

Evaluating Performance

Exhibition Road Monitoring

Report for Royal Borough of Kensington and Chelsea

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Executive Summary

Objectives

MVA Consultancy was commissioned by the Royal Borough of Kensington and Chelsea to provide an assessment of user interaction and movement within Exhibition Road.

As defined in the Project Brief, the specific objectives of this study are as follows:

- Provide a qualitative assessment of how users of Exhibition Road interact with each other. Users are defined as “motor vehicles, bicycles and pedestrians”; and
- For each of the two bus stops, count the number of people who trip over the kerb for the busiest hour (in terms of pedestrian numbers) during daylight and during the hours of darkness.

Methodology

The methodology consisted of two distinct phases:

- **Quantitative Assessment** - Collection of observational data of pedestrian and driver movement; and Statistical analysis of the data.
- **Qualitative Assessment** - To understand pedestrian and driver behaviour.

The quantitative and qualitative assessment involved the evaluation of post-implementation behaviour only. It did not make comparison with traffic and pedestrian movement before the scheme was introduced.

The study area was divided into ten sections which were categorised as either ‘links’ or ‘junctions’.

- **Section 1:** South of Kensington Gore to north of Prince Consort Road;
- **Section 2:** Junction at Prince Consort Road and Princes Gardens;
- **Section 3:** Princes Gardens to Imperial College Road;
- **Section 4:** Imperial College Road to north of Cromwell Gardens
- **Section 5:** Junction at Cromwell Gardens and Exhibition Road;
- **Section 6:** South of Cromwell Gardens to Thurloe Place;
- **Section 7:** South of Thurloe Place to Thurloe Street;
- **Section 8:** Pedestrian area east of Cromwell Place to west of Thurloe Street;
- **Section 9:** Four junctions along Cromwell Place from Cromwell Place to Pelham Street; and
- **Section 10:** Junction at Cromwell Place and Cromwell Road.

Surveys were completed to record traffic flow and speed, pedestrian flow, parking and loading activity, accidents, incidences of users ‘stopping abruptly’ and number of vehicles making prohibited movements. These surveys were completed on Wednesday 11th April

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(which was a weekday during the Easter school holidays), Saturday 14th April (which was a Saturday during the Easter school holidays) and Tuesday 8th May 2012 (which was a weekday during term time).

Additional surveys were completed to record the number of people tripping together with the number of boarders and alighters at the two bus stops on Exhibition Road. This information was collected on Saturday 5th May (Saturday during term time), Tuesday 29th May (weekday during term time) and Wednesday 30th May 2012 (weekday during term time). These surveys were done after the video surveys because only the busiest hour in terms of pedestrian activity (in daylight and during the hours of darkness) were surveyed and the video surveys were used to determine what the busiest hours were.

Three methods of data collection were used:

- Video data;
- Speed radar; and
- Manual observations.

Results and Conclusions

To provide a focus for our qualitative assessment, we used the summary of the video surveys and the manual observations at bus stops to help answer the questions set out below.

Is the road safe?

There were no accidents observed in any section during the survey and few incidents of users stopping abruptly. These were the only elements of the survey which considered user interaction, and on this basis, during the three-day survey period, it can be concluded that the road was safe. However, as with all highways schemes, the impact on road safety should be considered over a longer period.

Are the safe zones safe?

On both the east and west sides of the road there is a four metre wide corridor from the building line which acts as a 'safe zone' for pedestrians, defined by a continuous tactile delineator surface.

To varying degrees, there was encroachment in the safe zones in all of the sections. Some are legitimate vehicular crossing movements, such as vehicles entering and exiting Prince's Gate Mews which requires them to pass into the safe zone. In addition, outside the safe zones, vehicles were recorded making banned turns and travelling the wrong way northbound and southbound.

For sections where there were the highest numbers of vehicles entering the safe zone, this was largely due to:

- Motor vehicles and cyclists cutting corners at junctions;
- Motor vehicles using the safe zone to intentionally or mistakenly avoid making a banned turning movement;

- Motor vehicles straddling the delineator paving whilst stopping for short periods;
- Motor vehicles making u-turns which result in them crossing the delineator;
- Cyclist failing to dismount on the approach to cycle parking areas; and
- Cyclists avoiding traffic queues.

The number of vehicles making banned turns was relatively low, with a maximum of 2% (approximately 25 vehicles per hour) of all vehicles travelling in a particular direction on a junction arm. This was for the prohibited left turn from Cromwell Road into Exhibition Road. The northbound arm at the Thurloe Place/Exhibition Road junction is southbound only so the northbound (ahead, left and right turning) movements are banned, of which there were fewer than 10 per hour.

Sections 4 (Imperial College Road to Cromwell Road) and 7 (Thurloe Place to junction with Thurloe Street) experienced the highest incidence of vehicles going the wrong way northbound and southbound (outside the safe zones), which appeared to be largely due to a lack of driver understanding as to which movements are banned.

The level of risk associated with the safe zone/banned turn movements was not quantified as part of this study. However, from reviewing samples of video footage and from site observations it is apparent that in most cases the movements are likely to have been infrequent, of short duration and/or were made at low speed in areas of low pedestrian activity.

Some movements are likely to be less of a concern than others (e.g. cyclists and vehicles dropping off passengers in safe zone). However, whilst not necessarily a safety concern, it may be prudent to make design changes to prevent or reduce the likelihood that certain movements can be made, particularly banned turns (especially into safe zones).

Do the bus stops present a trip hazard?

Two people were observed tripping (a stumble rather than a fall) over the bus stop kerbs during the six-hour survey period, which represents 0.1% to 0.2% of the total pedestrians crossing eastbound and westbound during this period within Section 4, and 1% of the total number of bus boarders and alighters. However, it is not known whether the people that tripped were using or just passing across the bus stops. It is also not known what proportion of the total number of pedestrians crossing in Section 4 crossed in the vicinity of the bus stop. Further monitoring of the bus stop areas over a longer time period is recommended as it would provide a more thorough assessment of any trip hazard posed to pedestrians.

Are speeds within the 20mph limit?

Section 1 (South of Kensington Gore to north of Prince Consort Road), Section 2 (junction at Prince Consort Road and Princes Gardens), Section 3 (Princes Gardens to Imperial College Road), and Section 4 (Imperial College Road to north of Cromwell Gardens) are subject to a 20mph speed limit, whereas the limit for Section 6 (south of Cromwell Gardens to Thurloe Place), Section 7 (south of Thurloe Place to Thurloe Street) and Section 8 (pedestrian area east of Cromwell Place to west of Thurloe Street) is 30mph. The hourly 85th percentile speed was averaged across the 24 hour period for each survey day and was found to be in excess

of the speed limit for all 20mph link Sections. A summary of the average hourly 85th percentile speed recorded for Sections 1, 3 4 and 7 is provided in the table below

Table 11.1 Average hourly 85th percentile speed (mph) by time of day, direction of travel and section of road

	Section 1		Section 3		Section 4		Section 7
	Nb	Sb	Nb	Sb	Nb	Sb	Sb
Midnight to 7am	29.1– 30.1	29.7– 33.5	29.1– 31.0	29.6– 33.8	27.6– 27.7	25.8– 26.6	17.8– 19.8
7am to 10m	28.9– 30.0	27.3– 28.9	27.3– 28.8	25.3– 26.3	26.4– 26.7	22.9– 24.8	18.4– 19.7
10am to 4pm	25.7– 27.2	25.8– 26.5	24.0– 25.3	21.8– 23.9	20.3– 21.7	17.3– 19.0	15.7– 18.7
4pm to 7pm	23.9– 25.7	26.3– 27.4	25.1– 25.6	22.9– 24.7	20.7– 22.2	18.5– 19.1	16.0– 17.6
7pm to midnight	26.6– 27.4	27.4– 28.3	27.7– 28.4	26.4– 27.5	24.8– 25.6	20.4– 22.9	18.7– 19.3

Do pedestrians cross freely throughout Exhibition Road?

Pedestrian crossing movement was highest where there are attractors on either side of the road, which is particularly the case in Sections 4 (Imperial College Road to north of Cromwell Gardens), 7 (south of Thurloe Place to Thurloe Street) and 8 (pedestrian area east of Cromwell Place to west of Thurloe Street). From observation, in general, pedestrians appear to use the full extent of sections of road (that are clear from obstructions) to cross: therefore the crossing patterns are random and are made freely.

The volume and location of crossing movements appears to be influenced by the proximity of formal crossings (at signalised junctions) and informal crossing points (such as pedestrian refuges and the central median defined by lamp column bases). If located close by, pedestrians will use these crossing facilities rather than crossing elsewhere on a link.

From observation, pedestrian crossing movement is also guided by the location and occupancy of parking bays and street furniture, including cycle stands/docking stations and benches.

Do the parking and loading facilities satisfy demand?

From the results of parking occupancy, in Sections 1 (South of Kensington Gore to north of Prince Consort Road) and 3 (Princes Gardens to Imperial College Road) residential parking provision appears to exceed demand based on the occupancy levels over the three survey days. The diplomatic parking bays in Section 1 satisfy demand, but not significantly.

In Section 4 (Imperial College Road to north of Cromwell Gardens), residential parking bays are occupied approximately 75% of the time, whereas disabled bays have very low usage, with a maximum occupancy of 4% recorded on one of the three survey days.

Diplomatic bays in Section 6 (south of Cromwell Gardens to Thurloe Place) are full approximately a third of the time during the week but are rarely used at the weekend.

Is driver behaviour influenced by the street design? Is the space legible for drivers and pedestrians?

There are several factors which may have influenced speed in the sections, including:

- The location, density and occupancy of motor vehicle and cycle parking areas;
- Presence of traffic queues and junction control method;
- Speed limit and traffic restriction signs;
- Location of bus stops;
- Length of section and link length between junctions and side accesses; and
- Presence of lamp columns, trees and street furniture.

The results show that vehicle speed was higher in Sections 1 (South of Kensington Gore to north of Prince Consort Road) and 3 (Princes Gardens to Imperial College Road) where there was less pedestrian activity on long-straight links with a more traditional street layout (fewer transition zones, regular parking arrangement and/or wider carriageway).

The traffic flow on Exhibition Road is relatively low and traffic queues occur in few locations. This means that pedestrians have frequent gaps in the traffic to cross the road. This is largely why there appears to be a low incidence of vehicles giving way to pedestrians and also why pedestrians have freedom in their choice of crossing location. The low number of users stopping abruptly indicates that drivers have few surprises from pedestrians taking risks to cross the road.

From the number of prohibited movements that took place during the survey period, it is evident that in some areas there is lack of understanding by users of where they are permitted to drive, cycle or park.

From observation, pedestrians appear to utilise the freedom that is afforded by the uncluttered, single surface space, whilst adhering to more regimented crossing patterns at formal crossing points. Pedestrian density dictates the extent to which pedestrians spread out into the transition zones, releasing pressure, whilst maintaining vibrancy, within the safe zones. The occupancy of cycle and vehicle parking spaces also determines how many people use the transition zones.

It can be concluded that pedestrians can read and adapt well to the changing conditions within Exhibition Road and that driver behaviour is influenced by the street design. However,

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some refinements to the design may be necessary to provide clearer information to drivers of areas where certain movements or activities are prohibited.

1 Introduction

1.1.1 Exhibition Road contains visitor attractions and institutions which are of international historical, cultural and educational importance. To recognise its significance as a place, the Royal Borough of Kensington and Chelsea has dramatically transformed the road into a world class streetscape.

1.1.2 One of the defining features of the design is the single-surface that has been introduced. This, together with street de-cluttering, access restrictions and changes to the provision and location of parking, loading and bus stop facilities aims to influence the behaviour of motorists, cyclists and pedestrians.

1.1.3 This report aims to provide an assessment of user interaction and movement within Exhibition Road. This will provide the Council and the Exhibition Road Access Group with information which will enable them to determine whether the scheme is meeting its objectives.

1.1.4 The specific objectives of this study are as follows:

- Provide a qualitative assessment of how users of Exhibition Road interact with each other. Users are defined as “motor vehicles, bicycles and pedestrians”; and
- For each of the two bus stops, count the number of people who trip over the kerb for the busiest hour (in terms of pedestrian numbers) during daylight and during the hours of darkness.

1.1.5 To provide a focus for our qualitative assessment, we have used the results to help answer the following questions:

- Is the road safe?
- Are the safe zones safe?
- Do the bus stops present a trip hazard?
- Are speeds within the 20mph limit?
- Do pedestrians cross freely throughout Exhibition Road?
- Do the parking and loading facilities satisfy the demand?
- Is driver behaviour influenced by the street design?
- Is the space legible for drivers and pedestrians?

2 Methodology

2.1 Overview of Methodology

- 2.1.1 The methodology follows that described in the Project Brief and consisted of two distinct phases:

Quantitative Assessment

- Collection of observational data of pedestrian and driver movement; and
- Statistical analysis of the data.

Qualitative Assessment

- To understand pedestrian and driver behaviour.

- 2.1.2 The quantitative and qualitative assessment involved the evaluation of post-implementation behaviour only. It did not make comparison with traffic and pedestrian movement before the scheme was introduced. In addition, the study does not attempt to draw parallels with similar schemes; in fact given the unique characteristics of this scheme it is unlikely that other schemes exist whose design is sufficiently similar to be able to make close comparison.

2.2 Section Classification

- 2.2.1 The study area was divided into ten sections. These sections varied in length and had distinct features which differentiated them from neighbouring sections. Such differences include parking arrangements, width of carriageway, arrangement of running lanes, and width of pedestrian areas.
- 2.2.2 The ten sections were categorised as either 'links' or 'junctions'. Section 1, 3, 4, 6, 7 and 8 are 'link' sections, while Section 2, 5, 9 and 10 are 'junction' sections. **Figure 2.1** shows the Sections for which the surveys were undertaken.

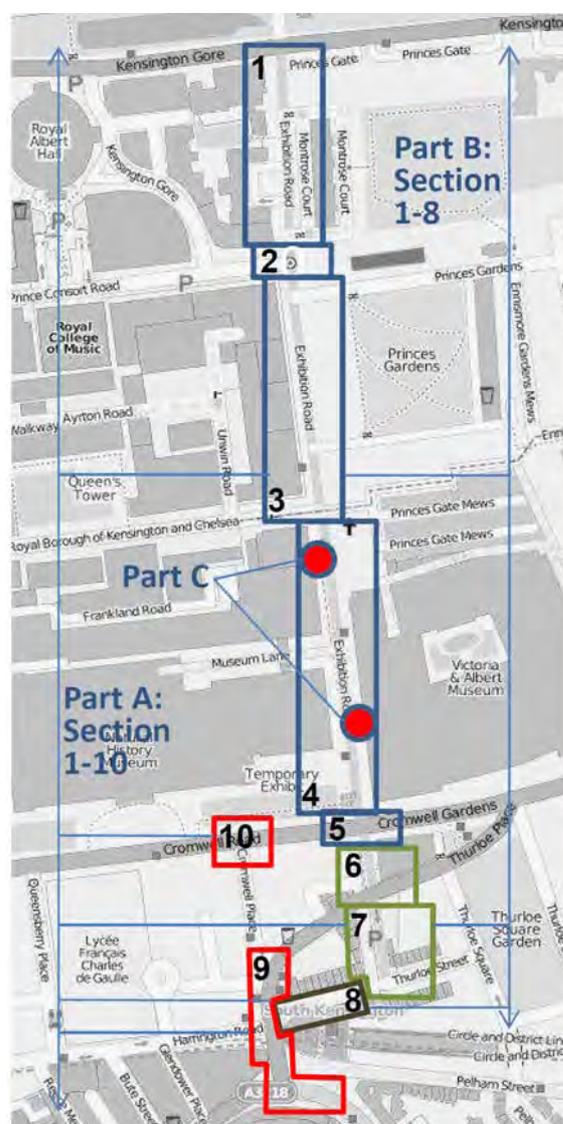


Figure 2.1 Survey Sections

- Section 1: South of Kensington Gore to north of Prince Consort Road;

- Section 3: Princes Gardens to Imperial College Road;
- Section 4: Imperial College Road to north of Cromwell Gardens;
- Section 6: South of Cromwell Gardens to Thurloe Place;
- Section 7: South of Thurloe Place to Thurloe Street; and
- Section 8: Pedestrian area east of Cromwell Place to west of Thurloe Street.

Junction Sections

- Section 2: Junction at Prince Consort Road and Princes Gardens;
- Section 5: Junction at Cromwell Gardens and Exhibition Road;
- Section 9: Four junctions along Cromwell Place from Cromwell Place to Pelham Street; and
- Section 10: Junction at Cromwell Place and Cromwell Road.

2.3 Data Collection

2.3.1 Data was collected for Parts A and B (described below) on Wednesday 11th April (which was a weekday during the Easter school holidays), Saturday 14th April (a Saturday during the Easter school holidays), and Tuesday 8th May 2012 (a weekday during term time).

2.3.2 Data for Part C (Bus Stop Survey) was collected on Saturday 5th May (a Saturday during term time), Tuesday 29th May (a weekday during term time) and Wednesday 30th May 2012 (weekday during term time). These surveys were carried out after the video surveys as only the busiest hours in terms of pedestrian activity (in daylight and during the hours of darkness) were surveyed. As such the video surveys were used to determine what the busiest hours were.

2.3.3 Three methods of data collection were used:

- Video data;
- Speed radar; and
- Manual observations.

Video Data

Video footage was recorded continuously at the ten Sections over the course of the survey period. 23 high level video cameras were used to cover all areas and had a range of 50-75 metres

Speed Radar Detection

2.3.4 Radar detectors were set up at Sections 1, 3, 4, 6 and 7, to capture information on vehicle speed. The data was then used to calculate the average hourly 85th percentile speed of traffic during the survey period.

Manual Observations

- 2.3.5 During the project inception site visit it was identified that for the two bus stops it was not possible to count boarders and alighters using a video camera, due to the absence of suitably located street furniture: a stationary bus would obscure the vision of pedestrians at the stop.
- 2.3.6 To overcome this limitation enumerators undertook site observations for the peak hours of pedestrian activity which were established from the video footage. A count of pedestrians at the stop before and after a bus arrived were undertaken for the busiest hour during daylight hours and the busiest hour during the hours of darkness on all three days. The busiest hour was identified based on the maximum pedestrian flow within this section. A count was also made of the number of people who trip over the kerb at these bus stops during these hours.

2.4 Overview of Data Collected

- 2.4.1 Prior to commencing with the quantitative assessment, using snapshots of footage, diagrams were prepared showing the data to be recorded (i.e. locations, virtual screenlines, etc) for each Section. **Appendix A** contains annotated photographs of the 'link' screenlines.

Part A: Traffic Flow, Accidents and Near Misses

- 2.4.2 The data review plan for Part A is shown in **Figure 2.2**.

- 2.4.3 Information was extracted from the video footage for Sections 1-10 and consisted of:

- A1: Traffic Flow;
- A2: Pedestrian Flow;
- A3: Accidents; and
- A4: User Interaction.

- 2.4.4 Points to note regarding our approach for the Part A data review include:

- A2 Pedestrian flow: pedestrians were recorded moving north and south either side of the running track (i.e. not necessarily only in the 'safe zone'): as pedestrians use the 'transition zone', particularly when

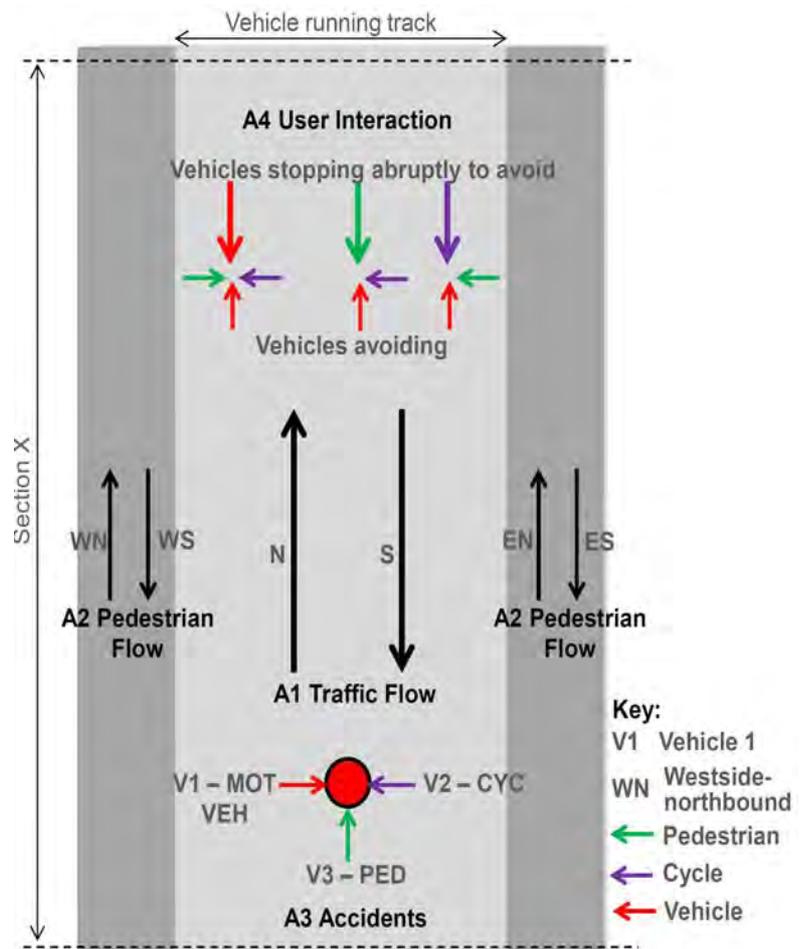


Figure 2.2 Part A Data Review Plan

parking areas are unoccupied; and

- Specific pedestrian and vehicles count point screenlines were agreed for each Section for north-south movement (as shown in Appendix A).

2.4.5 For A2: Pedestrian flow, a record was made of the volume of northbound and southbound pedestrians on either side of the road, classified into six pedestrian categories, as shown in **Appendix B**. However, for certain areas where the footfall is particularly high and where there was queuing, it was difficult to classify pedestrians. The area outside the Natural History Museum, for instance, experiences high pedestrian density, particularly at weekends and during holiday periods. During periods of very high pedestrian flow, the numbers of pedestrians passing the screenlines were recorded without classification.

2.4.6 In addition to the data shown in Figure 2.2, classified vehicles turning counts were recorded at a number of junctions:

- A staggered four arm junction located at Exhibition Road, Prince Consort Road and Princes Gardens (Section 2);
- Four arm junction at Exhibition Road and Cromwell Road (Section 5);
- Four arm junction located at Exhibition Road and Thurloe Place (Section 6);
- T-junction located at Exhibition Road and Thurloe Street (southern end of Section 7);
- T-junction located at Cromwell Place and Thurloe Place (Section 9);
- T-junction located at Harrington Road and Cromwell Place (Section 9);
- T-junction located at Old Brompton Road and Pelham Street (Section 9);
- T-junction at Pelham Street and Onslow Square (Section 9); and
- T-junction located at Cromwell Road and Cromwell Place (Section 10).

Part B: Pedestrian and Vehicle Behaviour

2.4.7 The data review plan for Part B is shown in **Figure 2.3**.

2.4.8 Information extracted from the video footage for Sections 1-8 consists of:

- B1: Pedestrian crossing flow;
- B2: Number of vehicles driving in the 4 metre zone extending from the building line (i.e. safe zone);
- B3: Number of people cycling in the 4 metre zone extending from the building line (i.e. safe zone);

- B4: Number of vehicles who attempt to go the wrong way down Exhibition Road;
- B5: Parking, loading and drop-off activity; and
- B6: Vehicle speeds.

2.4.9 Points to note regarding the approach for the Part B data review include:

- B1: crossing movements were recorded across the running track. If a pedestrian did not fully cross within the section, then the movement was recorded for the section where the majority of crossing movement occurred;
- B2: vehicles/cycles in safe zone was defined as crossing over the corduroy delineator paving. Some vehicles recorded at B2 include vehicles making legitimate movements to access the driveways and side roads which require them to pass into the safe zone;
- B5: number of vehicles loading/unloading freight and boarding/alighting passengers in designated/undesignated areas.

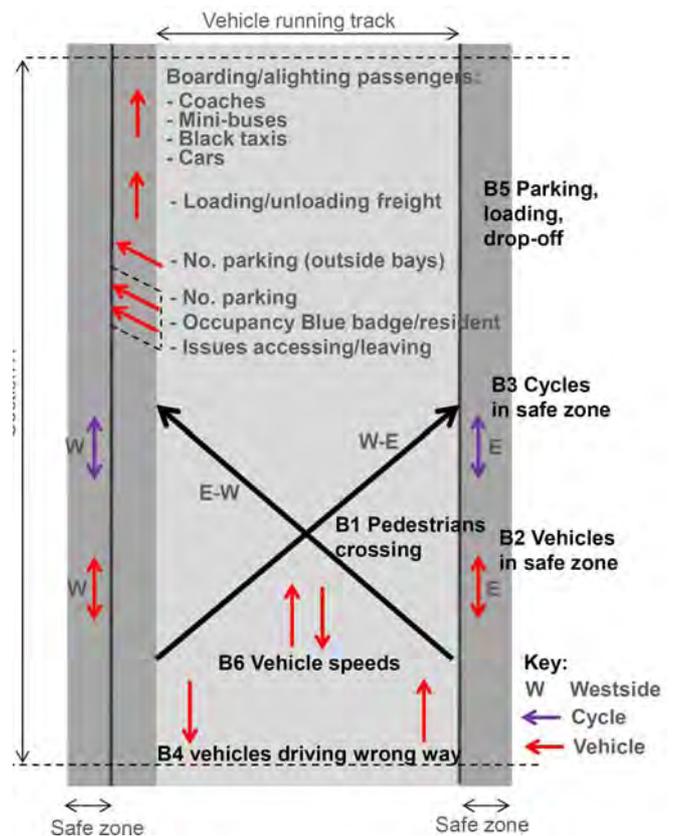


Figure 2.3 Part B Data Review Plan

2.4.10 Speeds were recorded using static radar detectors mounted on street furniture. Data is bi-directional for speed (5 mph bins) and classes in 60min intervals. Vehicle speeds were reported and the 85th percentile speed was calculated. It must be noted that static radar detectors have some intrinsic limitations. In Section 6 vehicles tend to queue back the junctions and as such move slowing along the section. As radar can only record vehicle movement at speeds greater than approximately 9mph spurious results were produced for this section. In addition, in a small number of instances in the different Sections too few vehicle movements were recorded passing through in an hour to provide a reliable 85th percentile speed calculation. These tended to be in the early hours of the morning between 00:00 and 06:00. When such cases arose the daily average hourly 85th percentile speed was calculated based on the number of hours that reliable data was available for.

2.4.11 The data results tables for Parts A, B and C are shown in **Appendix B** to **Appendix N**.

2.5 Data Analysis

The data was collected using the methods detailed above, after which extensive analysis was carried out to:

- Investigate the use of space by pedestrians across the Sections to see how this differs by Section and to what extent it is influenced by traffic flow and traffic speed;
- Investigate to what extent pedestrian crossing movement is influenced by other factors;
- Investigate the prohibited movements and circumstances for them across the different Sections;
- Investigate parking activities and occupancy levels; and
- Identify the extent of loading/unloading and boarding/alighting activities.

2.5.1 For ease of analysis and reporting, for each Section pedestrian flows passing the screenline travelling north and south on both footways were combined for each hour of the day. Pedestrian crossing movements (east-west, west-east) were also combined for each hour by Section to provide a critical mass necessary to carry out robust analysis. Likewise, vehicle flows north and south were combined. The 85th percentile speed was calculated based on one-way speed and two-way speeds per hour.

3 Link Results – Section 1

3.1 Introduction

- 3.1.1 Section 1 is located on the northern extent of Exhibition Road between Kensington Road to the north and Prince Consort Road to the south. Section 1 is approximately 170 metres in length.
- 3.1.2 The main land use in the Section is residential with apartment buildings on both the east and west sides of the road. There are also a number of embassies and offices located along Section 1.
- 3.1.3 On both the east and west sides of the road there is a four metre wide corridor from the building line which acts as a safe zone for pedestrians, defined by a continuous tactile delineator surface. Between these two zones there are single traffic lanes in either direction separated by central islands – the only section which has this type of layout. There are areas for parallel parking on both the east and west side. There are a number of vehicular crossovers to private property along Section 1 where vehicles have to cross the ‘safe zone’ to enter the property. While each of the Sections has unique design characteristics, Section 1 is arguably the most like a traditional street where the different users have more clearly defined areas in which to move through.
- 3.1.4 Other design features to note include:

- a pedestrian refuge area of sorts along the central section between the lamp column bases;
- residential parking located on both the east and west side and a small number of diplomatic bays; and
- A 20mph speed limit.

3.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Counts

- 3.2.1 **Table 3.1** lists the pedestrian flows captured passing the screenline in Section 1, together with the pedestrian crossing movement. Pedestrian flows have been totalled to give an overall flow by hour for each of the three days. When recording crossing movements care was taken to ensure that double counting did not occur between camera views. A rigorous review was undertaken to validate all survey results.
- 3.2.2 As identified in Appendix B, Pedestrians were categorised into different user groups when crossing the screen line. Of all the pedestrians recorded the vast majority were able bodied adults, while a very small number of these were observed to have a disability. Eleven people were noted to have mobility difficulties, while three were visually impaired. Care must be taken when drawing any conclusions based on the number of disabled users as often a person's disability is not obvious and there were limitations in what could be observed from the video footage given the field of vision of the cameras.

