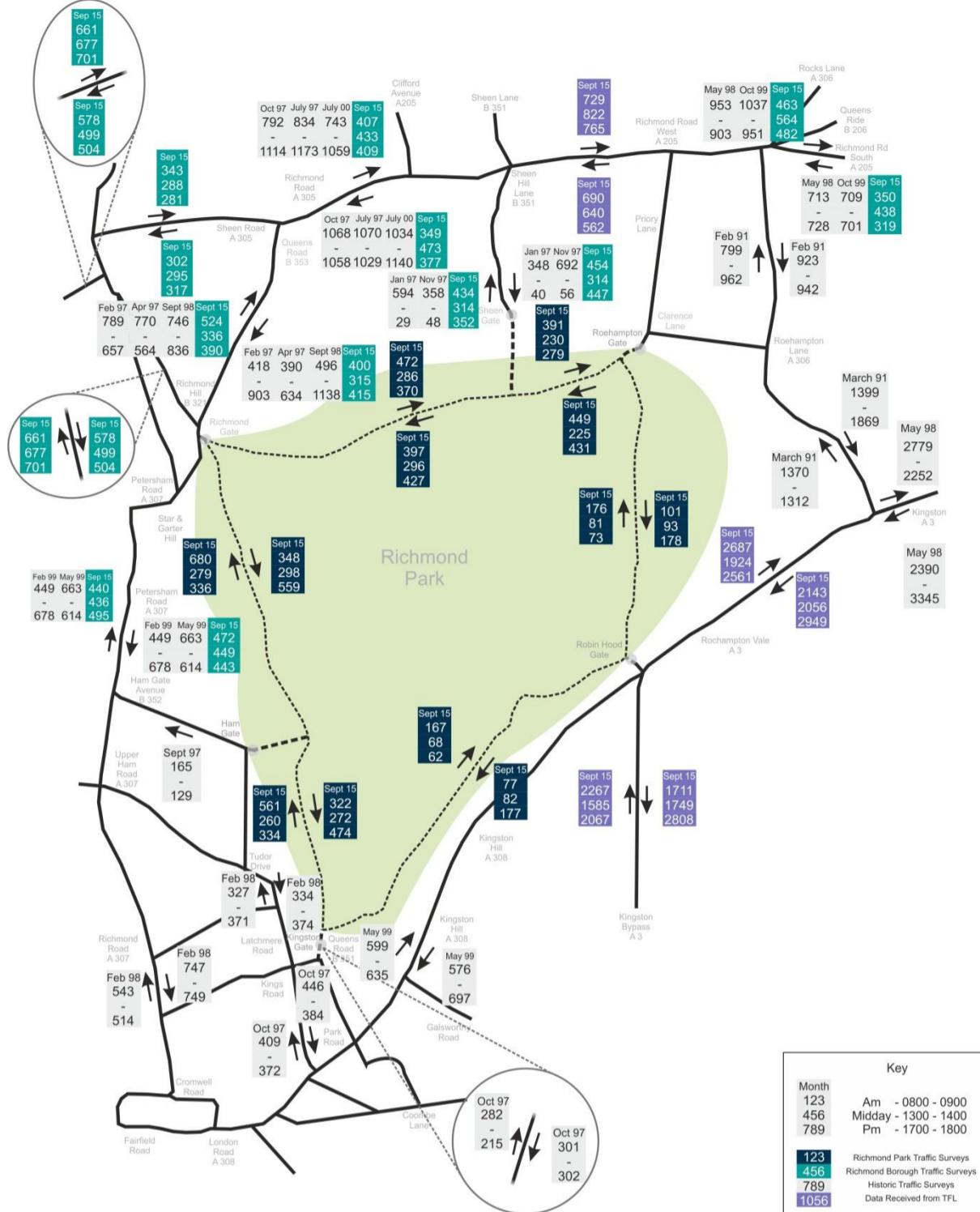


Figure 7-2: September – Historic External Surveys

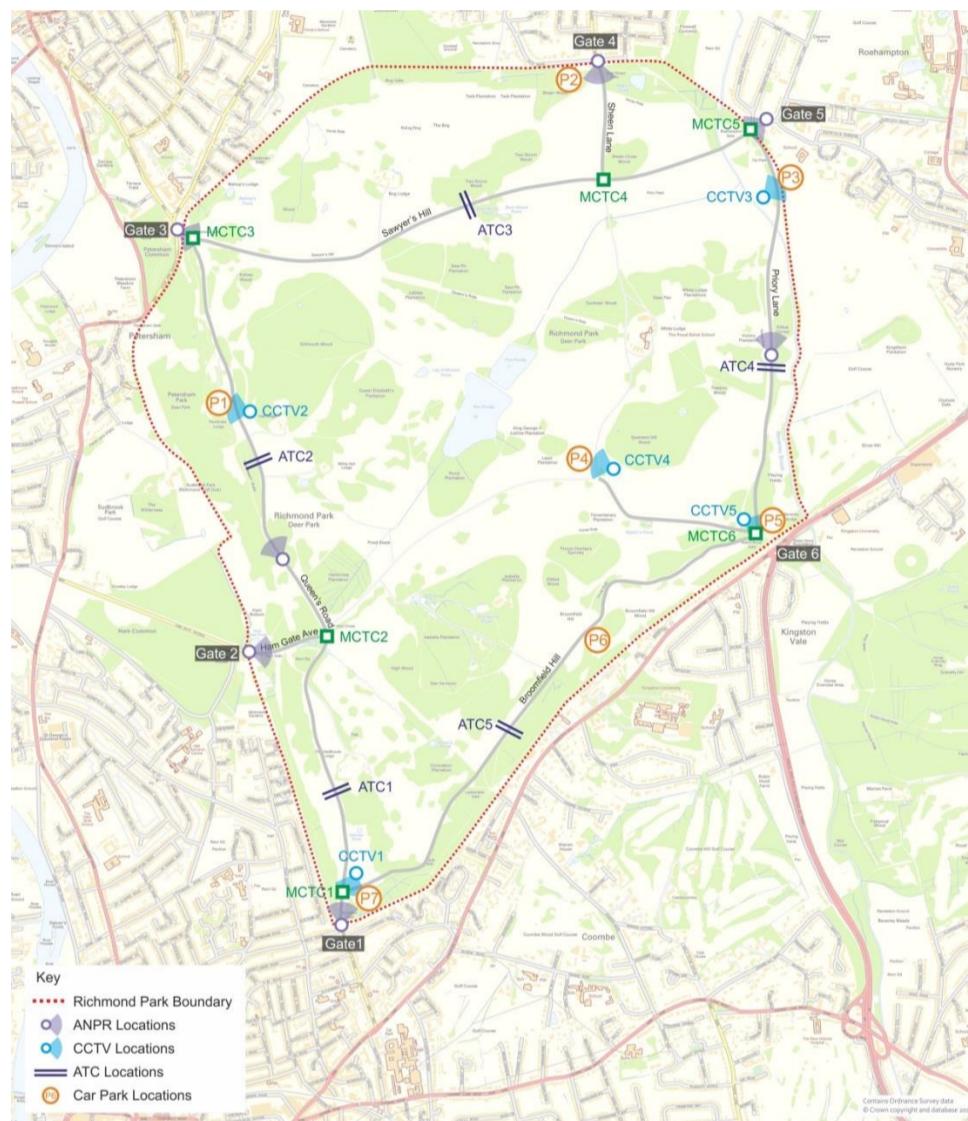


## 8 Conflict Observations

- 8.1.1 To gain an understanding of how the different users within the park interact, observations have been made using footage collected at five locations within the park. Each location is perceived to have a high number of conflicting movements between different users.
- 8.1.2 Footage was collected at the five locations by the use of CCTV cameras, and observations. These locations are listed below and also are illustrated on Figure 8:1.

CCTV 1 – Kingston Gate  
CCTV 2 – Pembroke Lodge Access  
CCTV 3 – Golf Course Access  
CCTV 4 – King George V Car Park  
CCTV 5 – Robin Hood Gate  
CCTV 6 – Pen Ponds

Figure 8:1 CCTV locations



- 8.1.3 Conflicts for the matter of this report are defined to be anything which obstructs the normal flow of the Richmond Park network.
- 8.1.4 Observations were made based on the CCTV recordings with conflicts noted and grouped accordingly between the 07:00 – 19:00 period across 7 days allowing for peak hours to be sufficiently observed.
- 8.1.5 Through the CCTV observations, patterns in the noted conflicts occurred with misinterpretation and misuse of the roads being the common issues across all 5 CCTV camera locations. Conflict observations at each point are discussed at depth below.

### Pembroke Lodge.

- 8.1.6 The lodge car park consists of a vehicle entry and exit with two raised crosswalks for pedestrian use whilst also acting as a traffic calming device. At this site, vehicles, cyclists and pedestrians were commonly prone to misinterpretation and disregard of the road signs.

#### Vehicles

- Weekday morning hours (07:00 – 10:00) resulted in the most common time period in which vehicles paid little attention to the road signs.
- Vehicles were observed entering through the exit point and vice versa.
- Vehicles were observed using the pedestrian crossing despite fixed bollards in place as an entry point.
- Weekends highlighted confusion over the entry and exit point of the car park.
- Vehicles were seen to reduce their speed in order to understand the entry points leading to tail backs.
- The limited parking space numbers was inundated by the higher weekend demand levels

#### Cyclists

- Cyclists were observed using the car parks entry and exit points as areas in which to pause, make U-turns and meet other cyclists.
- Cyclists causing a reduced vehicle speed and flow was further observed by the lack of single file cyclists.
- Cyclists extending across the full width of the junction further reduced vehicle flow and stopping manoeuvrability.

### Pedestrians

- 8.1.7 The grass verges were observed to be the main point at which pedestrians crossed the road; dog walkers were seen to be the most common grouping of pedestrians at the point.
- 8.1.8 Dog walkers were further observed letting their dogs most off their leads near the road.

### Pen Ponds

- 8.1.9 Pen Ponds car park consists of an entry and exit point with one way traffic flow. Observations made at Pen Ponds revealed that vehicles, cyclists and pedestrians were often observed taking up more space than necessary.

### Vehicles

- Vehicles were often observed using the entrance point as an exit, a point for pausing and a point for making U-turns.
- Park authorised vehicles were seen to disrupt the normal vehicle flow rate as park users struggled to manoeuvre vehicles around their size.
- The nearby cycle path was additionally observed being used by park vehicles putting cyclists at risk.

### Cyclists

- Observations of cyclists heading north revealed that it was common place for them to cut the corner of the road off when heading towards the car park, resulting in them being on the wrong side of the road.
- Evening hours had an increase in cycle numbers with large groups arising.
- Cyclists not staying in single file reducing vehicle capabilities to manoeuvre around them and causing disruption to pedestrians was a further issue.

### Pedestrians

- Pedestrians were seen to inundate the road at various points continuously.
- Runners were further seen to run on the road putting their safety at risk and slowing vehicle flow.
- Erosions points in the grass resulting from pedestrians not using the cross walk are visible.

### Sheen Gate

- 8.1.10 Sheen Gate observations revealed that vehicles, cyclists and pedestrians were prone to complete disregard for the roundabout.
- 8.1.11 Sheen Gate consists of a roundabout with four arms; the Eastern arm heading towards the Ballet School and the Western arm highlighting the vehicles that they are entering a 20mph zone. Observations here portrayed a complete disregard for the roundabout in place leading to obstructions to the normal flow of this CCTV observation point.

### Vehicles

- Vehicles were witnessed to be in complete disregard to the correct use of the roundabout; commonly used in the wrong direction with vehicles driving over it.
- Vehicles were further seen to not indicate their direction of movement and putting other road users in danger.

### Cyclists

- Cyclist were seen also to be in complete disregard of the roundabout, this included being commonly used in the wrong direction, cycled over and a lack of indication to their direction of movement putting themselves and other road users in danger.
- Cyclists were observed to be cutting behind cars which had congested their movements on the roundabout.
- Cyclists were seen to pause just against the fences on the entrance to the Ballet School.
- A lack of single file cyclists was once again seen to hinder the normal flow of vehicles.

### Pedestrians

- Observations of pedestrians at Sheen Gate highlighted that with a lacking of designated crossing at the point.
- The centre of the roundabout was shown to be used as an island when crossing the road.

### Roehampton Gate

- 8.1.12 The CCTV camera is positioned at Roehampton Gate showing the entry and exit point into the Roehampton Gate Café car park where there is a café, Park cycle hire shop and public restrooms. The road running along the junction entrance is two-way, with a pedestrian path. The most common issue picked up here is the sheer number of cyclists.

### Vehicles

- Observations here highlighted the manner that some drivers are not comfortable manoeuvring around cyclists.
- Vehicles were further perceived to be using the car park to pick up and drop off passengers which lead to pausing at the junction reducing the normal flow of the car parks network.

### Cyclists

- Cyclists were observed to occur in large numbers at this section of road; likely in relation to the Strava Segment Race around Richmond Park
- A number of cyclists were observed pausing in the car park, at the T-junction and grass verges obstructing the normal traffic flow.
- The car park is witnessed to be used as a meeting point for cyclists of all abilities.

### Pedestrians

- Swathes of pedestrians were observed at this point with large classes such as from the Ballet School of fitness classes in the park crossing at once reducing the normal flow of the network.
- A lack of a designated crossing point from the car park to the section of park adjacent results in pedestrians freely crossing the road at various points.
- Erosions points in the grass resulting from the pedestrians are once again visible.
- Dog walkers were common here with their dogs once again not being kept on the lead near the road.

## 9 Summary & Conclusion

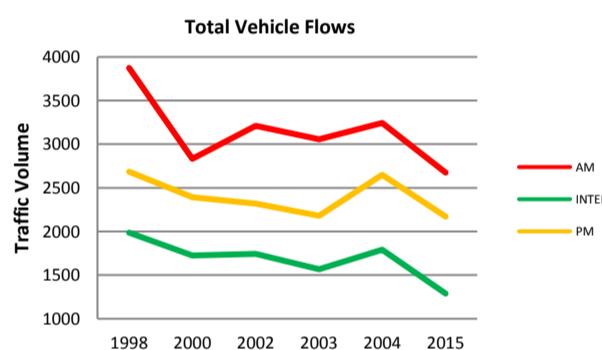
### 9.1 Background

- 9.1.1 This report was produced to provide a factual account of existing traffic conditions within Richmond Park. This report has covered the details of a comprehensive set of traffic surveys undertaken by Peter Brett Associates LLP (PBA) as commissioned by The Royal Parks (TRP) funded by Transport for London (TfL).
- 9.1.2 The purposes of the traffic surveys were to assess traffic volumes and movements within the park. Whilst providing an opportunity to compare between peak and off-peak seasons, and historical changes in traffic flow throughout the park. The surveys included a 'driver questionnaire' and observation surveys at key locations which provided volume counts but also the ability to identify conflicts and issues, and evidence of driver's attitudes and reasons for travelling through the park.
- 9.1.3 There are 5 vehicular gates that are open to traffic; vehicles are allowed to travel to / from these gates and circulate through the park.
- 9.1.4 Traffic survey data was collected via multiple methods including; Manual Traffic Counters (MTC), Automatic Traffic Counters (ATC), Automatic Number Plate Recognition (ANPR) and a driver questionnaire.
- 9.1.5 The study sought to review a "neutral" school term period set of data against a "summer" period set of duplicate data. The study sought to look at the traditional AM and PM commuter peaks and lunch time off peaks for weekdays, and also the peak periods on Saturday and Sunday across both the survey periods.
- 9.1.6 Although the AM and PM hours across the park for the summer and neutral periods reflect a higher proportion of commuter traffic. Less vehicular traffic was seen entering during the summer season. ATC surveys further revealed distinctive peak flows reflecting a lower demand of commuting traffic through the park in the summer period as would be expected.

### 9.2 2015 Usage of Park

- 9.2.1 Over the past 17 years, a number of neutral traffic surveys have been undertaken and the hourly summaries for the 08:00 to 09:00, 13:00 to 14:00 and the 17:00 to 18:00 peak hours can be plotted, as shown in **Figure 9-1**. Although the graph shows a decline in usage of the park, from in excess of 3500 hourly vehicle trips in 1998 to just over 2,500 vehicle trips in 2015 in the AM. This is still a significant amount of traffic seeking to utilise the Park roads as means of completing their journey.

Figure 9-1: Total Vehicle Flows



- 9.2.2 The level of vehicle access to the park has been contextualised with the 'driver questionnaires' which determined the 'purpose of use' of each driver. This shown that during the commuter and midday peak, on weekdays the majority of vehicle trips were not related to the park, and that they were simply using the park as "through route". As would be expected at weekends, the percentage of trips with a destination in the park increased. However, the majority of these were still through trips.

Table 9-1: Percentage Visiting the Park

	AM Peak Period	Midday Peak Period	PM Peak Period	Saturday Peak Period	Sunday Peak Period
Percentage Visiting the Park	12%	25%	9%	31%	41%

- 9.2.3 The summer holidays have a material impact on the general road network, which is also replicated within the park as seen in **Table 9-2**. The AM and PM peak hours experience a reduction in flow of approximately 30%.

Table 9-2: Percentage Difference between Neutral and Summer Periods

Gate	AM Peak (08:00 – 09:00)	Midday (13:00 – 14:00)	PM Peak (17:00 – 18:00)	Saturday (13:00 – 14:00)	Sunday (13:00 – 14:00)
Neutral	2675	1289	2171	1765	1865
Summer	1596	983	1533	1538	1445
Total	-1079	-306	-638	-227	-420
Average %age Difference	- 40.3%	- 23.7%	- 29.4%	- 12.9%	- 22.5%

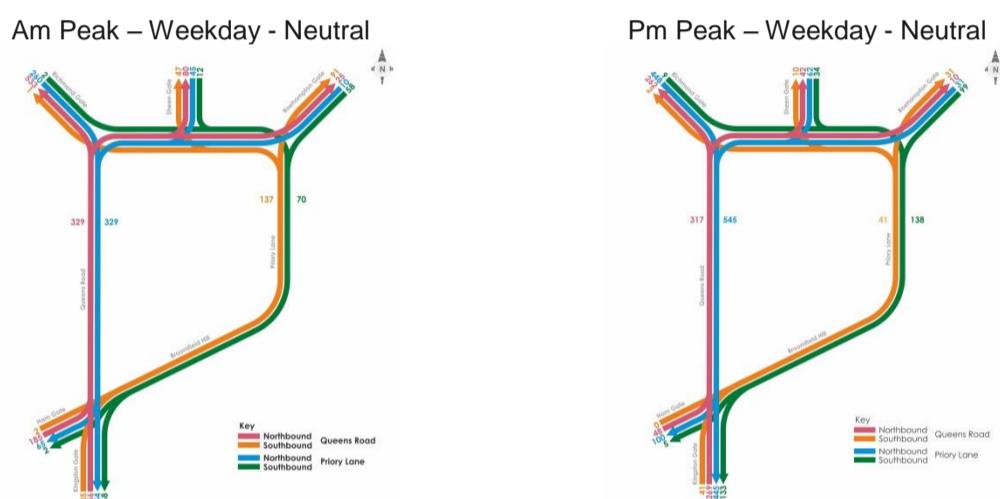
- 9.2.4 The park has a fluid usage pattern subject to the time of day and season, but a number of key highlight were identified from this analysis were;

- There are distinctive peak flows for all ATCs during the neutral week in comparison with that of the summer, reflecting that of a lower demand for commuting traffic in the summer period.
- Generally there are obvious tidal movements along links within the park on weekdays; however, during the majority of weekend daily profiles are flattened out in both directions.
- During the weekend the usage in the two north/south links is allocated with a greater volume of traffic travelling south along Queens Road, and north along Priory Lane.

### 9.3 Gate and Route Usage 2015

- 9.3.1 The 3 principle gates are still Kingston, Richmond and Roehampton Gates across the peak and off peak periods. In the AM peak these 3 gates cater for over 75% of the vehicle traffic coming into and out of the park.
- 9.3.2 The ANPR survey data collected indicates the major routing of vehicles within Richmond Park has a negligible change. Neutral weekday data revealed that during the AM peak period of the through park movements, the largest movement is from Kingston Gate to Richmond Gate with 18% of through movements. The midday peak period had Richmond Gate to Kingston Gate with 14% of the through movements. The PM peak period continued to reflect this trend with the largest movement at 20%, from Richmond Gate to Kingston Gate of through movements.
- 9.3.3 The gate usage has a tidal pattern and this in turn affects how the internal link roads are utilised especially in the AM and PM peaks. These tidal movements were observed along links within the park at all time; although, these are most predominate on weekdays.
- 9.3.4 Queens Road, the western north/south link is the most preferred route throughout all the periods observed. The second highest used link was Sawyers Hill, the northern east/west link.
- 9.3.5 Priory Lane, the eastern north/south link; and Broomfield Hill, the southern east/west link is principally seen as secondary routes by commuters. A key reason for this is likely to be the closure of Robin Hood Gate in 2004. This resulted in these routes being deemed less attractive to commuter trips. However it should be noted that although a high percentage of trips which historically utilised this route rerouted outside of the park. That has resulted in marked increase in trips travelling from Roehampton Gate to Sheen Gate, since the closure. Suggesting that the park still offers an alternate route for certain trips across the area.
- 9.3.6 **Figure 9-2** shows the dominant use of the north and western road links and peak tidal patterns that occurs across the parks. The flow numbers revealed that Queens Road carries approximately 80 - 86% of all north / south movements.

Figure 9-2: Gate to Gate Movement



### 9.4 Journey Times and Speeds 2015

- 9.4.1 The ANPR survey provided a comprehensive set of journey times from gate to gate within the park. The survey not only covered gate to gate, it also determined the routes taken across the park.
- 9.4.2 The results of these journey times show that traffic is slower on the weekend compared to a typical weekday. This can be attributed to a number of factors. Two of the key issues are difference in behaviour of a weekend and weekday driver; and the increased volume of road cyclists at weekends which influences and limit the achievable speeds on certain internal narrow links across park.
- 9.4.3 Seasonality is another factor that effects operations within the park. During the summer periods, car parks within Richmond Park are often at capacity, which leads to vehicles queuing at the entrance to the car parks. Thus causing congestion on the roads around the car park entrances. This results in an increase in journey time and reduction in speed on these links during these times.
- 9.4.4 The ATC's across the park showed that the speeds averaged between 22.5mph and 30mph. The 85th percentile speeds were seen to fluctuate between 25.5 and 35mph. Traffic speeds eastbound along Broomfield Hill were seen to have an average speed greater than 25mph, with the highest 85th percentile speed reaching 34mph.
- 9.4.5 In general terms the majority of the average speeds are in line with the Department for Transport's threshold for 20mph limits at or below 24mph. The only link which is witnessing higher speeds is Broomfield Hill. This can be concluded to be a result of its natural topography resulting in higher speeds especially on the downhill section.

### 9.5 Cyclists in the Park 2015

- 9.5.1 **Table 9-3** sets out a summary of the number of cyclists that entered the park via the 5 main vehicle gates only. These numbers do not include those that arrive by car to tour the park, those that hire or those that enter via the pedestrian and cycle gates. As can be seen the level of demand across the peak hours is variable and can be heavily dependent on weather.

Table 9-3: Cyclist in the Park

	AM	Inter	Pm	Saturday Peak	Saturday 3hr	Sunday Peak	Sunday 3hr
Neutral	445	119	299	415	1141	375	1121
Summer	270	89	243	416	1244	247	834

- 9.5.2 This should also be read in the context that at weekends the volume of vehicles within the park reduces, thus the level of cyclists is more visual and has a practical impact on the highway condition. As stated previously this can be seen to impact on journey times and speeds across the park at weekends.
- 9.5.3 Modal shifts experienced throughout the survey years are seen to have impacted the results showing car use dropping and events such as the Strava Segment Race adding to the increase in cyclist numbers operating within the park.

## 9.6 Driver Behaviour 2015

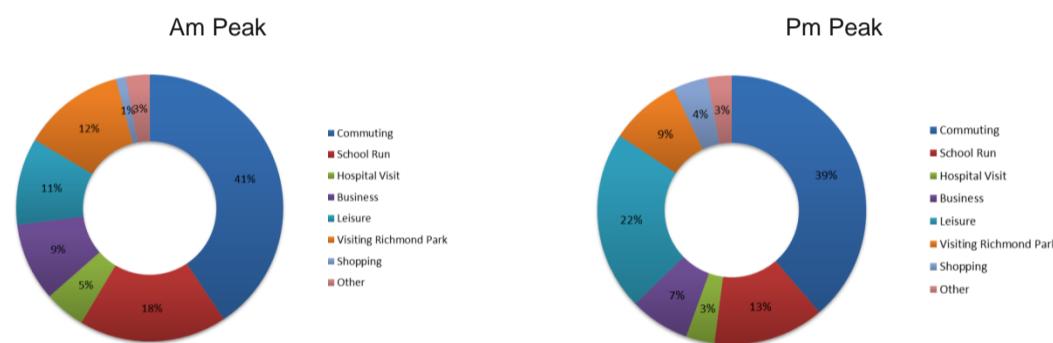
- 9.6.1 As part of the wider review of driver behaviour, a questionnaire was issued to the majority of motorists entering the park for the 'neutral' week only. Surveys were handed out at each of the 5 main vehicle gates across the entire survey periods.
- 9.6.2 The response rate for the surveys was seen as a success, Thursday AM peak had a response rate of 33.1%. Thursday Midday peak had a response rate of 26.3% and Thursday PM peak had a response rate of 24.1%. Both the Saturday and Sunday surveys had a steady response rate of 28%.
- 9.6.3 The rates of responses fluctuated across each of the gates. However, Kingston Gate had a consistently high responses rate, averaging at approximately 30%.
- 9.6.4 Comments raised from the driver questionnaire further highlighted that the user profile in the weekday is very different to that of the weekend. The weekday had phrases relating to the matter of having the quickest journey to work by driving through the park, whilst the weekend reflected that the park was a primary destination.
- 9.6.5 **Table 9-4** shows the response to whether the journey that had been undertaken was a regular trip and if so was the park their preferred route choice. The results of which shows that across all periods and days, the park was the preferred route.

Table 9-4: Response Rates

Surveyed Time Period	Yes	No
Weekday AM	89.1%	10.9%
Weekday Midday	83.4%	16.6%
Weekday PM	81.7%	18.3%
Saturday	84.5%	15.5%
Sunday	84.2%	15.8%

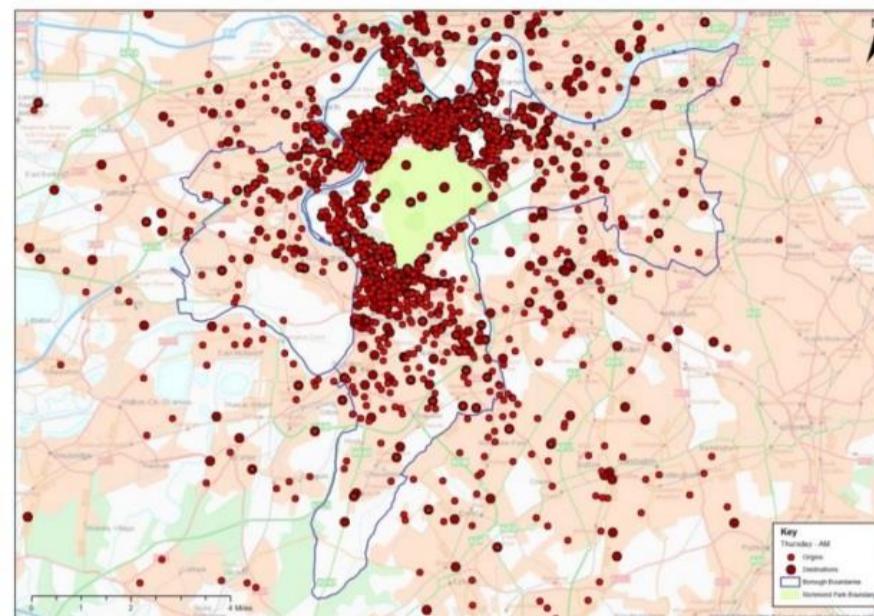
- 9.6.6 **Figure 9-3** set out a summary of the journey purpose for the weekday AM and PM peaks. As would be expected the main journey purpose, was that of commuting, school run and/or business.

