

# Traffic and Road Safety Advisory Panel (Special) AGENDA

**DATE:** Monday 27 June 2016

**TIME:** 7.30 pm

**VENUE:** Council Chamber, Harrow  
Civic Centre

---

**MEMBERSHIP** (Quorum 3)

---

**Chair:** Councillor Barry Kendler

**Councillors:**

Jeff Anderson  
Jerry Miles  
Anne Whitehead

Susan Hall  
Ameet Jogia  
Mrs Vina Mithani

**Advisers:** To Be Appointed

---

**Reserve Members:**

---

1. Ghazanfar Ali  
2. Nitin Parekh  
3. Sachin Shah  
4. Margaret Davine

1. Manjibhai Kara  
2. Lynda Seymour  
3. John Hinkley

**Contact:** Manize Talukdar, Democratic & Electoral Services Officer  
Tel: 020 8424 1323 E-mail: [manize.talukdar@harrow.gov.uk](mailto:manize.talukdar@harrow.gov.uk)

## **AGENDA - PART I**

### **1. ATTENDANCE BY RESERVE MEMBERS**

To note the attendance at this meeting of any duly appointed Reserve Members.

Reserve Members may attend meetings:-

- (i) to take the place of an ordinary Member for whom they are a reserve;
- (ii) where the ordinary Member will be absent for the whole of the meeting; and
- (iii) the meeting notes at the start of the meeting at the item 'Reserves' that the Reserve Member is or will be attending as a reserve;
- (iv) if a Reserve Member whose intention to attend has been noted arrives after the commencement of the meeting, then that Reserve Member can only act as a Member from the start of the next item of business on the agenda after his/her arrival.

### **2. DECLARATIONS OF INTEREST**

To receive declarations of disclosable pecuniary or non pecuniary interests, arising from business to be transacted at this meeting, from:

- (a) all Members of the Panel;
- (b) all other Members present.

### **3. APPOINTMENT OF VICE CHAIR**

To appoint a Vice Chair of the Panel for the 2016/17 Municipal Year.

### **4. DEPUTATIONS**

To receive deputations (if any) under the provisions of Executive Procedure Rule 48 (Part 4D of the Constitution).

### **5. REFERENCE FROM OTHER COMMITTEES AND PANELS (Pages 5 - 6)**

To receive a Reference from the Planning Committee meeting of 25 May 2016.

### **6. APPOINTMENT OF ADVISERS (Pages 7 - 10)**

To appoint advisers to the Panel for the 2016/17 Municipal Year.

### **7. PROPOSED SECONDARY SCHOOL - WHITCHURCH PLAYING FIELDS, WEMBOROUGH ROAD, STANMORE (Pages 11 - 442)**

Report of the Corporate Director, Community.

### **8. ANY OTHER URGENT BUSINESS**

Which cannot otherwise be dealt with.

## **AGENDA - PART II - NIL**

**TRAFFIC AND ROAD SAFETY ADVISORY PANEL - 27 JUNE 2016**

**REFERENCE FROM THE PLANNING COMMITTEE MEETING OF 25 MAY 2016**

**Minute Item 244: Planning Applications Received**

**244. Planning Applications Received**

In accordance with the Local Government (Access to Information) Act 1985, the Addendum was admitted late to the agenda as it contained information relating to various items on the agenda and was based on information received after the despatch of the agenda. It was admitted to the agenda in order to enable Members to consider all information relevant to the items before them for decision.

**RESOLVED:** That authority be given to the Head of Planning to issue the decision notices in respect of the applications considered.

**1/02 - WHITCHURCH PLAYING FIELDS, WEMBOROUGH ROAD, STANMORE**

**REFERENCE:** P/4910/15

**DESCRIPTION:** The Erection Of A Three Storey Building For Use As A School With Detached Sports Hall/Community Changing Block, Hard And Soft Landscaping, Sports Pitches And Multi-Use Games Areas (MUGA), Hard And Soft Play Areas, Parking, Bin Storage And Boundary Treatment .

*Councillor Pritesh Patel left the room during consideration of this item.*

The Chair emphasised that the Committee had unanimously agreed to grant the application at its meeting of 17 February 2016 subject to the completion of a section 106 Planning Obligation, the School Travel Plan (STP) and the Community Use Agreement being referred back to the Committee for further consideration.

Following questions from Members, an officer advised that:

- the coaches to be used by the school had a 50 seat capacity and it was anticipated that the coaches would transport 150 pupils both in the morning and in the afternoon, with each journey likely to be charged at £7.50. The existing service was over-subscribed and a waiting list was in operation. However, the planned increased in pupil numbers would likely lead to economies of scale which would bring down costs;

- the Council's travel planners and Highways officers were working closely with Avanti House School to ensure that the provisions contained in the STP would be met and it was important to note that the school had a good past record with in relation to implementing its STP. Nevertheless, the Council could not impose any penalties if the STP provisions were not met, but it would be in the interests of the school to ensure this was the case.

Members made the following additional comments:

- it was important to ensure that the STP measures were achievable and that local public transport provision would be able to cope with the likely increase in demand following the school's expansion;
- the school was located in an accessible location and he was in favour of the application in principle. However, in his view, the STP and any mitigating measures would require further specialist consideration and he proposed a motion to defer the application and for a Reference to be sent from the Planning Committee to the Traffic and Road Safety Advisory Panel (TARSAP) to further discuss and scrutinise the application and report back to the next meeting of the Planning Committee;
- the Chair added that there were a number of complex traffic management issues to be resolved with regard to the application, namely:
  - whether the S106 mitigation measures were adequate;
  - whether the plans for the roundabout to the West of the school required further discussions with TfL;
  - the possible implementation of staggered start and finish times by the three schools located in close proximity, namely, Stanburn, Whitchurch and Avanti House.

He added that TARSAP was best placed to provide comments on the above matters. He proposed sending a Reference to TARSAP, requesting that a Special meeting of the Panel be convened to consider the application and that TARSAP's findings be reported to the 29 June 2016 meeting of the Planning Committee.

**DECISION: DEFERRED**, pending further consideration at a special meeting of the Traffic and Road Safety Advisory Panel to take place before the end of June 2016.

**REPORT FOR: TRAFFIC AND ROAD  
SAFETY ADVISORY PANEL**

---

<b>Date of Meeting:</b>	27 June 2016
<b>Subject:</b>	Appointment of Advisers to the Panel 2016/17
<b>Key Decision:</b>	No
<b>Responsible Officer:</b>	Hugh Peart, Director of Legal and Governance Services
<b>Portfolio Holder:</b>	Councillor Graham Henson, Portfolio Holder for Environment, Crime & Community Safety
<b>Exempt:</b>	No
<b>Decision subject to Call-in:</b>	Yes (following consideration by the Portfolio Holder)
<b>Enclosures:</b>	Appendix 1 – Nominations Received

## **Section 1 – Summary and Recommendations**

This report advises Members about the appointment of advisers to the Panel for the 2016/17 Municipal Year. Members are requested to consider the report and agree the nominations for the 2016/17 Municipal Year.

**Recommendations:** That the Panel recommend to the Portfolio Holder for Environment, Crime & Community Safety that the nominations for Advisers to the Panel set out at appendix 1, be agreed.

**Reason: (For recommendation)**

To appoint advisers to the Panel for the 2016/17 Municipal Year, to assist in the work of the Panel.

## **Section 2 – Report**

2.1.1 Rule 35.4 of the Executive Procedure Rules of the Constitution provides for a Panel to recommend to the Executive that advisers be appointed to assist in the work of the Panel either generally or on specific matters.

2.2 The Panel appointed advisers to assist with its work for the Municipal Year 2015/16 and this term has now expired. Existing advisers have been contacted and asked to confirm whether their nominating organisation wishes them to continue to act as advisers to the Panel for the 2016/17 Municipal year.

2.3 The following advisers nominating organisations have confirmed that these individuals wish to stay on as advisers to the Panel for the 2016/17 Municipal year:

(1) Mr Anthony Wood, representing the interests of public transport users and nominated by Harrow Public Transport Users' Association (HPTUA);

(2) Dr Anoop Shah, representing cyclists interests and nominated by Harrow Cyclists

(3) Mr Nigel Long, nominated by the Harrow Association of Disabled People.

No nomination has been received this year from the pedestrian organisation, Living Streets.

### **Financial Implications**

2.4 There are no financial implications arising from this report.

### **Risk Management Implications**

2.5 If not appointed, the Panel may not have access to external expert advice from suitably qualified persons when conducting its business.

### **Equalities implications**

2.6 Contributes to the Council's fulfilment of its Public Sector Equality Duty.

### **Corporate Priorities**

2.7 Contributes to the following Corporate Priority: 'Making a difference for communities', by enabling representation from the voluntary & community sector in Harrow on an advisory panel of the Executive.

### **Section 3 - Statutory Officer Clearance**

Name: Sharon Daniels	<input checked="" type="checkbox"/>	on behalf of the Chief Financial Officer
Date: 9 June 2016		
Name: Bob Huffam	<input checked="" type="checkbox"/>	on behalf of the Monitoring Officer
Date: 10 June 2016		

### **Section 4 - Contact Details and Background Papers**

**Contact:** Manize Talukdar, Democratic & Electoral Services Officer  
Tel: 020 8424 1323

**Background Papers:** The Council's Constitution, Report to TARSAP meeting held on 23 June 2011, Portfolio Holder Decision (PHD) 002/11

## **Appendix 1 – Nominations Received**

- 1. Harrow Public Transport Users Association (HPTUA)** - Established group looking after all public transport users' interests within the Borough of Harrow.

Further info -

[http://www.harrow.gov.uk/info/200078/public\\_transport/1704/harrow\\_public\\_transport\\_users\\_association/1](http://www.harrow.gov.uk/info/200078/public_transport/1704/harrow_public_transport_users_association/1)

### **Nominee**

Mr Anthony Wood, Chairman of the HPTUA, has served on the Panel since 2006.

- 2. Harrow Cyclists** - The Harrow Cyclists are a cycle campaign group whose aim is to encourage cycling in North West London. The group organise the following activities: a rides calendar; social nights; working with the council to make Harrow roads more bike friendly; helping with bicycle maintenance.

Website - <http://www.harrowcyclists.org.uk/>

### **Nominee**

Dr Anoop Shah – Has served on the Panel since 2013.

- 3. Harrow Association of Disabled People** – Works to promote and bring about inclusion and equality for all disabled people in all areas of life.

### **Nominee**

Mr Nigel Long – CEO of HAD, replaces Nicky Baker.

Website - <http://www.had.org.uk/>



**REPORT FOR: Traffic and Road Safety  
Advisory Panel**

---

**Date of Meeting:** 27 June 2016

**Subject:** **INFORMATION REPORT**  
Proposed Secondary School -  
Whitchurch Playing Fields,  
Wemborough Road, Stanmore

**Responsible Officer :** Tom McCourt – Corporate Director,  
Community

**Exempt:** No

**Wards affected:** Belmont

**Enclosures:** **Appendix A – Transport Assessment**  
**Appendix B – Travel Plan**  
**Appendix C – Briefing note**

## **Section 1 – Summary**

This is an information report that explains the transport assessment, travel plan and the proposed transport mitigations for the proposed secondary school at Whitchurch playing fields, Wemborough Road, Stanmore following a Reference from the Planning Committee on 25<sup>th</sup> May 2016.

**FOR INFORMATION**

## **Section 2 – Report**

### **Background**

- 2.1 The Education Funding Agency (EFA) in conjunction with the governors of Avanti House Free School (AHFS) are proposing to build a secondary School on the existing green field land at Whitchurch Playing Fields, Wemborough Road, Stanmore. The playing fields are situated to the north of Wemborough Road and the east of Abercorn Road and are surrounded by a predominately residential area.
- 2.2 The proposed AHFS is planning to take occupation of the site from the beginning of the 2017/2018 academic year with an annual intake of 180 students per annum from year 7 to year 11 plus sixth form. At full occupation the school will serve 1,260 students supported by 120 full-time equivalent (FTE) staff.
- 2.3 Directly to the south-east of the site is Whitchurch First and Junior Schools which have recently been granted planning permission for expansion from 695 to 905 pupils to reach full capacity in September 2020. The infant and junior schools are located on the same site. The main entrance to the school site is located on Wemborough Road in Stanmore and this access would also be used by the proposed secondary school.
- 2.4 Stanburn primary school is also located in close proximity to the site located in Abercorn Road just west of the playing fields and north of the junction with Wemborough Road. This school is not part of the school expansion programme.
- 2.5 The applicant prepared a transport assessment and travel plan for the proposal for AHFS which can be seen in appendices A & B. This sets out a detailed assessment of the transport implications and mitigations proposed. The highway authority was satisfied that the assessment methodology was robust and that sufficient mitigation measures had been identified to address the main transport impacts of the development.
- 2.6 The Planning Committee, at its meeting on 17th February 2016, unanimously resolved to grant the planning application subject to the

completion of a section 106 Planning Obligation and referral back to the Planning Committee, in relation specifically to the Travel Plan and the Community Use Agreement, by 31st July 2016.

- 2.7 The Planning Committee, at its meeting on 25th May 2016, considered the application again and following some concerns expressed about the transport mitigations, requested that the matter be referred to TARSAP for consideration. TARSAP are therefore requested to consider the traffic, parking and public transport implications of the proposed construction of a new School and Sports Hall for Avanti House School on Whitchurch Playing Fields and to provide comments in the form of a Reference to the Planning Committee meeting scheduled for Wednesday 29<sup>th</sup> June 2016.

### Transport assessment

#### Trip generation / distribution and traffic modelling

- 2.8 An important aspect of assessing the traffic impact of new development is estimating the additional trips on the network that will be generated. The additional trips generated by the development at full capacity are set out in section 5 of the transport assessment. The methodology compares trip rates using information from similar sites to the proposed site in the TRICS database (The National Standard for Trip Generation Analysis) in order to estimate the trip rates by mode in the AM and PM peaks for the development. Consideration has also been given to the postcode locations of existing pupils at the Krishna Avanti School in the current temporary school site on Beaulieu Drive, Pinner which will move to the new site. This is relevant because many pupils live within 1 km of the proposed site and could walk to school.

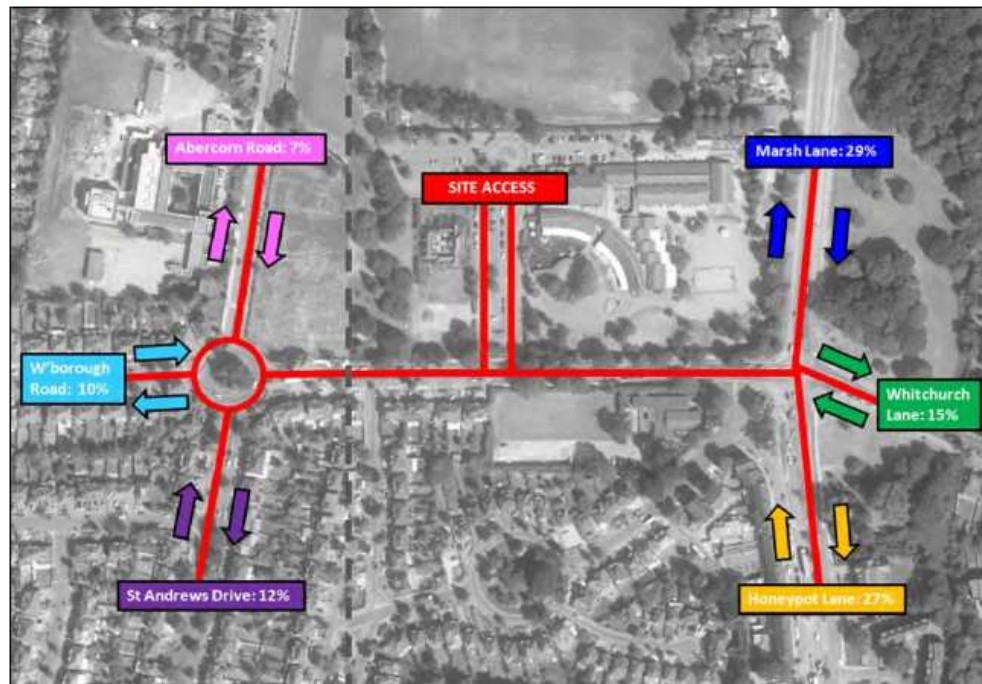
Table 5.1 Weekday Peak Hour Person Trip Generation - Proposed Uses (1,260 students)

Mode of Travel	AM Peak (0800-0900hrs)			PM Peak (1500-1600hrs)		
	Two-Way Trip Rate (per pupil)	Mode Split	No. Movements	Two-Way Trip Rate (per pupil)	Mode Split	No. Movements
Car Occupants	0.168	21.7%	212	0.075	8.7%	95
Cyclists	0.008	1.0%	10	0.008	0.9%	10
Pedestrians	0.246	31.8%	310	0.299	34.7%	377
Public Transport	0.233	30.1%	294	0.360	41.8%	454
School Bus	0.119	15.4%	150	0.119	13.8%	150
<b>TOTALS</b>	<b>0.774</b>	<b>100.0%</b>	<b>976</b>	<b>0.861</b>	<b>100.0%</b>	<b>1086</b>

- 2.9 The table above indicates the travel mode splits estimated by peak times and shows that travel by car would be limited to 21.7% in the AM peak and 8.7% in the PM peak. A much higher proportion of trips would be by sustainable transport modes (bus, walking or cycling) with 78.3% in the AM peak and 91.2% in the PM peak.

- 2.10 The distribution of these trips has been assessed by making a comparison with the postcode location data of pupils at the Whitchurch schools which is currently operating in this location.

Figure 11 Distribution of School Related Traffic



- 2.11 The plan above demonstrates that on this basis 71% of trips would come from the east of the site (Marsh Lane / Honeypot Lane / Whitchurch Lane) and only 29% from the west (Wemborough Road / Abercorn Road / St Andrews Drive).
- 2.12 The traffic modeling has concentrated on three junctions on Wemborough Road. These are located at the site access, the roundabout at the west of the site (Abercorn Road / St Andrews Drive) and the traffic signals on the east of the site (Marsh Lane / Honeypot Lane). Traffic survey information at these locations was surveyed in 2014 and a traffic growth factor applied based on national TEMPRO (Trip End Model Presentation Program) traffic growth forecasts in order to estimate flows for a future scenario in 2020 when the school would be at full capacity. A base model situation for 2020 and a base + development situation for 2020 (trip generation figures added) are modeled separately. These scenarios are also split into the AM and PM peaks.
- 2.13 The modeling has shown that the traffic signals in the base 2020 scenario is close to capacity in the AM peak on the main road (Honeypot Lane / Marsh Lane) and over capacity for the Wemborough Road right turn. The table below indicates the typical queue lengths in the peak hours and percentage of capacity used (DoS).

**Table 6.1 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	83.5%	14.1	74.7%	12.1
Whitchurch Lane Right	69.2%	2.2	47.9%	1.9
Honeypot Lane Left Ahead	97.8%	16.5	89.4%	13.0
Honeypot Lane Right Ahead	98.1%	17.5	90.5%	14.5
Wemborough Road Left Ahead	89.4%	17.3	73.4%	12.0
Wemborough Road Right	101.7%	9.6	93.0%	7.9
Marsh Lane Left Ahead	96.6%	16.6	91.2%	10.2
Marsh Lane Right Ahead	97.4%	18.4	92.2%	11.3

2.14 In the base + development 2020 scenario the junction is significantly over capacity on the same arms of the junction. On this basis the applicant has proposed a junction improvement to increase capacity at the junction to accommodate the additional traffic. A high proportion of the additional traffic generated by the development (71%) will be travelling through this junction. The table below indicates the typical queue lengths in the peak hours and percentage of capacity used (DoS).

**Table 6.2 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base + Development**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	82.1%	14.4	72.8%	11.9
Whitchurch Lane Right	60.8%	1.9	51.9%	1.9
Honeypot Lane Left Ahead	110.1%	32.0	94.4%	15.3
Honeypot Lane Right Ahead	110.3%	34.3	95.2%	17.0
Wemborough Road Left Ahead	87.4%	16.9	76.4%	13.2
Wemborough Road Right	104.5%	11.5	97.9%	10.3
Marsh Lane Left Ahead	108.1%	31.6	91.9%	10.5
Marsh Lane Right Ahead	108.6%	34.8	93.0%	11.6

2.15 It is considered that pedestrian safety would be improved by including a controlled crossing facility over the northern Marsh Lane arm in order to

connect pedestrian traffic from the school with bus stops on the northern side of Whitchurch Lane.

- 2.16 Detailed investigations have been undertaken at the Wemborough Road / Honeypot Lane / Marsh Lane junction in order to improve capacity and to provide additional controlled pedestrian crossing facilities at the signalised crossroads. An improvement scheme has been developed incorporating an additional controlled pedestrian crossing point on the Marsh Lane arm with highway modifications including carriageway widening on the north, west and southern arms to include additional traffic lanes. Appendix 16 in the Transport Assessment gives details of the proposed scheme. The table below indicates the typical queue lengths in the peak hours and percentage of capacity used (DoS). This demonstrates that the junction improvement would be within capacity taking account of traffic growth and additional trips from the development.

**Table 8.1 LINSIG Output – ‘2020 Base + Development’ (Proposed Junction Layout)**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	78.8%	16.4	68.1%	12.7
Whitchurch Lane Right	58.0%	2.0	45.4%	1.9
Honeypot Lane Left Ahead	95.5%	17.1	85.2%	11.7
Honeypot Lane Right Ahead	93.3%	15.3	78.4%	10.9
Wemborough Road Left Ahead	84.1%	19.1	71.7%	14.2
Wemborough Road Right	98.0%	9.7	87.1%	7.9
Marsh Lane Left Ahead	97.2%	20.3	84.8%	9.8
Marsh Lane Right Ahead	97.6%	21.6	85.6%	10.5
Junction PRC (%):	-8.9%		3.3%	

- 2.17 The total cost of implementing the junction improvement is likely to be in the region of £250,000 - £500,000 subject to the need to divert statutory undertaker’s plant. The applicant intends to undertake these works themselves via a section 278 highways agreement owing to the need to introduce the improvement in advance of the new school opening and also because of the limited time available to undertake the development and implementation of the scheme. The highway authority has agreed this approach as it minimises the risk to the Council in project managing and delivering the scheme and the fact that the developer is best placed to manage the risk this poses to its overall project timetable.
- 2.18 There is a negligible impact on the site access to the development and both scenarios modeled demonstrate sufficient capacity. No improvement is required at this location.

- 2.19 The modeling has shown that the roundabout (Wemborough Road / Abercorn Road / St Andrews Drive) in the base 2020 scenario has sufficient capacity to operate normally. In the base + development 2020 scenario the roundabout still remains within capacity and there is a minor increase in queuing and delay on the Abercorn Road arm in the AM peak and the Wemborough Road arm in the PM peak. Therefore no improvement is considered necessary at this location.
- 2.20 The Planning Committee has queried whether an improvement should be undertaken at the roundabout junction and whether the use of traffic signals instead should be considered. The applicant has provided additional information in a briefing note to compare the operation of the roundabout with traffic signals as an alternative. This assessment can be seen in Appendix C. The table below clearly demonstrates that the traffic signals would introduce more queuing and delay at the junction when compared to the existing roundabout.

**Table 1** Wemborough Road / Abercorn Road / St Andrews Drive Roundabout / Signals Queue Comparison

Approach Arm	AM Peak Ave. Queue		PM Peak Ave. Queue	
	Roundabout	Signals	Roundabout	Signals
Wemborough Road (E)	6.8	14.2	21.3	16.1
St Andrews Drive	2.5	8.5	3.6	7.0
Wemborough Road (W)	3.1	7.8	3.0	6.4
Abercorn Road	10.9	14.0	3.6	12.5
<b>TOTAL:</b>	<b>23.3</b>	<b>44.5</b>	<b>31.5</b>	<b>42.0</b>

Arrival / departure times

- 2.21 The opening hours for the new school will be 07:00 - 17:30 and include a comprehensive range of pre and post-school activities including a breakfast club (07:00 – 08:00) and additional education / training and sporting activities after school which will operate on a daily basis.
- 2.22 Separate start and finish times by key stage will be introduced and in conjunction with pre and post school activities this will result in staggering the arrival and departure of traffic during the peak periods in order to minimise the impact of school-related trips on the operation of the surrounding transport network at peak times. The table below gives details.

**Table 4.1 Proposed School Start and Finish Times**

Time	Activity	No. Pupil Arrivals / Departures
<b>Morning</b>		
07:00-08:00	Breakfast Club	60
07:45	Key Stage 4 Registration	320
08:15	Key Stage 3 Registration	520
09:45	Key Stage 5 Registration	340
<b>Evening</b>		
15:45	Official KS3 & KS4 end of day	400
16:45	KS3/KS4 After School Clubs end	500
17:30	Official KS5 end of day	360

- 2.23 The majority of staff and students of AHFS will be arriving and departing at different times to those of the existing Whitchurch Schools, which operate start times of 08:45/08:55 and finish times of 15:15/15:20.

Vehicular access

- 2.24 During the public consultation process suggestions were made with regard to creating a one way through route from Marsh Lane to Wemborough Road to accommodate vehicular traffic. The proposal was evaluated, however, this approach was not recommended because it would encourage more car trips and would increase usage of an access point which is too close to the existing traffic signals junction. This would cause conflict between vehicles waiting to turn and through traffic increasing delays for all traffic. As Marsh Lane is an important main distributor route in the area with bus routes it is necessary to ensure journey time reliability.
- 2.25 A significant concern from using this access point would be the inevitable problem caused by parents dropping off and picking up passengers on Marsh Lane and potentially causing significant safety issues with vehicles stopped on a busy route and children potentially crossing between parked cars and queuing vehicles. Such behaviour would be disruptive to traffic flow and effect the operation of the signals as well as resulting in pedestrian safety being compromised. Similar situations in other parts of the transport network have been extremely difficult to enforce and so this has been designed out of the proposed access arrangements for AHFS.
- 2.26 The existing access to the school from Wemborough Road will be used for the Whitchurch schools and the proposed AHFS. An assessment of capacity at the junction has demonstrated that with the staggered start and finish times it will be able to cope with all the movements at the existing junction without modifications being required.



## School Transport

- 2.27 Whilst a significant proportion of students within the catchment area will be able to use a public bus service, or combination of bus services to travel to school, it is proposed to supplement this with a private school operated bus service to accommodate the estimated demand to travel by bus.
- 2.28 On this basis at least half of the trips generated by AHFS will be accommodated by either public transport services or a school bus service provided by AHFS. The trip matrix above has indicated that in the AM period 294 trips will use public transport and 150 trips use the school bus. In the PM period 454 trips will use public transport and 150 trips will use the school bus.
- 2.29 In the travel plan it is proposed that the school minibus service will accommodate 50 students and will run 3 services (150 students in total) in both the AM and PM periods to cater for those students that do not have direct access to a bus route and to reflect the staggered school start / finish times by key stage. A route and details of pick-up / drop-off points have been identified within the School Travel Plan to demonstrate that it is feasible arrangement.
- 2.30 Planning Committee Members in February and in May queried whether AHFS could increase the number of school-operated minibuses to minimise the number of pupils being brought to school by car. In this regard it is necessary to consider that the trip matrix information above is based upon similar types of development in the TRICS database and reflects what the likely take up of travel by bus will be. As travel choices are ultimately made by the travelling public the use of this database provides a realistic view of the achievable modal split based on other sites that are already in operation. AHFS have indicated the split between public and private bus travel to achieve this proportion of trips by bus.
- 2.31 The proportion of trips by car is estimated in the trip matrix above as 21.7% in the AM period and 8.7% in the PM period. This is an overall average of 15.2% for the car mode which compares favourably with TfL's latest Travel in London Report 8, issued in 2015, which indicates the proportion of secondary school travel to school in outer London averages 16%. The school travel plan does reflect an on-going commitment to promote the use of school buses to ensure that all opportunities to minimise car journeys are made and will be subject to regular review.
- 2.32 AHFS have indicated that the school bus is funded by parents and there is no limit on the number of minibuses that could be run to serve the school at Witchurch Playing Fields.

## Public Transport

- 2.33 The nearest public bus stops to the development site are located on Wemborough Road, the closest being 250m west of the pedestrian entrance to the school. The bus stops further west are provided with bus

shelters, seating, timetable information, with the exception of one stop (BL) which is not provided with a shelter. The stops are served by route 186. To the east of the site, services 79, 186 and 340 stop regularly along Whitchurch Lane (B461) and benefit from shelters, seating and timetable information. The 324 service runs along Abercorn Road / St Andrews Drive to the west of the playing fields. The walking route from the school to the bus stops on the south side of Whitchurch Lane is via two controlled crossing facilities.

- 2.34 The closest bus stop for Route N98 is located 480m south of the site on Honeypot Lane and is provided with a bus shelter, seating and timetable information. Abercorn Road, west of the school, links bus service 324 which stops approximately 420 metres from the school entrance. The service runs between Stanmore London Underground Station and Brent Cross via Kingsbury. A zebra crossing at the roundabout, south of Abercorn Road allows passengers to cross the road in order to walk to the school.
- 2.35 The nearest rail / London Underground station to the proposed school is Canons Park, approximately 600 metres (10 minute walk-time) to the east. Canons Park is operated by London Underground on the Jubilee Line located between Stanmore to the north and Queensbury to the south. A service is provided every 5 minutes and bus routes 79, 186 and 340 stop outside the station. Edgware Station (London Underground) is the northern terminus on the Northern Line, approximately 2.4km from the proposed site and is also served by bus services 79, 186 and 340. Services arrive in Edgware every 12 minutes.
- 2.36 Transport for London (TfL), in their capacity as the regional transport authority responsible for the provision of public transport, have assessed the impact of additional bus passengers from the development on the existing bus routes in the area based on the trip matrix above. Their assessment is that only route 186 experiences capacity concerns at peak times and is the only route that requires some mitigating measures.
- 2.37 TfL have confirmed that Mayoral funds are available to mitigate the public transport impacts of free school developments, and they will contribute £75,000 to operate an additional AM and PM peak service on route 186. The bus will be double-deck and accommodate 87 seated passengers. This is considered sufficient to accommodate the additional trips generated by the development. Appendix C provides further details.
- 2.38 TFL have also indicated that if additional capacity is required this fund will provide the means to pay for additional services. Therefore it is possible to review where the demand is generated after the school opens and still be able to make any necessary changes.

### Pedestrians

- 2.39 Pedestrian infrastructure within the vicinity of the site is of a good standard with an illuminated local footway network accommodating the main pedestrian desire lines in the area.

- 2.40 Wemborough Road has a “pelican” pedestrian crossing located approximately 10 metres from the main site entrance to the playing fields which provides a crossing facility by the main access to the existing Whitchurch Schools, playing fields and proposed development.
- 2.41 A range of pedestrian crossing facilities are in place around Stanburn School in Abercorn Road. All the approaches to the roundabout at Wemborough Road / Abercorn Road have crossing facilities provided. Wemborough Road (west side) and Abercorn road have “zebra” pedestrian crossings and Wemborough road (east side) and St Andrews Drive have pedestrian refuge islands. There is also another pedestrian refuge island further along Abercorn Road just north of Stanburn School.
- 2.42 Located to the east of the site is a signalised crossroad junction at Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) and Wemborough Road which has pedestrian crossing points with tactile paving and pedestrian refuge islands on all arms of the junction. The Honeypot Lane crossing point is provided with a staggered controlled pedestrian phase.
- 2.43 As a consequence of the development generating additional pedestrian traffic there is a need to provide an additional controlled crossing point at the traffic signals on the Marsh Lane arm, explained previously, owing to the increase in pedestrian movements and greater need to access the bus stops on Whitchurch Lane.

#### Cycling

- 2.44 Cycling has a low mode share in the trip matrix above which reflects the low take up of cycling in Harrow currently. There is, however, a network of cycle routes in the area connecting with key destinations in the borough which are signed and have advisory cycle lane markings in the vicinity of the proposed school. These provide the opportunity for students / parents / staff to cycle to and from school on dedicated routes during school times.
- 2.45 The traffic signals junction Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) and Wemborough Road has advanced stop lines and holding areas on all arms of the junction to assist cyclists turning at the junction.
- 2.46 Where dedicated cycle routes are not present, carriageway widths are wide enough to accommodate both cyclists and vehicles and forward visibility is good enough to provide adequate inter-visibility between cyclists and vehicles.

#### Parking (within development)

- 2.47 There is no prescriptive car parking standard within the London Plan or Harrow Council’s Development Management Policies document in respect of education-based land uses. It is proposed therefore to provide a total of 69 parking spaces (including 5% disabled provision, 10% active electric vehicle charging points and 10% passive electric vehicle charging

points). This level of parking is considered appropriate based on site specific demand for the school and any proposed 'out of hours' leisure activities. The disabled and electric vehicle provision accords with London Plan standards and reflects consultation with the GLA. The implementation of the School Travel Plan will seek to minimise travel by car, and thereby reduce impact on parking accumulation within the car park.

- 2.48 The figure of 69 car parking spaces has been derived on the basis of the travel behaviour of existing AHFS staff. The current AHFS Travel Plan indicates that 53% of staff travel by car with a further 24% of staff car sharing. In terms of preferred mode of travel, 41% of staff said they would prefer to travel by car, whilst 41% would prefer to car share. An average of these figures would see a 63.3% proportion of staff arriving / departing school by car. On the basis that the school will be targeting a 6% modal shift away from car travel as part of achieving a STARS 'Gold' accredited Travel Plan, it should be expected that the proportion of staff travelling to and from school by car will fall to c. 57.3%. Applying this to 120 FTE staff would therefore require a parking supply of 69 spaces.
- 2.49 Whilst it is envisaged that the proportion of staff driving to school may increase further over time, it is considered that 69 parking spaces will provide sufficient parking for staff, visitors and for activities outside of school hours. The level of parking is considered a balance, such that it does not represent an over-supply of parking that would encourage staff to travel to school by car.
- 2.50 Specific guidance in respect of cycle parking is provided in the adopted London Plan Further Alterations (March 2015) document. It is proposed to provide 1 long-term cycle parking space per 8 students / staff plus an additional short stay space per 100 students. In this regard, at full capacity, the school will provide as a minimum covered long-stay cycle parking for 173 cycles and 12 additional short stay spaces. This will support cycle trips undertaken by pupils and staff, which is expected to be in the order of 10 movements during the peak hour periods. This is anticipated to increase significantly through the Travel Planning process, which will focus in particular on cycle training, maintenance and safety.

#### Parking (access road and car parks)

- 2.51 Parking demand data was obtained in order to gauge current parking levels within the existing car parks and access road to the south of the site in order to assess the impact of the development on the availability of parking spaces. The car parks have a total of 102 spaces and is the optimum location for school related set-down / pick-up activity, in order to reduce the risk of these activities occurring on the public highway and being in conflict with through traffic.
- 2.52 Appendix 15 in the Transport Assessment gives details of the parking accumulation calculations. Under existing traffic conditions the car parking spaces reach capacity during the AM peak at 08:45 and during

the PM peak at 15:00 & 15:15 for the periods at the start and end of the Whitchurch Schools days.

- 2.53 The car parking accumulation predicted in the future takes account of the AHFS traffic, picking up and dropping off, based on staggered start and finish times as explained previously, combined with the additional traffic linked to the expansion of the Whitchurch schools. This has highlighted that there is a significant shortfall in capacity at 08:45 – 09:00 and 15:00 – 15:30 of over 50 vehicles which is predominantly caused by the expansion of Whitchurch Schools rather than the additional traffic generated by AHFS. It is suggested in the assessment that the AHFS travel plan mitigates any potential impact of AHFS traffic by encouraging further travel by sustainable modes to reduce car usage.
- 2.54 The STP for Whitchurch School, which was recently revised following the approval of the school expansion for that school, does indicate an action to introduce parking controls into the existing parking areas and access road in 2016/17 and the council's traffic team is currently investigating the development of a scheme to be funded from funds for highway measures related to school travel plans in this year's TFL local implementation plan programme of works.
- 2.55 This area of land is not highway but is land in the ownership of the Council. The introduction of a parking scheme would therefore require the creation of an off street parking places order to control traffic and could be enforced by the Council's parking enforcement team.

#### School Travel Plan (STP)

- 2.56 Harrow places a strong emphasis on developing School Travel Plans in order to promote sustainable travel modes including walking, cycling and the use of public transport to reduce travel by car as well as delivering health benefits and a reduction in air pollution.
- 2.57 AHFS is committed to implementing a TfL STARS accredited Travel Plan at the proposed development site and has already achieved STARS 'Gold' accreditation for the 2014/2015 academic year at the existing school at Common Road demonstrating their commitment to travel planning measures and achieving their targets / objectives.
- 2.58 The key objective of the STP is to set out a package of measures for reducing the number of car trips generated by parents and staff at the school and to improve safety on the school journey. The planning obligation will be secured by way of a Section 106 Agreement.
- 2.59 Annual travel surveys of staff and students will be conducted, and survey results will be submitted to Harrow Council for monitoring. Following initial occupation, travel surveys will be carried out in the spring term of the 2017/2018 academic year. The School's Travel Plan Coordinator will be responsible for undertaking the initial and subsequent surveys as well as monitoring other aspects of the Travel Plan.

- 2.60 The TfL STARS accredited Travel Plan will be underpinned by a comprehensive and deliverable Action Plan. The Action Plan will clearly outline a list of actions to be undertaken so as to promote the Travel Plan to students, parents/ carers and staff. The success of the Travel Plan will be judged against TfL STARS accreditation criteria which rewards schools for efforts made toward reducing the travel impact of their activities with three accreditation levels, Bronze, Silver and Gold.
- 2.61 The school has indicated that it is committed to the regular monitoring and reviews of the STP as a means of ensuring that it meets the aims, objectives and targets as set out within the Plan. The output of the annual monitoring and review process will be a Monitoring Report made available to the Council and other stakeholders.
- 2.62 If targets are not being met the Schools travel plan coordinator will, in consultation with the Harrow Council School Travel Plan Officers, amend the Action Plan detailing the necessary activities to be undertaken and timescales for the implementation of recommendations/ modifications.
- 2.63 The council travel planning officers have worked closely with AHFS and their transport consultant to assist them with the development of an appropriate and effective STP document which has been developed in conjunction with the transport assessment. Discussions with Whitchurch School and Stanburn School have been held to ensure there is a coordinated approach to the school travel plans. The main initiatives included in the AHFS STP are:
- Introduce a travel Plan Coordinator responsible for delivering the aims and objectives of the STP,
  - Introduce a Travel Plan working Group to review travel plan objectives, targets and surveys,
  - Introduce staggered start and finish times for key stages as well as pre and post school activities to spread the arrival / departure rate of students and minimize the impact on the transport network,
  - The implementation of a bus service to serve those students within the catchment area of the school that do not have direct access to existing public transport routes,
  - Travel Information on the School Website, in the School Prospectus and on notice boards,
  - Engage with pupils and parents to promote principles of highway code, and remind parents of parking awareness during school drop off and pick up parents,
  - The establishment and operation of a School Car Share scheme,
  - Promotion of Walking and Cycling as viable modes of travel amongst students and staff,
  - Active encouragement of the use of existing, local public transport services for access to the school,
  - The implementation of a personalised sustainable travel planning service,
  - Working in partnership with Travel Plan officers at the Council and TPC's at other local schools,

- Use of marshalls on site for both AM and PM pick up / drop off periods every school day to manage traffic flow,
- Provide a staff presence at key crossing locations to promote safety of staff, students and visitors,
- Parents agreeing and signing a travel plan charter committing to the minimisation of car travel wherever possible.

2.64 The main target used to judge the success of a travel plan is considered to be the change in modal split of trips from cars to non-car modes. The STP sets out an ambition to achieve STARS silver accreditation within 1 year and gold accreditation within 2 years. The table below sets out the proposed modal split targets to achieve this.

**Table 7.2 Travel Plan Targets**

Mode	Baseline Modal Split*	2017/18 (540 students)	2018/19 (720 students)	2019/20 (900 students)	2020/21 (1080 students)
Car Occupants	15%	12%	9%	9%	9%
Cycle	1%	2%	3%	3%	3%
Walk	33%	34%	35%	35%	35%
Public Transport	36%	37%	38%	38%	38%
School Bus	15%	15%	15%	15%	15%
<b>TOTALS</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

2.65 The Planning Committee has queried whether marshaling activities of both AHFS and Whitchurch schools can be coordinated to manage traffic flow more effectively and also asked whether parking controls can be introduced in the parking areas to deter long term parking, particularly sixth form students, to maximize space for drop off and pick up activity.

2.66 With regard to marshaling it is quite clear that the different start and finish times of AHFS and Whitchurch schools will mean that there will not be any simultaneous drop off and pick up activity. Currently Whitchurch School does not organize any marshaling and so AHFS will be the only school providing marshaling for drop off and pick up specifically for AHFS traffic which occurs at different times of the day to both Whitchurch and Stanburn schools.

2.67 As mentioned previously The STP for Whitchurch School indicates an aspiration to introduce parking controls into the existing parking areas and access road to address additional dropping off / picking up associated with the school expansion.

2.68 Currently the Council school travel planners are arranging a meeting with Whitchurch and Stanburn schools to seek a wider commitment to work together on their school travel planning objectives to maximise the impact

of combined initiatives on transport modal shift and that each school will be asked to sign a statement to reinforce this commitment.

- 2.69 With regard to the sixth form at AHFS they will be subject to Travel Plan monitoring, targets and enforcement. It is anticipated that approximately half of the sixth form will be of driving age at any one time and there could be around 20 sixth formers driving to school. AHFS have indicated that these students will be educated on inconsiderate parking practices and liaison between AHFS and the local community will be maintained to ensure any such issues are highlighted and addressed expediently.

#### Refuse Collection, Deliveries & Servicing

- 2.70 Given the nature of the proposed development, the number of service vehicles that will deliver to AHFS on a daily or weekly basis will be minimal. These will be limited to waste collection, deliveries to the canteen and general supplies. A framework Delivery and Servicing Plan (DSP) has been developed and is included as part of the planning submission. Conclusions within the DSP include the following:
- The number of delivery and servicing movements at the Avanti House Secondary School would be minimal.
  - The majority of delivery and servicing movements would be undertaken by a vehicle no larger than a transit van, with swept path analysis undertaken for a range of access options.
  - Servicing movements would as far as possible be undertaken outside of school start / finish times and would therefore not conflict with access to cycle parking;
  - Refuse collection would be undertaken within the school, outside of school operational hours.
- 2.71 Swept path analysis of vehicles has also been undertaken and appended to the DSP demonstrating that all delivery, servicing, emergency and refuse collection vehicles can enter and exit the development site in a forward direction adequately.

#### Proposed Construction Activities and mitigation

- 2.72 The construction works are programmed to take a total of 68 weeks, with a view to the school being operational at the beginning of the 2017/2018 academic year.
- 2.73 In order to mitigate the impact of construction vehicle movements we would recommend they are restricted during morning and evening peak hours. Measures to protect existing footways and marked pedestrian routes using barriers / signage, as appropriate should also be in place.
- 2.74 Conflict between construction site traffic and Whitchurch School traffic / pedestrian movements will be avoided wherever possible and in particular during school set-down / pick-up periods, when parents and pupils are most likely to be circulating the car park area.