Table 3.1 Section 1 - Pedestrian Flow and Crossing Movement

Time	Pedestrian Flows			Pedestrian Crossing Movements		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	12	16	2	2	3	3
01:00	3	10	5	0	1	1
02:00	4	12	7	0	5	0
03:00	0	2	2	0	0	0
04:00	0	3	1	1	4	0
05:00	55	5	53	17	1	13
06:00	38	25	34	9	4	7
07:00	90	59	80	17	5	32
08:00	222	172	304	36	21	81
09:00	462	303	388	97	39	95
10:00	493	400	385	68	38	88
11:00	713	606	523	75	54	71
12:00	1,162	790	407	67	42	77
13:00	1,161	1,119	623	53	67	71
14:00	1,155	1,153	533	102	65	61
15:00	1,198	1,171	610	91	96	98
16:00	895	858	663	68	71	95
17:00	868	918	829	72	60	80
18:00	568	527	567	52	42	50
19:00	365	183	367	31	21	28
20:00	200	89	201	15	14	21
21:00	75	66	160	7	8	23
22:00	43	110	83	5	9	6
23:00	21	24	32	5	5	4 ¹
Total	9,803	8,621	6,859	890	675	1,005

3.2.3 Key points and observations from **Table 3.1** are:

- Wednesday in the school holidays recorded the highest numbers of pedestrians;
- Tuesday in term time recorded the lowest pedestrian flow but the highest number of pedestrian crossing movements. These movements may represent commuting/ education trips which are not undertaken during school holidays or at weekends.

Vehicle Flow and Speed Counts

3.2.4 **Table 3.2** and **Table 3.3** present Vehicle Flow and 85th Percentile Speed for Section 1.

3.2.5 Vehicle flow was recorded using the same screenline point used to capture the pedestrian flow. Vehicle flow was totalled in both directions across the three days. Vehicle speed for the 85th percentile is presented for one-way directional speeds, speeds were also calculated

¹ Due to an issue with the video equipment, footage was recorded for only one of the two camera views between 18:00 and 23:00 on Tuesday. Therefore actual crossing counts are likely to be higher than reported.

3 Link Results – Section 1

for combined north and south flows across each hour. 85th percentile speeds were not recorded for a small number of hour periods as too few vehicles passed the radar detector to allow a robust speed calculation.

- 3.2.6 Of the six 'link' Sections, Section 1 recorded the highest vehicle flow over the three survey days.

Table 3.2 Section 1 - Vehicle Flow

Time	Vehicle Flow		
	Wednesday	Saturday	Tuesday
00:00	44	135	58
01:00	16	42	17
02:00	17	21	11
03:00	15	32	6
04:00	23	27	14
05:00	49	72	69
06:00	217	139	247
07:00	548	266	690
08:00	865	422	1,138
09:00	913	525	1,032
10:00	889	697	978
11:00	910	769	940
12:00	940	818	965
13:00	921	820	970
14:00	951	868	956
15:00	923	849	1,014
16:00	968	892	1,035
17:00	1,018	819	1,154
18:00	1,064	781	1,142
19:00	825	729	999
20:00	640	564	647
21:00	429	478	492
22:00	433	576	487
23:00	288	472	236
Total	13,906	11,813	15,297

Table 3.3 85th Percentile Speed

Time	85 th Percentile Speed (mph)								
	Wednesday			Saturday			Tuesday		
	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound
00:00	28.6	28.0	29.1	28.8	28.2	29.4	28.4	27.9	28.8
01:00	29.8	29.8		30.9	29.6	32.1	28.9	28.9	
02:00	40.3		40.3	29.8	29.8		30.8	30.8	
03:00				29.2	29.9	28.5	28.1	28.1	
04:00				30.5	30.5	30.5			
05:00	31.7	29.4	34.0	30.7	30.6	30.7	29.6		29.6
06:00	30.9	31.1	30.7	31.3	32.1	30.5	30.1	29.6	30.6
00:00-06:59	32.3	29.6	33.5	30.2	30.1	30.3	29.3	29.1	29.7
07:00	30.3	31.5	29.1	30.1	30.5	29.6	30.1	30.4	29.8
08:00	28.2	29.6	26.8	30.2	30.5	29.9	28.0	29.4	26.5
09:00	27.6	27.7	27.5	28.1	28.9	27.3	26.2	26.8	25.6
07:00-09:59	28.7	29.6	27.8	29.5	30.0	28.9	28.1	28.9	27.3
10:00	26.5	26.3	26.7	28.4	29.3	27.4	26.0	26.9	25.0
11:00	26.3	26.6	25.9	26.9	27.5	26.2	25.8	26.0	25.5
12:00	25.8	25.8	25.7	26.8	27.8	25.8	25.9	25.7	26.0
13:00	26.2	25.6	26.7	26.5	26.4	26.6	25.4	25.1	25.7
14:00	25.5	25.1	25.9	26.8	26.0	27.6	25.8	25.4	26.2
15:00	25.8	24.8	26.7	25.8	26.0	25.5	25.9	25.3	26.4
10:00-15:59	26.0	25.7	26.3	26.9	27.2	26.5	25.8	25.7	25.8
16:00	25.6	25.2	26.0	25.7	25.9	25.5	25.5	24.3	26.7
17:00	26.8	25.4	28.2	25.9	25.9	25.8	24.9	23.5	26.3
18:00	26.7	25.3	28.1	26.5	25.3	27.6	25.1	24.0	26.2
16:00-18:59	26.4	25.3	27.4	26.0	25.7	26.3	25.2	23.9	26.4
19:00	26.7	25.9	27.4	26.0	26.0	25.9	26.0	25.9	26.0
20:00	26.6	25.8	27.3	27.9	28.1	27.6	26.4	25.9	26.8
21:00	27.5	26.3	28.7	27.8	28.5	27.1	27.5	27.7	27.3
22:00	28.5	27.7	29.2	28.4	28.4	28.4	27.9	27.9	27.8
23:00	28.7	28.5	28.9	27.0	25.8	28.1	27.5	25.6	29.4
19:00-23:59	27.6	26.8	28.3	27.4	27.4	27.4	27.1	26.6	27.5
Daily 85th percentile speed	26.9	27.5	26.9	27.5	27.5	27.4	26.2	25.9	26.5
Average hourly 85th percentile speed	28.2**	27.2***	28.5	28.2	28.2	28.0*	27.2*	26.9**	27.1
			***						****

*Average hourly 85th percentile speed estimated over 23 hours **Average hourly 85th percentile speed estimated over 22 hours ***Average hourly 85th percentile speed estimated over 21 hours **** Average hourly 85th percentile speed estimated over 20 hours

3.2.7 Key points and observations from **Table 3.2** and **Table 3.3** are:

- Tuesday during term time recording the highest daily vehicle flow;

- Saturday recorded higher flows late at night between 23:00 and 01:00. These trips are likely to be associated with the night time economy in the general area during the weekend;
- Speeds are generally consistent though the 85th percentile speed exceeds the 20mph speed limit during most hours. The average hourly 85th percentile speed northbound was 27.2mph on Wednesday, 28.2mph on Saturday and 26.9mph on Tuesday, while southbound it was 28.5mph on Wednesday, 28.0mph on Saturday and 27.1mph on Tuesday;
- Daily 85th percentile speed is the 85th percentile speed across the whole day and is not based on the hourly average 85th percentile speed. The daily 85th percentile speeds northbound were 27.5mph on Wednesday, 27.5mph on Saturday and 25.9mph on Tuesday, and southbound were 26.9mph on Wednesday, 27.4mph on Saturday and 26.5mph on Tuesday; and
- Speeds were highest in the early morning between midnight and 7am on all three days.

3.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

- 3.3.1 No accidents were observed during the survey period.

Stopping Abruptly

- 3.3.2 Analysis was undertaken on any incidents where users stopped abruptly. The definition of abruptly is somewhat subjective but constitutes any incident where there is a noticeable change in the movement of a user due to the movement of another user.
- 3.3.3 While these abrupt movements may be interpreted as an indication of the propensity of users to give way in this space and therefore as a proxy for who assumes priority, this assumption should be avoided as such movements are only the most extreme examples and other more subtle interactions are not likely to have been recorded.
- 3.3.4 Over the course of the three survey days a very low number of incidents occurred in Section 1. There were:

- Two incidents where a motorised vehicle stopped abruptly to avoid another vehicle; and
- Two incidents of pedestrians stopping abruptly to avoid a motorised vehicle.

Prohibited Movements

- 3.3.5 Information was collected on prohibited movements in Section 1 for each of the days. Prohibited movements are classed as:

- Any movement by a motorised vehicle or cyclist in any direction within the safe zone (i.e. 4 metres from the building line); and

- Any movement by a motorised vehicle or cyclist driving the wrong way down Exhibition Road.

3.3.6 **Table 3.4** indicates the number of movements on Wednesday, Saturday and Tuesday.

Table 3.4 Section 1 - Prohibited Movements

Prohibited movements	Wed	Sat	Tue	Total	%
Motor vehicles in Safe Zone - eastern side (including legitimate use of vehicular crossings)	9	12	26	47	10%
Cyclists in Safe Zone - eastern side	53	46	38	137	30%
Motor vehicles in Safe Zone - western side (including legitimate use of vehicular crossings)	5	4	9	18	4%
Cyclists in Safe Zone – western side	41	120	77	238	51%
Motor vehicles going wrong way south	2	0	0	2	1%
Cyclists going wrong way south	0	0	0	0	2%
Motor vehicles going wrong way north	0	5	2	7	2%
Cyclists going wrong way north	0	0	0	0	0%
Total per day	110	187	152	464	100%

3.3.7 Of all vehicles recorded passing through Section 1, 1% of these made a prohibited movement. Cyclists were the main offenders and constitute 83% of these prohibited movements. Of these, cyclists within the safe zone on the western side represent the largest proportion of prohibited movements in Section 1. Cyclists have a tendency when coming from Prince Consort Road to cut the corner thereby entering the safe zone before travelling a short distance and rejoining the carriageway soon afterwards.

3.3.8 Of the motorised vehicles making prohibited movements, the dominant vehicle type was cars, including private hire vehicles. The high incidence of vehicles running in the safe zone on the eastern footway, and lower levels on the western footway, relates in most cases to parking activity. As vehicles are manoeuvring into the parallel spaces they often cross the delineator paving. Many drivers also park their car straddling the parking area and the safe zone. Others were observed to pull into the safe zone and stop next to the building line in order to pick up/set down passengers. These movements are illustrated in **Figures 3.1 and 3.2**.

3.3.9 A small number of vehicles were recorded travelling in the wrong direction within Section 1, with vehicles travelling north being more inclined to travel in the wrong lane than traffic travelling southbound. This may be attributed to the change in road layout as drivers travel

north from Section 3 into Section 1. The carriageway widens at this point and the lanes of traffic separate. However, the number of drivers making this error is relatively small.

3.3.10 In Section 1, while not recorded in the data tables, additional observations of the video footage noted that vehicles often make U-turns to alter their direction travelling south bound to join the queue of traffic travelling north bound back into Hyde Park. However, it should be noted that these movements are not prohibited.

Figure 3.1 Prohibited movements within Section 1



Vehicles enter the safe zone on west side of Section 1.

Figure 3.2 Prohibited movements within Section 1



Example of vehicles parking/dropping off passengers within the safe zone on the eastern side outside entrance to residential building.



Parked cars often straddle the parking bay and the safe zone.

3.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

- 3.4.1 **Table 3.5** provides details of loading and drop off activity within Section 1 across the three survey days. The highest numbers of such activities were recorded on Tuesday though loading/unloading activities occurred across the day on each of the survey days.
- 3.4.2 Black taxis boarding and alighting passengers accounted for the largest drop-off activity in Section 1 on each of the days and accounted for 49% of all activity across the three survey days. This high number of taxi drop offs may be linked to the residential nature of properties in Section 1.

Table 3.5 Section 1 - Loading and Drop-off Activity

Loading and Drop-off Activity	Wed	Sat	Tue	Total	%
No. of vehicles loading/unloading freight	25	19	22	66	28%
No. of coaches boarding/alighting passengers	1	0	1	2	1%
No. of minibuses (LGV/MGV) boarding/alighting passengers	0	0	3	3	1%
No. of black taxis boarding/alighting passengers	35	28	53	116	49%
No. of cars/private hire vehicles boarding/alighting passengers	14	21	13	48	20%
Total per day	75	68	92	235	100%

Parking

- 3.4.3 Residential parking and small sections of diplomatic parking is permitted parallel to the tactile paving on both sides of Exhibition Road in Section 1.
- 3.4.4 As these parking areas are not delimited into individual parking bays, in order to determine the percentage occupancy for each day, parking capacity was calculated by dividing the length of the parking area by 5m. It was assumed that there are three diplomatic bays.
- 3.4.5 Parking counts were recorded for the number of motor vehicles parking without loading/unloading and stationary for longer than 5 minutes in the parking zones. The percentage occupancy recorded across the three survey days is provided in **Table 3.6**.
- 3.4.6 While most parking activity took place in the designated areas, a small number of vehicles also parked for longer than 5 minutes in undesignated areas during the course of the day. Of all parking activity which took place over the three days, 8% of these (44 vehicles) were in undesignated areas.

3 Link Results – Section 1

- 3.4.7 No issues were identified for vehicles leaving or accessing designated parking bays. However, as mentioned previously, some vehicles enter the safe zone when manoeuvring in and out of the parking area though these tend to be at very low speeds.
- 3.4.8 An average daily occupancy was calculated based on counts taken at 5 minute intervals and totalled across each hour. In calculating the occupancy, the 3 diplomatic bays, for example, would have a daily total available space of $3 \times 24 = 72$ spaces so a daily total of 55 would be a 76% occupancy.

Table 3.6 Section 1 – Occupancy of Parking Bays

Parking areas	Wednesday		Saturday		Tuesday	
	Daily Total	Average % occupancy	Daily Total	Average % occupancy	Daily Total	Average % occupancy
Residential Parking (37 bays)	90	10%	116	13%	173	20%
Diplomatic Parking (3 bays)	55	76%	45	63%	52	72%

3.5 Section 1 Summary

- Section 1 records the lowest pedestrian volume and crossing movement of the six 'link' sites. This is due to its location to the north of the main attractors to Exhibition Road, namely the various museums and Imperial College, as well as its distance from South Kensington Tube Station;
- Pedestrians appear to cross quite freely through the space. The area between the running lanes was observed to act as a pedestrian refuge with people stopping to break their crossing. People were also observed to stop in this area for a number of minutes while engaging in conversation;
- Cyclists within the safe zones constituted the highest number of prohibited movements in Section 1. Infringement of the safe zone by motorised vehicles was mostly due to parking activities;
- A small number of vehicles travelling northbound were recorded in the southbound lane due to the change in lane layout when leaving Section 3 and entering Section 1. However, the number of such incidences was small (less than 0.02 % of all vehicles);
- Traffic speed was found to be in excess of 20mph during the day across much of the three survey days, exceeding 30mph during the early morning. The average northbound hourly 85th percentile speed was 27.2mph on Wednesday, 28.2mph on Saturday and 26.9mph on Tuesday, while the average southbound hourly 85th percentile speed was 28.5mph on Wednesday, 28.0mph on Saturday and 27.1mph on Tuesday.
- The daily 85th percentile speed (i.e. the 85th percentile speed across the whole day) northbound was 27.5mph on Wednesday, 27.5mph on Saturday and 25.9mph on

Tuesday, and southbound was 26.9mph on Wednesday, 27.4mph on Saturday and 26.5mph on Tuesday;

- Speeds were highest in the early morning between midnight and 7am on all three days. Average hourly 85th percentile speeds between midnight and 7am ranged between 29.1 – 30.1 mph (northbound) and 29.7 - 33.5 mph (southbound). Between 7am and 10am ranged between 28.9 - 30 mph (northbound) and 27.3 – 28.9 mph (southbound). Between 10am and 4pm ranged between 25.7 – 27.2 mph (northbound) and 25.8 – 26.5 mph (southbound). Between 4pm and 7pm ranged between 23.9 and 25.7 mph (northbound) and 26.3 – 27.4 mph (southbound) and between 7pm and midnight ranged between 26.6-27.4 mph (northbound) and 27.4 – 28.3 mph (southbound);
- The provision of residential parking bays exceeds demand based on daily percentage occupancy;
- No accidents were recorded but there were a small number of incidents where users stopped abruptly. These primarily involved a motorised vehicle stopping to avoid another motorised vehicle; and
- Section 1 records the lowest pedestrian flow and crossing movement, but the highest vehicle flow and speed of the six 'link' Sections.

4 Link Results - Section 3

4.1 Introduction

- 4.1.1 Section 3 starts just north of Princes Gardens and extends south as far as Imperial College Road. Section 3 is approximately 180 metres in length.
- 4.1.2 The eastern side of Section 3 is mainly residential and commercial in nature, including student accommodation and the Imperial College Sport Centre, while the main faculty buildings for Imperial College Campus make up the boundary on the west.
- 4.1.3 Section 3 has a four metre safe zone on the western side, next to which is an eight metre 'transition zone' where there are parallel parking bays, cycle stands and other items of street furniture. To the east of this are two lanes for traffic, one each way, then a four metre safe zone on the eastern side of the road.
- 4.1.4 Other design features to note include:
- 52 residential parking bays provided perpendicular to the adjacent to the running track; and
 - A 20mph speed limit.

4.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Counts

- 4.2.1 **Table 4.1** lists the pedestrian flow captured passing the screenline and the crossing movement within Section 3. Key points and observations from **Table 4.1** are:
- Tuesday during Imperial College and school term time recorded the highest numbers of pedestrians.
 - On Tuesday, the busiest hours occurred in the latter half of the day, between 17:00 and 19:00, and pedestrian flows remain high until approximately 22:00.
 - On Wednesday and Saturday pedestrian flows tail off after 19:00 once the museums close.
 - The high pedestrian movement on Tuesday is likely to be related to students accessing the Imperial College campus and residents halls, while those on Wednesday during school holidays and Saturday were related more to Museum movements.

Table 4.1 Section 3 - Pedestrian Flow and Crossing Movement

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	25	45	16	34	21	36
01:00	13	12	15	23	5	26
02:00	6	12	12	8	6	20
03:00	1	2	4	10	0	8
04:00	4	2	5	9	3	5
05:00	43	7	35	8	6	18
06:00	62	28	76	43	20	31
07:00	164	115	217	122	36	82
08:00	557	289	894	225	83	414
09:00	1,144	549	1,438	275	112	473
10:00	671	760	1,120	294	148	426
11:00	1,269	947	1,045	374	242	442
12:00	1,798	1,200	1,419	376	229	634
13:00	1,865	1,669	1,693	450	272	697
14:00	1,843	1,657	1,478	472	300	462
15:00	1,988	1,239	1,288	430	325	427
16:00	1,606	1,018	1,536	318	273	418
17:00	1,582	1,367	1,993	338	292	589
18:00	1,148	938	1,845	273	206	472
19:00	663	438	1,272	242	171	350
20:00	370	200	621	180	110	349
21:00	247	151	1,303	126	75	298
22:00	126	426	612	77	72	160
23:00	65	146	153	31	71	72
Total	17,260	13,217	20,090	4,738	3,078	6,909

Vehicle Flow and Speed Counts

4.2.2 **Table 4.2** and **Table 4.3** present Vehicle Flow and 85th Percentile Speed for Section 3.

Table 4.2 Section 3 - Vehicle Flow and 85th Percentile Speed

Time	Vehicle Flows		
	Wednesday	Saturday	Tuesday
00:00	49	95	55
01:00	18	38	22
02:00	17	20	12
03:00	25	21	9
04:00	23	20	10
05:00	46	53	54
06:00	138	82	155
07:00	301	183	408
08:00	534	284	693
09:00	535	340	597
10:00	544	468	591
11:00	592	500	620
12:00	574	585	625
13:00	612	535	532
14:00	601	626	575
15:00	595	610	613
16:00	634	662	639
17:00	645	629	719
18:00	607	481	696
19:00	490	465	580
20:00	395	350	362
21:00	233	289	273
22:00	218	413	322
23:00	159	353	152
Total	8,585	8,102	9,314

Table 4.3 85th Percentile Speed

Time	85 th Percentile Speed (mph)								
	Wednesday			Saturday			Tuesday		
	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound
00:00	31.6	33.9	29.3	29.5	29.4	29.6	29.2	30.1	28.3
01:00	27.0		27.0	29.9	30.7	29.0	26.6	26.6	
02:00	56.0		56.0	30.1		30.1			
03:00	31.9		31.9	28.8	28.8				
04:00	28.6	28.6		29.5		29.5			
05:00	28.7	28.1	29.3	32.6	35.3	29.8	31.8		31.8
06:00	29.6	29.6	29.5	30.4	30.6	30.1	29.7	30.7	28.6
00:00-06:59	33.3	30.1	33.8	30.1	31.0	29.7	29.3	29.1	29.6
07:00	29.4	30.5	28.2	28.8	29.8	27.8	29.2	30.7	27.8
08:00	26.8	28.1	25.5	27.2	28.6	25.9	25.5	26.2	24.8
09:00	25.0	24.9	25.0	26.6	28.0	25.2	24.2	25.1	23.4
07:00-09:59	27.0	27.8	26.2	27.5	28.8	26.3	26.3	27.3	25.3
10:00	24.5	24.8	24.1	25.3	25.6	24.9	23.3	25.1	21.6
11:00	23.7	24.9	22.5	25.3	26.0	24.6	22.6	24.4	20.8
12:00	23.3	24.5	22.0	24.6	25.3	23.9	23.5	24.3	22.8
13:00	22.9	23.6	22.1	24.3	24.8	23.7	22.6	23.9	21.4
14:00	23.6	23.7	23.5	23.9	25.3	22.4	23.3	23.4	23.2
15:00	23.8	24.4	23.1	24.1	24.5	23.6	22.0	23.1	20.9
10:00-15:59	23.6	24.3	22.9	24.6	25.3	23.9	22.9	24.0	21.8
16:00	23.8	24.7	22.8	25.0	25.6	24.4	23.5	24.7	22.4
17:00	24.9	25.3	24.4	24.4	25.3	23.4	23.3	24.6	22.1
18:00	25.6	25.7	25.4	26.1	25.8	26.3	25.1	26.0	24.1
16:00-18:59	24.7	25.2	24.2	25.1	25.6	24.7	24.0	25.1	22.9
19:00	26.9	27.8	25.9	28.0	27.9	28.0	24.6	25.5	23.7
20:00	27.3	27.1	27.5	27.1	26.6	27.5	26.1	27.0	25.3
21:00	28.4	29.0	27.8	28.3	30.1	26.4	27.8	29.0	26.6
22:00	28.8	28.8	28.7	28.2	27.7	28.7	26.9	27.0	26.9
23:00	28.5	29.5	27.5	25.9	26.1	25.6	29.6	29.9	29.3
19:00-23:59	28.0	28.4	27.5	27.5	27.7	27.2	27.0	27.7	26.4
Daily 85th percentile speed	25.4	25.8	25.1	26.0	26.4	25.5	24.9	25.6	24.2
Average hourly 85th percentile speed	27.9	27.0***	27.3*	27.2	27.6**	26.5*	25.7***	26.4****	24.8****

*Average hourly 85th percentile speed estimated over 23 hours **Average hourly 85th percentile speed estimated over 22 hours ***Average hourly 85th percentile speed estimated over 21 hours **** Average hourly 85th percentile speed estimated over 20 hours

4.2.3 Key points and observations from **Table 4.2 and Table 4.3** are:

- Tuesday during term time recorded the highest vehicle flow per day;
- The vehicle flow between 22:00 and 01:00 on Saturday were higher than on Wednesday or Tuesday and are likely to be associated with the night time economy in the general area during the weekend;
- Vehicle speeds were generally found to be in excess of 20mph during the day across much of the three survey days, exceeding 30mph in certain hours during the early morning. Hourly average speeds were highest northbound and southbound between midnight and 7am on all three days;
- The average hourly 85th percentile speed northbound was 27.0mph on Wednesday, 27.6mph on Saturday and 26.4mph on Tuesday, while southbound the average hourly 85th percentile speed was 27.3mph on Wednesday, 26.5mph on Saturday and 24.8mph on Tuesday;
- The daily 85th percentile speed (i.e. the 85th percentile speed across the whole day) northbound was 25.8mph on Wednesday, 26.4mph on Saturday and 25.6mph on Tuesday, and southbound was 25.1mph on Wednesday, 25.5mph on Tuesday and 24.2mph on Saturday.

4.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

4.3.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

4.3.2 Over the course of the three survey days a relatively low number of incidents occurred, though Wednesday recorded the highest number of incidents.

- 20 incidents of a motorised vehicle stopping abruptly to avoid another motorised vehicle (less than 0.1% of all vehicles).
- 8 incidents where a motorised vehicle stopped to avoid a pedestrian.
- 4 incidents of pedestrians stopping abruptly for a motorised vehicle.
- 1 incident where a pedestrian stopped to avoid a cyclist.

Prohibited Movements

4.3.3 **Table 4.4** below indicates the spread of prohibited movements on Wednesday, Saturday and Tuesday, and highlights the variation in type.

Table 4.4 Section 3 – Prohibited Movements

Prohibited movements	Wed	Sat	Tue	Total	%
Motor vehicles in Safe Zone - eastern side (including legitimate use of vehicular crossings)	100	136	140	376	61%
Cyclists in Safe Zone - eastern side	56	46	24	126	21%
Motor vehicles in Safe Zone - western side	4	16	8	28	5%
Cyclists in Safe Zone – western side	18	24	17	59	10%
Motor vehicles going wrong way south	0	7	0	7	1%
Motor vehicles going wrong way north	9	2	2	13	2%
Total per day	187	231	191	613	100%

4.3.4 Of all vehicles recorded passing through Section 3 over the three days, 2% of these made some sort of prohibited movement. Of these, 70% were related to motorised vehicles.

4.3.5 A very high number of motorised vehicles were observed to enter the safe zone on the eastern side of Section 3. Many of these are due to vehicles parking or dropping off/ picking up passengers from nearby buildings in the eastern safe zone. A number of other such prohibited movements are linked to the building site opposite Imperial College where work vehicles were observed parking within the safe zone. Some of the vehicles recorded in the safe zone are legitimate movements as at certain points along Section 3 vehicles must cross the safe zone in order to access side roads, for example, vehicles accessing Watts Way. In general, vehicles only enter small sections of the safe zone i.e. and do not drive along its length

4.3.6 A relatively high number of cyclists were also recorded travelling in the safe zone on both sides of the road, though this was higher on the eastern section. Many of these movements were due to cyclists drifting over the corduroy paving into the safe zone as they travel south, or pulling over to stop.

4.3.7 A number of motor vehicles were observed travelling the wrong way north and southbound. In some cases this was due to drivers positioning their vehicle too far over so that they encroach into the opposite lane, in other instances this was due to vehicles leaving the parking bays and driving south within the parking area before joining the southbound traffic.

4.3.8 **Figure 4.1** illustrates some of the prohibited movements.

Figure 4.1 Prohibited movements within the safe zone



Vehicles parking or dropping off/picking up passengers from nearby residential buildings stop in the eastern safe zone.



Vehicles parking or dropping off/picking up passengers and vehicles parked to access building site that crosses pavement contributing to high numbers of vehicles in eastern safe zone.

4.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

- 4.4.1 **Table 4.5** provides details of loading and drop off activities in Section 3. The highest level of activity was recorded on Tuesday.
- 4.4.2 Loading/unloading of freight was more common on both weekdays in Section 3 than on a Saturday. Black taxis boarding and alighting passengers accounted for 48% of all activity across the three survey days.
- 4.4.3 Very few coaches or minibuses were observed loading/unloading passengers in Section 3 over the three days.

Table 4.5 Section 3 – Loading and Drop-off Activity

Loading and Drop-off Activity	Wednesday	Saturday	Tuesday	Total	%
No. of vehicles loading/unloading freight	100	21	75	196	27%
No. of coaches boarding/alighting passengers	2	1	2	5	1%
No. of minibuses (LGV/MGV) boarding/alighting passengers	0	1	1	2	0%
No. of black taxis boarding/alighting passengers	80	146	122	348	48%
No. of cars/private hire vehicles boarding/alighting passengers	50	47	82	179	25%
Total per day	232	216	282	730	100%

Parking

- 4.4.4 Fifty two residential parking bays are located on the western side of Section 3 perpendicular to the footway. There is also a Barclays Cycle Hire station at the northern end of the Section and a pitch for an ice-cream van to the south-east. Counts were recorded for the number of motor vehicles parking without loading/unloading and stationary for longer than 5 minutes in these bays. The daily occupancy rate recorded across the three survey days is provided in **Table 4.6**.

Table 4.6 Section 3 – Occupancy of Parking Bays ²

Parking areas	Wednesday		Saturday		Tuesday	
	Daily Total	Average % occupancy	Daily Total	Average % occupancy	Daily Total	Average % occupancy
Residential Parking (52 bays)	173	14%	141	11%	195	16%

- 4.4.5 The percentage occupancy across the three days suggests that parking provision exceeds current demand. The highest occupancy rate was recorded on Tuesday between 13:00 and 17:00 where up to 23% of car parking spaces were occupied. The bays located in the northern half of Section 3 appear to be used more heavily than those to the south.
- 4.4.6 While most parking activity takes place in the designated areas, a small number of vehicles also park for longer than 5 minutes in undesignated areas during the course of the day. On both Wednesday and Saturday seven vehicles were observed doing so, while on Tuesday the

² In calculating the occupancy, the 52 residential bays, for example, would have a daily total available space of 52 x 24 = 1,248 spaces, therefore a daily total of 173 would be 14% occupancy.

figure was higher with 28 vehicles parking for longer than 5 minutes in an undesignated area, this constituted 13% of all parking activities in Section 3 on Tuesday.