Figure 9-3: Journey Purpose



- 9.6.7 The questionnaire was also able to establish where people lived and worked on the premise of determining if the trips through the park were regional or local. The data showed that around 25 -30% of the trips were regional. With the majority of trips arriving or departing from the 3 surrounding Local Authority areas; Richmond, Kingston and Wandsworth. As illustrated in **Figure 9-4** for the weekday AM peak, there are substantial clusters to the north and south of the park.

Figure 9-4: Neutral Weekday AM peak – Arrival / Departure Locations



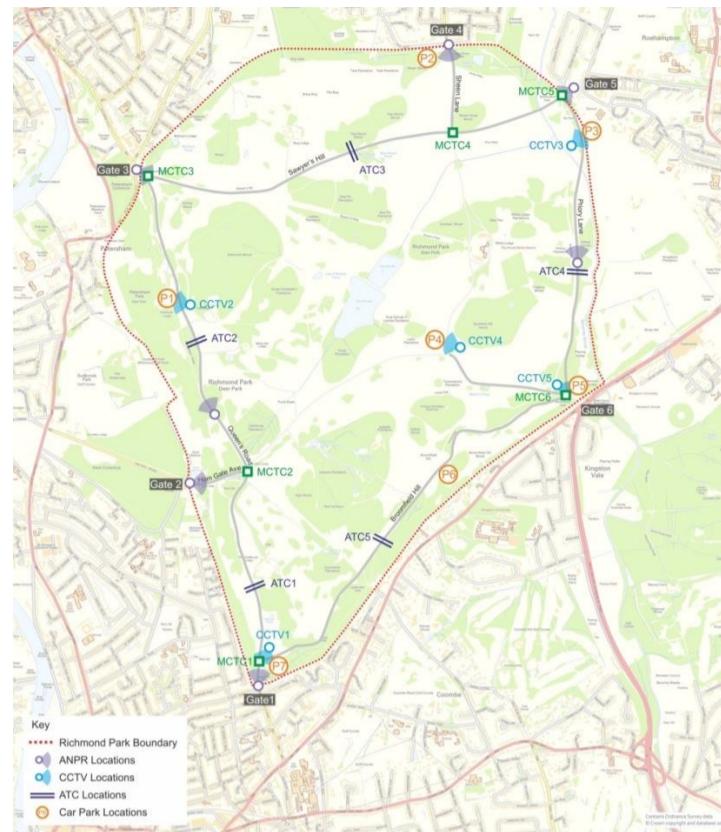
## 9.7 Conflict Observations

9.7.1 Footage from following six CCTV cameras locations within the park was observed.

- CCTV 1 – Kingston Gate
- CCTV 2 – Pembroke Lodge Access
- CCTV 3 – Golf Course Access
- CCTV 4 – King George V Car Park
- CCTV 5 – Robin Hood Gate
- CCTV 6 – Pen Ponds

9.7.2 PBA also undertook drive rounds of the park, via both bicycle and car during the peak times to observe how the users interact along links and to ascertain any other characteristics.

Figure 9-5: Survey Locations



9.7.3 For the purpose of this report, conflicts/issues are defined to be anything which obstructs the normal flow of operations along key links. A summary of the key issues observed are;

- Ignoring entry and exit signs at key car parks, creating unpredictable movements that were not anticipated or designed for in terms of access and egress, especially at peak times
- Congestion from car park entry / exits cause through traffic on the main link to queue. This has the potential to create additional risk for cyclists passing through stationary traffic as well as being obscured from view by drivers and pedestrians crossing the road.
- High vehicle and cycle flows resulting in major delay for pedestrians crossing the road; at junctions and at popular crossing points.
- Cyclists in platoons result in reduced traffic speeds and inability for vehicles to overtake/pass. This often leads to dangerous manoeuvres being undertaken by drivers.
- Poor use of defined crossing points, leads to free for all crossing of roads by pedestrians and cyclists and erosion of verges in area
- Increased pedestrian and cyclist conflict in central area where paths are shared
- Cyclists were observed using entry / egress points to car parks, as areas in which to wait, congregate, make U-turns, and cutting across sections of road in order to travel in more direct routes.

## 9.8 Way Forward

- 9.8.1 This report provides a summary of existing travel characteristics and movements of the three primary user's vehicles, cyclists and pedestrians at Richmond Park. This provides baseline data for TRP to consider all the key issues and conflicts when developing future schemes as well as informing wider discussions with the surrounding boroughs and key local stakeholders. These future improvements will secure the unique park environment, and meet ever changing demand by the different users
- 9.8.2 This report seeks to offer justification for policy development, physical intervention, and applying the principles and code of conduct for all road users, within the unique nature of Richmond Park.

## Appendix A ATC Traffic Flow Analysis

## Appendix B Average Journey Times and Speeds

- B.1.1 **Table B-1** provides an indication to the average journey time and speeds between routes across the park for the AM peak period (08:00 – 09:00).
- B.1.2 **Tables B-1** and **B-3** show that journey times are generally slower in the PM peak hour.

Table B-1: Gate to Gate Movements – AM Peak Hour (08:00 – 09:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
Kingston Gate	-	03:16 (21 mph)	07:18 (18 mph)	11:41 (19 mph)	09:46 (24 mph)
Ham Gate	05:02 (13 mph)	-	06:32 (14 mph)	11:53 (15 mph)	11:09 (17 mph)
Richmond Gate	06:47 (19 mph)	06:21 (14 mph)	-	06:25 (15 mph)	05:26 (20 mph)
Sheen Gate	12:45 (18 mph)	10:21 (18 mph)	05:10 (19 mph)	-	02:47 (17 mph)
Roehampton Gate	08:45 (27 mph)	10:12 (19 mph)	05:43 (19 mph)	03:03 (16 mph)	-

- B.1.3 **Table B-2** provides an indication to the average journey time and speeds between routes across the park for the midday peak period (13:00 – 14:00).

Table B-2: Gate to Gate Movements – Midday Peak Hour (13:00 – 14:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
Kingston Gate	-	03:20 (20 mph)	07:07 (18 mph)	11:31 (19 mph)	09:15 (25 mph)
Ham Gate	03:44 (18 mph)	-	05:30 (16 mph)	12:50 (15 mph)	09:45 (20 mph)
Richmond Gate	06:54 (19 mph)	04:35 (20 mph)	-	05:22 (18 mph)	05:04 (21 mph)
Sheen Gate	11:42 (19 mph)	09:32 (19 mph)	06:26 (15 mph)	-	02:43 (18 mph)
Roehampton Gate	11:35 (20 mph)	09:55 (20 mph)	05:44 (19 mph)	02:21 (16 mph)	-

- B.1.4 **Table B-3** provides an indication to the average journey time and speeds between routes across the park for the PM peak period (17:00 – 18:00).

Table B-3: Gate to Gate Movements – PM Peak Hour (17:00 – 18:00)

	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate
Kingston Gate	-	03:27 (19 mph)	07:17 (18 mph)	11:35 (19 mph)	09:59 (24 mph)
Ham Gate	05:41 (12 mph)	-	05:14 (16 mph)	09:36 (19 mph)	13:32 (14 mph)
Richmond Gate	07:13 (18 mph)	05:04 (18 mph)	-	05:31 (18 mph)	07:38 (14 mph)
Sheen Gate	14:43 (15 mph)	10:38 (19 mph)	07:15 (13 mph)	-	04:48 (10 mph)
Roehampton Gate	09:36 (24 mph)	11:54 (20 mph)	05:55 (18 mph)	03:02 (16 mph)	-

## Appendix C Vehicle Turning Counts

C.1.1 The cyclist turning movement survey results have been analysed based on a neutral and summer weekdays, Saturday and Sunday.

C.1.2 **Figures C-1 and C-2** summarise the turning movement results for the AM, midday and PM peak hours for the weekday data for both the neutral and summer week surveys.

Figure C-1: Vehicle Turning Movements – Neutral Week – Weekday

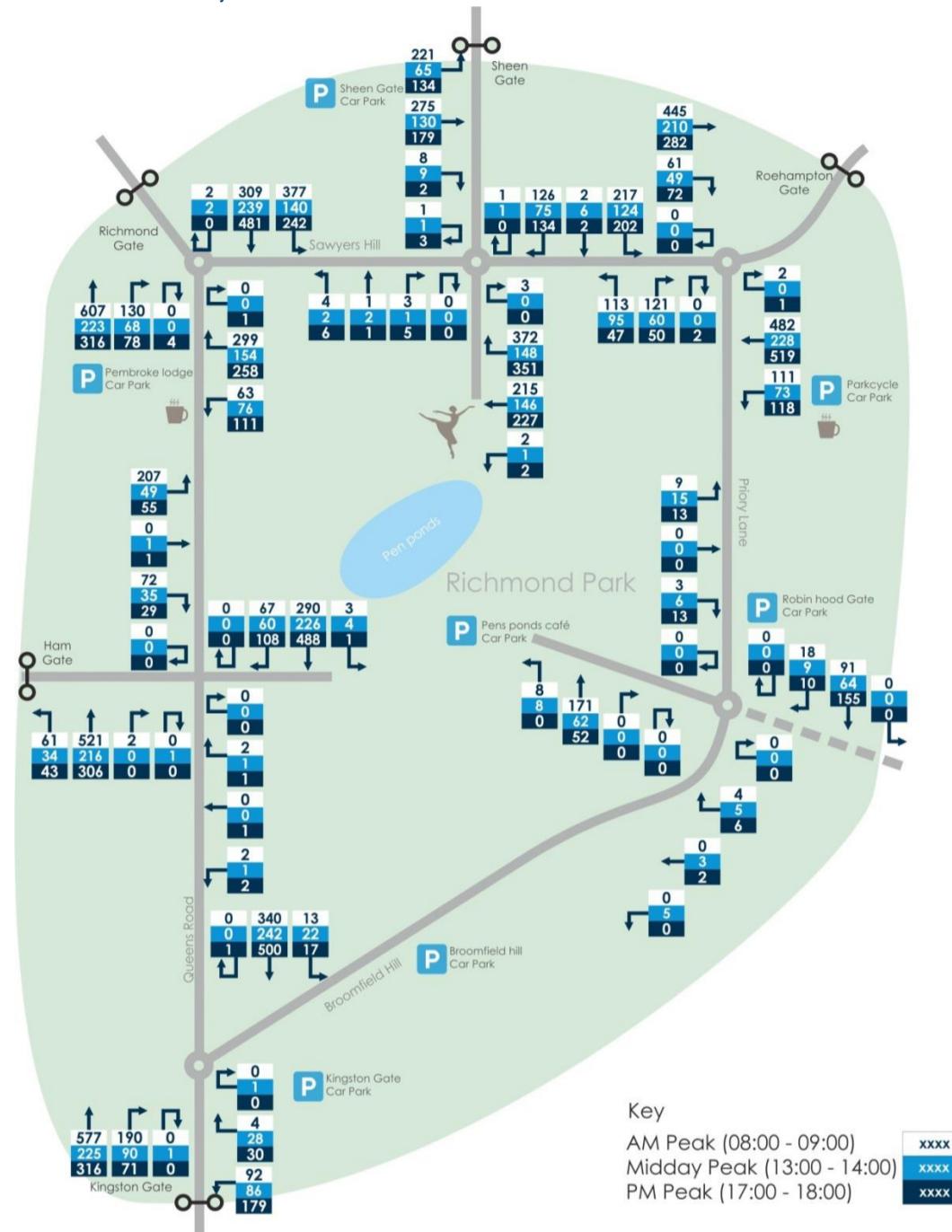
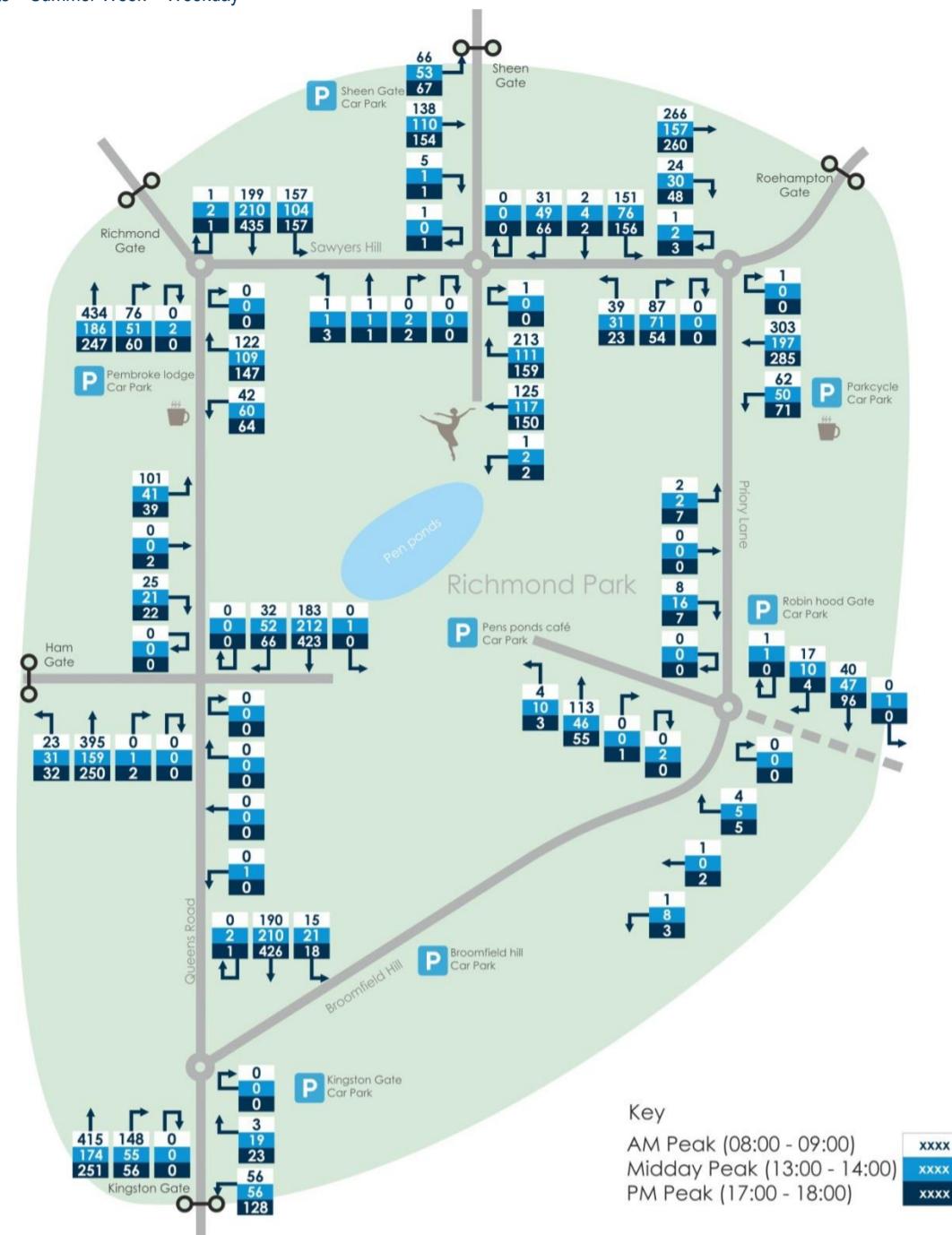


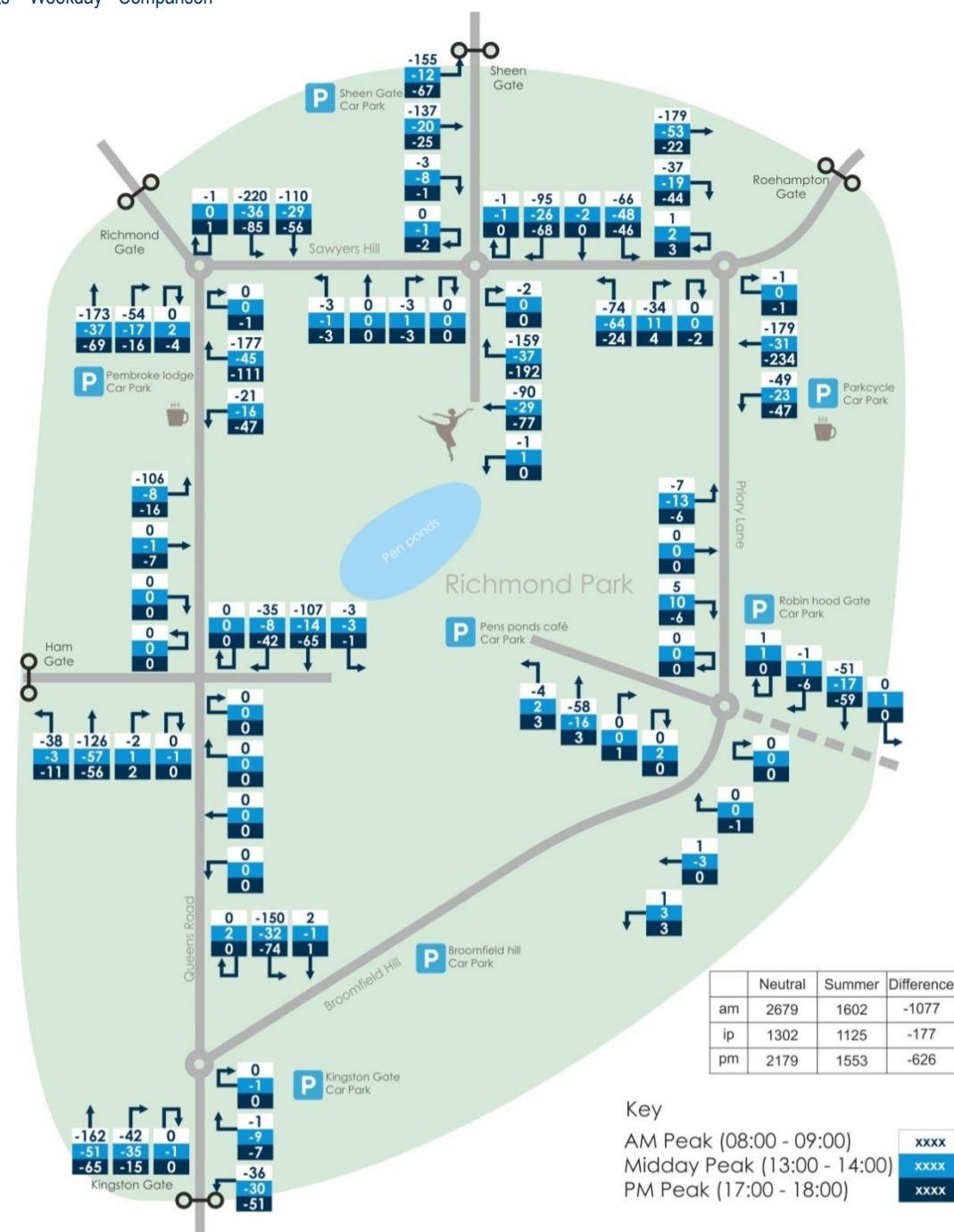
Figure C-2: Vehicle Turning Movements – Summer Week – Weekday



C.1.3 These figures show that on a typical weekday during a neutral week there are approximately 580 to 740 vehicles travelling northbound and approximately 350 vehicles travelling southbound in the AM peak hour.

C.1.4 **Figure C-3** shows the difference between the weekday neutral and summer periods.

Figure C-3: Vehicle Turning Movements – Weekday - Comparison



C.1.5 **Figures C-4 and C-5** summarise the turning movement results for the three hour peak period (11:00 to 14:00) and the peak hour (12:00 to 13:00) for both the Saturday for the neutral and summer surveys.

Figure C-4: Vehicle Turning Movements – Neutral Week – Saturday

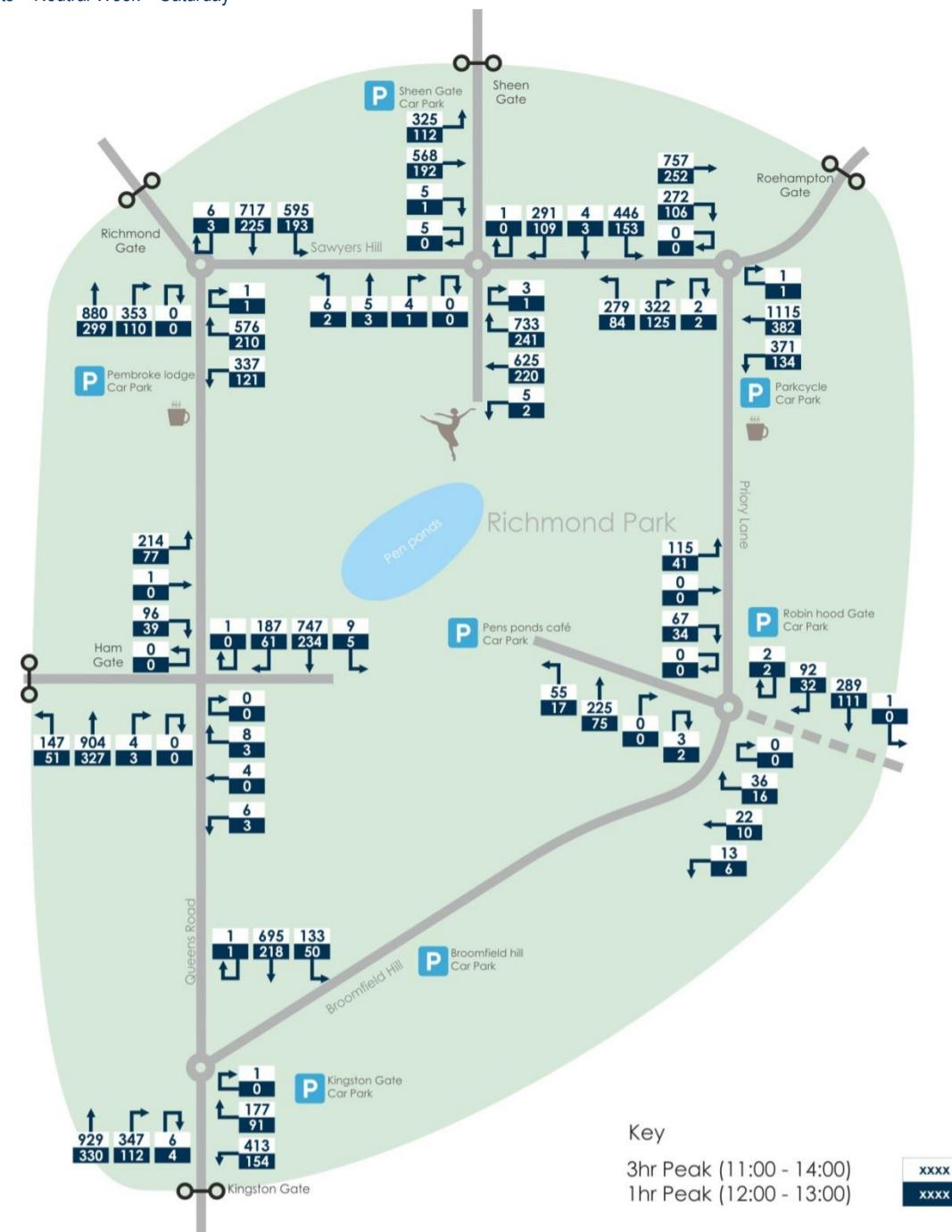
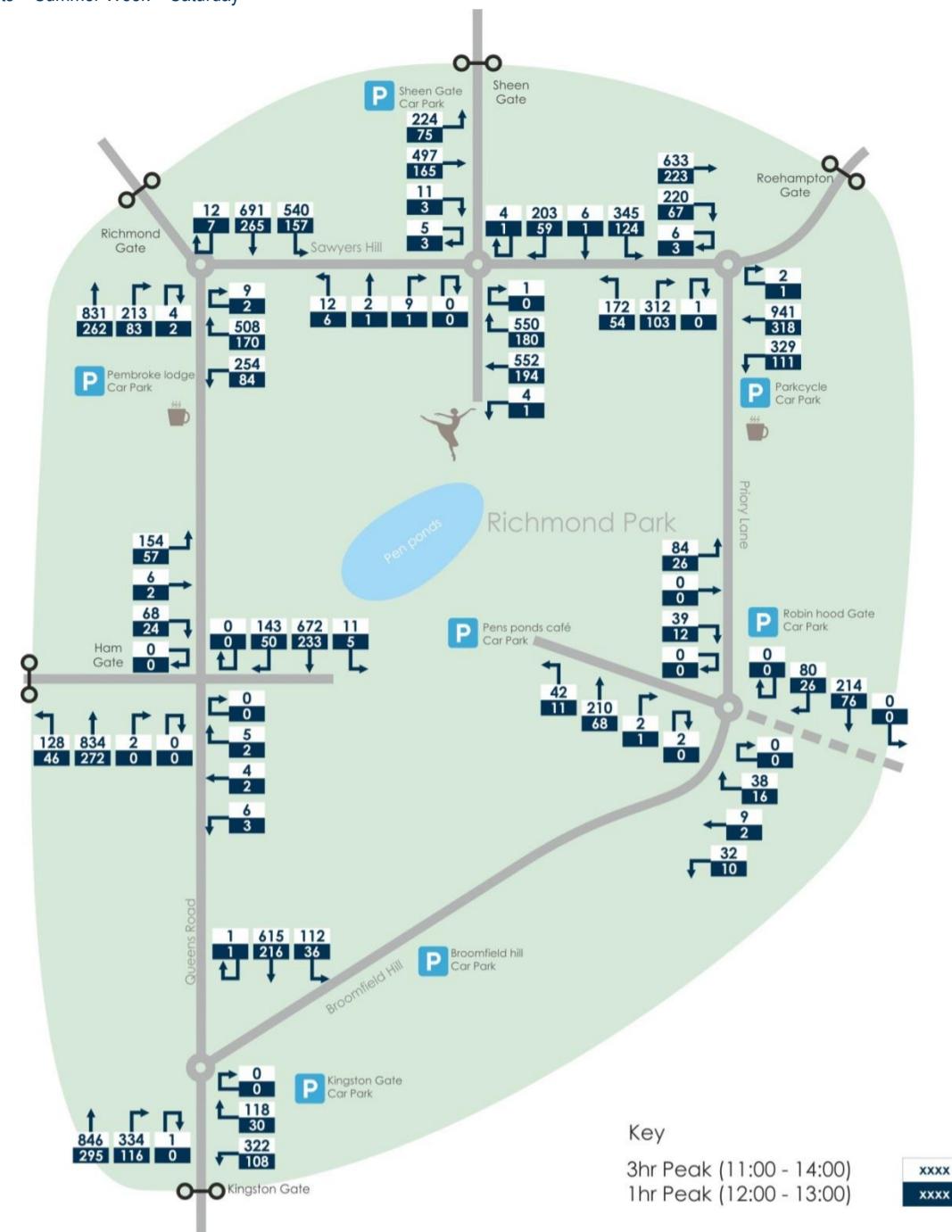
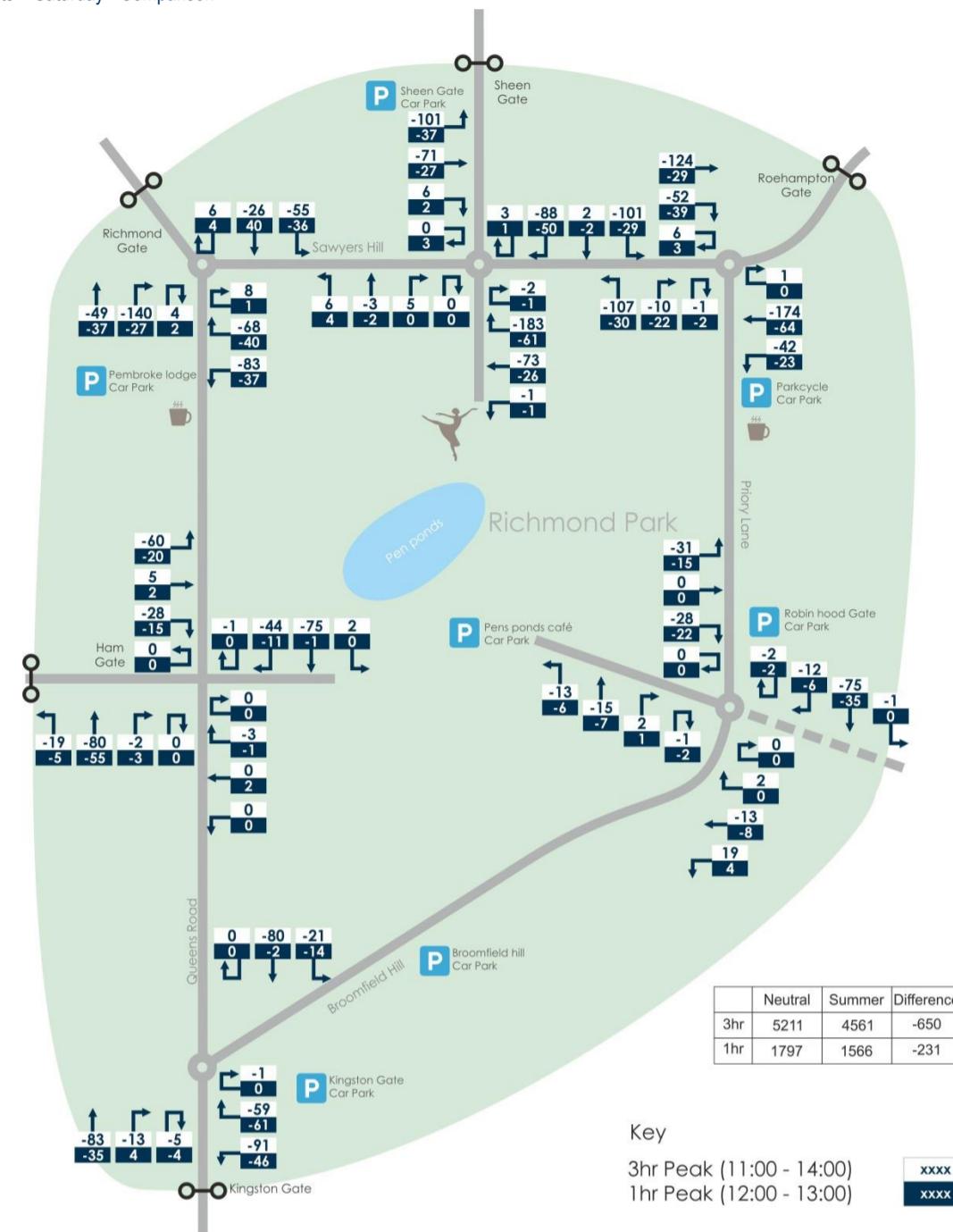


Figure C-5: Vehicle Turning Movements – Summer Week – Saturday



C.1.6 **Figure C-6** shows the difference between the Saturday neutral and summer periods.