- 2.75 The internal traffic will be managed to avoid any congestion within the school site associated with the relocation of the existing car park as this could restrict the movement of traffic within the school grounds.
- 2.76 The routes are assigned to direct and strategic roads and as such drivers would be expected to comply with the preferred routing method i.e. via the M1 / A41 / A410 Spur Road / A410 London Road / A4140 Marsh Lane and Wemborough Road.
- 2.77 The contractor must sign up to Harrow Council's Considerate Contractors Scheme, and develop a Construction Management Plan.
- 2.78 A framework Construction Logistics Plan is included as part of the planning submission and provides swept path analysis to confirm that construction vehicle access can be gained to the site, with the ability to turn on site and depart in forward gear. Any modifications required to the access way to facilitate the movement of construction vehicles to and from the school, will be subject to agreement.

### Conclusion

- 2.79 The proposed school will have an impact on the existing highway network and this has been considered fully within the transport assessment, travel plan and briefing note. It is not considered that there will be any residual cumulative impacts in terms of highway safety or on the operational capacity of the surrounding transport network providing the mitigating measures identified are put in place.
- 2.80 Details of interventions are summarised in the table below:

Main interventions	Comments
Junction improvement to the Marsh Lane / Honeypt Lane / Whitchurch Lane / Wemborough Road junction	This required to address the shortfall in capacity demonstrated in the transport modeling in the year 2020 and to accommodate an additional controlled crossing point on Marsh Lane for the predicted increase in pedestrian traffic. The applicant will introduce the scheme via a section 278 agreement (estimated costs range between £250k - £500k).
Transport for London to provide an additional bus on route 186 in the AM and PM peaks	TFL have identified a shortfall in bus capacity and will use mayoral funding (£75k) intended to support free schools public transport to provide additional capacity (87 passengers in both AM and PM peaks).
The school to provide a private school operated bus service to supplement the existing bus network.	This measure is required to cater for those students that do not have direct access to a bus route to ensure that the travel by bus mode is maximised (150 passengers in both AM and PM peaks)
AHFS to introduce staggered start and	This will minimise the impact on the peak periods of traffic flow and manage the flow of

finish times and on site marshalling during pick up / drop off periods	traffic more effectively at school opening and closing times in the access road and parking areas.
Introduction of a school travel plan, school travel plan coordinator and school travel plan working group	Development of an action plan to achieve STARS silver accreditation by 2017/18 and gold accreditation by 2018/19 The proportion of travel by car mode is proposed to reduce from a base of 15% to 12% and 9% respectively.
Introduce parking controls in existing access road and car parks	This is identified separately in the STP for Whitchurch School and is currently being investigated by the Council's traffic team to implement a scheme in 2016/17.

### **Section 3 – Further Information**

- 3.1. The purpose of this report is to inform the Panel about the transport implications of the proposed development. Details of the applicant's transport assessment, travel plan and briefing note can be seen in **Appendices A, B & C.**

### **Section 4 – Financial Implications**

- 4.1. There are no direct financial implications to the council. Any suggested transport mitigations would be taken forward by the applicant.

### **Section 5 - Equalities implications**

- 5.1 Was an Equality Impact Assessment carried out? No.
- 5.2 The Transport Local Implementation Plan (LIP) sets out the relevant transport policies and objectives of the Council and was subject to an Equalities Impact Assessment which identified that there was no negative impact on any of the protected groups. The transport mitigations in the report accord with the principles of the Council's LIP.

### **Section 6 – Council Priorities**

- 6.1 The transport mitigations suggested in the report will contribute to achieving the administration's priorities:
- Making a difference for the vulnerable
  - Making a difference for communities
  - Making a difference for local businesses
  - Making a difference for families

### **Section 7 - Statutory Officer Clearance**

Name: Jessie Man



on behalf of the  
Chief Financial Officer

Date: 10/06/16

**Ward Councillors notified:**

**YES**

## **Section 8 - Contact Details and Background Papers**

### **Contact:**

David Eaglesham

Tel: 020 8424 1500, Fax: 020 8424 7662, E-mail:  
david.eaglesham@harrow.gov.uk

### **Background Papers:**

This page is intentionally left blank

**AVANTI HOUSE SCHOOL,  
WHITCHURCH PLAYING FIELDS**

**Transport Assessment prepared on  
behalf of the Education Funding  
Agency**

September 2015



**AVANTI HOUSE SCHOOL,  
WHITCHURCH PLAYING FIELDS**

**Transport Assessment prepared on  
behalf of the Education Funding  
Agency**

September 2015

MTP Ref: 14/042

Produced by

**Milestone Transport Planning**

7 Wey Court

Mary Road

Guildford

Surrey

GU1 4QU

Tel: 01483 397888

Email: [mail@milestonetp.co.uk](mailto:mail@milestonetp.co.uk)

## CONTENTS

<b>1.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2.</b>	<b>APPLICATION SITE &amp; EXISTING USE .....</b>	<b>3</b>
	Site Information .....	3
	The Proposal .....	3
	Vehicular Access .....	5
<b>3.</b>	<b>POLICY CONTEXT.....</b>	<b>8</b>
	National Planning Policy Framework .....	8
	London Plan (Further Alterations - 2015) .....	9
	Harrow Council's Core Strategy (2012).....	9
	Harrow Sustainable Transport Strategy (January 2013).....	10
	Scoping Discussions with London Borough of Harrow and the Greater London Authority .....	11
<b>4.</b>	<b>BASELINE CONDITIONS.....</b>	<b>12</b>
	Surrounding Highway Network.....	12
	Highway Safety .....	13
	Base Traffic Conditions .....	14
	Pedestrian & Cycle Accessibility .....	16
	Public Transport Accessibility .....	19
	PTAL .....	21
<b>5.</b>	<b>PROPOSED TRIP GENERATION &amp; DISTRIBUTION .....</b>	<b>23</b>
	Vehicle Trip Distribution .....	25
<b>6.</b>	<b>IMPACTS.....</b>	<b>28</b>
	Road Network .....	28
	Pedestrian and Cycle Infrastructure .....	31
<b>7.</b>	<b>PARKING.....</b>	<b>33</b>
	Parking Provision.....	36
	Provision for Pedestrians, Cyclists and Public Transport Users .....	37
	Construction Period .....	38
	Refuse Collection, Deliveries & Servicing.....	38
<b>8.</b>	<b>MITIGATION &amp; PLANNING OBLIGATIONS .....</b>	<b>40</b>
	Travel Plan Structure.....	40
	Travel Plan Initiatives .....	41
	Off-Site Mitigation .....	43

**9. SUMMARY & CONCLUSIONS..... 47**  
 Summary ..... 47  
 Conclusions ..... 47

**TABLES**

Table 2.1 Proposed School Start and Finish Times ..... 4  
 Table 4.1 Whitchurch Lane / Honeypot Lane / Wemborough Road / March Lane - 2014  
 Surveyed Flows..... 15  
 Table 4.2 Whitchurch Schools Access / Wemborough Road - 2014 Surveyed Flows ..... 16  
 Table 4.3 Wemborough Road / St Andrews Drive / Abercorn Road - 2014 Surveyed Flows .16  
 Table 4.4 Direct Bus Services & Frequencies ..... 20  
 Table 4.5 Connecting Bus Services..... 21  
 Table 5.1 Weekday Peak Hour Person Trip Generation - Proposed Uses (1,260 students) ...25  
 Table 6.1 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base29  
 Table 6.2 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base  
 + Development..... 29  
 Table 6.3 Whitchurch Schools Access / Wemborough Road (Site Access) – 2020 Base..... 30  
 Table 6.4 Whitchurch Schools Access / Wemborough Road (Site Access) – 2020 Base +  
 Development..... 30  
 Table 6.5 Wemborough Road / St Andrew’s Drive / Abercorn Road – 2020 Base ..... 31  
 Table 6.6 Wemborough Road / St Andrew’s Drive / Abercorn Road – 2020 Base +  
 Development..... 31  
 Table 7.1 Surveyed Car Park Demand..... 34  
 Table 8.1 LINSIG Output – ‘2020 Base + Development’ (Proposed Junction Layout)..... 45

**FIGURES**

Figures 1.1-1.12 Site 1: Whitchurch Lane – Wemborough Road – Honeypot Lane – Marsh  
 Lane [All Traffic Flow Scenarios]  
 Figures 2.1-2.12 Site 2: Whitchurch Schools – Wemborough Road [All Traffic Flow Scenarios]  
 Figures 3.1-3.12 Site 3: Abercorn Road – Wemborough Road – St Andrews Drive [All  
 Traffic Flow Scenarios]



## APPENDICES

- Appendix 1 Minutes of Scoping Meeting with Harrow Highways 13.01.15
- Appendix 2 Transport Feedback from GLA Pre-Application Meetings
- Appendix 3 Wemborough Road Parking Restrictions
- Appendix 4 PIA Data
- Appendix 5 MCC Surveys
- Appendix 6 LINSIG Outputs: Whitchurch Lane – Wemborough Road – Honeypot Lane – Marsh Lane [All Scenarios – Existing Layout]
- Appendix 7 PICADY Outputs: Whitchurch Schools – Wemborough Road [All Scenarios]
- Appendix 8 ARCADY Outputs: Abercorn Road – Wemborough Road – St Andrews Drive [All Scenarios]
- Appendix 9 PTAL Output
- Appendix 10 2014/2015 Avanti House Secondary School Travel Plan
- Appendix 11 TRICS Output
- Appendix 12 TEMPRO Output
- Appendix 13 PLSA Output
- Appendix 14 Parking Beat Survey
- Appendix 15 Parking Accumulation Analysis
- Appendix 16 Proposed Junction Mitigation Layout Plan 14042-01
- Appendix 17 Proposed Junction Mitigation Highway Boundary Plan 14042-02
- Appendix 18 Proposed Junction Mitigation Swept Path Analysis Plan 14042-TK01
- Appendix 19 LINSIG Outputs: Whitchurch Lane – Wemborough Road – Honeypot Lane – Marsh Lane [‘Base + Development’ – Proposed Mitigation Layout]

## **1. INTRODUCTION**

- 1.1 This Transport Assessment (TA) has been prepared on behalf of the Education Funding Agency (EFA) in conjunction with the governors of Avanti House Free School (AHFS) to consider the highways and transport implications related to the development of a Secondary School on existing greenfield land at Whitchurch Playing Fields, Stanmore.
- 1.2 The proposed AHFS is planning to take occupation of the site from the beginning of the 2017 / 2018 academic year with an annual intake of 180 students per annum from Year 7 – 11 plus sixth form. At full occupation the school will serve 1,260 students supported by 120 full-time equivalent (FTE) staff.
- 1.3 The purpose of this TA is to consider the implications of development related travel on the operation of the surrounding highway and transport networks. Furthermore this TA will consider the appropriateness of development in this location in transport policy terms, giving due regard to the need to ensure that it is accessible by all modes of travel.
- 1.4 The TA will demonstrate that in terms of Planning Policy at both National and Local level with respect to issues such as sustainability and traffic impact, the application site is more than capable of accommodating the proposed level of development.
- 1.5 On this basis Section 2 of the TA considers the application site's existing conditions and details of the proposed development including vehicular access.
- 1.6 The policy context within which the development proposals should be assessed from a highways and transport perspective will be detailed in Section 3.
- 1.7 Section 4 of the TA considers baseline conditions related to the application site including a review of pedestrian and cycle accessibility, public transport accessibility, the surrounding highway network, highway safety records and base traffic conditions.
- 1.8 An exercise to consider the level of trip generation of the proposed development, the modal share of such trips and their distribution onto the surrounding highway and transport networks are considered in Section 5 of the TA.
- 1.9 Section 6 of the TA considers, in detail, the impacts of the proposed development on the local road network as well as existing transport routes in the vicinity of the site.
- 1.10 Section 7 details parking provision and a parking accumulation assessment. This section also includes details of the Construction Management Plan and Deliveries & Servicing Plan.

- 1.11 Any mitigation required to overcome the impacts of the proposed development is considered in Section 8 of the TA. Within this section details are provided of measures to be put in place by AHFS, through the Travel Plan process, to manage trips generated by the school so as to minimise impact on the local community.
- 1.12 Finally Section 9 provides a summary and conclusion to the TA.

## 2. APPLICATION SITE & EXISTING USE

### Site Information

- 2.1 The application site is located on existing greenfield land at Whitchurch Playing Fields which is situated to the north of Wemborough Road and the east of Abercorn Road in a predominately residential area. Directly to the south-east of the site is Whitchurch First and Junior Schools which have recently been granted planning permission for expansion from 695 to 905 pupils to reach full capacity in September 2020. The application site location in relation to the surrounding area is shown at Figure 1.

**Figure 1 Application Site Location**



### The Proposal

- 2.2 As noted in Section 1, the proposed AHFS plans to take occupation of the site from September 2017. The school will see an annual intake of 180 per annum until full occupation of 1,260 pupils plus 120 FTE staff. The school will provide secondary education for Year 7 – 11 inclusive in addition to sixth form.
- 2.3 School opening hours will be 07:00-17:30 and include a comprehensive range of pre and post-school activities including a breakfast club and additional education / training and sporting activities after school which will operate on a daily basis. In addition to the separate start / finish times by key stage, this will result in staggering the start and finish times of the school, as detailed below.

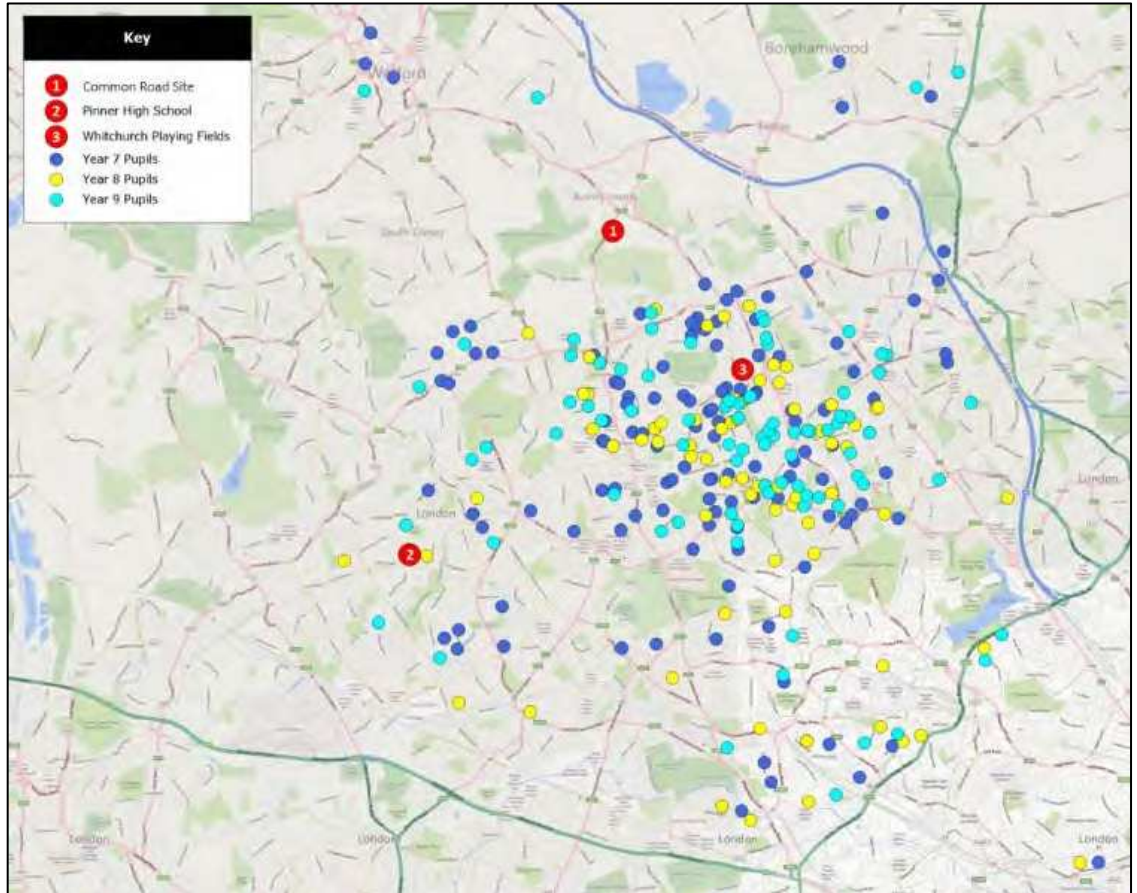
**Table 2.1 Proposed School Start and Finish Times**

Time	Activity	No. Pupil Arrivals / Departures
<b>Morning</b>		
07:00-08:00	Breakfast Club	60
07:45	Key Stage 4 Registration	320
08:15	Key Stage 3 Registration	520
09:45	Key Stage 5 Registration	340
<b>Evening</b>		
15:45	Official KS3 & KS4 end of day	400
16:45	KS3/KS4 After School Clubs end	500
17:30	Official KS5 end of day	360

2.4 Indeed it is the case that the majority of both staff and students of AHFS will be arriving and departing at different times to those of the network peak and the neighbouring Whitchurch Schools, which operate start times of 08:45/08:55 and finish times of 15:15/15:20. It is also the case that the arrival / departures times of the proposed school will be during the AM and PM 'shoulder' peak periods on the wider highway network thereby minimising the impact of school-related trips on the operation of the surrounding highway and transport networks.

2.5 It should be noted that the 2014/2015 Year 7-9 pupil home locations were not focused around the school site located on Common Road. It is in fact the case that the catchment of the 2014/2015 Year 7-9 pupils was centred more around the Whitchurch playing fields site providing considerable opportunity for existing and prospective pupils to walk and cycle to school. Figure 2 illustrates the 2014/2015 Year 7-9 pupil's home postcode locations, and also shows the location of the previous school site (as vacated July 2015), temporary school site on Beaulieu Drive, Pinner (to be occupied by the school over the 2015-2017 academic years) and the permanent proposed school site at Whitchurch playing fields.

**Figure 2 2014/2015 Year 7-9 Pupil Home Locations**



- 2.6 Whilst a significant proportion of students within the catchment area will be able to use a public bus service, or combination of bus services to travel to school, it is proposed to supplement this with a private school operated bus service. Further details of the school bus service are provided in Section 8 of the TA.

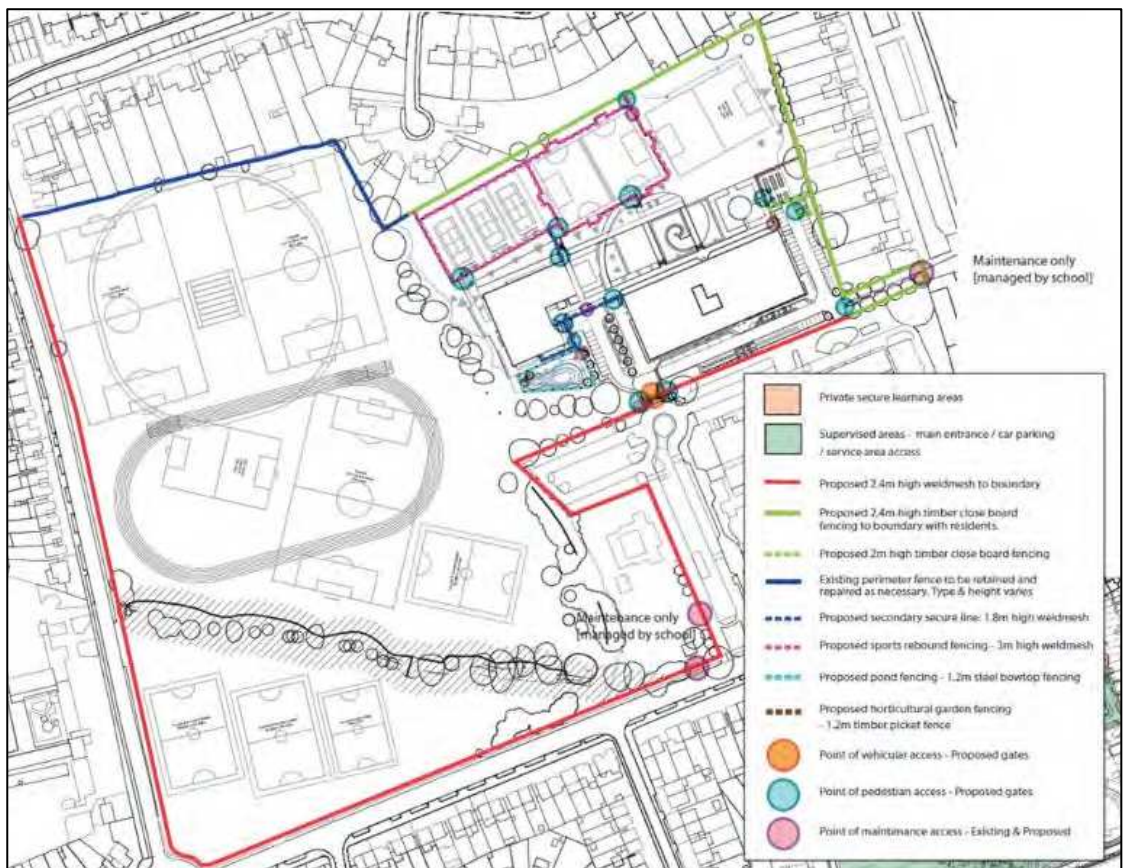
### **Vehicular Access**

- 2.7 The existing playing fields on the proposed development site, and the Whitchurch First and Junior Schools southeast of the site are accessed from Wemborough Road via separate entry and egress simple priority junctions, and thereafter a shared access way. The egress onto Wemborough Road is provided with segregated left and right turn lanes.
- 2.8 With regard to the future vehicular access arrangements, upon occupation of the site by AHFS, it is proposed to utilise the existing priority junction arrangement and shared access way from Wemborough Road into the site for deliveries / servicing and staff access only. Delivery movements will be restricted to times away from the start and finish of the school day and outside of network 'peak' hours. It is understood that any modifications required to the access way to facilitate the movement of larger vehicles to and from the school, will be subject to agreement with Harrow Council Highways, Planners and Corporate Estates departments.

2.9 Further to the scoping meeting held with Harrow Council Highways on 13 January 2015, it was considered that vehicular set-down / pick-up trips were most likely to be undertaken in the public car park to the south of the school. On this basis, a parking beat survey was undertaken at the car park during the typical AM and PM drop-off / pick-up periods on 20 January 2015. The results of this parking survey with analysis of available parking supply and demand generated by the AHFS proposals are presented in Section 7 of this TA. It should be noted that 'committed' parking demand associated with the expansion of the Whitchurch First and Junior Schools has been taken into account in these calculations.

2.10 Figure 3 shows the proposed security and access arrangements for AHFS. These arrangements will be supported by signage and road markings, as appropriate. The strategy will also be embodied within the School's Travel Plan and Delivery / Servicing Plan such that all end users will be made aware of the arrangements to be put in place. It should be noted that the pedestrian access point off Wemborough Road will act as the sole point of access on foot.

**Figure 3 Site Layout, Security & Access Arrangements**



- 2.11 Through the public consultation process it has been noted that there has been support for the concept of a vehicular access way from Marsh Lane, creating a route through to Wemborough Road. It has been suggested that such a route could operate as one way with entry from Marsh Lane, drop-off / pick-up outside the school, and exit onto Wemborough Road.
- 2.12 This concept has been discussed with Harrow Highways on numerous occasions, who have raised a number of highway safety and capacity based concerns as identified below:
- By providing an alternative access route it would only encourage car trips;
  - The new junction would be too close to the existing signalised crossroads and could cause conflict in respect of vehicles queuing back from the signals and blocking the school access junction;
  - It could encourage 'rat-running' to avoid the signalised crossroads;
  - Marsh Lane is the key distributor route in the area and any new access points are generally resisted;
  - Even if it is a vehicular route parents might choose to drop-off / pick-up on Marsh Lane which raises safety issues with vehicles stopped on a busy route and children potentially crossing between stopping / queuing cars;
  - Such an arrangement would be difficult to police, if as suggested, the route only operated for certain periods of the day.
- 2.13 In respect of providing a pedestrian only access at this location the last point would remain a concern for the Highway Authority, given that parents would be likely to drop-off on Marsh Lane in the AM peak and potentially wait for their children to finish school during the PM peak period. Such behaviour could also be disruptive to traffic flow and the operation of the signal junction to the south.
- 2.14 For the reasons outlined above Harrow Council Highways would not support any form of access to the school from Marsh Lane.



### 3. POLICY CONTEXT

3.1 An important consideration of the promotion of the proposed development is to highlight the guidance given with respect to transport policies at both National and Local Government level. In overall terms, planning policy seeks to achieve a balance by integrating land use and transport policy to create more sustainable development by appropriate location and design.

#### **National Planning Policy Framework**

3.2 The National Planning Policy Framework (NPPF) published in March 2012. Within the core planning principles as highlighted in para. 17 of the NPPF it states that planning should "*...actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable...*"

3.3 Section 4 of the NPPF continues on the theme of promoting sustainable transport. In para. 29 it highlights the role that transport policies have in contributing to wider sustainability and health objectives, citing smarter use of technologies and giving people real choice about how they travel as playing a key role in this regard. Para. 29 also recognises that different policies and measures to promote sustainable transport will apply and vary between rural and urban communities.

3.4 Para. 32 of the NPPF requires developments that generate significant amounts of movement to be supported by a Transport Statement of Transport Assessment. Within such documentation there is a requirement to ensure that:

- opportunities for sustainable transport modes have been taken up;
- safe and suitable access to the site can be achieved for all people; and
- cost effective improvements can be made, if required, to the limit the significant impacts of development.

3.5 Para. 32 goes on to state that "*...development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.*"

3.6 Paragraph 35 of the NPPF states that "*Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people...*" It goes on to state that where practical developments should be located and designed to:

- "*accommodate the efficient delivery of goods and supplies;*
- "*give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- "*create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*

- *incorporate facilities for charging plug-in and other ultra-low emission vehicles; and*
- *consider the needs of people with disabilities by all modes of transport."*

3.7 Para. 36 of NPPF suggests that a key tool to achieving the goals as set out in para. 35 is through Travel Plans.

3.8 Para. 37 of NPPF recommends that "*Planning policies should aim for a balance of land uses within an area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.*"

### **London Plan (Further Alterations - 2015)**

3.9 Within the latest version of the London Plan (March 2015) the Mayor outlines his key policy objectives. Chapter 6 of the London Plan, entitled '*London's Transport*', recognises that transport plays a fundamental role in addressing the whole range of the Mayor's spatial, environmental, economic and social policy priorities. The Mayor will work with all relevant partners to encourage the closer integration of transport and development and by:

- *"..encouraging the patterns and nodes of development that reduce the needs to travel, especially by car;*
- *..seeking to improve capacity and accessibility of public transport, walking and cycling, particularly in areas of greatest demand*
- *...supporting development that generates high levels of trips at locations with high public transport accessibility and / or capacity, either currently or via committed funded improvements*
- *...promoting walking by ensuring an improved public realm...."*

### **Harrow Council's Core Strategy (2012)**

3.10 The Core Strategy, adopted 12 February 2012, is a key part of Harrow's Local Plan, and sets out the Borough's strategic approach to managing growth and development to 2026.

3.11 Within the Core Strategy, there are a number of objectives which relate to transport:

- *"enhance the infrastructure, environment and other resources which make Harrow a desirable place to live, work and visit by improving sustainable transport capacity, accessibility and quality to meet users' needs and expectations;*
- *manage the Borough's contribution to climate change by co-ordinating development and public transport to promote more sustainable patterns of land use to reduce reliance on private vehicles;*

- *adapt to population and demographic changes to meet people's needs and quality of life by promoting walking, cycling and participation in sport by all ages."*

3.12 Specifically Harrow Core Strategy Policy CS1 states the Council's aspiration for development to contribute to the delivery of a modal shift from private car to more sustainable transport methods, supported by sustainable Travel Plans.

### **Harrow Sustainable Transport Strategy (January 2013)**

3.13 This document sets out Harrow's sustainable transport strategy, highlighting the "borough's commitment to a sustainable future". The strategy details the importance of finding alternatives to reliance on car travel and the initiatives the Council use to encourage this modal shift.

3.14 This involves a range of initiatives such as: *"raising awareness of available travel options through targeted promotions; supporting sustainable travel through small scale infrastructure projects such as cycle racks; building an understanding of factors motivating travel behaviour; and engaging directly with schools, workplaces and local communities."*

3.15 In terms of school accessibility, the borough encourages walking to school by supporting and promoting events such as Living Streets Walk to School campaign, International Walk to School Month, Walk on Wednesdays, Theatre in Education, Junior Walks and encouraging school walking buses. These all form part of the school travel plan.

3.16 The Harrow Sustainable Transport Strategy sets out specific policies under the subheadings of cycling, walking, travel planning and public transport. The most relevant of these are set out below.

3.17 Harrow cycling policies C1 and C4 set out the aim to provide cycle training for adults and children, in particular to facilitate cycle trips to and from school.

3.18 Harrow walking policies W1 and W3 set out the council's aspiration to encourage school walking buses and in general promote walking as a transport mode as a viable alternative to motorised travel.

3.19 Harrow travel planning policies 1-10 reference the importance of developing school Travel Plans, encouraging sustainable and healthy travel choices that are deliverable and secured via TfL's accreditation criteria.

3.20 Harrow public transport policies target working in partnership with TfL to deliver services that meet the demands of school travel, making public transport an attractive and viable method of transport for students, staff and visitors.

---

### **Scoping Discussions with London Borough of Harrow and the Greater London Authority**

- 3.21 An initial meeting was held with Harrow Council Highways on 12 May 2014, through which a scope of junction surveys was identified. Subsequent to this, a Pre-Application meeting was held with Council Planners on 19 December 2014 and a more detailed scoping meeting with Harrow Council Highways on 13 January 2015 – the minutes of which (as agreed with Harrow Highways) are provided at Appendix 1.
- 3.22 A meeting was held to review draft Transport Assessment and Travel Plan documents with Harrow Council Highways on 4 August 2015. This was followed by a Pre-Application meeting with all Harrow Council planning disciplines on 12 August 2015. These most recent meetings have focused on the scope and delivery of junction improvement proposals at the signalised crossroads to the east of the site.
- 3.23 Pre-Application meetings were held with the GLA on 19 March 2015 and 30 June 2015 with transport comments provided by the GLA from both meetings set out at Appendix 2.

## 4. BASELINE CONDITIONS

### Surrounding Highway Network

- 4.1 Wemborough Road is a two-way residential road which forms a crossroad junction with Marsh Lane (A4140) / Whitchurch Lane (B461) / Honeypot Lane (A414) to the east and a 4-arm roundabout with Abercorn Road / St. Andrew's Drive to the west. To the east of the signal junction is Canons Park Underground Station and to the north Stanmore Underground Station.
- 4.2 St Andrew's Drive has no on-street parking restrictions except within the vicinity of the roundabout. Abercorn Road is subject to on-street parking restrictions within the vicinity of the roundabout and the Stanburn Primary School access, with single yellow line parking restrictions present on the southbound side of the carriageway operational Monday-Friday 0800-0930 & 1500-1630.
- 4.3 Wemborough Road is the subject of a 30mph speed limit which continues along St. Andrew's Drive, Abercorn Road, Marsh Lane and Whitchurch Lane. The road has a vehicular weight restriction of 7.5T except for access.
- 4.4 Honeypot Lane (A4140), a dual carriageway, is subject to a 40mph speed limit and is provided with grass verges between the footway and both the north and southbound carriageways. Both Honeypot Lane (A4140) and Marsh Lane to the north of the crossroad junction are subject to double yellow line parking restrictions.
- 4.5 Whitchurch Lane (B461) is subject to double yellow line restrictions for an approximate distance of 500m east of the crossroad junction and thereafter single yellow line restriction apply. Wemborough Road forms three priority junctions with Gyles Park, Bush Grove and Bromfield. Bush Grove and Bromfield are subject to single yellow line parking restrictions Monday – Friday 1400-1500 whereas Gyles Park has no on-street parking restrictions.
- 4.6 North of the development site, Old Church Lane connects with other neighbouring residential streets and cul-de-sacs including Cranmer Close and Lansdowne Road.
- 4.7 Wemborough Road is subject to recently implemented single yellow line parking restrictions, save for the pedestrian crossings and bus stops outside the school entrance. These were introduced following the Canons Park Area parking review (see Appendix 3). Restrictions are operational Mon–Fri, 2-3pm, aiming to reduce parking congestion created by commuters using Canons Park LU Station.
- 4.8 On-street parking bays are located outside Canons Park shopping parade which specifies restrictions Monday – Saturday 0800-1830. Parking is free for permit holders or pay and displays machines are available for a maximum stay of 2 hours. Single yellow restrictions apply Monday – Saturday 1000-1100 & 1400-1500 at this location also.

4.9 To the north of the application site, Marsh Lane junctions with London Road and The Broadway. London Road provides access to the M1 via the A41 and the Broadway provides access to north Stanmore and further north towards Watford.

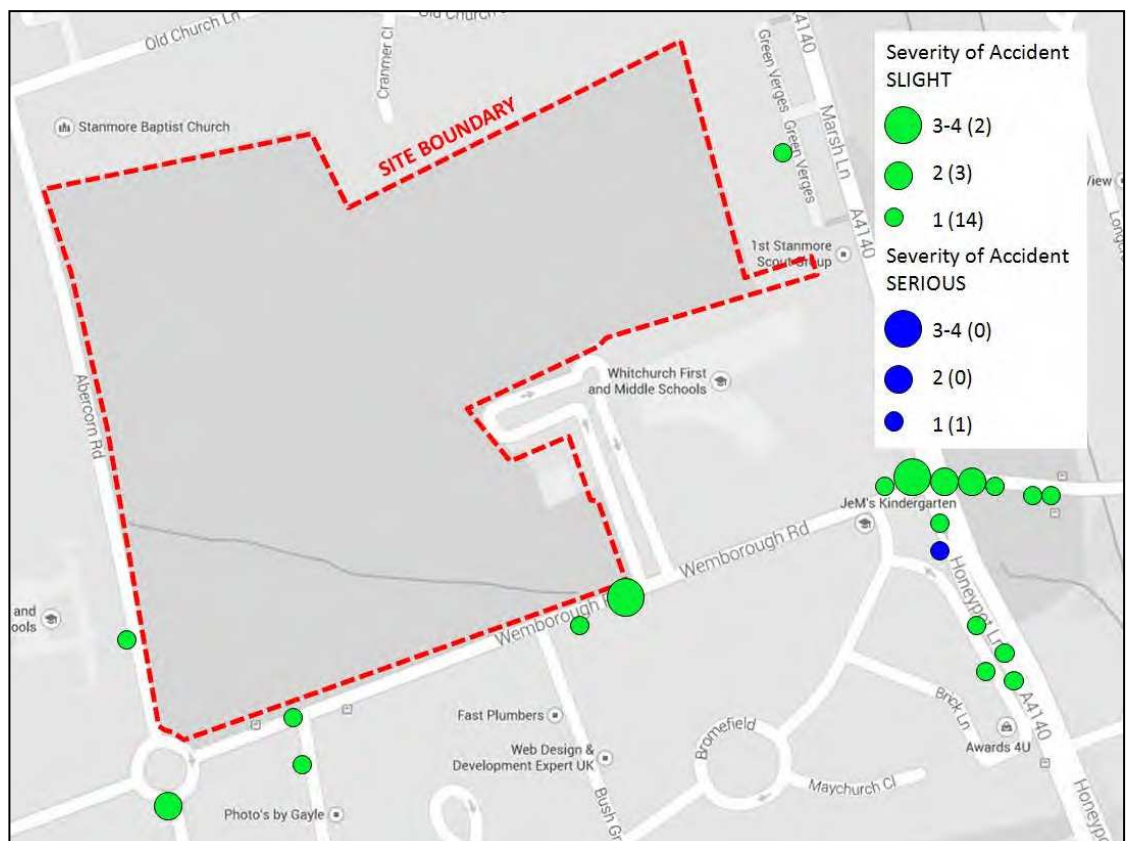
**Highway Safety**

4.10 To enable review of the road safety record of the road network in the immediate vicinity of the application site, Personal Injury Accident (PIA) data has been secured from Transport for London (TfL) for a 5-year period up to the end of November 2013. Full details of the PIAs together with a location map are included as Appendix 4 to the TA and illustrated in Figure 4.

4.11 From the data supplied by TfL it can be seen that there have been 48 recorded PIAs of which 46 have been classified as ‘slight’ and two as ‘serious’. The ‘slight’ incidents were attributed to reasons including pedestrians crossing at inappropriate times or locations, rear vehicles shunts, vehicles turning right into the path of oncoming traffic and careless driving.

4.12 The two PIAs classified as ‘serious’ were attributed to a vehicle pulling out into the path of an oncoming vehicle and a rear end shunt caused by sudden braking. These incidents occurred along Whitchurch Lane close to the junction with Donnefield Avenue and Honeypot Lane crossroad junction respectively and thus not in the immediate vicinity of the proposed site.

**Figure 4 PIA Location Map**



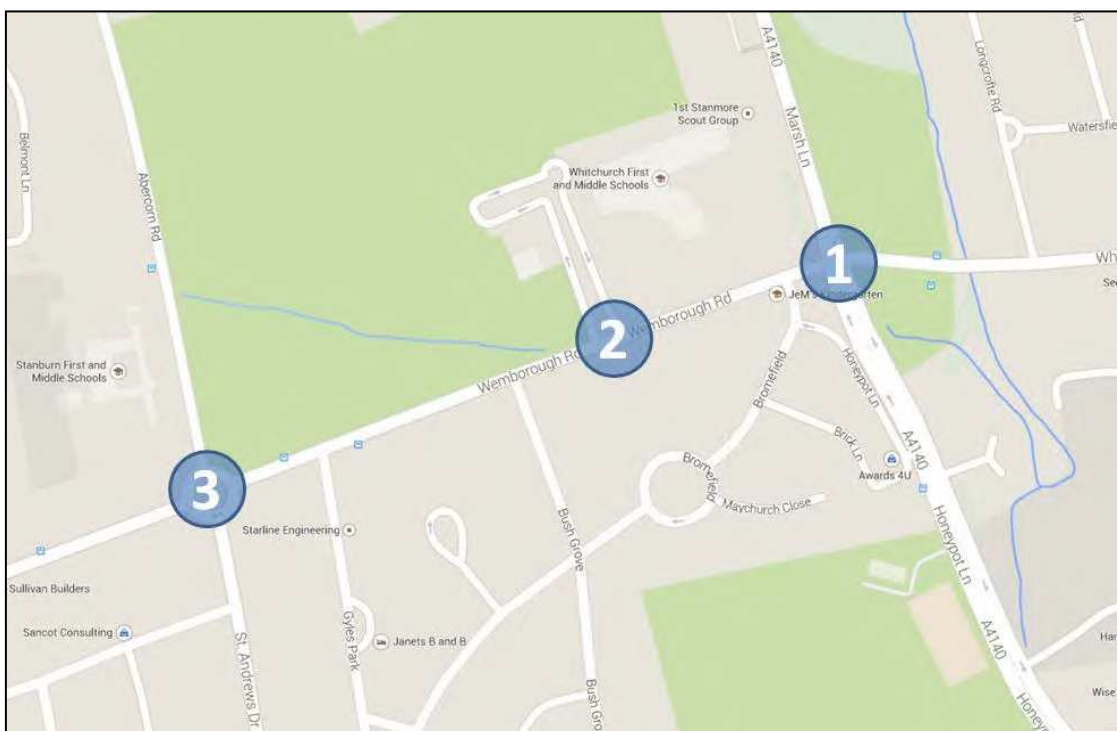
- 4.13 Of the 48 PIAs, 16 involved pedestrians and of these less than half involved children. The reasons for the incidents were attributed to pedestrians' inappropriate use/failure to use crossing facilities, attempting to cross between parked cars, failure to look properly and carelessness. Only one PIA occurred along Wemborough Road which involved a child.
- 4.14 Three incidents occurred in the vicinity of the site access junction. The first incident involved a pedestrian crossing between parked cars and failure to use crossing facilities. The second incident involved a vehicle losing control and driving into a stationary vehicle and the final incident occurred as a result of a vehicle pulling into the path of cyclist which was attributed to failing to look properly.
- 4.15 In the context of the PIAs identified, and in particular those occurring at the signal junction to the east of the site, potential mitigation measures have been considered within Section 8 of this report.

### Base Traffic Conditions

- 4.16 In order to determine baseline traffic operational conditions on the road network in the vicinity of the application site, in discussion with Harrow Council Highways on 12<sup>th</sup> May 2014 assessment has been undertaken on the following junctions which are illustrated in Figure 5 below:

- Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane signalised crossroads;
- Whitchurch Schools Access / Wemborough Road priority junction (Site Access); and
- Wemborough Road / St Andrews Drive / Abercorn Road roundabout.

**Figure 5 Junction Assessment Location Plan**



- 4.17 Manual Classified Turning Movement (MCC) surveys were undertaken on all junctions identified above on Wednesday 18<sup>th</sup> June 2014 conducted over the AM peak periods, 07:00-10:00 and the PM peak period 16:00-19:00. A copy of the MCC surveys is included as Appendix 5 and details of the peak hour turning movements are appended to this report.
- 4.18 Tables 4.1 – 4.3 provides summaries of the ARCADY, PICADY and LINSIG outputs that assess the operational conditions of these three junctions during the AM and PM peak hours. The results of each analysis are included at Appendices 6-8 respectively. It should be noted that the ‘peak hour’ periods used for analysis are centred around the KS3 start / finish times for the Avanti House School, on the basis that these are the periods during which the school will generate the most vehicle trips. The AM peak period is 0745-0845, whilst the PM peak period is 1615-1715. Traffic flow diagrams for the 2014 surveyed AM and PM peak scenarios are provided at Figures 1.1-1.2, 2.1-2.2 and 3.1-3.2 for each junction respectively.

**Table 4.1 Whitchurch Lane / Honeypot Lane / Wemborough Road / March Lane - 2014 Surveyed Flows**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	81.1%	12.7	72.3%	11.0
Whitchurch Lane Right	55.2%	1.8	41.0%	1.7
Honeypot Lane Left Ahead	84.5%	10.3	78.0%	9.9
Honeypot Lane Right Ahead	85.4%	11.0	79.8%	11.2
Wemborough Road Left Ahead	84.0%	14.1	67.9%	10.4
Wemborough Road Right	79.7%	3.6	75.8%	4.6
Marsh Lane Left Ahead	84.0%	10.8	75.3%	6.8
Marsh Lane Right Ahead	85.6%	12.2	77.2%	7.7

- 4.19 Table 4.1 shows that the under its existing highway layout the signalised junction operates within overall capacity, and with degrees of saturation of less than 90% across all approach arms. The greatest levels of queuing are present on the Whitchurch Lane and Wemborough Road approach arms in the AM peak, and on the Whitchurch Lane and Honeypot Lane approach arms in the PM peak.