4.4.7 No issues were identified for vehicles leaving or accessing designated parking bays.

4.5 Section 3 Summary

- No accidents were recorded but there were a small number of incidents where users stopped abruptly. These primarily involved motorised vehicles stopping to avoid another motorised vehicle;
- Pedestrians appear to cross quite freely through the space with higher crossing counts recorded on Tuesday during term time. It is likely that this relates partly to the high number of students accessing Imperial College from student accommodation located to the east of Section 3;
- A high number of motor vehicles were observed to enter the safe zone on the eastern side of the road. This relates primarily to vehicles parking in undesignated areas, as well as cases where vehicles enter the safe zone to drop-off/collect passengers;
- Traffic speeds are in excess of 20mph during the day and exceeded 30mph during certain hours of the morning. Speeds were highest northbound and southbound in the early mornings between midnight and 7am on all three survey days;
- Average hourly 85th percentile speeds between midnight and 7am ranged between 29.1 – 31.0 mph (northbound) and 29.6 - 33.8 mph (southbound). Between 7am and 10am ranged between 27.3 – 28.8 mph (northbound) and 25.3 - 26.3 mph (southbound). Between 10am and 4pm ranged between 24.0 – 25.3 mph (northbound) and 21.8 – 23.9 mph (southbound). Between 4pm and 7pm ranged between 25.1 and 25.6 mph (northbound) and 22.9 – 24.7 mph (southbound) and between 7pm and midnight ranged between 27.7 - 28.4 mph (northbound) and 26.4 – 27.5 mph (southbound); and
- Parking provision appears to exceed current levels of demand as observed over the three survey days.

5 Link Results – Section 4

5.1 Introduction

- 5.1.1 Section 4 is located between Imperial College Road and Cromwell Road. At approximately 240 metres in length, it is the largest of the Sections.
- 5.1.2 The National History Museum and Science Museum are located on the western side of Section 4, while the V&A Museum is located on the eastern side. There is also a vehicular access to the V&A and vehicle access to Princes Gate Mews on the east side.
- 5.1.3 Section 4 represents one of the busiest sections of Exhibition Road for pedestrians, particularly on the western side, as this is the route most visitors take when walking to the museums.
- 5.1.4 Section 4 consists of a safe zone on the western side, next to which is an eight metre transition zone where there are echelon parking bays, cycle stands and other items of street furniture. To the east of this are two lanes for traffic, one each way, then a four metre safe zone on the eastern side of the road.
- 5.1.5 Other design features to note include:

- Barclays Cycle Hire docking station;
- 31 echelon parking bays - 19 residential bays and 12 blue badge parking bays located on the western side of the road adjacent to the running track;
- Two bus stops with raised kerb to facilitate boarding; and
- A 20mph speed limit.

5.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Counts

- 5.2.1 **Table 5.1** lists the pedestrian flow captured passing the screenline and the crossing movements within Section 4.

Table 5.1 Section 4 - Pedestrian Flow and Crossing Movement

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	61	66	43	21	24	7
01:00	26	31	26	20	3	4
02:00	8	15	22	9	0	1
03:00	9	26	8	8	1	0
04:00	4	0	4	9	0	1
05:00	75	16	79	10	0	3
06:00	175	64	198	34	5	18
07:00	419	198	465	104	53	89
08:00	1,076	448	1,358	241	73	188
09:00	1,877	1,070	1,441	434	185	296
10:00	2,189	1,285	1,706	466	337	497
11:00	2,856	2,451	1,483	762	371	504
12:00	3,191	2,294	2,053	1,095	510	609
13:00	3,388	2,722	2,573	1,346	770	655
14:00	3,011	3,197	1,922	1,208	730	551
15:00	3,952	2,939	2,118	1,114	763	671
16:00	2,425	3,160	2,316	754	735	526
17:00	2,284	2,891	2,764	699	630	451
18:00	2,876	1,887	2,211	401	257	293
19:00	1,334	714	1,368	264	127	127
20:00	559	360	991	145	65	105
21:00	313	245	810	76	22	82
22:00	220	276	844	56	34	35
23:00	165	193	286	44	44	26
Total	32,493	26,548	27,089	6,556	5,739	5,739

5.2.2 The key observations in **Table 5.1** are:

- Pedestrian flow within Section 4 is the highest recorded in any of the 'Link' Sections;
- Pedestrians flow was highest between 09:00 and 19:00 which coincided with museum opening hours;
- Highest flow occurred on Wednesday during school holidays, peaking between 12:00 and 16:00;
- The highest number of pedestrian crossing movements also occurred on Wednesday peaking between 12:00 and 16:00; and
- On Tuesday pedestrian flows remain high into the evening between 20:00 and 23:00. These flows are likely to be linked with movements to and from Imperial College by students and staff.

Vehicle Flow and Speed Data

5.2.3 **Table 5.2** and **Table 5.3** present Vehicle Flow and 85th Percentile Speed for Section 4.

Table 5.2 Section 4 – Vehicle Flow and 85th Percentile Speed

Time	Vehicle Flow		
	Wednesday	Saturday	Tuesday
00:00	49	94	66
01:00	25	37	29
02:00	21	14	9
03:00	8	29	8
04:00	15	15	13
05:00	41	46	42
06:00	121	68	132
07:00	220	138	333
08:00	398	225	538
09:00	448	305	494
10:00	479	409	478
11:00	496	440	512
12:00	475	521	531
13:00	547	488	469
14:00	545	545	499
15:00	544	536	511
16:00	530	566	541
17:00	558	527	577
18:00	531	473	603
19:00	461	455	517
20:00	370	345	344
21:00	245	284	266
22:00	205	359	290
23:00	146	352	147
Total	7,478	7,271	7,949

Table 5.3 85th Percentile Speed

85 th Percentile Speed (mph)									
Time	Wednesday			Saturday			Tuesday		
	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound
00:00	26.9	28.4	25.3	25.4	25.5	25.2	25.5	25.8	25.2
01:00	25.0	24.6	25.4	25.7	26.9	24.5	26.2	26.2	
02:00	32.8		32.8	29.5		29.5			
03:00				24.6	28.5	20.6			
04:00				27.2		27.2			
05:00	26.3	28.1	24.5	27.1	28.3	25.9	27.6	29.6	25.5
06:00	27.0	29.2	24.8	29.4	29.5	29.2	27.9	29.2	26.6
00:00-06:59	27.6	27.6	26.6	27.0	27.7	26.0	26.8	27.7	25.8
07:00	26.8	28.2	25.3	26.5	28.1	24.8	26.8	29.0	24.6
08:00	24.9	25.8	23.9	26.0	26.5	25.5	24.5	25.3	23.6
09:00	23.7	25.2	22.2	24.9	25.6	24.1	22.6	24.8	20.4
07:00-09:59	25.1	26.4	23.8	25.8	26.7	24.8	24.6	26.4	22.9
10:00	21.8	22.9	20.6	22.3	23.9	20.7	21.4	23.1	19.6
11:00	19.7	20.5	18.9	21.5	22.8	20.1	19.4	21.4	17.4
12:00	17.5	19.6	15.4	20.5	22.4	18.6	20.3	21.6	18.9
13:00	19.5	20.3	18.6	19.3	20.4	18.2	17.3	20.6	13.9
14:00	16.8	18.7	14.9	19.6	20.6	18.5	19.5	20.8	18.1
15:00	17.6	20.0	15.2	18.8	20.0	17.6	19.8	21.0	18.6
10:00-15:59	18.8	20.3	17.3	20.3	21.7	19.0	19.6	21.4	17.8
16:00	18.3	20.2	16.4	20.1	20.8	19.4	19.2	20.4	17.9
17:00	19.9	20.7	19.1	19.0	20.3	17.6	20.6	22.7	18.5
18:00	22.1	24.0	20.1	20.7	21.0	20.3	22.0	23.4	20.5
16:00-18:59	20.1	21.6	18.5	19.9	20.7	19.1	20.6	22.2	19.0
19:00	22.8	24.8	20.7	21.6	23.1	20.0	20.7	23.1	18.2
20:00	23.5	25.4	21.6	24.0	24.8	23.1	21.7	24.2	19.2
21:00	24.3	25.9	22.7	24.4	25.9	22.8	23.8	26.0	21.5
22:00	25.2	25.8	24.5	24.1	25.3	22.9	22.8	24.8	20.8
23:00	25.6	25.9	25.2	22.6	24.9	20.3	24.3	26.1	22.4
19:00-23:59	24.3	25.6	22.9	23.3	24.8	21.8	22.6	24.8	20.4
Daily 85th percentile speed	22.2	23.8	20.5	22.3	23.8	20.8	21.9	23.8	20.0
Average 85th percentile speed	23.1**	24.0***	21.7**	23.5	24.3**	22.4	22.5***	24.2***	20.6****

*Average hourly 85th percentile speed estimated over 23 hours **Average hourly 85th percentile speed estimated over 22 hours ***Average hourly 85th percentile speed estimated over 21 hours **** Average hourly 85th percentile speed estimated over 20 hours

5.2.4 The key observations from **Table 5.2** and **Table 5.3** are:

- Similar vehicle flow across the hours on the three days, though generally lower than flows experienced on Section 1 and Section 3.
- Speeds are generally consistent across the hours on the three days. During the hours of peak pedestrian and vehicles flow, between 10:00 and 16:00, vehicle speed remained largely within or near the speed limit. Average hourly speeds north and southbound were highest in the early mornings between midnight and 7am on all three survey days;
- The average hourly 85th percentile speed northbound was 24.0mph on Wednesday, 24.3mph on Saturday and 24.2mph on Tuesday. While the average hourly 85th percentile speed southbound was 21.7mph on Wednesday, 22.4mph on Saturday and 20.6mph on Tuesday;
- The daily 85th percentile speed (i.e. the 85th percentile speed across the whole day and is not based on the hourly average 85th percentile speed) northbound was 23.8mph on Wednesday, 23.8mph on Saturday and 23.8mph on Tuesday. While the daily 85th percentile speed southbound was 20.5mph on Wednesday, 20.8mph on Saturday and 20.0mph on Tuesday.

5.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

5.3.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

5.3.2 Over the course of the three survey days a very low number of incidents occurred. Overall there were just:

- 3 incidents of a motorised vehicle stopping abruptly to avoid a pedestrian; and
- 1 instance of a cyclist stopping abruptly to avoid a pedestrian.

Prohibited Movements

5.3.3 The prohibited movements by both motorised vehicle and by cyclist are set out in **Table 5.4**.

Table 5.4 Section 4 – Prohibited Movements

Prohibited movements	Wed	Sat	Tue	Total	%
Motor vehicles in Safe Zone - eastern side (including legitimate use of vehicular crossings)	53	44	47	144	14%
Cyclists in Safe Zone-eastern side	82	46	29	157	15%
Motor vehicles in Safe Zone - western side (including legitimate use of vehicular crossings)	6	51	11	68	7%
Cyclists in Safe Zone – western side	46	50	51	147	14%
Motor vehicles going wrong way south	36	69	48	153	15%
Cyclists going wrong way south	28	28	58	114	11%
Motor vehicles going wrong way north	13	18	1	32	3%
Cyclists going wrong way north	77	57	96	230	22%
Total per day	341	363	341	1045	100%

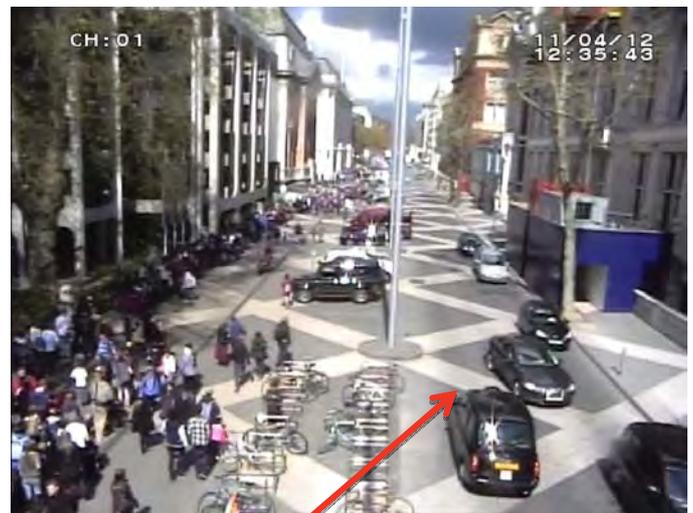
- 5.3.4 Of all vehicles recorded passing through Section 4, 5% of these made some sort of prohibited movement. Cyclists were the main offenders and constitute 62% of these prohibited movements.
- 5.3.5 A high number of vehicles, particularly cars, were recorded driving the wrong way southbound on Exhibition Road. One of the patterns identified in this instance was linked to queuing traffic stretching back from the junction with Cromwell Road. In an effort to avoid this tailback drivers attempt to overtake the queue on the opposite side of the road (northbound lane). It is likely that some of these drivers did not realise that there is only one lane and/or that they cannot turn right onto Cromwell Road. **Figure 5.1** illustrates this further.
- 5.3.6 Some of the prohibited movements by vehicles in the western safe zone relate to drivers misreading the road layout. While a left turn into Exhibition Road from Cromwell Road is prohibited, junction counts recorded a number of motor vehicles making this movement. A number of the motor vehicles making this left turn into Section 4 from Cromwell Road enter via the safe zone on the western side; they continue to travel through the safe zone before re-entering the traffic lane. **Figure 5.2** illustrates this further. A number of motor vehicles also turn right into Section 4 from Cromwell Gardens but this figure is lower than those turning left.
- 5.3.7 In addition, the high number of motor vehicles recorded crossing into the eastern safe zone are due to vehicles entering or exiting Prince's Gate Mews and the V&A vehicular entrance which requires them to cross into this zone. This is no different to a normal vehicle crossover, where vehicles cross pavements to access driveways.

5.3.8 A high number of cyclists were recorded within the safe zones on both sides of the road. Cyclists using the bicycle stands on the western side often arrive and leave these stands through the safe zone. Others merely enter the safe zone on the western side to cut the corner. A high number of cyclists were also recorded as travelling the wrong way north and southbound. These movements were largely due to cyclists entering the opposite lane of traffic.

Figure 5.1 Section 4 - V&A Museum on right



Vehicles Driving the Wrong Way Southbound - A high number of vehicles are recorded driving the wrong way southbound on Exhibition Road as they try to overtake queued traffic tailing back from the junction with Cromwell Road



Vehicles travelling on the wrong side of the road southbound cause north bound vehicles to stop or change direction.

Figure 5.2 Section 4 - V&A Museum on right



Vehicle driving the wrong way northbound - Vehicles that have turned left from Cromwell Road enter via safe zone. Vehicle then crosses to join main carriageway.

5.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

5.4.1 **Table 5.5** sets out the loading and drop-off activity occurring in Section 4 over the three survey days.

Table 5.5 Section 4 – Loading and Drop-off Activity

Loading and Drop-off Activity	Wednesday	Saturday	Tuesday	Total	%
No. of vehicles loading/unloading freight	23	18	23	64	8%
No. of coaches boarding/alighting passengers	3	3	6	12	2%
No. of minibuses (LGV/MGV) boarding/alighting passengers	3	2	2	7	1%
No. of black taxis boarding/alighting passengers	205	221	121	547	70%
No. of cars/private hire vehicles boarding/alighting passengers	74	43	29	146	19%
Total	308	287	181	776	100%

5.4.2 The number of vehicles loading/unloading freight in Section 4 is lower than in other Sections. The V&A Museum, on the eastern side, and the Science Museum and Natural History Museum, on the western side, make up most of the building line in Section 4. The loading/unloading activity relating to these premises mostly takes place on surrounding roads or within the boundaries of these institutions.

5.4.3 There are coach drop off and pick up areas on Cromwell Road, outside of the V&A and the Natural History Museum (on both sides of the road) and in Queen's Gate. The bay opposite the V&A operates a one hour waiting period, while the bay opposite the Natural History Museum is pick up and set down only. Coaches are permitted to pick up and drop off on Exhibition Road with a 20 minute maximum waiting time. Even with such provision a relatively low number of coaches or minibuses were recorded boarding or alighting passengers. Such activities may occur on streets in proximity to Exhibition Road where there is also coach parking provision. By far the most common activity was boarding/alighting of passengers from black taxis, accounting for 70% of all activity in Section 4. The variation over the three days is largely linked to lower numbers of black taxis boarding/alighting passengers on Tuesday.

Parking

5.4.4 Section 4 has echelon parking bays, cycle stands and other items of street furniture. The vehicle parking provision consists of 19 residential bays and 12 blue badge parking bays located on the western side of the road.

Table 5.6 Section 4 – Occupancy for Parking Bays³

Parking area	Wednesday		Saturday		Tuesday	
	Daily Total	Average % occupancy	Daily Total	Average % occupancy	Daily Total	Average % occupancy
Residential Parking (19 bays)	276	61%	352	77%	334	73%
Disabled Parking (12 bays)	3	4%	3	1%	1	0%

5.4.5 Analysis shows that the residential bays are heavily used over the 24 hour survey periods with high percentage occupancy. The night-time occupancy (calculated over 12 hours from 7pm to 7am) was slightly lower than the daily average (Wednesday 57%, Saturday 68%, Tuesday 66%). In contrast to the residential parking, the 12 blue badge bays were used infrequently.

5.4.6 While most parking activity took place in the designated areas, a small number of vehicles also parked for longer than 5 minutes in undesignated areas during the course of the day. Of all parking activity which took place over the three days, 2% of these (24 vehicles) were in undesignated areas.

Bus Stop Survey

5.4.7 Section 4 is the only one of the six link Sections that has bus stop facilities. There are two bus stops, one located outside the Science Museum on the western side, and one located outside the V&A on the eastern side. These bus stops have a kerb to allow ease of boarding and to enable to ramp on the bus to deploy to facilitate wheelchair access.

5.4.8 The busiest hour for pedestrian flow, for each of the three survey days, in daylight and in darkness was selected in order to assess boarding and alighting activity and to provide information on whether pedestrians trip over the raised kerb at the bus stop. Surveyors undertook manual surveys on a Wednesday, Saturday and Tuesday to be consistent with the overall count data (which was obtained a few weeks before) although it should be noted that all three days of the bus stop survey were in term time whereas only one day (Tuesday) of the earlier surveys was carried out in term time. As can be seen in **Table 5.7** low numbers of boarders and alighters were recorded.

5.4.9 Two people were recorded tripping (i.e. a small stumble rather than a fall) at the raised kerb, which is 1% of the total number of people boarding and alighting buses during the six-hour period. It is not possible to determine if these people were bus users or pedestrians' crossing over the road at this point. 699 pedestrians on Wednesday and 451 pedestrians on Tuesday were observed crossing the road eastbound and westbound respectively in Section 4

³ In calculating the occupancy, the 19 residential bays, for example, would have a daily total available space of $19 \times 24 = 456$ spaces, therefore a daily total of 276 would be a 61% occupancy.

during these peak hours. The two people tripping represent 0.1% and 0.2% of the total pedestrians crossings.

Table 5.7 Boarders, alighters and trips at bus stops

		Wednesday		Saturday		Tuesday	
		17:00 - 18:00	22:00- 23:00	16:00 - 17:00	21:00- 22:00	17:00- 18:00	22:00- 23:00
Bus Stop K (west side)	Boarder/alighters	14	2	19	0	3	3
	Tripping	1	0	0	0	0	0
Bus Stop L (east side)	Boarder/alighters	28	3	43	2	28	0
	Tripping	0	0	0	0	1	0

5.5 Section 4 Summary

- No accidents were recorded and there were a very small number of incidents where users stopped abruptly;
- During the hours of peak pedestrian and vehicle flow, between 10:00 and 16:00, vehicle speed remained largely within or near the speed limit. Average hourly speeds were highest in the early morning between midnight and 7am on all three days;
- The average hourly 85th percentile speed northbound was 24.0mph on Wednesday, 24.3mph on Saturday and 24.2mph on Tuesday. While the average hourly 85th percentile speed southbound was 21.7mph on Wednesday, 22.4mph on Saturday and 20.6mph on Tuesday;
- The daily 85th percentile speed (i.e. the 85th percentile speed across the whole day and is not based on the hourly average 85th percentile speed) northbound was 23.8mph on Wednesday, 23.8mph on Saturday and 23.8mph on Tuesday. While the daily 85th percentile speed southbound was 20.5mph on Wednesday, 20.8mph on Saturday and 20.0mph on Tuesday;
- Average hourly 85th percentile speeds between midnight and 7am ranged between 27.6 – 27.7 mph (northbound) and 25.8 – 26.6 mph (southbound). Between 7am and 10am ranged between 26.4 – 26.7 mph (northbound) and 22.9 – 24.8 mph (southbound). Between 10am and 4pm ranged between 20.3 – 21.7 mph (northbound) and 17.3 – 19.0 mph (southbound). Between 4pm and 7pm ranged between 20.7 and 22.2 mph (northbound) and 18.5 – 19.1 mph (southbound) and between 7pm and midnight ranged between 24.8 – 25.6 mph (northbound) and 20.4 – 22.9 mph (southbound);
- A high number of prohibited movements were recorded. Many of these can be attributed to drivers not obeying traffic management restrictions (i.e. parking in undesignated areas within the safe zone), while a number of prohibited movements were as a result of drivers misreading the street layout;

- Parking provision for residents is heavily utilised across all time periods and days. In contrast, the disabled persons' blue badge parking is under-utilised; and
- Two people, between 0.1% and 0.2% of all pedestrians crossing tripped over the bus stop kerbs.

6 Link Results - Section 6

6.1 Introduction

- 6.1.1 Section 6 is located between the junctions of Cromwell Road and Thurloe Place. It is the shortest section measuring approximately 45 metres in length.
- 6.1.2 In Section 6 there is a safe zone on the western side, next to which is an eight metre 'transition zone' where there are two diplomatic parking bays, cycle stands and other items of street furniture. To the east of this are two lanes for traffic, one each way, then a safe zone on the eastern side of the road.
- 6.1.3 Section 6 has a 30mph speed limit and is on a Red Route.

6.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Counts

- 6.2.1 **Table 6.1** lists the pedestrian flow captured passing the screenline and the crossing movements within Section 6.

Table 6.1 Pedestrian Flow and Crossing Movement

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	55	93	58	19	14	7
01:00	28	72	27	0	18	14
02:00	6	18	33	0	0	2
03:00	5	29	29	0	13	11
04:00	2	5	8	9	11	1
05:00	55	16	71	7	7	5
06:00	162	60	191	8	7	10
07:00	381	136	409	23	6	25
08:00	862	205	1,205	70	15	67
09:00	1,481	628	1,573	58	43	72
10:00	1,179	746	2,117	66	59	67
11:00	1,674	1,237	1,170	148	96	90
12:00	2,432	1,769	1,808	118	91	143
13:00	3,003	2,450	2,201	241	161	126
14:00	2,530	2,409	1,765	176	132	122
15:00	2,419	2,320	1,544	161	170	127
16:00	2,321	2,265	1,929	185	200	111
17:00	2,476	2,420	2,669	203	161	139
18:00	1,928	2,423	1,569	114	96	123
19:00	938	2,058	816	70	88	142
20:00	616	1,155	856	69	46	71
21:00	362	494	768	41	25	74
22:00	282	309	853	54	36	67
23:00	215	189	301	26	25	40
Total	25,412	23,506	23,970	1,866	1,520	1,656

6.2.2 The key points to note from **Table 6.1** are:

- The highest flows were recorded on Wednesday during school holidays. This high volume of pedestrian traffic is to be expected in Section 6 as it is the route most visitors take when walking to the museums and students may take when accessing Imperial College; and
- Crossing counts are lower than in other Sections. This may be partly attributed to the fact that it is a short section with formal crossing points either end so pedestrians would be inclined to use these rather than cross the carriageway. In addition, traffic conditions in Section 6 are unlike those in other Sections with traffic queuing, often along the length of the section, particularly from the Cromwell Road junction. There is also little active frontage along Section 6 and no shops or other premises which would encourage pedestrians to cross to.

Vehicle Counts and 85th Percentile Speed

6.2.3 **Table 6.2** presents Vehicle Flow for Section 6. Vehicle flow was recorded using the same screenline point used to capture the pedestrian flows. Counts have been totalled in both directions across the three days.

Table 6.2 Vehicle Counts

Time	Vehicle Flow		
	Wednesday	Saturday	Tuesday
00:00	44	77	55
01:00	21	32	23
02:00	21	11	7
03:00	8	23	4
04:00	15	12	10
05:00	36	37	35
06:00	109	61	108
07:00	185	105	269
08:00	343	160	458
09:00	380	246	431
10:00	396	294	388
11:00	408	338	419
12:00	381	414	446
13:00	425	376	372
14:00	441	420	405
15:00	427	430	418
16:00	415	463	455
17:00	477	420	497
18:00	445	363	504
19:00	382	370	424
20:00	314	285	284
21:00	202	252	224
22:00	170	295	226
23:00	122	261	121
Total	6,167	5,745	6,583

6.2.4 Vehicle flow was similar on each of the survey days. Congestion was observed in Section 6 during much of the day with vehicles queuing back from the lights, particularly in the northbound direction.

6.2.5 As a result of the congestion it was found that vehicles did not pick up enough speed to allow the radar detector to calculate speed in a robust manner. The readings produced spurious results and have therefore been discounted in the analysis of Section 6. Additional observations were carried out on the video footage of Section 6 during different time periods. To further support this a site visit was also undertaken. These observations suggest that,

given the congestion experienced and the short length of the Section, speeds are likely to be significantly less than the 30mph speed limit and lower than 20mph.

6.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

6.3.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

6.3.2 A number of incidents were recorded over the three days.

- 22 pedestrians stopped abruptly to avoid a motorised vehicle;
- 6 pedestrians stopped to avoid a bicycle; and
- 7 motorised vehicles stopped to avoid pedestrians.

6.3.3 These findings indicates that Section 6 is a more vehicle dominated space with more pedestrians stopping to allow drivers to pass than in other Sections. The design of the space reflects this.

Prohibited Movements

6.3.4 The prohibited movements by both motorised vehicles and by cyclists are set out in **Table 6.3**.

Table 6.3 Section 6 – Prohibited Movements

Prohibited movement	Wed	Sat	Tue	Total	%
Motor vehicles in Safe Zone - eastern side	3	2	4	9	3%
Cyclists in Safe Zone - eastern side	2	24	18	44	12%
Motor vehicles in Safe Zone - western side	1	19	8	28	8%
Cyclists in Safe Zone – western side	18	34	45	97	27%
Motor vehicles going wrong way south	0	1	0	1	0%
Cyclists going wrong way south	21	14	21	56	16%
Motor vehicles going wrong way north	2	0	2	4	1%
Cyclists going wrong way north	43	29	47	119	33%
Total per day	90	123	140	358	100%

6.3.5 Of all vehicles recorded passing through Section 6, 2% of these made some sort of prohibited movement. As found in the other Sections, cyclists are responsible for most of the prohibited movements and account for 88% of those recorded. Cyclists moving within

the safe zone are particularly high on the western side and represent 27% of all prohibited movements recorded over the course of the three days.

- 6.3.6 While the numbers of motor vehicles making prohibited movements are lower than those made by cyclists, an interesting pattern was identified. A number of motor vehicles recorded within the western safe zone are due to drivers vehicles making U-turns. These vehicles enter Section 6 (area south of Cromwell Gardens to Thurloe Place) from Section 4 (area south of Imperial College Road to north of Cromwell Gardens). There is a no right turn from Section 4 onto Cromwell Road so vehicles have to continue southbound or turn left. In order to overcome this restriction they continue into Section 6 where they then attempt to make a u-turn. In doing so they often cross the tactile paving and enter the western safe zone. This movement is illustrated in **Figure 6.1**.

Figure 6.1 Movements in the safe zone



Vehicles in Western Safe Zone - Vehicle makes a u-turn (from north to south) turning right from the southbound lane and enters the western safe zone before completing the u-turn. They then travel north via the safe zone and make a left turn onto Cromwell Road.

6.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

- 6.4.1 Exhibition Road between Thurloe Place and Cromwell Road is part of the Red Route network. There is no stopping at any time, with the exception of the two diplomatic parking bays on the western side. While the restrictions appear to be well observed there were a small number of loading and drop off activities observed, these are listed in **Table 6.4**.

Table 6.4 Section 6 – Loading and Drop-off Activity

Loading and Drop-off Activity	Wed	Sat	Tue	Total	%
No. of vehicles loading/unloading freight	0	1	0	1	4%
No. of coaches boarding/alighting passengers	0	0	0	0	0%
No. of minibuses (LGV/MGV) boarding/alighting passengers	0	0	0	0	0%
No. of black taxis boarding/alighting passengers	7	7	3	17	61%
No. of cars/private hire vehicles boarding/alighting passengers	6	4	0	10	36%
Total	13	12	3	28	100%

Parking

- 6.4.2 The two diplomatic parking bays in Section 6 were used from late morning into the evening on both weekdays surveyed between 11:00 and 21:00. As the use of these bays is linked to the office hours of the embassy, the low occupancy on Saturday is to be expected.
- 6.4.3 The red route restrictions are well observed and no incidents of vehicles stopping in undesignated areas for longer than 5 minutes were recorded.