Figure C-6: Vehicle Turning Movements – Saturday - Comparison



C.1.7 **Figures C-7 and C-8** summarise the turning movement results for the three hour peak period (11:00 to 14:00) and the peak hour (12:00 to 13:00) for both the Sunday for the neutral and summer surveys.

Figure C-7: Vehicle Turning Movements – Neutral Week – Sunday

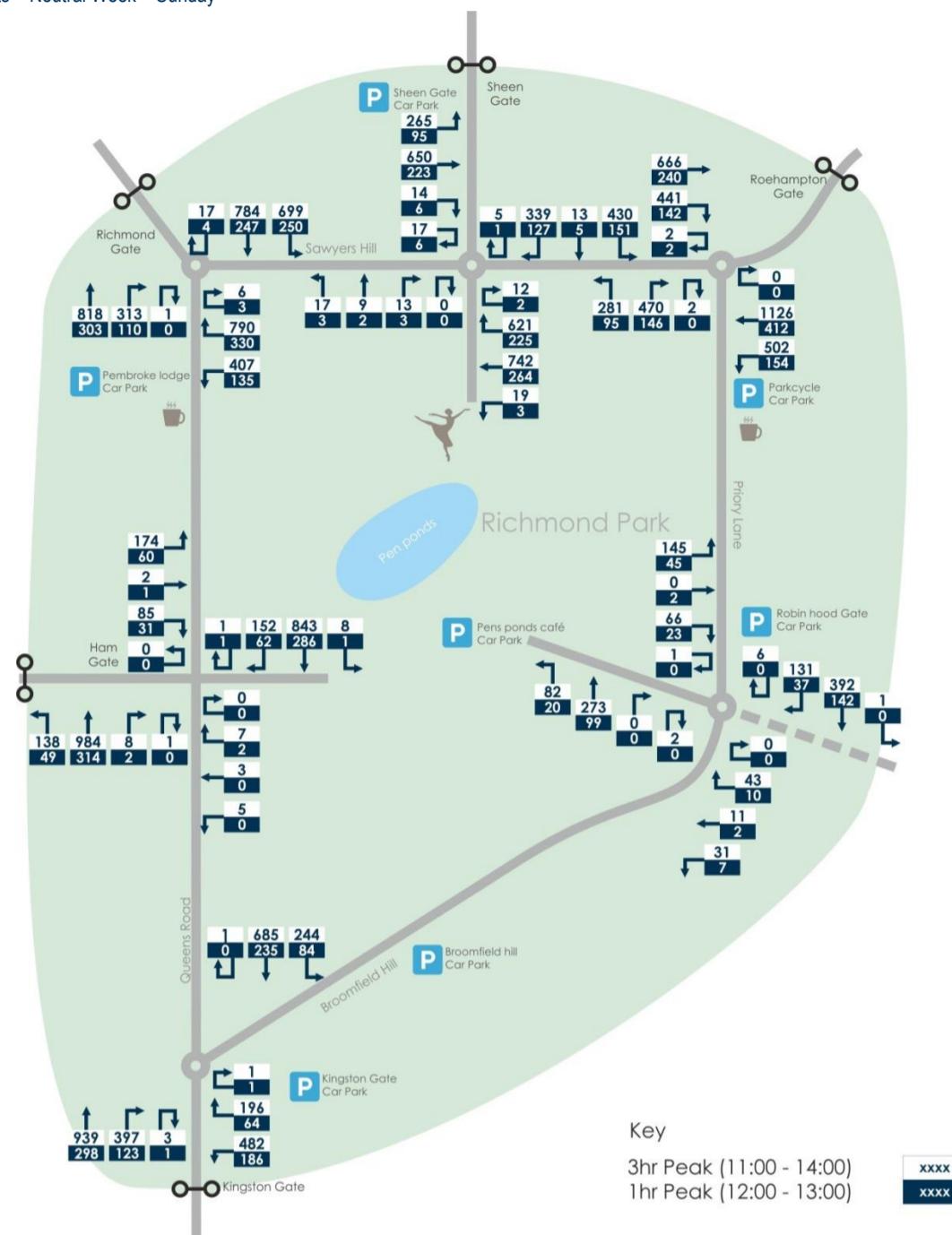
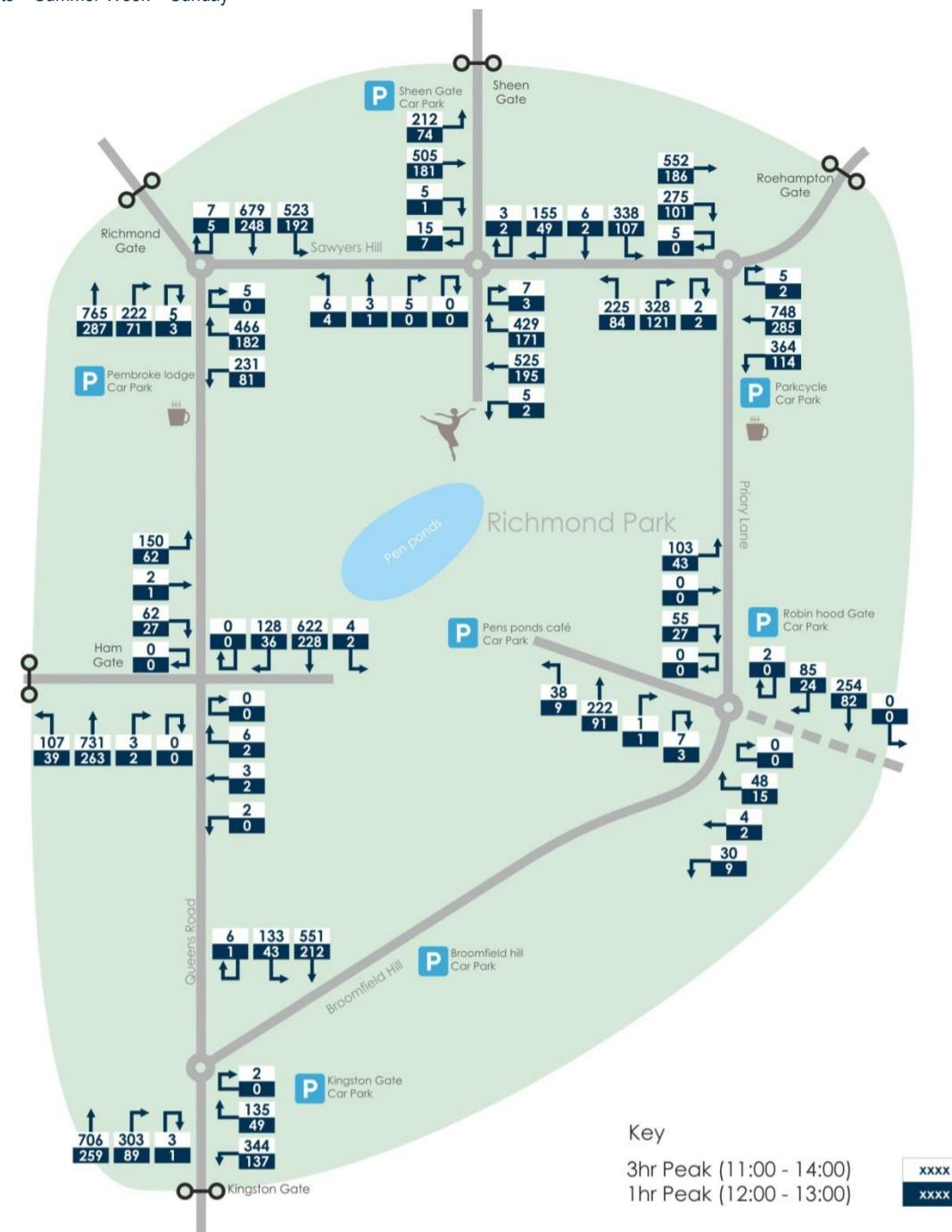
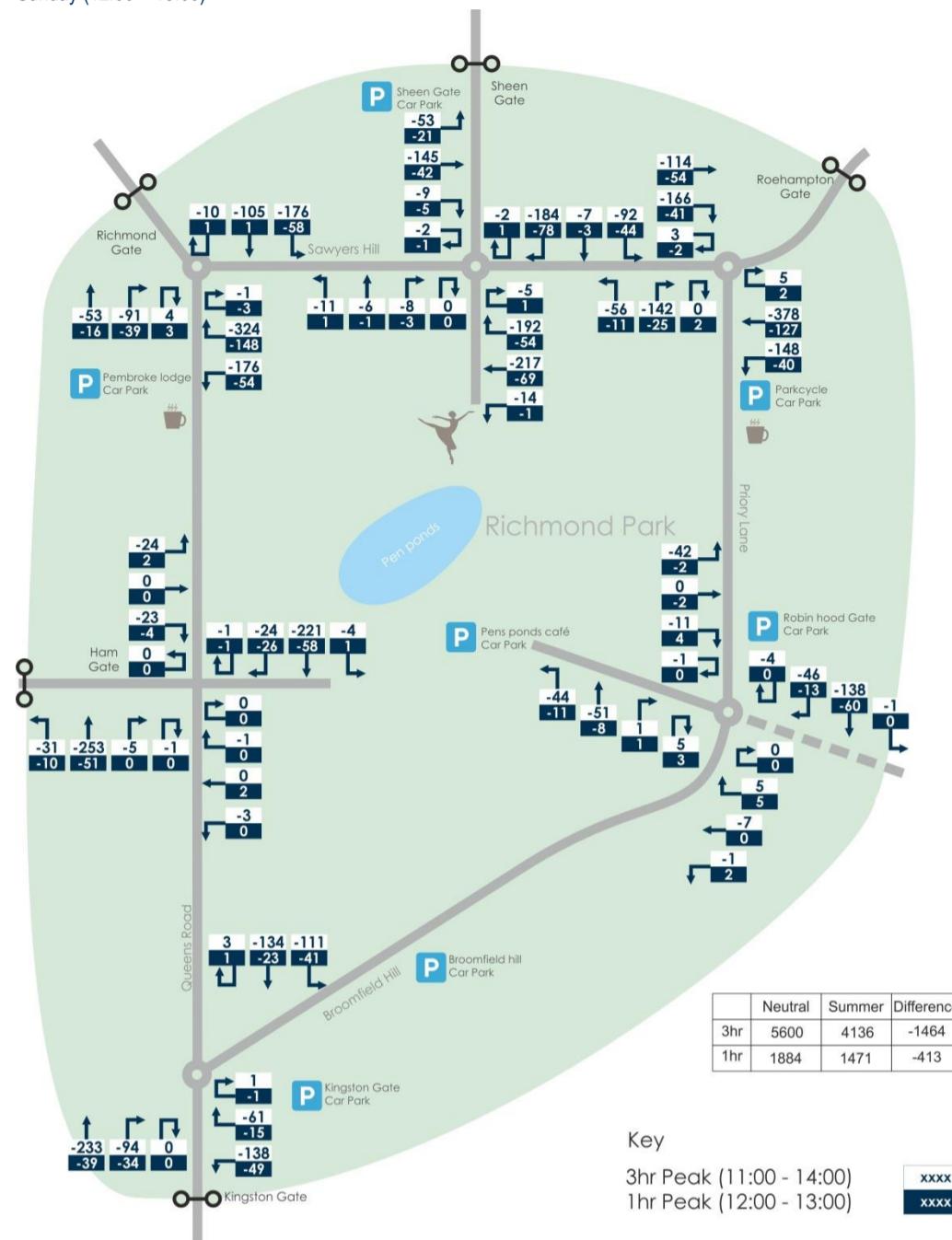


Figure C-8: Vehicle Turning Movements – Summer Week – Sunday



C.1.8 **Figure C-9** shows the difference between the Saturday neutral and summer periods.

Figure C-9: Vehicle Turning Movements – Sunday (12:00 – 13:00)



## Appendix D Speed Profiles

# TECHNICAL NOTE

**Job Name:** Richmond Park Traffic Surveys

**Job No:** 20827/095

**Note No:** TN003

**Date:** November 2015

**Prepared By:** G Smith

**Subject:** Speed Profiles

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## 1. Overview

- 1.1. This technical note has been prepared to analyse the results of speeds surveys collected by the Automatic Traffic Counts (ATC) surveys undertaken with Richmond Park.
- 1.2. The locations of the six ATCs are as follows;
  - ATC 1 - Queens Road South (Between Ham Gate and Kingsotn Gate)
  - ATC 2 – Queens Road North (Between Richmond Gate and Ham Gate)
  - ATC 3 – Sawyer Hill West (Between Richmond Gate and Sheen Gate)
  - ATC 4 – Sawyer Hill East (Between Sheen Gate and Roehampton Gate)
  - ATC 5 – Priory Lane (Between Roehampton Gate and Robin Hood Gate)
  - ATC 6 – Broomfield Hill (Between Kingston Gate and Robin Hood Gate)

## 2. Speed Profiles

### ATC 1 – Queens Road South

#### Neutral Week

- 2.1. **Graph 1** illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the neutral week at ATC 1.

#### DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
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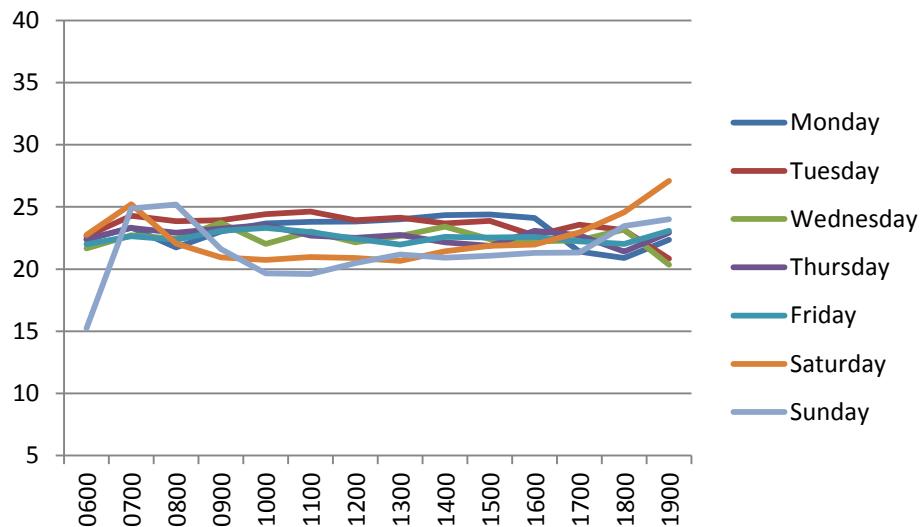
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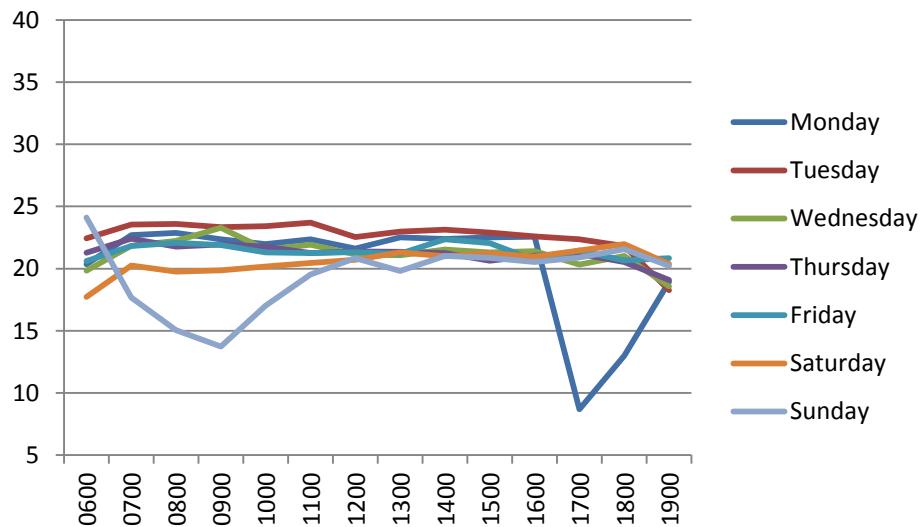
## TECHNICAL NOTE

Graph 1 – ATC 1 – Neutral Week – All Traffic (exl. Cyclist) Speed Profiles – Northbound



- 2.2. **Graph 2** illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the neutral week at ATC 1.

Graph 2 – ATC 1 – Neutral Week – All Traffic (exl. Cyclist) Speed Profiles – Southbound

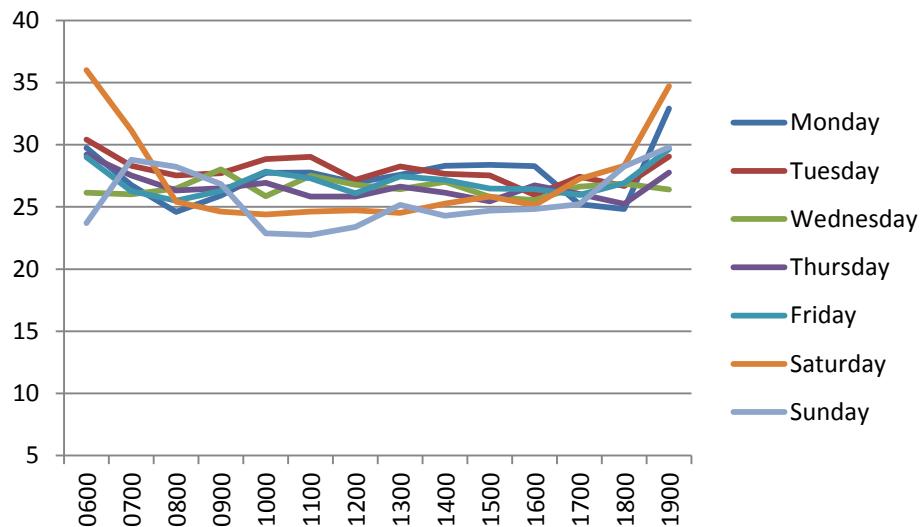


- 2.3. **Graphs 2 and 3** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 1.

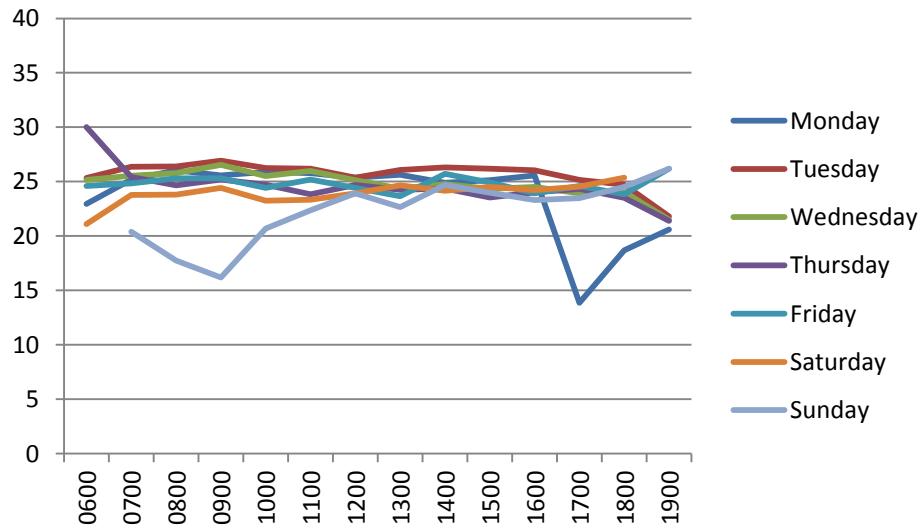


## TECHNICAL NOTE

Graph 3 – ATC 1 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 4 – ATC 1 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



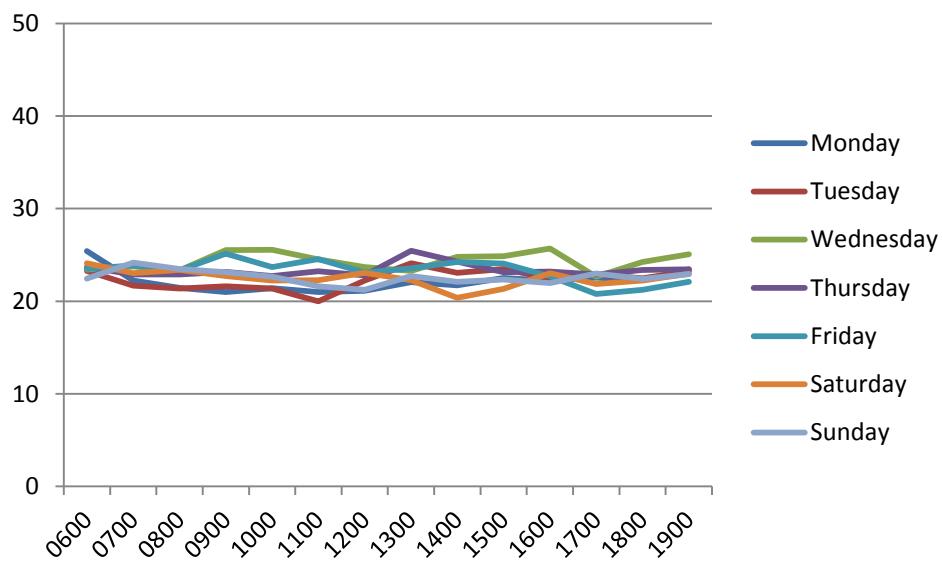
### Summer Week

- 2.4. Graph 5 illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the summer week at ATC 1.



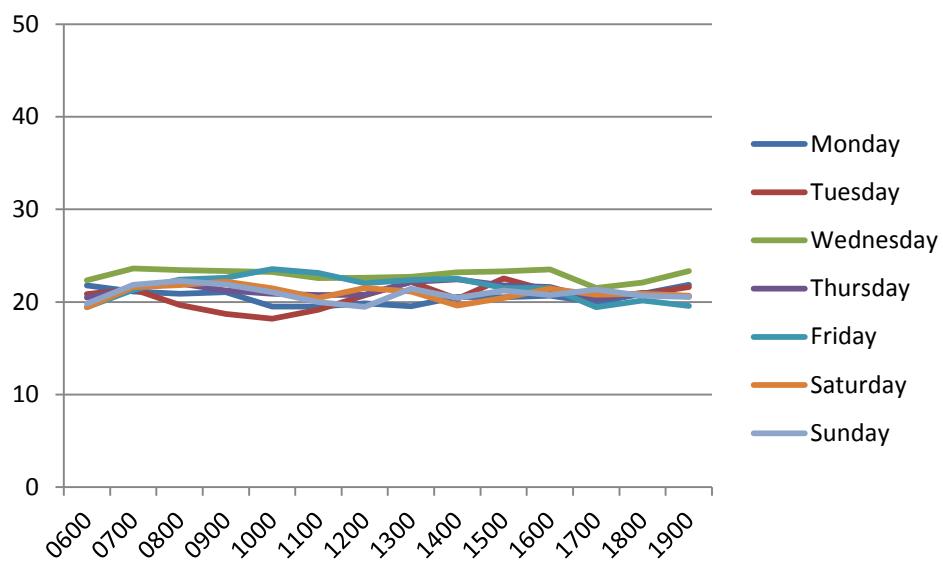
## TECHNICAL NOTE

Graph 5 – ATC 1 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Northbound



- 2.5. **Graph 6** illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the summer week at ATC 1.

Graph 6 – ATC 1 – Summer Week – All Traffic (exl. Cyclist) Weekly Profiles – Southbound

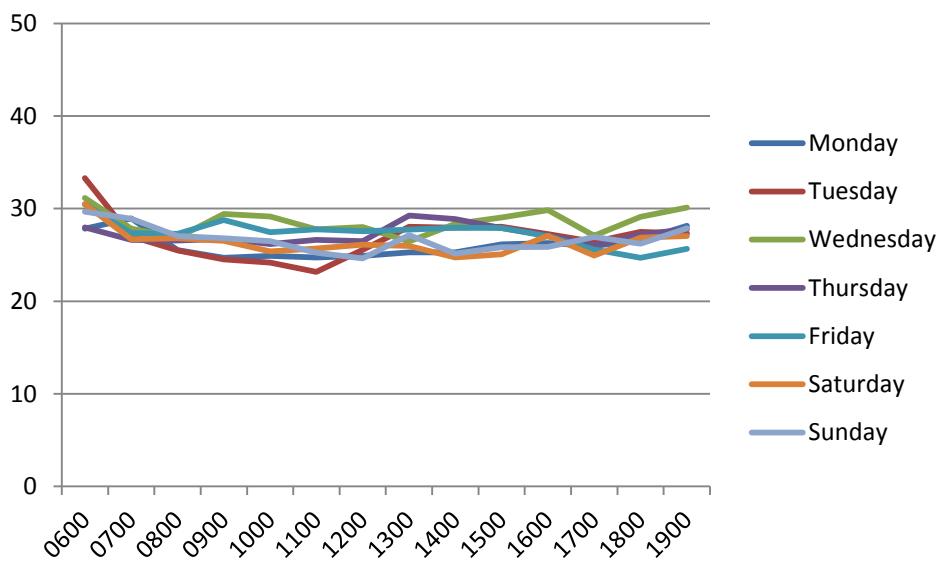


- 2.6. **Graphs 7 and 8** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 1.