**Table 4.2 Whitchurch Schools Access / Wemborough Road - 2014 Surveyed Flows**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Whitchurch Schools LT	0.079	0.1	0.037	0.0
Whitchurch School RT	0.131	0.1	0.110	0.1
Wemborough Road	0.202	0.5	0.059	0.1

4.20 From Table 4.2 it can be seen that under existing highway conditions the priority junction operates well within capacity during the AM and PM peak periods with minimal queuing.

**Table 4.3 Wemborough Road / St Andrews Drive / Abercorn Road - 2014 Surveyed Flows**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Wemborough Road (E)	0.740	2.8	0.840	4.9
St Andrew’s Drive	0.580	1.4	0.660	1.9
Wemborough Road (W)	0.640	1.7	0.650	1.9
Abercorn Road	0.790	3.5	0.690	2.2

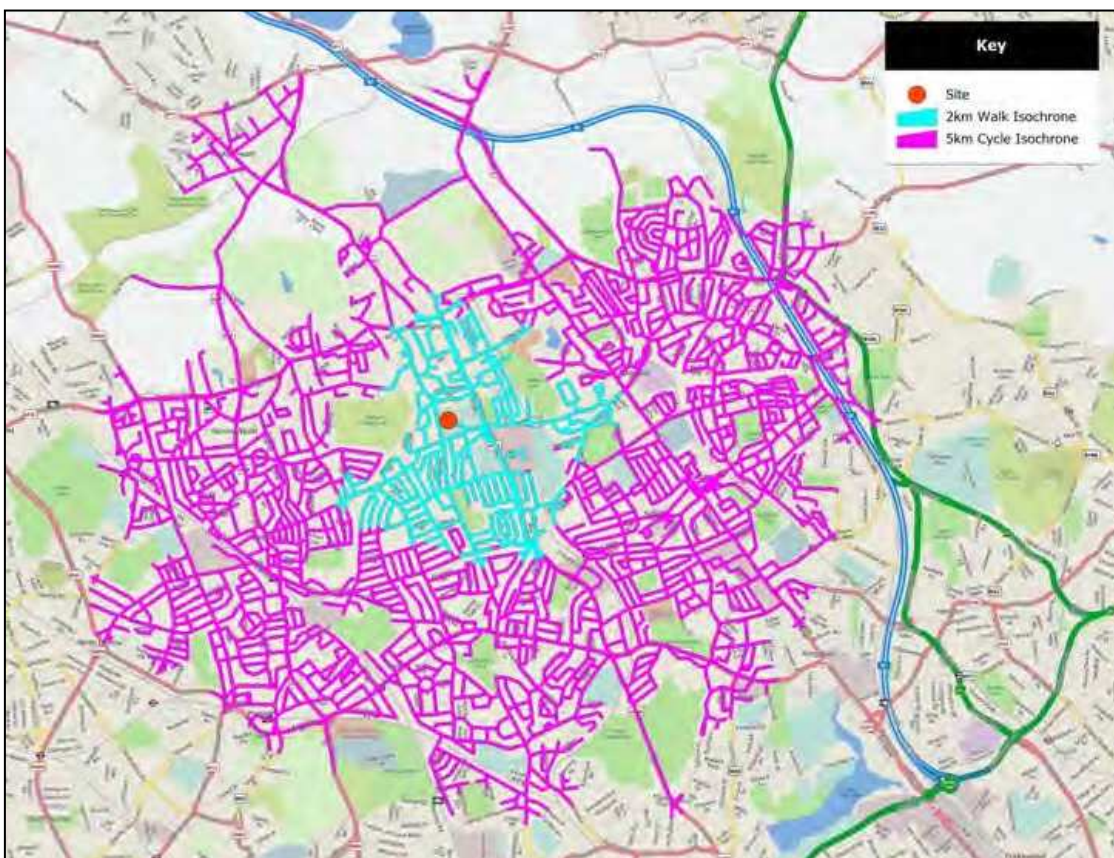
4.21 From Table 4.3 it can be seen that under its existing highway layout the junction operates within capacity during both the AM and PM peak periods, with the most notable queuing on the Abercorn Road approach arm in the AM peak and Wemborough Road (E) approach arm during the PM peak.

**Pedestrian & Cycle Accessibility**

4.22 The Chartered Institution of Highways and Transportation document ‘Guidelines for Providing for Journeys on Foot’ state that “walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile”. The document also provides guidance on acceptable walking distances and suggests that a preferred maximum walking distance of 2km is applicable for school trips. In relation to cycling, it is also recognised that this mode also has the potential to substitute short car journeys particularly those less than 5.0 kilometres. Figure 6 below illustrates the 2.0km walking and 5.0km cycling catchment areas of AHFS.

- 4.23 Wemborough Road is provided with lit footways on both sides of the carriageway and approximately 10 metres from the main site entrance is a pelican crossing across Wemborough Road. Existing school signage and carriageway markings are present alerting drivers to the fact that children will be crossing the road.
- 4.24 Pedestrian infrastructure within the vicinity of the site is of a good standard with pedestrian crossing points present along key pedestrian desire lines and the local footway network provided with lit footways. Abercorn Road to the west of the site benefits from three pedestrian crossing points.
- 4.25 The 4-arm roundabout to the west of the site benefits from pedestrian crossing zones, with either zebra crossing facilities or pedestrian refuge islands and tactile paving on all arms of the junction.
- 4.26 Located to the east of the site is a signalised crossroad junction linking Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) / Wemborough Road which benefits from pedestrian crossings with tactile paving and pedestrian refuge islands on all arms of the junction. Honeypot Lane is provided with staggered signalised pedestrian crossing facilities.
- 4.27 It will be demonstrated in Section 6 of this TA that the footways surrounding the site access are capable of absorbing existing foot traffic and that associated with the school proposals and expansion of the neighbouring Whitchurch Schools.

**Figure 6 Potential Walk & Cycle Catchment**



- 4.28 Figure 7 shows an extract of the local TfL cycle guide from which it can be seen that there is a network of signed and recommended routes for cyclists within the vicinity of the proposed school. Wemborough Road benefits from dedicated on-road cycle lanes as does Marsh Lane.
- 4.29 Whitchurch Lane benefits from on-road cycle markings (diag. 1057) alerting drivers to the presence of cyclists. A dedicated cycle lane is present along the eastbound side of the carriageway approximately 160 metres from the signalised junction.
- 4.30 It is noted that proposals will be coming forward for the implementation of the 'Jubilee Line Quietway' cycle route, which, in the vicinity of the site, will run north-south along Honeypot Lane / Marsh Lane. This proposal will likely be implemented prior to the occupation of the school, and will therefore offer additional dedicated cycle connectivity between the school and its immediate catchment.
- 4.31 Where dedicated cycle routes are not present, carriageway widths are wide enough to accommodate both cyclists and vehicles and visibility is generally of a good level aiding inter-visibility between cyclists and vehicles.

**Figure 7 Local Cycle Routes**



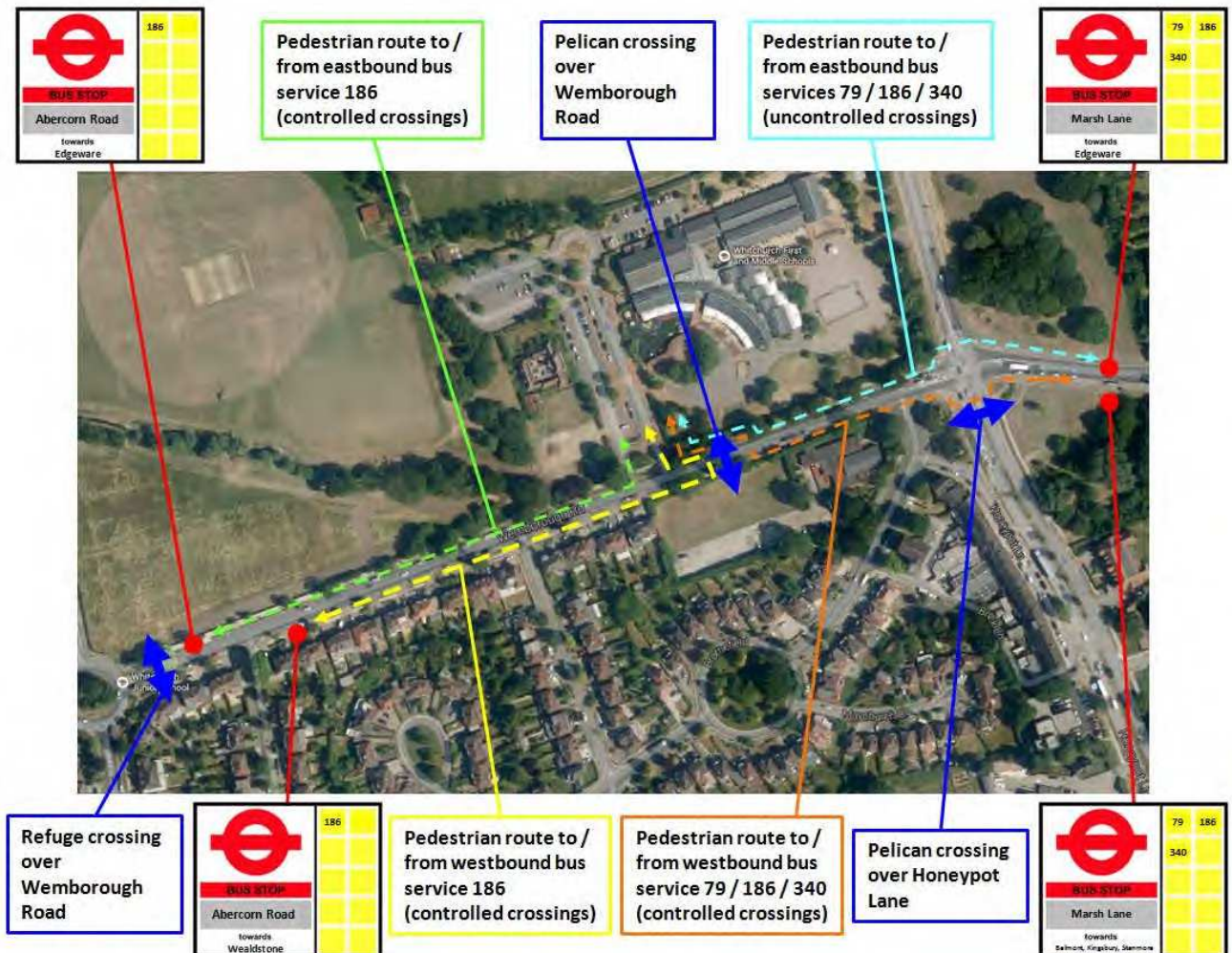
- 4.32 Within Figure 7, yellow routes denote quieter roads that have been recommended by other cyclists and may connect to other route sections. Blue routes are signed or marked for use by cyclists on a mixture of quiet or busier roads and green routes are off-road routes which may also be shared with pedestrians. The full map can be found in the TfL Local Cycle Guide 3.

**Public Transport Accessibility**

**Bus Services**

- 4.33 The nearest bus stops to the application site are located on Wemborough Road, the closest being 250m west of the pedestrian entrance to the school. The bus stops further west are provided with bus shelters, seating, timetable information, with the exception of Stop BL which is not provided with sheltering. The stops are served by route 186.
- 4.34 To the east of the site, services 79, 186 and 340 stop regularly along Whitchurch Lane (B461) and benefit from shelters, seating and timetable information. The walking route from the school to the bus stops on the south side of Whitchurch Lane is via two sets of controlled crossing facilities.
- 4.35 The most direct route to the stops on the north side of Whitchurch Lane requires pedestrians to use the uncontrolled crossing over Marsh Lane. Investigation has been undertaken within Section 8 of this report as to whether a signalised crossing facility could be delivered at this location. An overview of connectivity between the school site and the nearest bus stops is provided at Figure 8 below.

**Figure 8 Pedestrian Connectivity to Local Bus Stops**



- 4.36 The closest bus stop for Route N98 is located 480m south of the site on Honey Pot Lane and is provided with a bus shelter, seating and timetable information.
- 4.37 Abercorn Road, west of the school, links bus service 324 which stops approximately 420 metres from the school entrance. The service runs between Stanmore London Underground (LU) Station and Brent Cross via Kingsbury. The walking route is provided with a zebra crossing at the roundabout, south on Abercorn Road.
- 4.38 A summary of the weekday daytime operations of these bus services is provided in Table 4.4.

**Table 4.4 Direct Bus Services & Frequencies**

Route No.	Nearest Bus Stop	Route	Frequency
186	250 metres	St Mark’s Hospital-Harrow-Edgware-Brent Cross	Every 12 minutes
79	260 metres	Edgware-Honey Pot Lane-Alperton	Every 12 minutes
340	260 metres	Edgware-Stanmore-Harrow	Every 12 minutes
324	420 metres	Stanmore-Kingsbury Station-Brent Cross	3 p/hr
N98	480 metres	Stanmore-Willesden-Edgware-Holborn	4 p/hr

- 4.39 The bus routes set out in Table 4.4 will provide a direct route to the proposed school for a good proportion of prospective students. Table 4.5 identifies additional connecting bus services which will allow access from other home locations with North London, particularly around the Enfield / Bush Hill Park or Cockfosters areas.

**Table 4.5 Connecting Bus Services**

Route No.	Route	Connecting At	Connecting Route No.	Frequency
32	Edgware-Cricklewood-Kilburn	High Street (A5)	79/186/340	Every 20 minutes
142	Watford-Bushey-Brent Cross	High Street (A5)	79/186/340	Every 12 minutes
204	Edgware-Wembley Central Station-Sudbury	High Street (A5)	79/186/340	Every 10 minutes
288	Queensbury-Edgware Bus Station-Broadfields	High Street (A5)	79/186/340	Every 10 minutes
292	Borehamwood-Barnet Way-Colindale	High Street (A5)	79/186/340	Every 15 minutes
644	Hatfield-Barnet-Edgware-Wembley Park Station	High Street (A5)	79/186/340	Every 30 minutes

4.40 It can be seen that these connections offer students the opportunity to travel from their home from a variety of locations to the school by public transport, i.e. 'door to door' in a maximum journey time of 45 minutes.

**Rail Services**

4.41 The nearest rail / London Underground station to the proposed school is Canons Park, approximately 600 metres (10 minute walk-time) to the east. Canons Park is operated by London Underground on the Jubilee Line located between Stanmore to the north and Queensbury to the south. A service is provided every 5 minutes and bus routes 79, 186 and 340 stop outside the station.

4.42 Edgware Station (London Underground) is the northern terminus on the Northern Line, approximately 2.4km from the proposed site and is also served by bus services 79, 186 and 340. Services arrive in Edgware every 12 minutes.

**PTAL**

4.43 PTAL or Public Transport Accessibility Level is a widely adopted tool amongst London Authorities for measuring a sites' accessibility. The PTAL methodology identifies the key factors that influence personal choice of a public transport mode as being, number of accessible services, walk distances, frequency, reliability and time of day / day of week. On the basis of these factors, a formula has been developed to calculate an Accessibility Index (AI) for any given location.

- 4.44 Using the PTAL methodology / formula, a PTAL has been calculated for the application site, the results of which are included as Appendix 9. From Appendix 9 it can be seen that the application site has an AI value of 8.73 or a PTAL banding of 2.
- 4.45 In overall terms, whilst the PTAL value for the site is low, the accessibility of the application site by public transport offers a range of alternative travel choices to both student and staff and there are a wide range of journey origins and destinations can be reached by the bus and underground networks.

## 5. PROPOSED TRIP GENERATION & DISTRIBUTION

- 5.1 The AHFS will generate person trip movements by all modes of travel throughout a weekday period and in particular the AM and PM peak periods. The AHFS will provide a comprehensive range of pre- and post- school activities including a breakfast club and additional education / training and sporting activities after school. The effect of these activities will be to stagger arrivals and departures (in addition to the staggered start / finish times by key stage) thereby reducing the potential impact of person trips generated by the AHFS on the local area and transport networks.
- 5.2 In respect of modal split information, the existing AHFS School Travel Plan (albeit for their previous location at Common Road) contains hands-up survey information undertaken to determine children's methods of travel to school. The School Travel Plan is provided at Appendix 10.
- 5.3 It is however noted, that the location of the school at the time on Common Road, was less accessible to public transport, pedestrian and cycle routes in comparison to the Whitchurch Fields site. The Common Road site was also not as central to the school catchment as the Whitchurch Fields site (2014/2015 Year 7-9 catchment illustrated in Section 2). It is therefore considered that the use of TRICS data for Secondary School provides a more accurate idea of children's method of travel to and from the Whitchurch site, as well as deriving trip rates.
- 5.4 Table 5.1 provides a summary of weekday peak hourly person trip rates and resultant movements by mode of travel for the proposed uses on the site based on the full occupation scenario, as described above. Whilst it is noted that the site may be used for 'out of hours' leisure activities, in the context of school trip generation, these trips will be minimal and will occur outside of network peak periods.
- 5.5 The original trip rates (as agreed with Harrow Council Highways) have been modified to reflect comments provided by the GLA. Through the revised selection of TRICS survey sites (discounting schools from outside London) a trip generation profile has been generated that maintains a similar level of car based trips whilst re-dressing the balance of trips by sustainable modes to reflect a greater proportion of public transport users. A copy of the TRICS output is provided at Appendix 11.
- 5.6 It should be noted that on the basis of the school providing a dedicated bus service to transport c. 150 children in the AM and PM peak periods (one run for each key stage), the school bus has been included as an additional travel mode with the pedestrian mode discounted accordingly in order to maintain consistent total two-way trips rates and movements.
- 5.7 In respect of pedestrian trips in particular, Harrow Council Highways advised that any modal split assumptions should be substantiated by first principles information. In this regard, Figure 9 below illustrates the proportion of 2014/2015 academic year pupils living within 1200m of the school (c. 20 minute walk time) and that could therefore reasonably walk to the school.



5.8 From the 2014/2015 pupil postcode locations shown at Figure 9, it is illustrated that approximately 80 of 320 pupils lived within a 20 minute walk of the school. This amounts to 25% of the school population at that time. On the basis that when the school is relocated to Whitchurch Playing Fields it will attract more pupils from its proximity, and taking into account the likelihood that as the school grows there are more likely to be siblings able to walk together to school, it is not considered unreasonable to expect an increase in pedestrian trips to c. 30-35% as indicated in the TRICS output at Table 5.1.

**Figure 9 Pupils Living within 1.5km of Proposed School Site**



**Table 5.1 Weekday Peak Hour Person Trip Generation - Proposed Uses (1,260 students)**

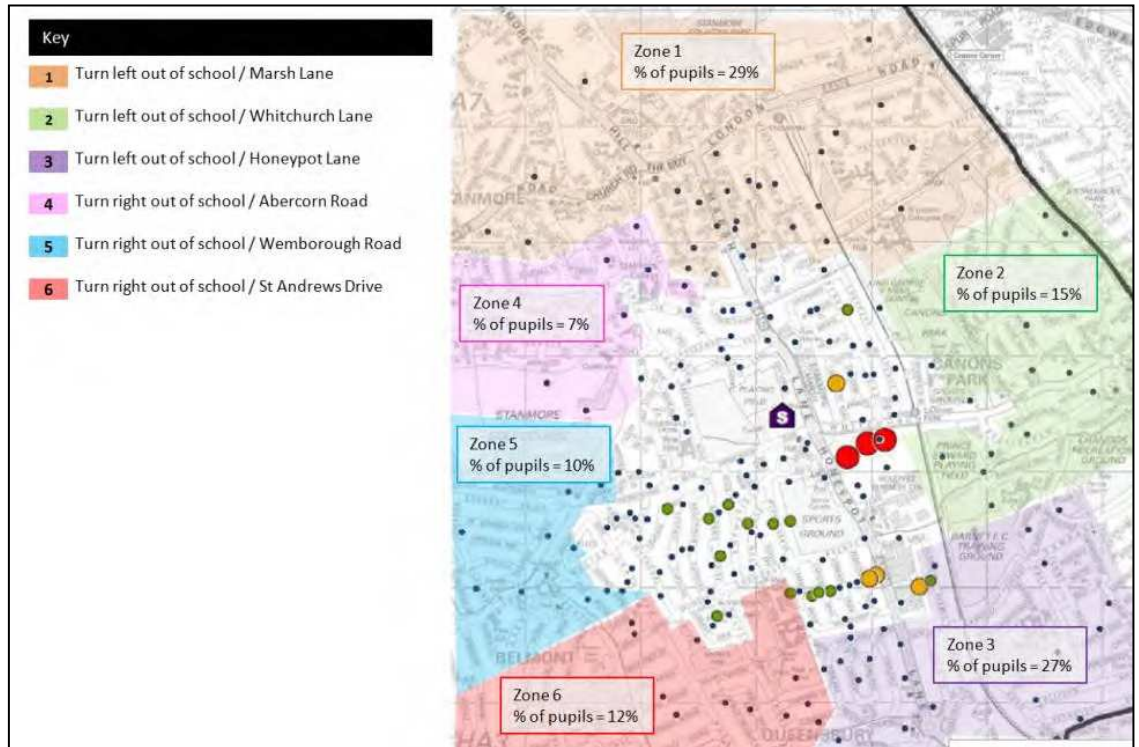
Mode of Travel	AM Peak (0800-0900hrs)			PM Peak (1500-1600hrs)		
	Two-Way Trip Rate (per pupil)	Mode Split	No. Movements	Two-Way Trip Rate (per pupil)	Mode Split	No. Movements
Car Occupants	0.168	21.7%	212	0.075	8.7%	95
Cyclists	0.008	1.0%	10	0.008	0.9%	10
Pedestrians	0.246	31.8%	310	0.299	34.7%	377
Public Transport	0.233	30.1%	294	0.360	41.8%	454
School Bus	0.119	15.4%	150	0.119	13.8%	150
<b>TOTALS</b>	<b>0.774</b>	<b>100.0%</b>	<b>976</b>	<b>0.861</b>	<b>100.0%</b>	<b>1086</b>

5.9 From Table 1 it can be seen that the proposed uses on site have the potential to generate between 976 and 1086 total person trips during the weekday AM and PM peak periods. Of these some 95-212 are car borne trips, equating to a modal share of some 9-22%. Of the remainder of these trips, the number of public transport users equates to around 30-42%, cyclists 1% and pedestrians between 32-35%. The impact of development related trips is considered in Section 6 of this Transport Assessment.

### Vehicle Trip Distribution

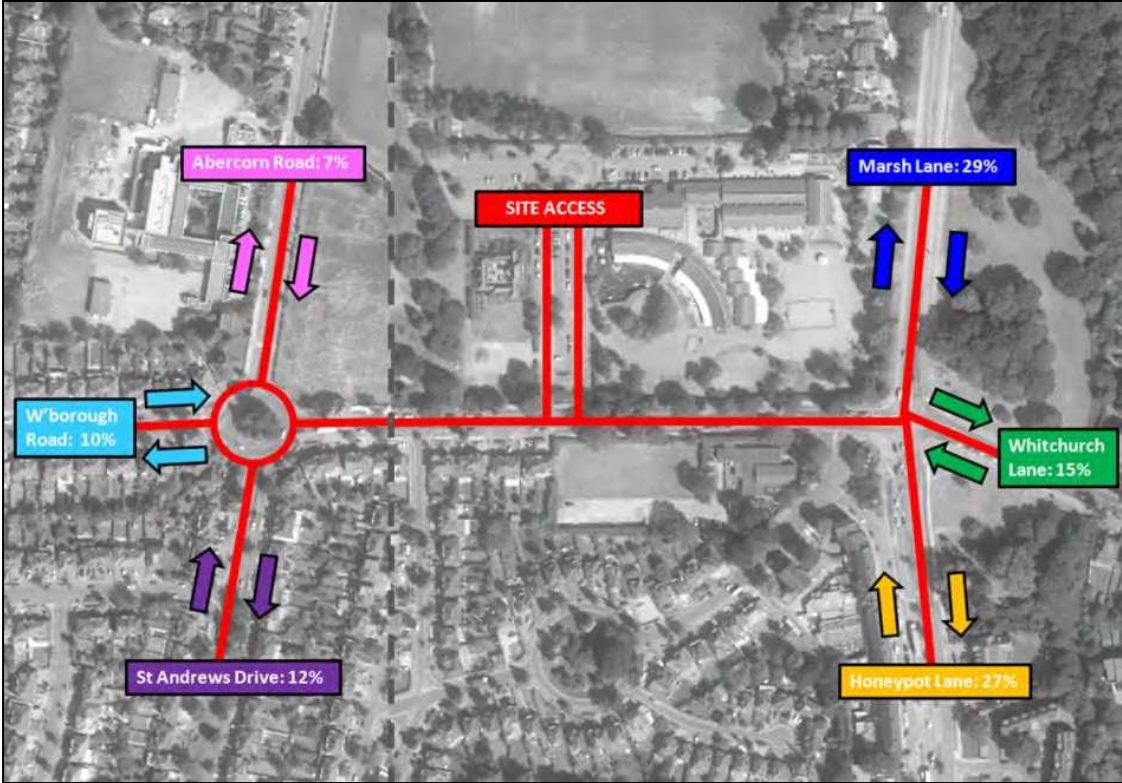
5.10 In consultation with Harrow Council Highways it is proposed to distribute school-related traffic using the home postcode information for the neighbouring Whitchurch Schools. Pupil postcode plots for the Whitchurch School have been obtained from their Travel Plan, and origin / destination 'zones' derived based on shortest driven routes from the school access point. Figure 10 illustrates the designation of zones and percentage of Whitchurch School pupils drawn from each.

**Figure 10 Derivation of Traffic Distribution from Whitchurch Schools Home Postcode Data**



5.11 The resultant distribution of traffic by percentage through the site access junction and roundabout / signal junctions to the west and east is shown at Figure 11, and used thereafter within the appended traffic flow figure diagrams for the distribution of ‘committed development’ relating to the expansion of the Whitchurch Schools, and traffic associated with the AHFS proposals.

Figure 11 Distribution of School Related Traffic



## 6. IMPACTS

### Road Network

- 6.1 In order to assess the impact of development-related trips, and in particular car borne traffic, a future year assessment has been undertaken. For the purposes of a robust assessment both AM and PM peak hour school flow scenarios have been superimposed onto the network peak hour flows. This therefore takes no account of the potential spreading of school related traffic resulting from the staggering of start / finish times by key stage.
- 6.2 The 2014 surveyed traffic flows have been factored up to 2020 using TEMPRO growth for 'Harrow minor' road types, a copy of which is included as Appendix 12.
- 2014 - 2020 AM Peak – x 1.0647
  - 2014 - 2020 PM Peak – x 1.0637
- 6.3 The impact of the increases in vehicular traffic on the existing road network have been assessed by comparing 'Base' with 'Base + Development' traffic conditions for the proposed future assessment year. The purpose of this analysis is to establish the potential impact of traffic flows associated with the proposed scheme on the operation of the surrounding highway network during the weekday AM and PM peak periods. It should be noted that the committed traffic in relation to the expansion of the neighbouring Whitchurch First and Junior Schools has been taken into account and incorporated into the 'base' scenario.
- 6.4 The distribution of development traffic has been based on the methodology as identified in Section 5 of this TA. On the basis of the distribution of development traffic, the three junctions referred to in Section 4 have been tested for operational capacity to consider the traffic impact of the development on the local highway network.

### ***Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane Signal Junction***

- 6.5 Tables 6.1 and 6.2 provides a summary of the LINSIG outputs that assess the 2020 'Base' and 'base + development' flows of the proposed school during the weekday AM and PM peak periods. These flows are also illustrated in appended Figures 1.3 – 1.12. The results of the LINSIG analysis are included as Appendix 6.

**Table 6.1 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	83.5%	14.1	74.7%	12.1
Whitchurch Lane Right	69.2%	2.2	47.9%	1.9
Honeypot Lane Left Ahead	97.8%	16.5	89.4%	13.0
Honeypot Lane Right Ahead	98.1%	17.5	90.5%	14.5
Wemborough Road Left Ahead	89.4%	17.3	73.4%	12.0
Wemborough Road Right	101.7%	9.6	93.0%	7.9
Marsh Lane Left Ahead	96.6%	16.6	91.2%	10.2
Marsh Lane Right Ahead	97.4%	18.4	92.2%	11.3

**Table 6.2 Whitchurch Lane / Honeypot Lane / Wemborough Road / Marsh Lane – 2020 Base + Development**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	82.1%	14.4	72.8%	11.9
Whitchurch Lane Right	60.8%	1.9	51.9%	1.9
Honeypot Lane Left Ahead	110.1%	32.0	94.4%	15.3
Honeypot Lane Right Ahead	110.3%	34.3	95.2%	17.0
Wemborough Road Left Ahead	87.4%	16.9	76.4%	13.2
Wemborough Road Right	104.5%	11.5	97.9%	10.3
Marsh Lane Left Ahead	108.1%	31.6	91.9%	10.5
Marsh Lane Right Ahead	108.6%	34.8	93.0%	11.6

6.6 From Tables 6.1 and 6.2 it can be seen that under Year 2020 ‘base + development’ traffic flow conditions the signalised crossroad junction will continue to function above overall capacity, when compared with 2020 ‘base’ conditions. Honeypot Lane and Wemborough Road approach arms will experience the highest degrees of saturation and queuing, particularly during the AM peak periods. It should nevertheless be noted that in reality, pupils arriving by car will be spread between 07:00 and 09:45 rather than concentrated into a single hourly period, and therefore to some degree the traffic impact is overstated.

**Whitchurch Schools Access / Wemborough Road (Site Access) Priority Junction**

6.7 Tables 6.3 and 6.4 provide a summary of the PICADY outputs that assess the 2020 ‘Base’ and ‘base + development’ flows of the proposed school during the weekday AM and PM peak periods. These flows are also illustrated in Figures 2.3-2.12. The results of the PICADY analysis are included as Appendix 7.

**Table 6.3 Whitchurch Schools Access / Wemborough Road (Site Access) – 2020 Base**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Whitchurch Schools LT	0.207	0.3	0.152	0.2
Whitchurch School RT	0.363	0.6	0.322	0.5
Wemborough Road	0.400	1.2	0.245	0.7

**Table 6.4 Whitchurch Schools Access / Wemborough Road (Site Access) – 2020 Base + Development**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Whitchurch Schools LT	0.295	0.4	0.274	0.4
Whitchurch School RT	0.502	1.0	0.410	0.7
Wemborough Road	0.793	5.7	0.282	0.8

6.8 From Table 6.4 it can be seen that under Year 2020 ‘base + development’ traffic flow conditions the priority junction will continue to function within capacity and with queues that can be accommodated within the available road space.

**Wemborough Road / St Andrew’s Drive / Abercorn Road Roundabout**

6.9 Tables 6.5 and 6.6 provide a summary of the ARCADY outputs that assess the 2020 ‘Base’ and ‘base + development’ flows of the proposed school during the weekday AM and PM peak periods. These flows are also illustrated in Figures 3.3-3.12. The results of the ARCADY analysis are included as Appendix 8.

**Table 6.5 Wemborough Road / St Andrew’s Drive / Abercorn Road – 2020 Base**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Wemborough Road (E)	0.870	6.1	0.980	16.1
St Andrew’s Drive	0.690	2.1	0.790	3.4
Wemborough Road (W)	0.730	2.7	0.760	3.0
Abercorn Road	0.900	7.7	0.790	3.6

**Table 6.6 Wemborough Road / St Andrew’s Drive / Abercorn Road – 2020 Base + Development**

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Queue	Max RFC	Queue
Wemborough Road (E)	0.890	6.8	1.000	21.3
St Andrew’s Drive	0.720	2.5	0.800	3.6
Wemborough Road (W)	0.770	3.1	0.760	3.0
Abercorn Road	0.950	10.9	0.790	3.6

6.10 From Table 6.6 it can be seen that under Year 2020 ‘base + development’ traffic flow conditions the roundabout junction will experience some increase in queuing but not to a substantial degree. This is most evident on the Abercorn Road arm during the AM peak and on the Wemborough Road (E) arm during the PM peak with this arm operating at an RFC of 1.000.

**Pedestrian and Cycle Infrastructure**

6.11 In respect of the impact of the development on local pedestrian infrastructure, the footways on Wemborough Road are generally provided to a c. 2.6m width and will support all pedestrian activity entering and exiting the site.



- 6.12 Using the TFL Pedestrian Comfort Guidance it is noted that a footway with a clear unobstructed width of 2.6m in a 'residential' area can support in the order of 1,650 two-way hourly movements, maintaining a 'comfortable' pedestrian experience. Appendix 13 illustrates the output from a TfL based 'Pedestrian Level of Service Assessment', demonstrating the maximum value of 1,650 two-way hourly movements within the comfortable 'B+' standard.
- 6.13 Predicted pedestrian trip generation associated with the AHFS, as set out in Section 5, is in the order of 310-377 hourly two-way pedestrian movements during the peak hour periods. Committed pedestrian activity associated with the neighbouring school has also been taken into account. This has been derived on the basis of the Whitchurch Schools Travel Plan, which states that in 2014 41% of children walked to school. Applying this percentage to the fully expanded school at 905 pupils, results in a predicted 371 pupils using the Wemborough Road footways.
- 6.14 Consequently, the combined number of pedestrians using the Wemborough Road footways from the Whitchurch and Avanti Schools totals a maximum of 748 two-way movements, over a peak hourly period. This still leaves capacity for a further 902 two-way pedestrian movements within the peak hours, before the footway function reduces from 'comfortable' to 'acceptable'.
- 6.15 On the basis of on-site observation and even taking into account pedestrian activity associated with the Stanburn Primary School on Abercorn Road, it is conclusive that the Wemborough Road footways would operate within capacity under future conditions.

## 7. PARKING

7.1 Parking demand data has been obtained in order to gauge current parking levels within the car park to the south of the site in order to assess the impact of the development on parking supply. It was agreed with Harrow Council Highways through the scoping process, that the car park would represent the optimum location for school related set-down / pick-up, and thereby reduce the risk of these activities occurring on the public highway, and in particularly where waiting restriction apply.

7.2 Parking beat surveys have been carried out by an independent survey specialist during typical weekday peak periods including school drop-off / pick-up periods, between 07:00-10:00 and 15:00-18:00 on Tuesday 20<sup>th</sup> January 2015. The parking beat surveys established the demand for parking in 15 minute intervals throughout the survey periods. The survey cordon is illustrated in Figure 12 below.

**Figure 12** Parking Stress Survey Cordon



7.3 The results of the parking beat surveys are contained in Appendix 14 and the summary of results is provided in Table 7.1.

**Table 7.1 Surveyed Car Park Demand**

Time Period	Zone 1 Total Number of Spaces: 28		Zone 2 Total Number of Spaces: 64		Zone 3 Total Number of Spaces: 10		Total of all Zones Total Number of Space: 102	
	Demand	Spare Capacity	Demand	Spare Capacity	Demand	Spare Capacity	Total Demand	Total Spare Capacity
07:00	0	28	1	63	0	10	1	101
07:15	0	28	1	6	0	10	1	44
07:30	1	27	2	62	4	6	7	95
07:45	0	28	4	60	8	2	12	90
08:00	5	23	4	60	8	2	17	85
08:15	11	17	7	57	10	0	28	74
08:30	22	6	20	44	10	0	52	50
08:45	28	0	64	0	10	0	102	0
09:00	24	4	10	54	10	0	44	58
09:15	23	5	28	36	10	0	61	41
09:30	23	5	28	36	9	1	60	42
09:45	23	5	28	36	9	1	60	42
10:00	24	4	28	36	8	2	60	42
<b>Total</b>	<b>184</b>	<b>180</b>	<b>255</b>	<b>544</b>	<b>96</b>	<b>34</b>	<b>505</b>	<b>764</b>
15:00	28	0	64	0	10	0	102	0
15:15	28	0	64	0	10	0	102	0
15:30	28	0	50	14	10	0	88	14
15:45	24	4	20	44	9	1	53	49
16:00	22	6	19	45	9	1	50	52
16:15	28	0	16	48	9	1	53	49

**Table 7.1 Surveyed Car Park Demand (Cont.)**

16:30	25	3	14	50	4	6	43	59
16:45	17	11	11	53	4	6	32	70
17:00	14	14	9	55	4	6	27	75
17:15	11	17	5	59	2	8	18	84
17:30	11	17	4	60	3	7	18	84
17:45	9	19	4	60	1	9	14	88
18:00	2	26	0	64	0	10	2	100
<b>Total</b>	<b>247</b>	<b>117</b>	<b>280</b>	<b>552</b>	<b>75</b>	<b>55</b>	<b>602</b>	<b>724</b>

- 7.4 Table 7.1 indicates that the two set-down periods show comparable parking demands levels. Analysis shows that under existing conditions all zones reach capacity during the AM peak at 08:45 and during the PM peak at 15:00 & 15:15. It is noted that these are the periods at the start and end of the neighbouring Whitchurch Schools days.
- 7.5 Analysis of predicted parking demand associated with the AHFS drop-offs / pick-ups, in the context of the identified supply is provided at Appendix 15. The calculations also take into account reduced supply as a result of the Whitchurch Schools expansion. The committed trip generation figures used in relation to the Whitchurch Schools expansion were taken from the approved Mott MacDonald Transport Assessment (March 2014).
- 7.6 The methodology used to derive the parking accumulation associated with the AHFS considers the 3 hour TRICS based vehicle trip generation over the AM and PM peak periods (ie. 07:00-10:00 arrivals and 14:00-17:00 departures). These trips have then been superimposed onto the parking profile in accordance with the AHFS start / finish times, in proportion to the predicted number of pupils arriving / departing through each time period (see Table 2.1).
- 7.7 For the purpose of the parking accumulation calculations it has been assumed that 75% pupils arrive / depart school in the 15 minute period before or after their school start / finish time. The remaining 25% pupils arrive / depart school 15-30 minutes before or after school start / finish time.
- 7.8 Consequently, the parking accumulation calculations illustrate that over the AM and PM peak survey periods, the following patterns occur:
- Around the Breakfast Club, AHFS KS4 and KS3 start times it is predicted that there will be sufficient spare capacity to accommodate demand;

- During the periods that the Whitchurch Schools drop-off there would be a shortfall in parking supply, particularly between 08:45 and 09:00;
- Between 09:30 and 09:45 when the majority of AHFS KS5 drop-offs take place there will be potential for demand to exceed supply by 9 vehicles;
- Between 15:00 and 15:30 it is predicted that Whitchurch Schools expansion traffic will mean the car park continues to operate at capacity;
- Between 15:30 and 17:45 when AHFS pick-ups take place there is sufficient parking supply to accommodate demand.

7.9 It should be noted that the Whitchurch Schools expansion is subject to an ongoing Travel Plan which seeks to reduce the impact of its associated parking within the car park.

7.10 In the context of the predicted AHFS parking accumulation, the proposed staggered start / finish times ensure that periods of higher AHFS parking accumulation do not coincide with Whitchurch Schools traffic. As such the only predicted period where AHFS drop-off / pick-up parking demand exceeds supply is during the Key Stage 5 AM drop-off.

7.11 The assessment is considered robust as it assumes each 15 minute parking supply and demand profile occur at a single point in time. In reality, and given the more independent nature of Secondary School pupils it is likely that drop-off / pick-up parking will turn over numerous times during each 15 minute period, and therefore demand is unlikely to exceed supply.

7.12 It should also be noted that the implementation of the School Travel Plan will seek to minimise travel by car, and thereby reduce impact on parking accumulation within the car park to the south of the school.

### **Parking Provision**

7.13 There is no prescriptive car parking standard within the London Plan (Further Alterations) or Harrow Council's Development Management Policies document in respect of education-based land uses. It is proposed to provide a total of 69 parking spaces (including 5% disabled provision, 10% active electric vehicle charging points and 10% passive electric vehicle charging points).

7.14 This level of parking is considered appropriate based on site specific demand for the school and any proposed 'out of hours' leisure activities. The disabled and electric vehicle provision accords with London Plan standards and reflects consultation with the GLA.

- 7.15 The figure of 69 car parking spaces has been derived on the basis of the travel behaviour of existing AHFS staff. The current AHFS Travel Plan (included at Appendix 10) indicates that 53% of staff travel by car with a further 24% of staff car sharing. In terms of preferred mode of travel, 41% of staff said they would prefer to travel by car, whilst 41% would prefer to car share. An average of these figures would see a 63.3% proportion of staff arriving / departing school by car. On the basis that the school will be targeting a 6% modal shift away from car travel as part of achieving a STARS 'Gold' accredited Travel Plan, it should be expected that the proportion of staff travelling to and from school by car will fall to c. 57.3%. Applying this to 120 FTE staff would therefore require a parking supply of c. 69 spaces.
- 7.16 Whilst it is envisaged that the proportion of staff driving to school will increase further over time, it is considered that 69 parking spaces will provide sufficient parking for staff, visitors and for activities outside of school hours. The level of parking is considered a balance, such that it does not represent an over-supply of parking that would encourage staff to travel to school by car.
- 7.17 Specific guidance in respect of cycle parking is provided in the adopted London Plan Further Alterations (March 2015) document. It is therefore proposed to provide 1 long-term cycle parking space per 8 students / staff plus an additional short stay space per 100 students.
- 7.18 In this regard, at full capacity, the school will provide as a minimum covered long-stay cycle parking for 173 cycles and 12 additional short stay spaces.

#### **Provision for Pedestrians, Cyclists and Public Transport Users**

- 7.19 From Section 5 it is established that at full capacity the proposed secondary school is likely to generate 310-377 pedestrian trips during the weekday AM and PM pick-up/drop-off periods. Such levels of additional pedestrian demand have been subject to analysis using a TfL 'Pedestrian Level of Service Assessment'.
- 7.20 As noted in Section 6 of the TA, the assessment shows that footways on Wemborough Road could accommodate in the order of 1,650 two-way peak hour movements before footway comfort is compromised. In the context of committed footway traffic from the Whitchurch Schools expansion, and pedestrian trips associated with AHFS, there would still remain significant capacity to absorb further peak hour pedestrian movements.
- 7.21 Section 5 shows that AHFS has the potential to generate an increase in public transport trips of 294-454 movements during the AM and PM peak periods. Given the school's proximity to bus services on Wemborough Road, Whitchurch Lane and Honeypot Lane, clearly a large proportion of these trips will be undertaken by bus.
- 7.22 In this regard, TfL have stated that as a free school, TfL will not seek additional financial contribution toward bus capacity.

7.23 At full capacity, the school will provide as a minimum covered long-stay cycle parking for 173 cycles and 12 additional short stay spaces. This will support cycle trips undertaken by pupils and staff, which is expected to be in the order of 10 movements during the peak hour periods. This is anticipated to increase significantly through the Travel Planning process, which will focus in particular on cycle training, maintenance and safety.