Table 6.5 Section 6 – Occupancy of Parking Bays ⁴

Parking type	Wednesday		Saturday		Tuesday	
	Daily Total	Average % occupancy	Daily Total	Average % occupancy	Daily Total	Average % occupancy
Diplomatic Parking (2 bays)	17	35%	2	4%	9	19%

6.5 Section 6 Summary

- No accidents were recorded though there were a number of incidents where pedestrians stopped abruptly to avoid a motorised vehicle. This suggests that drivers may be more inclined than pedestrians to assume right-of-way in Section 6;
- Pedestrian flows are very high in Section 6 as it is a key link from South Kensington Tube Station. However, relative to pedestrian flow, lower numbers of east west/ west east crossing movements were recorded. This may be due to pedestrians already

⁴ In calculating the occupancy, the 2 Diplomatic bays, for example, would have a daily total available space of 2 x 24 = 48 spaces, therefore a daily total of 17 would be 35% occupancy.

making their desired crossing in a previous section or that the western footway is a more direct route from the station. However, it may also be due to the slow moving queued traffic on the carriageway which could deter people from crossing at this point;

- It was not possible to calculate 85th percentile speeds due to the slow moving traffic. This inability to record speeds indicates that the majority of these were below ~10mph. This along with the congested nature and short length of Section 6 suggests that speeds remain well below the 30mph speed limit;
- A high number of prohibited movements were recorded by cyclists, particularly those travelling with the western safe zone. A number of movements relating to vehicles can be linked to the no right-turn onto Cromwell Road from Section 4 which results in drivers entering Section 6 and then attempting a u-turn;
- The red route restrictions are well observed with low numbers of black taxis and private cars stopping to board/alight passengers; and
- Parking provision for the diplomatic bays is well used during weekdays and appears to be adequate to meet demand.

7 Link Results - Section 7

7.1 Introduction

- 7.1.1 Section 7 is located south of Thurloe Place and extends to Thurloe Street and is approximately 75 metres in length. This section of Exhibition Road is a Restricted Zone which means parking is prohibited at all times but loading and unloading is allowed. Traffic is only permitted one way southbound. Traffic restrictions are in place and vehicles can only enter Section 7 travelling southbound from Section 6 and through a left hand and right turn from Thurloe Place.
- 7.1.2 In this Section there is a safe zone on the western side, next to which there is an 8 metre transition zone. To the east is one lane for traffic, then a four metre safe zone on the eastern side of the road.
- 7.1.3 Section 7 is more of a 'place' than the other Sections due to the café and restaurant activity of the adjacent buildings which extends onto the transition zone creating what is referred to as a boulevard zone.
- 7.1.4 There are no parking bays in Section 7. The speed limit is 30 mph.

7.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Counts

- 7.2.1 **Table 7.1** lists the pedestrian flow captured passing the screenline and the crossing movements within Section 7.

Table 7.1 Pedestrian Flow and Crossing Movement

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	66	120	39	21	37	4
01:00	31	43	9	9	20	0
02:00	3	28	12	6	7	0
03:00	6	9	5	4	11	5
04:00	4	4	9	13	3	7
05:00	54	19	70	11	15	17
06:00	304	80	268	20	36	66
07:00	461	206	509	58	69	133
08:00	962	282	1,316	87	133	211
09:00	1,400	565	1,595	141	216	266
10:00	923	613	1,094	153	222	196
11:00	1,255	923	1,197	238	238	203
12:00	1,544	1,598	1,792	328	329	364
13:00	1,905	2,341	2,184	428	359	267
14:00	1,925	2,246	1,703	385	417	233
15:00	1,836	2,158	1,387	339	470	223
16:00	1,835	1,994	1,889	319	457	239
17:00	1,900	2,025	2,742	347	430	219
18:00	1,763	1,481	2,302	250	384	242
19:00	1,009	825	1,439	230	247	198
20:00	679	601	969	192	224	161
21:00	388	356	761	123	157	156
22:00	267	346	880	92	77	107
23:00	183	319	328	41	73	43
Total	20,703	19,182	24,499	3,835	4,631	3,560

7.2.2 The main observations from **Table 7.1** are:

- Tuesday during term time records the highest pedestrian flow;
- Pedestrian flow is relatively high on the two weekdays between 06:00 and 10:00, though not on Saturday; and
- Crossing movement is very high in Section 7. This is likely to be partly due to the single lane of traffic and low vehicle volume. The place feel and the fact that there are shops and cafes on either side of the street may also encourage people to cross more freely.

Vehicle Flow and 85th Percentile Speed

7.2.3 **Table 7.2 and Table 7.3** present Vehicle Flow and 85th Percentile Speed for Section 7. While two-way combined vehicle flows were presented for the other sections, the counts for Section 7 are presented as north and southbound. Section 7 is one-way southbound only but the vehicle screenline counts indicate that a number of vehicles make a prohibited northbound movement along this Section.

Table 7.2 Vehicle Flow

Time	Vehicle Flow					
	Wednesday		Saturday		Tuesday	
	North bound	South bound	North bound	South bound	North bound	South bound
00:00	2	13	5	25	3	15
01:00	0	4	7	10	2	1
02:00	0	7	3	8	2	3
03:00	1	4	0	5	1	3
04:00	0	5	2	5	2	1
05:00	4	14	2	6	1	9
06:00	6	20	1	13	1	17
07:00	3	30	1	22	5	42
08:00	6	57	1	35	11	59
09:00	2	97	4	44	11	47
10:00	7	81	4	37	4	56
11:00	5	62	1	59	5	65
12:00	8	59	8	44	8	68
13:00	4	66	1	48	1	58
14:00	6	47	3	66	5	42
15:00	6	46	5	58	4	59
16:00	6	54	0	70	3	53
17:00	10	43	6	46	2	51
18:00	7	75	2	60	13	60
19:00	4	43	2	50	4	56
20:00	2	58	3	53	4	39
21:00	3	33	5	50	4	42
22:00	4	26	7	56	11	31
23:00	7	18	3	27	6	8
Total	103	962	76	897	113	885

Table 7.3 85th Percentile Speed

Time	85 th Percentile Speed (mph)								
	Wednesday			Saturday			Tuesday		
	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound
00:00	16.4	13.0	19.9	16.7	13.6	19.8	14.8	13.1	16.6
01:00	16.0	13.8	18.3	13.2	13.2		12.6	12.6	
02:00	14.1	12.2	16.0	16.5	14.5	18.5	12.4	12.4	
03:00	12.8	12.8		13.5	13.5		11.9	11.9	
04:00	16.7	15.1	18.3	11.5	11.5		14.5	14.5	
05:00	14.8	14.3	15.4	18.4	13.3	23.5	16.7	14.7	18.8
06:00	17.6	16.2	19.1	16.5	15.6	17.5	17.3	14.8	19.8
00:00-06:59	15.5	13.9	17.8	15.2	13.6	19.8	14.3	13.4	18.4
07:00	16.4	13.8	19.1	18.5	17.1	19.9	18.0	17.7	18.4
08:00	15.2	11.7	18.7	17.3	14.0	20.6	17.9	16.8	19.0
09:00	15.3	10.7	19.9	15.7	12.8	18.6	14.2	10.8	17.7
07:00-09:59	15.6	12.1	19.2	17.2	14.6	19.7	16.7	15.1	18.4
10:00	14.8	10.8	18.8	14.6	10.8	18.5	14.9	10.8	19.0
11:00	13.3	10.7	16.0	15.3	10.6	20.1	15.2	10.6	19.9
12:00	13.5	10.6	16.4	13.6	10.7	16.5	15.3	11.0	19.6
13:00	12.7	10.6	14.9	11.5	10.0	13.0	14.6	10.0	19.2
14:00	11.6	10.4	12.9	12.7	10.4	15.1	14.2	10.8	17.7
15:00	12.9	10.8	15.0	11.7	10.3	13.2	13.6	10.6	16.7
10:00-15:59	13.1	10.7	15.7	13.2	10.5	16.1	14.6	10.6	18.7
16:00	12.6	10.2	15.0	13.4	9.9	17.0	17.1	15.3	19.0
17:00	12.8	10.9	14.8	12.1	10.3	13.9	13.8	10.5	17.2
18:00	14.5	10.6	18.4	13.8	10.7	17.0	13.5	10.5	16.6
16:00-18:59	13.3	10.6	16.1	13.1	10.3	16.0	14.8	12.1	17.6
19:00	14.7	10.8	18.7	15.5	10.7	20.3	14.8	10.7	18.9
20:00	14.6	10.7	18.6	14.6	10.5	18.8	14.4	10.4	18.5
21:00	15.4	11.8	19.1	15.3	10.7	19.9	14.9	11.6	18.3
22:00	16.1	13.0	19.2	15.9	12.0	19.8	14.8	10.7	18.9
23:00	16.0	13.6	18.4	15.7	12.1	19.3	15.8	12.9	18.7
19:00-23:59	15.4	12.0	18.8	15.4	11.2	19.6	14.9	11.3	18.7
Daily 85 th percentile speed	14.7	11.7	17.7	15.0	11.7	18.3	15.8	12.8	18.7
Average hourly 85 th percentile speed	14.6	12.0	17.4*	14.7	12.0	18.1***	14.9	12.3	18.4****

*Average hourly 85th percentile speed estimated over 21 hours **Average hourly 85th percentile speed estimated over 22 hours ***Average hourly 85th percentile speed estimated over 23 hours **** Average hourly 85th percentile speed estimated over 20 hours

7.2.4 The main observations from Table 7.2 are:

- Traffic is only permitted southbound for Section 7 with vehicles required to turn left onto Thurloe Street (except right turn access for vehicles loading 7-10am in pedestrian zone in Section 8). However, as can be seen from Table 7.2, a number of vehicles were recorded travelling northbound on Section 7 which is a prohibited movement.
- Speeds southbound are generally consistent across the hours on the three days and are below the speed limit of 30mph. The average hourly 85th percentile speed southbound was 17.4mph on Wednesday, 18.1mph on Saturday and 18.4mph on Tuesday. While the daily 85th percentile speed (i.e. the 85th percentile speed across the whole day) was 17.7mph on Wednesday, 18.3mph on Saturday and 18.7mph on Tuesday. The adherence to the speed limit may be due to a number of characteristics of the Section such as the café activity, the volume of pedestrians, the low volume of traffic and short link with signalised junction to the north.

7.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

7.3.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

7.3.2 There were small numbers of such incidents over the three days:

- Six incidents where a pedestrian stopped abruptly to avoid a motorised vehicle;
- Two motorised vehicles stopping to avoid a pedestrian; and
- One incidence of a motorised vehicle stopping to avoid a cyclist.

Prohibited Movements

7.3.3 Prohibited movements by both motorised vehicles and by cyclists are set out in **Table 7.3**.

Table 7.4 Section 7 Prohibited Movements

Prohibited movement	Wed	Sat	Tue	Total	%
Motor vehicles in Safe Zone - eastern side	102	63	83	248	31%
Cyclists in Safe Zone - eastern side	10	0	9	19	2%
Motor vehicles in Safe Zone - western side	51	44	34	129	16%
Cyclists in Safe Zone – western side	25	9	10	44	5%
Motor vehicles going wrong way south	57	24	57	138	17%
Cyclists going wrong way south	24	10	2	36	4%
Motor vehicles going wrong way north	30	83	83	196	24%
Cyclists going wrong way north	0	0	0	0	0%
Total per day	299	233	278	810	100%

- 7.3.4 There appears to be some confusion for motor vehicles entering and moving within Section 7 suggesting that the street may not be entirely legible for drivers.
- 7.3.5 Of all vehicles recorded passing through Section 7, 27% of these made some sort of prohibited movement. Motor vehicles are responsible for most of the prohibited movements and account for 88% of those recorded. Motor vehicles moving within the safe zone on the eastern side are particularly high though it was found that this was mainly as a result of left turning vehicles into Thurloe Place cutting the corner and entering the eastern safe zone. This is illustrated in **Figure 7.1**.
- 7.3.6 A high number of motor vehicles were also recorded travelling the wrong way northbound. A significant proportion of these were observed to come from Thurloe Street which then travelled north and exited onto Thurloe Place. The high numbers classed as going the wrong way north also relate to vehicles which turned right into Thurloe Street (Section 8) without realising that it is not a through road. They then reverse north into Section 7. Some of the movements classed as prohibited movements northbound are also illustrated in **Figure 7.1**.
- 7.3.7 A high number of vehicles within the western safe zone were observed to be vehicles which enter Section 7 from the north via the safe zone rather than via the carriageway as illustrated in **Figure 7.2**.
- 7.3.8 Many of the vehicles travelling the wrong way southbound are due to vehicles turning right into Thurloe Place (Section 8) without realising that it is not a through road, then reversing back into Section 7 before turning left.

Figure 7.1 (a) Vehicles in eastern safe zone (b) Movements wrong way northbound



Right turning vehicles often cut the corner, entering eastern safe zone.



Wrong way northbound – A number of vehicles were observed travelling on the carriageway the wrong way north before exiting onto Thurloe Place or continuing northbound into Section 6.

Figure 7.2 Movements in safe zone



A number of vehicles were observed entering Section 7 from the north via the western safe zone rather than via the carriageway.

7.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

7.4.1 A small number of private cars and black taxis were observed to board/alight passengers but for the most part the restrictions were well observed.

Table 7.5 Section 7 Loading and Drop-off Activity

Loading and Drop-off Activity	Wednesday	Saturday	Tuesday	Total	%
No. of vehicles loading/unloading freight	82	48	86	216	70%
No. of coaches boarding/alighting passengers	0	0	0	0	0%
No. of minibuses (LGV/MGV) boarding/alighting passengers	0	1	0	1	0%
No. of black taxis boarding/alighting passengers	8	4	14	26	8%
No. of cars/private hire vehicles boarding/alighting passengers	27	19	18	64	21%
Total	117	72	118	307	100%

Parking

7.4.2 There is no parking permitted within Section 7. However, in addition to those vehicles undertaking loading activities or boarding/alighting passengers, over the course of the three days a number of vehicles were also observed to park for longer than 5 minutes. This included eighteen vehicles on Wednesday, five on Saturday and nine on Tuesday.

7.5 Section 7 Summary

- Section 7 is a restricted zone and these restrictions appear to be well observed;
- No accidents were recorded though there were a small number of incidents;
- Section 7 has more active frontage than any of the other Sections, primarily café activity which stretches out into the transition zone. As such it has more of a place function which is aided by the low traffic flows and high pedestrian flows;
- One way traffic speeds were well within the 30mph speed limit. The average hourly 85th percentile speed southbound was 17.4mph on Wednesday, 18.1mph on Saturday and 18.4mph on Tuesday. While the daily 85th percentile speed (i.e. the 85th percentile speed across the whole day) was 17.7mph on Wednesday, 18.3mph on Saturday and 18.7mph on Tuesday. This adherence to the speed limit may be due to a number of characteristics of the Section such as the café activity, the volume of

pedestrians, the low volume of traffic and short link with signalised junction to the north;

- Average hourly 85th percentile speeds between midnight and 7am ranged between 17.8 – 19.8 mph (southbound). Between 7am and 10am ranged between 18.4 – 19.7 mph (southbound). Between 10am and 4pm ranged between 15.7 – 18.7 mph (southbound). Between 4pm and 7pm ranged between 16.0 and 17.6 mph (southbound) and between 7pm and midnight ranged between 18.7 – 19.3mph (southbound); and
- A high number of prohibited movements were recorded by cyclists and vehicles. This suggests that Section 7 may pose some problems in terms of legibility for these users.

8 Link Results - Section 8

8.1 Introduction

- 8.1.1 Section 8 is within Thurloe Street and extends approximately 70 metres in length from Exhibition Road to South Kensington Tube Station.
- 8.1.2 It is a Pedestrian Zone and vehicles are prohibited except between 7am and 10am for deliveries only.
- 8.1.3 Section 8 contains a Barclays Cycle Hire docking station and the speed limit is 30mph.

8.2 Pedestrian Counts, Vehicle Speed and Vehicle Counts

Pedestrian Flow and Crossing Movement

- 8.2.1 **Table 8.1** lists the pedestrian flow captured passing the screenline and the crossing movement within Section 8.

Table 8.1 Pedestrian Flow and Crossing Movement

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
00:00	146	164	52	65	119	158
01:00	56	60	13	28	21	54
02:00	26	24	20	6	13	32
03:00	25	26	12	5	8	17
04:00	7	9	12	5	3	18
05:00	60	29	76	55	18	100
06:00	273	88	312	205	74	350
07:00	684	213	678	463	160	757
08:00	1,332	357	1,635	805	255	2,023
09:00	1,749	636	1,866	1,254	477	1,998
10:00	1,368	963	1,304	980	554	1,277
11:00	1,794	1,181	1,304	1,250	802	1,141
12:00	2,746	1,783	2,101	1,809	1,065	1,579
13:00	3,115	2,864	2,338	1,739	1,662	1,733
14:00	2,416	2,674	1,927	1,445	1,281	1,466
15:00	2,210	2,360	1,727	1,142	1,167	1,234
16:00	2,120	1,995	2,346	1,271	1,144	1,778
17:00	2,487	2,157	3,116	1,479	1,078	2,276
18:00	2,334	1,441	2,633	1,375	843	1,887
19:00	1,387	806	1,572	883	620	1,292
20:00	982	480	1,181	582	402	1,017
21:00	616	405	940	343	291	789
22:00	411	418	978	291	295	847

23:00	288	365	409	237	258	402
Total	28,632	21,498	28,552	17,717	12,610	24,225

8.2.2 Pedestrian flow is high on Section 8, but particularly on the two weekdays. Given its proximity to South Kensington Tube Station and other retail areas, this high volume would be expected.

8.2.3 While there is considerable variation in the crossing counts across the three days, these counts are somewhat subjective in Section 8. As it is a pedestrianised area pedestrians can move through the space as they wish and so variation would be expected.

Vehicle Flow

8.2.4 **Table 8.2** presents Vehicle Flow for Section 8. Whilst vehicles are prohibited from entering Section 8 except between 7am and 10am for deliveries only, as can be seen from the counts a number of vehicles enter this area throughout the day. As described in Chapter 7, a number of vehicles turn right into Section 8 in error thinking that it is a through road. They then need to manoeuvre out of it.

8.2.5 Speeds were not recorded for Section 8 as it is not a through road.

Table 8.2 Vehicle Flow

Time	Vehicle Flow		
	Wednesday	Saturday	Tuesday
00:00	9	14	3
01:00	2	11	0
02:00	6	9	3
03:00	3	8	3
04:00	17	3	4
05:00	5	4	2
06:00	14	11	15
07:00	24	7	25
08:00	21	17	10
09:00	8	12	27
10:00	9	14	22
11:00	7	22	29
12:00	22	19	42
13:00	16	20	19
14:00	11	36	30
15:00	12	28	28
16:00	20	47	21
17:00	19	26	41
18:00	14	19	45
19:00	8	16	32
20:00	13	14	26
21:00	8	15	20

22:00	4	14	25
23:00	5	11	14
Total	277	397	486

8.3 Accidents, Stopping Abruptly and Prohibited Movements

Accidents

8.3.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

8.3.2 A small number of incidents occurred over the three days. The lack of interaction between motorised vehicles and pedestrians/cyclists may explain this finding. Of the recorded encounters:

- One incidence of a motorised vehicle stopping abruptly for a pedestrian;
- One incidence of a cyclist stopping to avoid a motorised vehicle; and
- One incidence of a pedestrian stopping to avoid a motorised vehicle.

Prohibited Movements

8.3.3 Due to the traffic restrictions, all vehicle movements within Section 8 outside 07:00-10:00 hours are considered prohibited movements. However, when assessing Section 8 using the same prohibited movement criteria used for the other Sections, the observations are as set out in **Table 8.3**.

Table 8.3 Section 8 Prohibited Movements

Prohibited movements	Wed	Sat	Tue	Total	%
Motor vehicles going wrong way westbound	30	21	18	69	14%
Cyclists going wrong way westbound	0	0	0	0	0%
Motor vehicles going wrong way westbound	30	41	45	116	23%
Cyclists going wrong way westbound	0	0	0	0	0%
South side - Motor vehicles in Safe Zone (including legitimate use of vehicular crossings)	5	8	3	16	3%
South side - Cyclists in Safe Zone	68	12	48	128	25%
North side - Motor vehicles in Safe Zone	11	5	6	22	4%
North side - Cyclists in Safe Zone	71	19	64	154	30%
Totals per day	215	106	184	505	100%

- 8.3.4 Most of the movements shown in Table 8.3 were explained in Chapter 7. In addition to the earlier commentary on these, a large number of vehicles within the safe zone on the north and south are due to parked vehicles.

8.4 Parking, Loading and Drop-off Activity

Loading and Drop-off Activity

- 8.4.1 The main loading and drop-off activity in Section 8 is loading/unloading of freight for local businesses. As mentioned previously, Section 8 is a pedestrianised zone and loading/unloading is only permitted between 07:00 and 10:00. Outside these times loading and unloading can take place on Exhibition Road using barrows to get to Thurloe Street. However, only thirteen of the freight loading activities on Wednesday, eight on Saturday and six on Tuesday occurred during these hours. The majority of freight activities took place between 01:00 and 07:00 on all three days.
- 8.4.2 A small number of private cars and black taxis were observed to board/alight passengers. The restrictions in Section 8 appear to be less well observed than in Sections 6 or 7.

Table 8.4 Section 8 Loading and Drop-off Activity

Loading and Drop-off Activity	Wed	Sat	Tue	Total	%
No. of vehicles loading/unloading freight	37	21	25	83	68%
No. of coaches boarding/alighting passengers	0	0	0	0	0%
No. of minibuses (LGV/MGV) boarding/alighting passengers	0	0	0	0	0%
No. of black taxis boarding/alighting passengers	4	6	3	13	11%
No. of cars/private hire vehicles boarding/alighting passengers	6	11	9	26	21%
Total	47	38	37	122	100%

Parking

- 8.4.3 There are no designated parking bays within Section 8. However, in addition to those vehicles undertaking loading activities or boarding/alighting passengers, over the course of the three days a high number of vehicles were also observed to park for longer than 5 minutes. Thirty-five vehicles on Wednesday, ten on Saturday and eighteen on Tuesday were recorded parking in Section 8, many of these within the safe zones.

8.5 Section 8 Summary

- Section 8 is a pedestrianised zone with no vehicle access except between 07:00 and 10:00 when loading is permitted. However these restrictions do not appear to be well

observed and a relatively high number of vehicles enter the area to load outside of these hours or to park for periods longer than 5 minutes. Vehicles also appear to enter Section 8 in error believing it to be a through road.

- No accidents were recorded though there were a small number of incidents of vehicles stopping abruptly.
- Similar to Section 7, Section 8 has more on-street activity than most of the other Sections, primarily retail activity. As such it has more of a 'place' function which is aided by the ban on general traffic and high pedestrian flows.

9 Junction Results

9.1 Introduction

- 9.1.1 Included in the Part A surveys were vehicle turning counts and pedestrian crossing counts, which were recorded at nine junctions within the study area.
- 9.1.2 **Figure 9.1** illustrates the junctions where counts were recorded.
- 9.1.3 The AM and PM peak flows across the three survey days are presented in the figures below. The green numbers represent Wednesday counts, purple represent Saturday counts and red represent Tuesday counts. Blue arrows indicate permitted movements, while red arrows indicate prohibited movements.

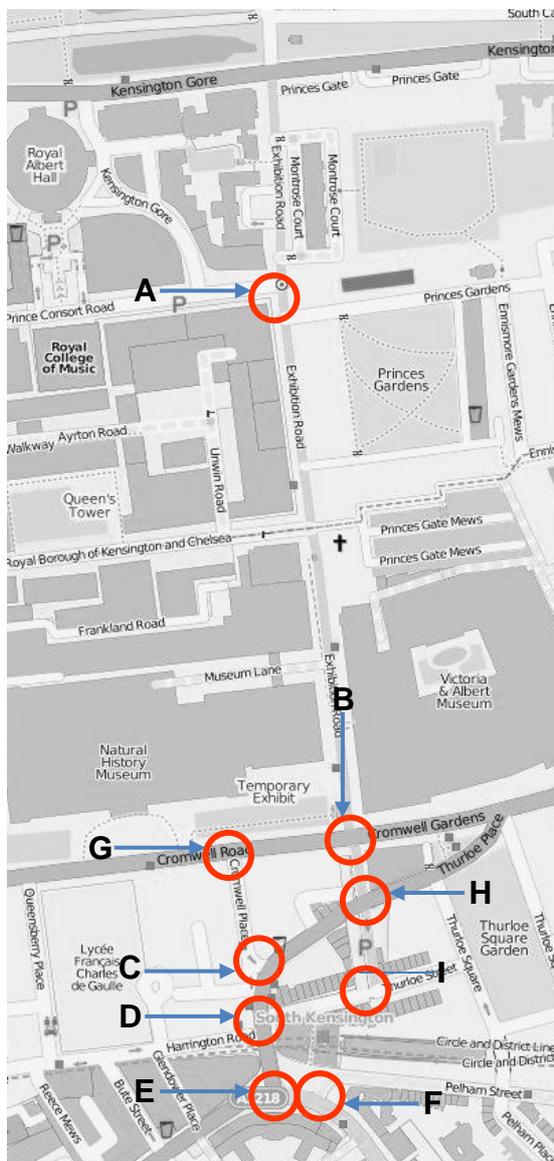


Figure 9.1 Junction Locations

9.2 Section 2

Junction A

This junction is a staggered four-arm junction located at Exhibition Road, Prince Consort Road and Princes Gardens.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.2 Vehicle Turning Counts in the AM and PM Peak

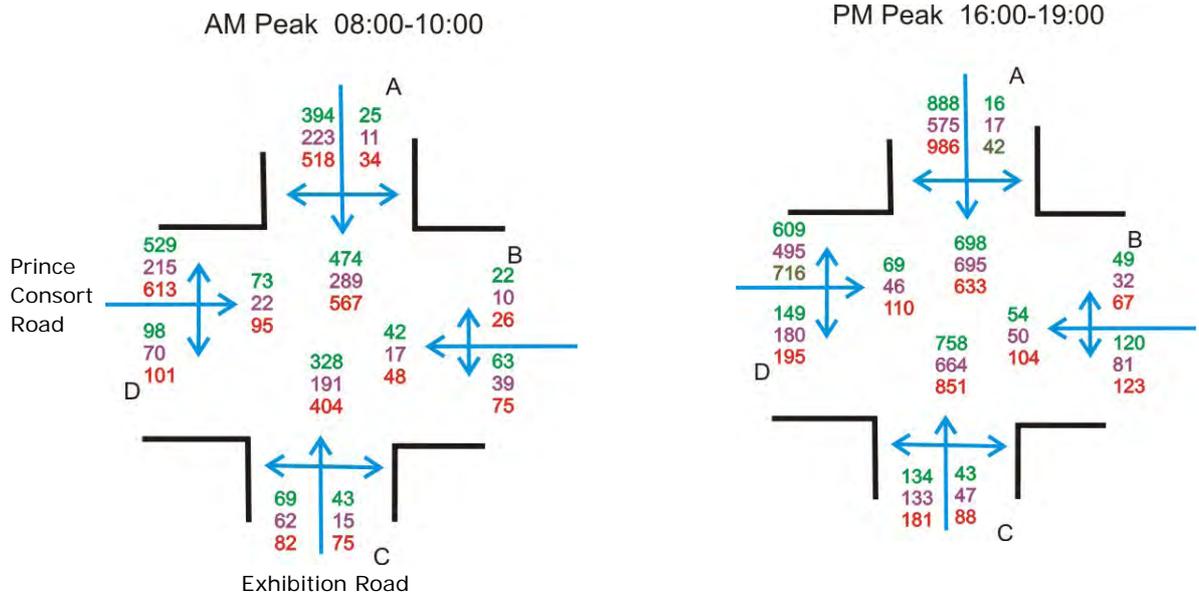
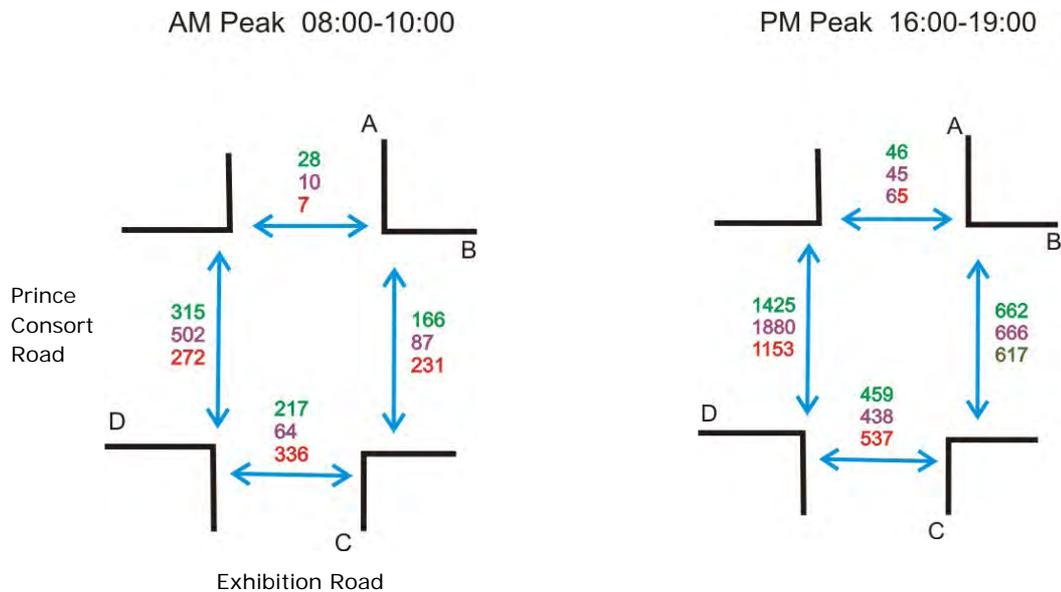


Figure 9.3 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.2.1 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.2.2 A few incidences of users stopping abruptly at Junction A were recorded with:

- Nineteen records of vehicles stopping abruptly to avoid a pedestrian; and
- Two incidents of a pedestrian stopping abruptly to avoid a motorised vehicle.