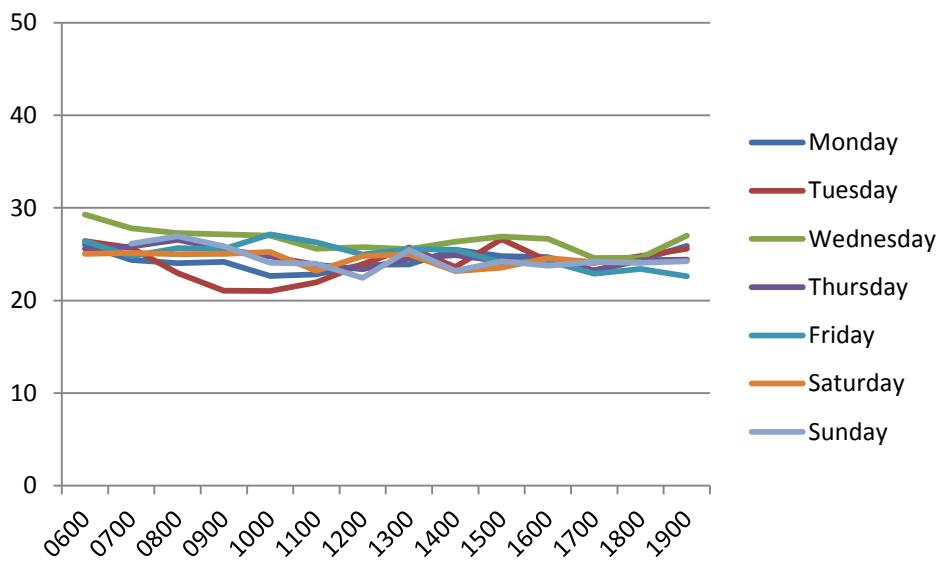


## TECHNICAL NOTE

Graph 7 – ATC 1 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 8 – ATC 1 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



## ATC 2 – Queens Road North

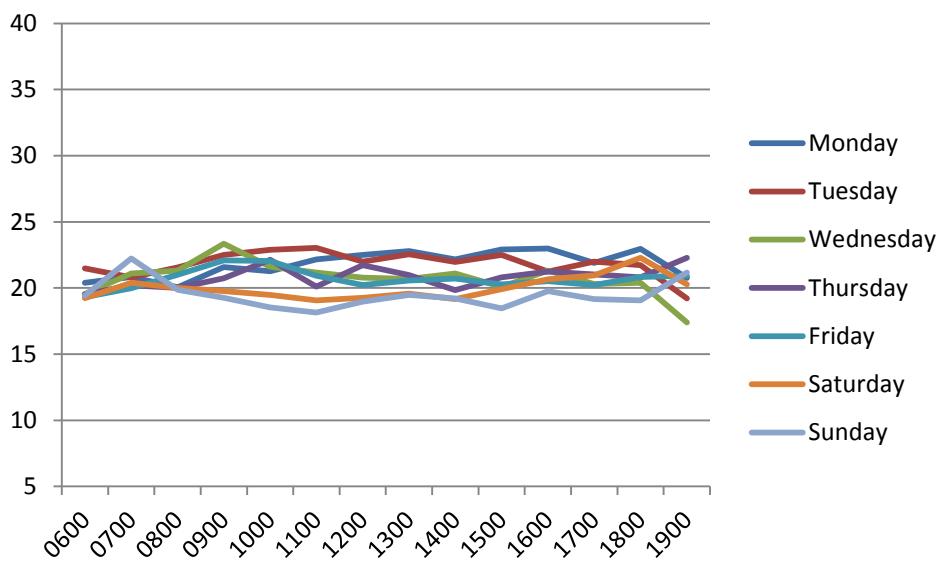
### Neutral Week

- 2.7. Graph 9 illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the neutral week at ATC 2.



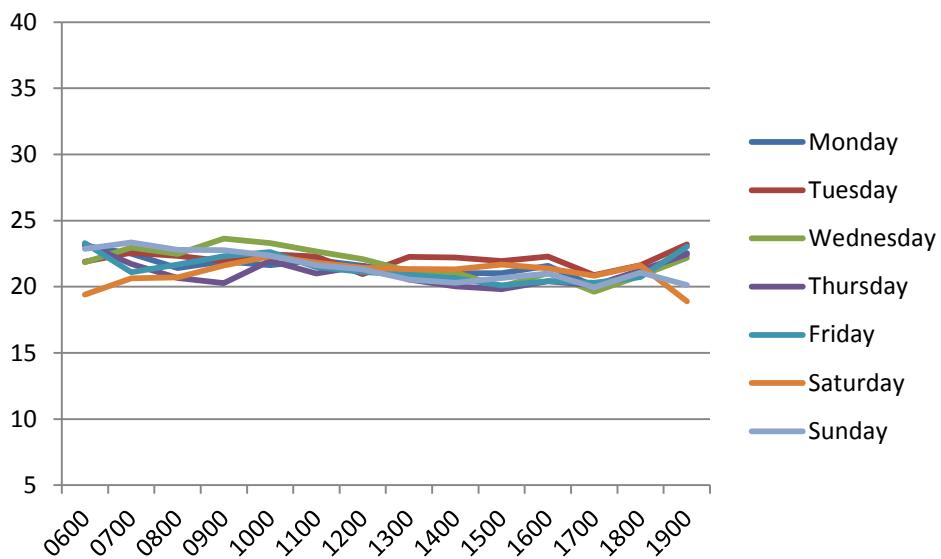
## TECHNICAL NOTE

Graph 9 – ATC 2 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Northbound



- 2.8. **Graph 10** illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the neutral week at ATC 2.

Graph 10 – ATC 2 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Southbound

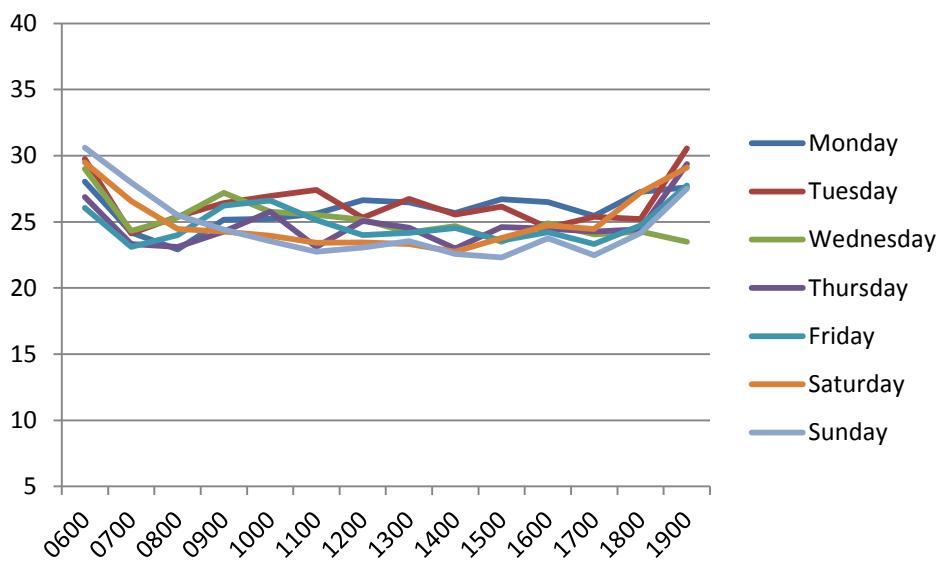


- 2.9. **Graphs 11 and 12** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 2.

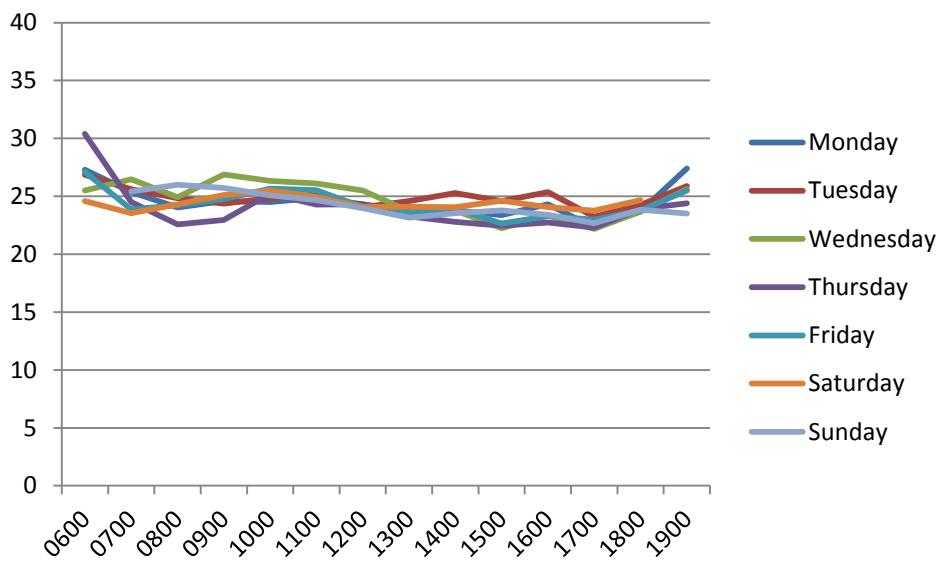


## TECHNICAL NOTE

Graph 11 – ATC 2 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 12 – ATC 2 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



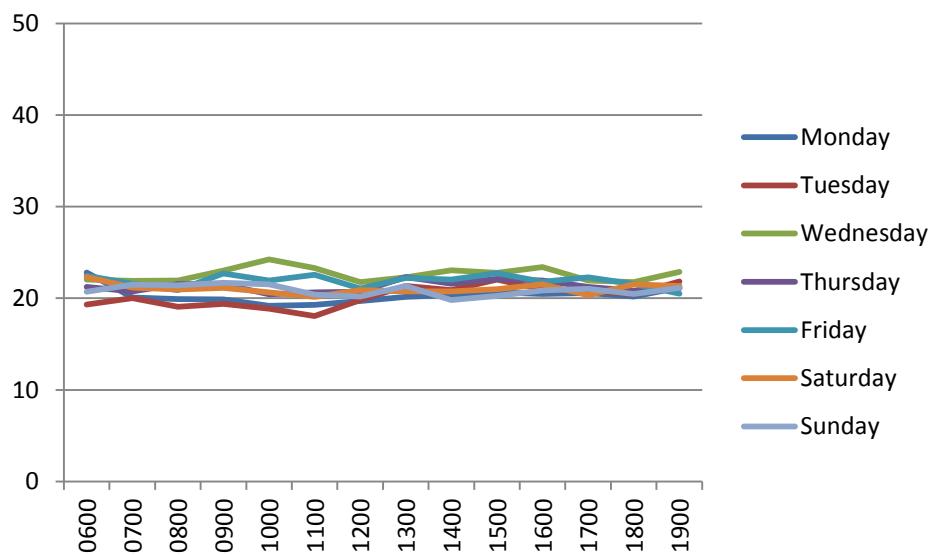
### Summer Week

- 2.10. Graph 13 illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the summer week at ATC 2.



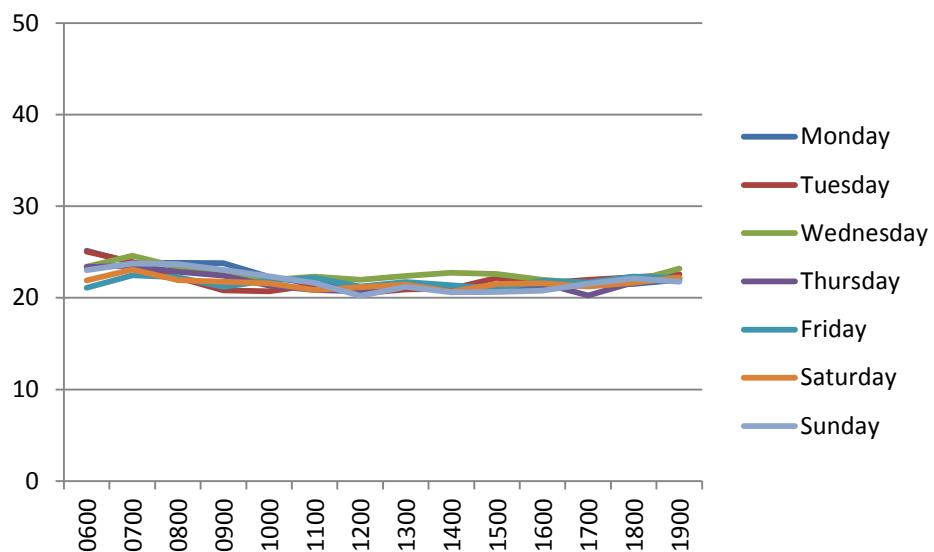
## TECHNICAL NOTE

Graph 13 – ATC 2 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Northbound



2.11. **Graph 14** illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the summer week at ATC 2.

Graph 14 – ATC 2 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Southbound

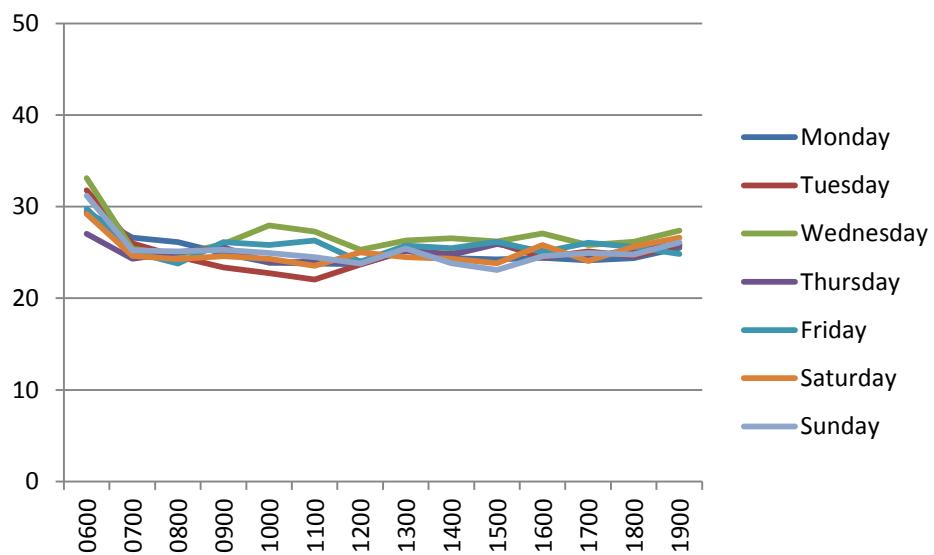


2.12. **Graphs 15 and 16** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the summer week at ATC 2.

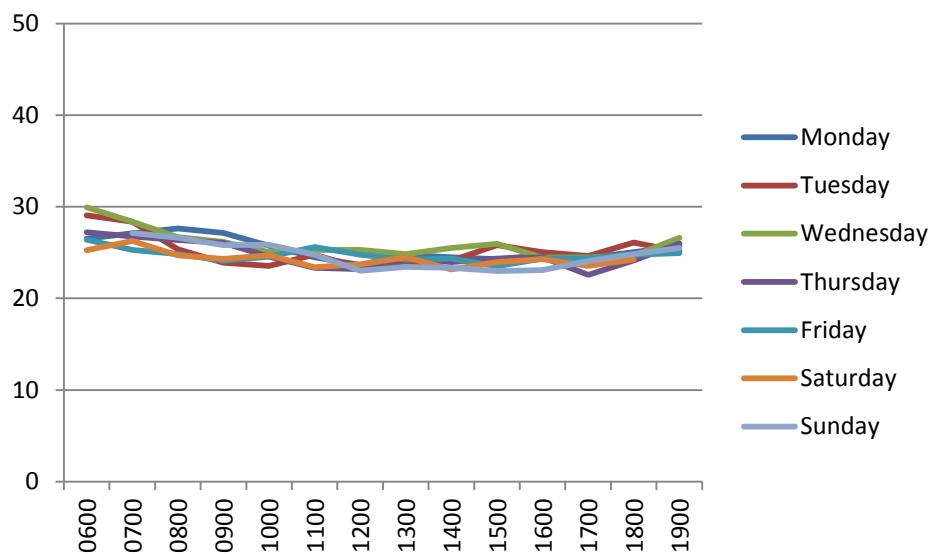


## TECHNICAL NOTE

Graph 15 – ATC 2 – Summer Week – All Traffic (excl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 16 – ATC 2 – Summer Week – All Traffic (excl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



## ATC 3 – Sawyer Hill West

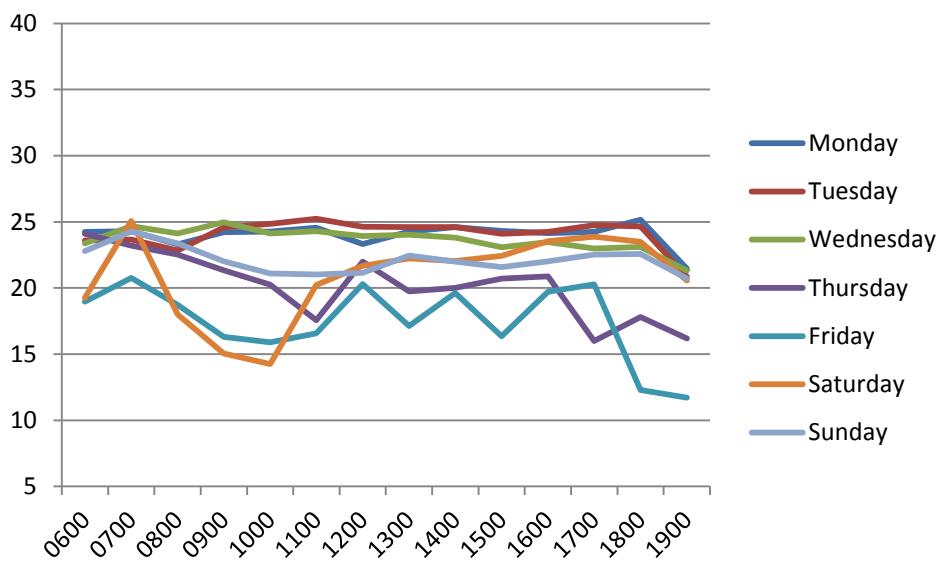
### Neutral Week

- 2.13. Graph 17 illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the week at ATC 3.



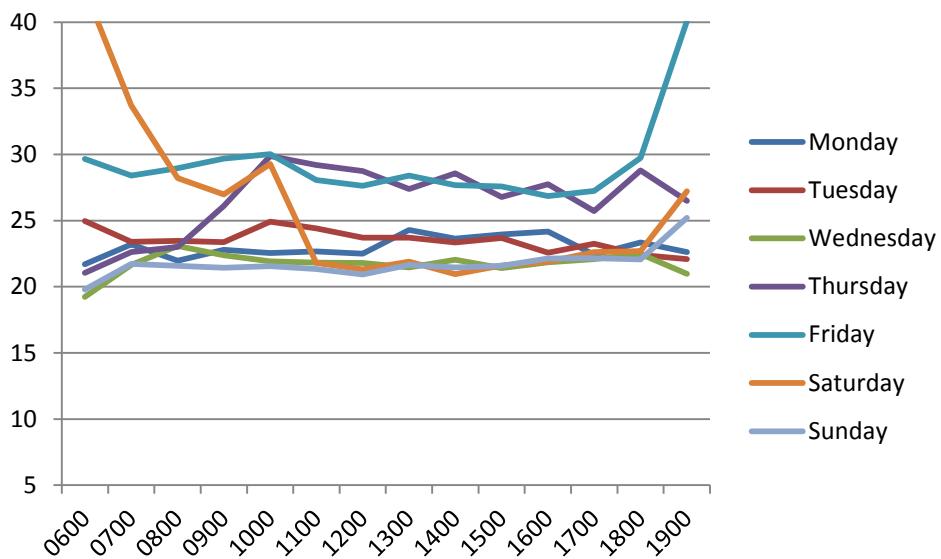
## TECHNICAL NOTE

Graph 17 – ATC 3 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



- 2.14. **Graph 18** illustrates the average speed profile for all vehicles (excluding cyclists) travelling westbound throughout the week at ATC 3.

Graph 18 – ATC 3 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

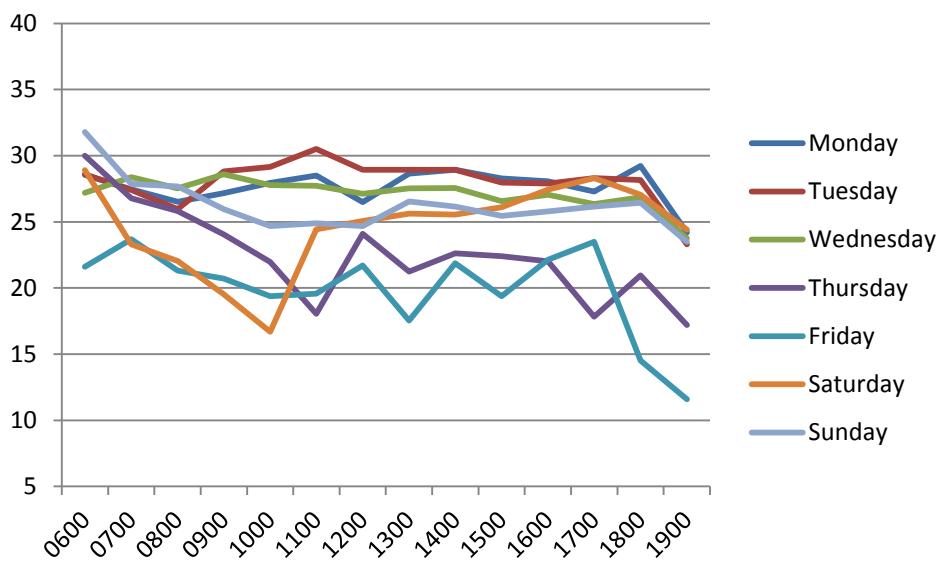


- 2.15. **Graphs 19 and 20** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 3.

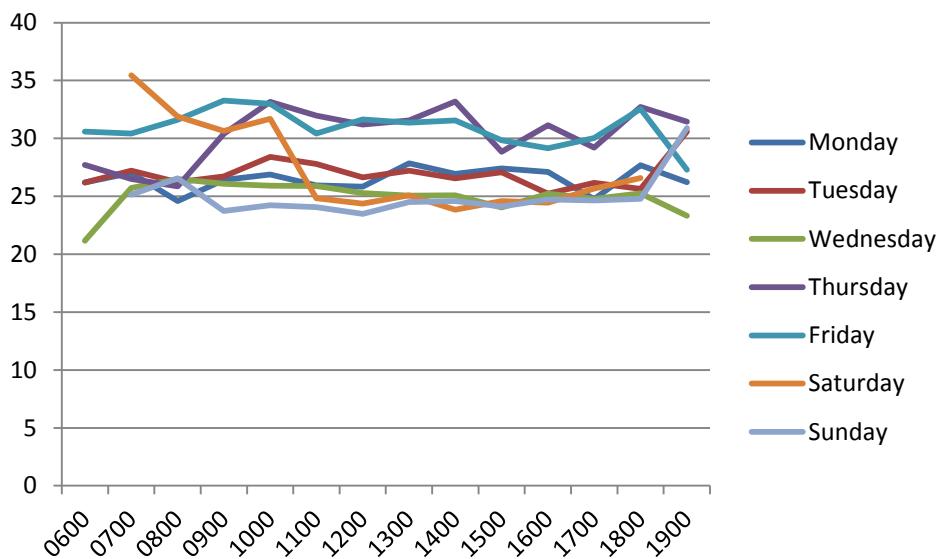


## TECHNICAL NOTE

Graph 19 – ATC 3 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



Graph 20 – ATC 3 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



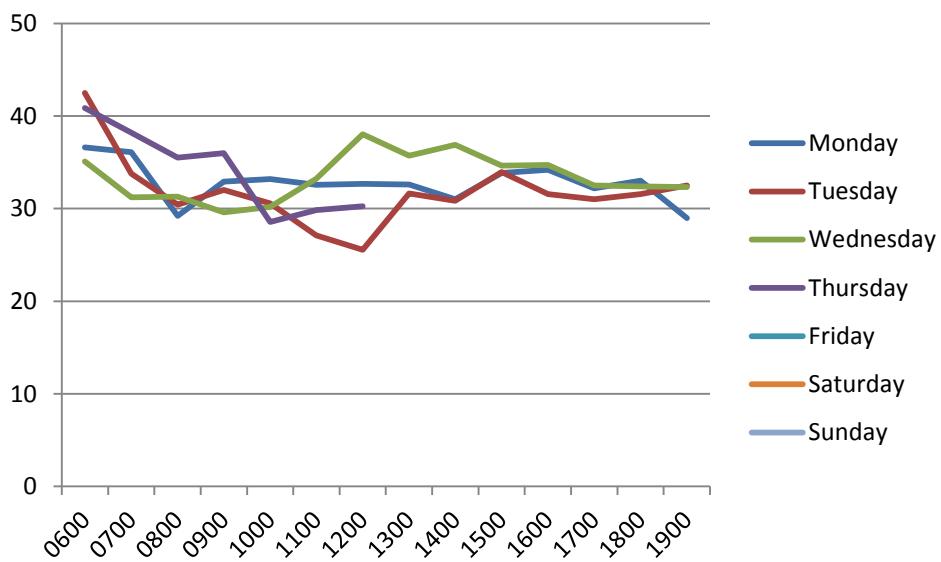
### Summer Week

- 2.16. There was a technical fault with the survey equipment for ATC 3 during the summer week which resulted in data only being collected for this link between Monday and Thursday afternoon.
- 2.17. Graph 21 illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the week at ATC 3.



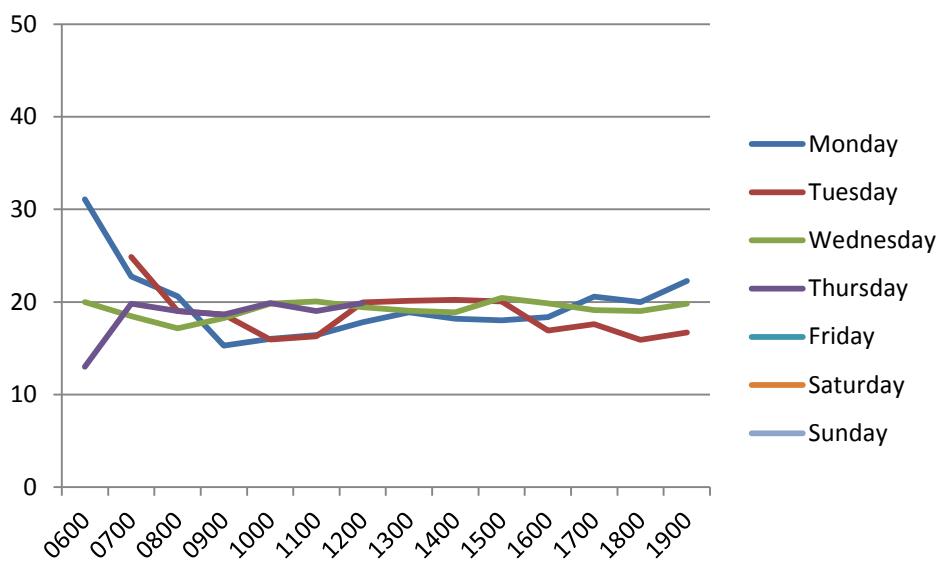
## TECHNICAL NOTE

Graph 21 – ATC 3 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



- 2.18. **Graph 22** illustrates the average speed profile for all vehicles (excluding cyclists) travelling westbound throughout the week at ATC 4.

Graph 22 – ATC 4 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

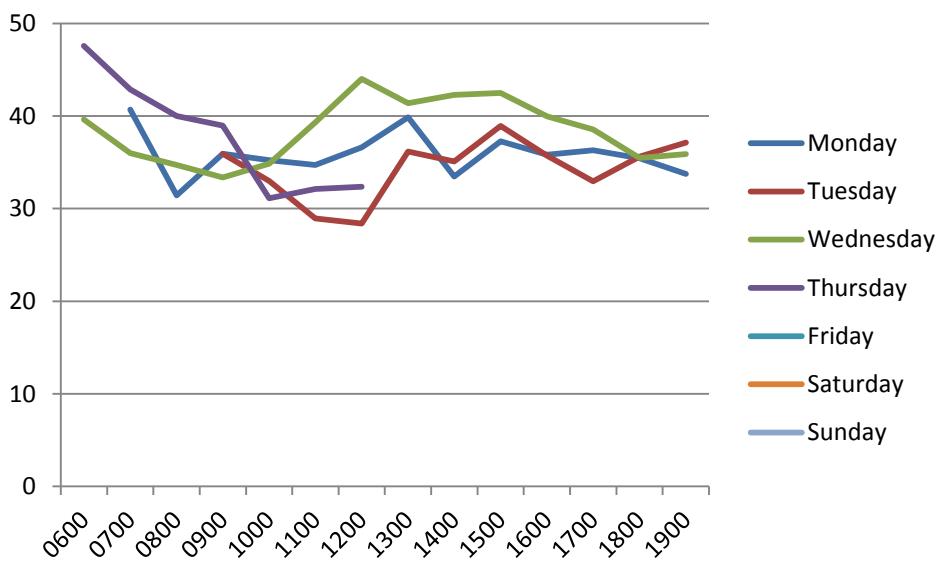


- 2.19. **Graphs 23 and 24** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the summer week at ATC 3.