7.24 As stated in Section 4, there is a network of signed and recommended routes for cyclists within the vicinity of the proposed school. It is also worth noting that with the introduction of restricted parking on the northern side of Wemborough Road, the cycle lane will be useable for greater periods of the day and provide greater opportunity for students / parents / staff to cycle to and from school on dedicated routes.

### **Construction Period**

7.25 In order to minimise disturbance to local residents, a number of mitigating measures will be implemented and enforced throughout the duration of the construction period, the details of which will be provided within a full Construction Logistics Plan (CLP) to be prepared by the site contractor. By way of example the CLP will include:

- Restricted hours to avoid peak arrival and departure periods on the local road network;
- Measures to protect existing footways and marked pedestrian routes using barriers / signage, as appropriate;
- Protection of any statutory services equipment;
- Monitoring of vehicle movements and turning using banksmen, if appropriate;
- Details of any reinstatement works required following completion of works.

7.26 A framework CLP is included as part of this planning submission and provides swept path analysis to confirm that construction vehicle access can be gained to the site, with the ability to turn on site and depart in forward gear. As noted previously any modifications required to the access way to facilitate the movement of construction vehicles to and from the school, will be subject to agreement with Harrow Council Highways, Planners and Corporate Estates departments.

### **Refuse Collection, Deliveries & Servicing**

7.27 Given the nature of the proposed development, the number of service vehicles that will deliver to AHFS on a daily or weekly basis will be minimal. These will be limited to waste collection, deliveries to the canteen and general supplies.

7.28 A framework Delivery and Servicing Plan (DSP) has been developed and is included as part of this planning submission. Conclusions within the DSP include the following:

- The number of delivery and servicing movements at the Avanti House Secondary School would be minimal;
- The majority of delivery and servicing movements would be undertaken by a vehicle no larger than a transit van, with swept path analysis undertaken for a range of access options;
- Servicing movements would as far as possible be undertaken outside of school start / finish times and would therefore not conflict with access to cycle parking;
- Refuse collection would be undertaken within the school, outside of school operational hours.

7.29 Swept path analysis has also been undertaken and appended to the DSP demonstrating that all delivery, servicing, emergency and refuse collection vehicles can enter and exit the development site in a forward gear.



## **8. MITIGATION & PLANNING OBLIGATIONS**

### **Travel Plan Structure**

- 8.1 As noted in Section 4 of the TA, a full and through assessment of the impact of person trips generated by the AHFS proposals has been undertaken. In order to ensure that the school maintains a minimal impact on highways and transport operations in the local area, AHFS Secondary School will prepare and implement a STARS accredited Travel Plan. AHFS currently have an accredited Travel Plan, and this will be updated upon occupation of the site at Whitchurch Playing Fields to reflect site specific characteristics.
- 8.2 It is worthy of note that AHFS achieved STARS 'Gold' accreditation for the 2014/2015 academic year, demonstrating their dedication to Travel Planning measures and achieving their targets / objectives, a commitment that will be continued and built upon at the Playing Fields site.
- 8.3 A Travel Plan (TP) has been prepared to accompany the planning application, as a separate document. In preparing the TP reference is made to guidance given in NPPF (2012), the London Plan (2015), Harrow's Core Strategy (2012) as well as TfL's 'Travel Planning for New Development in London.
- 8.4 The key objective of the TP is to set out a package of measures for reducing the number of car trips generated by parents and staff at the school and to improve safety on the school journey. In terms of planning obligations it is intended that the TP will be secured by way of a Section 106 Agreement, should consent be granted.
- 8.5 It is proposed to retain the deputy Headteacher as Travel Plan Coordinator (TPC) for AHFS, assisted by administrative staff to deliver the aims and objectives of the Travel Plan.
- 8.6 The TfL STARS accredited Travel Plan will be underpinned by a comprehensive and deliverable Action Plan. The Action Plan will clearly outline a list of actions to be undertaken so as to promote the Travel Plan to students, parents/ carers and staff. The success of the Travel Plan will be judged against TfL STARS accreditation criteria. The school will be targeting gold accreditation within 2 years of opening (to be maintained thereafter), which will involve completing 25 TfL initiatives;
- 8.7 The TPC is committed to the regular monitoring and review of the Travel Plan as a means of ensuring that it meets the aims, objectives and targets as set out within the Plan. The output of the annual monitoring and review process will be a Monitoring Report made available to the Council and other stakeholders.

8.8 The most important part of the monitoring process will be the regular re—survey of students and staff on an annual basis. The main purpose of the surveys will be to identify modal split and monitor staff and student travel patterns. The results of these surveys will be analysed by the TPC and the Harrow Council School Travel Plan Officer and will form a key element of the monitoring process. The surveys will seek to understand why certain modes of transport are used and to identify any possible barriers to using sustainable modes of transport.

8.9 Should there be a need to modify or change any aspect of the travel initiatives, the TPC, in consultation with Council Officers, will amend the Action Plan detailing agreed activities to be undertaken and timescales for the implementation of recommendations/ modifications. Should it transpire that STARS targets are not being met financial sanctions will be imposed to fund additional measures to support the travel plan and increase the school’s sustainable mode share.

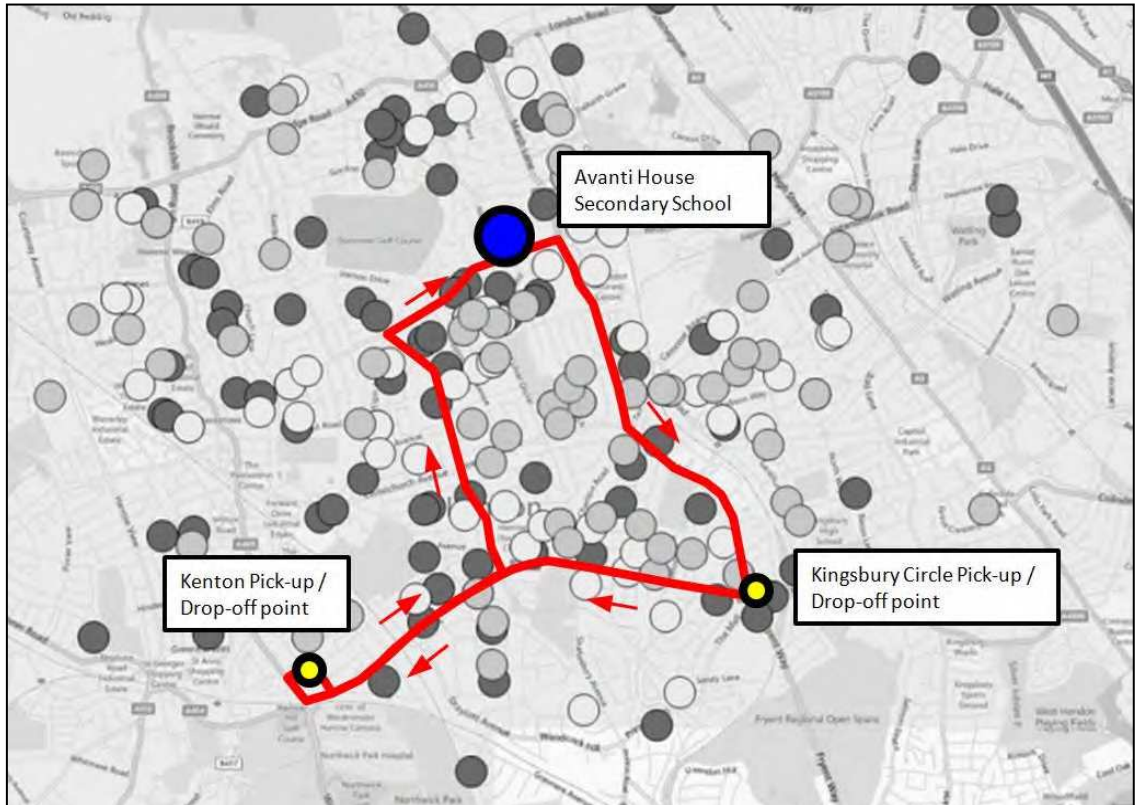
### **Travel Plan Initiatives**

8.10 Key physical and management initiatives to be implemented within the AHFS Travel Plan include:

- Travel Information on the School Website, also repeated in the School Prospectus and on notice boards, as appropriate, to include:
  - guidance to parents / guardians on the policy related to set down / pick up at the start and end of the school day so as to minimise impact on movement and parking within the local area and the surrounding local roads;
  - guidance on road safety and safe access to / from the school;
  - details of safe walking and cycling routes to the school;
  - details of public transport services, with links to TfL and other useful websites;
  - details of the timings / routings of the bus service run by the school as well as the mechanisms for sign up to the service.
- The establishment and operation of a School Car Share scheme;
  - secure area on school website where parents can register interest and be linked up with other parents in their local vicinity;
  - TPC to manage and promote scheme highlighting financial and environmental benefits of car sharing.
- Promotion of Walking and Cycling as viable modes of travel amongst students and staff;
  - Integral part of school's daily exercise regime;
  - Easy to understand mapping made available to students and staff;

- Promote participation in initiatives such as ‘Walk to School Week’, ‘International Walk to School Month’ and ‘Walk in May’;
- Provision of secure, covered cycle parking close to pedestrian entrance of school building to accord with London Plan standards;
- Road safety training as part of the curriculum with specific guidance on the use of safe crossing facilities;
- Cycle skills training and maintenance sessions as part of curriculum including the Government-supported 'Bikeability' scheme. Cycle training for students (Bikeability)
- Setting up a cycle club;
- Cycling lessons within PE;
- Cycle trips / excursions to build skills and confidence.
- Active encouragement of the use of existing, local public transport services for access to the school;
  - Website links to public transport operators;
  - Easy to understand mapping made available to students and staff of most direct and safe routes to bus stops, rail and underground stations;
  - Awareness of Zip Oyster Cards that allow free bus travel for children aged 11-15 yrs.
- Parents agreeing and signing a 'Travel Plan charter' committing to the minimisation of car travel wherever possible;
- The implementation of a bus service to serve those students within the catchment area of the school that do not have direct access to existing public transport routes;
  - Service to be provided over a single bus or two mini-buses (currently liaising with operators TfL and Desi Coaches);
  - At full capacity service to transport 50 students over each start / finish time (totalling 150 students);
  - Active promotion of service on School website;
  - Regular monitoring of usage and increased provision to respond to demand, as required.
  - On the basis of 2014/2015 home postcodes and bus service operations, Figure 13 below identifies an indicative route with two pick-up / drop-off points at strategic locations within the catchment. The route journey time would take less than 30 minutes and would therefore provided opportunity for buses to undertake a trip within each start / finish time stagger;

**Figure 13 Indicative School Bus Route**



- The implementation of a personalised sustainable travel planning service;
  - Parents / guardians provided with the opportunity to discuss the travel options available for their children when accessing AHFS.
- Working in partnership with Travel Plan officers at the Council and TPC's at other local schools;
  - Develop partnerships to promote sustainable travel, coordinate joint activities and share ideas (for instance with the Whitchurch Schools);
  - Students to be involved in road safety initiatives, environmental and active travel voluntary organisations.

### **Off-Site Mitigation**

8.11 It is noted from Pre-Application comments provided by the GLA that the bus stops on Whitchurch Lane require students to cross the Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) / Wemborough Road signalised crossroads. In particular, to reach the eastbound bus routes 79/340 which stop on the northern side of Whitchurch Lane only, the most direct access to the school is gained by crossing the uncontrolled Marsh Lane arm of the signal junction.

- 8.12 As set out in the PIA analysis in Section 4, a number of accidents involving pedestrians have occurred at this junction as a result of the misuse or misunderstanding of crossing facilities. To this end, options have been investigated to deliver controlled crossings on the northern and eastern arms of the junction.
- 8.13 In retaining the current layout (maintaining the same 'all movements' traffic function) and converting the crossing facilities on both arms to deliver controlled facilities, this would require a significant re-staging of the junction operation to deliver an 'all-red' pedestrian phase.
- 8.14 The results of an indicative LINSIG modelling exercise demonstrate that the addition of simple signalised crossing facilities on the northern and eastern arms of the junction would severely compromise junction performance. During the AM and PM peak modelled 'base' scenarios almost all arms operate at over 100% degree of saturation with the Wemborough Road and Honeypot Lane arms experiencing queuing of up to 100 vehicles, even before traffic associated with the Avanti House Secondary School is accounted for.
- 8.15 Therefore, a second approach has been pursued considering whether additional controlled crossing facilities could be incorporated into the existing junction staging operation.
- 8.16 The scheme illustrated on Plan 14042-01 at Appendix 16 proposes the following improvements at the junction, to be undertaken within the existing public highway (boundary as indicated on Plan 14042-02 also at Appendix 17):
- Provide controlled staggered pelican crossing over Marsh Lane arm to be integrated into existing junction staging as illustrated at Appendix 16;
  - Carriageway widening on Honeypot Lane approach arm to create dedicated 'Left Turn' lane, ahead lane, and ahead / right lane improving efficiency of traffic movements from this arm;
  - Increased exit lane width and taper on Marsh Lane to accord with Design Manual for Roads and Bridges guidelines reducing risk of vehicle collisions for simultaneous ahead movements from Honeypot Lane;
  - Adjustments to kerblines from Honeypot Lane entry lane to Wemborough Road providing shallower radius improving manoeuvres for large vehicles (as shown on Plan 14042-TK01 at Appendix 18);
  - Widening of Wemborough Road approach lanes allowing large vehicles to queue simultaneously in each lane;
  - Adjustments to kerblines from Marsh Lane entry lane to Whitchurch Lane providing shallower radius improving manoeuvres for large vehicles (see Plan 14042-TK01 at Appendix 18).
- 8.17 It is considered that the above measures would aid pedestrian safety at the junction by offering a controlled crossing facility over the northern Marsh Lane arm, in particular connecting the school with bus stops on the northern side of Whitchurch Lane.

8.18 The addition of a left-turn lane on the Honeypot Lane approach and kerb adjustments on other junction arms would improve traffic congestion through the junction as indicated by the LINSIG model outputs below. Table 8.1 provided AM and PM peak junction operation under ‘2020 base+ development conditions’, taking into account the junction improvement proposals, as compared with the ‘2020 Base’ output for existing junction layout conditions as set out in Table 6.1.

**Table 8.1 LINSIG Output – ‘2020 Base + Development’ (Proposed Junction Layout)**

Arm	AM Peak Hour		PM Peak Hour	
	DoS	Queue	DoS	Queue
Whitchurch Lane Left Ahead	78.8%	16.4	68.1%	12.7
Whitchurch Lane Right	58.0%	2.0	45.4%	1.9
Honeypot Lane Left Ahead	95.5%	17.1	85.2%	11.7
Honeypot Lane Right Ahead	93.3%	15.3	78.4%	10.9
Wemborough Road Left Ahead	84.1%	19.1	71.7%	14.2
Wemborough Road Right	98.0%	9.7	87.1%	7.9
Marsh Lane Left Ahead	97.2%	20.3	84.8%	9.8
Marsh Lane Right Ahead	97.6%	21.6	85.6%	10.5
Junction PRC (%):	-8.9%		3.3%	

8.19 Full LINSIG outputs for Table 8.1 can be found at Appendix 19. The outputs above indicate that the junction improvement proposals would result in comparable capacity and queuing levels through the junction when comparing ‘2020 base’ peak hour traffic under the existing highway layout with ‘2020 base + development’ peak hour traffic under the proposed highway layout.

8.20 When compared to the assessment of the ‘base + development’ traffic under existing highway layout conditions, the reduction in queueing is significant. This is particularly evident on the Honeypot Lane approach where, for instance, in the AM peak queues in each lane were predicted in excess of 30 PCUs (see Table 6.2), with the junction improvement proposals reducing this to c. 15-17 PCUs.

8.21 These findings demonstrate that the scheme proposed could mitigate the impact of school related traffic, whilst delivering the wider benefit of the controlled pedestrian crossing, improved junction manoeuvrability for larger vehicles and a vehicle safety benefit in the increased exit width and taper on Marsh Lane.

- 8.22 The junction mitigation scheme proposals and capacity modelling as provided within Appendices 17-20 have been issued to Harrow Council Highways, who have agreed the proposals in principle subject to costing of the work and the reaching of a funding agreement for their implementation.

## 9. SUMMARY & CONCLUSIONS

### Summary

9.1 This Transport Assessment (TA) has been prepared on behalf of the Education Funding Agency (EFA) in conjunction with the governors of Avanti House Free School (AHFS) to consider the highways and transport implications related to the development of a Secondary School on existing greenfield land at Whitchurch Playing Fields, Stanmore.

9.2 The proposed AHFS is planning to take occupation of the site from the beginning of the 2017 / 2018 academic year with an annual intake of 180 students per annum from Year 7 – 11 plus sixth form. At full occupation the school will serve 1,260 students supported by 120 full-time equivalent (FTE) staff.

### Conclusions

9.3 From the findings within the TA the following has been concluded:

- School opening hours will be staggered by key stage and will also include breakfast and after-school clubs, to further dissipate the impact of school related person trips. School start/finish times have been developed to avoid highway network peak periods and periods at the beginning and end of the neighbouring Whitchurch Schools day;
- It is proposed to utilise the existing priority junction arrangement and shared access way from Wemborough Road for deliveries / servicing and staff access only. It is understood that any modifications required to the access way to facilitate the movement of larger vehicles to and from the school, will be subject to agreement with Harrow Council Highways, Planners and Corporate Estates departments;
- It is proposed that vehicle-based school drop-offs / pick-ups take place in the car park immediately south of the school. Suggested concepts for pedestrian / vehicular access from Marsh Lane, put forward by public consultation attendees have been rejected by Harrow Council on grounds of highway safety and capacity concerns;
- 48 PIAs occurred within the vicinity of the school of which 16 involved pedestrians and of these less than half involved children. The reasons for the incidents were attributed to pedestrians' inappropriate use/failure to use crossing facilities, attempting to cross between parked cars, failure to look properly and carelessness. In the context of the PIAs identified at the signal junction to the east of the site, potential mitigation measures have been considered;
- Pedestrian infrastructure within the vicinity of the site is of a good standard with pedestrian crossing points present along key pedestrian desire lines and the local footway network provided with lit footways. Abercorn Road to the west of the site benefits from three pedestrian crossing points;



- The site is served by 5 regular bus routes within a 480m walk distance. Bus services provide connections to key location destinations including Edgware, Stanmore station, Kingsbury Station and Harrow. The site is also located within 600m of Canons Park LU station which provides connections to Stanmore to the north and towards central London to the south on the Jubilee Line;
- Trip generation has been calculated using TRICS and adapted to take account of the privately run school bus service. The modal split derived from TRICS is considered to be representative of the likely travel patterns of AHFS students, and in particular the proportion of pedestrians given that c. 25% of 2014/2015 academic year pupils lived within walking distance of the site and this would be expected to increase when the school relocates;
- Analysis of the TRICS database has shown that during the weekday AM and PM peak periods at full capacity AHFS has the ability to generate between 976 and 1086 total person trips during the weekday AM and PM peak periods. Of these 9-22% are car borne trips, 30-42% public transport trips, 1% cycle trips and 32-35% pedestrian trips;
- AHFS vehicle trips have been distributed onto the local highway network as scoped with Harrow Highways using home postcode information for the neighbouring Whitchurch Schools, and thereafter by the 'shortest driven route';
- Assessment of local highway capacity has been undertaken at three junctions, as scoped with Harrow Council highway officers. In assessing these junctions it is concluded that the Whitchurch Schools / Wemborough Road priority junction and roundabout junction to the west of the site will continue to function within capacity. It is predicted that under 'base + development' conditions the signal junction to the east of the site will experience over 100% degrees of saturation on the Honeypot Lane and Wemborough Road arms in the AM peak;
- In assessing the impact of the development on local pedestrian infrastructure, the Wemborough Road footway has been subject to a TfL 'Pedestrian Level of Service Assessment'. Findings from the assessment indicate that the footway can support c. 1,650 two-way peak hour movements before comfort is compromised. In the context of pedestrian trips generated by AHFS, Whitchurch Schools and general foot traffic, there is ample capacity on Wemborough Road footways;
- Parking beat surveys were undertaken in the car park to the south of the school to gauge existing car parking supply and consider the impact of AHFS demand. The proposed AHFS staggered start / finish times ensure that periods of higher AHFS parking accumulation do not coincide with Whitchurch Schools traffic. As such the only predicted period where AHFS drop-off / pick-up parking demand exceeds supply is during the Key Stage 5 AM drop-off;
- It is proposed to provide a total of 69 parking spaces (including 5% disabled provision, 10% active electric vehicle charging points and 10% passive electric vehicle charging points). This level of parking is considered appropriate based on site specific demand for the school and any proposed 'out of hours' leisure activities. The disabled and electric vehicle provision accords with London Plan standards and reflects consultation with the GLA;

- At full capacity, the school will provide as a minimum covered long-stay cycle parking for 173 cycles and 12 additional short stay spaces. This will support cycle trips undertaken by pupils and staff, which is expected to be in the order of 10 movements during the peak hour periods, but is anticipated to increase as Travel Plan measures are put in place;
- TfL have stated that as a free school, AHFS will not be required to provide a financial contribution towards improved local bus service capacity;
- A draft Construction Logistics Plans has been provided as part of the planning submission, and the contractor will develop a full version post-application with the aim to minimise any adverse impact or disturbance to any users, businesses and local residents;
- The number of service vehicles that deliver to AHFS on a daily or weekly basis will be minimal and limited to waste collection, deliveries to the canteen and general supplies. Further details have been provided in a framework Delivery and Servicing Plan as part of the planning submission;
- To mitigate any residual impacts and in order to ensure that the school maintains a minimal impact on the operations of the local highway and transport networks, AHFS will prepare and implement a STARS accredited Travel Plan. The Travel Plan, submitted as a separate document within the planning application and to be secured by way of a Section 106 Agreement, sets out a package of measures for reducing the number of car trips generated by parents and staff at the school and to improve safety on the school journey;
- The Travel Plan provides details of the appointed Travel Plan Coordinator (TPC) and is underpinned by a comprehensive and deliverable Action Plan with a view to attaining STARS 'Gold' accreditation within 2 years of occupation;
- Commitments are made within the Travel Plan in respect of regular monitoring and review, the setting of targets, repeat travel surveys, a comprehensive list of physical and management initiatives as well as corrective steps, remedial measures and financial sanctions as required;
- As part of the School Travel Plan the school is proposing to operate a privately run bus service that will serve those students within the catchment area of the school that do not have direct access to existing public transport routes. The bus service will off-set the number of vehicle trips generated by the school as a whole, and its success and uptake will be monitored and revised as required;
- Investigations have been undertaken in order to provide additional controlled crossing facilities at the signalised crossroads to the east of the site. An improvement scheme has been developed incorporating pelican crossings over the northern junction arm with highway modifications on the north, west and southern arms in order to improve capacity. The scheme has been submitted to Harrow Council Highways and agreed in principle subject to costing and funding discussions.

9.4 On the basis of the findings within this Transport Assessment and in the context of the guidelines within para. 32 of the NPPF it is not considered that there are any residual cumulative impacts in terms of highway safety or on the operational capacity of the surrounding transport network that should result in planning permission being withheld on transport grounds.

## **FIGURES**

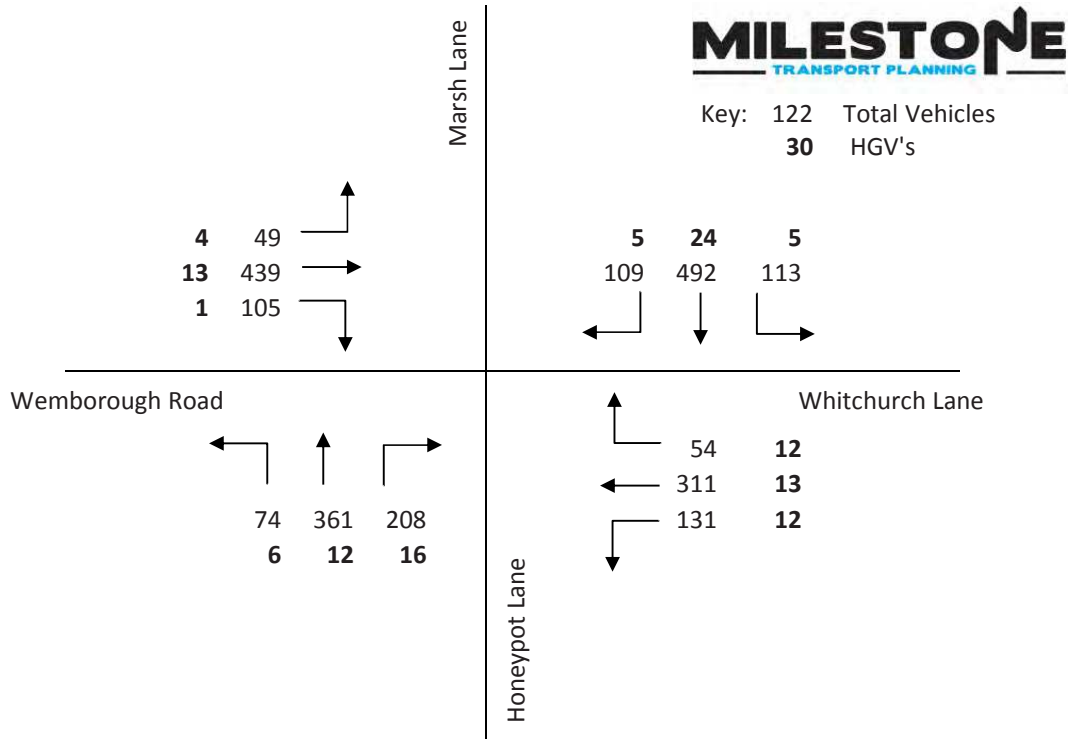


Figure 1.1 AM Peak 2014 Surveyed Flows (0745-0845)

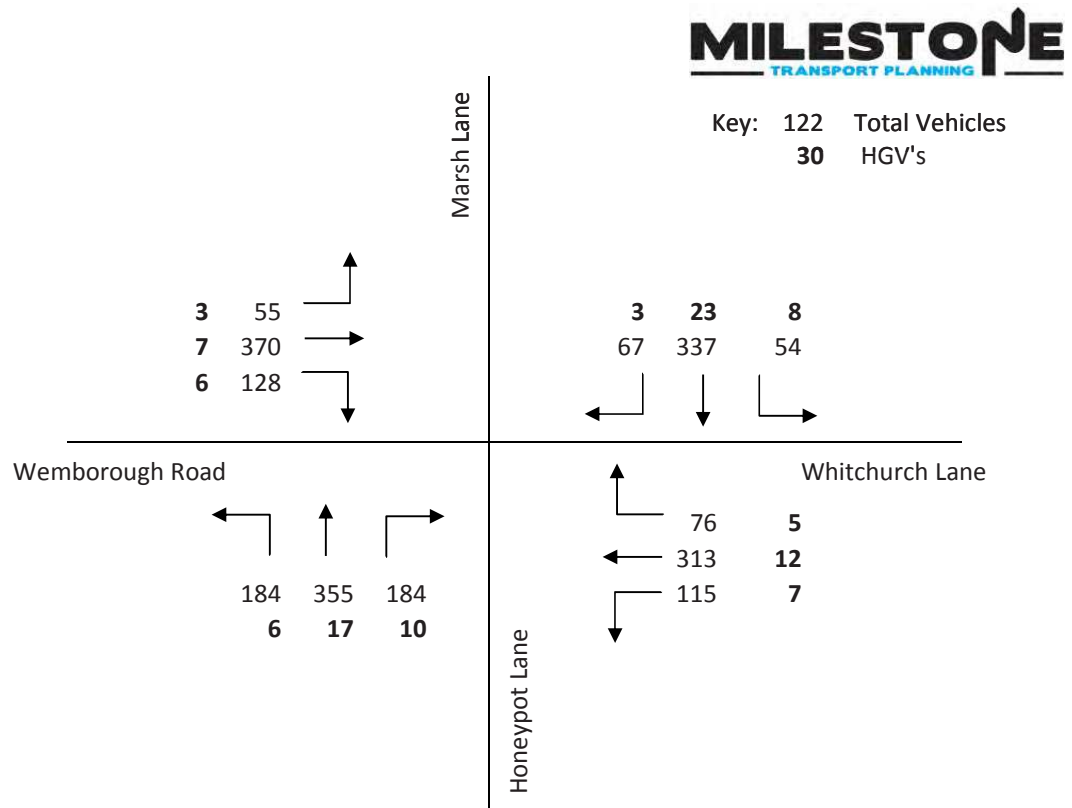


Figure 1.2 PM Peak 2014 Surveyed Flows (1615-1715)

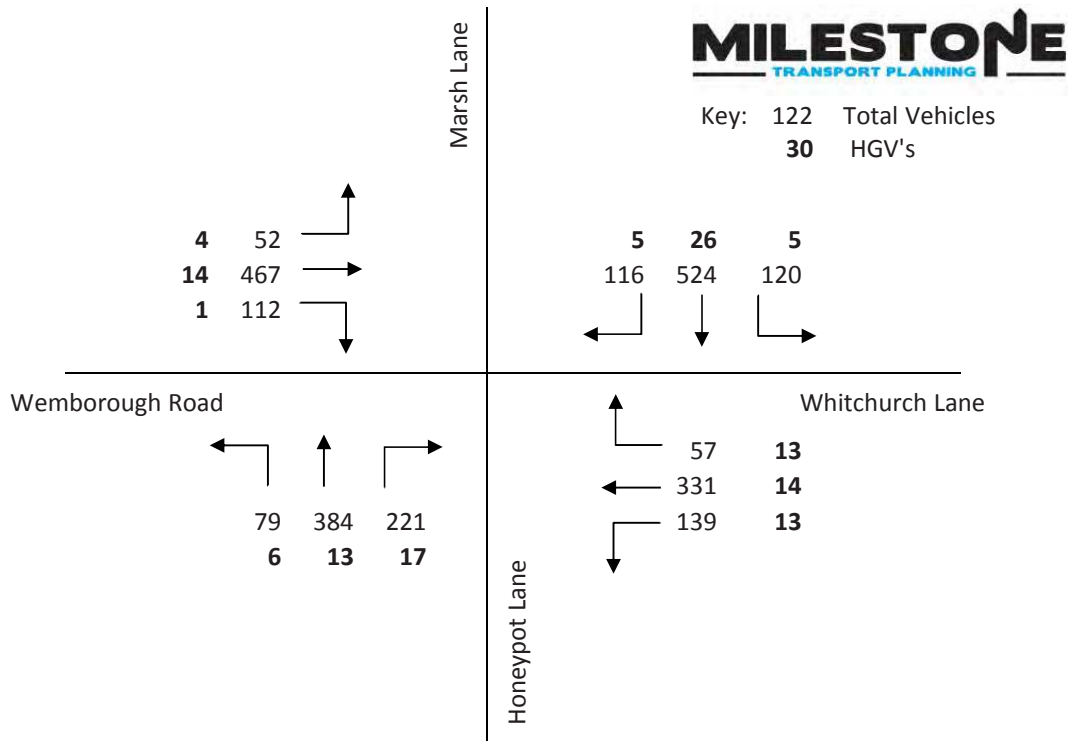


Figure 1.3 AM Peak 2020 Future Flows (x 1.0647)

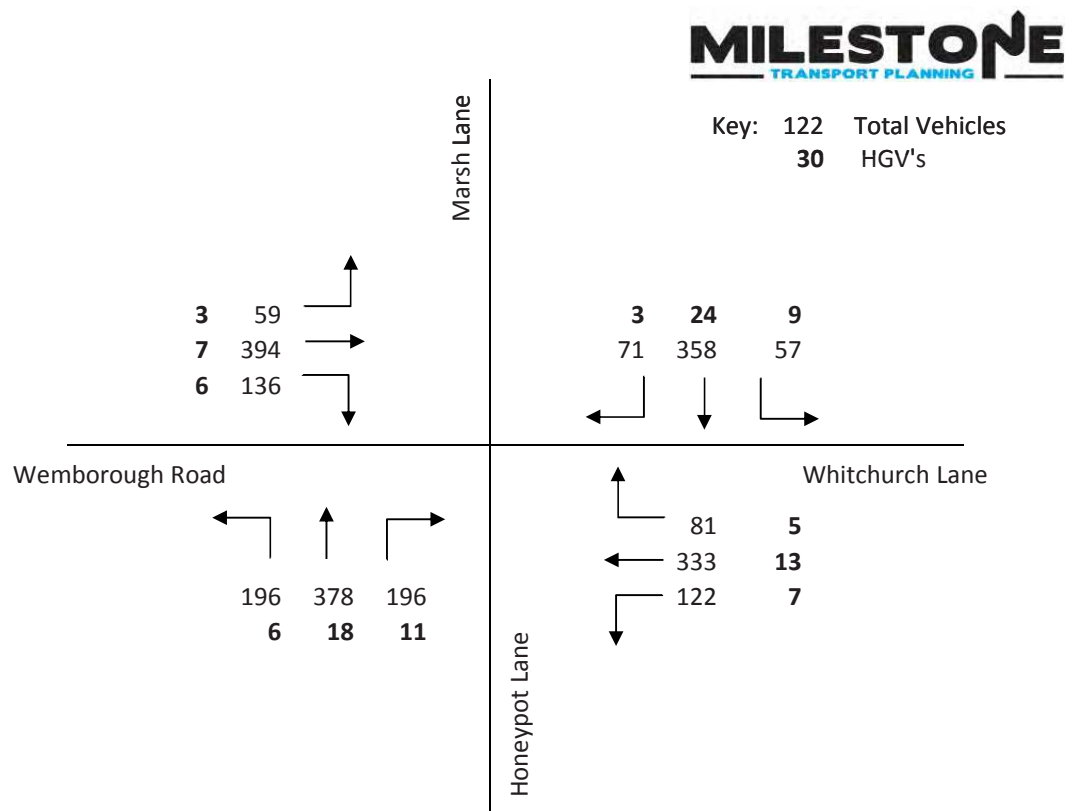


Figure 1.4 PM Peak 2020 Future Flows (x 1.0637)