9.2.3 The relatively high number of vehicles stopping abruptly to avoid a pedestrian is composed largely of right-turning vehicles stopping to avoid a conflict with pedestrians crossing the southern (westbound) lane of Prince Consort Road. The pedestrian refuge further down Prince Consort Road provides an informal waiting area for pedestrians to cross the road in two stages. As they are stationary in the middle of the road, vehicles are more inclined to stop (albeit abruptly) to let them cross. In addition, the contrasting materials that denote the roundabout provide a kind of informal stop line at the start of Prince Consort Road.

9.3 Section 5

Junction B

9.3.1 Junction B is a four arm junction at Exhibition Road and Cromwell Road. It is located between link Section 6 and 7. There are two controlled pedestrian crossings at the junction, on arm D and arm B, indicated by the purple arrows in **Figure 9.5** below.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.4 illustrates the AM peak and PM peak flows through the junction. While there were some prohibited movements on all arms, the prohibited left turn (D to A) from Cromwell Road into Exhibition Road was the most common representing 2% of movements eastbound through the junction in the AM peak, and 1% of eastbound movements in the PM peak.

Figure 9.4 Vehicle Turning Counts in the AM and PM Peak

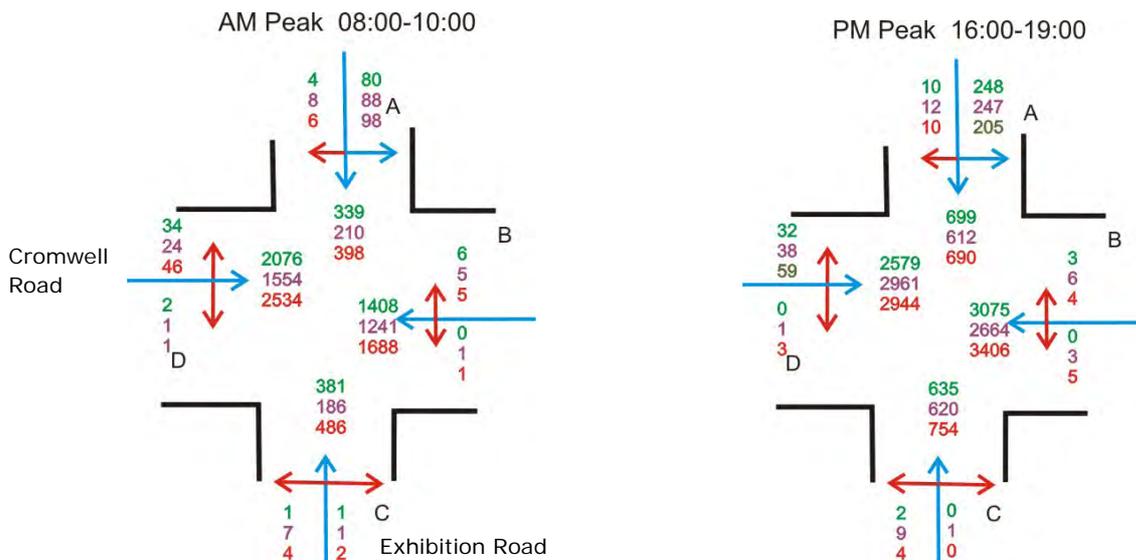
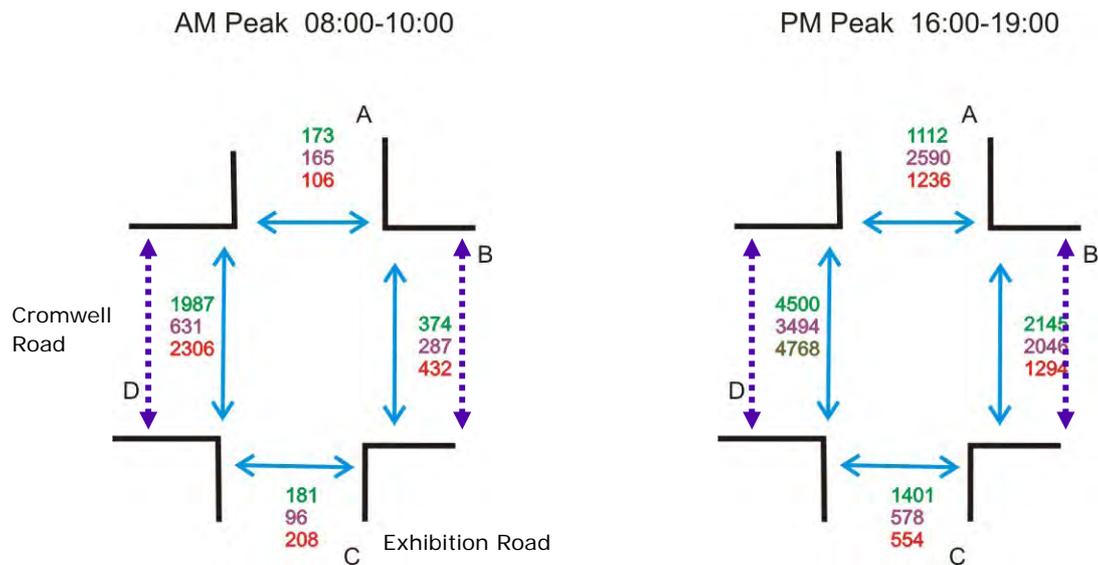


Figure 9.5 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.3.2 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.3.3 Very few incidences of users stopping abruptly at Junction B were observed with:

- six records of vehicles stopping abruptly to avoid a pedestrian; and
- Two incidents of a pedestrian stopping abruptly to avoid a motorised vehicle.

9.4 Section 9

Junction C

9.4.1 Junction C is a T-junction located at Cromwell Place and Thurloe Place.

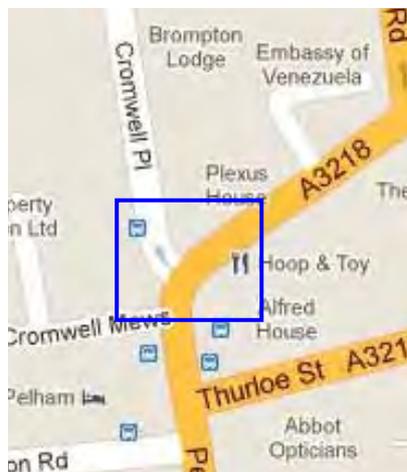


Figure 9.6 Junction C

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.7 Vehicle Turning Counts in the AM and PM Peak

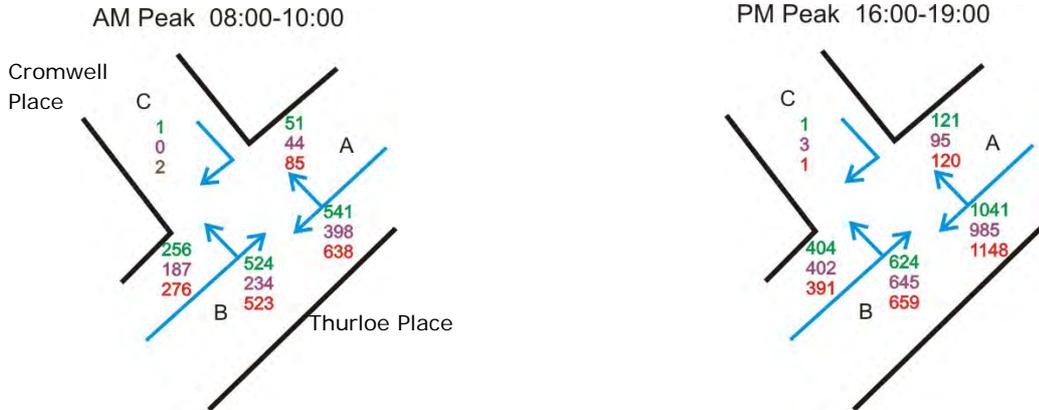
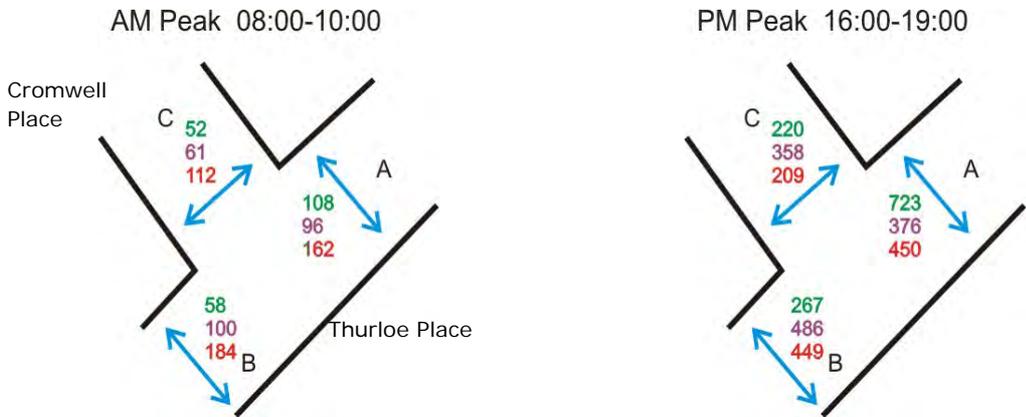


Figure 9.8 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.4.2 No accidents occurred during any of the three survey days.

Stopping Abruptly

There were a number of instances of users stopping abruptly at Junction C over the course of the three days:

- 47 pedestrians stopped abruptly to avoid a motorised vehicle; and
- Four vehicles stopped abruptly to avoid a pedestrian.

9.4.3 The high incidence of pedestrians stopping abruptly may be caused by the sharp turn into Thurloe Place, the wide crossing point and/or relatively high vehicle approach speeds from Cromwell Place.

9.4.4 In addition, fifteen cases of vehicles stopping for over 30 seconds for no apparent reason were recorded over the three days.

Junction D

9.4.5 Junction D is a T-junction located at Harrington Road and Cromwell Place.



Figure 9.9 Junction D

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.10 Vehicle Turning Counts in the AM and PM Peak

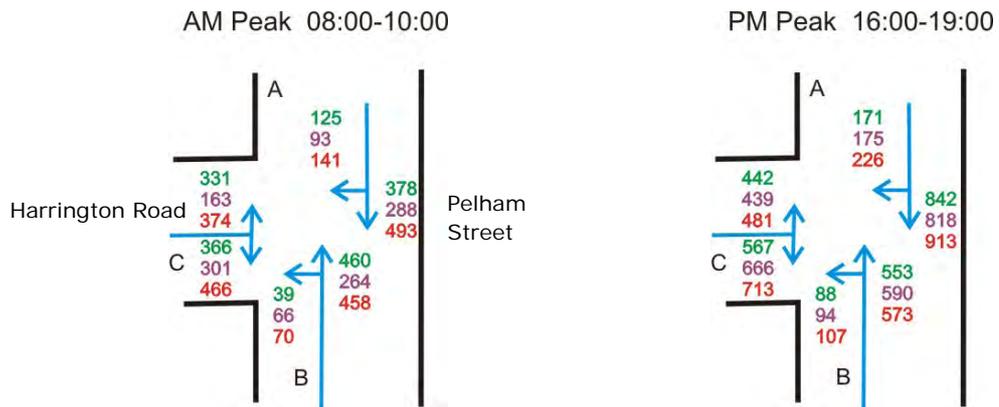
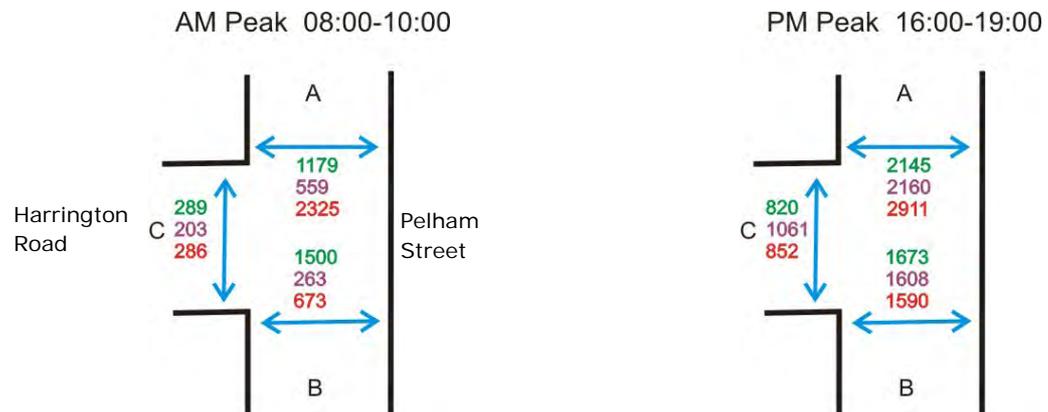


Figure 9.11 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.4.6 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.4.7 A small number of instances of users stopping abruptly at Junction D were recorded over the course of the three days:

- One motorised vehicle stopped abruptly to avoid a pedestrian;
- Four pedestrians stopped abruptly to avoid a motorised vehicle;
- One pedestrian stopped abruptly to avoid a cyclist;
- One cyclist stopped abruptly to avoid a pedestrian; and
- One cyclist stopped abruptly to avoid a motorised vehicle.

Junction E

9.4.8 Junction E is a T-junction located at Old Brompton Road and Pelham Street. There are three controlled pedestrian crossings at the junction, indicated by the purple arrows in **Figure 9.12** below.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.12 Vehicle Turning Counts in the AM and PM Peak

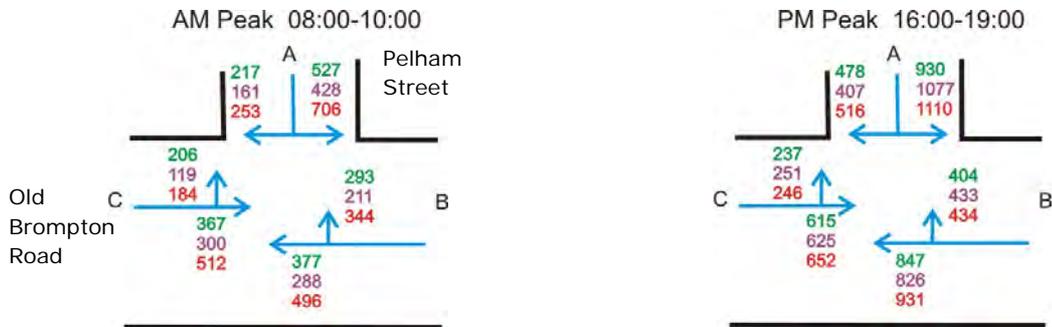
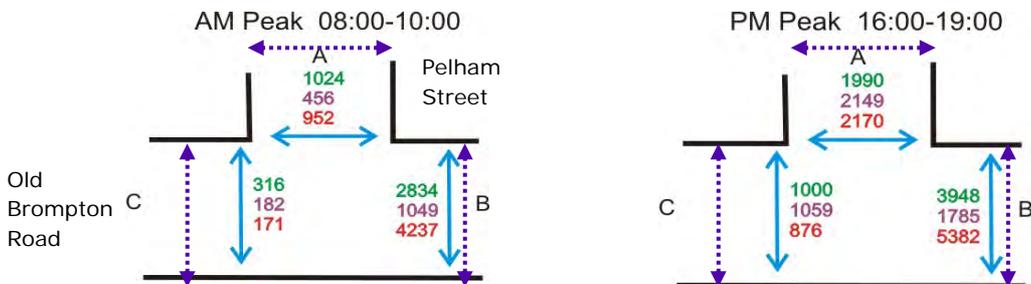


Figure 9.13 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.4.9 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.4.10 There were very few incidences of users stopping abruptly at Junction E, with only three records of vehicles stopping abruptly to avoid a pedestrian.

Junction F

9.4.11 Junction F is a T-junction between Pelham Street and Onslow Square.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.14 Vehicle Turning Counts in the AM and PM Peak

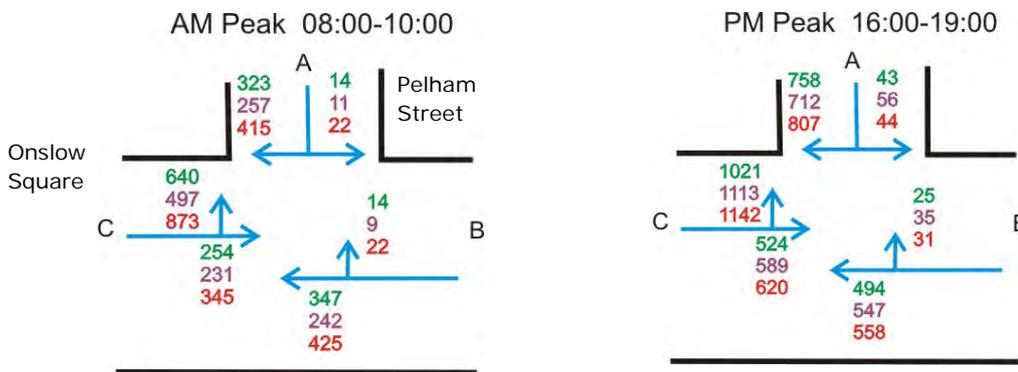
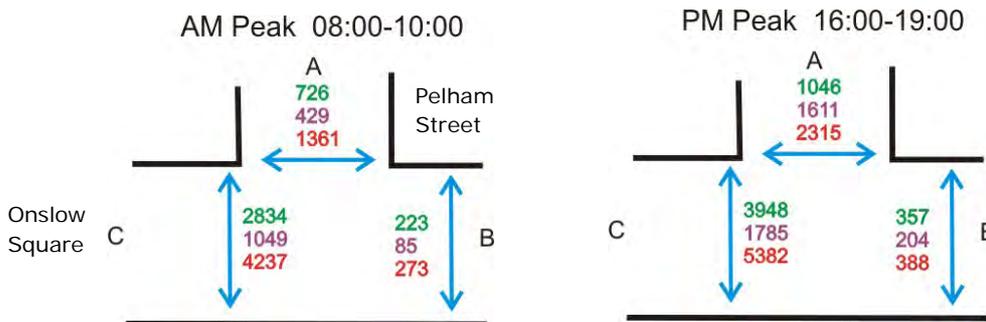


Figure 9.15 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.4.12 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.4.13 Only one incidence of a user stopping abruptly at Junction F was recorded and this involved a motorised vehicle stopping abruptly to avoid a pedestrian.

9.5 Section 10

Junction G (Referenced as Junction 1 in Appendices L-O)

9.5.1 Junction G is a T-junction located at Cromwell Road and Cromwell Place. There are two controlled pedestrian crossings at the junction, on arm A and arm C, indicated by the purple arrows in Figure 9.16 below.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.16 Vehicle Turning Counts in the AM and PM Peak

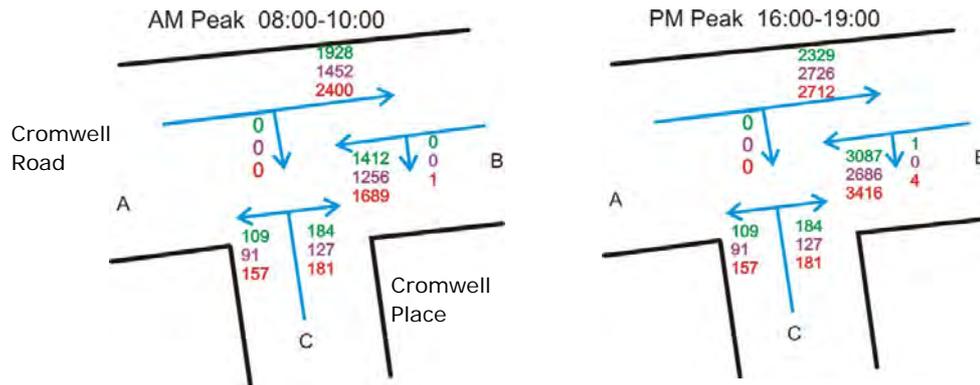
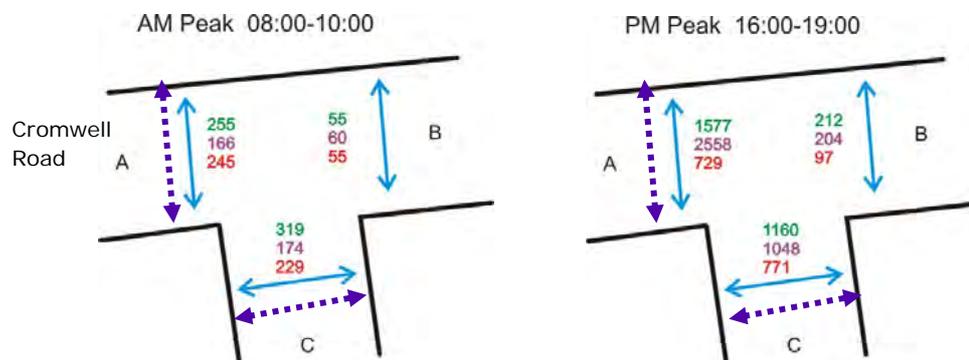


Figure 9.17 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.5.2 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.5.3 Very few instances of users stopping abruptly were recorded at Junction G. Only two cases of a motorised vehicle stopping abruptly to avoid a pedestrian were recorded.

9.5.4 Four cases of vehicles stopping for over 30 seconds for no apparent reason were also recorded over the three days.

9.6 Section 11

Junction H

9.6.1 Junction H is a four arm junction located at Exhibition Road and Thurloe Place. There are two controlled pedestrian crossings at the junction, on arm D and arm B, indicated by the purple arrows in **Figure 9.18** below.

9.6.2 A number of vehicles were recorded in the AM and PM peaks across all three days exiting from Arm D (Section 7, Exhibition Road) which is a prohibited northbound movement.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.18 Vehicle Turning Counts in the AM and PM Peak

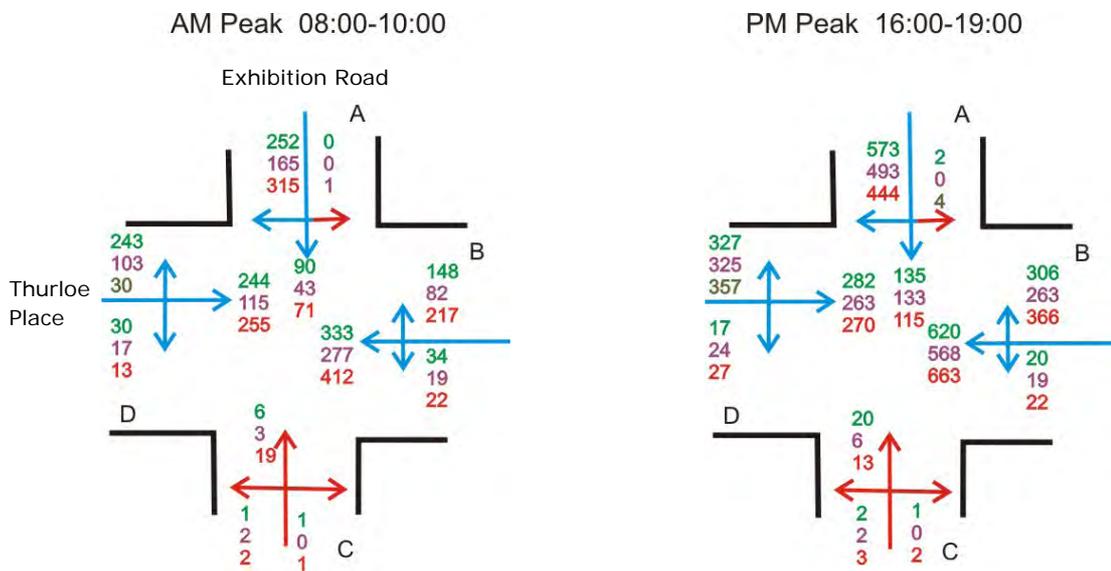
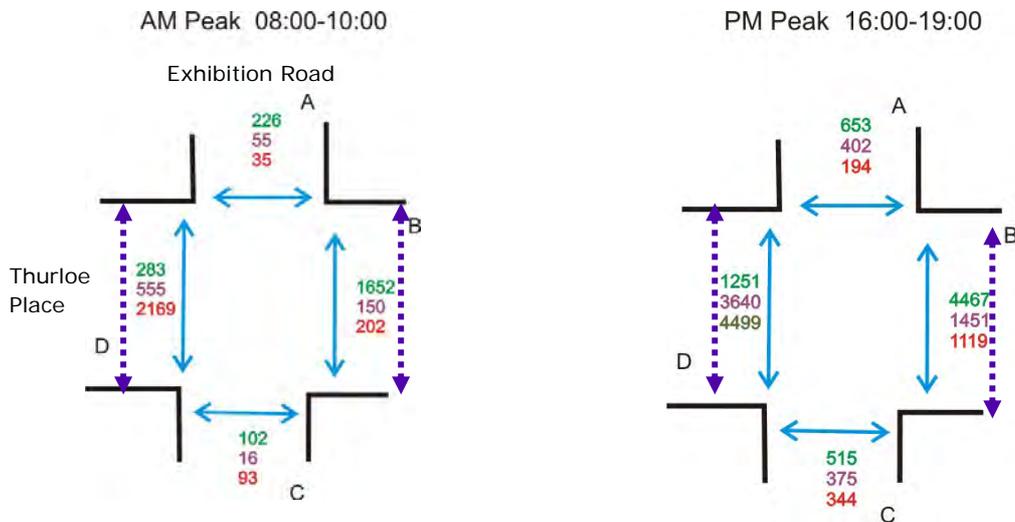


Figure 9.19 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.6.3 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.6.4 Very few incidences of users stopping abruptly at Junction H with:

- Three records of vehicles stopping abruptly to avoid a pedestrian; and
- Two incidents of a pedestrian stopping abruptly to avoid a motorised vehicle.

9.7 Section 12

Junction I

9.7.1 Junction I is a T-junction located at Exhibition Road and Thurloe Street at the southern end of the link Section 7. The movements into and out of Arm C (Section 8, Exhibition Road) relate to loading activities as this is a restricted area.

Vehicle Turning Counts and Pedestrian Crossing Counts

Figure 9.20 Vehicle Turning Counts in the AM and PM Peak

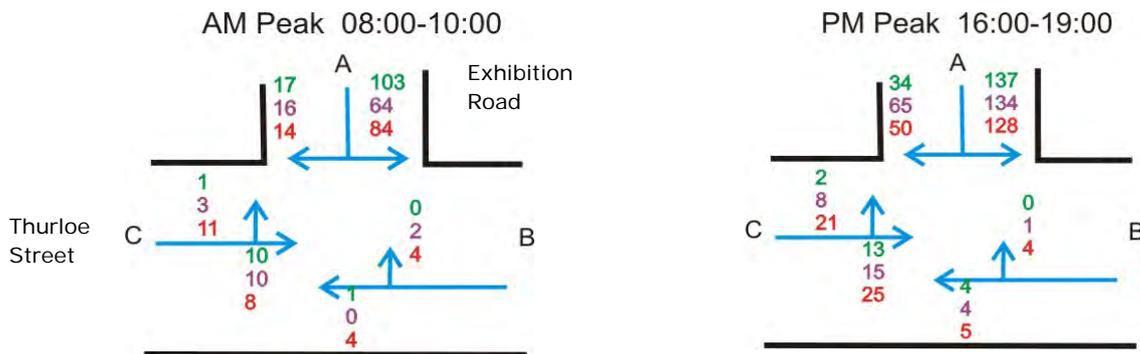
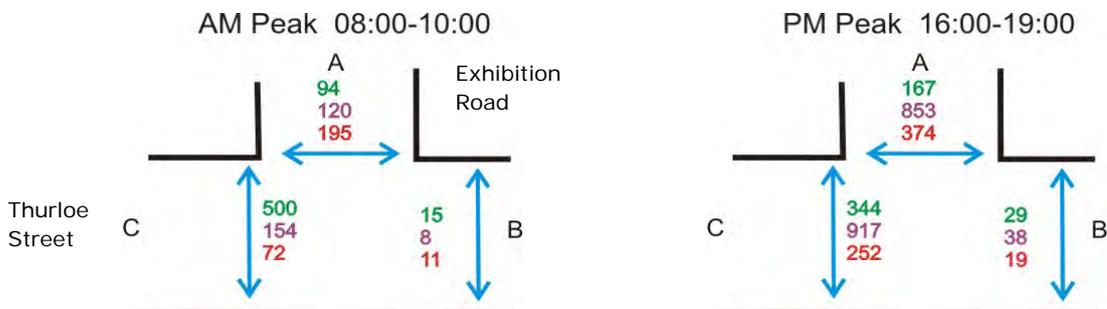


Figure 9.21 Pedestrian Crossing Counts in the AM and PM Peak



Accidents

9.7.2 No accidents occurred during any of the three survey days.

Stopping Abruptly

9.7.3 Very few incidences of users stopping abruptly at Junction I with:

- Seven records of vehicles stopping abruptly to avoid a pedestrian; and
- Two incidents of a pedestrian stopping abruptly to avoid a motorised vehicle.