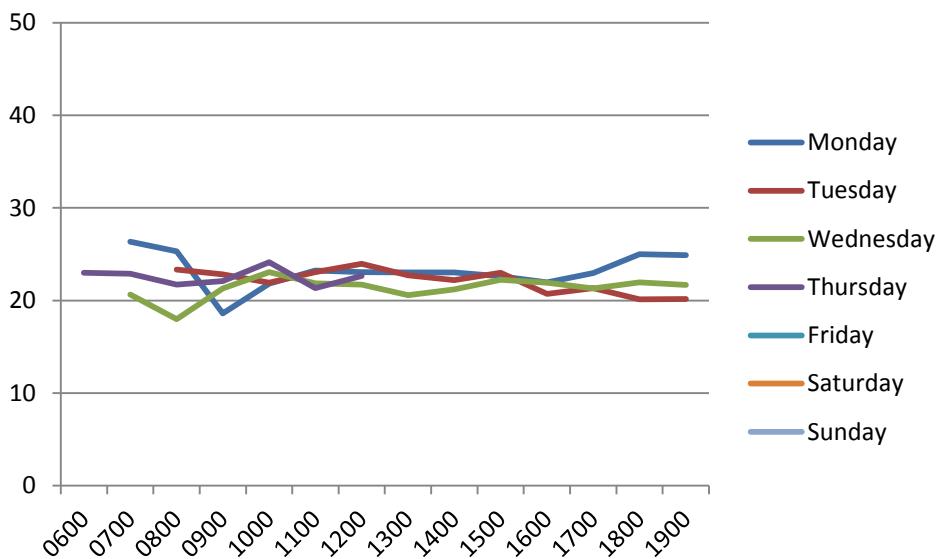


## TECHNICAL NOTE

Graph 23 – ATC 3 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



Graph 24 – ATC 3 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



## ATC 4 – Sawyer Hill East

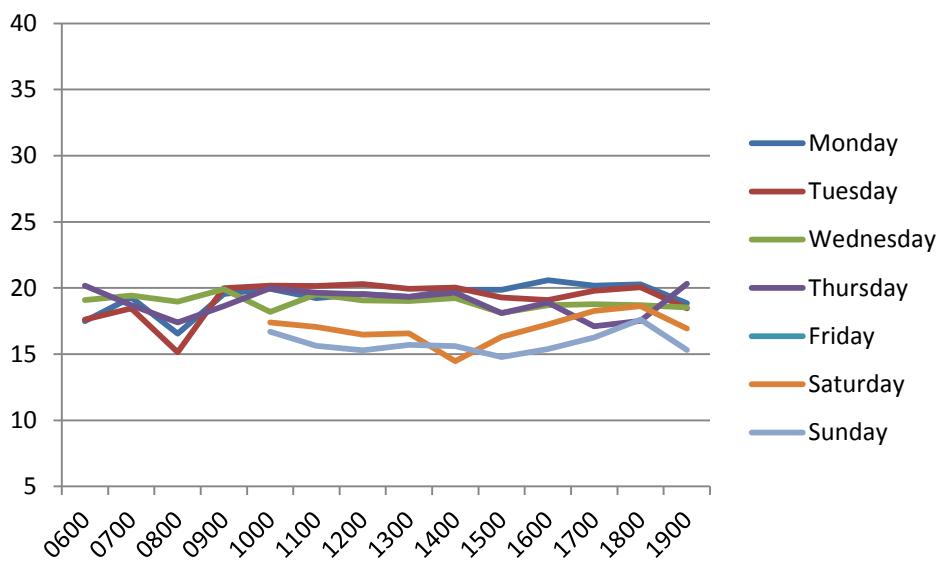
### Neutral Week

- 2.20. There was a technical fault with the survey equipment for ATC4 during the neutral week which resulted in a loss of data for the Friday.
- 2.21. **Graph 25** illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the week at ATC 4.



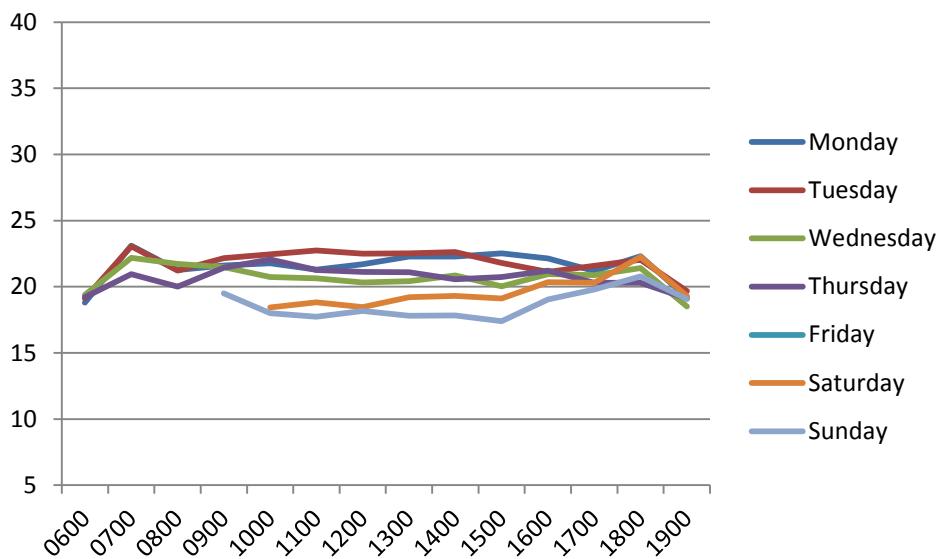
## TECHNICAL NOTE

Graph 25 – ATC 4 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



2.22. **Graph 26** illustrates the average speed profile for all vehicles (excluding cyclists) travelling westbound throughout the week at ATC 4.

Graph 26 – ATC 4 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

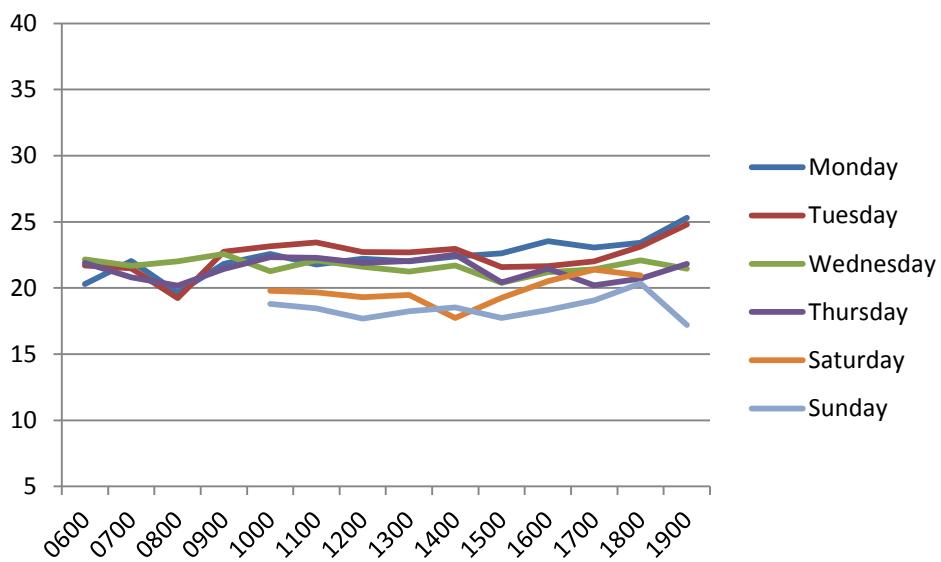


2.23. **Graphs 27 and 28** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 4.

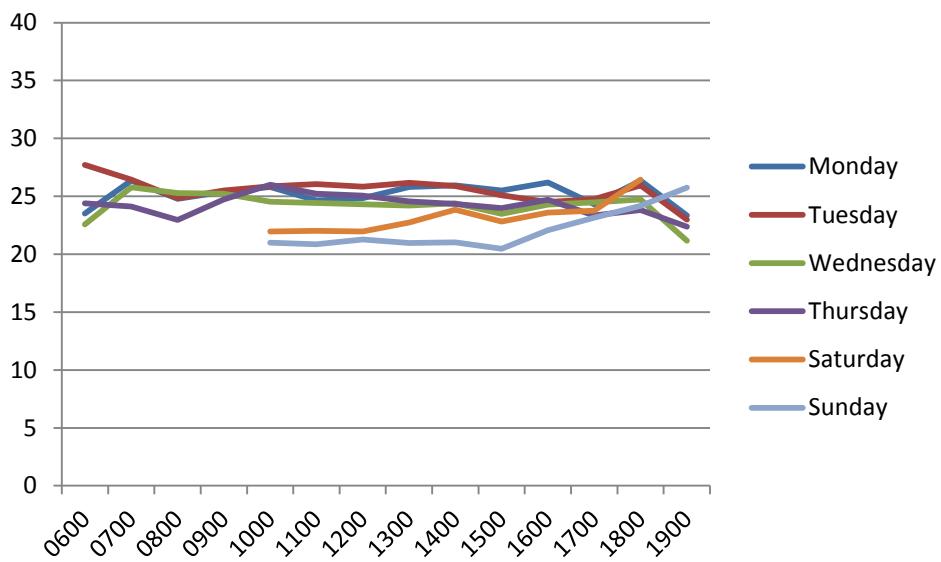


## TECHNICAL NOTE

Graph 27 – ATC 4 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



Graph 28 – ATC 4 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



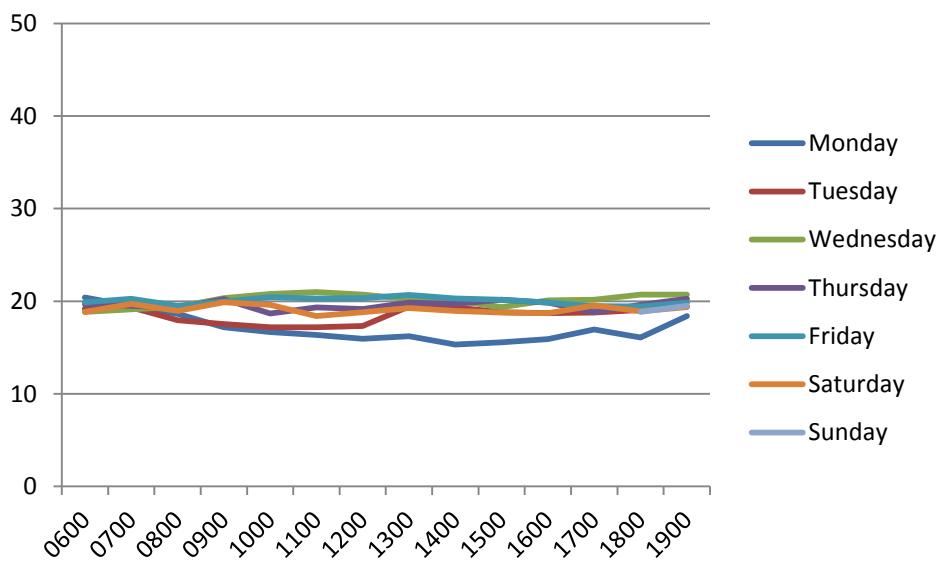
### Summer Week

- 2.24. Graph 29 illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the summer week at ATC 4.



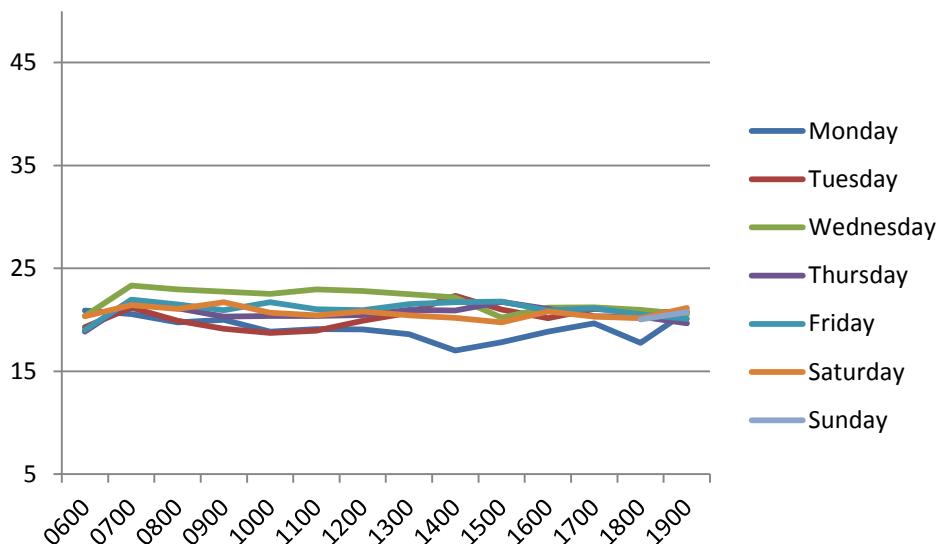
## TECHNICAL NOTE

Graph 29 – ATC 4 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



- 2.25. **Graph 30** illustrates the average speed profile for all vehicles (excluding cyclists) travelling westbound throughout the summer week at ATC 4.

Graph 30 – ATC 4 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

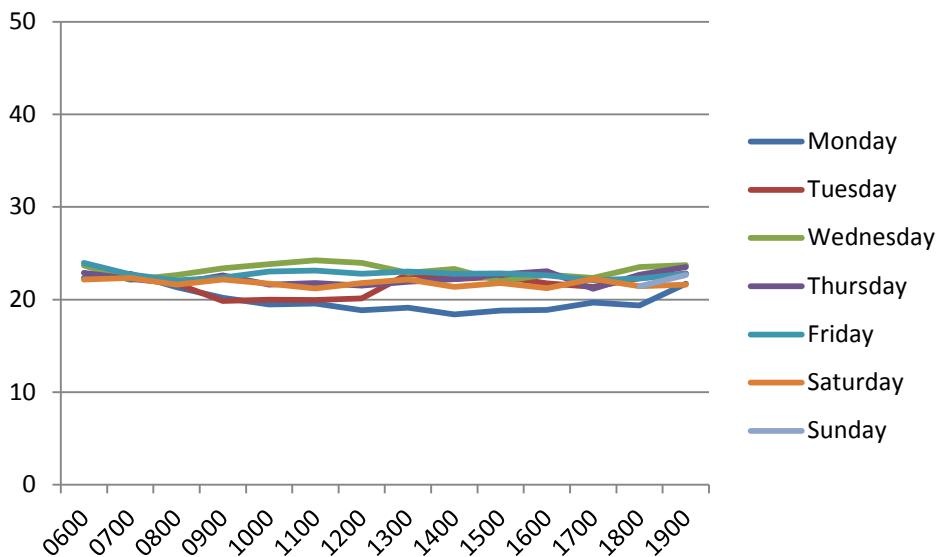


- 2.26. **Graphs 31 and 32** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the summer week at ATC 4.

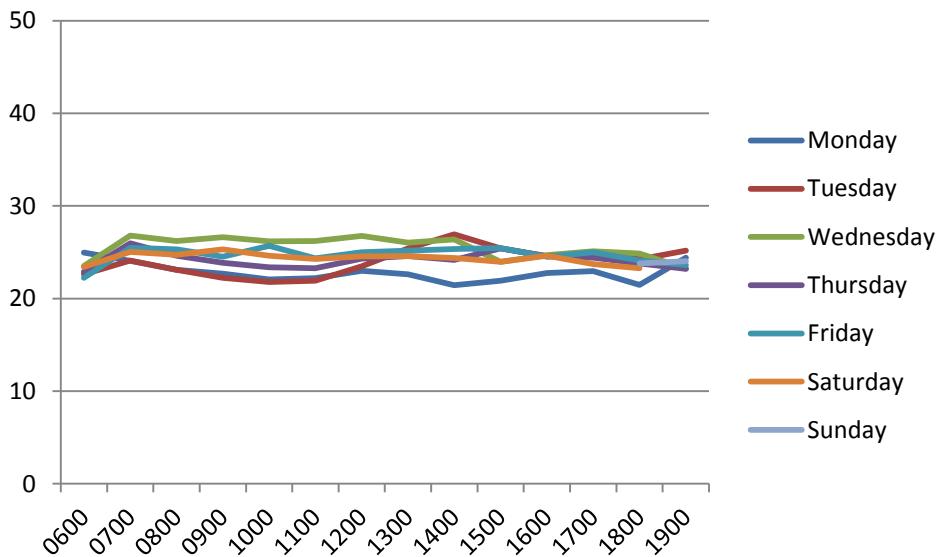
Graph 31 – ATC 4 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



## TECHNICAL NOTE



Graph 32 – ATC 4 – Summer Week – All Traffic (excl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



## ATC 5 – Priory Lane

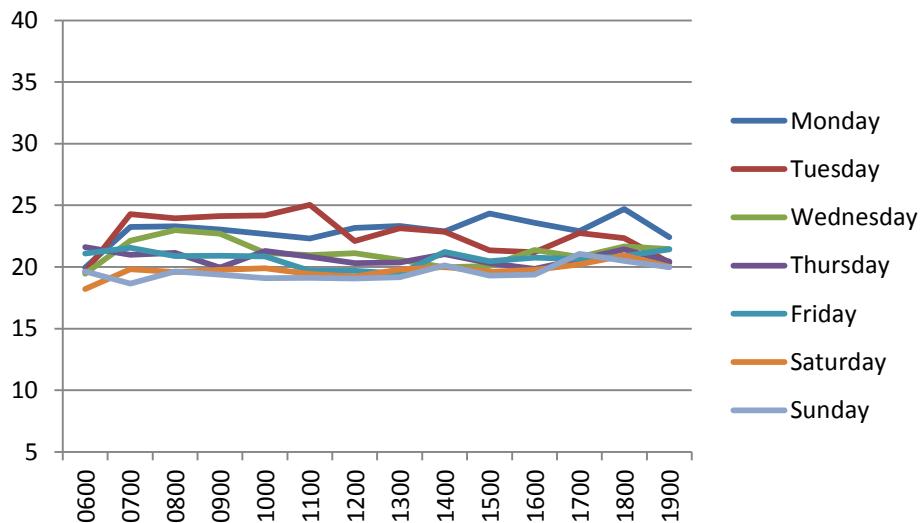
### Neutral Week

- 2.27. Graph 33 illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the week at ATC 5.



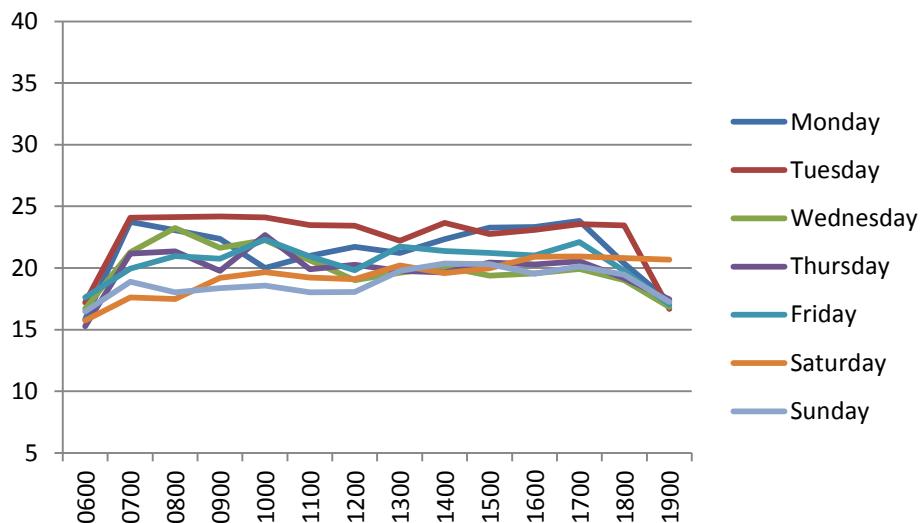
## TECHNICAL NOTE

Graph 33 – ATC 5 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Northbound



2.28. Graph 34 illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the week at ATC 5.

Graph 34 – ATC 5 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Southbound

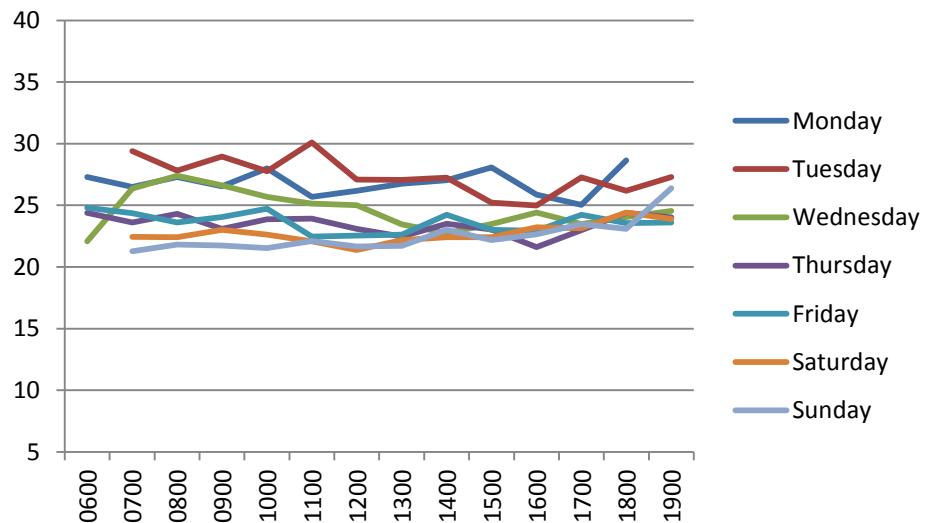


2.29. Graphs 35 and 36 illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 5.

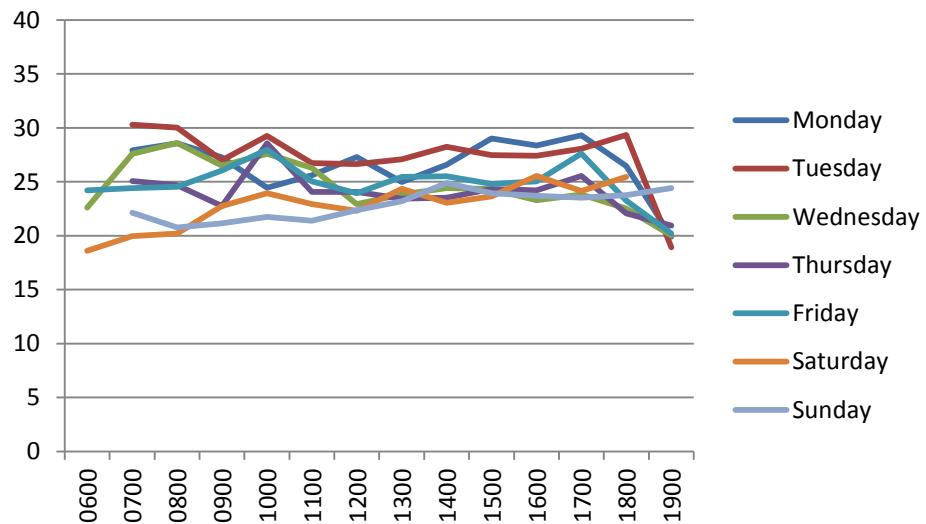


## TECHNICAL NOTE

Graph 35 – ATC 5 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 36 – ATC 5 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



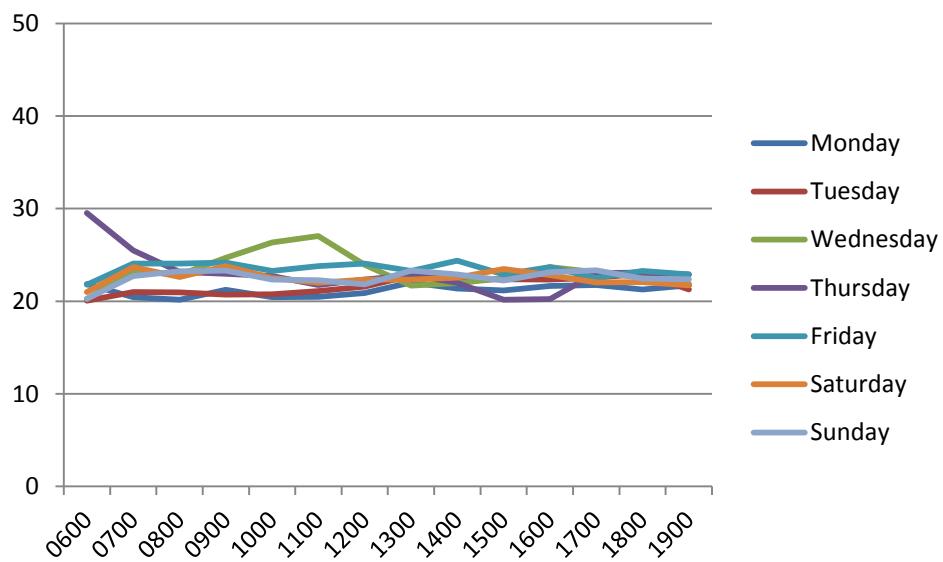
### Summer Week

- 2.30. Graph 37 illustrates the average speed profile for all vehicles (excluding cyclists) travelling northbound throughout the summer week at ATC 5.



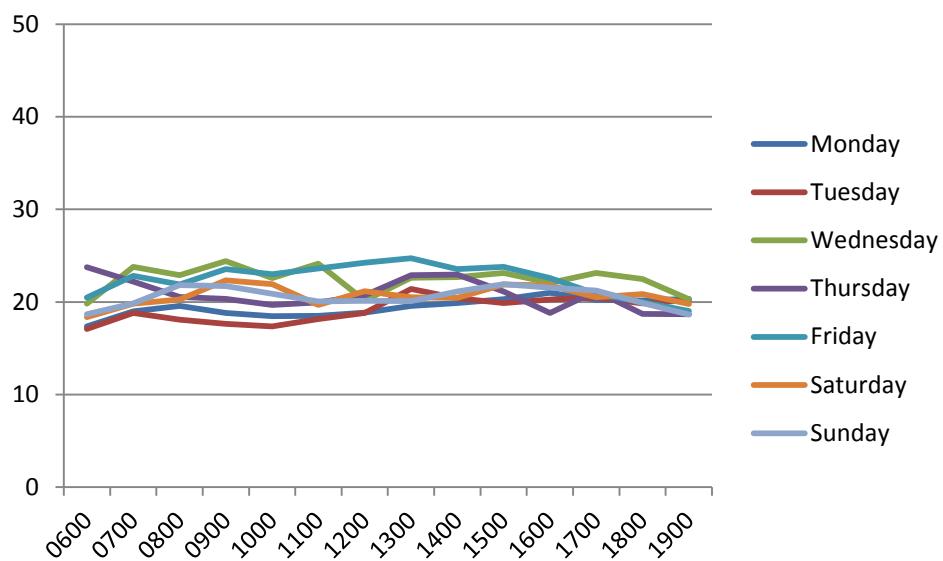
## TECHNICAL NOTE

Graph 37 – ATC 5 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Northbound



- 2.31. **Graph 38** illustrates the average speed profile for all vehicles (excluding cyclists) travelling southbound throughout the summer week at ATC 5.