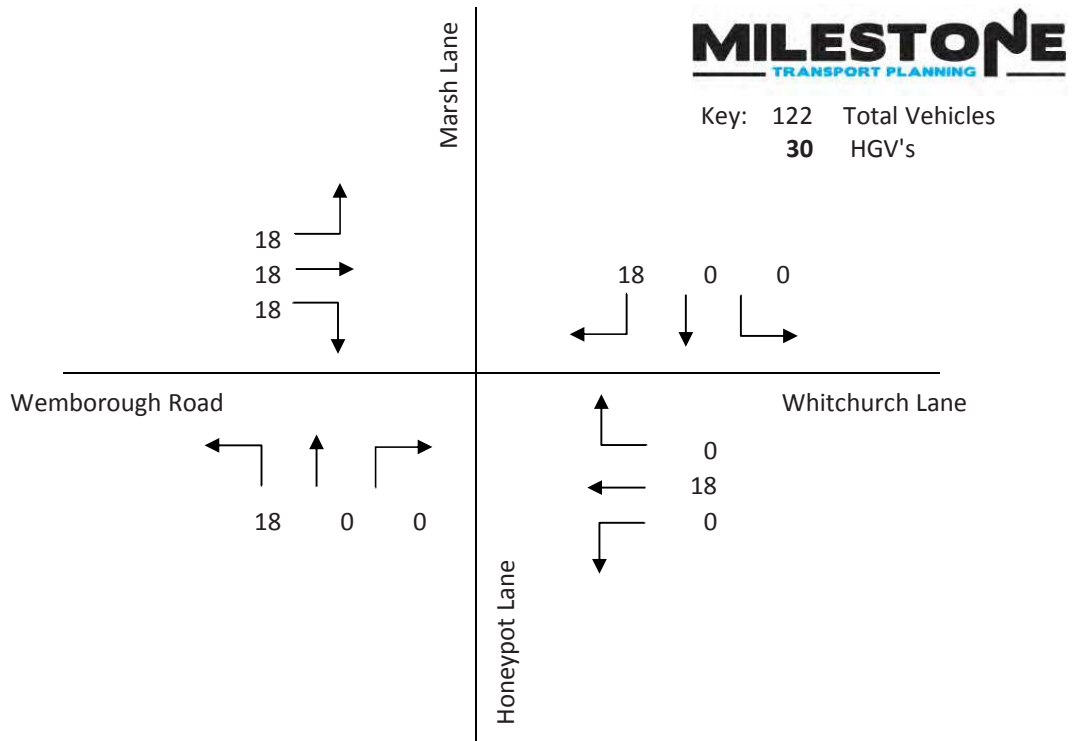


Figure 1.5 AM Peak Committed Development Flows

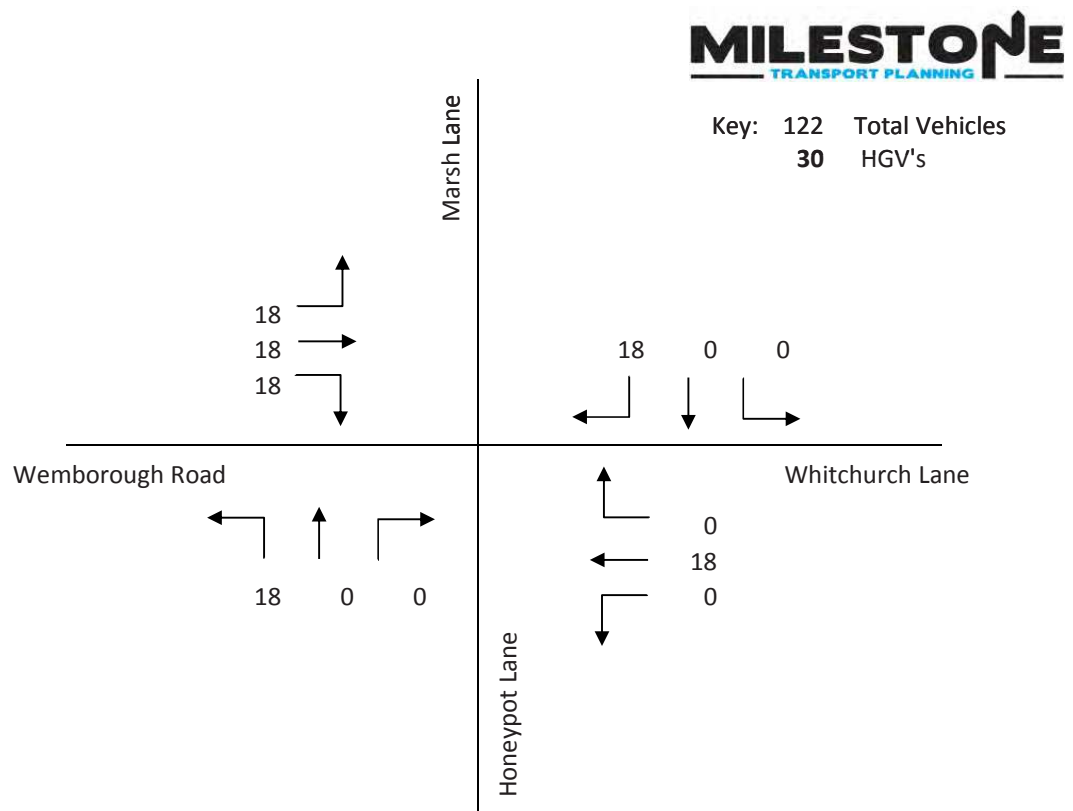


Figure 1.6 PM Peak Committed Development Flows

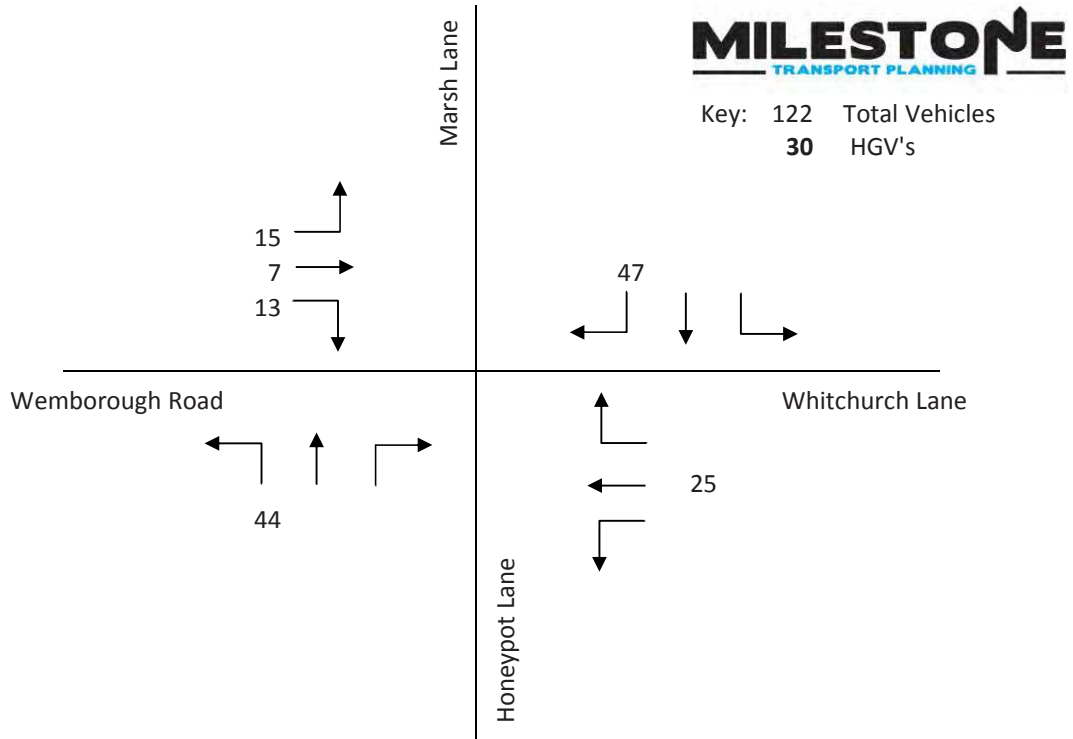


Figure 1.7 AM Peak Development Flows

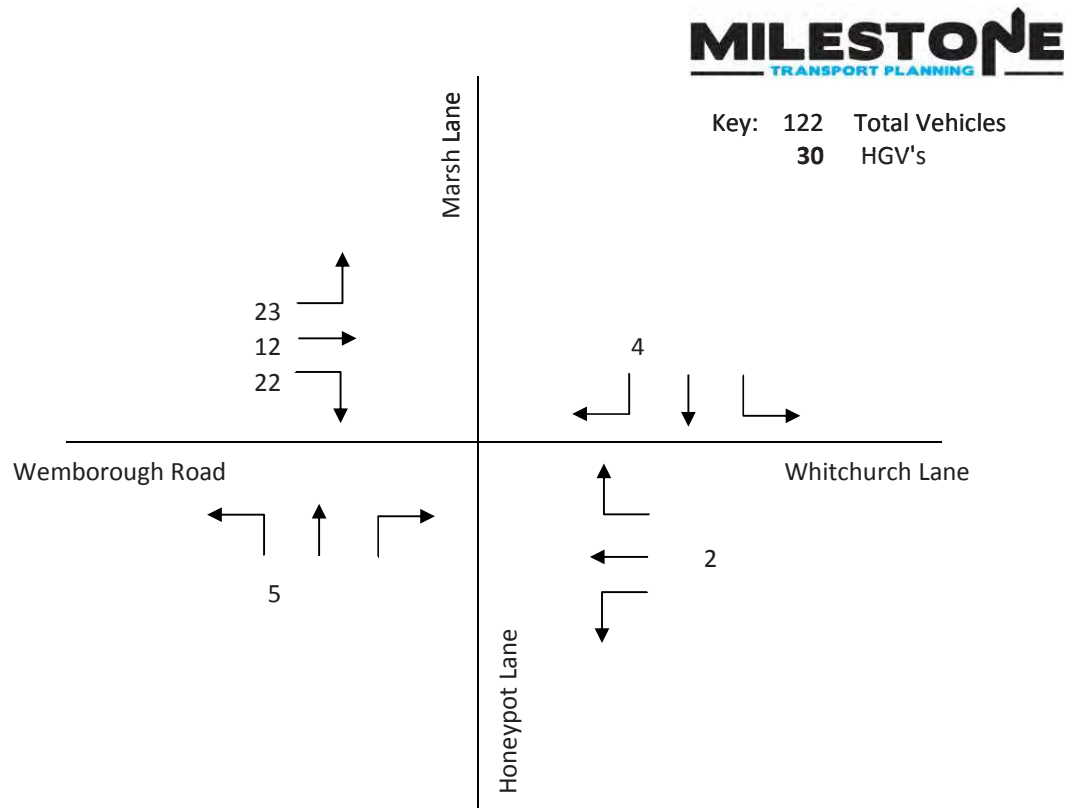


Figure 1.8 PM Peak Development Flows

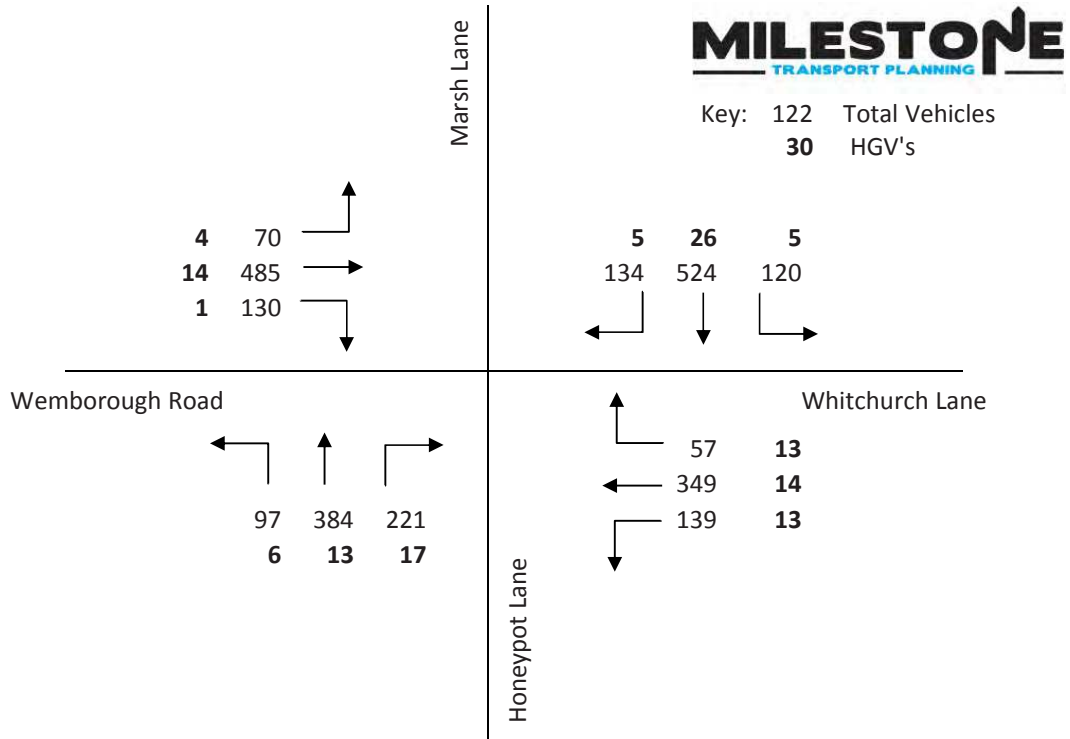


Figure 1.9 AM Peak 2020 + Committed Development Flows



Figure 1.10 PM Peak 2020 + Committed Development Flows



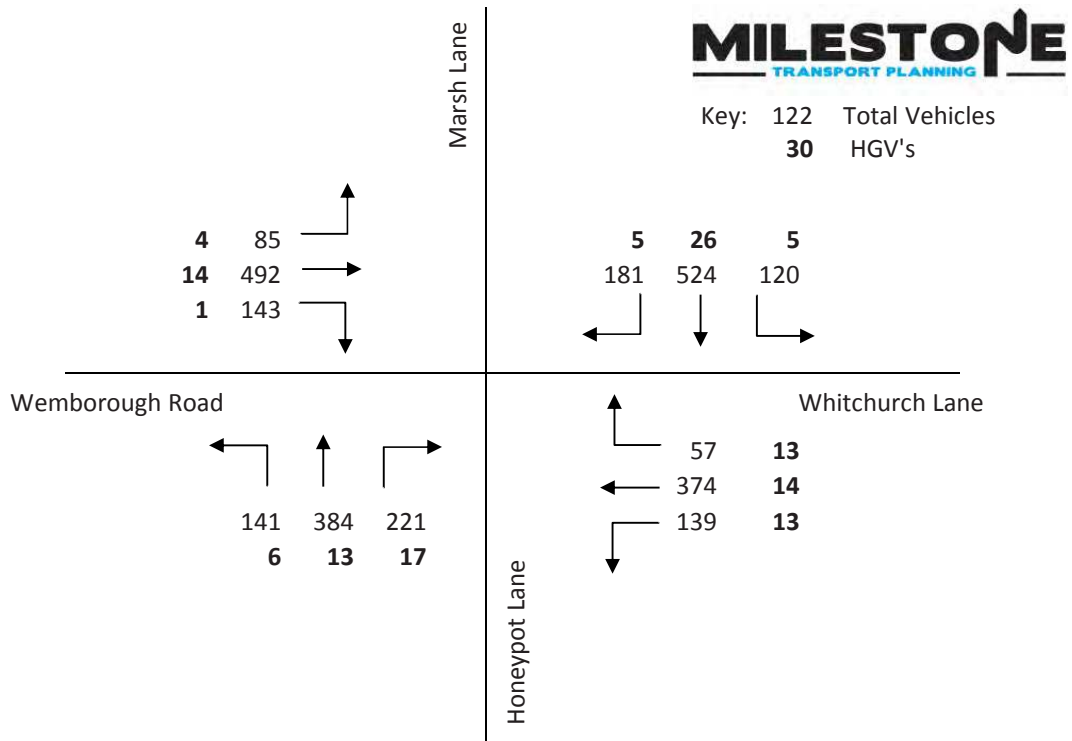


Figure 1.11 AM Peak 2020 + Committed Development + Development Flows

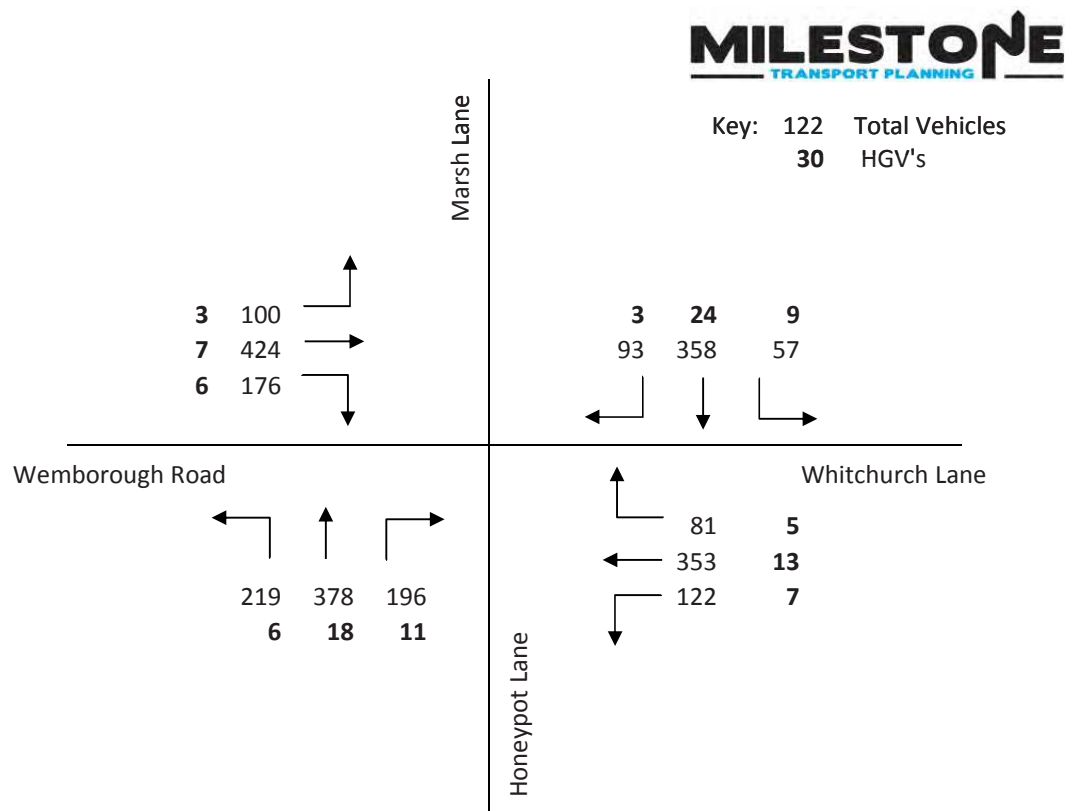


Figure 1.12 PM Peak 2020 + Committed Development + Development Flows

Key: 122 Total Vehicles  
30 HGVS

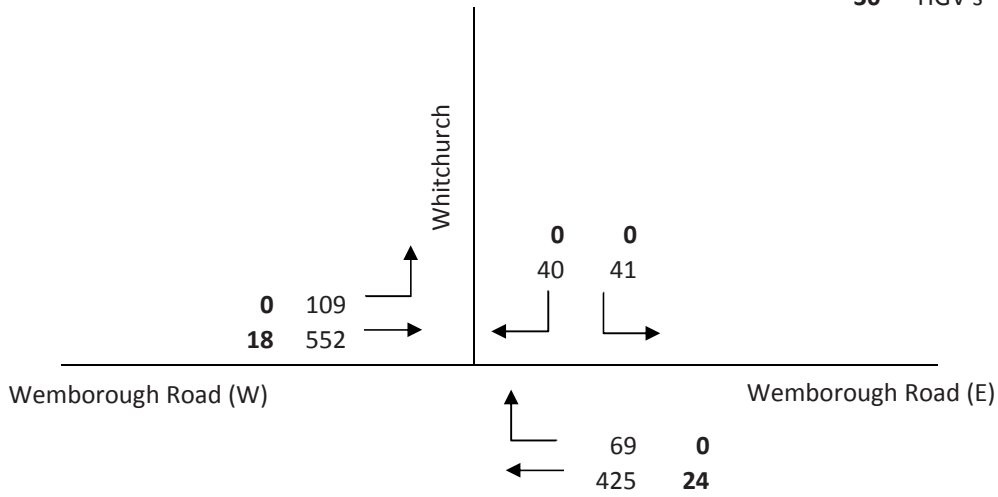


Figure 2.1 AM Peak 2014 Surveyed Flows (0745-0845)

Key: 122 Total Vehicles  
30 HGVS

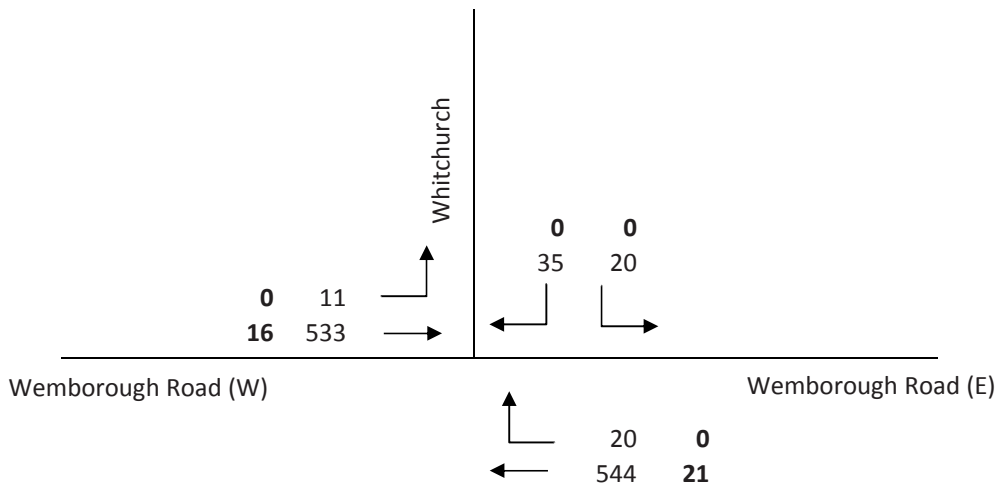


Figure 2.2 PM Peak 2014 Surveyed Flows (1615-1715)

Key: 122 Total Vehicles  
30 HGV's

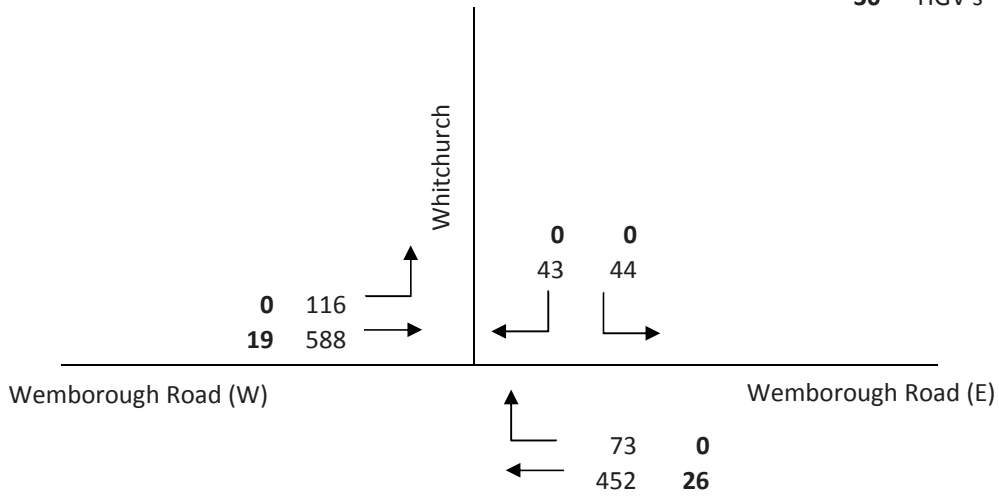


Figure 2.3 AM Peak 2020 Future Flows (x 1.0647)

Key: 122 Total Vehicles  
30 HGV's

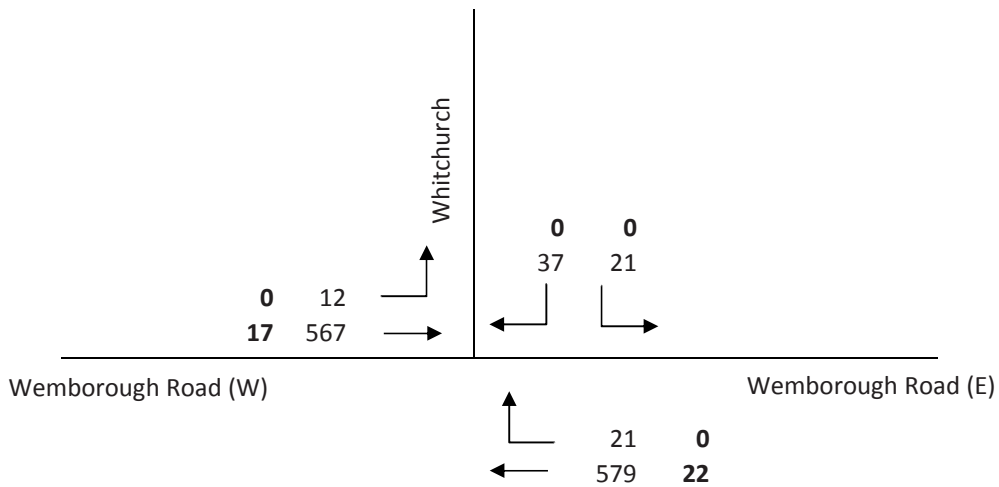


Figure 2.4 PM Peak 2020 Future Flows (x 1.0637)

Key: 122 Total Vehicles  
30 HGV's

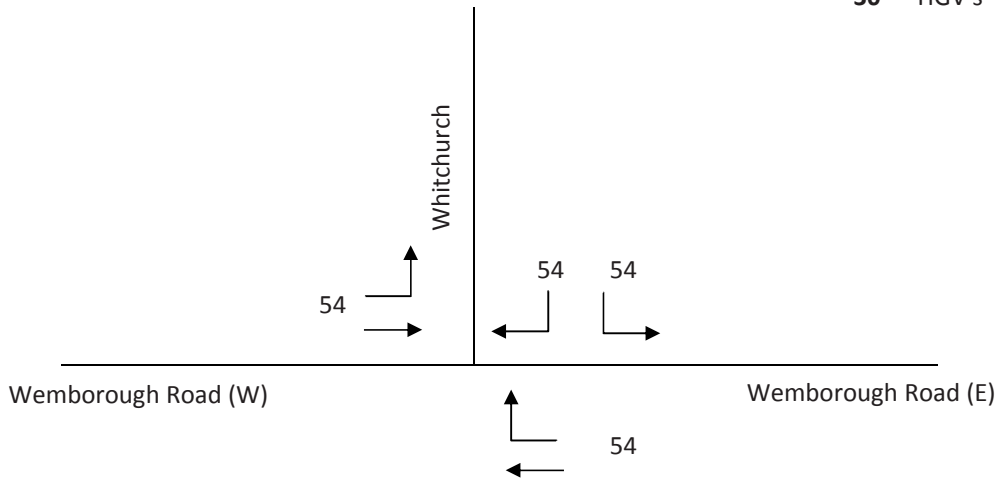


Figure 2.5 AM Peak Committed Development Flows

Key: 122 Total Vehicles  
30 HGV's

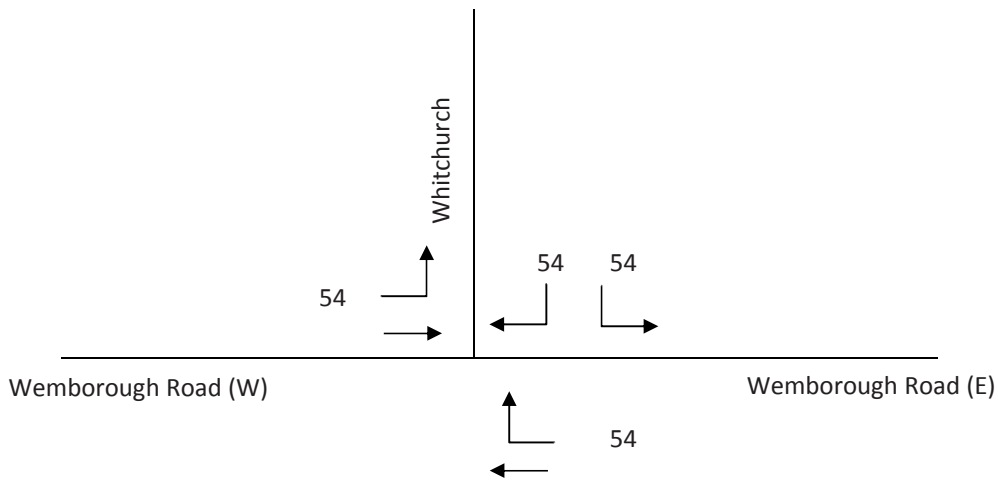


Figure 2.6 PM Peak Committed Development Flows

Key: 122 Total Vehicles  
30 HGV's

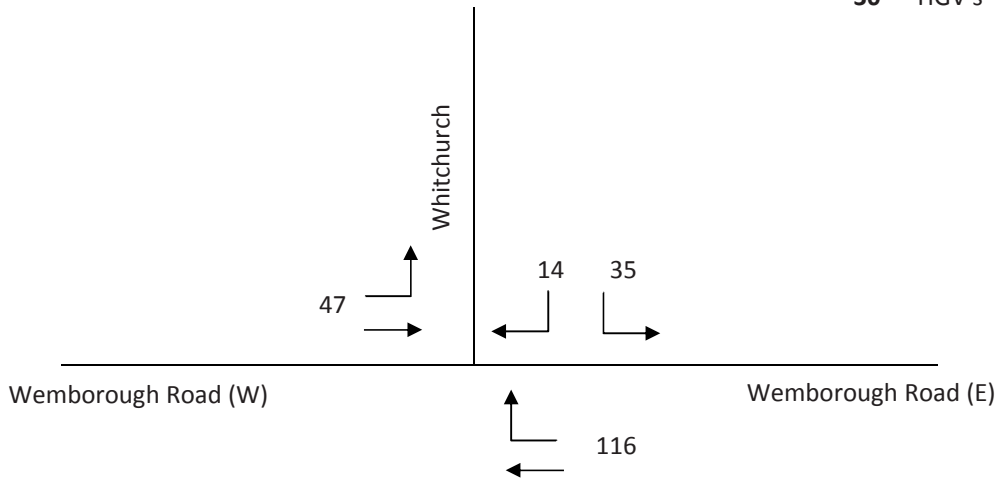


Figure 2.7 AM Peak Development Flows

Key: 122 Total Vehicles  
30 HGV's

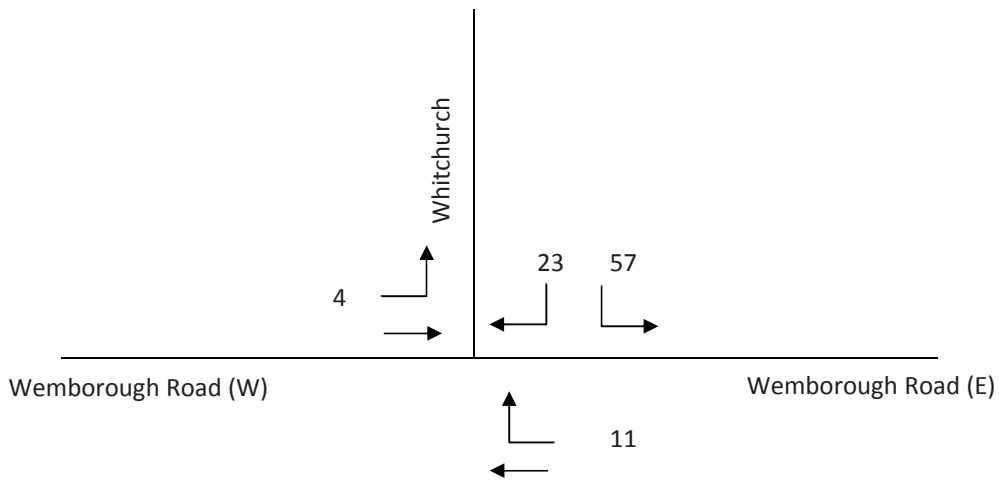


Figure 2.8 PM Peak Development Flows

Key: 122 Total Vehicles  
30 HGV's

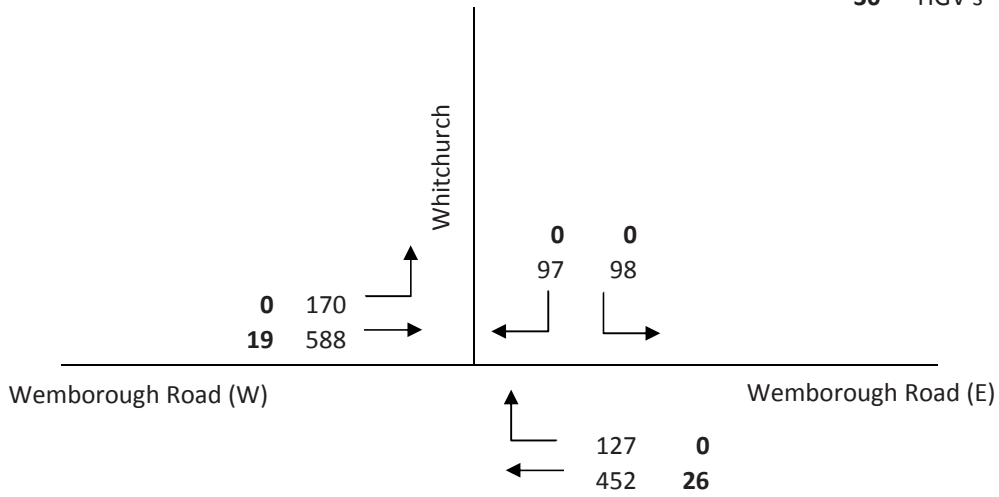


Figure 2.9 AM Peak 2020 + Committed Development Flows

Key: 122 Total Vehicles  
30 HGV's

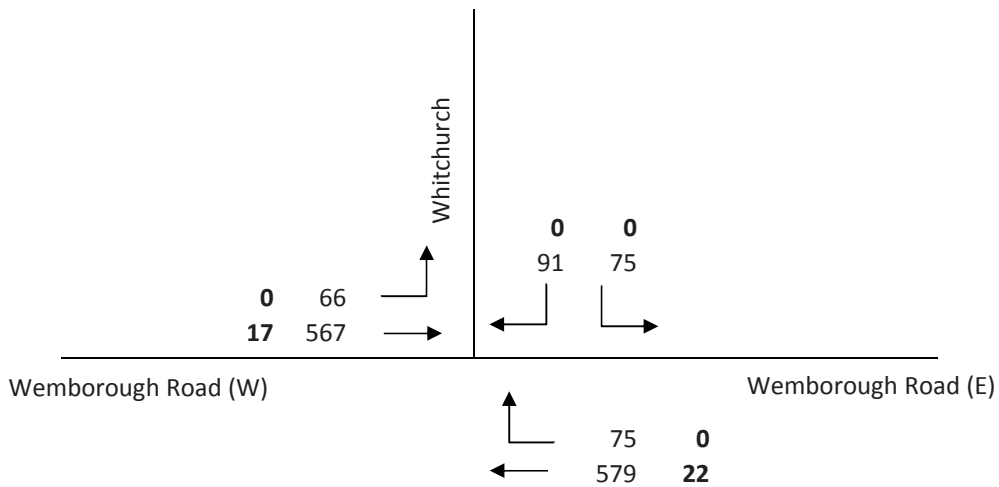


Figure 2.10 PM Peak 2020 + Committed Development Flows

Key: 122 Total Vehicles  
30 HGV's

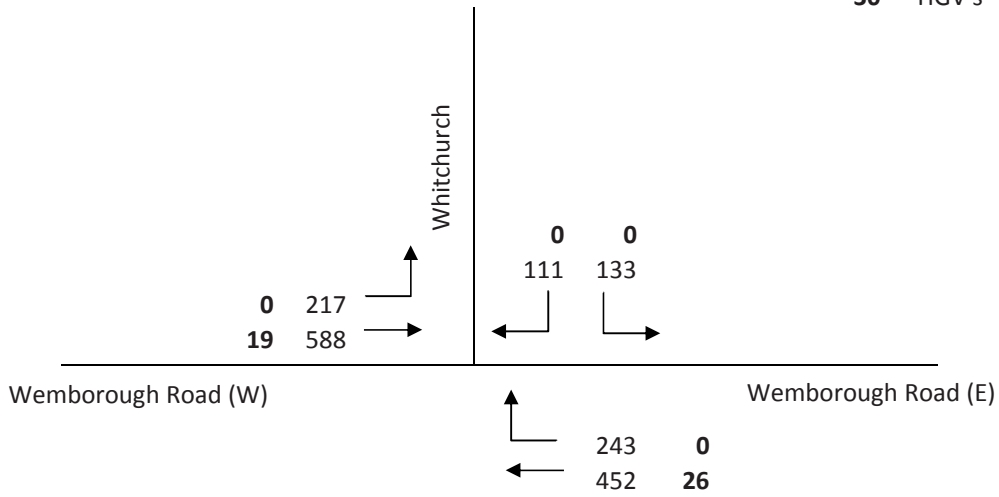


Figure 2.11 AM Peak 2020 + Committed Development + Development Flows

Key: 122 Total Vehicles  
30 HGV's

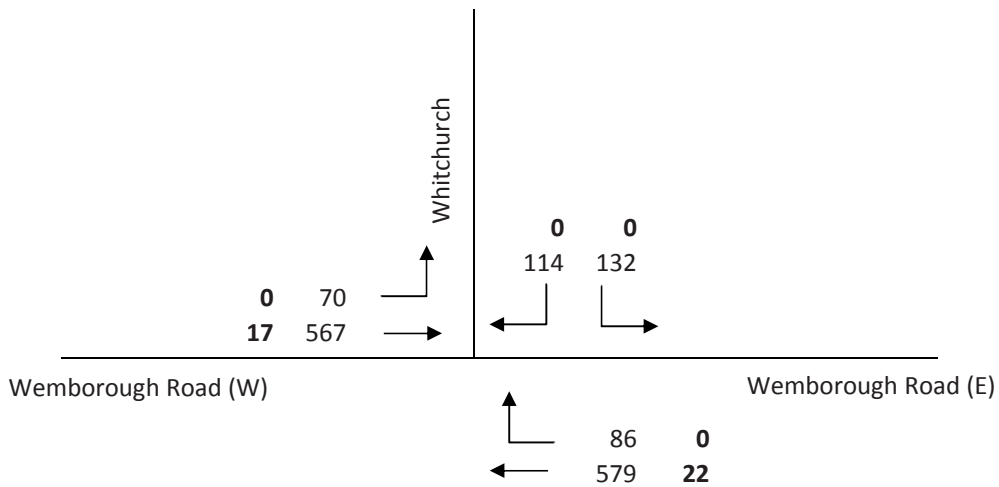


Figure 2.12 PM Peak 2020 + Committed Development + Development Flows

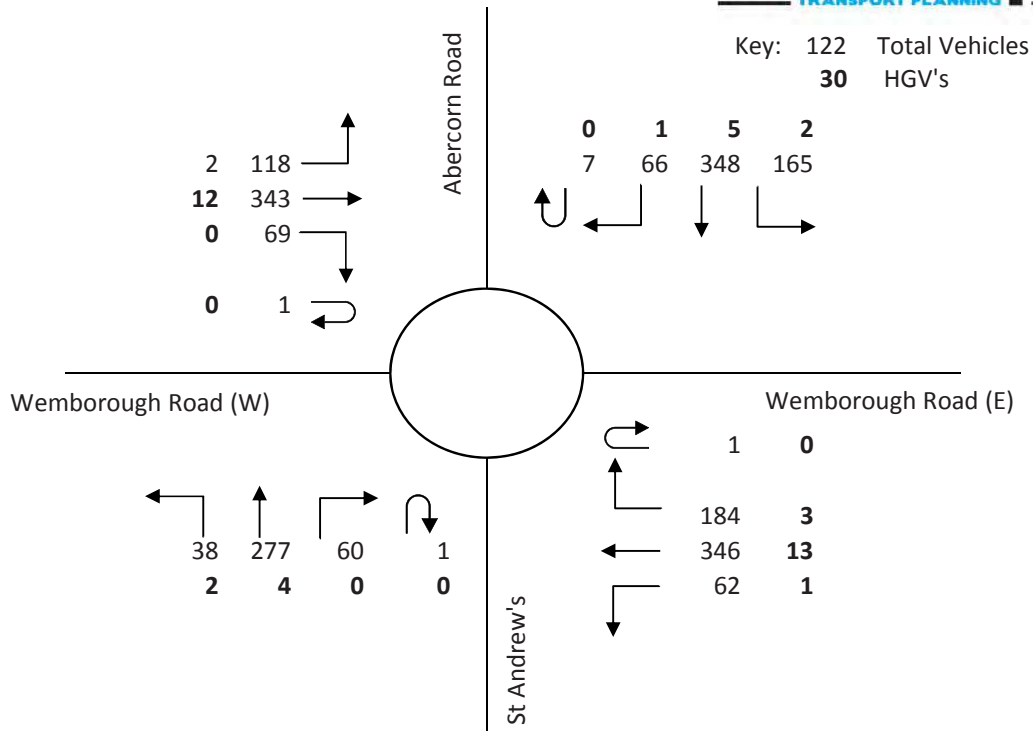


Figure 3.1 AM Peak 2014 Surveyed Flows (0745-0845)

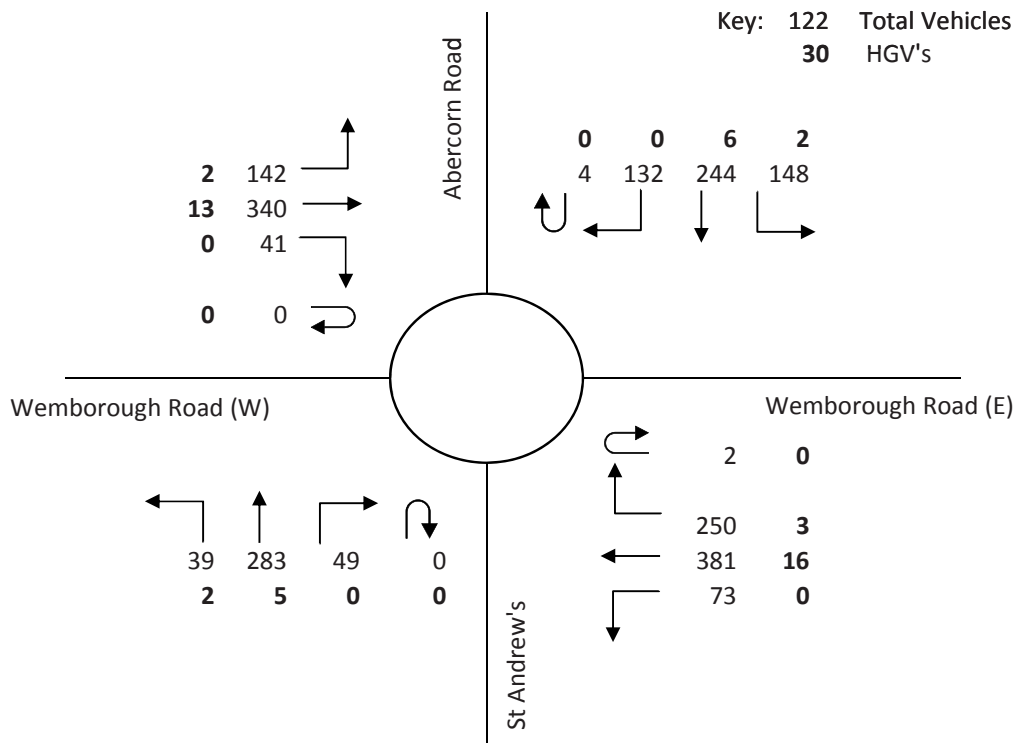


Figure 3.2 PM Peak 2014 Surveyed Flows (1615-1715)



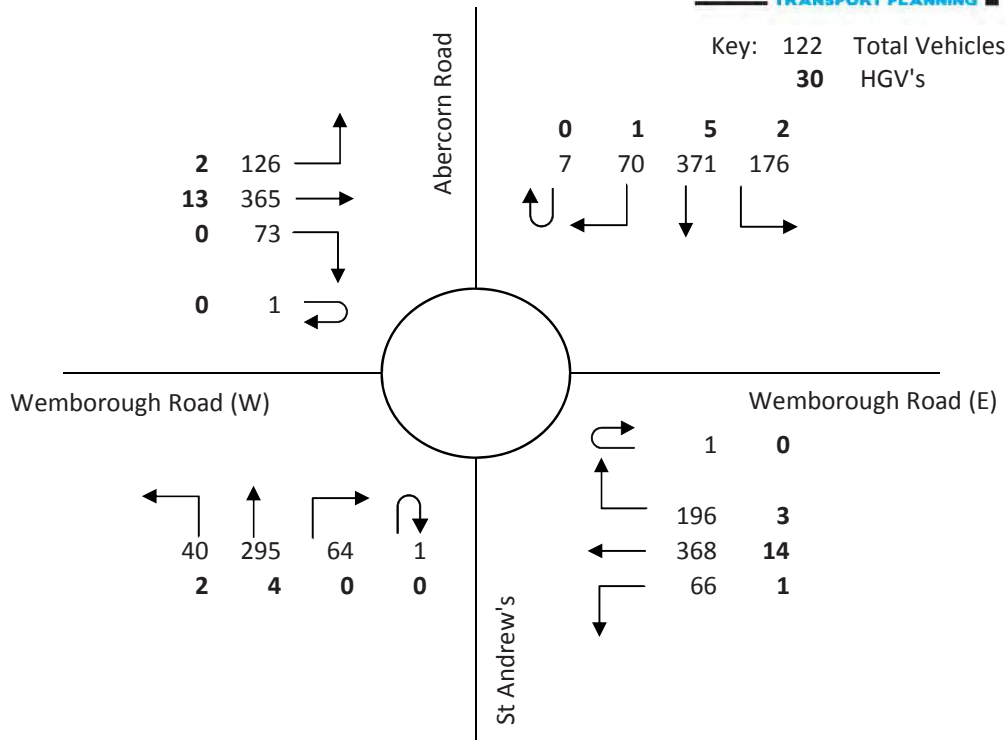


Figure 3.3 AM Peak 2020 Future Flows (x 1.0647)

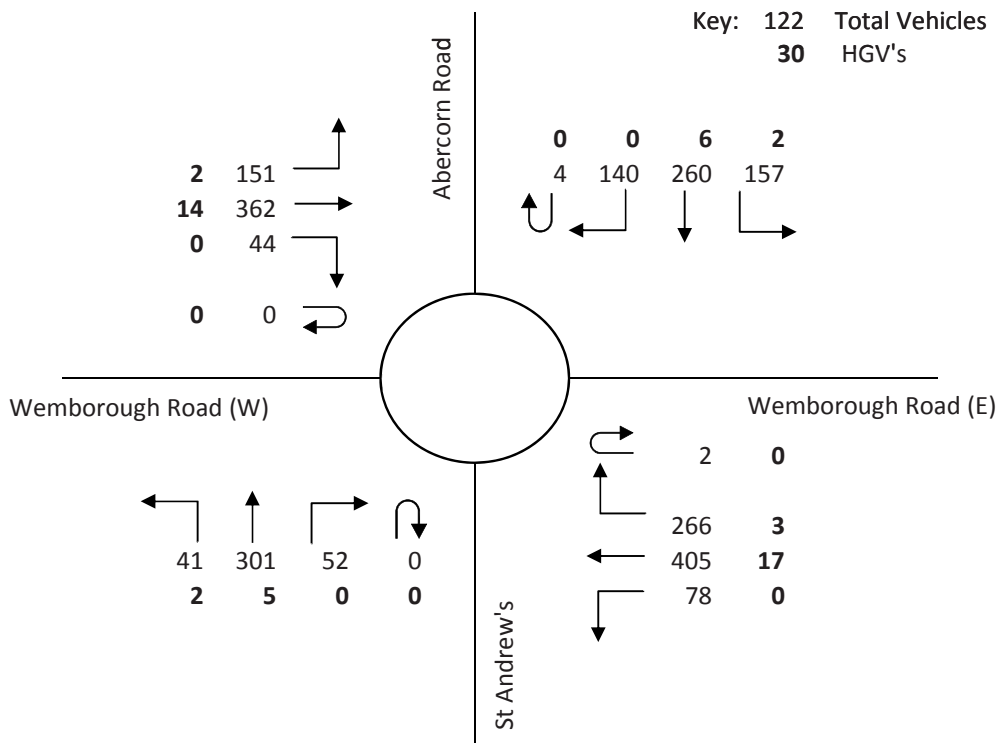


Figure 3.4 PM Peak 2020 Future Flows (x 1.0637)