10 Comparison across Links

10.1 Introduction

10.1.1 This section provides an overview of the data across the 'link' Sections 1, 3, 4, 6, 7 and 8 and highlights the variations in pedestrian flows, crossing movements, vehicle speed and flow in these distinct Sections.

10.2 Relationship testing

10.2.1 It can be expected that the higher the numbers of pedestrians the more crossing movements there may be. In addition to this, crossing movements may also be affected by the volume and speed of vehicles in a Section.

10.2.2 In order to identify whether there is a statistical basis for these assumptions in Exhibition Road, linear regression analysis was carried out for each of the Sections. **Table 10.1** provides a summary of the relationships tested.

10.2.3 The sample is based on hourly figures which give 24 sample points (i.e. 24 hours per day), as such the sample size is very small. Given this, care should therefore be taken when interpreting the relationships as findings are indicative only and are not a strong statistical test.

Table 10.1 Relationship Testing

Independent Variable	Dependent Variable	R-Squared					
		Section 1	Section 3	Section 4	Section 6	Section 7	Section 8
Pedestrian Flow	Pedestrian Crossing	0.69	0.78	0.85	0.60	0.51	0.89
Vehicle Flow	Pedestrian Flow	0.58	0.78	0.76	0.76	0.60	0.43
Vehicle Flow	Pedestrian Crossing	0.75	0.72	0.58	0.46	0.45	0.44
Pedestrian Flow	Speed	0.002	0.010	0.30		0.001	
Vehicle Flow	Speed	0.069	0.19	0.17		0.009	
Speed	Pedestrian Crossing	0.011	0.004	0.31		0.058	

10.2.4 The linear regression analysis results suggest that in each of the Sections:

- There is no significant relationship between the 85th percentile speed and pedestrian flow, pedestrian crossing movement and vehicle flow. As there is little variation in speed across the hours this finding is not unexpected.
- The higher the vehicle flow, the higher the crossing movement. This finding is related to time of day as footways are busier during the daytime which coincides with maximum vehicle flow. As such this statistical finding should be treated with care; and

- The higher the pedestrian volume on the footway, the higher the number of crossing movements. This would be expected as the rate of crossing movements relates to the number of pedestrians in the space.

- 10.2.5 From the initial regression model, subsequent multiple regression models were developed to test the number of pedestrians crossing the carriageway using multiple variables – pedestrian flow and vehicles flow. However, the degree to which the variables are correlated, and thus predict one another, was found to be so high that some of the variables almost totally predicted other variables (multicollinearity). As such the variables would be explaining the same thing and would give spurious results. Multicollinearity causes problems in using regression models to draw conclusions about the relationships between predictors and outcome and is therefore not suitable for this analysis.
- 10.2.6 As a result, the analysis for this study is based on qualitative and quantitative analysis rather than on statistical findings.

10.3 Pedestrian Flows

- 10.3.1 Pedestrian flows were calculated as a total of all individuals crossing the screenline north and south on each side of the road. Pedestrian Screenline locations for each of the Sections are presented in Appendix A. Crossing movement is calculated by totalling all crossing movements across the running track (east-west and west-east).
- 10.3.2 **Table 10.2** sets out the overall counts for pedestrian flow and crossing movement throughout each of the three days in each of the Sections.

Table 10.2 Pedestrian Flow and Crossing movement by Section

Time	Pedestrian Flow			Pedestrian Crossing Movement		
	Wednesday	Saturday	Tuesday	Wednesday	Saturday	Tuesday
Section 1	9,803	8,621	6,859	890	675	1,005
Section 3	17,260	13,217	20,090	3,177	3,078	6,909
Section 4	32,493	26,548	27,089	6,556	5,739	5,739
Section 6	25,412	23,506	23,970	1,866	1,520	1,656
Section 7	20,703	19,182	24,499	3,835	4,631	3,560
Section 8	28,632	21,498	28,552	17,717	12,610	24,225

- 10.3.3 The main observations relating to pedestrian flow and crossing movement are:

- Section 4 recorded the highest pedestrian flow on all three survey days;
- Section 8 records the highest number of crossing movements and given its close proximity to the tube station and the low number of vehicles using Section 8, this finding is not unexpected;
- The busiest hour for pedestrian flow was observed in Section 4 on Wednesday 11th April reaching almost 4,000 pedestrians between the hours 15:00-16:00;

- Wednesday during school holidays was the busiest day for all sites with the exception of Section 7; and
- Section 1 has the lowest pedestrian flow and crossing movement and this may be due to its location on the northern most extent of Exhibition Road. It is located away from key attractors such as the museum complexes and tube station.

10.3.4 While some variation in pedestrian flow and crossing movement was recorded in each section, the pattern of distribution was relatively consistent in each Section across the three days with little divergence. **Figures 10.1 and 10.2** illustrate this spread.

10.3.5 **Figure 10.1** presents the total number of pedestrians (east and west footways combined) for each hour period on Tuesday at each of the Sections (each point represents a one hour period and the corresponding pedestrian flow for that hour). While **Figure 10.2** presents the total number of pedestrian crossing movements (combined east-west, west-east movement) for each hour period on Tuesday (each point represents a one hour period and the corresponding pedestrian flow for that hour).

Figure 10.1 Pedestrian Flow per hour for each Section on Tuesday

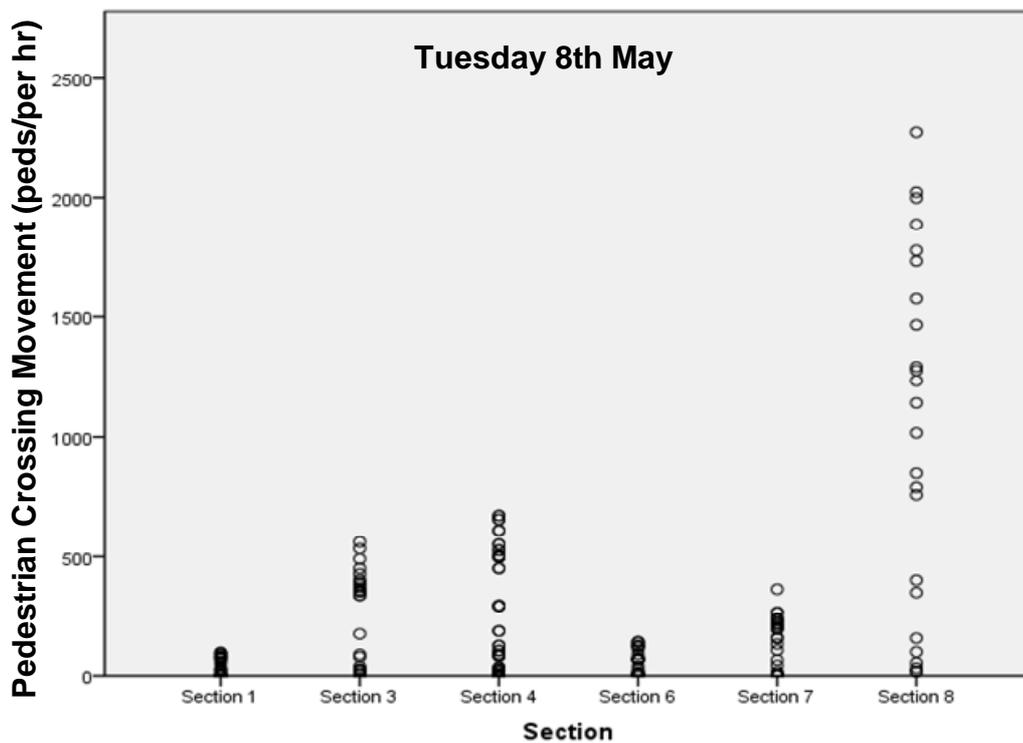
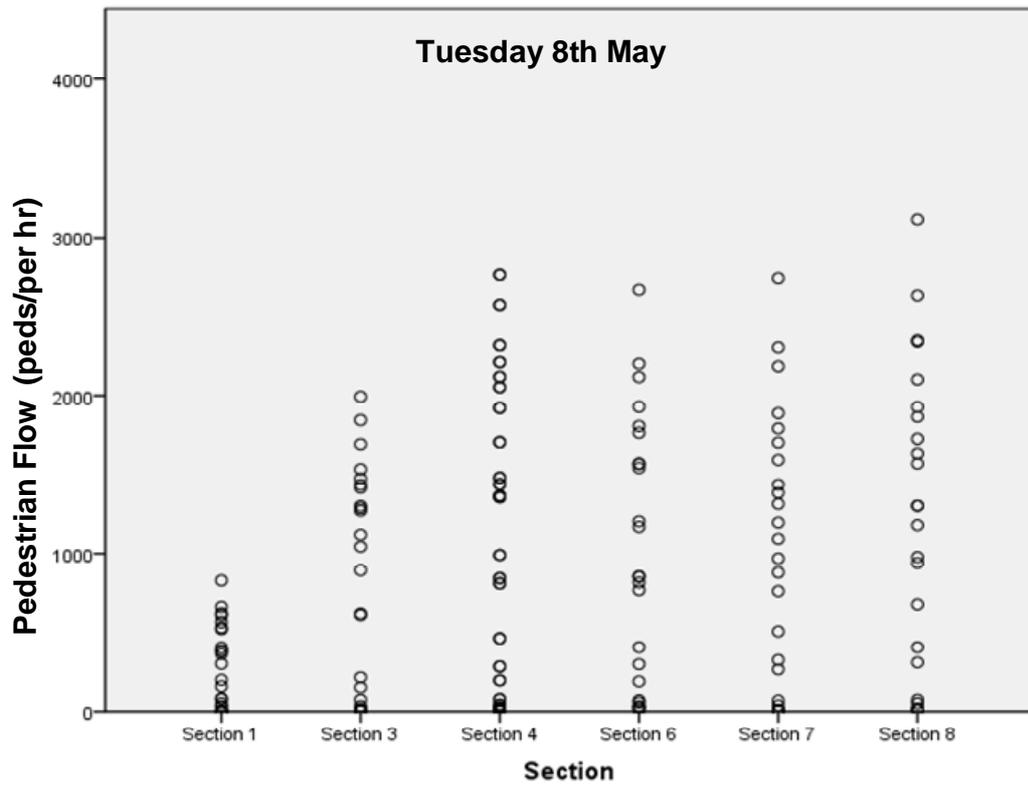


Figure 10.2 Pedestrian Crossing movement by hour for each Section on Tuesday



10.4 Vehicle Flow and Speed

10.4.1 Table 10.3 shows the 24-hour vehicle flow and the average hourly 85th percentile speed in each of the Sections over the three survey days.

Table 10.3 Vehicle Flow and Average hourly 85th Percentile Speed

	Vehicle Flow			Average hourly 85 th Percentile Speed for each day (mph)								
	Wed	Sat	Tue	Wed			Sat			Tue		
				Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound	Combined 2-way flow	North bound	South bound
Section 1	13,906	11,813	15,297	28.2	27.2	28.5	28.2	28.2	28.0	27.2	26.9	27.1
Section 3	8,585	8,102	9,314	27.9	27.0	27.3	27.2	27.6	26.5	25.7	26.4	26.5
Section 4	7,478	7,271	7,949	23.1	24.0	21.7	23.5	24.3	22.4	22.5	24.2	20.6
Section 6	6,167	5,745	6,583									
Section 7	1,065	973	998	14.6	12.0	17.4	14.7	12.0	18.1	14.9	12.3	18.4
Section 8	277	397	486									

10.4.2 The main observations relating to vehicle flow and speed are:

- The highest volumes were recorded in Section 1 with vehicle flow decreasing from north to south along Exhibition Road;
- Vehicle speeds also show a similar pattern reducing in the Sections further south;
- Comparing the average hourly 85th percentile speed for the different Sections shows Section 1 to have the highest maximum and Section 7 to have the lowest maximum northbound and southbound speed. Comparing daily 85th percentile speed provides the same finding;
- Speeds were not recorded for Sections 6 as it was found that, as a result of the congestion and short length of the Section, vehicles did not pick up enough speed to allow the radar to calculate speed in a robust manner;
- Vehicle speeds were not recorded for Section 8 as it is not a through road and vehicles are only permitted to load/unload between 07:00-10:00;
- Speeds were highest between midnight and 7am all Sections; and
- Section 7 and Section 8 cater more for local access and certain movements are prohibited.

10.4.3 A summary of the average hourly 85th percentile speed recorded for Sections 1, 3 4 and 7 is provided in the **Table 10.4** below:

Table 10.4 Average hourly 85th percentile speed by time of day, direction of travel and section of road

	Section 1		Section 3		Section 4		Section 7
	Nb	Sb	Nb	Sb	Nb	Sb	Sb
Midnight to 7am	29.1– 30.1	29.7– 33.5	29.1– 31.0	29.6– 33.8	27.6– 27.7	25.8– 26.6	17.8– 19.8
7am to 10m	28.9– 30.0	27.3– 28.9	27.3– 28.8	25.3– 26.3	26.4– 26.7	22.9– 24.8	18.4– 19.7
10am to 4pm	25.7– 27.2	25.8– 26.5	24.0– 25.3	21.8– 23.9	20.3– 21.7	17.3– 19.0	15.7– 18.7
4pm to 7pm	23.9– 25.7	26.3– 27.4	25.1– 25.6	22.9– 24.7	20.7– 22.2	18.5– 19.1	16.0– 17.6
7pm to midnight	26.6– 27.4	27.4– 28.3	27.7– 28.4	26.4– 27.5	24.8– 25.6	20.4– 22.9	18.7– 19.3

- 10.4.4 As seen in the pedestrian flow and crossing movement, the same pattern in terms of vehicle flow and 85th percentile speed is seen across the individual Sections on all three days. To illustrate this, **Figure 10.3** shows the variation in total two-way vehicle flow across 24 hours for each section on Tuesday, while **Figure 10.4** shows the variation in speed, each dot represents an hour.

Figure 10.3 Vehicle Flows Tuesday 8th May

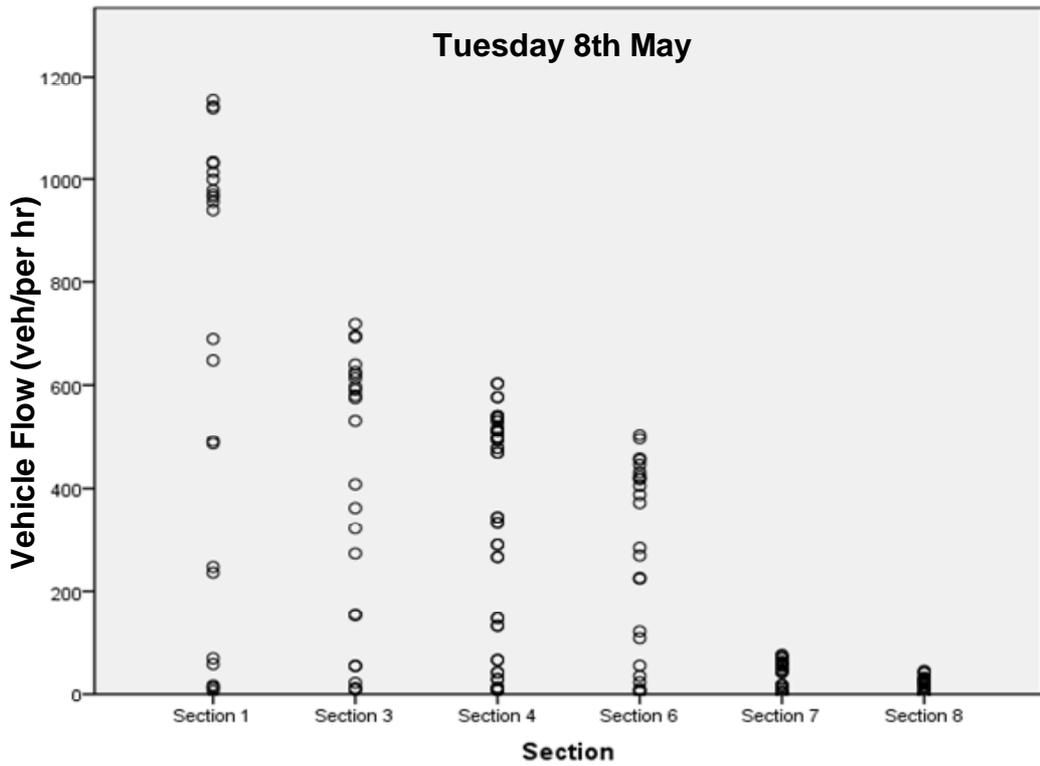
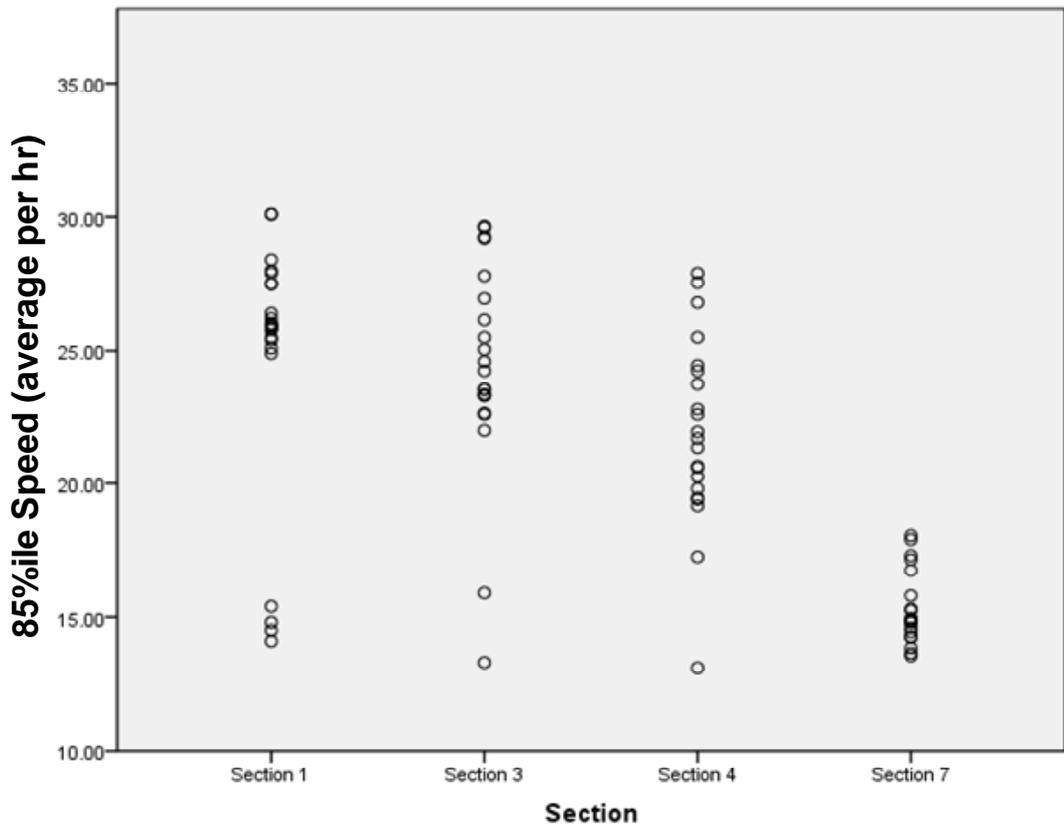


Figure 10.4 Tuesday 8th May 85th percentile speed



10.4.5 **Tables 10.5, 10.6 and 10.7** below provide an additional summary of pedestrian flow, pedestrian crossing movement, vehicle flow and average 85th percentile speeds presented by individual survey day.

Table 10.5 Summary Table for Wednesday

Wednesday	Pedestrian Flow	Pedestrian Crossing Movement	Vehicle Flow	Average hourly 85 th Percentile Speed (mph)		
				Combined North and South	North bound	South bound
Section 1	9,803	890	13,906	28.2	27.2	28.5
Section 3	17,260	3,177	8,585	27.9	27.0	27.3
Section 4	32,493	6,556	7,478	23.1	24.0	21.7
Section 6	25,412	1,866	6,167			
Section 7	20,703	3,835	1,065	14.6	12.0	17.4
Section 8	28,632	17,717	277			

Table 10.6 Summary Table for Saturday

Saturday	Pedestrian Flow	Pedestrian Crossing Movement	Vehicle Flow	Average hourly 85 th Percentile Speed (mph)		
				Combined North and South	North bound	South bound
Section 1	8,621	675	11,813	28.2	28.2	28.0
Section 3	13,217	3,078	8,102	27.2	27.6	26.5
Section 4	26,548	5,739	7,271	23.5	24.3	22.4
Section 6	23,506	1,520	5,745			
Section 7	19,182	4,631	973	14.7	12.0	18.1
Section 8	21,498	12,610	397			

Table 10.7 Summary Table for Tuesday

Tuesday	Pedestrian Flow	Pedestrian Crossing Movement	Vehicle Flow	Average hourly 85 th Percentile Speed (mph)		
				Combined North and South	North bound	South bound
Section 1	6,859	1,005	15,297	27.2	26.9	27.1
Section 3	20,090	6,909	9,314	25.7	26.4	24.8
Section 4	27,089	5,739	7,949	22.5	24.2	20.6
Section 6	23,970	1,656	6,583			
Section 7	24,499	3,560	998	14.9	12.3	18.4
Section 8	28,552	24,225	486			

10.5 Prohibited movements

10.5.1 Information was collected on prohibited movements in each of the Sections. Prohibited movements were classed as:

- Any movements by a motorised vehicle or cyclist in any direction within the safe zone (i.e. 4 metres from the building line); and
- Any movements by a motorised vehicle or cyclist driving the wrong way down Exhibition Road. It should be noted that U-turns are not prohibited movements.

10.5.2 Each of the Sections recorded some prohibited movements though the quantity and the category of these movements varies across the Sections. **Table 10.8** sets out the total figures across the three days.

10.5.3 Of the prohibited movements recorded those by cyclists constituted the largest proportion of movements in Section 1, Section 4 and Section 6. While the highest proportion in Section 3, Section 7 and Section 8 relate to vehicles. Vehicles/cyclists going the wrong way were not recorded for Section 8 due to the layout of the space and the traffic management arrangements.

10.5.4 **Figure 10.5** below illustrates the spread of these movements by Section for Tuesday, Wednesday and Saturday and highlights the variation in type across the Sections.

Table 10.8 Prohibited Movements over 3 days by Section

Prohibited Movement	Section 1	Section 3	Section 4	Section 6	Section 7	Section 8
East side – motor vehicles in Safe Zone	47*	376*	144*	9	248	-
East side - cyclists in Safe Zone	137	126	157	44	19	-
West side - motor vehicles in Safe Zone	18*	28	68*	28	129	-
West side - cyclists in Safe Zone	238	59	147	97	44	-
Motor vehicles going wrong way southbound	5	7	153	1	138	-
Cyclists going wrong way southbound	9	-	114	56	36	-
Motor vehicles going wrong way northbound	9	13	32	4	196	-
Cyclists going wrong way northbound	1	-	230	119	0	-
Motor vehicles going wrong way westbound	-	-	-	-	-	69
Cyclists going wrong way westbound	-	-	-	-	-	0
Motor vehicles going wrong way eastbound	-	-	-	-	-	116
Cyclists going wrong way eastbound	-	-	-	-	-	0
South side - motor vehicles in Safe Zone	-	-	-	-	-	16*
South side - cyclists in Safe Zone	-	-	-	-	-	128
North side - motor vehicles in Safe Zone	-	-	-	-	-	22
North side - cyclists in Safe Zone	-	-	-	-	-	154
Total	464	609	1045	358	810	505

* Including legitimate use of vehicular crossings which require drivers to cross into the safe zone

- 10.5.5 The specifics of these prohibited movements were assessed in the previous chapters which focused on Section specific analysis. As mentioned in previous chapters, some of the vehicular movements recorded within the safe zone are legitimate vehicular crossing movements, such as vehicles entering and exiting Prince's Gate Mews in Section 4, which require them to pass into the safe zone. Therefore, movements within the safe zone must be viewed with this in mind.
- 10.5.6 The prohibited movements recorded in Section 8 were classified differently to the other Sections given its alignment east-west rather than north-south. Totalled across the three days, the types of prohibited movements vary across the different Sections, though cyclists were the main perpetrators in each Section.

10.6 Parking, Loading and Drop-off Activity

10.6.1 **Table 10.9** sets out the total loading and drop-off activity occurring in each of the Sections over the three survey days. The main observations from Table 10.5 are:

- Section 1 recorded the highest number of loading and drop off activities; and
- Black taxis loading/unloading passengers were the most common vehicles to engage in such activity in Section 1, 3, 4 and 6.

Table 10.9 Loading and Drop-off Activity in all Sections for the 3 days

Loading and Drop-off Activity	Section 1	Section 3	Section 4	Section 6	Section 7	Section 8
No. of vehicles loading/unloading freight	66	27	64	1	216	83
No. of coaches boarding/alighting passengers	2	1	12	0	0	0
No. of minibuses (LGV/MGV) boarding/alighting passengers	3	0	7	0	1	0
No. of black taxis boarding/alighting passengers	116	48	547	17	26	13
No. of cars/private hire vehicles boarding/alighting passengers	48	25	146	10	64	26
Total	235	100	0	28	307	122

Parking

10.6.2 Parking is permitted in four of the Sections and **Table 10.10** summarises the findings from the parking survey in each of these Sections. In calculating the occupancy, 37 residential bays, for example, would have a daily total available space of $37 \times 24 = 888$ spaces, therefore a daily total of 90 would be 10% occupancy.

Table 10.10 Occupancy of Parking Bays in each Section

Section	Parking area	Wednesday		Saturday		Tuesday	
		Daily Total	Average % occupancy	Daily Total	Average % occupancy	Daily Total	Average % occupancy
1	Residential Parking (37 bays)	90	10%	116	13%	173	20%
	Diplomatic Parking (3 bays)	55	76%	45	63%	52	72%
3	Residential Parking (52 bays)	173	14%	141	11%	195	16%
4	Residential Parking (19 bays)	276	61%	352	77%	334	73%
	Disabled Parking (12 bays)	3	4%	3	1%	1	0%
6	Diplomatic Parking (2 bays)	17	35%	2	4%	9	19%

10.6.3 The main findings relating to parking can be summarised as follows:

- **Section 1:** The provision of residential parking bays exceeds demand based on daily percentage occupancy.
- **Section 3:** Parking provision appears to exceed current demand based on daily percentage occupancy.
- **Section 4:** Analysis shows that the residential bays are heavily used throughout the day with high percentage occupancy. In contrast, the 12 blue badge bays are used infrequently.
- **Section 6:** Parking provision for the diplomatic bays is well used during weekdays and appears to be adequate to meet demand.
- **Section 7 and 8:** No parking provision is provided in either of these Sections.
- While most parking activity takes place in the designated areas, a small number of vehicles (8% in Section 1, 3% in Section 3 and 2% in Section 4) were also recorded parking for longer than 5 minutes in undesignated areas over the three survey days.

11 Summary and Conclusions

11.1 Introduction

11.1.1 As identified in Chapter 1, to provide a focus for our qualitative assessment we posed a series of questions to help identify how users interact with one another on Exhibition Road, how compliant they are in adhering to speed, parking and loading restrictions, and how well they understand and negotiate the space. Our conclusions are set out below against each of these questions.

Is the road safe?

11.1.2 There were no accidents observed in any section during the survey and few incidents of users stopping abruptly. These were the only elements of the survey which considered user interaction, and on this basis, during the three-day survey period, it can be concluded that the road was safe. However, as with all highways schemes, the impact on road safety should be considered over a longer period.

Are the safe zones safe?

11.1.3 On both the east and west sides of the road there is a four metre wide corridor from the building line which acts as a 'safe zone' for pedestrians, defined by a continuous tactile delineator surface.

11.1.4 To varying degrees, there was encroachment in the safe zones in all of the sections. Some are legitimate vehicular crossing movements, such as vehicles entering and exiting Prince's Gate Mews which requires them to pass into the safe zone. In addition, outside the safe zones, vehicles were recorded making banned turns and travelling the wrong way northbound and southbound.

11.1.5 For sections where there were the highest numbers of vehicles entering the safe zone, this was largely due to:

- Motor vehicles and cyclists cutting corners at junctions;
- Motor vehicles using the safe zone to intentionally or mistakenly avoid making a banned turning movement;
- Motor vehicles straddling the delineator paving whilst stopping for short periods;
- Motor vehicles making u-turns which result in them crossing the delineator;
- Cyclist failing to dismount on the approach to cycle parking areas; and
- Cyclists avoiding traffic queues.

11.1.6 The number of vehicles making banned turns was relatively low, with a maximum of 2% (approximately 25 vehicles per hour) of all vehicles travelling in a particular direction on a junction arm. This was for the prohibited left turn from Cromwell Road into Exhibition Road. The northbound arm at the Thurloe Place/Exhibition Road junction is southbound only so the northbound (ahead, left and right turning) movements are banned, of which there were fewer than 10 per hour.

- 11.1.7 Sections 4 (Imperial College Road to Cromwell Road) and 7 (Thurloe Place to junction with Thurloe Street) experienced the highest incidence of vehicles going the wrong way northbound and southbound (outside the safe zones), which appeared to be largely due to a lack of driver understanding as to which movements are banned.
- 11.1.8 The level of risk associated with the safe zone/banned turn movements was not quantified as part of this study. However, from reviewing samples of video footage and from site observations it is apparent that in most cases the movements are likely to have been infrequent, of short duration and/or were made at low speed in areas of low pedestrian activity.
- 11.1.9 Some movements are likely to be less of a concern than others (e.g. cyclists and vehicles dropping off passengers in safe zone). However, whilst not necessarily a safety concern, it may be prudent to make design changes to prevent or reduce the likelihood that certain movements can be made, particularly banned turns (especially into safe zones).