Graph 38 – ATC 5 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Southbound

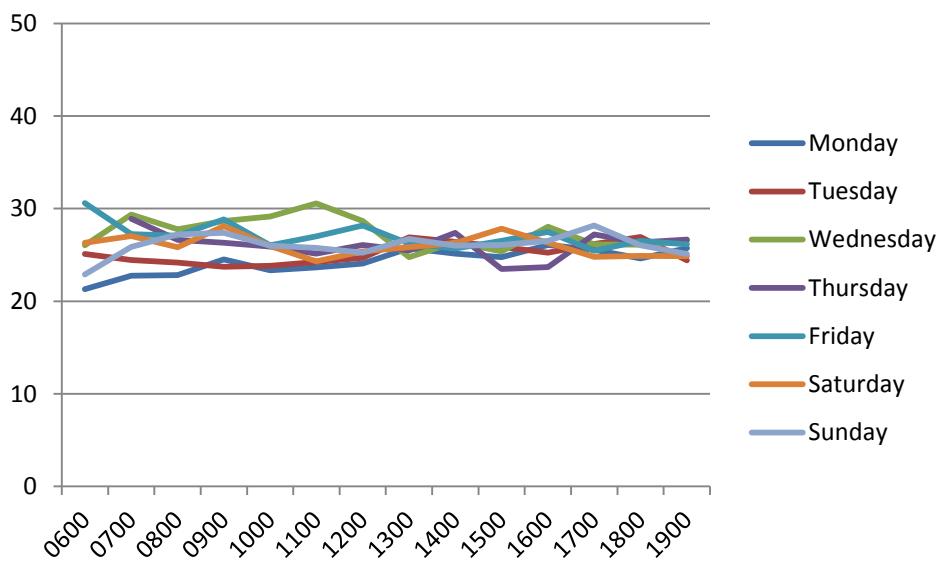


- 2.32. **Graphs 39 and 40** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the summer week at ATC 5.

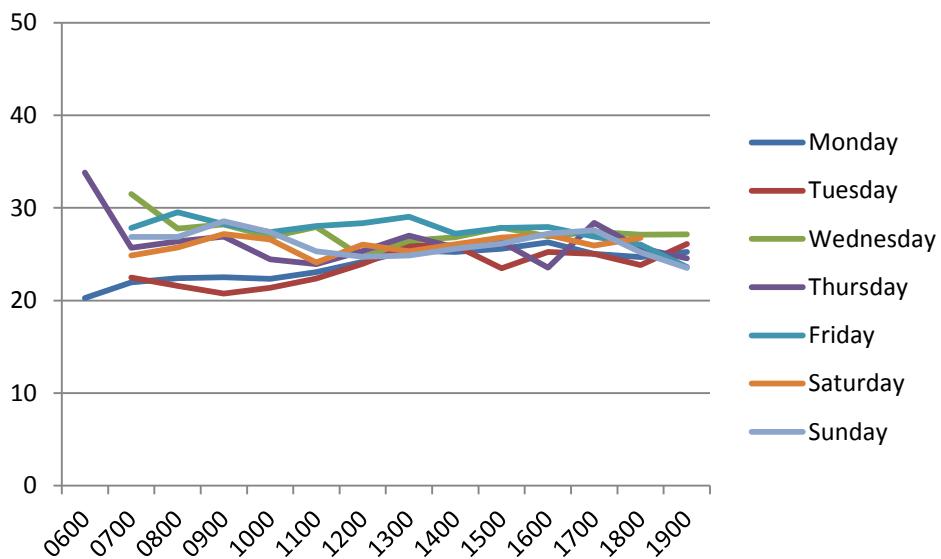


## TECHNICAL NOTE

Graph 39 – ATC 5 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Northbound



Graph 40 – ATC 5 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Southbound



## ATC 6 – Broomfield Hill

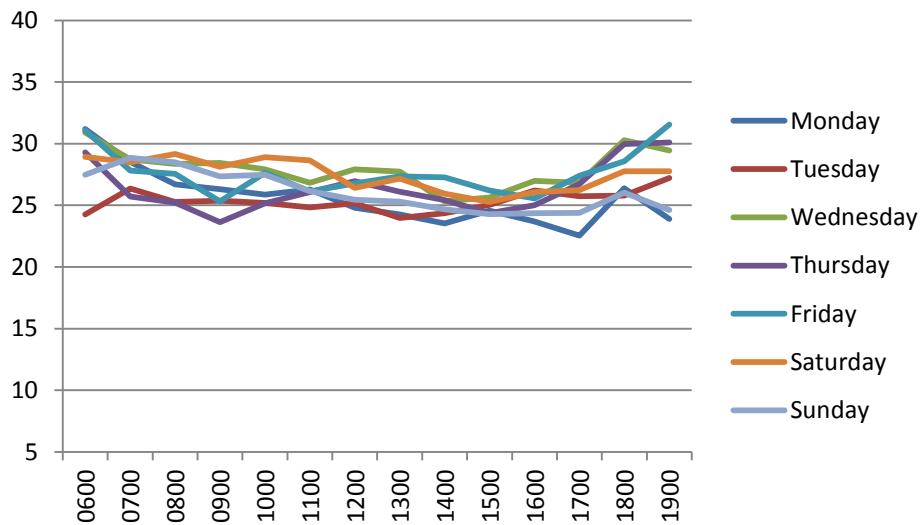
### Neutral Week

- 2.33. Graph 41 illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the week at ATC 6.



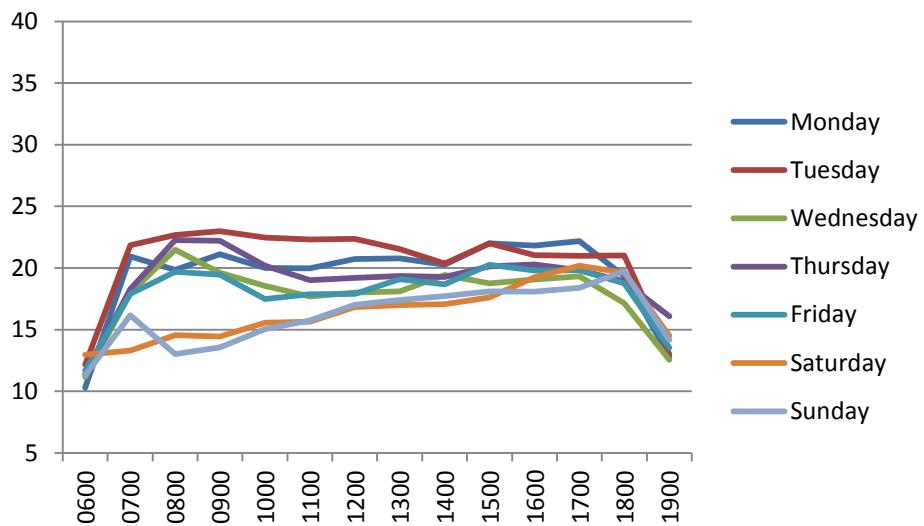
## TECHNICAL NOTE

Graph 41 – ATC 6 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



- 2.34. Graph 42 illustrates the average speed profile for all vehicles (excluding cyclists) travelling westbound throughout the week at ATC 6.

Graph 42 – ATC 6 – Neutral Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

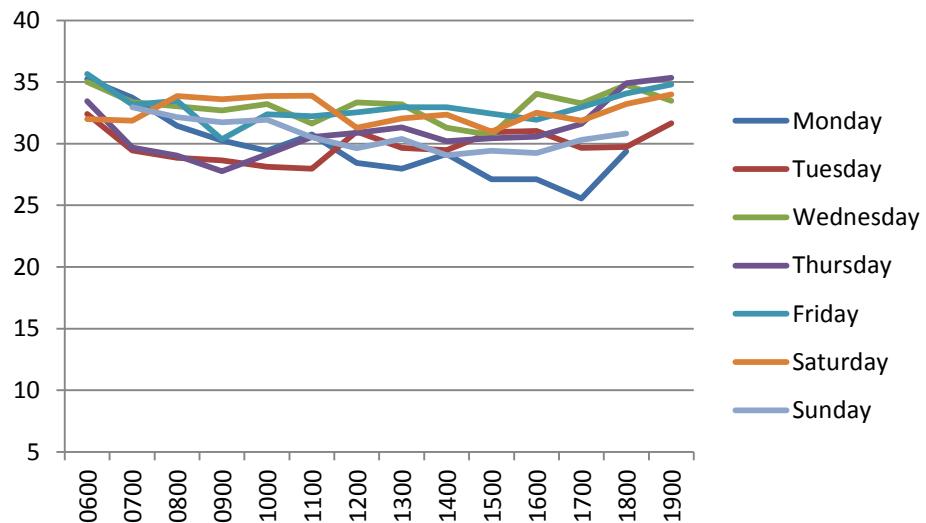


- 2.35. Graphs 43 and 44 illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the neutral week at ATC 6.

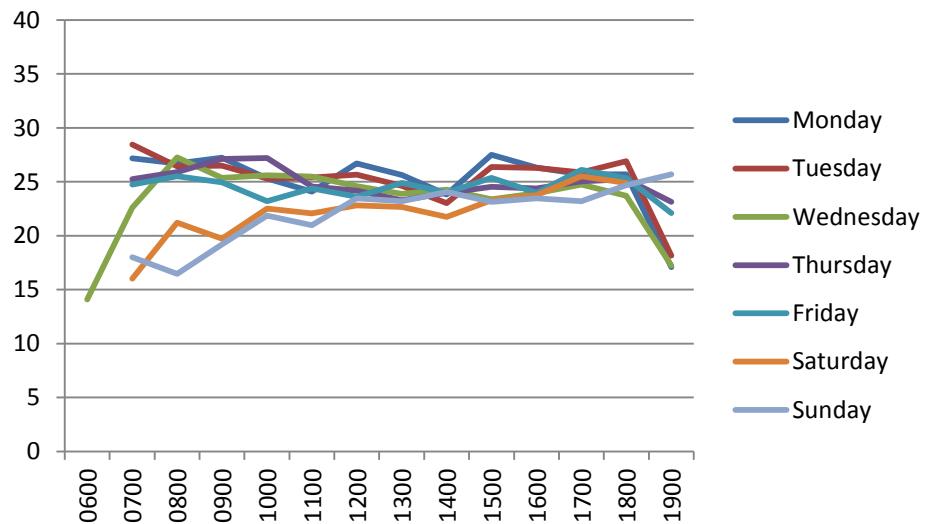


## TECHNICAL NOTE

Graph 43 – ATC 6 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



Graph 44 – ATC 6 – Neutral Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



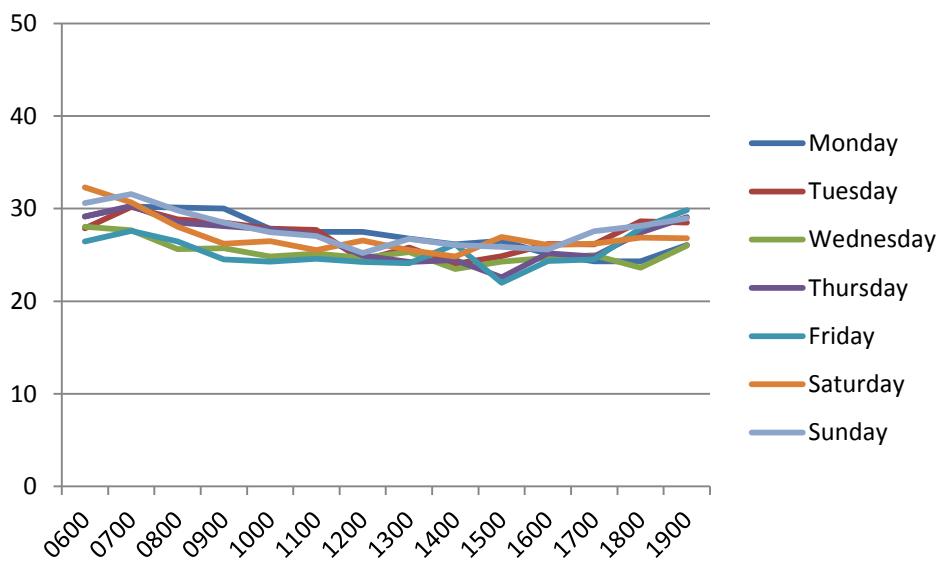
### Summer Week

- 2.36. Graph 45 illustrates the average speed profile for all vehicles (excluding cyclists) travelling eastbound throughout the summer week at ATC 6.



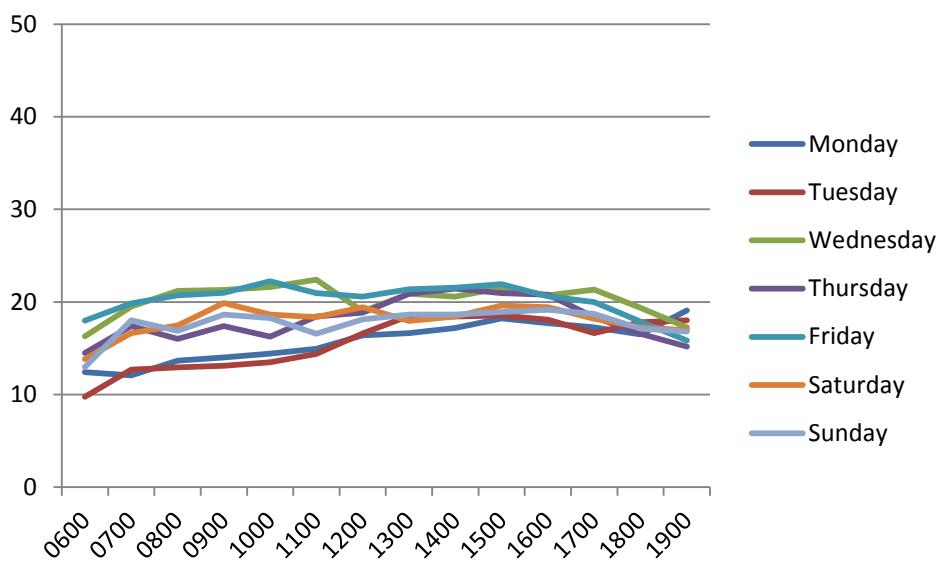
## TECHNICAL NOTE

Graph 45 – ATC 6 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Eastbound



2.37. **Graph 46** illustrates the traffic profile for all vehicles (excluding cyclists) travelling westbound throughout the summer week at ATC 6.

Graph 46 – ATC 6 – Summer Week – All Traffic (exl. Cyclist) Average Speed Profiles – Westbound

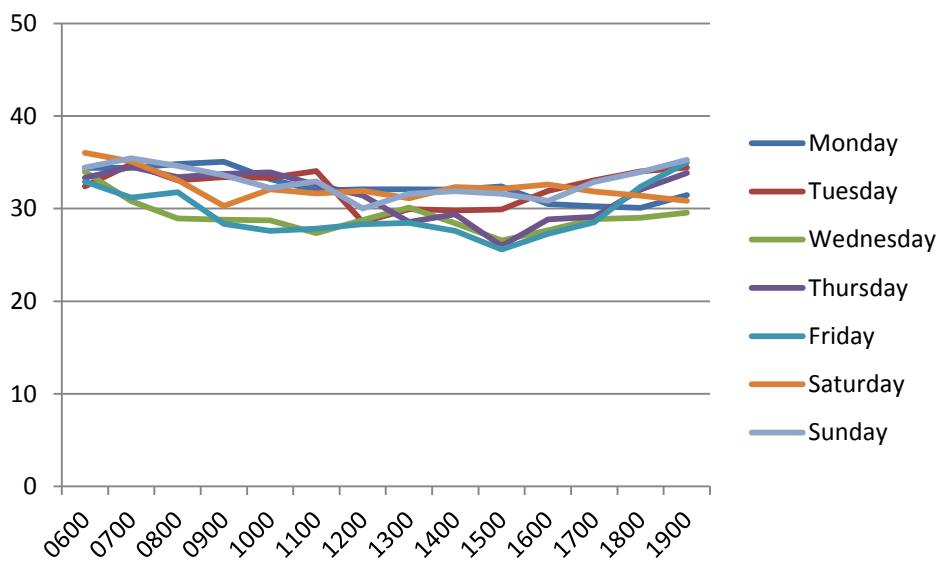


2.38. **Graphs 47 and 48** illustrates the 85<sup>th</sup> percentile speed profile for all vehicles (excluding cyclists) travelling north and southbound throughout the summer week at ATC 6.

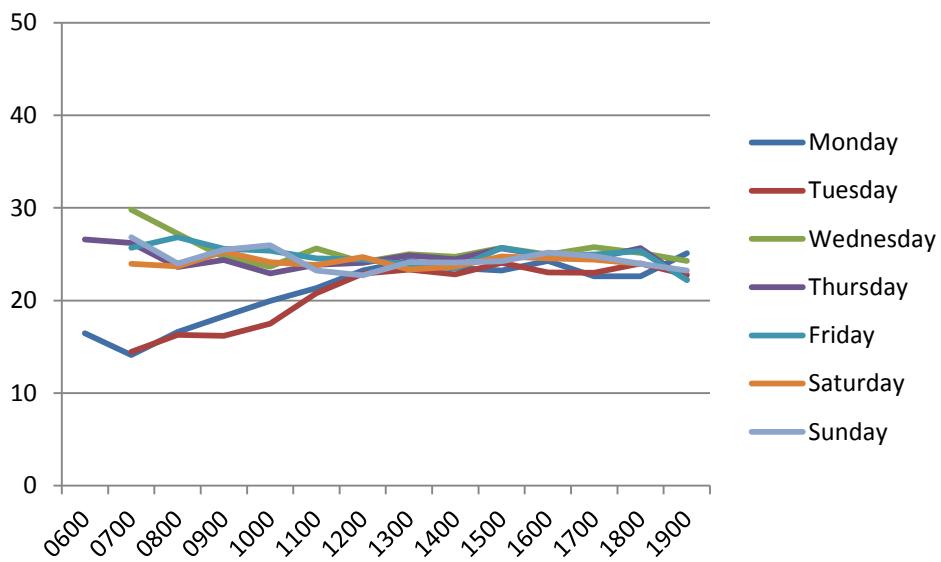


## TECHNICAL NOTE

Graph 47 – ATC 6 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Eastbound



Graph 48 – ATC 6 – Summer Week – All Traffic (exl. Cyclist) 85<sup>th</sup> %tile Profiles – Westbound



## Appendix E Cycle Turning Counts

E.1.1 The roads around Richmond Park attract not only commuters but also leisure and sports cycle enthusiast wishing to cycle around the 7 mile circuit, that has sharp bends and some long gradual inclines. Most road cyclists travel anti-clockwise around the park as it reduces the number of times cyclists stop at the junctions.

E.1.2 The cycle turning movement have been collected from the MCTC surveys, and results have been illustrated in Appendix D.

### Weekday

E.1.3 **Figures E-1** and **E-2** summarise the cycle turning movement results for the AM, midday and PM peak hours for the weekday data for both the neutral and summer week surveys.

Figure E-1: Cycle Turning Movements – Neutral Week – Weekday

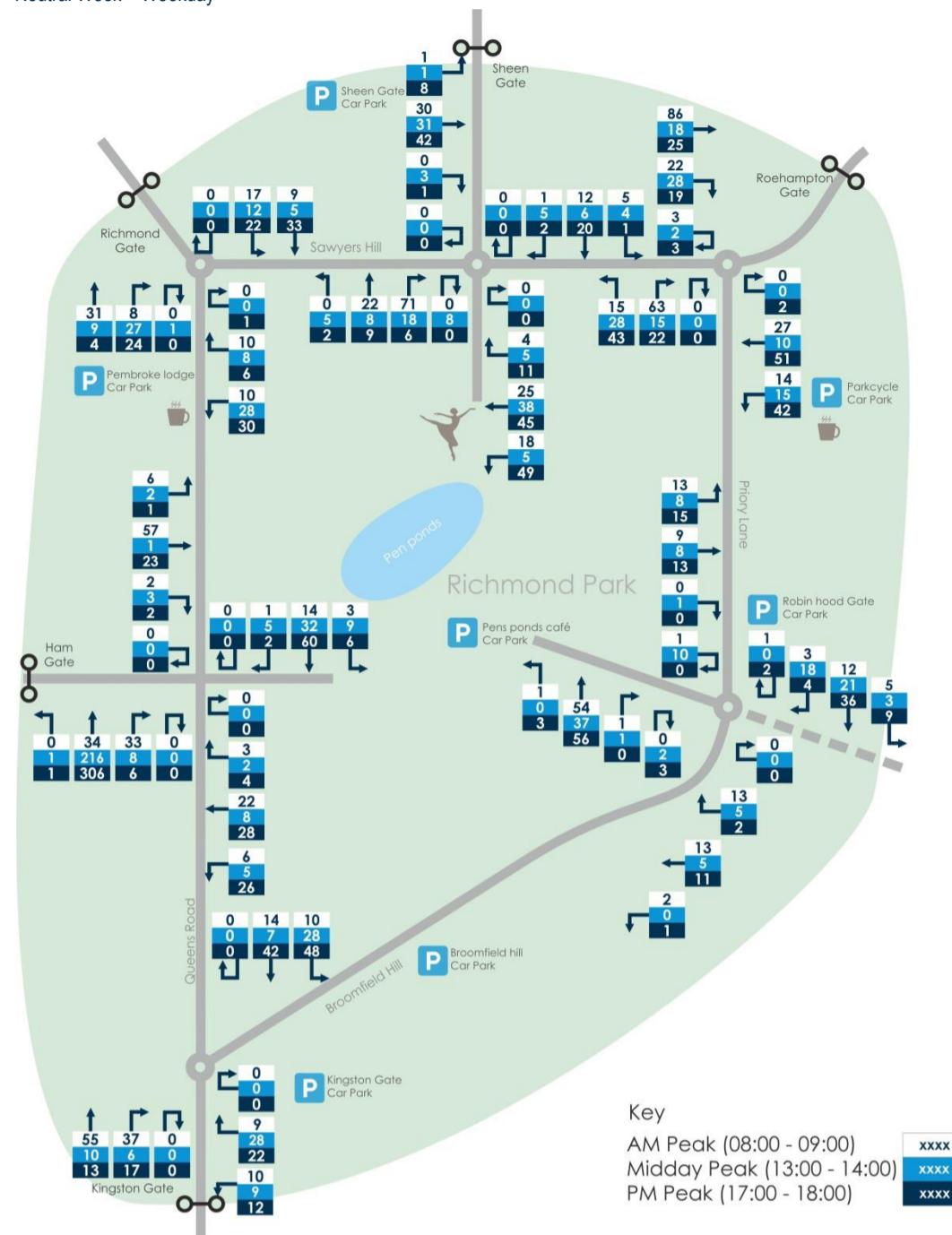
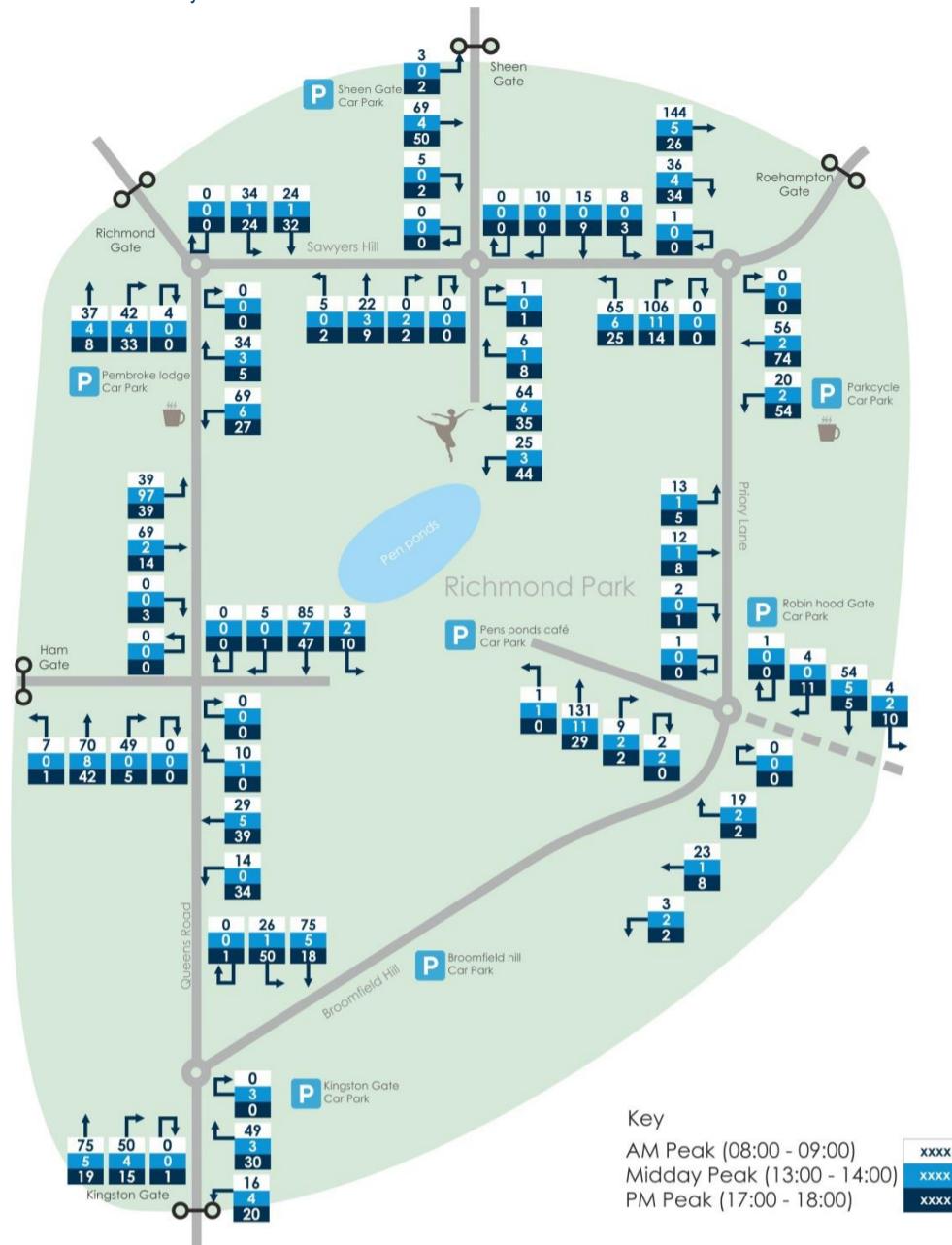


Figure E-2: Cycle Turning Movements – Summer Week – Weekday



## Saturday

E.1.4 **Figures E-3 and E-4** summarise the cycle turning movement results for the three hour peak period (11:00 to 14:00) and the peak hour (12:00 to 13:00) for both the Saturday for the neutral and summer surveys.