Key: 122 Total Vehicles  
30 HGV's

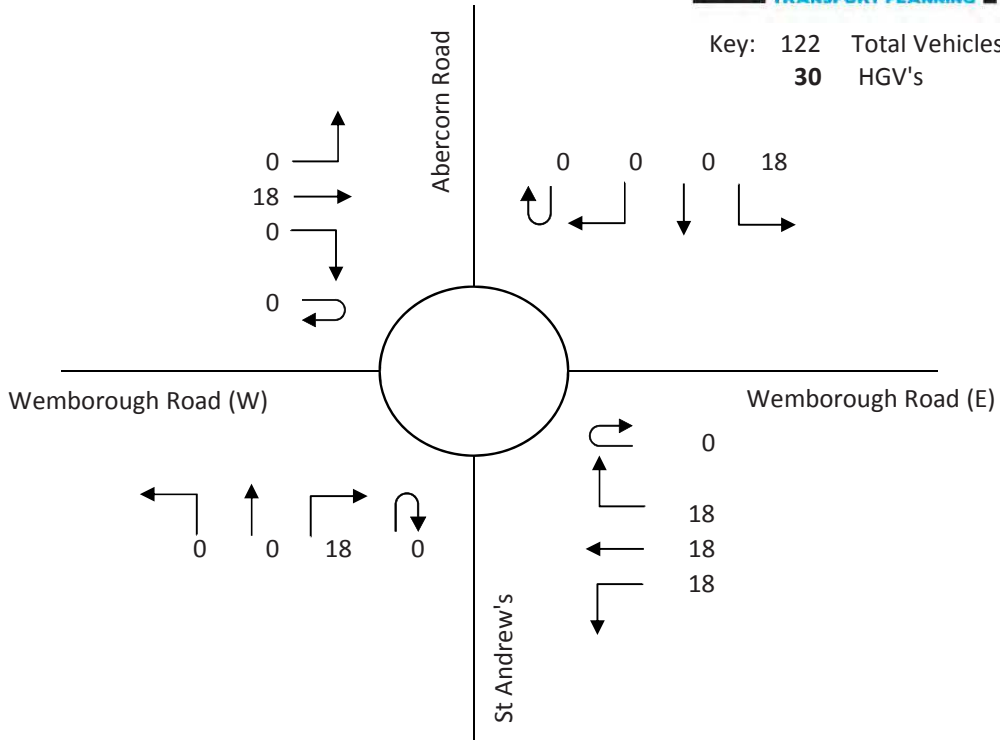


Figure 3.5 AM Peak Committed Development Flows

Key: 122 Total Vehicles  
30 HGV's

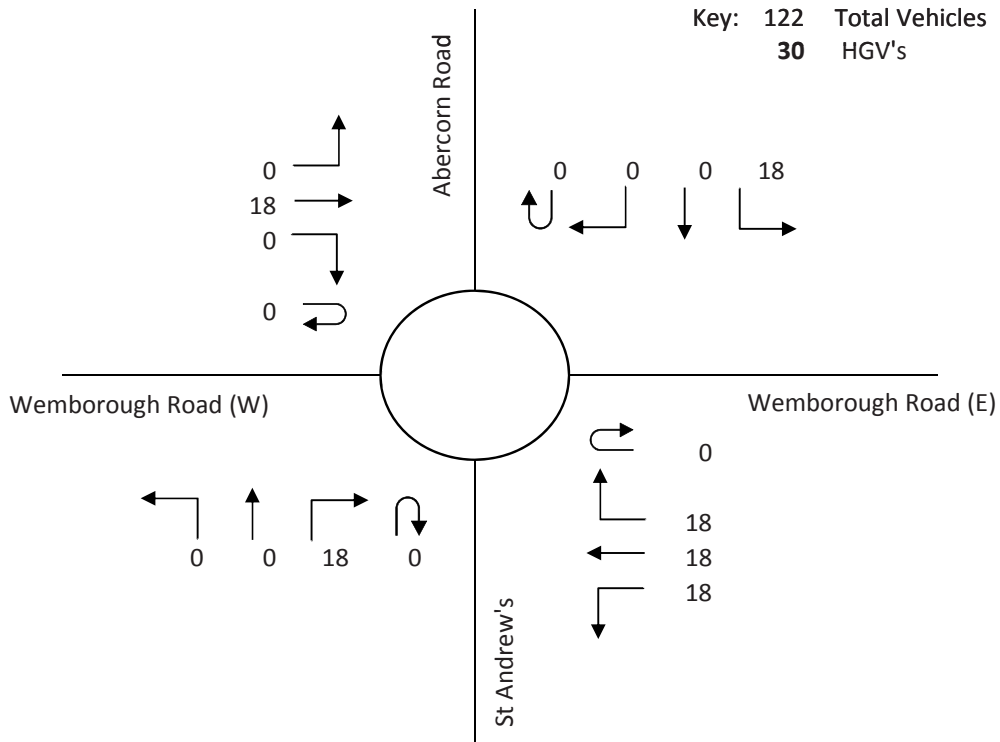


Figure 3.6 PM Peak Committed Development Flows

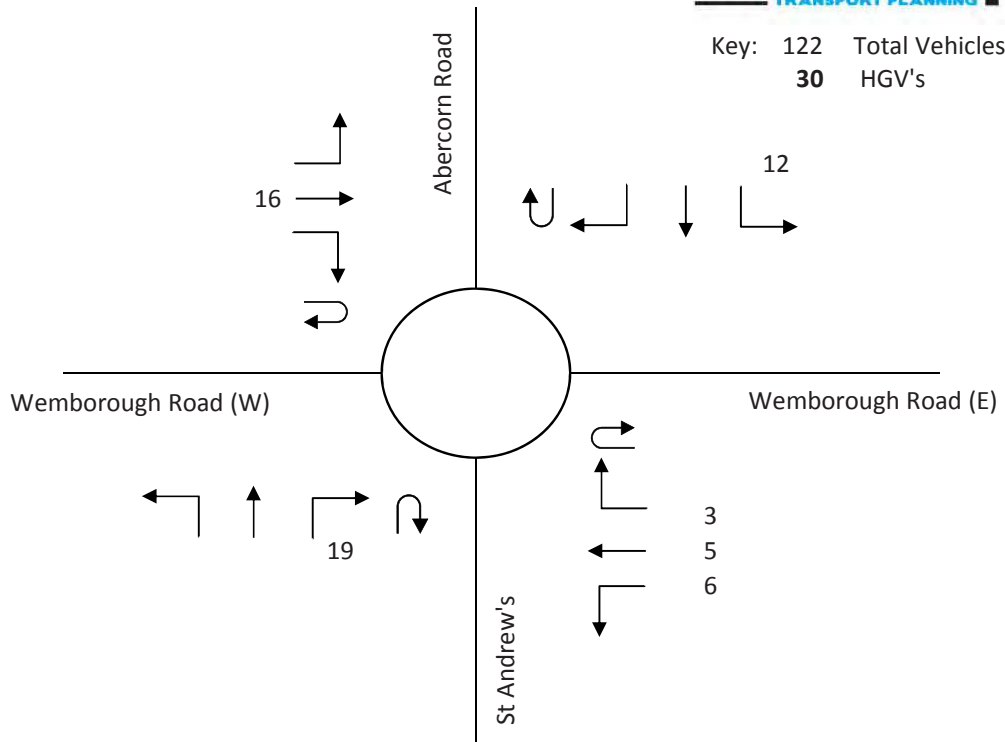


Figure 3.7 AM Peak Development Flows

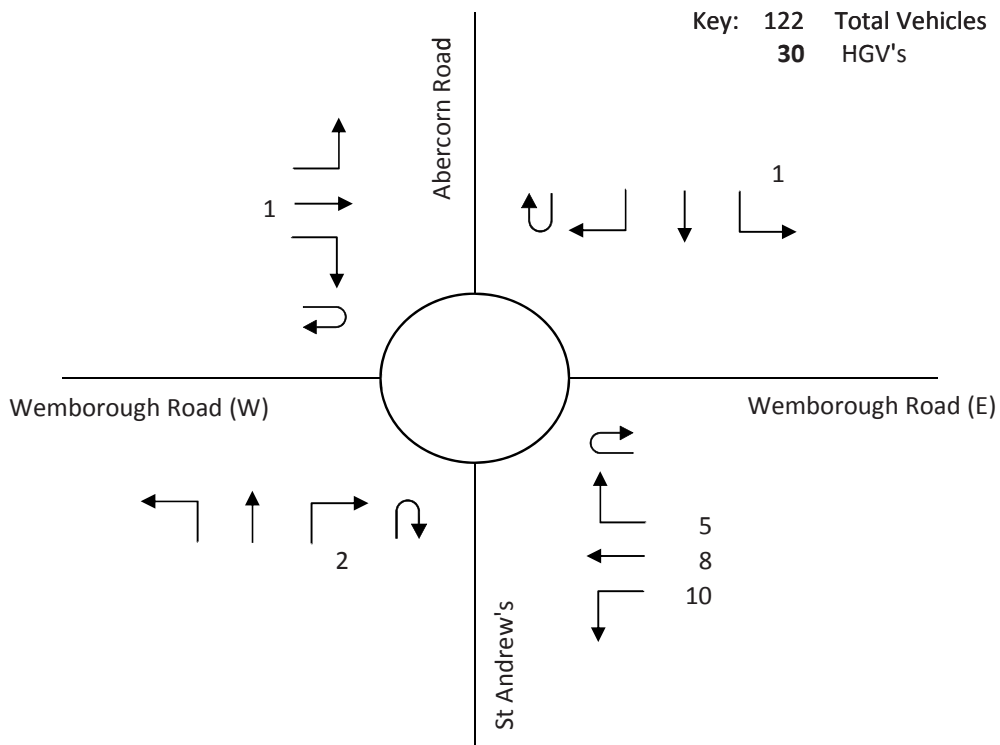


Figure 3.8 PM Peak Development Flows

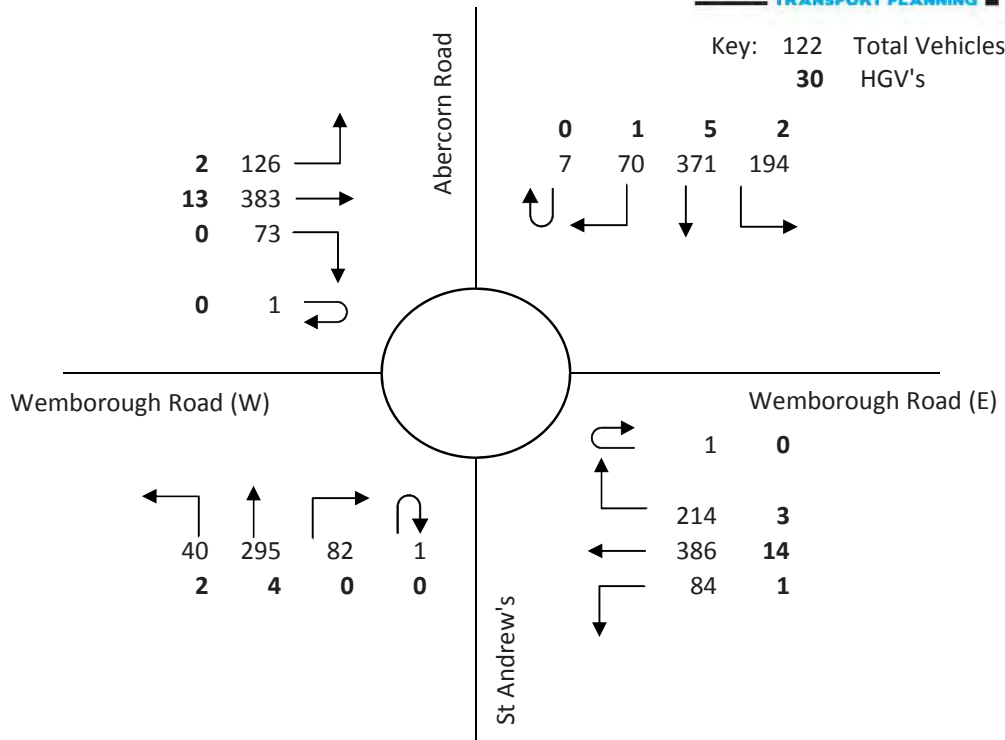


Figure 3.9 AM Peak 2020 + Committed Development Flows

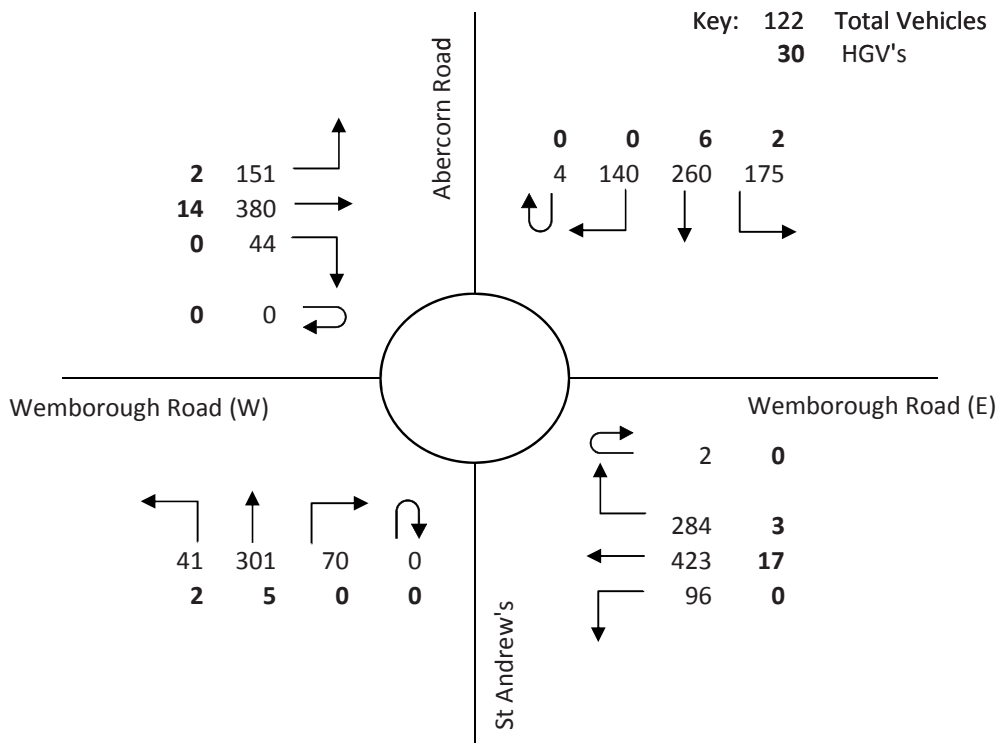


Figure 3.10 PM Peak 2020 + Committed Development Flows

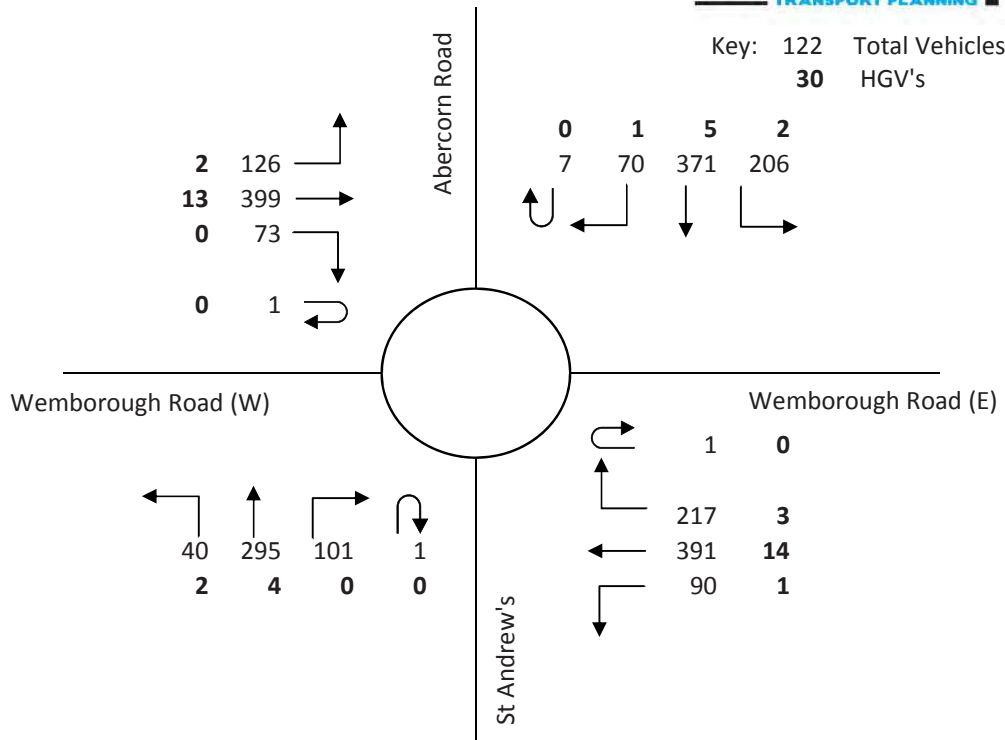


Figure 3.11 AM Peak 2020 + Committed Development + Development Flows

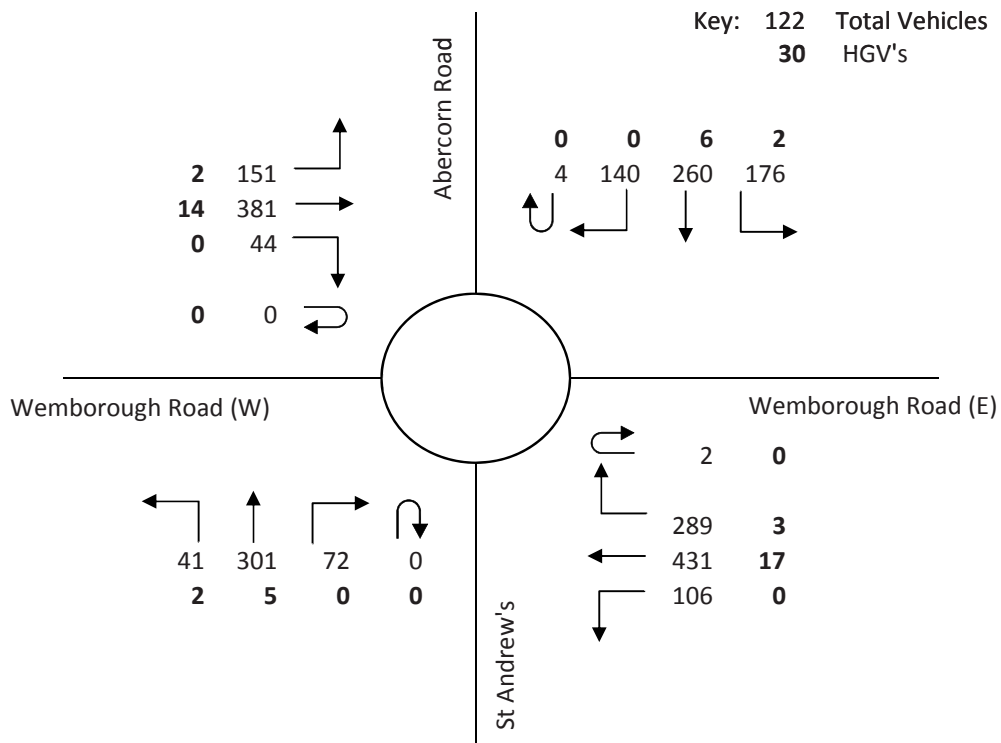


Figure 3.12 PM Peak 2020 + Committed Development + Development Flows

## **APPENDIX 1**

<b>Project:</b>	Avanti House School, Whitchurch Playing Fields	
<b>File Ref:</b>	14-042	
<b>Meeting Date:</b>	13 <sup>th</sup> January 2015 11:00hrs	
<b>Venue:</b>	Harrow Council Offices	
<b>Present:</b>	David Eaglesham	Harrow Council Highways (HCH)
	Barry Phillips	Harrow Council Highways (HCH)
	Toby Gosden	Milestone Transport Planning (MTP)
<b>Apologies</b>		
<b>Circulation:</b>	Harrow Council Highways; Avanti House Project Team	

### Points of discussion

#### Trip Generation & Modal Split

1. Method of trip generation was discussed, and considering that the school is not currently operational at the site MTP proposed using the TRICS database as opposed to 'first principles' data – HCH agreed that providing comparable TRICS sites were identified this would be acceptable.
2. HCH noted that if the dominant transport mode is by foot, evidence will need to be provided in the form of catchment information to demonstrate that this proportion could reasonably travel to school on foot within a 15 min walk time.
3. MTP advised that at full capacity there is scope to provide a school bus service – HCH agreed that this could be incorporated into the projected trip generation / modal split data.

#### Impact of Development Related Trip Generation

4. MTP outlined that junction turning counts have been undertaken at the school access and the roundabout / signal junctions to the west and east. HCH agreed that this scope of junction assessment was appropriate.
5. MTP outlined proposals to test junction operation under 2020 future traffic year conditions incorporating 'committed' traffic from the expansion of the Whitchurch First and Junior Schools. HCH agreed with this approach.

### Action

MTP to analyse catchment data to confirm mode splits

MTP to discuss bus service with EFA / Avanti

6. Distribution of school-related traffic was discussed. HCH proposed that turning proportions should be derived on the basis of postcode data for the Whitchurch First and Junior Schools, which could be obtained from Funmi Atolagbe (Harrow Council School Travel Plan Officer). MTP agreed with this approach.

MTP to obtain postcode data from Funmi and develop distribution model

Vehicular Access

7. MTP outlined the general principle that parents should not enter the school and the vehicular access and circulation within the site is for use by staff, delivery / servicing vehicles and school buses.
8. MTP raised the question of ownership over the car park, through which access will be required between the school and Wemborough Road. Details were provided of a contact in Corporate Estates (Phil Loveland-Cooper) who would be able to confirm ownership of the car park, rights of access and any scope to modify car park arrangements to allow access to the proposed school.

MTP / B&K to investigate ownership / rights of access

Pedestrian Access

9. As noted at the Pre-App meeting on 19/12/14 pedestrian access will be limited to the main entrance off Wemborough Road. HCH consider than any additional pedestrian access points would encourage parents to set-down / pick-up on the public highway resulting in highway safety concerns / congestion.

Highway Safety

10. Highway safety records have already been obtained from Transport for London for a 5 year period, HCH confirmed that this would need to be analysed within the Transport Assessment submission.

Parking

11. MTP set out proposals to provide 92 on-site car parking spaces, which is considered appropriate to accommodate school staff parking demand and any 'out of hours' leisure use on site. HCH noted that further clarification will be required on leisure uses on site, to confirm the associated level of traffic / parking demand generation.
12. HCH stated that they would rather vehicular set-down / pick-up trips (where necessary) were undertaken off the public highway and within the car park to the south of the school –it was suggested that a parking survey be undertaken to confirm current levels of use over proposed Avanti School set-down / pick-up periods. Parking demand within the car park should then be analysed to determine spare capacity and whether Avanti demand can be accommodated.

MTP to confirm intensity of leisure uses

MTP to instruct parking survey



- 
13. In respect of cycle parking HCH stated that they require cycle parking to the adopted London Plan standards (2011).

Deliveries / Servicing and Construction

14. HCH confirmed that they will require swept path analysis within the TA submission to demonstrate that the largest delivery / servicing and construction vehicles are able to access, turn within the site and exit in forward gear.

Mitigation and Travel Plan

15. HCH stated that there was limited scope for physical improvements to the local highway / transport networks, and mitigation should be targeted principally through the development of a robust Travel Plan.
16. MTP outlined initiatives to be developed within the School Travel Plan – including staggered start / finish times by key stage to avoid existing peak periods of congestion on the local highway network and existing set-down / pick-up periods for the neighbouring school.
17. Further initiatives that will form part of the Travel Plan will include cycle / scooter training, road safety seminars, setting up a school car-share scheme, provision of a dedicated school bus and use of public transport for school trips wherever possible.
18. HCH confirmed that any initiatives that promote travel by sustainable modes and reduce / dissipate the impact of vehicle trips would be welcomed. HCH suggested that subject to agreement with the Corporate Estates team, the implementation of a traffic marshalling system through the car park to the south of the school could aid traffic flow and allow for a smoother set-down / pick-up period.
19. It was noted that single yellow line parking restrictions are to be implemented on Wemborough Road in April 2015, over weekday periods 2-3pm. These restrictions aim to prevent commuters for parking over a daily period; however HCH noted that the proposed restriction would allow parents to park on Wemborough Road during set-down / pick-up periods. HCH want to actively discourage this practice and it was suggested that parents should be discouraged from parking on Wemborough Road through the School Travel Plan.

MTP to prepare tracking plans for TA submission

MTP / Avanti / EFA / Funmi to meet to discuss and confirm Travel Plan initiatives (meeting 19.01.15 at Avanti House School, Common Road 08:30am)

## **APPENDIX 2**

48 The applicant should follow the energy hierarchy when considering the potential for CHP and renewable energy technologies.

49 If solar technologies are proposed, a plan showing the proposed location of the installation should be provided.

50 If air source heat pumps are being considered they need to be assessed against a gas baseline.

51 If considering biomass the applicant would need to provide an air quality assessment and ensure the system meets the minimum standards set out in the Sustainable Design & Construction SPG. Details should also be provided on how they would deal with fuel storage, delivery and the fuel supply chain.

52 Should it be demonstrated that the 35% carbon dioxide reduction target cannot be fully achieved for this particular site, the applicant should quantify the shortfall in carbon dioxide savings and liaise with the Council regarding agreeing an offset contribution.

### **Transport**

53 TfL would expect a Transport Assessment (TA) report to be undertaken in accordance with TfL's 'Transport Assessment Best Practice Guidance', available at <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>. This should consider the impact of the development on all modes of transport at both the occupation and construction phases. This will enable TfL to get a better understanding of what measures (if any) may be required to mitigate the impact of the development on the transport network. The application should also be supported by a Travel Plan and a framework Construction Logistics Plan and Delivery and Servicing Plan and to this end it is welcomed that the council will require the school to be STARS (Sustainable Travel: Active, Responsible, Safe) accredited. TfL also operates its own pre-application service through which more detailed transport comments can be provided.

54 As part of a previous government spending review, money has been made available to TfL to mitigate the impact of free schools on bus services in the city. As such, it is not anticipated that TfL will require any funding for bus capacity enhancement to be secured through a Section 106 agreement. Nevertheless, in order to properly plan the bus network and to provide the best level of service for the school it will be necessary to understand both trip generation and the distribution of trips based on the school's likely catchment area. Currently it is not felt that the use of the TRICS database (including surveys of schools outside of London where free bus travel isn't available) reflects the likely trip characteristics of a faith school, which often have larger catchment areas and as a result lower levels of walking. However, the proposals to stagger start and finish times to minimise transport impact are welcomed.

55 It is also of some concern that the closest bus stops to the proposed school entrance are on Whitchurch Lane, requiring students to cross Marsh Lane. A signalised crossing is only provided on the southern side of the junction, which appears to have a poor accident record and a high proportion of collisions involving pedestrians. Although it is acknowledged that the introduction of controlled crossing facilities at the junction may have implications for general traffic, TfL feel that any application must consider such changes in order to allow a balanced decision to be made. Should the introduction of controlled crossing facilities not prove possible, consideration could be given to other measures such as the relocation of bus stops. Given that there will only be a single point of pedestrian access, shared with the adjacent First and Middle schools, evidence should also be provided that pedestrian routes are sufficiently wide to accommodate anticipated flows.

56 92 car parking spaces are proposed. As there are no London Plan standards related to car parking for schools, it is expected that this level of provision should be justified with reference to anticipated usage, bearing in mind the overarching goal of London Plan Policy 6.13 to strike an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. TfL would expect a minimum

of 5% of the spaces to be suitable for blue badge users, and a 10% provision of Electric Vehicle Charging Points (EVCPs). The applicant should also be aware that with the adoption of the Further Alterations of the London Plan the cycle parking standards quoted within your submission have now been superseded, and a provision of long stay space per eight staff or students plus an additional short stay space for each 100 students is now required.

## **Conclusion**

57 The proposed school development could be supported provided the matters raised above, particularly the concerns raised about the loss of playing fields and open space are taken into consideration and fully addressed before the application is submitted to the local planning authority. As the design of the school is at an early stage the GLA recommends a follow up meeting to discuss this element of the scheme further.

---

For further information, contact: GLA Planning Unit (Development & Projects Team):

**Colin Wilson, Senior Manager – Planning Decisions**

020 7983 4271 email: colin.wilson@london.gov.uk

**Samantha Wells, Principal Strategic Planner**

020 7983 4266 email: samantha.wells@london.gov.uk

**Tefera Tibebe, Case Officer**

020 7983 4312 email: tefera.tibebe@london.gov.uk

---

## GLA Follow-Up Pre-Application Meeting Feedback 31.06.15

### Transport

1. The proposed site is situated adjacent to the junction of Marsh Lane/ Honey Pot Lane/ Whitchurch Lane/ Wemborough Road; while this is part of the borough highway network, TfL understands it is very busy and congested during the peak hours.
2. As the school is likely to generate significant additional vehicular traffic, pedestrians trips as well as public transport trips, a full transport assessment with full trip generation and mode share assessment should be submitted to support the application. This needs to be done fully in accordance with the current TfL's Transport Assessment Best Practice Guidance. Junction capacity modelling shall also be undertaken for junctions in the vicinity, and should be done in accordance with TfL's modelling guidance.
3. TfL understands that the proposed school is a free school, therefore TfL will not seek additional financial contribution toward bus capacity. However, if this is no longer the case, TfL may seek contribution if it is deemed necessary.
4. It is proposed that 92 car parking spaces will be provided, justified based on a minimum requirement of 75 spaces, plus 10 electric vehicle charging spaces (EVCP) and 6 disabled spaces. TfL stresses that EVCP and Disabled Parking spaces should be considered as part of the overall number of parking spaces, not as additional elements of the overall parking provision. On the basis of this, TfL considers that 92 spaces would be excessive and should be moderately reduced.
5. TfL supports that access for the site will be from Wemborough Road, it recommends that cycle and pedestrians access should be separated from general vehicular access for safety reasons. All proposed/ modified vehicular access must be Stage 1 Road Safety Audited upon submission of the planning application.
6. There is no controlled crossing point on the north side of the Marsh Lane/ Honey Pot Lane/ Whitchurch Lane/ Wemborough Road junction, which is considered inadequate for large number of pupils undertaking West – East crossing movements before the school starting time in the morning and finishing in afternoon. TfL requests that the applicant to develop a robust solution to improve pedestrian facilities at the junction to enable safe and convenient movements between bus stops/ Cannons Park tube station and the school.
7. A full PERS and CERS audit is required to identify walking and cycle improvement needs in the vicinity of the site; Harrow Council should secure appropriate contribution towards the required improvements.
8. A school travel plan accredited by the STAR scheme would be required, this should be secured by appropriate condition/obligation.
9. A delivery & servicing plan (DSP) is required, and this should be secured by condition.
10. A construction management plan (CMP) and construction logistics plan (CLP), to be produced in accordance with TfL's CLP guidance and submitted accompanying the planning application and should be secured by conditions.


## **APPENDIX 3**

**PROPOSED SINGLE YELLOW LINES OPERATIONAL  
MONDAY TO FRIDAY, 2-3PM**

**PROPOSED DUAL USE PERMIT HOLDER AND  
PAY & DISPLAY BAYS OPERATIONAL MONDAY  
TO FRIDAY, 8AM-6:30PM WITH A MAXIMUM  
STAY OF 2 HOURS FOR PAY & DISPLAY**

**PROPOSED SINGLE YELLOW LINES OPERATIONAL  
MONDAY TO FRIDAY, 2-3PM**

**NOTES:**

 **JOINT PERMIT HOLDER AND  
PAY & DISPLAY BAYS  
(MAX STAY 2HRS)**

This map is reproduced from or based upon every material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office (c) Crown copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. London Borough of Harrow 100019206.



**ENVIRONMENT & ENTERPRISE**  
TRANSPORTATION  
P.O. Box 39, Civic Centre,  
Harrow, Middlesex. HA1 2XA  
Tel: 020 8863 5611  
Fax: 020 8420 9611

---	-----	---/---	---
Designation	Details of Revision	Date	Sign

**Project**  
**Canons Park Area  
Follow Up Parking Review**

**Title**  
**AREA 4**

Scale NTS @ A3	Drawn EH	Checked ---
	Date 07/2014	

**Drawing no**  
T/DWG/000729

**Autocad file**  
O:\TRAFF\Proj\TPR0050HARCPZ CP\Parking Review 2\Drawings

**ApX 1111**

## **APPENDIX 4**





**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

**Summary of Accidents Selected**

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
.001 GIS AREA Wemborough area (P)	60 MTS TO NOV-2013	48

*The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation*

113


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

1	0108QA10450	MON 15/12/08 16:20	DARK	WHITCHURCH LANE 70M W J/W LONGCROFT ROAD	29	LINK 104-108	517960 / 191200
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY NO JUN IN 20M	NO XING FACILITY IN 50M		

PED RAN INTO PATH OF V1 MASKED BY STATIONARY VEHICLE.

CASUALTY 001 (001) (12 Yrs - M HA7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS N/SIDE MSK

VEHICLE 001 (000) CAR (69 Yrs - F HA2) OVERTAKE STAT VEH O/S W TO E  
BT - NEGATIVE FRONT HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 802 (FAILED TO LOOK PROPERLY)

2	0108QA10470	SAT 20/12/08 21:50	DARK	WHITCHURCH LANE 55M W J/W DONNEFIELD AVENUE	29	LINK 104-108	518160 / 191220
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT ZEBRA			

V1 PULLED OUT INTO THE PATH OF V2

CASUALTY 001 (002) (16 Yrs - M HA2) SERIOUS DRIVER/RIDER

Sch Attended : UNKNOWN

VEHICLE 001 (002) CAR (34 Yrs - M HA7) TURNING RIGHT N TO W JCT MID  
BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) M/C 125-500CC (16 Yrs - M HA2) GOING AHEAD OTHER W TO E JCT MID  
BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

3	0108QA10469	TUE 23/12/08 17:27	DARK	WHITCHURCH LANE J/W DONNEFIELD AVENUE O/S CANONS PARK STATION	29	LINK 104-108	518200 / 191220
POLICE - AT SCENE ROAD-WET			WEATHER-OTHER	SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR			

V1 HAD GREEN LIGHT & PED DISOBEYED RED MAN ATS & RAN ACROSS ROAD PED CROSSING IN PATH V1

CASUALTY 001 (001) (25 Yrs - M CR0) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING S BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (50 Yrs - M HA8) GOING AHEAD OTHER W TO E JCT MID  
BT - NEGATIVE FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

114



Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)

.001 GIS AREA Wemborough area (P) 60 MTS TO NOV-2013 SORTED BY DATE

4 0108QA10475 SAT 27/12/08 09:30 LIGHT HONEYPOT LANE 30M NW J/W BRICK LANE 29 LINK 104-672 517790 / 191070
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
DRIVER V1 COLLIDED WITH REAR OF STAT V2

CASUALTY 001 (001) (51 Yrs - M HA9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (51 Yrs - M HA9) GOING AHEAD OTHER SE TO NW
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (? Yrs - U PARKED) PARKED P TO P
BT - DRV NOT CONTACTED BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 706 (VISION AFFECTED - DAZZLING SUN)

5 0109QA10062 FRI 09/01/09 08:39 LIGHT WHITCHURCH LANE SERVICE ROAD 80M W J/W DONNEFIELD AVENUE 29 LINK 104-108 518140 / 191230
POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PEDESTRIAN RAN OUT INTO THE PATH OF V1

CASUALTY 001 (001) (36 Yrs - M HA8) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (56 Yrs - F HA7) GOING AHEAD OTHER W TO E
BT - NEGATIVE FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

115


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

6	0109QA10159	TUE 28/04/09 08:17	LIGHT	WEMBOROUGH ROAD J/W HONEYPOT LANE	29	NODE 104	517720 / 191190
---	-------------	--------------------	-------	-----------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 STATIONARY IN TRAFFIC AT ATS, V2 STOPPED BEHIND, V3 COLLIDED WITH V1 PUSHING IT INTO V2 ; INJURIES CAUSED.

CASUALTY 001 (001) (42 Yrs - F UNKN) SLIGHT PASSENGER FRONT SEAT

CASUALTY 002 (003) (20 Yrs - F HA3) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(46 Yrs - M HA2)	WAITING TO TURN LEFT	SW TO NW	TAKING PUPIL TO/FROM SC	JCT APP
			BT - NOT REQUESTED			BACK HIT FIRST	

VEHICLE	002 (001)	CAR	(? Yrs - M UNKN)	WAITING TO TURN LEFT	SW TO NW	JNY PART OF WORK	JCT APP
			BT - NOT REQUESTED			FRONT HIT FIRST	

VEHICLE	003 (001)	CAR	(20 Yrs - F HA3)	SLOWING OR STOPPING	SW TO NE	JNY PART OF WORK	JCT APP
			BT - NOT REQUESTED			FRONT HIT FIRST	

/003 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V003 A 405 (FAILED TO LOOK PROPERLY)

/003 A 603 (NERVOUS/UNCERTAIN/ PANIC)

116

7 0109QA10216 WED 10/06/09 10:45 LIGHT WEMBOROUGH ROAD J/W GYLES PARK							29 LINK 104-180		517350 / 191040	
---	--	--	--	--	--	--	-----------------	--	-----------------	--

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 COLLIDED WITH BACK OF V1 AS V1 WAITED TO TURN RIGHT

CASUALTY 001 (001) (44 Yrs - M WD23) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(44 Yrs - M WD23)	TURNING RIGHT	SW TO E		JCT MID
			BT - NOT REQUESTED			BACK HIT FIRST	

VEHICLE	002 (001)	CAR	(60 Yrs - F NW7)	GOING AHEAD OTHER	SW TO NE		JCT MID
			BT - NOT REQUESTED			FRONT HIT FIRST	

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

8	0109QA10383	WED 30/09/09 10:51	LIGHT	WHITCHURCH LANE J/W DONNEFIELD AVENUE	29	LINK 104-108	518220 / 191230
---	-------------	--------------------	-------	---------------------------------------	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT ZEBRA

V1 COLLIDED WITH REAR OF TURNING RIGHT V2

CASUALTY 001 (002) (35 Yrs - F NW2 ) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(31 Yrs - F MK44)	GOING AHEAD OTHER	E TO W	JCT MID
		BT - NEGATIVE			FRONT HIT FIRST	

VEHICLE	002 (001)	CAR	(35 Yrs - F NW2 )	TURNING RIGHT	E TO N	JCT MID
		BT - NOT REQUESTED			BACK HIT FIRST	

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

9	0109QA10406	SUN 25/10/09 17:58	DARK	HONEYPOT LANE 120M S OF J/W WHITCHURCH LANE	29	LINK 104-672	517780 / 191080
---	-------------	--------------------	------	---	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

/2 CROSSED INTO PATH OF V1

CASUALTY 001 (001) (61 Yrs - M HA7 ) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(61 Yrs - M HA7 )	CHANGE LANE TO LEFT	S TO N	N/S HIT FIRST
		BT - NOT REQUESTED				

VEHICLE	002 (001)	CAR	(22 Yrs - M LO3 )	CHANGE LANE TO LEFT	S TO N	N/S HIT FIRST
		BT - NEGATIVE				

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 B 601 (AGGRESSIVE DRIVING)

V002 A 403 (POOR TURN OR MANOEUVRE)

117


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

10	0109QA10436	TUE 10/11/09 06:30	DARK	WHITCHURCH LANE J/W HOWBERRY ROAD	29	LINK 104-108	518030 / 191210
----	-------------	--------------------	------	-----------------------------------	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-OTHER SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED RIGHT INFRONT OF V2

CASUALTY 001 (002) (28 Yrs - M HA3) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	GDS =< 3.5T (51 Yrs - M )	TURNING RIGHT	E TO N	LEAVING MAIN RD
		BT - NOT REQUESTED		O/S HIT FIRST	

VEHICLE	002 (001)	M/C 125-500CC (28 Yrs - M HA3)	GOING AHEAD OTHER	W TO E	JCT MID
		BT - NOT PROVD (MEDCL REASONS)		O/S HIT FIRST	

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

11	0109QA10485	SUN 13/12/09 22:02	DARK	HONEYPOT LANE J/W BRAMBLE CLOSE	29	LINK 104-672	517820 / 191030
----	-------------	--------------------	------	---------------------------------	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

/2 DID A U TURN INFRONT OF V1, V1 HIT V2

CASUALTY 001 (001) (? Yrs - F ) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (40 Yrs - M ) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR (? Yrs - F )	GOING AHEAD OTHER	N TO S	ENTERING MAIN RD
		BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE	002 (001)	CAR (40 Yrs - M )	U-TURNING	S TO S	ENTERING MAIN RD
		BT - NOT REQUESTED		N/S HIT FIRST	

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

118


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

12	0110QA10065	FRI 01/01/10 08:46	LIGHT	HONEYPOT LANE J/W WEMBOROUGH ROAD	29	NODE 104	517730 / 191190
----	-------------	--------------------	-------	-----------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 TURNED RIGHT ACROSS PATH ONCOMING V1

CASUALTY 001 (002) (36 Yrs - M HA7) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(19 Yrs - F HA3)	GOING AHEAD OTHER	S TO N	JCT MID
		BT - NEGATIVE			FRONT HIT FIRST	

VEHICLE	002 (001)	CAR	(36 Yrs - M HA7)	TURNING RIGHT	N TO SW	JCT MID
		BT - NEGATIVE			FRONT HIT FIRST	

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

13	0110QA10025	TUE 26/01/10 18:20	DARK	NFL HONEYPOT LANE SERVICE ROAD 75M SE J/W BROMEFIELD	29	CELL 517500/191000	517770 / 191090
----	-------------	--------------------	------	--	----	--------------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PEDESTRIAN STEPPED OUT INTO THE PATH OF V1

CASUALTY 001 (001) (38 Yrs - M HA7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) NE BOUND FROM DRIVERS N/SIDE MSK

VEHICLE	001 (000)	CAR	(24 Yrs - F HA8)	GOING AHEAD OTHER	SE TO NW	N/S HIT FIRST
		BT - NOT REQUESTED				

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

14	0110QA10033	MON 01/02/10 00:07	DARK	WHITCHURCH LANE J/W HOWBERRY ROAD.	29	LINK 104-108	518030 / 191210
----	-------------	--------------------	------	------------------------------------	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

VEH.1 TURNED RIGHT, IN-FRONT OF ON-COMING VEH (VEH.2) CAUSING COLLISION.

CASUALTY 001 (002) (33 Yrs - M N11) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(52 Yrs - F HA8)	TURNING RIGHT	E TO N	JCT MID
		BT - DRV NOT CONTACTED			FRONT HIT FIRST	

VEHICLE	002 (001)	M/C 50-125CC	(33 Yrs - M N11)	GOING AHEAD OTHER	W TO E	JCT MID
		BT - DRV NOT CONTACTED			FRONT HIT FIRST	

V002 B 306 (EXCEEDING SPEED LIMIT)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

119


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	--	--	--	-----------------------------------	--

15	0110QA10060	FRI 26/02/10 08:16	LIGHT NFL	: STATION PARADE 33M W J/W WHITCHURCH LANE	29	CELL 518000/191000	518130	/ 191230		
----	-------------	--------------------	-----------	--	----	--------------------	--------	----------	--	--

POLICE - AT SCENE ROAD-WET RAINING ONE-WAY ST NO JUN IN 20M NO XING FACILITY IN 50M

C1 CROSSED FROM PARKED VEHICLES AND WAS HIT BY V1 WHICH FTS

CASUALTY 001 (001) (26 Yrs - F ) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (? Yrs - U 1 ) GOING AHEAD OTHER W TO E FRONT HIT FIRST

BT - DRV NOT CONTACTED

LAY-BY/HARD SHLDR

V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 405 (FAILED TO LOOK PROPERLY)

16	0110QA10061	SAT 27/02/10 14:00	LIGHT HONEY POT LANE J/W WHITCHURCH LANE	29	NODE 104	517750	/ 191190		
----	-------------	--------------------	--	----	----------	--------	----------	--	--

POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 INTENDED RIGHT TURN WHEN C1,C2 RAN INTO SIDE OF V1 FROM BETWEEN VEHS ON SOUTH SIDE

CASUALTY 001 (001) (6 Yrs - F HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING N BOUND FROM DRIVERS N/SIDE

CASUALTY 002 (001) (40 Yrs - F HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING N BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (61 Yrs - M HA7 ) SLOWING OR STOPPING E TO W N/S HIT FIRST JCT MID

BT - NOT REQUESTED

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C002 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

17	0110QA10139	TUE 27/04/10 14:40	LIGHT WHITCHURCH LANE J.W MARSH LANE	29	NODE 104	517750	/ 191190		
----	-------------	--------------------	--------------------------------------	----	----------	--------	----------	--	--

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

PED RAN OUT INTO THE SIDE OF V1

CASUALTY 001 (001) (36 Yrs - M HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING S BOUND FROM DRIVERS O/SIDE MSK

VEHICLE 001 (000) CAR (55 Yrs - F WD19) TURNING RIGHT E TO N O/S HIT FIRST JCT APP

BT - NOT REQUESTED

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

120




**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	--	--	--	-----------------------------------	--

18	0110QA10144	TUE 11/05/10 15:35	LIGHT	WHITCHURCH LANE J/W HONEYPOT LANE	29	NODE 104					517760 / 191190
----	-------------	--------------------	-------	-----------------------------------	----	----------	--	--	--	--	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 HIT PED IN RD

CASUALTY 001 (001) (9 Yrs - M NW9) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING UNKNOWN

Sch Attended : N/K

VEHICLE 001 (000) CAR (40 Yrs - F HA3)  
BT - NEGATIVE

GOING AHEAD OTHER W TO E  
FRONT HIT FIRST

JCT CLEARED

C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

C001 A 802 (FAILED TO LOOK PROPERLY)

19	0110QA10395	WED 25/08/10 15:42	LIGHT	NFL WHITCHURCH LANE 40 M E J/W HONEYPOT LANE	29	LINK 104-108					517780 / 191190
----	-------------	--------------------	-------	--	----	--------------	--	--	--	--	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED RAN INTO THE ROAD INFRONT OF V1

CASUALTY 001 (001) (? Yrs - F ) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (50 Yrs - M HA8 )  
BT - DRV NOT CONTACTED

GOING AHEAD OTHER E TO W  
FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

20	0110QA10345	THU 09/09/10 18:20	LIGHT	HONEYPOT LANE J/W BRAMBLE CLOSE	29	LINK 104-672					517830 / 191040
----	-------------	--------------------	-------	---------------------------------	----	--------------	--	--	--	--	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 HIT V2, V1 WAS U TURNING WHEN HIT V2

CASUALTY 001 (001) (28 Yrs - F ) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (28 Yrs - F )  
BT - DRV NOT CONTACTED

U-TURNING NW TO NW  
N/S HIT FIRST

ENTERING MAIN RD

VEHICLE 002 (001) BUS/COACH (40 Yrs - M )  
BT - DRV NOT CONTACTED

GOING AHEAD OTHER SE TO NW  
FRONT HIT FIRST

ENTERING MAIN RD

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

121


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)	60 MTS TO NOV-2013 SORTED BY DATE
-----------------------------------	-----------------------------------

21 0110QA10410 WED 06/10/10 07:40 LIGHT MARSH LANE J/W HONEY POT LANE	29 NODE 104	517730 / 191190
---	-------------	-----------------

POLICE - OVER COU ROAD-WET WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 HIT THE REAR OF STATIONARY V2

CASUALTY 001 (002) (44 Yrs - F WD18) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR	(? Yrs - F HA7 )	SLOWING OR STOPPING	N TO S	JCT MID
BT - DRV NOT CONTACTED			FRONT HIT FIRST	

VEHICLE 002 (001) CAR	(44 Yrs - F WD18)	GOING AHEAD HELD UP	N TO S	JCT MID
BT - DRV NOT CONTACTED			BACK HIT FIRST	

V001 A 308 (FOLLOWING TOO CLOSE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

22 0110QA10448 TUE 02/11/10 07:45 LIGHT MARSH LANE J/W OLD CHURCH LANE	29 LINK 104-105	517580 / 191560
--	-----------------	-----------------

POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE

/2 TURNED RIGHT INTO PATH OF V1 (CAS1). V1 SWERVED, BUT COLLIDED WITH A BOLLARD AND LAMP POST.