Do the bus stops present a trip hazard?

- 11.1.10 Two people were observed tripping (a stumble rather than a fall) over the bus stop kerbs during the six-hour survey period, which represents 0.1% to 0.2% of the total pedestrians crossing eastbound and westbound during this period within Section 4, and 1% of the total number of bus boarders and alighters. However, it is not known whether the people that tripped were using or just passing across the bus stops. It is also not known what proportion of the total number of pedestrians crossing in Section 4 crossed in the vicinity of the bus stop. Further monitoring of the bus stop areas over a longer time period is recommended as it would provide a more thorough assessment of any trip hazard posed to pedestrians.

Are speeds within the 20mph limit?

- 11.1.11 Section 1 (South of Kensington Gore to north of Prince Consort Road), Section 2 (junction at Prince Consort Road and Princes Gardens), Section 3 (Princes Gardens to Imperial College Road), and Section 4 (Imperial College Road to north of Cromwell Gardens) are subject to a 20mph speed limit, whereas the limit for Section 6 (south of Cromwell Gardens to Thurloe Place), Section 7 (south of Thurloe Place to Thurloe Street) and Section 8 (pedestrian area east of Cromwell Place to west of Thurloe Street) is 30mph. The hourly 85th percentile speed was averaged across the 24 hour period for each survey day and was found to be in excess of the speed limit for all 20mph link Sections.

Do pedestrians cross freely throughout Exhibition Road?

- 11.1.12 Pedestrian crossing movement was highest where there are attractors on either side of the road, which is particularly the case in Sections 4 (Imperial College Road to north of Cromwell Gardens), 7 (south of Thurloe Place to Thurloe Street) and 8 (pedestrian area east of Cromwell Place to west of Thurloe Street). From observation, in general, pedestrians appear to use the full extent of sections of road (that are clear from obstructions) to cross: therefore the crossing patterns are random and are made freely.
- 11.1.13 The volume and location of crossing movements appears to be influenced by the proximity of formal crossings (at signalised junctions) and informal crossing points (such as pedestrian refuges and the central median defined by lamp column bases). If located close by, pedestrians will use these crossing facilities rather than crossing elsewhere on a link.

- 11.1.14 From observation, pedestrian crossing movement is also guided by the location and occupancy of parking bays and street furniture, including cycle stands/docking stations and benches.

Do the parking and loading facilities satisfy demand?

- 11.1.15 From the results of parking occupancy, in Sections 1 (South of Kensington Gore to north of Prince Consort Road) and 3 (Princes Gardens to Imperial College Road) residential parking provision appears to exceed demand based on the occupancy levels over the three survey days. The diplomatic parking bays in Section 1 satisfy demand, but not significantly.
- 11.1.16 In Section 4 (Imperial College Road to north of Cromwell Gardens), residential parking bays are occupied approximately 75% of the time, whereas disabled bays have very low usage, with a maximum occupancy of 4% recorded on one of the three survey days.
- 11.1.17 Diplomatic bays in Section 6 (south of Cromwell Gardens to Thurloe Place) are full approximately a third of the time during the week but are rarely used at the weekend.

Is driver behaviour influenced by the street design? Is the space legible for drivers and pedestrians?

- 11.1.18 There are several factors which may have influenced speed in the sections, including:

- The location, density and occupancy of motor vehicle and cycle parking areas;
- Presence of traffic queues and junction control method;
- Speed limit and traffic restriction signs;
- Location of bus stops;
- Length of section and link length between junctions and side accesses; and
- Presence of lamp columns, trees and street furniture.

- 11.1.19 The results show that vehicle speed was higher in Sections 1 (South of Kensington Gore to north of Prince Consort Road) and 3 (Princes Gardens to Imperial College Road) where there was less pedestrian activity on long-straight links with a more traditional street layout (fewer transition zones, regular parking arrangement and/or wider carriageway).
- 11.1.20 The traffic flow on Exhibition Road is relatively low and traffic queues occur in few locations. This means that pedestrians have frequent gaps in the traffic to cross the road. This is largely why there appears to be a low incidence of vehicles giving way to pedestrians and also why pedestrians have freedom in their choice of crossing location. The low number of users stopping abruptly indicates that drivers have few surprises from pedestrians taking risks to cross the road.
- 11.1.21 From the number of prohibited movements that took place during the survey period, it is evident that in some areas there is lack of understanding by users of where they are permitted to drive, cycle or park.
- 11.1.22 From observation, pedestrians appear to utilise the freedom that is afforded by the uncluttered, single surface space, whilst adhering to more regimented crossing patterns at formal crossing points. Pedestrian density dictates the extent to which pedestrians spread

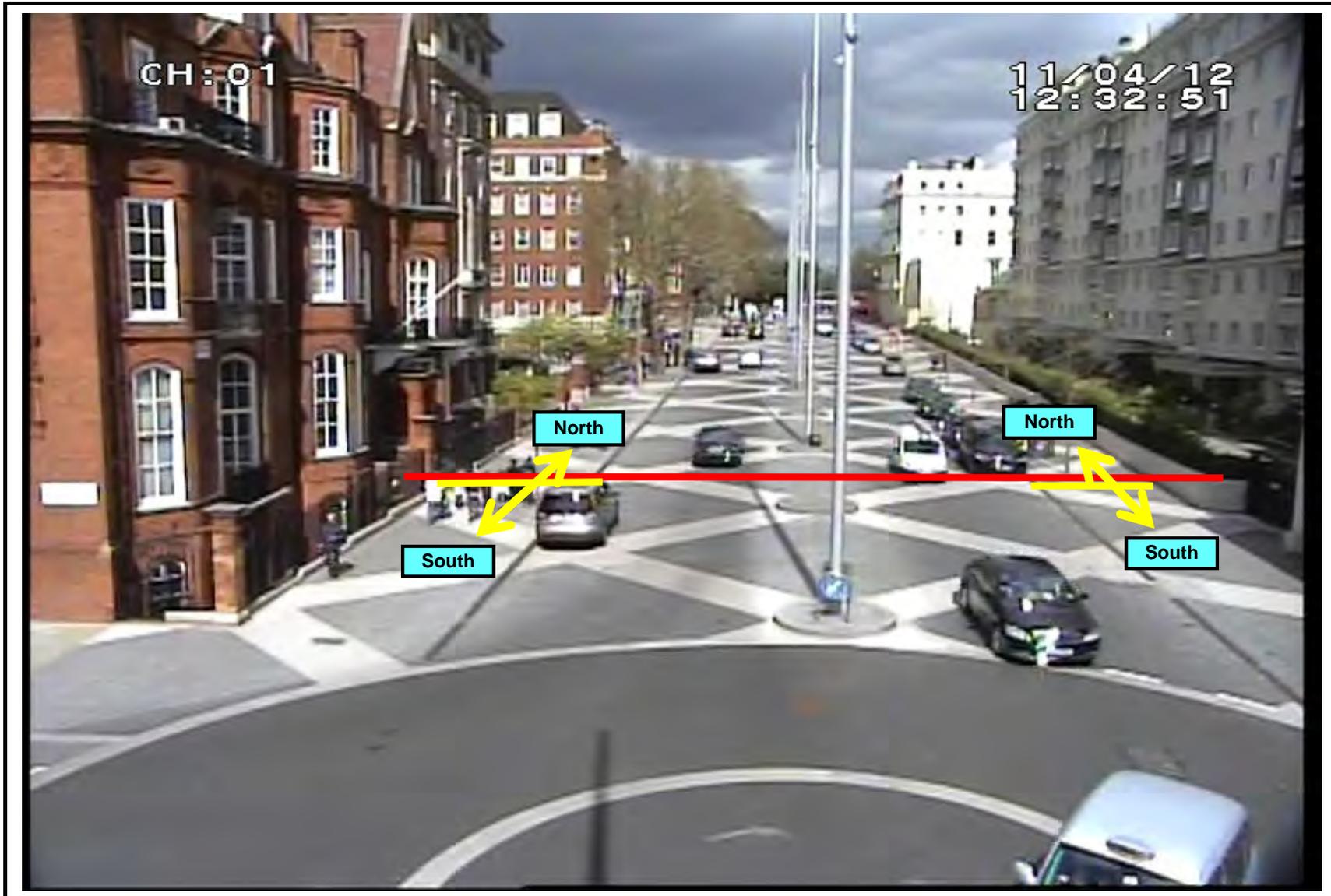
out into the transition zones, releasing pressure, whilst maintaining vibrancy, within the safe zones. The occupancy of cycle and vehicle parking spaces also determines how many people use the transition zones.

- 11.1.23 It can be concluded that pedestrians can read and adapt well to the changing conditions within Exhibition Road and that driver behaviour is influenced by the street design. However, some refinements to the design may be necessary to provide clearer information to drivers of areas where certain movements or activities are prohibited.

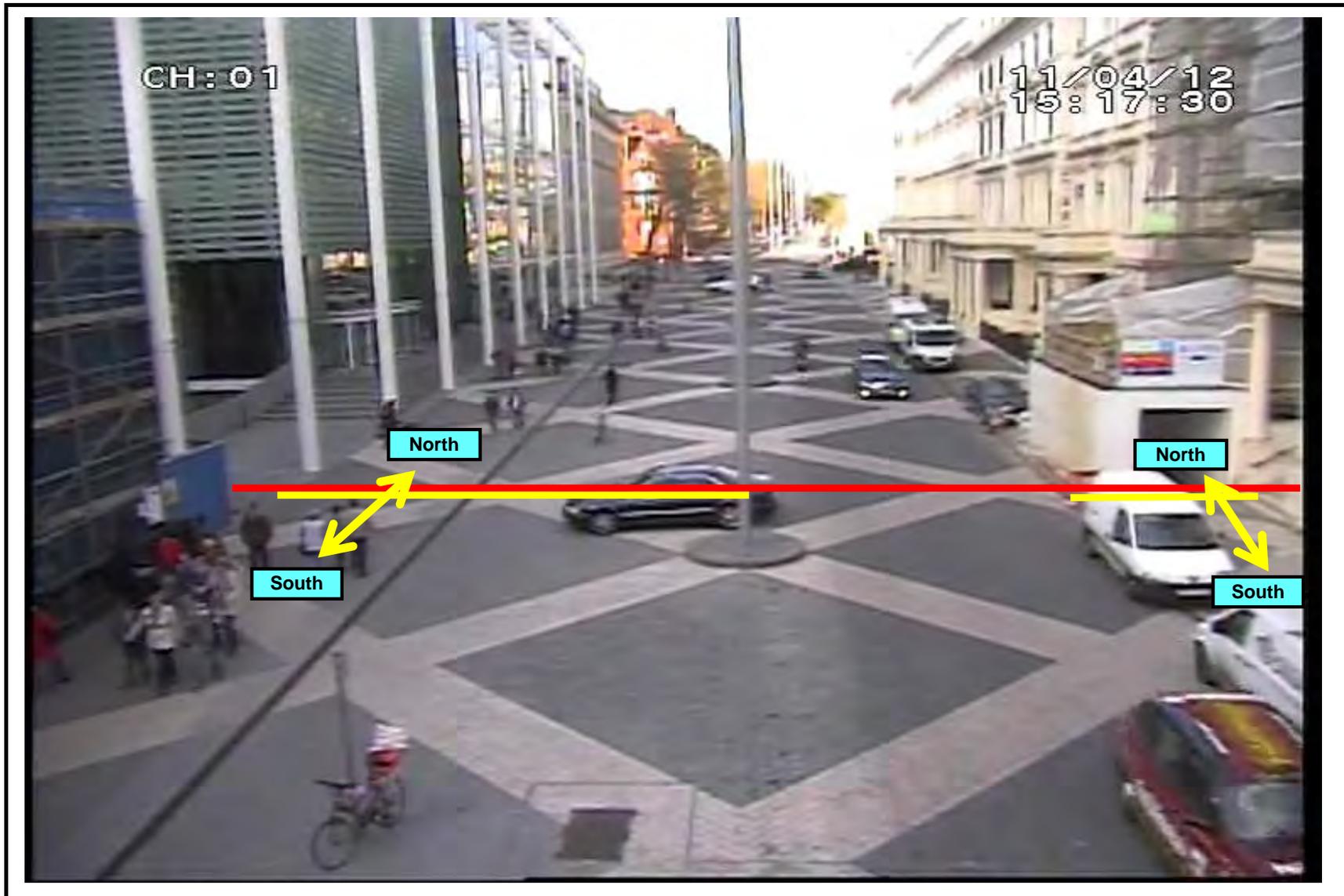
Appendix A – Screenline Locations

Section: 1
View: J

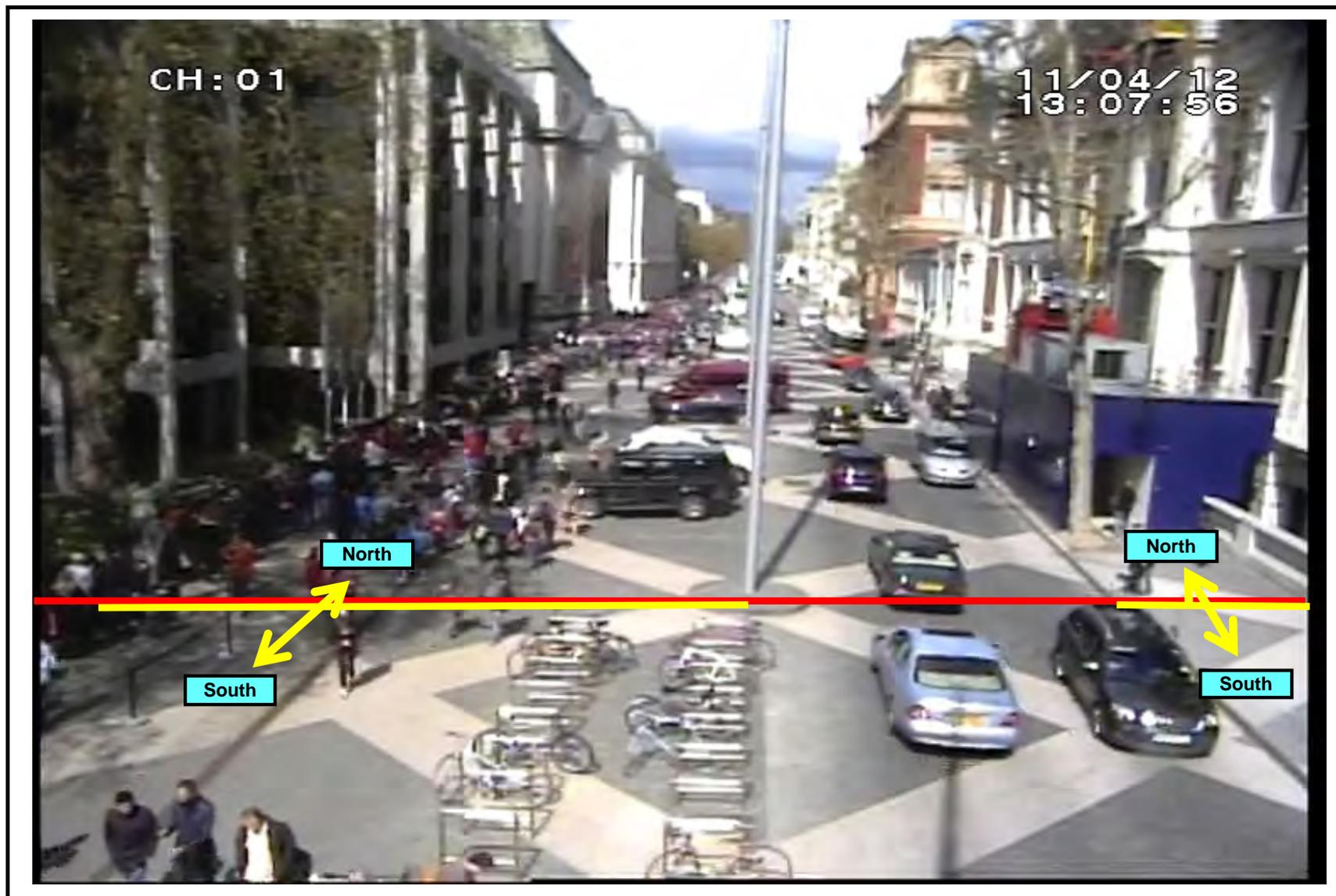
 Vehicle count screenlines
 Pedestrian count screenlines



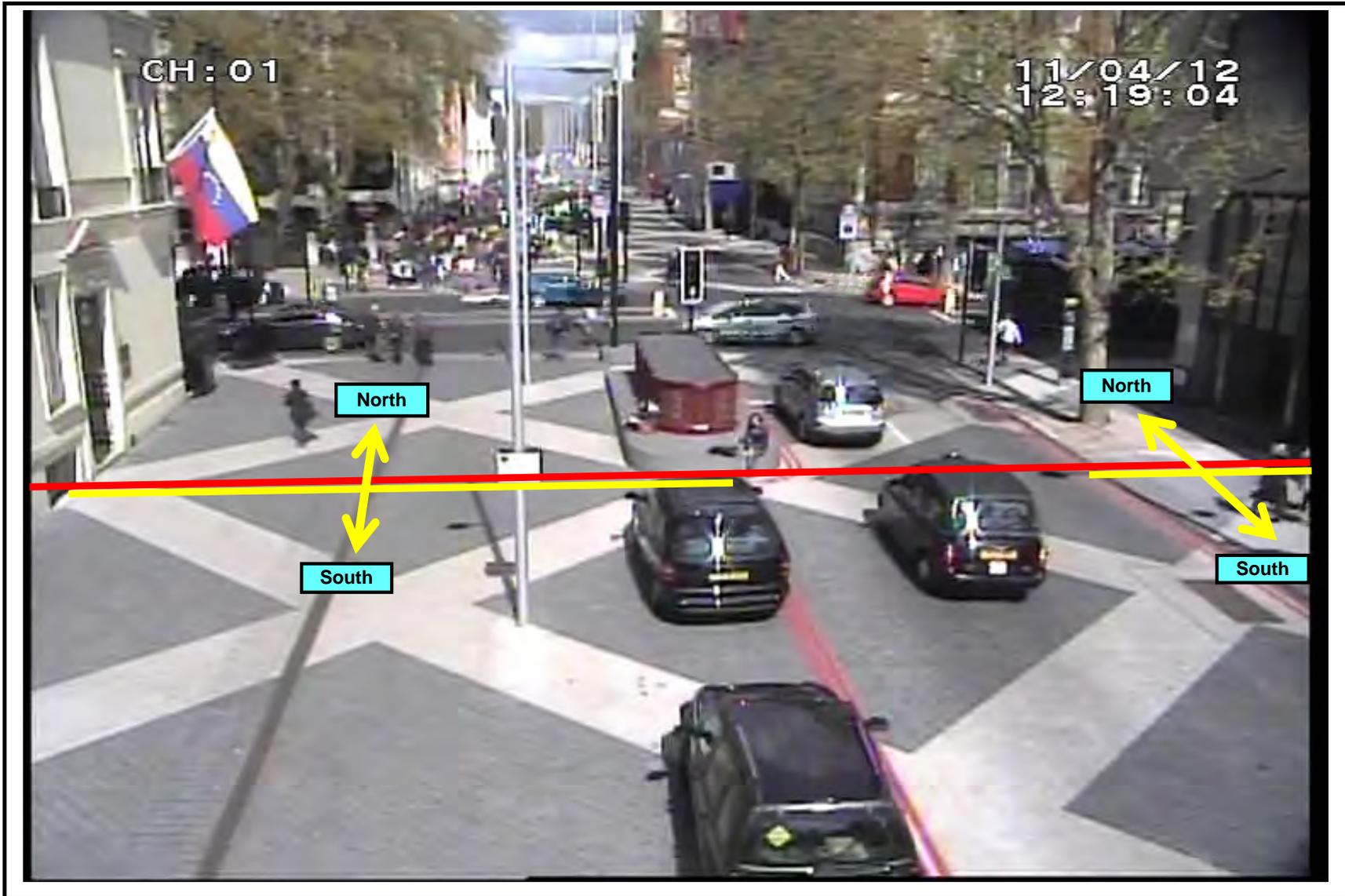
Section: 3
View: H



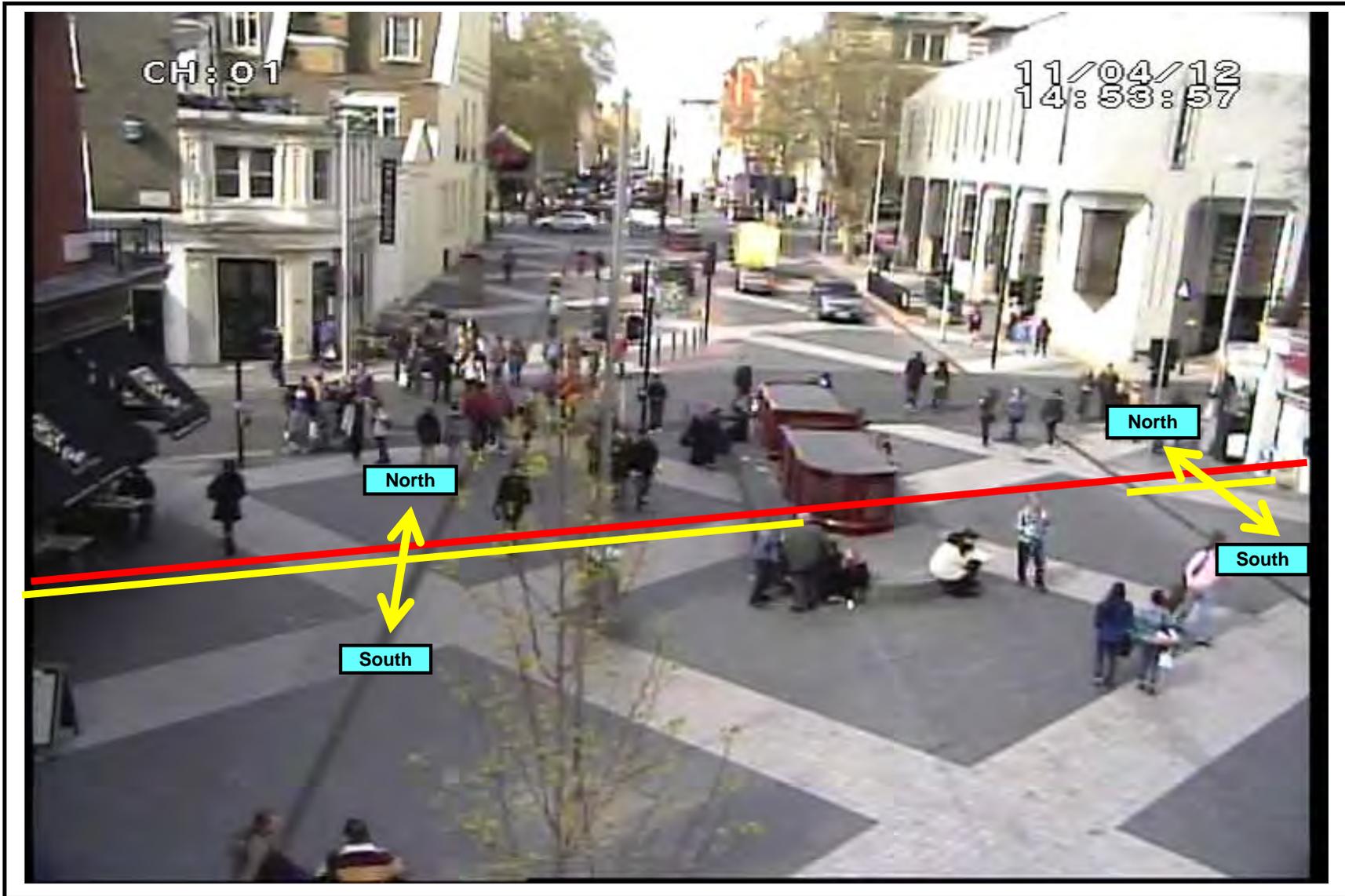
Section: 4
View: D



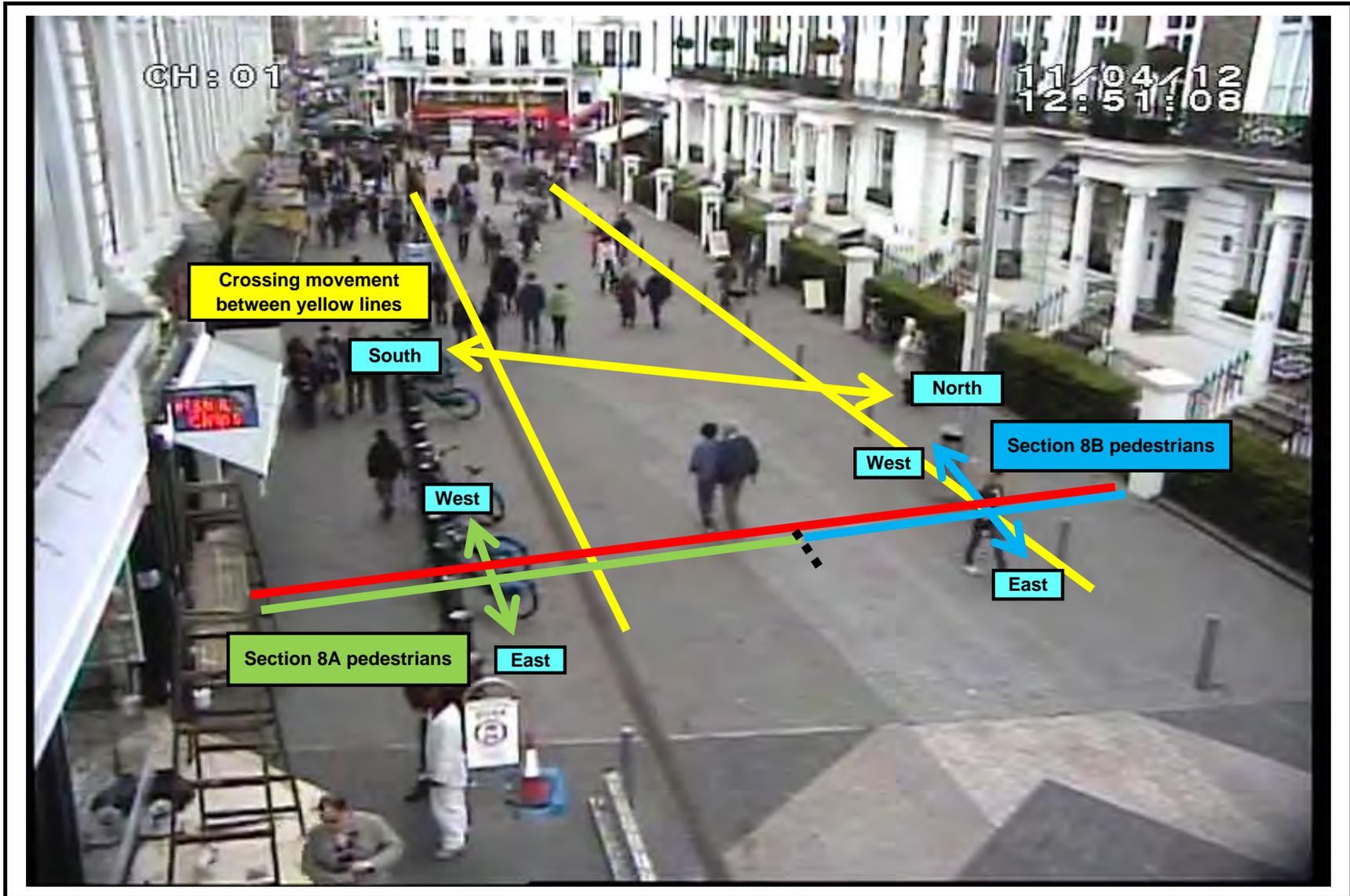
Section: 6
View: C



Section: 7
View: B



Section: 8
View: 2



Appendix B – Screenline pedestrian counts by Section – Wednesday, Saturday, Tuesday

- Pedestrian flow for each direction of travel on each side of the road (disaggregated by type of pedestrian) by Section

Wednesday 11 April 2012

SECTION	EASTERN PAVEMENT												TOT	WESTERN PAVEMENT												TOT				
	NORTHBOUND						TOT	SOUTHBOUND						TOT	NORTHBOUND						TOT	SOUTHBOUND						TOT		
	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS			ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS		ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES		VISUALLY IMPAIRED		ABLE BODIED ADULTS	ABLE BODIED CHILDREN
1	44	0	0	0	1308	106	1458	61	0	0	1	1790	161	2013	3471	83	1	0	0	3228	346	3658	52	2	0	0	2443	177	2674	6332
3	41	0	0	1	1523	122	1687	63	0	0	0	1816	128	2007	3694	112	0	1	0	6125	548	6786	101	0	0	0	6371	308	6780	13566
4	11	1	0	0	2562	41	2615	15	2	0	0	3669	85	3771	6386	192	0	0	0	14163	720	15075	46	0	0	0	10764	222	11032	26107
6	27	0	0	0	2562	181	2770	42	0	0	1	3106	244	3393	6163	138	5	5	0	7571	743	8462	102	1	2	1	10438	243	10787	19249
7	27	1	1	0	2508	147	2684	28	0	0	0	2496	166	2690	5374	120	45	2	0	6900	803	7870	260	23	3	0	6397	776	7459	15329
	EASTBOUND						TOT	WESTBOUND						TOT	EASTBOUND						TOT	WESTBOUND						TOT		
8	45	2	11	0	2714	363		3135	52	1	5	0	2760		173	2991	6126	133	2	3		0	10591	681	11410	199	2		3	0