Figure E-3: Cycle Turning Movements – Neutral Week – Saturday

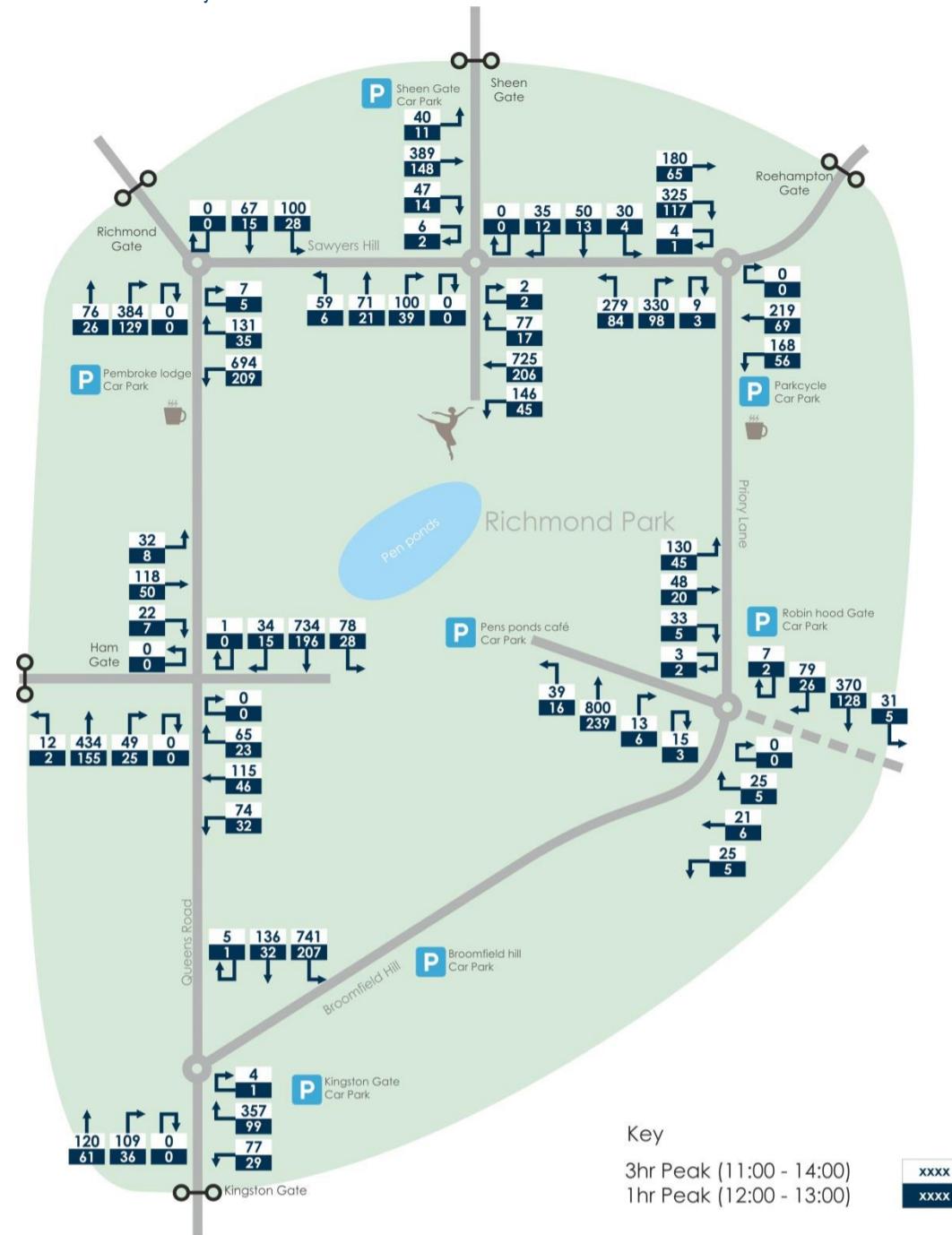
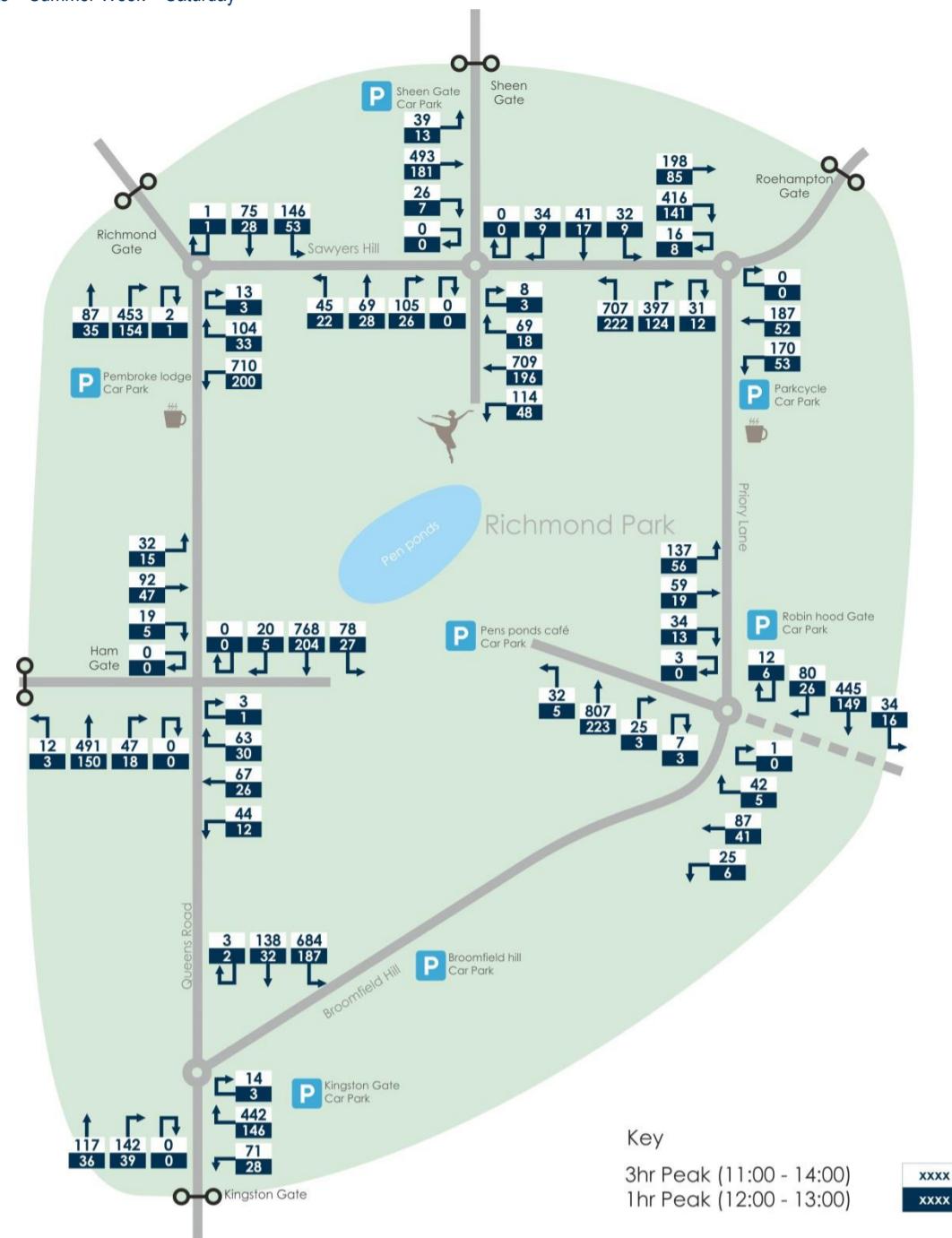


Figure E-4: Vehicle Turning Movements – Summer Week – Saturday



## Sunday

E.1.5 **Figures E-5 and E-6** summarise the turning movement results for the three hour peak period (11:00 to 14:00) and the peak hour (12:00 to 13:00) for both the Sunday for the neutral and summer surveys.

Figure E-5: Cycle Turning Movements – Neutral Week – Sunday

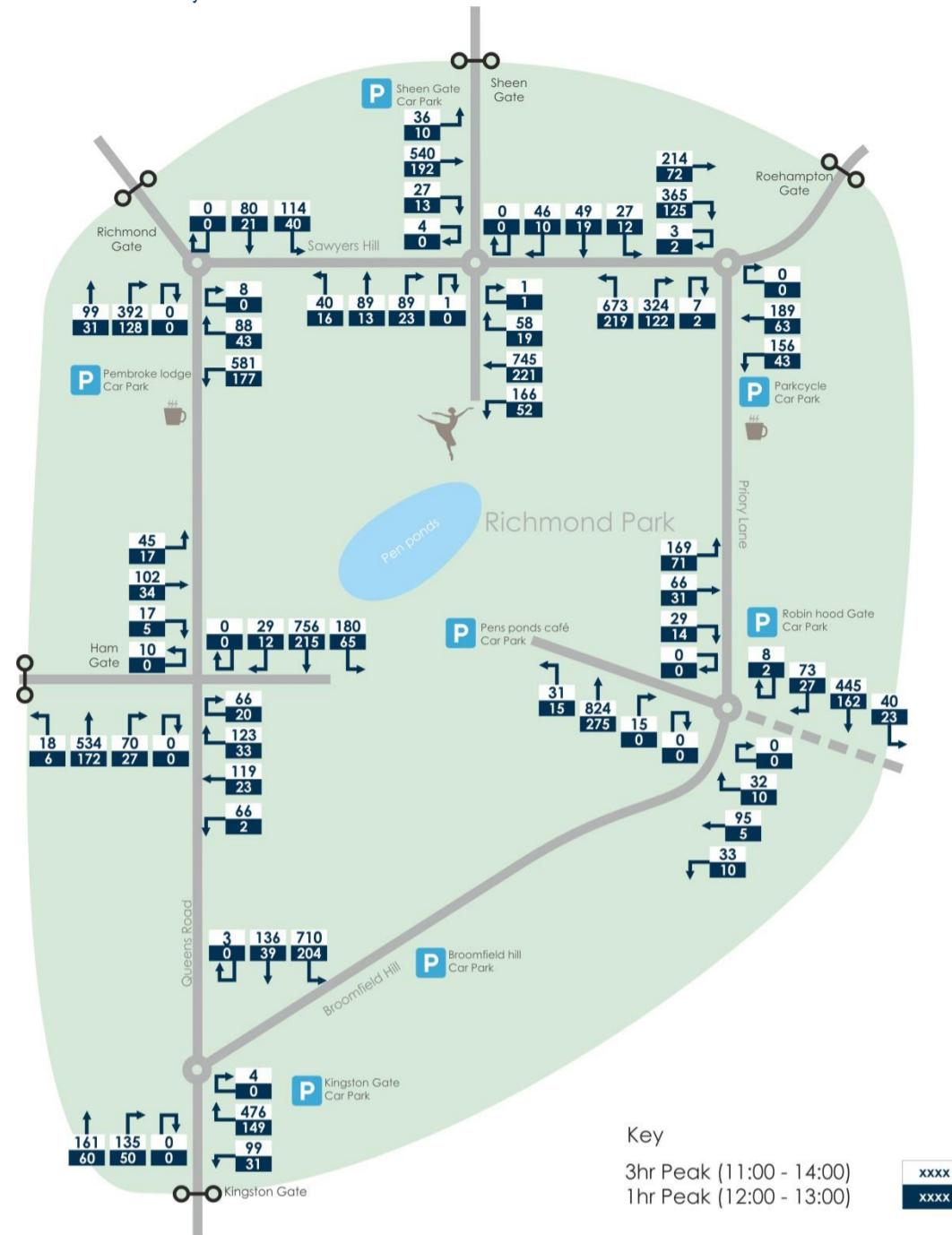
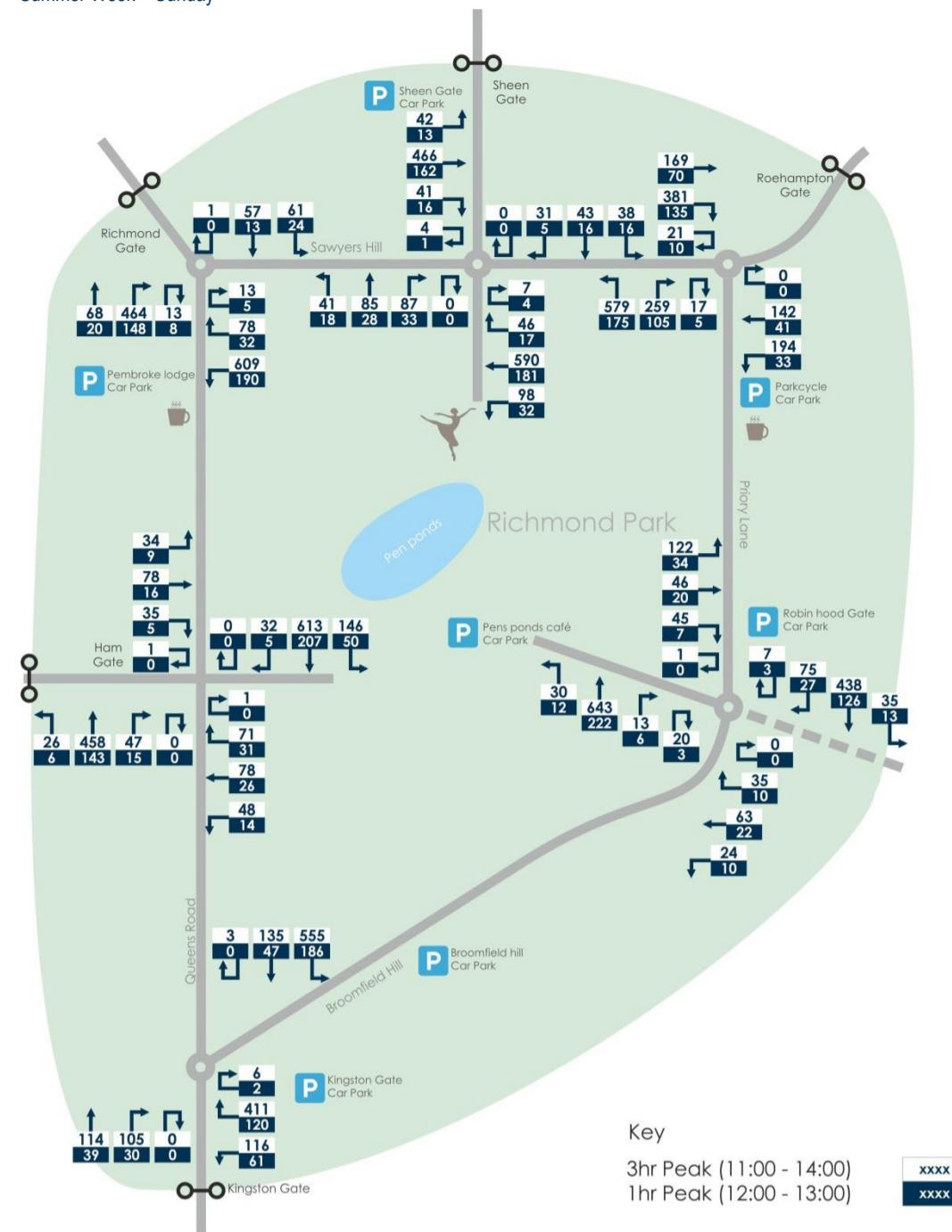


Figure E-6: Cycle Turning Movements – Summer Week – Sunday



## Appendix F 1998 – Origin and Destination Survey

F.1.1 **Table F-1, F-2 and F-3** summarises the result of the 1998 origin and destination survey for the AM, Midday and PM peak hours respectively.

Table F-1: 1998 Origin and Destination Survey – AM Peak

(Sept 98)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	0%	1%	12%	2%	4%	20%
<b>Ham Gate</b>	1%	0%	2%	1%	1%	6%
<b>Richmond Gate</b>	8%	1%	0%	2%	10%	21%
<b>Sheen Gate</b>	2%	0%	2%	0%	6%	10%
<b>Roehampton Gate</b>	3%	0%	9%	8%	0%	20%
<b>Robin Hood Gate</b>	1%	1%	7%	9%	5%	23%
<b>Total</b>	15%	4%	31%	23%	26%	

Table F-2: 1998 Origin and Destination Survey – Inter Peak

(June 98)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	0%	2%	10%	1%	2%	16%
<b>Ham Gate</b>	2%	0%	1%	1%	1%	5%
<b>Richmond Gate</b>	17%	2%	1%	2%	9%	30%
<b>Sheen Gate</b>	3%	1%	3%	0%	6%	14%
<b>Roehampton Gate</b>	4%	1%	7%	5%	0%	17%
<b>Robin Hood Gate</b>	2%	2%	6%	5%	4%	18%
<b>Total</b>	28%	8%	27%	14%	23%	

Table F-3: 1998 Origin and Destination Survey – PM Peak

(June 98)	Kingston Gate	Ham Gate	Richmond Gate	Sheen Gate	Roehampton Gate	Total
<b>Kingston Gate</b>	0%	2%	9%	1%	2%	15%
<b>Ham Gate</b>	2%	0%	1%	1%	1%	4%
<b>Richmond Gate</b>	24%	3%	0%	2%	8%	38%
<b>Sheen Gate</b>	3%	1%	2%	0%	6%	12%
<b>Roehampton Gate</b>	4%	1%	7%	4%	0%	17%
<b>Robin Hood Gate</b>	1%	1%	4%	5%	3%	15%
<b>Total</b>	35%	8%	24%	13%	21%	

## Appendix G Conflict Observational List

Location	Date	Folder	File	File Code	Time of recording	Time into the video	Description	Pedestrian	Cycle	Vehicle	Other
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0		23/09/2015	16:21:05					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:03:42 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:05:00 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:08:53 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:10:39 runner crosses the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:11:40 horses cross the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:11:49 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:12:42 pedestrians cross road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:12:58 cyclist on phone					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:15:09 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:15:26 group of runners on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:17:47 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:17:59 cyclist crosses to the wrong side of the road and leaves road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:19:21 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:19:51 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:20:22 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:23:52 pedestrians cross road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:26:07 runner crosses the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:26:18 cyclist makes u-turn and pauses in road ( 1 min )					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:28:05 cyclist makes another u-turn and pauses in road (to ask directions?)					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:28:18 horses cross the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:32:11 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:32:46 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:35:44 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:36:55 pedestrians on road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:38:11 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:38:21 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:38:55 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:43:16 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:44:33 car pausing on road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:48:29 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:48:44 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:48:46 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:49:26 cyclist join onto the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:49:35 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:53:45 pedestrians cross road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:54:06 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:54:39 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:57:19 runner crosses the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:58:02 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:58:44 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:59:39 pedestrian on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			01:00:11 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:00:23 runner crosses the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:01:15 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092316_1_20150923-161722_1001p0			00:01:39 group of pedestrians cross the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092317_1_20150923-171700_1001p0			00:03:17 cyclist on the wrong side of the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092317_1_20150923-171700_1001p0			00:06:26 pedestrians cross the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092317_1_20150923-171700_1001p0			00:07:10 Cyclist overtake					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092317_1_20150923-171700_1001p0			00:10:47 group of pedestrians on the road					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2015092317_1_20150923-171700_1001p0			00:11:26 cyclist not staying in single file					1
Pen Ponds	23/09/2015	TSP12328-Camera 10_240915_TSP491	2								



Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092407_1_20150924-071700_1001p0	08:04:47	00:47:47 pedestrein cross road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092407_1_20150924-071700_1001p0	08:07:25	00:50:25 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092407_1_20150924-071700_1001p0	08:09:56	00:50:56 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092407_1_20150924-071700_1001p0	08:10:47	00:53:10 pedestreins cross road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092407_1_20150924-071700_1001p0	08:11:32	00:54:32 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-071700_1001p0	08:12:39	00:55:38 pedestreins cross road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-071700_1001p0	08:14:30	00:54:30 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:19:40	00:02:38 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:21:21	00:04:20 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:24:20	00:07:18 pedestreins cross road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:27:17	00:10:16 pedestreins cross road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:29:48	00:12:47 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:31:53	00:14:51 Cyclist overtake	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:44:05	00:27:03 Cyclist overtake x2	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:47:34	00:30:32 swathe of cyclists	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:50:46	00:33:44 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:51:02	00:34:00 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:53:18	00:36:16 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:54:05	00:37:03 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:53:18	00:36:16 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	08:56:22	00:39:20 Refuse vehicle stops on road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	09:02:24	00:45:23 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	09:04:04	00:59:31 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	09:10:02	00:47:03 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	09:11:47	00:53:01 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-081700_1001p0	09:16:33	00:45:45 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-091700_1001p0	09:19:11	00:59:31 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092408_1_20150924-091700_1001p0	09:21:21	00:02:10 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:22:24	00:04:20 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:25:45	00:12:23 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:26:45	00:09:45 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:27:55	00:10:54 pedestrian on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:29:02	00:12:01 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:29:32	00:08:45 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:30:59	00:13:58 pedestrian on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:32:22	00:15:20 Car driving down Cycle way	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:37:16	00:20:16 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:38:54	00:21:53 handcycle along the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:39:15	00:22:14 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:39:52	00:22:51 cyclist crosses to the wrong side of the road and leaves road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:40:48	00:23:47 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:41:28	00:24:27 pedestrein on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:42:13	00:25:12 pedestreins on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:44:09 pedestreins walking along the road	1	
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:45:15	00:34:13 vehicle stops on road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:45:48	00:38:55 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:52:43	00:35:41 handcycle along the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:53:29	00:36:28 same vehicle stops on road further down	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:55:01	00:38:00 pedestreins walking along the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:42:13	00:25:12 pedestreins (dog alone?) on the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:55:56	00:45:10 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:58:14	00:41:14 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	10:01:10	00:44:09 pedestreins walking along the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	09:58:14	00:45:10 cyclist not staying in single file	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	10:02:10	00:45:10 swathe of cyclists	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	10:04:40	00:47:39 pedestreins walking along the road	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	10:05:49	00:48:48 vehicle joins road from offroad	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092409_1_20150924-091700_1001p0	10:06:44	00:49:43 handcycle along the road	



		11:56:50	00:39:50 cyclist does a U-Turn	1	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092411 1_20150924-111700_1001p0	00:47:14 cyclist not staying in single file	12:04:15	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092411 1_20150924-111700_1001p0	00:54:36 pedestrians on the road	12:11:37	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:03:24 swathe of cyclists	12:20:25	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:04:29 cyclist not staying in single file	12:21:29	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:10:32 pedestrian on the road	12:27:33	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:16:27 cyclist not staying in single file	12:33:27	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:20:06 pedestrians on the road	12:37:07	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:28:42 cyclist not staying in single file	12:45:41	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:38:16 cyclist not staying in single file	12:55:17	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:42:18 cyclist not staying in single file	12:59:18	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:42:33 cyclist not staying in single file	12:59:34	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:45:44 pedestrian on the road	13:02:45	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:48:58 pedestrian on the road	13:05:58	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:55:02 pedestrians on the road	13:12:03	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:56:01 pedestrian on the road	13:13:03	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092412 1_20150924-121700_1001p0	00:57:47 pedestrians on the road	13:14:49	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:03:46 cyclist not staying in single file	13:20:46	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:07:01 pedestrians on the road	13:24:01	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:07:40 cyclist not staying in single file	13:24:40	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:13:59 cyclist not staying in single file	13:30:59	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:19:06 cyclist not staying in single file	13:36:07	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:19:58 pedestrians on the road	13:36:58	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:22:57 cyclist not staying in single file	13:39:57	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:24:19 cyclist not staying in single file	13:41:19	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:25:35 pedestrian on the road	13:42:35	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:26:50 pedestrians on the road	13:43:49	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:28:26 cyclist not staying in single file	13:45:26	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:34:50 cyclist not staying in single file	13:51:50	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:45:15 pedestrians on the road	14:02:15	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:45:15 cyclist not staying in single file	14:02:15	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:49:27 cyclist not staying in single file	14:06:27	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:53:42 pedestrian on the road	14:10:42	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:54:08 pedestrians on the road	14:11:08	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:55:44 pedestrian on the road	14:12:45	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:55:46 cyclist not staying in single file	14:12:47	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092413 1_20150924-131700_1001p0	00:59:16 cyclist does U-Turn	14:16:16	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:06:57 pedestrians on the road	14:23:58	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:08:55 pedestrian on the road	14:25:55	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:15:48 pedestrians on the road	14:32:49	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:18:35 vehicle does U-Turn	14:35:35	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:20:04 cyclist not staying in single file	14:37:04	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:20:04 Motorbike exits through entrance	14:37:04	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:22:18 pedestrians walking along the road	14:39:17	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:33:07 pedestrians on the road	14:50:08	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:33:25 pedestrians on the road	14:50:25	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:35:02 pedestrians walking along the road	14:52:03	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:37:17 pedestrians on the road	14:54:18	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:45:27 pedestrians on the road	15:02:28	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:45:28 Vehicle stops on road	15:02:29	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:52:43 pedestrians on the road	15:09:44	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:54:50 cyclist not staying in single file	15:11:50	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:54:59 pedestrian on the road	15:14:33	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092414 1_20150924-141700_1001p0	00:59:00 cyclist not staying in single file walking bikes	15:16:00	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092415 1_20150924-151700_1001p0	00:00:21 Vehicle exists through entrance	15:17:21	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092415 1_20150924-151700_1001p0	00:00:33 pedestrians on the road	15:17:33	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092415 1_20150924-151700_1001p0	00:01:59 cyclist not staying in single file	15:18:59	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092415 1_20150924-151700_1001p0	00:02:27 pedestrian on the road	15:19:27	1
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092415 1_20150924-151700_1001p0	00:09:56 cyclist not staying in single file	15:26:56	1



	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	18:47:49
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:27:49 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:36:14 pedestrian on the road
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:37:26 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:38:23 pedestrian on the road
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:40:24 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:40:24 swathe of cyclists
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:48:21 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:51:16 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:52:33 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:54:51 pedestrian on the road
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:58:03 cyclist not staying in single file
Pen Ponds	24/09/2015 TSP12328-Camera 10_240915_TSP491	2015092418 1_20150924-181700_1001p0	00:58:03 swathe of cyclists
			19:15:04

**yellow = must in video**

pink = bloopers

Time of recording	Time into the video	Description	Pedestrian	Cycle	Vehicle	Other
16:29:39	00:02:27	horses on the road	1			
16:29:01	00:02:27	runner on the road	1			
16:30:17	00:03:03	pedestrians on the road	1			
16:32:32	00:05:19	pedestrians on the road	1			
16:32:32	00:05:19	group of pedestrians on the road	1			
16:41:06	00:13:53	pedestrians on the road	1			
16:45:33	00:18:20	cyclists pausing on the road	1			
16:45:46	00:18:32	pedestrian pausing at vehicle exit	1			
16:47:08	00:19:56	pedestrians on the road	1			
16:49:28	00:22:14	cyclists pausing on the road (right side)	1			
16:49:45	00:22:32	cyclist not staying in single file	1			
16:52:44	00:25:30	cyclists pausing on the road (right side) 5mins	1			
16:53:52	00:26:39	pedestrians on the road	1			
16:54:08	00:26:55	pedestrians on the road	1			
17:02:08	00:34:55	car pausing on road	1			
17:03:41	00:36:28	pedestrians on the road	1			
17:05:52	00:38:38	pedestrians on the road	1			
17:05:52	00:38:38	cyclist not staying in single file	1			
17:07:14	00:40:00	cyclists pausing on the road (right side)	1			
17:08:41	00:41:27	pedestrians on the road	1			
17:09:40	00:42:27	pedestrians on the road	1			
17:10:40	00:43:26	pedestrians on the road	1			
17:12:10	00:45:35	pedestrians on the road	1			
17:15:22	00:48:09	group of pedestrians on the road	1			
17:17:01	00:49:47	cyclist not staying in single file	1			
17:18:53	00:51:40	pedestrians on the road	1			
17:28:22	00:01:22	cyclist not staying in single file	1			
17:30:07	00:03:07	pedestrians on the road	1			
17:33:50	00:06:51	pedestrians on the road (2nd)	1			
17:35:05	00:08:05	pedestrians on the road (the wrong side of the road)	1			
17:37:04	00:10:04	cyclist on the wrong side of the road	1			
17:38:00	00:10:59	pedestrians on the road	1			
17:39:31	00:12:31	pedestrians on the road	1			
17:51:18	00:24:17	cyclist not staying in single file	1			
17:53:49	00:26:49	pedestrians on the road	1			
17:56:52	00:29:52	cyclist not staying in single file	1			
17:58:01	00:31:01	cyclist carrying large package	1			
18:00:11	00:33:11	cyclist not staying in single file	1			
18:05:57	00:38:57	pedestrians on the road	1			
18:09:01	00:40:04	pedestrians on the road	1			
18:11:18	00:44:18	cyclists pausing on the road (right side)	1			
18:14:29	00:47:29	flow of cyclists 1min	1			
18:07:13	00:50:13	pedestrians on the road	1			
18:32:30	00:05:29	pedestrians on the road	1			
18:36:50	00:09:50	cyclist not staying in single file	1			
18:38:45	00:11:44	cyclist not staying in single file	1			
18:39:50	00:12:50	cyclist not staying in single file	1			
18:44:13	00:17:14	group of cyclists	1			
19:01:52	00:34:53	pedestrians on the road	1			
19:03:57	00:37:01	pedestrians on the road	1			
19:05:03	00:38:03	cyclists cutting on grass to road and then making a u-turn	1			
19:08:52	00:41:52	swathe of cyclists	1			
19:12:14	00:45:14	pedestrians on the road	1			
19:12:31	00:45:31	pedestrians on the road	1			
19:13:45	00:46:45	pedestrians on the road	1			
19:20:38	00:53:37	cyclist not staying in single file	1			
19:23:31	00:56:31	pedestrians on the road	1			
07:11:18	00:44:17	pedestrians on the road	1			
07:13:11	00:46:09	pedestrians on the road	1			
07:47:48	00:20:47	pedestrians on the road	1			