Saturday 14 April 2012

SECTION	EASTERN PAVEMENT												TOT	WESTERN PAVEMENT												TOT				
	NORTHBOUND						TOT	SOUTHBOUND						TOT	NORTHBOUND						TOT	SOUTHBOUND						TOT		
	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS			ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS		ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES		VISUALLY IMPAIRED		ABLE BODIED ADULTS	ABLE BODIED CHILDREN
1	20	0	0	0	1163	60	1243	52	2	0	1	1553	176	1784	3027	86	3	0	1	2645	344	3079	48	1	0	0	2284	182	2515	5594
3	26	2	0	0	1310	63	1401	37	1	0	0	1567	174	1779	3180	110	1	0	0	4041	296	4448	85	1	0	0	5197	306	5589	10037
4	33	5	1	0	2277	133	2449	51	6	0	0	2858	182	3097	5546	248	18	6	6	9448	1170	10896	223	11	0	0	9134	738	10106	21002
6	8	2	0	0	2605	259	2874	45	0	1	0	5560	230	5836	8710	110	1	1	0	5758	412	6282	205	2	0	0	7577	730	8514	14796
7	4	1	0	0	2228	86	2319	43	0	0	3	2774	140	2960	5279	58	16	5	2	5821	215	6117	170	4	4	5	6820	783	7786	13903
	EASTBOUND						TOT	WESTBOUND						TOT	EASTBOUND						TOT	WESTBOUND						TOT		
8	29	1	1	0	2615	167		2813	56	1	1	0	2553		158	2769	5582	232	1	1		4	7141	344	7723	160	1		1	1

Tuesday 08 May 2012

SECTION	EASTERN PAVEMENT												TOT	WESTERN PAVEMENT												TOT				
	NORTHBOUND						TOT	SOUTHBOUND						TOT	NORTHBOUND						TOT	SOUTHBOUND						TOT		
	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS			ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS		ABLE BODIED CHILDREN	PEOPLE WITH PRAMS/ PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES		VISUALLY IMPAIRED		ABLE BODIED ADULTS	ABLE BODIED CHILDREN
1	23	1	0	0	1142	47	1213	37	0	1	0	1344	66	1448	2661	80	0	0	0	2344	58	2482	44	0	0	0	1644	28	1716	4198
3	17	1	1	0	1589	37	1645	38	0	0	0	2148	35	2221	3866	86	2	2	2	8222	101	8415	57	3	3	1	7663	82	7809	16224
4	29	0	2	0	2372	42	2445	52	0	0	0	2668	35	2755	5200	145	8	2	0	10574	236	10965	140	0	1	0	10576	207	10924	21889
6	23	0	0	0	1921	22	1966	34	0	0	0	2597	18	2649	4615	93	1	0	0	8356	133	8583	114	1	1	0	10467	189	10772	19355
7	39	0	0	0	2592	37	2668	26	0	0	0	2561	38	2625	5293	82	0	0	0	8390	95	8567	111	2	1	0	10369	156	10639	19206
	EASTBOUND						TOT	WESTBOUND						TOT	EASTBOUND						TOT	WESTBOUND						TOT		
8	24	0	2	0	3129	68		3223	43	0	10	0	2964		94	3111	6334	101	1	0		0	9805	87	9994	117	1		7	0

Appendix C – Screenline vehicle counts by Section – Wednesday, Saturday, Tuesday

- Traffic flow for each direction of travel (disaggregated by type of vehicle)

Wednesday 11 April 2012

SECTION	NORTHBOUND											TOT	SOUTHBOUND											TOT	
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		
1	3282	2022	237	2	76	3	16	88	7	273	535	6541	3867	1891	270	8	63	2	14	0	9	421	820	7365	
3	1457	1229	290	5	106	2	13	88	6	138	525	3859	2135	1129	330	10	128	2	25	83	15	240	629	4726	
4	1339	1146	185	7	64	7	3	89	9	122	308	3279	2047	976	254	14	88	1	11	91	9	206	502	4199	
6	1230	1124	168	5	55	7	1	89	9	112	268	3068	1566	560	192	12	59	0	5	88	6	170	441	3099	
7	10	1	8	0	1	1	0	0	1	5	76	103	477	40	145	0	54	0	3	0	1	41	201	962	
EASTBOUND													WESTBOUND												
8	23	2	20	0	11	0	3	0	0	3	34	96	29	5	23	0	14	0	1	0	0	4	105	181	

Saturday 14 April 2012

SECTION	NORTHBOUND											TOT	SOUTHBOUND											TOT	
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		
1	2801	1990	73	7	32	5	3	78	10	141	396	5536	3660	1861	92	3	28	1	3	0	8	196	425	6277	
3	1580	1267	90	2	28	3	6	73	3	107	395	3554	2530	1152	105	2	38	1	3	80	7	199	431	4548	
4	1386	1182	54	13	21	5	4	81	3	98	268	3115	2374	1109	86	6	37	2	5	79	4	155	299	4156	
6	1239	1163	52	12	22	2	4	81	2	87	159	2823	1799	586	62	4	21	1	2	79	1	125	242	2922	
7	31	2	9	0	0	2	0	0	0	0	32	76	532	37	57	0	30	0	0	0	0	58	183	897	
EASTBOUND													WESTBOUND												
8	31	4	24	0	7	0	1	0	0	6	64	137	43	6	14	0	12	0	0	0	0	7	178	260	

Tuesday 08 May 2012

SECTION	NORTHBOUND											TOT	SOUTHBOUND											TOT	
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		
1	3940	1999	243	22	88	2	16	87	14	343	641	7395	4305	1913	269	24	74	2	10	2	9	495	799	7902	
3	1950	1037	296	6	110	2	13	86	10	206	646	4362	2347	1058	368	2	111	2	13	89	20	272	670	4952	
4	1665	985	164	9	75	1	3	86	11	153	433	3585	2124	991	277	6	87	4	4	88	17	227	539	4364	
6	1548	978	154	7	68	1	3	86	10	127	327	3309	1644	585	195	5	56	0	3	88	4	196	498	3274	
7	25	5	11	0	4	0	0	0	0	2	66	113	421	45	127	0	44	0	1	0	0	26	221	885	
EASTBOUND													WESTBOUND												
8	45	8	17	4	9	0	0	0	0	2	126	211	34	9	18	0	11	0	0	0	0	3	200	275	

Appendix D – Pedestrian Crossing counts by Section – Wednesday, Saturday, Tuesday

- East-west and west-east pedestrian crossing movements across Exhibition Road in each section of road

SECTION	EAST to WEST						TOT	WEST to EAST						TOT
	PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN	
1	18	0	0	14	349	28	409	60	2	0	4	374	41	481
3	31	0	0	0	2228	107	2366	34	0	0	1	2153	184	2372
4	72	0	0	0	2542	241	2855	98	0	0	0	3200	403	3701
6	8	0	0	0	543	40	591	26	0	0	0	1070	179	1275
7	28	0	0	3	1620	109	1760	18	2	1	1	1849	204	2075
NORTH to SOUTH								SOUTH to NORTH						
8	137	0	0	0	8471	490	9098	130	0	0	2	8071	416	8619

SECTION	EAST to WEST						TOT	WEST to EAST						TOT
	PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN	
1	3	0	1	2	327	13	346	3	1	0	3	316	6	329
3	12	0	0	0	894	17	923	4	0	0	0	962	10	976
4	50	0	1	0	3103	169	3323	60	3	0	0	3020	203	3286
6	8	0	0	0	659	19	686	15	0	0	0	791	28	834
7	40	1	0	0	2227	111	2379	34	2	1	0	2137	78	2252
NORTH to SOUTH								SOUTH to NORTH						
8	104	2	1	6	6549	282	6944	82	1	0	5	5392	186	5666

SECTION	EAST to WEST						TOT	WEST to EAST						TOT
	PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN		PEOPLE WITH PRAMS/PUSHCHAIRS	WHEELCHAIR/ELECTRIC SCOOTER USERS	SEVERE MOBILITY DIFFICULTIES	VISUALLY IMPAIRED	ABLE BODIED ADULTS	ABLE BODIED CHILDREN	
1	11	0	0	2	451	9	473	14	0	0	3	503	12	532
3	15	0	0	0	3211	58	3284	27	3	0	0	3531	64	3625
4	42	1	0	0	2585	72	2700	39	4	0	0	2941	55	3039
6	10	0	0	0	863	10	883	10	0	0	0	750	13	773
7	16	0	0	0	1421	20	1457	11	0	0	0	2069	23	2103
NORTH to SOUTH								SOUTH to NORTH						
8	115	1	0	0	11365	120	11601	131	0	0	0	12337	156	12624

Appendix E – Prohibited vehicle movements by Section – Wednesday, Saturday, Tuesday

- On each side of the road (East and West) the number of motorised vehicles and cyclists driving in the safe pedestrian zones (defined as 4 metres from the building line); and
- number of vehicles who attempt to go the wrong way southbound or northbound down Exhibition Road

Appendix F – Parking for more than 5 mins by Section – Wednesday, Saturday, Tuesday

- Number of vehicles parking, i.e. no loading or unloading has taken place and stationary for more than five minutes, in designated parking bays;
- Average occupancy of designated parking bays by type of bay (resident or blue badge); and
- Any issues identified with accessing or leaving designated parking bays.

Wednesday 11 April 2012

DAILY NUMBER OF VEHICLES PARKING WITHOUT LOADING OR UNLOADING, AND STATIONARY FOR LONGER THAN THIS 5 MIN PERIOD IN:				
SECTION	DESIGNATED PARKING BAYS (DIPLOMATIC BAYS)	DESIGNATED PARKING BAYS (RESIDENTIAL BAYS)	DESIGNATED PARKING BAYS (ALL ARE DISABLED BAYS)	NOT DESIGNATED PARKING BAYS
1	55	190		1
3		173		7
4		276	3	16
6	17			0
7				18
8				35

Saturday 14 April 2012

DAILY NUMBER OF VEHICLES PARKING WITHOUT LOADING OR UNLOADING, AND STATIONARY FOR LONGER THAN THIS 5 MIN PERIOD IN:				
SECTION	DESIGNATED PARKING BAYS (DIPLOMATIC BAYS)	DESIGNATED PARKING BAYS (RESIDENTIAL BAYS)	DESIGNATED PARKING BAYS (ALL ARE DISABLED BAYS)	NOT DESIGNATED PARKING BAYS
1	45	116		25
3		141		7
4		352	3	8
6	2			0
7				5
8				10

Tuesday 08 May 2012

DAILY NUMBER OF VEHICLES PARKING WITHOUT LOADING OR UNLOADING, AND STATIONARY FOR LONGER THAN THIS 5 MIN PERIOD IN:				
SECTION	DESIGNATED PARKING BAYS (DIPLOMATIC BAYS)	DESIGNATED PARKING BAYS (RESIDENTIAL BAYS)	DESIGNATED PARKING BAYS (ALL ARE DISABLED BAYS)	NOT DESIGNATED PARKING BAYS
1	52	173		18
3		195		28
4		334	1	0
6	9			0
7				9
8				18

Appendix G – Vehicles loading/unloading/boarding by Section – Wednesday, Saturday, Tuesday

- Number of vehicles loading and unloading freight
- Number of coaches boarding and alighting passengers
- Number of mini-buses (LGV/MGV) vehicles boarding and alighting passengers
- Number of Black Taxis boarding and alighting passengers
- Number of cars boarding and alighting passengers (inc Private Hire Vehicles)

Wednesday 11 April 2012

SECTION	NUMBER OF VEHICLES LOADING AND UNLOADING FREIGHT IN THIS HOUR ANYWHERE IN SECTION	NUMBER OF COACHES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF MINIBUSES (LGV/MGV) THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF BLACK TAXIS THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF CARS/PRIVATE HIRE VEHICLES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION
1	25	1	0	35	14
3	100	2	0	80	50
4	23	3	3	205	74
6	0	0	0	7	6
7	82	0	0	8	27
8	37	0	0	4	6

Saturday 14 April 2012

SECTION	NUMBER OF VEHICLES LOADING AND UNLOADING FREIGHT IN THIS HOUR ANYWHERE IN SECTION	NUMBER OF COACHES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF MINIBUSES (LGV/MGV) THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF BLACK TAXIS THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF CARS/PRIVATE HIRE VEHICLES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION
1	19	0	0	28	21
3	21	1	1	146	47
4	18	3	2	221	43
6	1	0	0	7	4
7	48	0	1	4	19
8	21	0	0	6	11

Tuesday 08 May 2012

SECTION	NUMBER OF VEHICLES LOADING AND UNLOADING FREIGHT IN THIS HOUR ANYWHERE IN SECTION	NUMBER OF COACHES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF MINIBUSES (LGV/MGV) THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF BLACK TAXIS THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION	NUMBER OF CARS/PRIVATE HIRE VEHICLES THAT ARE BOARDING OR ALIGHTING PASSENGERS ANYWHERE IN THIS SECTION
1	22	1	3	53	13
3	75	2	1	122	82
4	23	6	2	121	29
6	0	0	0	3	0
7	86	0	0	14	18
8	25	0	0	3	9

Appendix H – Bus stop survey by Section – Wednesday, Saturday, Tuesday

- the number of people who trip over the kerb during busiest daylight hour and busiest hour during darkness
- the number of people who board and alight at each stop during busiest daylight hour and busiest hour during darkness

Location: Bus stop K

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING	NUMBER ALIGHTING
K	360	17:04	0	5
K	360	17:17	Did not stop	Did not stop
K	360	17:24	0	0
K	360	17:36	2	0
K	360	17:46	0	2
K	360	17:53	2	3

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING	NUMBER ALIGHTING
K	360	22:02	2	0
K	360	22:19	Did not stop	Did not stop
K	360	22:45	Did not stop	Did not stop
K	360	23:02	Did not stop	Did not stop

Location: Bus stop L

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING
L	360	17:05	0
L	360	17:22	9
L	360	17:32	6
L	360	17:45	12
L	360	17:54	1

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING
L	360	22:20	1
L	360	22:37	0
L	360	22:57	2

Tripping Incidents

At 17:45 an able bodied adult tripped over the kerb at K.

Location: Bus stop K

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER ALIGHTING	NUMBER BOARDING
K	360	16:03	1	0
K	360	16:20	4	0
K	360	16:25	3	1
K	360	16:35	3	0
K	360	16:47	4	0
K	360	16:59	3	0

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER ALIGHTING	NUMBER BOARDING
K	360	21:03	Did not stop	Did not stop
K	360	21:25	Did not stop	Did not stop
K	360	21:47	Did not stop	Did not stop

Location: Bus stop L

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER ALIGHTING
L	360	16:08	0
L	360	16:20	0
L	360	16:31	0
L	360	16:42	0
L	360	16:55	0

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER ALIGHTING
L	360	21:14	0
L	360	21:36	0
L	360	21:57	0

Location: Bus stop K

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING	NUMBER ALIGHTING
K	360	17:10	Did not stop	Did not stop
K	360	17:22	0	0
K	360	17:35	1	0
K	360	17:49	Did not stop	Did not stop
K	360	18:01	0	2

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING	NUMBER ALIGHTING
K	360	22:03	2	1
K	360	22:23	Did not stop	Did not stop
K	360	22:45	Did not stop	Did not stop

Location: Bus stop L

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING
L	360	17:08	3
L	360	17:21	3
L	360	17:30	8
L	360	17:44	12
L	360	17:53	2

BUS STOP	BUS ROUTE	ARRIVAL TIME	NUMBER BOARDING
L	360	22:20	0

Appendix I – Sections stopping abruptly by Section – Wednesday, Saturday, Tuesday

- Number of users stopping abruptly to avoid another user (disaggregated by user type); and
- number of motorised vehicles stopping for more than 30 seconds for no obvious reason

Appendix J – Sections Accidents by Section – Wednesday, Saturday, Tuesday

- Number of accidents (disaggregated by type of vehicle and pedestrian)



Sky High-Count On Us



Wednesday 11 April 2012

SECTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
1		No accidents occurred	
3		No accidents occurred	
4		No accidents occurred	
6		No accidents occurred	
7		No accidents occurred	
8		No accidents occurred	

Saturday 14 April 2012

SECTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
1		No accidents occurred	
3		No accidents occurred	
4		No accidents occurred	
6		No accidents occurred	
7		No accidents occurred	
8		No accidents occurred	

Tuesday 08 May 2012

SECTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
1		No accidents occurred	
3		No accidents occurred	
4		No accidents occurred	
6		No accidents occurred	
7		No accidents occurred	
8		No accidents occurred	

Appendix K – Junction pedestrian counts by Section – Wednesday, Saturday, Tuesday

- Pedestrian crossing counts on each arm (disaggregated by type of pedestrian)

SECTION	A1 to A2	A2 to A1	TOT	B1 to B2	B2 to B1	TOT	C1 to C2	C2 to C1	TOT	D1 to D2	D2 to D1	TOT
A	1202	852	2054	2982	2192	5174	127	128	255	1605	1328	2933
B	3253	1764	5017	3417	4718	8135	2023	1738	3761	8961	11492	20453
C	1899	989	2888	255	729	984	486	548	1034			
D	4643	4888	9531	4177	3911	8088	1764	1708	3472			
E	4199	4509	8708	9770	7562	17332	2131	2092	4223			
F	2907	1974	4881	450	1013	1463	7562	9770	17332			
G	3236	2689	5925	309	692	1001	2569	2061	4630			
H	1323	1216	2539	7015	8673	15688	1304	671	1975	1952	2458	4410
I	636	470	1106	52	49	101	1259	1186	2445			

SECTION	A1 to A2	A2 to A1	TOT	B1 to B2	B2 to B1	TOT	C1 to C2	C2 to C1	TOT	D1 to D2	D2 to D1	TOT
A	920	729	1649	3421	3072	6493	81	72	153	1668	1049	2717
B	5249	3754	9003	3607	3266	6873	1129	1219	2348	5924	7693	13617
C	1737	719	2456	970	801	1771	606	704	1310			
D	4754	4594	9348	3086	3453	6539	2229	1885	4114			
E	3758	4727	8485	5489	4084	9573	1786	2074	3860			
F	3955	2407	6362	415	537	952	4084	5489	9573			
G	4007	3441	7448	304	665	969	2180	1920	4100			
H	693	552	1245	2496	2156	4652	570	556	1126	5321	6835	12156
I	1564	1556	3120	48	46	94	1646	2050	3696			

SECTION	A1 to A2	A2 to A1	TOT	B1 to B2	B2 to B1	TOT	C1 to C2	C2 to C1	TOT	D1 to D2	D2 to D1	TOT
A	1491	1057	2548	2174	1714	3888	86	81	167	1417	767	2184
B	2557	1691	4248	2573	2115	4688	1096	1248	2344	7994	9618	17612
C	1010	672	1682	1258	467	1725	496	578	1074			
D	5981	6566	12547	3140	3133	6273	1659	1950	3609			
E	3801	4739	8540	8206	13478	21684	1744	1577	3321			
F	4503	3771	8274	553	1033	1586	13478	8206	21684			
G	1728	1577	3305	116	349	465	1597	1456	3053			
H	464	287	751	2032	1632	3664	646	542	1188	7620	9273	16893
I	854	605	1459	51	48	99	687	301	988			

Appendix L – Junction counts by Section – Wednesday, Saturday, Tuesday

- Traffic flow on each arm (disaggregated by type of vehicle)

JUNCTION	A to B											TOT	A to C											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	72	16	12	0	3	0	1	0	0	3	19	126	1679	729	176	5	47	2	12	0	9	186	643	3488
B	473	415	68	2	28	0	5	0	3	35	55	1084	1553	558	185	12	59	0	5	87	6	168	438	3071
C	1912	1277	392	13	138	7	11	983	9	243	430	5415	353	89	71	3	20	0	0	4	27	8	575	
D	1505	1131	282	9	97	9	9	658	8	205	362	4275	312	226	88	0	38	0	3	316	1	29	52	1065
E	2340	1211	371	5	129	4	14	718	13	152	198	5155	859	666	203	11	70	0	6	242	4	148	221	2430
F	96	41	22	0	4	0	0	0	0	11	8	182	1890	824	330	3	92	0	9	92	0	168	176	3584
G	8901	2461	1806	42	485	15	137	57	181	946	202	15233	0	0	0	0	0	0	0	0	0	0	0	0
H	1	0	0	0	0	0	0	0	0	2	8	11	293	22	51	0	13	0	0	1	25	181	586	
I	446	34	111	0	45	0	2	0	0	35	61	734	28	5	23	0	14	0	1	0	0	4	90	165

JUNCTION	A to D											TOT	A to A											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	2050	1153	74	3	11	0	1	0	0	231	157	3680	44	5	8	0	2	0	0	0	0	1	1	61
B	20	1	1	0	0	1	1	4	0	3	13	44	1	2	0	0	1	0	0	0	0	0	0	4
C	5	2	1	0	1	0	0	0	0	0	0	9	642	220	128	4	51	3	10	984	11	83	178	2314
D	1	1	0	0	0	0	0	0	0	0	0	2	199	59	40	0	31	1	4	137	0	5	24	500
E	0	4	0	0	0	0	0	0	1	0	0	5	2281	1001	447	2	118	0	17	3	2	180	149	4200
F	1	0	0	0	0	0	0	0	0	0	0	1	1196	434	240	2	95	4	16	643	6	105	144	2885
G	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
H	1257	535	141	12	45	1	5	90	6	137	246	2475	1	2	0	0	0	0	0	0	0	0	0	3
I	4	0	4	0	1	0	0	0	0	1	0	10	1	0	0	0	0	0	0	0	0	15	0	16

JUNCTION	B to A											TOT	B to B											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	129	32	12	0	5	1	1	0	0	6	22	208	1	0	2	0	0	0	0	0	0	0	3	
B	9	0	0	0	1	0	0	0	0	2	9	21	0	0	0	0	0	0	0	0	0	0	0	
C	2	0	1	0	0	0	0	0	0	0	3	6	4	0	1	0	0	0	0	0	4	3	12	
D	958	824	209	11	74	2	4	307	9	144	115	2657	1646	833	284	4	102	1	11	306	11	124	105	3427
E	565	257	133	7	59	3	6	238	4	85	175	1532	1740	1025	328	7	106	2	23	2	6	139	128	3506
F	2855	1650	517	11	120	0	23	89	12	234	223	5734	1224	590	180	1	115	6	11	631	7	56	103	2924
G	639	109	126	4	43	2	4	167	8	53	40	1195	311	208	71	3	28	1	6	818	7	52	109	1614
H	493	654	77	0	21	4	0	0	4	39	73	1365	0	0	0	0	0	0	0	0	0	0	0	0
I	1	0	1	0	1	0	0	0	0	0	3	6	22	2	19	0	10	0	3	0	0	3	31	90

JUNCTION	A to B											TOT	A to C											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	85	7	3	0	3	0	0	0	0	8	19	125	1950	859	66	0	16	1	2	0	4	124	359	3381
B	556	520	22	1	15	1	3	0	3	27	42	1190	1786	586	61	4	21	1	2	79	1	125	242	2908
C	2361	1379	164	5	78	1	12	939	5	202	197	5343	454	83	27	3	9	0	1	0	8	22	7	614
D	1815	1121	144	3	71	2	11	624	4	195	234	4224	424	259	28	2	10	0	3	325	1	23	28	1103
E	2756	1659	184	2	71	2	7	661	12	202	174	5730	1002	663	102	1	38	0	10	241	0	94	135	2286
F	138	97	8	0	0	0	0	0	0	7	11	261	2165	1211	126	9	47	0	2	79	0	124	156	3919
G	10401	3406	798	64	214	7	39	39	241	362	158	15729	0	0	0	0	0	0	0	0	0	0	0	0
H	2	0	1	0	0	0	0	0	0	0	1	4	378	24	13	0	4	0	0	0	0	43	169	631
I	484	31	38	0	15	0	1	0	0	45	64	678	42	6	14	0	12	0	0	0	0	7	169	250

JUNCTION	B to A											TOT	B to B											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	157	21	5	0	1	0	0	0	1	8	10	203	3	1	0	0	0	0	0	0	0	0	4	
B	7	2	0	1	0	0	0	0	0	0	22	32	0	0	0	0	0	0	0	0	0	0	0	
C	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	1	3	14	
D	1145	903	76	6	40	2	7	314	1	80	41	2615	1944	1201	142	0	38	0	7	278	8	101	75	3794
E	759	405	70	1	47	1	8	224	3	69	95	1682	1814	1538	162	9	46	5	9	1	5	105	91	3785
F	2997	2301	218	8	69	1	6	82	12	200	170	6064	1572	896	128	3	50	6	10	580	5	107	95	3452
G	820	200	35	1	26	0	5	155	1	54	32	1329	435	201	28	3	13	0	3	767	7	34	65	1556
H	492	618	22	8	5	2	1	0	1	24	21	1194	0	3	0	0	0	0	0	0	0	0	0	3
I	2	0	2	0	0	0	0	0	0	0	35	39	29	4	22	0	7	0	1	0	0	6	29	98

JUNCTION	A to B											TOT	A to C											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	109	21	15	0	6	0	0	0	0	9	38	198	1761	702	181	11	45	1	9	0	9	217	583	3519
B	464	407	85	1	31	4	0	0	13	30	34	1069	1637	584	192	5	54	0	3	88	4	195	489	3251
C	2154	1318	417	10	113	4	18	939	16	277	476	5742	382	70	89	2	17	0	2	0	6	33	9	610
D	1730	1044	345	12	112	1	13	645	7	277	512	4698	405	233	91	1	31	4	5	298	8	32	35	1143
E	2760	1149	447	13	154	1	12	706	23	236	303	5804	909	720	209	6	66	0	5	220	4	155	338	2632
F	131	44	24	1	7	0	1	0	0	11	10	229	2064	925	389	5	100	1	6	89	5	179	255	4018
G	12525	3358	3335	91	914	13	172	51	261	1562	356	22638	0	0	0	0	0	0	0	0	0	0	5	5
H	7	0	0	0	0	0	0	0	0	0	1	8	253	24	44	0	7	0	0	0	0	24	204	556
I	405	36	114	0	32	0	2	0	0	23	73	685	21	5	15	0	11	0	0	0	0	3	180	235

JUNCTION	B to A											TOT	B to B											TOT
	CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES		CAR (INCLUDING PRIVATE HIRE VEHICLES)	BLACK TAXIS	LGV - FREIGHT (VANS ETC)	LGV - PASSENGER (MINIBUSES ETC)	MGV - FREIGHT (2 AXLES & 6 TYRES)	MGV - PASSENGER (2 AXLES & 6 TYRES)	HGV FREIGHT (3 OR MORE AXLES)	BUSES (PUBLIC SERVICE - 9 SEATS OR MORE)	COACHES (PRIVATE - 9 SEATS OR MORE)	MOTORCYCLES	PEDAL CYCLES	
A	146	38	14	0	2	0	1	0	0	9	16	226	5	0	4	0	0	0	0	0	0	0	9	
B	5	2	0	0	0	0	0	0	0	3	34	44	0	0	0	0	0	0	0	0	0	0	0	
C	3	1	1	0	0	0	0	0	0	1	0	6	9	0	1	0	2	0	0	0	6	3	21	
D	1120	713	225	14	84	1	0	306	28	122	96	2709	1939	828	311	7	108	0	4	281	20	114	129	3741
E	477	280	120	0	32	5	9	218	2	69	182	1394	1854	1114	363	12	82	0	16	0	2	160	146	3749
F	3269	1737	496	15	125	0	18	95	10	249	264	6278	1345	526	314	10	111	1	10	611	15	147	191	3281
G	783	111	133	7	45	0	3	157	18	44	29	1330	302	190	83	4	28	0	3	793	11	53	48	1515
H	743	484	67	2	30	1	2	0	4	24	47	1404	0	0	0	0	0	0	0	0	0	0	0	0
I	4	0	2	2	2	0	0	0	0	1	83	94	28	4	12	2	7	0	0	0	1	43	97	

Appendix M – Junction accidents by Section – Wednesday, Saturday, Tuesday

- Number of accidents (disaggregated by type of vehicle and pedestrian)



Sky High-Count On Us



Wednesday 11 April 2012

JUNCTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
A		No accidents occurred	
B		No accidents occurred	
C		No accidents occurred	
D		No accidents occurred	
E		No accidents occurred	
F		No accidents occurred	
G		No accidents occurred	
H		No accidents occurred	
I		No accidents occurred	

Saturday 14 April 2012

JUNCTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
A		No accidents occurred	
B		No accidents occurred	
C		No accidents occurred	
D		No accidents occurred	
E		No accidents occurred	
F		No accidents occurred	
G		No accidents occurred	
H		No accidents occurred	
I		No accidents occurred	

Tuesday 08 May 2012

JUNCTION	HOUR	VEHICLE TYPE INVOLVED	PEDESTRIAN TYPE INVOLVED
A		No accidents occurred	
B		No accidents occurred	
C		No accidents occurred	
D		No accidents occurred	
E		No accidents occurred	
F		No accidents occurred	
G		No accidents occurred	
H		No accidents occurred	
I		No accidents occurred	

Appendix N – Junctions stopping abruptly by Section – Wednesday, Saturday, Tuesday

- Number of users stopping abruptly to avoid another user (disaggregated by user type); and
- number of motorised vehicles stopping for more than 30 seconds for no obvious reason

MVA Consultancy provides advice on transport, to central, regional and local government, agencies, developers, operators and financiers.
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