09:59:28 00:22:27 pedestrians walking on road  
00:23:29 pedestrians walking on road  
00:24:53 pedestrians walking on road  
00:25:13 pedestrians walking on road  
00:31:59 pedestrians walking on road  
00:45:01 swathe of cyclists crossing both ways to the path bloking entrance  
00:06:09 pedestrians walking on road  
00:54:44 swathe of pedestrians walking on road (18)  
00:56:59 pedestrians walking on road  
00:57:51 cyclist took wrong side of entrance to car park next to moving traffic  
00:00:39 group of cyclists (8)  
00:00:56 pedestrians walking on road  
00:10:17 cyclists pausing at junction (2mins)  
00:11:54 pedestrians walking on road  
00:18:47 pedestrians walking on road  
00:19:44 pedestrians walking on road  
00:22:49 group of cyclists (12)  
00:24:15 pedestrians walking on road  
00:42:52 pedestrians walking on road  
00:00:38 cyclist making u-turn and pausing at junction  
00:00:45 Pedestrian in the way of traffic causing minor disruption  
00:09:13 pedestrians walking on road  
00:11:18 cars slowed for cyclists (2)  
00:14:19 pedestrians walking on road  
00:20:29 pedestrians walking on road  
00:21:26 group of cyclist slowing traffic (4)  
00:33:54 group of cyclists (6)  
00:36:21 pedestrian standing at the corner of the junction disrupting traffic flow (1min)  
10:59:28 00:22:27 pedestrians walking on road  
10:01:00 00:23:29 pedestrians walking on road  
10:01:52 00:24:53 pedestrians walking on road  
10:02:10 00:25:13 pedestrians walking on road  
10:09:00 00:31:59 pedestrians walking on road  
10:22:02 00:45:01 swathe of cyclists crossing both ways to the path bloking entrance  
10:23:10 00:06:09 pedestrians walking on road  
10:31:44 00:54:44 swathe of pedestrians walking on road (18)  
10:34:00 00:56:59 pedestrians walking on road  
10:34:52 00:57:51 cyclist took wrong side of entrance to car park next to moving traffic  
10:37:41 00:00:39 group of cyclists (8)  
10:37:58 00:00:56 pedestrians walking on road  
10:47:18 00:10:17 cyclists pausing at junction (2mins)  
10:48:55 00:11:54 pedestrians walking on road  
10:55:49 00:18:47 pedestrians walking on road  
10:56:45 00:19:44 pedestrians walking on road  
10:59:51 00:22:49 group of cyclists (12)  
11:01:16 00:24:15 pedestrians walking on road  
11:19:54 00:42:52 pedestrians walking on road  
11:37:40 00:00:38 cyclist making u-turn and pausing at junction  
11:37:46 00:00:45 Pedestrian in the way of traffic causing minor disruption  
11:46:13 00:09:13 pedestrians walking on road  
11:48:18 00:11:18 cars slowed for cyclists (2)  
11:51:20 00:14:19 pedestrians walking on road  
11:57:29 00:20:29 pedestrians walking on road  
11:58:26 00:21:26 group of cyclist slowing traffic (4)  
12:10:55 00:33:54 group of cyclists (6)  
12:13:22 00:36:21 pedestrian standing at the corner of the junction disrupting traffic flow (1min)  
12:14:56 00:00:39 group of cyclists (8)  
12:17:59 00:00:56 pedestrians walking on road  
12:23:53 00:04:25 pedestrians walking on road  
12:27:40 00:05:39 pedestrians walking on road  
12:28:46 00:05:54 pedestrians walking on road  
12:55:24 00:08:23 pedestrians walking on road  
12:59:13 00:08:23 pedestrians walking on road  
13:09:21 00:09:23 pedestrians walking on road  
13:16:32 00:10:23 pedestrians walking on road  
13:30:03 00:10:23 pedestrians walking on road  
13:41:13 00:04:12 cyclist making u-turn at junction  
13:42:18 00:05:17 pedestrians walking on road  
13:43:36 00:06:36 pedestrians walking on road  
13:47:57 00:10:57 pedestrians walking on road  
13:51:42 00:14:42 pedestrians walking on road  
13:55:02 00:18:01 car making u-turn  
13:55:49 00:18:49 pedestrians walking on road  
13:56:36 00:19:35 pedestrians walking on road  
13:57:28 00:19:42 pedestrians walking on road  
13:57:35 00:20:27 pedestrians walking on road  
14:07:00 00:20:35 pedestrians walking on road  
14:10:00 00:30:00 pedestrians walking on road  
14:17:19 00:32:59 cyclist making a u-turn and pausing at junction (1min)  
14:18:29 00:40:19 pedestrians walking on road  
14:18:53 00:41:28 pedestrians walking on road  
14:23:12 00:41:52 pedestrians walking on road  
14:27:22 00:46:11 pedestrians walking on road  
14:29:01 00:50:22 pedestrians walking on road  
14:43:33 00:52:00 pedestrians walking on road  
14:44:46 00:07:56 pedestrians walking on road  
14:56:30 00:19:29 traffic slowed for cyclist  
15:00:15 00:23:14 pedestrians walking on road  
15:08:25 00:31:25 pedestrians walking on road  
15:08:53 00:31:53 pedestrians walking on road  
15:11:04 00:34:07 pedestrians walking on road  
15:14:55 00:37:55 skater on the road  
15:15:15 00:38:15 pedestrians walking on road  
15:17:42 00:40:42 pedestrians walking on road  
15:18:33 00:41:33 pedestrians walking on road  
15:23:08 00:46:07 pedestrians walking on road  
15:34:56 00:57:56 swathe of pedestrians walking on road (both sides (9))  
15:37:06 00:00:05 pedestrians walking on road  
15:37:49 00:00:47 pedestrians walking on road  
15:51:33 00:14:33 pedestrians walking on road  
00:00:05 slow car - reason unknown

Time into the video	Description
23	08:52:48 Skaters cutting in front of vehicle turning in
17	11:16:48 pedestrians walking on road
58	09:50:24 near collision between cyclist and car existing
00	12:28:48 cyclist cuttin off car existing
28	00:28:48 pedestrians walking on road
20	12:28:48 cyclist taking sharp right turn infront of moving vehicle and behind another
56	06:14:24 pedestrians walking on road
23	15:52:00 cyclist stopped on turning
00	15:54:00 pedestrians walking on road
59	17:19:00 pedestrian walking on the road to access the path (pause in traffic flow)
46	19:16:00 pedestrians walking on road
22	22:24:00 pedestrian walking on the road to access the path (pause in traffic flow)
11	03:08:00 group of cyclists (pause in traffic flow)
30	05:00:00 cyclist taking sharp right turn infront of moving vehicle to access the main road, other cyclist swerves onto path to avoid collision
37	06:07:00 pedestrian walking on the road to access the path (pause in traffic flow)
15	06:43:00 cyclist pulling off onto the grass infront of moving lane of traffic
26	14:56:00 pedestrians walking on road
31	16:02:00 swathe of runners crossing to the path
57	21:28:00 cyclist stopped on turning - traffic flowing around person at reduced speed (4mins)
06	01:37:00 cyclist pulling off onto the grass infront of moving lane of traffic
56	02:26:00 pedestrians walking on road
00	02:42:00 cyclist near collision with pedestrian on path
08	07:39:00 car making u-turn
37	08:07:00 cyclist pulling off onto the grass infront of moving lane of traffic
18	08:18:00 near collision between cyclists existing and turning in which then disrupts standard traffic flow (1 vehicle)
34	12:32:00 swathe of runners crossing to the path (2mins)
11	13:40:00 pedestrians walking on road
20	18:38:00 pedestrians walking on road
27	23:26:00 pedestrians walking on road
33	03:30:00 pedestrians walking on road
10	06:39:00 pedestrians walking on road
11	07:09:00 pedestrians walking on road
03	00:02:00 traffic slowed fo cyclist
26	00:25:00 car making u-turn
52	04:51:00 pedestrians walking on road
25	19:24:00 car over taking cyclist on a corner of coming traffic
58	19:56:00 pedestrians walking on road
14	11:12:00 cyclists pausing at junction
00	12:00:00 cyclist taking sharp right turn infront of moving vehicle to access the main road
00	13:09:00 car over taking cyclist on a corner of coming traffic
12	16:40:00 cyclist stopped on turning
15	00:43:19 group of cyclists (10)
19	00:45:18 cyclists pausing at junction
25	00:51:24 pedestrians walking on road
16	00:53:15 cyclists pausing at junction (2mins)
09	00:01:08 traffic slowed for cyclist
10	00:02:08 group of cyclists (6)
44	00:04:12 group of cyclists (9)
39	00:06:17 group of cyclists (5)
13	00:07:11 group of cyclists (9) reduced traffic speed
00	00:14:09 group of cyclists (5)
52	00:19:51 pedestrians walking on road
00	00:20:00 group of cyclists (8)
13	00:00:12 van slowing traffic
02	00:26:01 pedestrians walking on road
32	00:26:31 pedestrians walking on road
10	00:46:40 car slowed to keep distance from cyclist causing tail back (9 cars 1 motorbike)
28	00:24:52 pedestrians walking on road
17	00:39:46 pedestrians walking on road
03	00:40:02 pedestrians walking on road
08	00:54:07 pedestrians walking on road
23	00:55:22 swathe of pedestrians walking on road (18)
11	00:00:01 traffic slowed for cyclist
09	00:06:06 pedestrians walking on road
56	00:13:55 pedestrians walking on road
50	00:16:49 swathe of cyclists walking on road to main road (12) slowing 200
20	00:18:02 swathe of cyclists walking on road to main road (12) slowing 200

Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	15:52:29
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	15:59:08
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:10:06
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:10:06
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:11:00
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:12:20
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:21:03
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:23:22
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:29:08
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:29:47
Roehampton Car Park	24/09/2015	2015092415_1_20150924-143700_1001p1	16:37:43
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	16:45:16
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	16:50:49
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	16:58:36
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	16:59:36
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	17:03:14
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	17:29:45
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	17:34:48
Roehampton Car Park	24/09/2015	2015092416_1_20150924-163700_1001p0	17:35:55
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:37:41
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:38:22
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:44:26
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:47:00
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:53:16
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:58:42
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	17:58:42
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	18:06:11
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	18:10:09
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	18:16:00
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	18:17:34
Roehampton Car Park	24/09/2015	2015092417_1_20150924-173700_1001p0	18:26:36
Roehampton Car Park	24/09/2015	2015092418_1_20150924-183700_1001p0	18:54:21

Count: 115 49 8 2

File Code	Time of recording	Time into the video	Description	Pedestrian	Cycle	Vehicle	Other
22418_1_20150824-183305_1001p0	18:53:26	00:20:20 car travelling slow causing a slight hold up in traffic flow					1
22418_1_20150825-063300_1001p0	18:55:37	00:22:31 pedestrian crossing the road (not at designated crossing)					1
22506_1_20150825-063300_1001p0	07:03:11	00:30:11 vehicle overtaking cars					1
22506_1_20150825-063300_1001p0	07:03:46	00:30:46 car travelling slow causing a slight hold up in traffic flow					1
22506_1_20150825-063300_1001p0	07:05:56	00:32:55 car travelling slow causing a slight hold up in traffic flow					1
22506_1_20150825-063300_1001p0	07:07:56	00:34:59 pedestrian crossing the road (not at designated crossing)					1
22506_1_20150825-063300_1001p0	07:08:45	00:35:45 swathe of cyclists (7)					1
22506_1_20150825-063300_1001p0	07:12:17	00:39:17 vehicle using a pedestrian point as a entrance					1
22506_1_20150825-063300_1001p0	07:12:22	00:39:22 vehicle using a pedestrian point as a entrance					1
22506_1_20150825-063300_1001p0	07:21:44	00:48:44 car travelling slow causing a slight hold up in traffic flow					1
22506_1_20150825-063300_1001p0	07:28:36	00:55:36 pedestrian crossing the road (not at designated crossing)					1
22506_1_20150825-063300_1001p0	07:29:32	00:56:32 pedestrian crossing the road (not at designated crossing)					1
22507_1_20150825-073300_1001p0	07:30:08	00:57:08 cyclists taking wide gate slowing traffic					1
22508_1_20150825-083300_1001p0	08:09:10	00:36:10 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:30:04	00:57:04 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:35:39	00:02:38 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:36:50	00:03:50 cyclists not staying in single file slowing traffic					1
22508_1_20150825-083300_1001p0	08:43:05	00:10:03 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:52:37	00:19:35 cyclists not staying in single file slowing traffic					1
22508_1_20150825-083300_1001p0	08:52:57	00:19:56 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:53:46	00:20:45 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:54:22	00:21:21 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	08:54:45	00:21:44 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:01:18	00:28:17 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:02:57	00:29:55 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:03:06	00:30:05 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:07:18	00:30:05 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:09:27	00:36:26 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:10:17	00:37:17 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:11:21	00:38:21 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:16:47	00:43:46 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:22:44	00:49:43 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:26:27	00:53:26 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:27:36	00:34:18 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:29:38	00:36:26 wheelchair racers in the road slowing traffic					1
22508_1_20150825-083300_1001p0	09:31:45	00:58:44 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:32:12	00:59:12 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:32:24	00:59:23 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:37:31	00:04:40 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:42:12	00:04:55 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:45:20	00:07:03 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:52:45	00:19:44 pedestrian crossing the road (not at designated crossing)					1
22508_1_20150825-083300_1001p0	09:55:50	00:22:50 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	09:55:50	00:23:23 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:01:12	00:25:40 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:01:48	00:28:47 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:02:48	00:29:48 cyclists not staying in single file slowing traffic					1
22509_1_20150825-093300_1001p0	10:03:36	00:30:35 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:07:27	00:34:27 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:12:46	00:39:47 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:14:47	00:41:46 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:15:38	00:42:38 cyclist stopped on side of the road to fix bike - close to traffic					1
22509_1_20150825-093300_1001p0	10:16:15	00:43:15 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:21:54	00:48:53 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:23:37	00:50:37 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:24:52	00:51:51 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:30:00	00:56:59 tractor					1
22509_1_20150825-093300_1001p0	10:32:16	00:59:16 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:33:44	00:43:15 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:33:51	00:06:41 pedestrian crossing the road (not at designated crossing)					1
22509_1_20150825-093300_1001p0	10:34:31	00:07:21 pedestrian crossing the road (not at designated crossing)					1
22510_1_20150825-103300_1001p0	10:38:41	00:05:41 car over taking other vehicles and a cyclist					1
22510_1_20150825-103300_1001p0	10:39:42	00:43:15 pedestrian crossing the road (not at designated crossing)					1
22510_1_20150825-103300_1001p0	10:40:22	00:00:50 pedestrian crossing the road (not at designated crossing)					1
22510_1_20150825-103300_1001p0	10:48:40	00:07:49 pedestrian crossing the road (not at designated crossing)					1
22510_1_20150825-103300_1001p0	10:48:52	00:15:42 car travelling slow causing a slight hold up in traffic flow					1
22510_1_20150825-103300_1001p0	10:53:35	00:15:51 pedestrian crossing the road (not at designated crossing)					1
22510_1_20150825-103300_1001p0	10:53:35	00:20:34 pedestrian crossing the road (not at designated crossing)					1

00:20:57 group of cyclists  
00:21:30 pedestrian crossing the road (not at designated crossing)  
00:23:52 cyclists taking wide gate slowing traffic  
00:29:45 pedestrian crossing the road (not at designated crossing)  
00:30:41 pedestrian crossing the road (not at designated crossing)  
00:34:40 pedestrian crossing the road (not at designated crossing)  
00:35:50 cyclists moving around vehicle in motion  
00:36:10 swathe pedestrian crossing the road ((8)) (not at designated crossing)  
00:41:23 cyclists moving around vehicle in motion  
00:46:37 pedestrian crossing the road (not at designated crossing)  
00:48:07 pedestrian crossing the road (not at designated crossing)  
00:49:48 pedestrian crossing the road (not at designated crossing)  
00:49:48 pedestrian crossing the road (not at designated crossing)  
00:51:36 pedestrian crossing the road (not at designated crossing)  
00:54:09 unmounted cyclist walking on the road  
00:55:36 pedestrian crossing the road (not at designated crossing)  
00:56:59 pedestrian crossing the road (not at designated crossing)  
00:01:41 pedestrian crossing the road (not at designated crossing)  
00:01:48 cyclists taking wide gate slowing traffic  
00:02:07 cyclists taking wide gate slowing traffic  
00:03:05 pedestrian crossing the road (not at designated crossing)  
00:03:30 pedestrian crossing the road (not at designated crossing)  
00:06:45 cyclists not staying in single file slowing traffic  
00:07:19 pedestrian crossing the road (not at designated crossing)  
00:08:13 pedestrian crossing the road (not at designated crossing)  
00:13:20 cyclists not staying in single file slowing traffic  
00:16:25 swathe pedestrian crossing the road ((8)) (not at designated crossing)  
00:20:54 pedestrian crossing the road (not at designated crossing)  
00:21:26 cyclists not staying in single file slowing traffic  
00:28:32 pedestrian crossing the road (not at designated crossing)  
00:31:59 pedestrian crossing the road (not at designated crossing)  
00:35:50 cyclists not staying in single file slowing traffic  
00:36:30 park maintenance vehicles  
00:41:10 vehicle not moving past cyclist  
00:41:55 pedestrian crossing the road (not at designated crossing)  
00:42:46 cyclists taking wide gate slowing traffic  
00:49:29 vehicle moving slow reducing flow  
00:50:39 pedestrian crossing the road (not at designated crossing)  
00:52:36 group of cyclists  
00:53:20 pedestrian crossing the road (not at designated crossing)  
00:54:23 pedestrian crossing the road (not at designated crossing)  
00:56:36 pedestrian crossing the road (not at designated crossing)  
00:13:11 tractor  
00:14:58 pedestrian crossing the road (not at designated crossing)  
00:16:35 pedestrian crossing the road (not at designated crossing)  
00:23:08 pedestrian crossing the road (not at designated crossing)  
00:34:03 car travelling slow causing a slight hold up in traffic flow  
00:39:05 pedestrian crossing the road (not at designated crossing)  
00:39:28 pedestrian crossing the road (not at designated crossing)  
00:47:17 pedestrian crossing the road (not at designated crossing)  
00:51:06 pedestrian crossing the road (not at designated crossing)  
00:57:53 pedestrian crossing the road (not at designated crossing)  
00:00:38 car travelling slow causing a slight hold up in traffic flow  
00:12:43 pedestrian crossing the road (not at designated crossing)  
00:21:28 vehicle moving slow reducing flow  
00:23:06 pedestrian crossing the road (not at designated crossing)  
00:23:02 tractor (2)  
00:36:05 pedestrian crossing the road (not at designated crossing)  
00:45:56 pedestrian crossing the road (not at designated crossing)  
00:03:35 pedestrian crossing the road (not at designated crossing)  
00:15:48 pedestrian crossing the road (not at designated crossing)  
00:35:03 pedestrian crossing the road (not at designated crossing)  
00:38:03 pedestrian crossing the road (not at designated crossing)  
00:12:05 car travelling slow causing a slight hold up in traffic flow  
00:30:10 pedestrian crossing the road (not at designated crossing)  
00:44:47 pedestrian crossing the road (not at designated crossing)  
00:58:11 pedestrian crossing the road (not at designated crossing)  
00:02:04 pedestrian crossing the road (not at designated crossing)  
00:05:12 cyclist over taking cyclist in front of traffic  
00:10:16 pedestrian crossing the road (not at designated crossing)  
00:12:43 vehicle moving slow reducing flow  
00:16:20 pedestrian crossing the road (not at designated crossing)  
00:20:12 cyclists cutting across road  
00:24:42 cyclists not staying in single file slowing traffic  
00:25:46 motorbike over taking car slowing traffic  
00:26:27 vehicle moving slow reducing flow

00:26:27 cyclist moving slow reducing flow  
00:35:26 pedestrian crossing the road (not at designated crossing)  
00:35:39 vehicle moving slow reducing flow  
00:41:21 vehicle moving slow reducing flow, vehicle behind close  
00:47:58 pedestrian crossing the road (not at designated crossing)  
00:00:54 cyclists not staying in single file slowing traffic  
00:25:15 cyclists not staying in single file slowing traffic  
00:15:53 pedestrian crossing the road (not at designated crossing)  
00:03:58 pedestrian crossing the road (not at designated crossing)  
00:39:24 pedestrian crossing the road (not at designated crossing)  
00:52:04 pedestrian crossing the road (not at designated crossing)  
00:01:59 pedestrian crossing the road (not at designated crossing)  
00:02:30 pedestrian crossing the road (not at designated crossing)  
00:05:14 pedestrian crossing the road (not at designated crossing)  
00:08:35 pedestrian crossing the road (not at designated crossing)  
00:32:32 pedestrian crossing the road (not at designated crossing)  
00:52:59 pedestrian crossing the road (not at designated crossing)  
00:58:09 pedestrian crossing the road (not at designated crossing)  
00:12:10 pedestrian crossing the road (not at designated crossing)  
00:24:17 bus stop - traffic flowing slower around it (5mins)  
00:30:54 pedestrian crossing the road (not at designated crossing)  
00:47:09 pedestrian crossing the road (not at designated crossing)  
00:48:25 pedestrian crossing the road (not at designated crossing)  
00:55:37 pedestrian crossing the road (not at designated crossing)  
00:03:37 pedestrian crossing the road (not at designated crossing)  
00:09:23 pedestrian crossing the road (not at designated crossing)  
00:11:41 pedestrian crossing the road (not at designated crossing)  
00:12:40 pedestrian crossing the road (not at designated crossing)  
00:16:15 swathe pedestrian crossing the road ((6)) (not at designated crossing)  
00:17:07 swathe pedestrian crossing the road ((6)) (not at designated crossing)  
00:30:08 bus stop - traffic flowing slower around it (5mins)  
00:32:24 pedestrian crossing the road (not at designated crossing)  
00:36:02 pedestrian crossing the road (not at designated crossing)  
00:39:15 car stalls  
00:39:48 vehicle moving slow reducing flow, vehicle behind close  
00:42:34 pedestrian crossing the road (not at designated crossing)  
00:51:39 motorbike over taking wrong entrance  
00:52:19 pedestrian crossing the road (not at designated crossing)  
00:56:55 vehicle moving slow reducing flow, vehicle behind close  
00:02:06 pedestrian crossing the road (not at designated crossing)  
00:03:58 pedestrian crossing the road (not at designated crossing)  
00:22:29 pedestrian crossing the road (not at designated crossing)  
00:27:05 vehicle moving slow reducing flow, vehicle behind close  
00:31:07 pedestrian crossing the road (not at designated crossing)  
00:32:42 pedestrian crossing the road (not at designated crossing)  
00:37:13 bus stop - traffic flowing slower around it (5mins)  
00:37:13 vehicle attempting to enter car park through wrong entrance  
00:43:36 motorbike exiting through pedestrian point  
00:47:55 pedestrian crossing the road (not at designated crossing)  
00:44:03 pedestrian crossing the road (not at designated crossing)  
00:49:27 bus stop - traffic flowing slower around it (7mins)  
00:10:06 pedestrian crossing the road (not at designated crossing)  
00:27:32 pedestrian crossing the road (not at designated crossing)  
00:42:47 van pulled over on to side of road - traffic flowing around a  
00:56:46 bus stop - traffic flowing slower around it (5mins)  
00:02:09 pedestrian crossing the road (not at designated crossing)  
00:05:37 vehicle moving slow reducing flow, vehicle behind close  
00:10:00 van pulled in at bus stop - traffic moving around at reduced speed  
00:21:49 motorbike taking up lane, cars at reduced speed behind  
00:27:37 pedestrian crossing the road (not at designated crossing)  
00:29:02 pedestrian crossing the road (not at designated crossing)  
00:00:21 vehicle following very close to one in front  
00:07:34 pedestrian crossing the road (not at designated crossing)  
00:31:19 pedestrian crossing the road (not at designated crossing)  
00:38:41 pedestrian crossing the road (not at designated crossing)  
00:41:35 pedestrian crossing the road (not at designated crossing)  
00:50:08 pedestrian crossing the road (not at designated crossing)  
00:59:41 pedestrian crossing the road (not at designated crossing)  
00:02:42 pedestrian crossing the road (not at designated crossing)  
00:06:54 pedestrian crossing the road (not at designated crossing)  
00:08:27 pedestrian crossing the road (not at designated crossing)  
00:11:04 pedestrian crossing the road (not at designated crossing)  
00:17:42 vehicle not manouvering around cyclist causing slow and loose  
00:32:34 cyclist pulled on to grass at side of road (very close to moving)  
00:35:44 cyclists not staying in single file slowing traffic  
00:40:46 cyclist attempting to overtake vehicle  
00:43:23 pedestrian crossing the road (not at designated crossing)

2015082617 1_20150826-173300_1001p0	18:17:31
2015082617 1_20150826-173300_1001p0	18:19:05
2015082617 1_20150826-173300_1001p0	18:22:05
2015082617 1_20150826-173300_1001p0	18:23:10
2015082617 1_20150826-173300_1001p0	18:23:24
2015082617 1_20150826-173300_1001p0	18:24:45
2015082617 1_20150826-173300_1001p0	18:28:33
2015082618 1_20150826-183300_1001p0	18:33:33
2015082618 1_20150826-183300_1001p0	18:47:37
2015082618 1_20150826-183300_1001p0	18:48:39
2015082618 1_20150826-183300_1001p0	18:54:00
2015082618 1_20150826-183300_1001p0	18:55:00
2015082618 1_20150826-183300_1001p0	18:55:11
2015082618 1_20150826-183300_1001p0	18:56:11
2015082706 1_20150827-063300_1001p0	06:56:45
2015082706 1_20150827-063300_1001p0	07:04:16
2015082706 1_20150827-063300_1001p0	07:07:33
2015082706 1_20150827-063300_1001p0	07:11:45
2015082706 1_20150827-063300_1001p0	07:28:56
2015082707 1_20150827-063300_1001p0	07:39:07
	07:39:33
	07:40:51
	07:45:11
	07:52:55
	07:54:48
	07:58:55

00:44:31 pedestrian crossing the road (not at designated crossing)  
00:46:09 pedestrian crossing the road (not at designated crossing)  
00:49:03 pedestrian crossing the road (not at designated crossing)  
00:50:10 group of cyclists  
00:50:22 pedestrian crossing the road (not at designated crossing)  
00:51:39 cyclists not staying in single file slowing traffic  
00:55:37 cyclists not staying in single file slowing traffic  
00:00:37 pedestrian crossing the road (not at designated crossing)  
00:14:37 ogv2 vehicles (2)  
00:15:38 cyclists not staying in single file slowing traffic  
00:20:59 pedestrian crossing the road (not at designated crossing)  
00:22:00 pedestrian crossing the road (not at designated crossing)  
00:22:16 pedestrian crossing the road (not at designated crossing)  
00:23:17 cyclists not staying in single file slowing traffic  
00:23:41 pedestrian walking on road  
00:31:17 cyclists not staying in single file slowing traffic  
00:34:37 car over taking vehicles  
00:38:45 pedestrian walking on road  
00:55:56 cyclists not staying in single file slowing traffic  
00:06:01 cyclists not staying in single file slowing traffic  
00:06:37 cyclists taking wide gate slowing traffic  
00:07:58 cyclists taking wide gate slowing traffic  
00:12:16 cyclist over taking cyclist in front of traffic  
00:19:58 cyclists not staying in single file slowing traffic  
00:21:48 cyclists not staying in single file slowing traffic  
00:25:59 cyclists not staying in single file slowing traffic

## Appendix H Word cloud

Figure H-1: Word Cloud – Weekday – AM Peaks



Word Cloud Generated at [www.jasondavies.com/wordcloud](http://www.jasondavies.com/wordcloud)

Figure H-2: Word Cloud – Weekday – PM Peak



Word Cloud Generated at [www.jasondavies.com/wordcloud](http://www.jasondavies.com/wordcloud)

Figure H-3: Word Cloud – Weekday – Midday Peak



Word Cloud Generated at [www.jasondavies.com/wordcloud](http://www.jasondavies.com/wordcloud)

Figure H-4: Word Cloud –Saturday



Word Cloud Generated at [www.jasondavies.com/wordcloud](http://www.jasondavies.com/wordcloud)

Figure H-5: Word Cloud –Sunday



Word Cloud Generated at [www.jasondavies.com/wordcloud](http://www.jasondavies.com/wordcloud)