CASUALTY 001 (001) (? Yrs - F NW10) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR	(? Yrs - F NW10)	GOING AHEAD OTHER	SE TO NW	COMM TO/FROM WORK	JCT CLEARED
BT - NOT REQUESTED			FRONT HIT FIRST		
LEFT CWY AHEAD AT JUNCTN		HIT BOLLARD	HIT LAMP POST		

VEHICLE 002 (000) CAR	(29 Yrs - M HA7 )	TURNING RIGHT	SW TO SE	COMM TO/FROM WORK	ENTERING MAIN RD
BT - NOT REQUESTED			DID NOT IMPACT		

V001 A 409 (SWERVED)

V001 A 410 (LOSS OF CONTROL)

122


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)

60 MTS TO NOV-2013 SORTED BY DATE

23 0110QA10464 THU 11/11/10 19:30 DARK NFL: WHITCHURCH LANE 56M W J/W DONNEFIELD AVENUE 29 LINK 104-108 518160 / 191220  
 POLICE - OVER COU ROAD-WET RAINING SINGLE CWY NO JUN IN 20M ZEBRA  
 V1 WAITED AT RED ATS, WAS SHUNTED BY V2

CASUALTY 001 (001) (38 Yrs - M NW4 ) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (36 Yrs - F NW4 ) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (38 Yrs - M NW4 ) GOING AHEAD HELD UP W TO E  
 BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M 1 ) U-TURNING W TO W  
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 B 408 (SUDDEN BRAKING)

V002 B 308 (FOLLOWING TOO CLOSE)

24 0110QA10474 MON 15/11/10 17:52 DARK NFL: WHITCHURCH LANE 32M W J/W LONGCROFTE ROAD 29 LINK 104-108 517860 / 191190  
 POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

TRAFFIC MOVING EAST AND HEAVY; V3 SHUNTS V2 INTO V1

CASUALTY 001 (002) (59 Yrs - M HA3 ) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (47 Yrs - M HA7 ) SLOWING OR STOPPING W TO E  
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (003) CAR (59 Yrs - M HA3 ) SLOWING OR STOPPING W TO E  
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) BUS/COACH (35 Yrs - M UB3 ) GOING AHEAD OTHER W TO E JNY PART OF WORK  
 BT - NOT REQUESTED FRONT HIT FIRST

V003 A 405 (FAILED TO LOOK PROPERLY)

V003 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V003 B 308 (FOLLOWING TOO CLOSE)

123


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)

60 MTS TO NOV-2013 SORTED BY DATE

25 0110QA10460 WED 24/11/10 15:45 LIGHT NFL: WEMBOROUGH ROAD 42M E J/W BUSH GROVE 29 LINK 104-180 517540 / 191110  
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M  
 CAS1 RAN INTO SLOW-MOVING TRAFFIC WITHOUT PAUSE, WAS STRUCK BY V1  
 CASUALTY 001 (001) (7 Yrs - M HA7) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE S BOUND  
 JOURNEY TO/FROM SCHOOL Sch Attended : N/K  
 VEHICLE 001 (000) CAR (25 Yrs - M HA3) SLOWING OR STOPPING SW TO NE  
 BT - NOT REQUESTED FRONT HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 B 808 (CARELESS/RECKLESS/IN A HURRY)

26 0110QA10484 THU 02/12/10 18:05 DARK NFL WHITCHURCH LANE 35M W J.W LONGCROFTE ROAD 29 LINK 104-108 517850 / 191180  
 POLICE - AT SCENE ROAD-FROST/ICE WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M  
 V1 MOUNTED PAVEMENT AND COLLIDED WITH PED THEN COLLIDED WITH STAT V2

CASUALTY 001 (001) (31 Yrs - M HA0) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (31 Yrs - F UNKN) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) STANDING

VEHICLE 001 (002) CAR (31 Yrs - M HA0) GOING AHEAD OTHER E TO W  
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U PARKED) PARKED P TO P  
 BT - DRV NOT CONTACTED BACK HIT FIRST

V001 A 410 (LOSS OF CONTROL)

V001 A 503 (FATIGUE)

124


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

27	0111QA10051	TUE 15/03/11 09:05	LIGHT	WEMBOROUGH ROAD 80M NE J/W BUSH GROVE			29	LINK 104-180	517570 / 191130
----	-------------	--------------------	-------	---------------------------------------	--	--	----	--------------	-----------------

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 PULLED OUT OF JUNCTION INTO THE SIDE OF V1

CASUALTY 001 (001) (30 Yrs - F NW4 ) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(30 Yrs - F NW4 )	GOING AHEAD OTHER	NE TO SW	JCT MID
			BT - DRV NOT CONTACTED		O/S HIT FIRST	

VEHICLE	002 (001)	CAR	(? Yrs - M UNKN)	TURNING RIGHT	NW TO SW	JCT MID
			BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

28	0111QA10104	FRI 22/04/11 09:30	LIGHT	WHITCHURCH LANE 50M E J.W HONEYPOT LANE			29	LINK 104-108	517790 / 191190
----	-------------	--------------------	-------	---	--	--	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M PEDN PHASE AT ATS

PED STEPPED OUT INTO THE PATH OF V1

CASUALTY 001 (001) (55 Yrs - F HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING N BOUND FROM DRIVERS N/SIDE MSK

VEHICLE	001 (000)	CAR	(35 Yrs - M UNKN)	OVERTAKE STAT VEH O/S	E TO W	
			BT - NEGATIVE		FRONT HIT FIRST	

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 802 (FAILED TO LOOK PROPERLY)

29	0111QA10125	SAT 07/05/11 18:00	LIGHT	MARSH LANE J/W WHITCHURCH LANE			29	NODE 104	517730 / 191190
----	-------------	--------------------	-------	--------------------------------	--	--	----	----------	-----------------

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

PED STEPPED OUT INTO PATH OF PASSING V1

CASUALTY 001 (001) (30 Yrs - F HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING W BOUND FROM DRIVERS N/SIDE

VEHICLE	001 (000)	CAR	(? Yrs - U UNKN)	GOING AHEAD OTHER	N TO S	JCT APP
			BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

125


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										60 MTS TO NOV-2013 SORTED BY DATE	
30	0111QA10135	MON 16/05/11 10:23	LIGHT	NFL LONGCROFTE ROAD 40M N J/W WHITCHURCH LANE	29	CELL 517500/191000	517880	/	191230		
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	NO JUN IN 20M	NO XING FACILITY IN 50M					
DETAILS NOT KNOWN											
CASUALTY 001 (001) (19 Yrs - F NW11)			SLIGHT	DRIVER/RIDER							
VEHICLE	001 (002)	CAR	(19 Yrs - F NW11)	GOING AHEAD OTHER		S TO N					
BT - NOT REQUESTED			FRONT HIT FIRST								
VEHICLE	002 (001)	CAR	(? Yrs - U UNKN)	PARKED		P TO P					
BT - DRV NOT CONTACTED			FRONT HIT FIRST								
V001 A 410 (LOSS OF CONTROL)											
31	0111QA10129	THU 19/05/11 16:57	LIGHT	WEMBOROUGH ROAD 80M NE J/W BUSH GROVE	29	LINK 104-180	517570	/	191130		
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	NO JUN IN 20M	NO XING FACILITY IN 50M					
/1 LOST CONTROL AND COLLIDED WITH STAT V2											
CASUALTY 001 (001) (42 Yrs - F HA7 )			SLIGHT	DRIVER/RIDER							
VEHICLE	001 (002)	GDS =< 3.5T	(42 Yrs - F HA7 )	GOING AHEAD OTHER		SW TO NE					
BT - NOT REQUESTED			FRONT HIT FIRST								
VEHICLE	002 (001)	CAR	(? Yrs - U UNKN)	PARKED		P TO P					
BT - DRV NOT CONTACTED			FRONT HIT FIRST								
V001 A 410 (LOSS OF CONTROL) V001 A 409 (SWERVED)											
32	0111QA10149	THU 26/05/11 09:00	LIGHT	WEMBOROUGH ROAD 80M NE J/W BUSH GROVE	29	LINK 104-180	517570	/	191130		
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	PRIV DRIVE	GIVE WAY/UNCONT	NO XING FACILITY IN 50M				
V2 PULLED OUT INTO THE PATH OF V1 (CYCLIST)											
CASUALTY 001 (001) (63 Yrs - M HA8 )			SLIGHT	DRIVER/RIDER							
VEHICLE	001 (002)	PEDAL CYCLE	(63 Yrs - M HA8 )	GOING AHEAD OTHER		SW TO NE				JCT MID	
BT - NOT APPLICABLE			FRONT HIT FIRST								
VEHICLE	002 (001)	CAR	(29 Yrs - F HA8 )	TURNING RIGHT		NW TO SW				JCT MID	
BT - NOT REQUESTED			O/S HIT FIRST								
V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)											

126


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)

60 MTS TO NOV-2013 SORTED BY DATE

**33** 0111TB01130 MON 27/06/11 14:16 LIGHT WHITCHURCH LANE J/W HOWBERRY ROAD 29 LINK 104-108 518040 / 191210

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 WAS STATIONARY AT ATS WHEN V2 COLLIDED WITH REAR.

CASUALTY 001 (001) (29 Yrs - M UNKN) SLIGHT DRIVER/RIDER

 VEHICLE 001 (002) CAR (29 Yrs - M UNKN) GOING AHEAD HELD UP E TO W JNY PART OF WORK JCT MID  
 BT - NEGATIVE BACK HIT FIRST

 VEHICLE 002 (001) CAR (43 Yrs - F HA3) GOING AHEAD OTHER E TO W JCT MID  
 BT - NEGATIVE FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

**34** 0111QA10184 THU 07/07/11 19:49 LIGHT NFL WHITCHURCH LANE J.W LONGCROFTE ROAD 29 LINK 104-108 517890 / 191190

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

/1 PULLED OUT INTO THE PATH OF V2

CASUALTY 001 (002) (29 Yrs - M UNKN) SLIGHT DRIVER/RIDER

 VEHICLE 001 (002) CAR (79 Yrs - M HA3) TURNING RIGHT N TO W JCT MID  
 BT - NOT REQUESTED FRONT HIT FIRST

 VEHICLE 002 (001) M/C 50-125CC (29 Yrs - M UNKN) GOING AHEAD OTHER W TO E JCT MID  
 BT - NOT REQUESTED N/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

127


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)							60 MTS TO NOV-2013 SORTED BY DATE	
-----------------------------------	--	--	--	--	--	--	-----------------------------------	--

<b>35</b>	0111QA10284	MON 26/09/11 16:03	LIGHT	MARSH LANE J/W HONEY POT LANE	29	NODE 104	517740 / 191180
-----------	-------------	--------------------	-------	-------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 WAS REVERSING & V2 COLLIDED WITH REAR V1

CASUALTY 001 (002) (51 Yrs - M HA3) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	GDS 3.5-7.5T (56 Yrs - M W7)	REVERSING	NW TO SE	JNY PART OF WORK	JCT APP
		BT - NOT REQUESTED			BACK HIT FIRST	

VEHICLE	002 (001)	M/C > 500CC (51 Yrs - M HA3)	GOING AHEAD OTHER	SE TO NW		JCT APP
		BT - NOT REQUESTED		FRONT HIT FIRST		

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 405 (FAILED TO LOOK PROPERLY)

<b>36</b>	0112QA10180	THU 07/06/12 22:18	DARK	ST ANDREWS DRIVE J/W WEMBOROUGH ROAD	29	NODE 180	517280 / 190990
-----------	-------------	--------------------	------	--------------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-WET WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

/1 PULLED OUT INTO THE SIDE OF V2

CASUALTY 001 (002) (21 Yrs - M HA3) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR (73 Yrs - M HA7)	TURNING LEFT	S TO SW		JCT MID
		BT - NOT REQUESTED		FRONT HIT FIRST		

VEHICLE	002 (001)	M/C 50-125CC (21 Yrs - M HA3)	GOING AHEAD OTHER	NE TO SW	JNY PART OF WORK	JCT MID
		BT - NOT REQUESTED		N/S HIT FIRST		

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

<b>37</b>	0112QA10186	TUE 12/06/12 15:40	LIGHT	ST ANDREWS DRIVE J/W WEMBOROUGH ROAD.	29	NODE 180	517280 / 190990
-----------	-------------	--------------------	-------	---------------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT CENTRAL REFUGE

A CHILD CROSSED THE ROAD & WALKED INTO THE SIDE OF ON-COMING V.1.

CASUALTY 001 (001) (5 Yrs - F HA7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS N/SIDE  
JOURNEY TO/FROM SCHOOL Sch Attended : WHITCHURCH PRIMARY

VEHICLE	001 (000)	CAR (46 Yrs - M HA7)	TURNING LEFT	NE TO S	TAKING PUPIL TO/FROM SC	LEAVING R'ABOUT
		BT - DRV NOT CONTACTED		N/S HIT FIRST		

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

128




**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)	60 MTS TO NOV-2013 SORTED BY DATE
-----------------------------------	-----------------------------------

38 0112QA10199 FRI 15/06/12 08:34 LIGHT GYLES PARK J/W WEMBOROUGH ROAD.	29 LINK 104-180	517360 / 191020
---	-----------------	-----------------

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V.1 TURNED LEFT, JUST A PED. RAN ACROSS THE ROAD. V.1 HIT PED.

CASUALTY 001 (001) (11 Yrs - M HA8) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) E BOUND FROM DRIVERS O/SIDE  
JOURNEY TO/FROM SCHOOL Sch Attended : STANBURN SCHOOL

VEHICLE 001 (000) CAR (17 Yrs - M HA7) TURNING RIGHT W TO S PUPIL RIDING TO/FROM SCH JCT CLEARED  
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

C001 A 802 (FAILED TO LOOK PROPERLY)

39 0112QA10213 THU 28/06/12 22:10 DARK HONEYPOT LANE J/W WHITCHURCH LANE.	29 NODE 104	517740 / 191190
---	-------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V.1 TURNED RIGHT, IN PATH OF ON-COMING V.2 CAUSING COLLISION.

CASUALTY 001 (002) (21 Yrs - M HA3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (27 Yrs - F HA0) TURNING RIGHT S TO E JCT MID  
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (21 Yrs - M HA3) GOING AHEAD OTHER N TO S JCT MID  
BT - NEGATIVE FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

40 0112QA10259 TUE 07/08/12 15:10 LIGHT HONEYPOT LANE J/W WHITCHURCH LANE.	29 NODE 104	517740 / 191170
--	-------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V.2 BRAKED SUDDENLY DUE TO TRAFFIC AHEAD, V.1 TRAVELLING BEHIND HIT REAR OF V.2.

CASUALTY 001 (002) (20 Yrs - M NW2) SERIOUS PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (25 Yrs - F HA7) GOING AHEAD OTHER S TO N COMM TO/FROM WORK JCT APP  
BT - DRV NOT CONTACTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (54 Yrs - M NW2) GOING AHEAD OTHER S TO N JCT APP  
BT - DRV NOT CONTACTED BACK HIT FIRST

V002 B 405 (FAILED TO LOOK PROPERLY)

V002 A 408 (SUDDEN BRAKING)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 308 (FOLLOWING TOO CLOSE)



Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)

.001 GIS AREA Wemborough area (P) 60 MTS TO NOV-2013 SORTED BY DATE

41 0112QA10315 WED 12/09/12 17:16 LIGHT NFL GREEN VERGES 35M SW J/W MARSH LANE 29 CELL 517500/191000 517650 / 191380
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED STEPPED OUT INTO THE PATH OF V1

CASUALTY 001 (001) (24 Yrs - M HA7 ) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) SW BOUND FROM DRIVERS O/SIDE

VEHICLE 001 (000) CAR (? Yrs - M UNKN) GOING AHEAD OTHER S TO N
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

C001 A 802 (FAILED TO LOOK PROPERLY)

42 0112QA10325 WED 26/09/12 07:26 LIGHT HONEYPOT LANE SERVICE ROAD 45M NW J/W BRICK LANE 29 LINK 104-672 517780 / 191070
POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED STEPPED OUT INTO THE PATH OF V1

CASUALTY 001 (001) (56 Yrs - M W7 ) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) NE BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (50 Yrs - F NW9 ) GOING AHEAD OTHER SE TO NW
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

43 0113QA10077 SUN 17/02/13 21:03 DARK WEMBOROUGH ROAD J/W HONEYPOT LANE 29 NODE 104 517740 / 191190
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

VEH 1 TURNED RIGHT INTO THE PATH OF VEH 2 CAUSING COLLISION

CASUALTY 001 (002) (21 Yrs - F HA3 ) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (45 Yrs - M HA3 ) TURNING RIGHT W TO S JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (21 Yrs - F HA3 ) GOING AHEAD OTHER E TO W JCT MID
BT - NOT REQUESTED O/S HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 405 (FAILED TO LOOK PROPERLY)

V002 B 408 (SUDDEN BRAKING)

130


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)	60 MTS TO NOV-2013 SORTED BY DATE
-----------------------------------	-----------------------------------

44	0113QA10080	MON 11/03/13 07:20	LIGHT	MARSH LANE J/W WEMBOROUGH RD	29	NODE 104	517730 / 191190
----	-------------	--------------------	-------	------------------------------	----	----------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 TURNED LEFT AS V1 ON N/S, CAUSING COLLISION.

CASUALTY 001 (001) (36 Yrs - F HA7) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	PEDAL CYCLE (36 Yrs - F HA7)	GOING AHEAD OTHER	SW TO NE	ENTERING MAIN RD
		BT - NOT APPLICABLE		O/S HIT FIRST	

VEHICLE	002 (001)	CAR (? Yrs - U UNKN)	TURNING LEFT	SW TO N	ENTERING MAIN RD
		BT - DRV NOT CONTACTED		N/S HIT FIRST	

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

45	0113QA10177	MON 13/05/13 17:38	LIGHT	WHITCHURCH LANE J/W HOWBERRY RD	29	LINK 104-108	518030 / 191210
----	-------------	--------------------	-------	---------------------------------	----	--------------	-----------------

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

AS V1 TURNED RIGHT V2 MOVED OFF INTO V1'S PATH, CAUSING COLLISION.

CASUALTY 001 (001) (27 Yrs - M HA7) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR (27 Yrs - M HA7)	TURNING RIGHT	E TO N	LEAVING MAIN RD
		BT - DRV NOT CONTACTED		O/S HIT FIRST	

VEHICLE	002 (001)	CAR (? Yrs - M UNKN)	MOVING OFF	N TO S	ENTERING MAIN RD
		BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 402 (JUNCTION RESTART)

V002 A 405 (FAILED TO LOOK PROPERLY)

46	0113QA10180	FRI 24/05/13 16:53	LIGHT	NFL - WHITCHURCH LANE, 74M WEST OF JUNCTION WITH LONGCROFTE ROAD	29	LINK 104-108	517820 / 191190
----	-------------	--------------------	-------	--	----	--------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M CENTRAL REFUGE

V1 WAS OVERTAKING A PARKED BUS ON IT'S OFFSIDE WHEN C1 STARTED TO CROSS THE ROAD IN FRONT OF THE BUS & WAS HIT BY V1

CASUALTY 001 (001) (11 Yrs - F HA7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS N/SIDE

VEHICLE	001 (000)	CAR (37 Yrs - F HA8)	OVERTAKE STAT VEH O/S	W TO E	
		BT - NOT REQUESTED		FRONT HIT FIRST	

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 B 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

V001 B 405 (FAILED TO LOOK PROPERLY)

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))



Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)

.001 GIS AREA Wemborough area (P) 60 MTS TO NOV-2013 SORTED BY DATE

47 0113QA10313 TUE 03/09/13 17:55 LIGHT NFL - ST ANDREWS DRIVE 35M SOUTH OF J/W WEMBOROUGH RD 29 LINK 180-651 517280 / 190970
POLICE - OVER COU ROAD-DRY WEATHER-FINE ONE-WAY ST NO JUN IN 20M NO XING FACILITY IN 50M
V2 COLLIDED WITH REAR OF V1.

CASUALTY 001 (001) (22 Yrs - M HA7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (22 Yrs - M HA7) SLOWING OR STOPPING S TO N
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) SLOWING OR STOPPING S TO N
BT - DRV NOT CONTACTED SKIDDED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

48 0113QA10361 FRI 04/10/13 08:43 LIGHT ABERCORN ROAD, 60 METRES NORTH EAST OF WEMBOROUGH ROAD. 29 LINK 179-180 517260 / 191060
POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA
PED. WAS CROSSING THE ROAD ON ZEBRA CROSSING & WAS HIT BY ON-COMING V.1.

CASUALTY 001 (001) (9 Yrs - M HA7) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING W BOUND FROM DRIVERS O/SIDE
JOURNEY TO/FROM SCHOOL Sch Attended : STANBURN SCHOOL

VEHICLE 001 (000) CAR (? Yrs - F UNKN) GOING AHEAD OTHER S TO N
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 304 (DISOBEYED PEDESTRIAN CROSSING FACILITY)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

End of Accidents for .001 GIS AREA Wemborough area (P)

End of Report

132



**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

---

**Summary of Accidents Selected**

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
.001 GIS AREA Wemborough area (P)	60 MTS TO NOV-2013	48

*The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation*

133



**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P) 60 MTS TO NOV-2013 SORTED BY DATE

	1	2	3	4	5	6	7	8	9	10
Accident Reference	0108QA10450	0108QA10470	0108QA10469	0108QA10475	0109QA10062	0109QA10159	0109QA10216	0109QA10383	0109QA10406	0109QA10436
Day	MONDAY	SATURDAY	TUESDAY	SATURDAY	FRIDAY	TUESDAY	WEDNESDAY	WEDNESDAY	SUNDAY	TUESDAY
Date	15/12/2008	20/12/2008	23/12/2008	27/12/2008	09/01/2009	28/04/2009	10/06/2009	30/09/2009	25/10/2009	10/11/2009
Time	16:20	21:50	17:27	09:30	08:39	08:17	10:45	10:51	17:58	06:30
Light Conditions	DARK	DARK	DARK	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	DARK	DARK
Road Surface	DRY	DRY	WET	DRY	WET	DRY	WET	DRY	DRY	DRY
Severity	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location	0		X		0					
Contributory Factors (* denotes pre 2005)	801 C001 A 802 C001 A	302 V001 A 405 V001 A 602 V001 A	802 C001 A 803 C001 A 804 C001 A 808 C001 A	405 V001 A 706 V001 A	802 C001 A 808 C001 A	307 V003 A 405 V003 A 603 V003 A	308 V002 A 307 V002 A 404 V001 B	405 V001 A 307 V001 A 602 V001 A	405 V002 A 602 V002 A 601 V002 B 403 V002 A	405 V001 A 602 V001 A
Easting/Northing	517960 191200	518160 191220	518200 191220	517790 191070	518140 191230	517720 191190	517350 191040	518220 191230	517780 191080	518030 191210

134

Pedestrian	19	40 %
Wet	12	25 %
Dark	14	29 %

Site Diagram



Severity / Months To	12 11/2009	12 11/2010	12 11/2011	12 11/2012	12 11/2013	Total	Pct
Fatal	0	0	0	0	0	0	0.0 %
Serious	1	0	0	1	0	2	4.2 %
Slight	9	15	10	6	6	46	95.8 %
<b>Total</b>	<b>10</b>	<b>15</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>48</b>	
<b>Pct</b>	<b>20.8 %</b>	<b>31.3 %</b>	<b>20.8 %</b>	<b>14.6 %</b>	<b>12.5 %</b>		


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										60 MTS TO NOV-2013 SORTED BY DATE
	11	12	13	14	15	16	17	18	19	20
Accident Reference	0109QA10485	0110QA10065	0110QA10025	0110QA10033	0110QA10060	0110QA10061	0110QA10139	0110QA10144	0110QA10395	0110QA10345
Day	SUNDAY	FRIDAY	TUESDAY	MONDAY	FRIDAY	SATURDAY	TUESDAY	TUESDAY	WEDNESDAY	THURSDAY
Date	13/12/2009	01/01/2010	26/01/2010	01/02/2010	26/02/2010	27/02/2010	27/04/2010	11/05/2010	25/08/2010	09/09/2010
Time	22:02	08:46	18:20	00:07	08:16	14:00	14:40	15:35	15:42	18:20
Light Conditions	DARK	LIGHT	DARK	DARK	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	DRY	DRY	DRY	DRY	WET	WET	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location			0		0	50M	X	50M	0	
Contributory Factors (* denotes pre 2005)	403 V002 A 405 V002 A	405 V002 A 602 V002 A	802 C001 A 808 C001 A	306 V002 B 405 V001 A 406 V001 A 602 V001 A	407 V001 A 602 V001 B 405 V001 B	801 C001 A 801 C002 A	802 C001 A 808 C001 A 801 C001 A	804 C001 A 802 C001 A	802 C001 A 808 C001 A	403 V001 A 405 V001 A
Easting/Northing	517820 191030	517730 191190	517770 191090	518030 191210	518130 191230	517750 191190	517750 191190	517760 191190	517780 191190	517830 191040

135


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										60 MTS TO NOV-2013 SORTED BY DATE
	21	22	23	24	25	26	27	28	29	30
Accident Reference	0110QA10410	0110QA10448	0110QA10464	0110QA10474	0110QA10460	0110QA10484	0111QA10051	0111QA10104	0111QA10125	0111QA10135
Day	WEDNESDAY	TUESDAY	THURSDAY	MONDAY	WEDNESDAY	THURSDAY	TUESDAY	FRIDAY	SATURDAY	MONDAY
Date	06/10/2010	02/11/2010	11/11/2010	15/11/2010	24/11/2010	02/12/2010	15/03/2011	22/04/2011	07/05/2011	16/05/2011
Time	07:40	07:45	19:30	17:52	15:45	18:05	09:05	09:30	18:00	10:23
Light Conditions	LIGHT	LIGHT	DARK	DARK	LIGHT	DARK	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	WET	WET	WET	WET	DRY	FROST/ICE	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location					0	0		50M	X	
Contributory Factors (* denotes pre 2005)	308 V001 A 405 V001 A 406 V001 A 602 V001 A	409 V001 A 410 V001 A	408 V002 B 308 V002 B	405 V003 A 406 V003 B 308 V003 B	801 C001 A 701 V001 B 802 C001 A 808 C001 B	410 V001 A 503 V001 A	302 V002 A 405 V002 A 602 V002 A	801 C001 A 802 C001 A	405 V001 A 602 V001 A 802 C001 A 808 C001 A	410 V001 A
Easting/Northing	517730 191190	517580 191560	518160 191220	517860 191190	517540 191110	517850 191180	517570 191130	517790 191190	517730 191190	517880 191230

136




**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**

.001 GIS AREA Wemborough area (P)										
										60 MTS TO NOV-2013 SORTED BY DATE
	31	32	33	34	35	36	37	38	39	40
Accident Reference	0111QA10129	0111QA10149	0111TB01130	0111QA10184	0111QA10284	0112QA10180	0112QA10186	0112QA10199	0112QA10213	0112QA10259
Day	THURSDAY	THURSDAY	MONDAY	THURSDAY	MONDAY	THURSDAY	TUESDAY	FRIDAY	THURSDAY	TUESDAY
Date	19/05/2011	26/05/2011	27/06/2011	07/07/2011	26/09/2011	07/06/2012	12/06/2012	15/06/2012	28/06/2012	07/08/2012
Time	16:57	09:00	14:16	19:49	16:03	22:18	15:40	08:34	22:10	15:10
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT	DARK	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	WET	DRY	WET	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS
Conflict										
Pedestrian Location							0	0		
Contributory Factors (* denotes pre 2005)	410 V001 A 409 V001 A	405 V002 A 302 V002 A	405 V002 A 406 V002 A 602 V002 A	405 V001 A 302 V001 A	406 V001 A 403 V001 A 602 V001 A 405 V002 A	405 V001 A 302 V001 A	802 C001 A 803 C001 A	405 V001 A 802 C001 A	405 V001 A 406 V001 A 602 V001 A	405 V002 B 408 V002 A 405 V001 A 308 V001 A
Easting/Northing	517570 191130	517570 191130	518040 191210	517890 191190	517740 191180	517280 190990	517280 190990	517360 191020	517740 191190	517740 191170

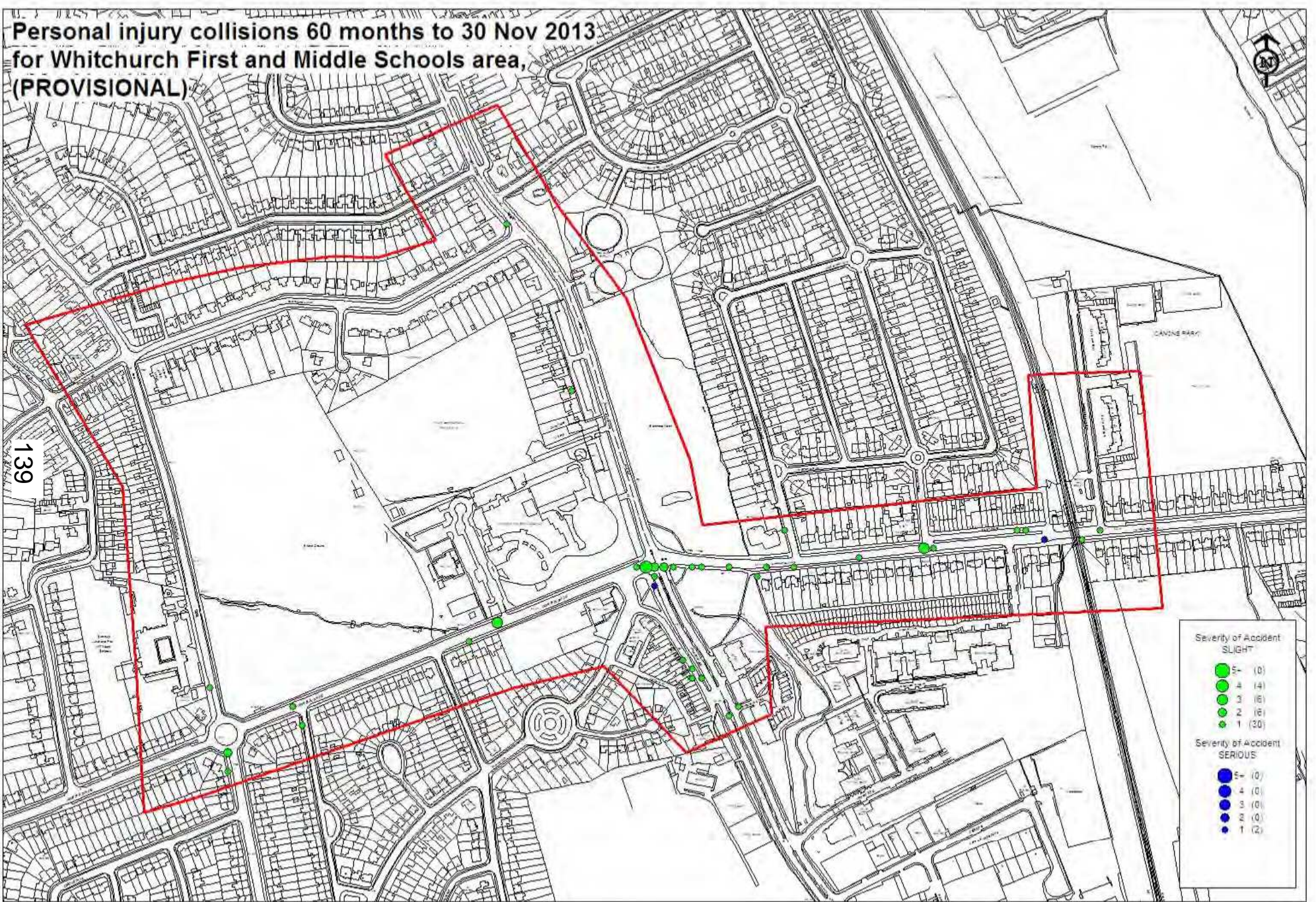
137


**Personal injury collisions 60 months to 30 Nov 2013 for Whitchurch First and Middle Schools area, (PROVISIONAL)**
**.001 GIS AREA Wemborough area (P) 60 MTS TO NOV-2013 SORTED BY DATE**

	41	42	43	44	45	46	47	48
Accident Reference	0112QA10315	0112QA10325	0113QA10077	0113QA10080	0113QA10177	0113QA10180	0113QA10313	0113QA10361
Day	WEDNESDAY	WEDNESDAY	SUNDAY	MONDAY	MONDAY	FRIDAY	TUESDAY	FRIDAY
Date	12/09/2012	26/09/2012	17/02/2013	11/03/2013	13/05/2013	24/05/2013	03/09/2013	04/10/2013
Time	17:16	07:26	21:03	07:20	17:38	16:53	17:55	08:43
Light Conditions	LIGHT	LIGHT	DARK	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	DRY	WET	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict								
Pedestrian Location	0	0				0		X
Contributory Factors (* denotes pre 2005)	405 V001 A 802 C001 A	802 C001 A 808 C001 A	406 V001 A 602 V001 B 405 V001 A 408 V002 B	403 V002 A 405 V002 A 407 V002 A	402 V002 A 405 V002 A	802 C001 A 803 C001 B 405 V001 B 701 V001 A	308 V002 A 405 V002 A	304 V001 A 405 V001 A 602 V001 A 406 V001 A
Easting/Northing	517650 191380	517780 191070	517740 191190	517730 191190	518030 191210	517820 191190	517280 190970	517260 191060

138

Personal injury collisions 60 months to 30 Nov 2013  
for Whitchurch First and Middle Schools area,  
(PROVISIONAL)



Severity of Accident

SLIGHT

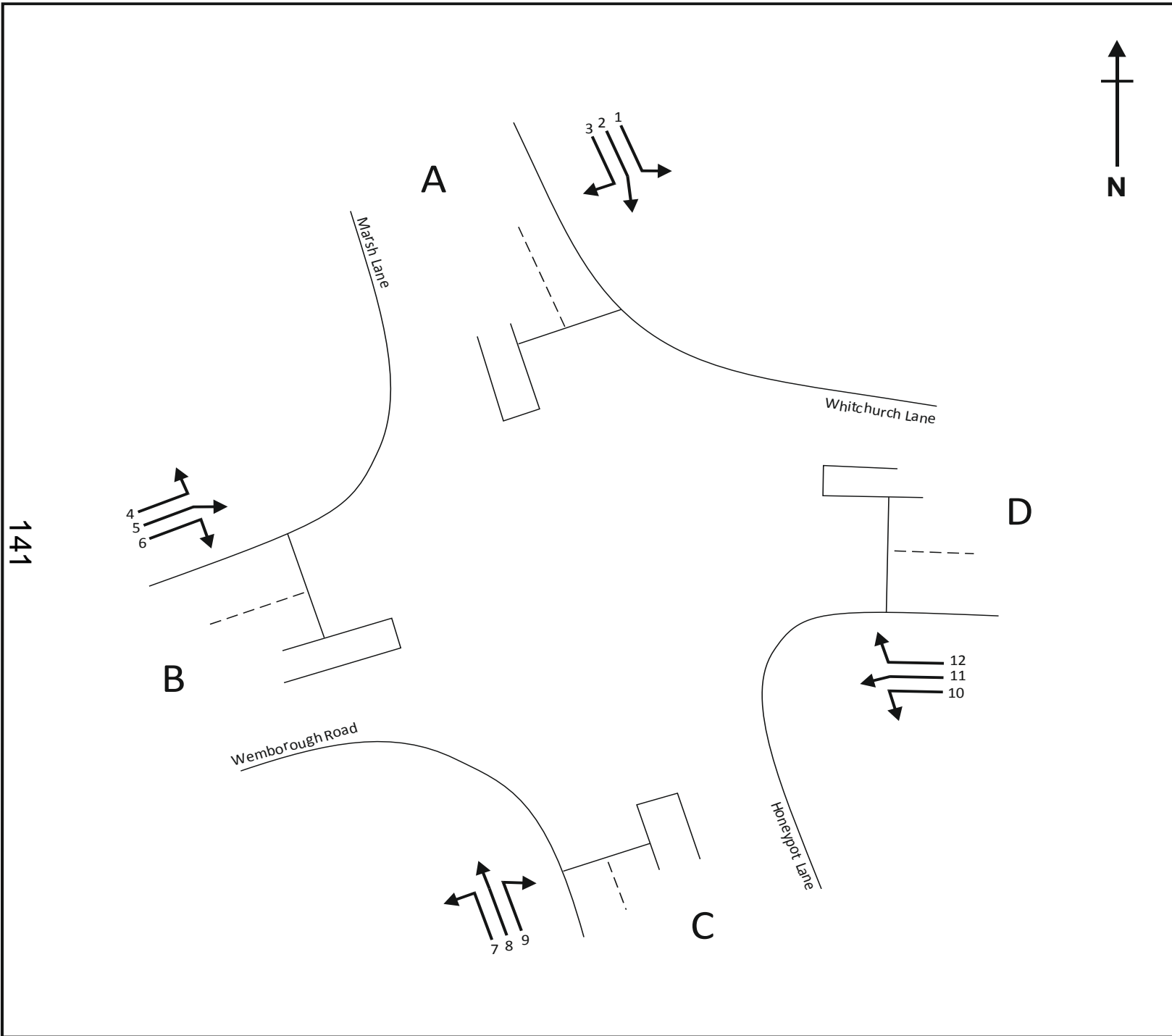
- 5 - (0)
- 4 - (4)
- 3 - (6)
- 2 - (6)
- 1 - (20)

Severity of Accident

SERIOUS

- 5 - (0)
- 4 - (0)
- 3 - (0)
- 2 - (0)
- 1 - (2)

## **APPENDIX 5**



For and on behalf of:

**MILESTONE**  
TRANSPORT PLANNING

WHITCHURCH FIELDS

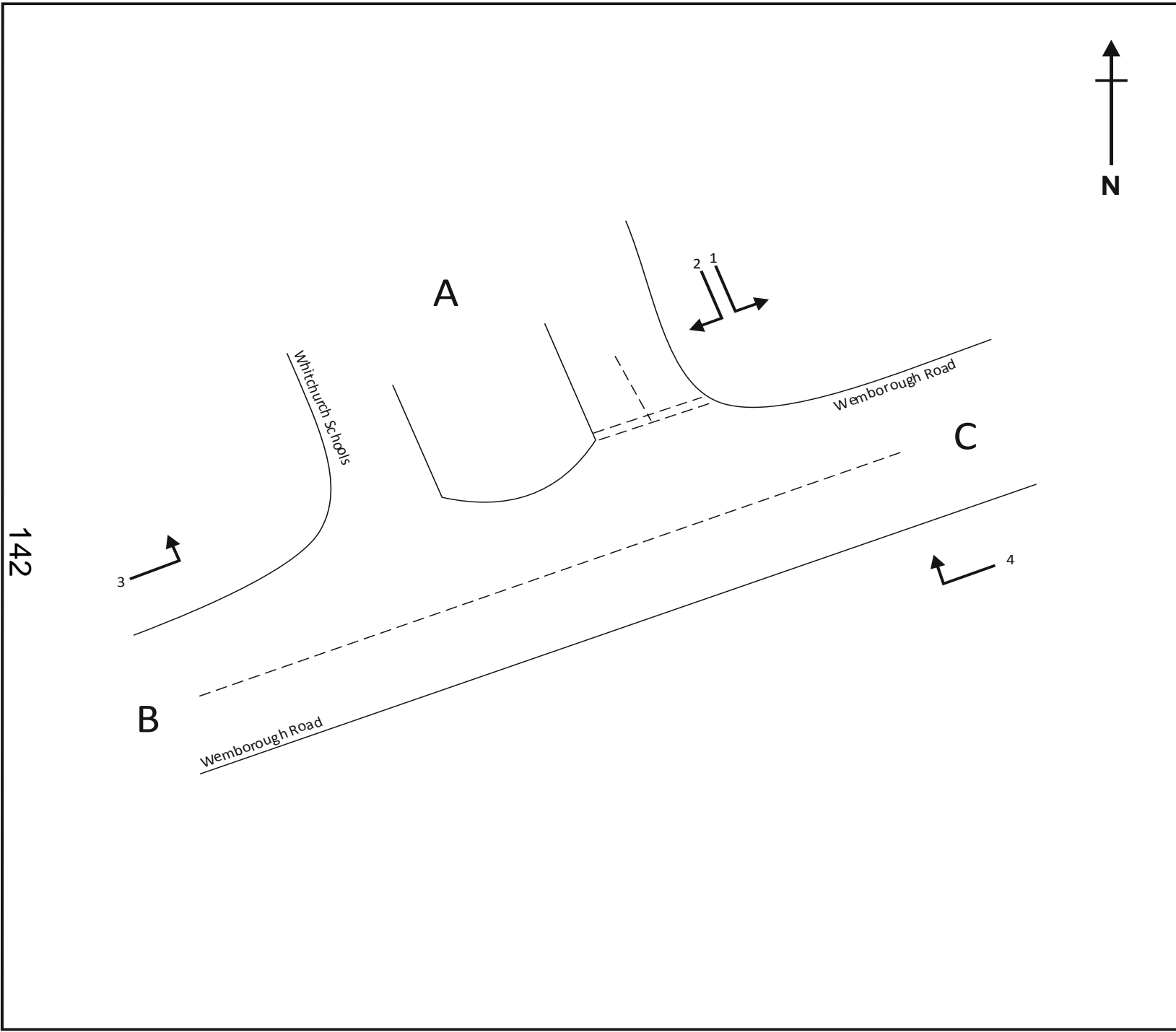
Wednesday 18 June 2014

0700-1000  
1600-1900

Drawing N°: 17658 - 01

Site: 1

Location: Marsh Lane /  
Wemborough Road /  
Honeypot Lane /  
Whitchurch Lane



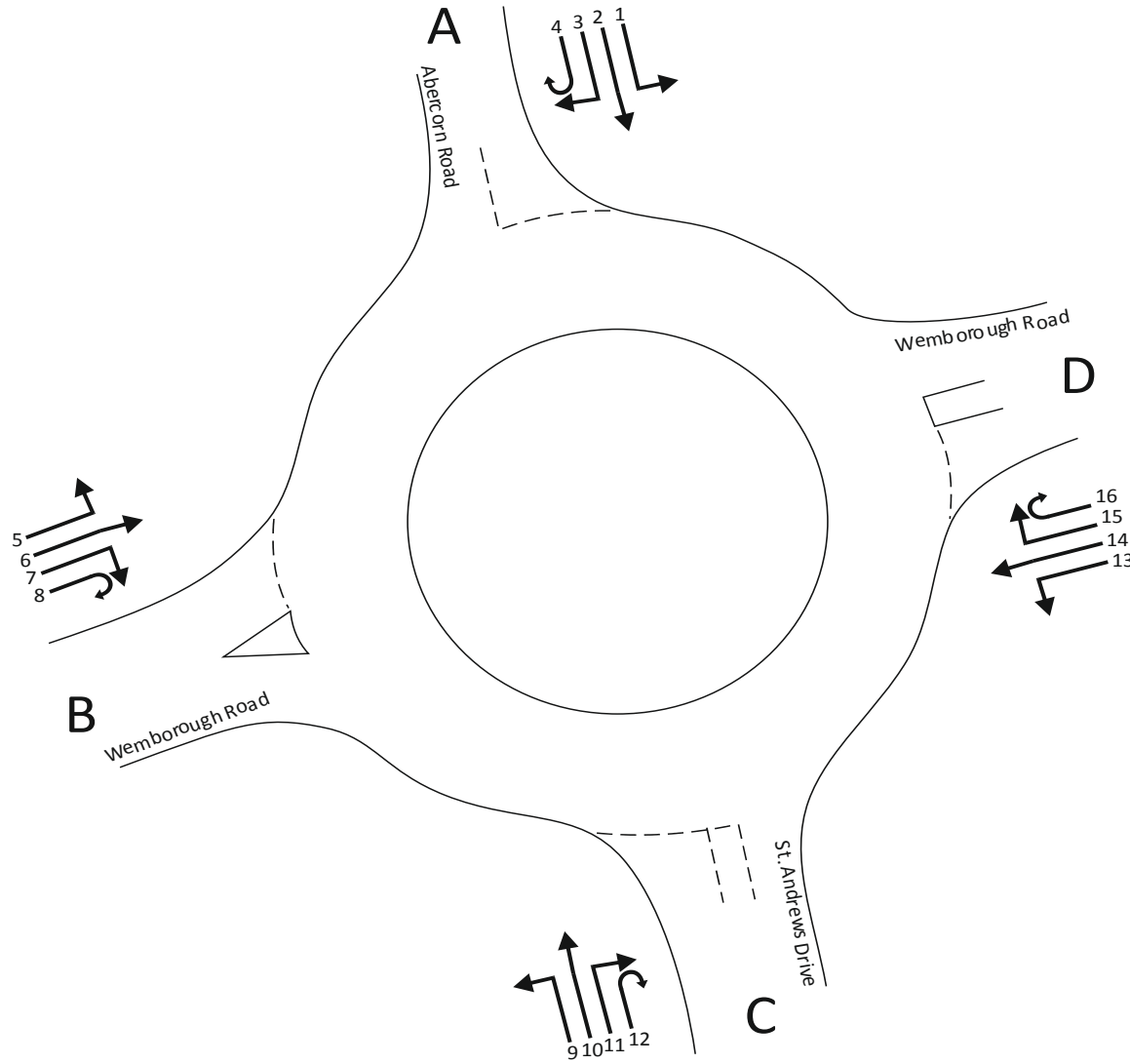
For and on behalf of:



WHITCHURCH FIELDS  
 Wednesday 18 June 2014  
 0700-1000  
 1600-1900

**Drawing N°:** 17658 - 02  
**Site:** 2  
**Location:** Whitchurch Schools / Wemborough Road

143



For and on behalf of:



WHITCHURCH FIELDS

Wednesday 18 June 2014

0700-1000  
1600-1900

Drawing N<sup>o</sup>: 17658 - 03

Site: 3

Location: Abercorn Road /  
Wemborough Road /  
St. Andrews Drive

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 1 FROM MARSH LANE TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	12	1	2	1	0	1	17
7:15	11	6	0	2	1	1	21
7:30	18	3	0	1	0	1	23
7:45	33	1	0	2	0	0	36
<b>H/TOT</b>	74	11	2	6	1	3	97
8:00	23	0	0	0	0	0	23
8:15	27	3	0	2	0	0	32
8:30	19	2	0	1	0	0	22
8:45	19	0	0	4	0	0	23
<b>H/TOT</b>	88	5	0	7	0	0	100
9:00	13	3	0	0	0	0	16
9:15	17	3	1	2	0	1	24
9:30	15	2	0	2	0	0	19
9:45	14	1	0	1	0	1	17
<b>H/TOT</b>	59	9	1	5	0	2	76
<b>P/TOT</b>	221	25	3	18	1	5	273

TIME	MOVEMENT 2 FROM MARSH LANE TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	61	18	4	1	1	2	87
7:15	82	18	3	3	1	1	108
7:30	83	7	5	0	3	1	99
7:45	104	16	4	3	0	0	127
<b>H/TOT</b>	330	59	16	7	5	4	421
8:00	95	13	4	3	0	1	116
8:15	115	16	4	0	1	1	137
8:30	100	9	4	2	0	0	115
8:45	107	15	0	1	0	0	123
<b>H/TOT</b>	417	53	12	6	1	2	491
9:00	79	14	1	1	0	0	95
9:15	104	15	3	4	0	0	126
9:30	61	16	6	0	0	0	83
9:45	80	16	4	0	1	0	101
<b>H/TOT</b>	324	61	14	5	1	0	405
<b>P/TOT</b>	1071	173	42	18	7	6	1317



# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 1 FROM MARSH LANE TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	15	3	0	2	0	0	20
16:15	10	1	0	1	0	0	12
16:30	6	2	0	2	0	0	10
16:45	13	1	0	3	1	0	18
<b>H/TOT</b>	44	7	0	8	1	0	60
17:00	10	3	0	2	0	0	15
17:15	17	2	0	2	0	0	21
17:30	8	2	0	1	1	0	12
17:45	6	2	0	1	0	0	9
<b>H/TOT</b>	41	9	0	6	1	0	57
18:00	11	2	0	2	0	0	15
18:15	9	1	0	1	0	0	11
18:30	12	0	0	2	0	0	14
18:45	9	1	0	2	0	0	12
<b>H/TOT</b>	41	4	0	7	0	0	52
<b>P/TOT</b>	126	20	0	21	2	0	169

TIME	MOVEMENT 2 FROM MARSH LANE TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	57	5	3	0	1	0	66
16:15	74	9	6	1	0	0	90
16:30	48	4	9	1	0	0	62
16:45	64	10	6	0	2	1	83
<b>H/TOT</b>	243	28	24	2	3	1	301
17:00	92	13	0	0	0	0	105
17:15	72	14	3	0	2	0	91
17:30	81	9	3	0	1	0	94
17:45	85	8	4	1	1	0	99
<b>H/TOT</b>	330	44	10	1	4	0	389
18:00	77	5	2	1	0	0	85
18:15	88	5	3	0	2	2	100
18:30	84	7	1	0	0	3	95
18:45	76	4	3	0	3	0	86
<b>H/TOT</b>	325	21	9	1	5	5	366
<b>P/TOT</b>	898	93	43	4	12	6	1056

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 3 FROM MARSH LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	10	0	2	1	1	0	14
7:15	5	1	0	0	0	0	6
7:30	17	2	0	0	0	0	19
7:45	18	1	0	0	0	0	19
<b>H/TOT</b>	50	4	2	1	1	0	58
8:00	13	2	0	0	0	0	15
8:15	25	8	2	0	0	1	36
8:30	34	3	2	1	0	0	40
8:45	17	1	0	1	1	0	20
<b>H/TOT</b>	89	14	4	2	1	1	111
9:00	15	2	1	0	0	0	18
9:15	21	1	1	0	1	0	24
9:30	12	4	1	0	0	0	17
9:45	20	4	0	0	0	0	24
<b>H/TOT</b>	68	11	3	0	1	0	83
<b>P/TOT</b>	207	29	9	3	3	1	252

TIME	MOVEMENT 4 FROM WEMBOROUGH ROAD TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	5	1	1	0	0	0	7
7:15	14	3	0	0	0	0	17
7:30	11	2	0	0	0	0	13
7:45	10	0	0	1	0	1	12
<b>H/TOT</b>	40	6	1	1	0	1	49
8:00	10	3	1	1	0	0	15
8:15	7	0	1	0	0	0	8
8:30	14	1	0	0	0	0	15
8:45	11	1	0	0	0	0	12
<b>H/TOT</b>	42	5	2	1	0	0	50
9:00	16	0	0	0	0	0	16
9:15	12	2	2	0	0	0	16
9:30	6	4	1	0	0	0	11
9:45	17	2	0	1	0	0	20
<b>H/TOT</b>	51	8	3	1	0	0	63
<b>P/TOT</b>	133	19	6	3	0	1	162

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 3 FROM MARSH LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	29	9	0	0	1	0	39
16:15	19	1	0	0	0	0	20
16:30	19	2	2	1	0	0	24
16:45	13	0	0	0	0	0	13
<b>H/TOT</b>	80	12	2	1	1	0	96
17:00	9	1	0	0	0	0	10
17:15	17	3	0	0	0	0	20
17:30	10	0	2	0	0	0	12
17:45	19	1	0	0	0	0	20
<b>H/TOT</b>	55	5	2	0	0	0	62
18:00	17	0	0	0	0	0	17
18:15	14	1	0	0	0	0	15
18:30	22	2	1	0	1	0	26
18:45	17	3	0	0	1	0	21
<b>H/TOT</b>	70	6	1	0	2	0	79
<b>P/TOT</b>	205	23	5	1	3	0	237

TIME	MOVEMENT 4 FROM WEMBOROUGH ROAD TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	9	3	1	0	0	0	13
16:15	8	3	1	0	0	0	12
16:30	14	3	0	0	0	0	17
16:45	15	2	1	0	0	0	18
<b>H/TOT</b>	46	11	3	0	0	0	60
17:00	7	0	1	0	1	0	9
17:15	19	1	0	1	0	0	21
17:30	17	0	0	0	1	0	18
17:45	19	4	0	0	0	0	23
<b>H/TOT</b>	62	5	1	1	2	0	71
18:00	14	1	0	0	0	0	15
18:15	24	0	0	0	0	0	24
18:30	14	3	0	0	1	0	18
18:45	8	4	0	0	0	0	12
<b>H/TOT</b>	60	8	0	0	1	0	69
<b>P/TOT</b>	168	24	4	1	3	0	200

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 5 FROM WEMBOROUGH ROAD TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	76	13	2	1	1	4	97
7:15	115	17	1	1	0	0	134
7:30	96	9	2	5	1	1	114
7:45	108	8	1	1	2	1	121
<b>H/TOT</b>	<b>395</b>	<b>47</b>	<b>6</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>466</b>
8:00	121	6	1	3	1	0	132
8:15	94	5	1	2	1	1	104
8:30	78	6	1	3	0	1	89
8:45	77	2	0	2	0	1	82
<b>H/TOT</b>	<b>370</b>	<b>19</b>	<b>3</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>407</b>
9:00	106	11	1	1	3	0	122
9:15	72	5	1	1	1	0	80
9:30	64	8	1	1	2	0	76
9:45	63	10	1	2	0	0	76
<b>H/TOT</b>	<b>305</b>	<b>34</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>354</b>
<b>P/TOT</b>	<b>1070</b>	<b>100</b>	<b>13</b>	<b>23</b>	<b>12</b>	<b>9</b>	<b>1227</b>

TIME	MOVEMENT 6 FROM WEMBOROUGH ROAD TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	24	12	1	1	0	0	38
7:15	27	5	0	0	0	0	32
7:30	24	11	1	0	0	0	36
7:45	18	2	0	0	1	0	21
<b>H/TOT</b>	<b>93</b>	<b>30</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>127</b>
8:00	22	3	0	1	0	0	26
8:15	26	3	0	0	0	0	29
8:30	30	0	0	0	0	0	30
8:45	19	3	1	0	0	0	23
<b>H/TOT</b>	<b>97</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>108</b>
9:00	24	4	0	0	0	0	28
9:15	23	3	1	0	0	0	27
9:30	25	4	2	0	1	0	32
9:45	24	3	1	1	0	0	29
<b>H/TOT</b>	<b>96</b>	<b>14</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>116</b>
<b>P/TOT</b>	<b>286</b>	<b>53</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>351</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 5						
	FROM WEMBOROUGH ROAD TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	77	5	1	3	1	1	88
16:15	72	11	0	1	0	0	84
16:30	84	14	2	1	0	1	102
16:45	87	8	0	1	1	1	98
<b>H/TOT</b>	<b>320</b>	<b>38</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>372</b>
17:00	83	4	0	2	1	0	90
17:15	97	10	1	1	1	0	110
17:30	106	11	0	1	0	2	120
17:45	89	6	1	1	0	1	98
<b>H/TOT</b>	<b>375</b>	<b>31</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>418</b>
18:00	78	8	1	2	1	0	90
18:15	87	3	1	1	0	0	92
18:30	77	2	0	1	0	2	82
18:45	78	6	0	1	3	0	88
<b>H/TOT</b>	<b>320</b>	<b>19</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>352</b>
<b>P/TOT</b>	<b>1015</b>	<b>88</b>	<b>7</b>	<b>16</b>	<b>8</b>	<b>8</b>	<b>1142</b>

TIME	MOVEMENT 6						
	FROM WEMBOROUGH ROAD TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	22	4	0	1	0	0	27
16:15	23	1	2	0	1	0	27
16:30	30	7	3	0	0	0	40
16:45	27	8	1	0	0	0	36
<b>H/TOT</b>	<b>102</b>	<b>20</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>130</b>
17:00	23	3	0	0	0	0	26
17:15	18	6	0	0	1	0	25
17:30	24	6	1	0	0	0	31
17:45	26	3	0	0	0	0	29
<b>H/TOT</b>	<b>91</b>	<b>18</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>111</b>
18:00	22	5	0	0	0	0	27
18:15	23	1	2	1	0	0	27
18:30	23	2	0	0	0	0	25
18:45	27	2	0	0	0	0	29
<b>H/TOT</b>	<b>95</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>108</b>
<b>P/TOT</b>	<b>288</b>	<b>48</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>349</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 7 FROM HONEYPOT LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	4	3	0	0	0	0	7
7:15	8	3	0	0	0	0	11
7:30	8	5	1	0	0	0	14
7:45	16	7	2	0	0	0	25
<b>H/TOT</b>	<b>36</b>	<b>18</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57</b>
8:00	14	0	1	0	0	0	15
8:15	14	1	1	0	0	0	16
8:30	14	2	1	1	0	0	18
8:45	13	2	0	0	0	0	15
<b>H/TOT</b>	<b>55</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>64</b>
9:00	17	4	0	0	0	0	21
9:15	13	4	3	0	0	0	20
9:30	22	5	1	0	0	0	28
9:45	13	2	1	0	0	0	16
<b>H/TOT</b>	<b>65</b>	<b>15</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>85</b>
<b>P/TOT</b>	<b>156</b>	<b>38</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>206</b>

TIME	MOVEMENT 8 FROM HONEYPOT LANE TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	42	11	5	1	1	0	60
7:15	58	18	0	1	0	1	78
7:30	57	7	6	3	2	1	76
7:45	76	9	2	1	1	1	90
<b>H/TOT</b>	<b>233</b>	<b>45</b>	<b>13</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>304</b>
8:00	68	8	0	1	0	0	77
8:15	82	12	6	0	0	0	100
8:30	83	11	2	0	1	0	97
8:45	86	14	4	0	0	0	104
<b>H/TOT</b>	<b>319</b>	<b>45</b>	<b>12</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>378</b>
9:00	72	13	3	0	0	1	89
9:15	63	5	3	0	1	0	72
9:30	55	16	2	1	0	1	75
9:45	52	6	5	0	1	0	64
<b>H/TOT</b>	<b>242</b>	<b>40</b>	<b>13</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>300</b>
<b>P/TOT</b>	<b>794</b>	<b>130</b>	<b>38</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>982</b>

150

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 7 FROM HONEYPOT LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	28	10	3	0	1	0	42
16:15	29	5	1	0	0	0	35
16:30	42	6	1	0	0	0	49
16:45	41	7	1	1	0	0	50
<b>H/TOT</b>	140	28	6	1	1	0	176
17:00	43	5	1	1	2	1	53
17:15	50	7	0	0	2	0	59
17:30	30	5	1	0	0	0	36
17:45	43	7	0	0	0	1	51
<b>H/TOT</b>	166	24	2	1	4	2	199
18:00	42	2	2	1	1	0	48
18:15	41	6	0	0	1	0	48
18:30	40	5	0	0	1	0	46
18:45	31	5	0	0	0	0	36
<b>H/TOT</b>	154	18	2	1	3	0	178
<b>P/TOT</b>	460	70	10	3	8	2	553

TIME	MOVEMENT 8 FROM HONEYPOT LANE TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	77	19	5	3	2	0	106
16:15	67	11	4	1	1	0	84
16:30	78	14	5	1	2	0	100
16:45	60	12	1	0	4	0	77
<b>H/TOT</b>	282	56	15	5	9	0	367
17:00	83	13	4	1	0	1	102
17:15	74	15	3	0	2	0	94
17:30	85	11	0	0	4	0	100
17:45	68	13	0	0	1	1	83
<b>H/TOT</b>	310	52	7	1	7	2	379
18:00	87	18	1	0	0	1	107
18:15	79	5	1	0	0	0	85
18:30	67	12	2	0	1	1	83
18:45	85	7	0	0	2	0	94
<b>H/TOT</b>	318	42	4	0	3	2	369
<b>P/TOT</b>	910	150	26	6	19	4	1115

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 9 FROM HONEYPOT LANE TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	20	2	1	2	0	0	25
7:15	25	6	0	1	0	0	32
7:30	33	5	1	0	0	0	39
7:45	47	2	2	5	0	0	56
<b>H/TOT</b>	125	15	4	8	0	0	152
8:00	42	7	0	2	0	0	51
8:15	46	5	1	1	0	0	53
8:30	39	4	2	3	1	0	49
8:45	39	3	2	2	0	0	46
<b>H/TOT</b>	166	19	5	8	1	0	199
9:00	43	8	1	2	0	1	55
9:15	22	6	1	1	0	0	30
9:30	28	4	3	1	0	0	36
9:45	19	5	2	2	2	0	30
<b>H/TOT</b>	112	23	7	6	2	1	151
<b>P/TOT</b>	403	57	16	22	3	1	502

TIME	MOVEMENT 10 FROM WHITCHURCH LANE TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	9	2	2	1	0	0	14
7:15	17	7	1	2	1	1	29
7:30	19	5	2	1	1	1	29
7:45	21	5	1	1	0	1	29
<b>H/TOT</b>	66	19	6	5	2	3	101
8:00	25	4	1	1	0	0	31
8:15	34	1	1	3	2	0	41
8:30	24	5	3	1	0	1	34
8:45	35	6	1	1	0	0	43
<b>H/TOT</b>	118	16	6	6	2	1	149
9:00	18	4	2	2	0	0	26
9:15	23	2	1	1	1	0	28
9:30	20	7	1	2	0	0	30
9:45	19	6	3	2	1	0	31
<b>H/TOT</b>	80	19	7	7	2	0	115
<b>P/TOT</b>	264	54	19	18	6	4	365



# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 9 FROM HONEYPOT LANE TO WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	35	7	0	1	0	0	43
16:15	39	6	2	2	1	0	50
16:30	38	3	2	2	0	0	45
16:45	30	6	0	1	0	0	37
<b>H/TOT</b>	142	22	4	6	1	0	175
17:00	45	7	0	1	0	0	53
17:15	36	3	0	1	0	0	40
17:30	28	5	0	2	0	0	35
17:45	40	4	2	0	0	0	46
<b>H/TOT</b>	149	19	2	4	0	0	174
18:00	46	8	0	2	0	0	56
18:15	29	3	1	1	0	0	34
18:30	39	1	0	1	0	0	41
18:45	23	3	0	1	1	0	28
<b>H/TOT</b>	137	15	1	5	1	0	159
<b>P/TOT</b>	428	56	7	15	2	0	508

TIME	MOVEMENT 10 FROM WHITCHURCH LANE TO HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	22	5	1	1	1	0	30
16:15	27	6	0	1	0	0	34
16:30	19	2	0	1	1	0	23
16:45	30	4	0	1	1	0	36
<b>H/TOT</b>	98	17	1	4	3	0	123
17:00	18	2	2	2	0	0	24
17:15	21	4	0	1	0	0	26
17:30	37	6	1	1	0	0	45
17:45	13	3	0	1	0	0	17
<b>H/TOT</b>	89	15	3	5	0	0	112
18:00	25	1	1	1	0	0	28
18:15	28	4	2	2	0	0	36
18:30	27	2	0	1	0	0	30
18:45	19	2	0	1	0	0	22
<b>H/TOT</b>	99	9	3	5	0	0	116
<b>P/TOT</b>	286	41	7	14	3	0	351

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 11						
	FROM WHITCHURCH LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	33	7	0	3	0	0	43
7:15	58	16	1	1	0	0	76
7:30	73	10	0	1	0	1	85
7:45	65	6	1	3	1	0	76
<b>H/TOT</b>	<b>229</b>	<b>39</b>	<b>2</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>280</b>
8:00	77	11	3	0	2	1	94
8:15	62	7	1	1	0	2	73
8:30	65	5	0	4	1	2	77
8:45	58	7	3	2	1	0	71
<b>H/TOT</b>	<b>262</b>	<b>30</b>	<b>7</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>315</b>
9:00	54	13	0	6	1	0	74
9:15	40	7	3	2	0	0	52
9:30	39	9	1	2	0	0	51
9:45	36	9	2	5	0	1	53
<b>H/TOT</b>	<b>169</b>	<b>38</b>	<b>6</b>	<b>15</b>	<b>1</b>	<b>1</b>	<b>230</b>
<b>P/TOT</b>	<b>660</b>	<b>107</b>	<b>15</b>	<b>30</b>	<b>6</b>	<b>7</b>	<b>825</b>

TIME	MOVEMENT 12						
	FROM WHITCHURCH LANE TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	5	1	0	1	0	0	7
7:15	5	2	0	2	1	0	10
7:30	12	2	1	2	0	0	17
7:45	6	2	1	5	0	0	14
<b>H/TOT</b>	<b>28</b>	<b>7</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>48</b>
8:00	11	1	2	1	0	1	16
8:15	9	1	0	2	0	0	12
8:30	11	1	0	1	0	0	13
8:45	14	1	1	1	1	0	18
<b>H/TOT</b>	<b>45</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>59</b>
9:00	12	1	1	1	0	0	15
9:15	7	0	0	0	0	0	7
9:30	9	5	0	2	0	0	16
9:45	5	2	0	1	0	0	8
<b>H/TOT</b>	<b>33</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>46</b>
<b>P/TOT</b>	<b>106</b>	<b>19</b>	<b>6</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>153</b>

154

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	MOVEMENT 11						
	FROM WHITCHURCH LANE TO WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	68	11	1	1	0	0	81
16:15	71	12	2	3	1	1	90
16:30	65	12	0	1	0	0	78
16:45	62	5	0	1	1	1	70
<b>H/TOT</b>	266	40	3	6	2	2	319
17:00	64	10	2	3	1	1	81
17:15	90	6	0	0	1	1	98
17:30	77	12	1	2	0	2	94
17:45	69	10	2	0	1	1	83
<b>H/TOT</b>	300	38	5	5	3	5	356
18:00	67	12	2	2	1	1	85
18:15	83	12	0	0	1	0	96
18:30	65	10	0	2	0	0	77
18:45	88	8	0	1	0	2	99
<b>H/TOT</b>	303	42	2	5	2	3	357
<b>P/TOT</b>	869	120	10	16	7	10	1032

TIME	MOVEMENT 12						
	FROM WHITCHURCH LANE TO MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	23	1	0	2	1	0	27
16:15	13	1	0	1	0	0	15
16:30	19	1	0	1	0	0	21
16:45	25	1	0	1	0	0	27
<b>H/TOT</b>	80	4	0	5	1	0	90
17:00	11	0	0	2	0	0	13
17:15	16	2	0	1	1	0	20
17:30	22	0	0	1	0	0	23
17:45	13	2	0	2	0	0	17
<b>H/TOT</b>	62	4	0	6	1	0	73
18:00	18	1	0	1	0	1	21
18:15	13	2	0	2	1	1	19
18:30	21	0	1	1	0	1	24
18:45	17	1	0	1	0	0	19
<b>H/TOT</b>	69	4	1	5	1	3	83
<b>P/TOT</b>	211	12	1	16	3	3	246

155

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM A MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	52	13	6	2	1	0	74
7:15	77	23	0	3	1	1	105
7:30	80	11	7	5	2	1	106
7:45	92	11	3	7	1	2	116
<b>H/TOT</b>	301	58	16	17	5	4	401
8:00	89	12	3	3	0	1	108
8:15	98	13	7	2	0	0	120
8:30	108	13	2	1	1	0	125
8:45	111	16	5	1	1	0	134
<b>H/TOT</b>	406	54	17	7	2	1	487
9:00	100	14	4	1	0	1	120
9:15	82	7	5	0	1	0	95
9:30	70	25	3	3	0	1	102
9:45	74	10	5	2	1	0	92
<b>H/TOT</b>	326	56	17	6	2	2	409
<b>P/TOT</b>	1033	168	50	30	9	7	1297

TIME	FROM ARM A MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	83	19	8	3	2	3	118
7:15	98	25	3	5	2	2	135
7:30	118	12	5	1	3	2	141
7:45	155	18	4	5	0	0	182
<b>H/TOT</b>	454	74	20	14	7	7	576
8:00	131	15	4	3	0	1	154
8:15	167	27	6	2	1	2	205
8:30	153	14	6	4	0	0	177
8:45	143	16	0	6	1	0	166
<b>H/TOT</b>	594	72	16	15	2	3	702
9:00	107	19	2	1	0	0	129
9:15	142	19	5	6	1	1	174
9:30	88	22	7	2	0	0	119
9:45	114	21	4	1	1	1	142
<b>H/TOT</b>	451	81	18	10	2	2	564
<b>P/TOT</b>	1499	227	54	39	11	12	1842

156

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM A MARSH LANE							FROM ARM A MARSH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
11:00	109	23	6	5	3	0	146	101	17	3	2	2	0	125
16:15	88	15	5	2	1	0	111	103	11	6	2	0	0	122
16:30	111	18	5	2	2	0	138	73	8	11	4	0	0	96
16:45	100	15	2	1	4	0	122	90	11	6	3	3	1	114
<b>H/TOT</b>	<b>408</b>	<b>71</b>	<b>18</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>517</b>	<b>367</b>	<b>47</b>	<b>26</b>	<b>11</b>	<b>5</b>	<b>1</b>	<b>457</b>
17:00	101	13	5	3	1	1	124	111	17	0	2	0	0	130
17:15	109	18	3	2	3	0	135	106	19	3	2	2	0	132
17:30	124	11	0	1	5	0	141	99	11	5	1	2	0	118
17:45	100	19	0	2	1	1	123	110	11	4	2	1	0	128
<b>H/TOT</b>	<b>434</b>	<b>61</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>2</b>	<b>523</b>	<b>426</b>	<b>58</b>	<b>12</b>	<b>7</b>	<b>5</b>	<b>0</b>	<b>508</b>
18:00	119	20	1	1	0	2	143	105	7	2	3	0	0	117
18:15	116	7	1	2	1	1	128	111	7	3	1	2	2	126
18:30	102	15	3	1	2	2	125	118	9	2	2	1	3	135
18:45	110	12	0	1	2	0	125	102	8	3	2	4	0	119
<b>H/TOT</b>	<b>447</b>	<b>54</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>521</b>	<b>436</b>	<b>31</b>	<b>10</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>497</b>
<b>P/TOT</b>	<b>1289</b>	<b>186</b>	<b>31</b>	<b>23</b>	<b>25</b>	<b>7</b>	<b>1561</b>	<b>1229</b>	<b>136</b>	<b>48</b>	<b>26</b>	<b>17</b>	<b>6</b>	<b>1462</b>

TO ARM A IS TOTAL OF MOVEMENTS 4, 8, 12

FROM ARM A IS TOTAL OF MOVEMENTS 1, 2, 3

157

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM B WEMBOROUGH ROAD							FROM ARM B WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	47	10	2	4	1	0	64	105	26	4	2	1	4	142
7:15	71	20	1	1	0	0	93	156	25	1	1	0	0	183
7:30	98	17	1	1	0	1	118	131	22	3	5	1	1	163
7:45	99	14	3	3	1	0	120	136	10	1	2	3	2	154
<b>H/TOT</b>	<b>315</b>	<b>61</b>	<b>7</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>395</b>	<b>528</b>	<b>83</b>	<b>9</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>642</b>
8:00	104	13	4	0	2	1	124	153	12	2	5	1	0	173
8:15	101	16	4	1	0	3	125	127	8	2	2	1	1	141
8:30	113	10	3	6	1	2	135	122	7	1	3	0	1	134
8:45	88	10	3	3	2	0	106	107	6	1	2	0	1	117
<b>H/TOT</b>	<b>406</b>	<b>49</b>	<b>14</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>490</b>	<b>509</b>	<b>33</b>	<b>6</b>	<b>12</b>	<b>2</b>	<b>3</b>	<b>565</b>
9:00	86	19	1	6	1	0	113	146	15	1	1	3	0	166
9:15	74	12	7	2	1	0	96	107	10	4	1	1	0	123
9:30	73	18	3	2	0	0	96	95	16	4	1	3	0	119
9:45	69	15	3	5	0	1	93	104	15	2	4	0	0	125
<b>H/TOT</b>	<b>302</b>	<b>64</b>	<b>14</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>398</b>	<b>452</b>	<b>56</b>	<b>11</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>533</b>
<b>P/TOT</b>	<b>1023</b>	<b>174</b>	<b>35</b>	<b>34</b>	<b>9</b>	<b>8</b>	<b>1283</b>	<b>1489</b>	<b>172</b>	<b>26</b>	<b>29</b>	<b>14</b>	<b>10</b>	<b>1740</b>

158

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM B WEMBOROUGH ROAD							FROM ARM B WEMBOROUGH ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	125	30	4	1	2	0	162	108	12	2	4	1	1	128
16:15	119	18	3	3	1	1	145	103	15	3	1	1	0	123
16:30	126	20	3	2	0	0	151	128	24	5	1	0	1	159
16:45	116	12	1	2	1	1	133	129	18	2	1	1	1	152
<b>H/TOT</b>	<b>486</b>	<b>80</b>	<b>11</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>591</b>	<b>468</b>	<b>69</b>	<b>12</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>562</b>
17:00	116	16	3	4	3	2	144	113	7	1	2	2	0	125
17:15	157	16	0	0	3	1	177	134	17	1	2	2	0	156
17:30	117	17	4	2	0	2	142	147	17	1	1	1	2	169
17:45	131	18	2	0	1	2	154	134	13	1	1	0	1	150
<b>H/TOT</b>	<b>521</b>	<b>67</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>617</b>	<b>528</b>	<b>54</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>600</b>
18:00	126	14	4	3	2	1	150	114	14	1	2	1	0	132
18:15	138	19	0	0	2	0	159	134	4	3	2	0	0	143
18:30	127	17	1	2	2	0	149	114	7	0	1	1	2	125
18:45	136	16	0	1	1	2	156	113	12	0	1	3	0	129
<b>H/TOT</b>	<b>527</b>	<b>66</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>3</b>	<b>614</b>	<b>475</b>	<b>37</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>529</b>
<b>P/TOT</b>	<b>1534</b>	<b>213</b>	<b>25</b>	<b>20</b>	<b>18</b>	<b>12</b>	<b>1822</b>	<b>1471</b>	<b>160</b>	<b>20</b>	<b>19</b>	<b>13</b>	<b>8</b>	<b>1691</b>

TO ARM B IS TOTAL OF MOVEMENTS 3, 7, 11

FROM ARM B IS TOTAL OF MOVEMENTS 4, 5, 6

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM C HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	94	32	7	3	1	2	139
7:15	126	30	4	5	2	2	169
7:30	126	23	8	1	4	2	164
7:45	143	23	5	4	1	1	177
<b>H/TOT</b>	<b>489</b>	<b>108</b>	<b>24</b>	<b>13</b>	<b>8</b>	<b>7</b>	<b>649</b>
8:00	142	20	5	5	0	1	173
8:15	175	20	5	3	3	1	207
8:30	154	14	7	3	0	1	179
8:45	161	24	2	2	0	0	189
<b>H/TOT</b>	<b>632</b>	<b>78</b>	<b>19</b>	<b>13</b>	<b>3</b>	<b>3</b>	<b>748</b>
9:00	121	22	3	3	0	0	149
9:15	150	20	5	5	1	0	181
9:30	106	27	9	2	1	0	145
9:45	123	25	8	3	2	0	161
<b>H/TOT</b>	<b>500</b>	<b>94</b>	<b>25</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>636</b>
<b>P/TOT</b>	<b>1621</b>	<b>280</b>	<b>68</b>	<b>39</b>	<b>15</b>	<b>10</b>	<b>2033</b>

TIME	FROM ARM C HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	66	16	6	3	1	0	92
7:15	91	27	0	2	0	1	121
7:30	98	17	8	3	2	1	129
7:45	139	18	6	6	1	1	171
<b>H/TOT</b>	<b>394</b>	<b>78</b>	<b>20</b>	<b>14</b>	<b>4</b>	<b>3</b>	<b>513</b>
8:00	124	15	1	3	0	0	143
8:15	142	18	8	1	0	0	169
8:30	136	17	5	4	2	0	164
8:45	138	19	6	2	0	0	165
<b>H/TOT</b>	<b>540</b>	<b>69</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>641</b>
9:00	132	25	4	2	0	2	165
9:15	98	15	7	1	1	0	122
9:30	105	25	6	2	0	1	139
9:45	84	13	8	2	3	0	110
<b>H/TOT</b>	<b>419</b>	<b>78</b>	<b>25</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>536</b>
<b>P/TOT</b>	<b>1353</b>	<b>225</b>	<b>65</b>	<b>31</b>	<b>10</b>	<b>6</b>	<b>1690</b>

160



# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM C HONEYPOT LANE							FROM ARM C HONEYPOT LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	101	14	4	2	2	0	123	140	36	8	4	3	0	191
16:15	124	16	8	2	1	0	151	135	22	7	3	2	0	169
16:30	97	13	12	2	1	0	125	158	23	8	3	2	0	194
16:45	121	22	7	1	3	1	155	131	25	2	2	4	0	164
<b>H/TOT</b>	<b>443</b>	<b>65</b>	<b>31</b>	<b>7</b>	<b>7</b>	<b>1</b>	<b>554</b>	<b>564</b>	<b>106</b>	<b>25</b>	<b>12</b>	<b>11</b>	<b>0</b>	<b>718</b>
17:00	133	18	2	2	0	0	155	171	25	5	3	2	2	208
17:15	111	24	3	1	3	0	142	160	25	3	1	4	0	193
17:30	142	21	5	1	1	0	170	143	21	1	2	4	0	171
17:45	124	14	4	2	1	0	145	151	24	2	0	1	2	180
<b>H/TOT</b>	<b>510</b>	<b>77</b>	<b>14</b>	<b>6</b>	<b>5</b>	<b>0</b>	<b>612</b>	<b>625</b>	<b>95</b>	<b>11</b>	<b>6</b>	<b>11</b>	<b>4</b>	<b>752</b>
18:00	124	11	3	2	0	0	140	175	28	3	3	1	1	211
18:15	139	10	7	3	2	2	163	149	14	2	1	1	0	167
18:30	134	11	1	1	0	3	150	146	18	2	1	2	1	170
18:45	122	8	3	1	3	0	137	139	15	0	1	3	0	158
<b>H/TOT</b>	<b>519</b>	<b>40</b>	<b>14</b>	<b>7</b>	<b>5</b>	<b>5</b>	<b>590</b>	<b>609</b>	<b>75</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>2</b>	<b>706</b>
<b>P/TOT</b>	<b>1472</b>	<b>182</b>	<b>59</b>	<b>20</b>	<b>17</b>	<b>6</b>	<b>1756</b>	<b>1798</b>	<b>276</b>	<b>43</b>	<b>24</b>	<b>29</b>	<b>6</b>	<b>2176</b>

TO ARM C IS TOTAL OF MOVEMENTS 2, 6, 10

FROM ARM C IS TOTAL OF MOVEMENTS 7, 8, 9

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM D WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	108	16	5	4	1	5	139
7:15	151	29	1	4	1	1	187
7:30	147	17	3	6	1	2	176
7:45	188	11	3	8	2	1	213
<b>H/TOT</b>	594	73	12	22	5	9	715
8:00	186	13	1	5	1	0	206
8:15	167	13	2	5	1	1	189
8:30	136	12	3	7	1	1	160
8:45	135	5	2	8	0	1	151
<b>H/TOT</b>	624	43	8	25	3	3	706
9:00	162	22	2	3	3	1	193
9:15	111	14	3	4	1	1	134
9:30	107	14	4	4	2	0	131
9:45	96	16	3	5	2	1	123
<b>H/TOT</b>	476	66	12	16	8	3	581
<b>P/TOT</b>	1694	182	32	63	16	15	2002

TIME	FROM ARM D WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	47	10	2	5	0	0	64
7:15	80	25	2	5	2	1	115
7:30	104	17	3	4	1	2	131
7:45	92	13	3	9	1	1	119
<b>H/TOT</b>	323	65	10	23	4	4	429
8:00	113	16	6	2	2	2	141
8:15	105	9	2	6	2	2	126
8:30	100	11	3	6	1	3	124
8:45	107	14	5	4	2	0	132
<b>H/TOT</b>	425	50	16	18	7	7	523
9:00	84	18	3	9	1	0	115
9:15	70	9	4	3	1	0	87
9:30	68	21	2	6	0	0	97
9:45	60	17	5	8	1	1	92
<b>H/TOT</b>	282	65	14	26	3	1	391
<b>P/TOT</b>	1030	180	40	67	14	12	1343

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 1

DATE: 18-06-14

LOCATION: MARSH LANE / WEMBOROUGH ROAD / HONEYPOT LANE / WHITCHURCH LANE

DAY: WEDNESDAY

TIME	TO ARM D WHITCHURCH LANE							FROM ARM D WHITCHURCH LANE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	127	15	1	6	1	1	151	113	17	2	4	2	0	138
16:15	121	18	2	4	1	0	146	111	19	2	5	1	1	139
16:30	128	19	4	5	0	1	157	103	15	0	3	1	0	122
16:45	130	15	0	5	2	1	153	117	10	0	3	2	1	133
<b>H/TOT</b>	506	67	7	20	4	3	607	444	61	4	15	6	2	532
17:00	138	14	0	5	1	0	158	93	12	4	7	1	1	118
17:15	150	15	1	4	1	0	171	127	12	0	2	2	1	144
17:30	142	18	0	4	1	2	167	136	18	2	4	0	2	162
17:45	135	12	3	2	0	1	153	95	15	2	3	1	1	117
<b>H/TOT</b>	565	59	4	15	3	3	649	451	57	8	16	4	5	541
18:00	135	18	1	6	1	0	161	110	14	3	4	1	2	134
18:15	125	7	2	3	0	0	137	124	18	2	4	2	1	151
18:30	128	3	0	4	0	2	137	113	12	1	4	0	1	131
18:45	110	10	0	4	4	0	128	124	11	0	3	0	2	140
<b>H/TOT</b>	498	38	3	17	5	2	563	471	55	6	15	3	6	556
<b>P/TOT</b>	1569	164	14	52	12	8	1819	1366	173	18	46	13	13	1629

TO ARM D IS TOTAL OF MOVEMENTS 1, 5, 9

FROM ARM D IS TOTAL OF MOVEMENTS 10, 11, 12

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 2

LOCATION: WHITCHURCH SCHOOLS / WEMBOROUGH ROAD

DATE: 18/06/2014

DAY: WEDNESDAY

TIME	MOVEMENT 1 FROM WHITCHURCH SCHOOLS TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0
7:45	1	1	0	0	0	0	2
<b>H/TOT</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
8:00	2	0	0	0	0	0	2
8:15	12	0	0	0	0	0	12
8:30	24	1	0	0	0	0	25
8:45	30	0	0	0	0	1	31
<b>H/TOT</b>	<b>68</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>70</b>
9:00	21	0	0	0	0	0	21
9:15	2	0	0	0	0	0	2
9:30	1	0	0	0	0	0	1
9:45	2	0	0	0	0	0	2
<b>H/TOT</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>
<b>P/TOT</b>	<b>95</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>98</b>

TIME	MOVEMENT 2 FROM WHITCHURCH SCHOOLS TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0
7:45	4	0	0	0	0	0	4
<b>H/TOT</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
8:00	4	0	0	0	0	0	4
8:15	9	0	0	0	0	0	9
8:30	22	1	0	0	0	0	23
8:45	45	1	0	0	0	0	46
<b>H/TOT</b>	<b>80</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>82</b>
9:00	16	0	0	0	0	0	16
9:15	3	0	0	0	0	0	3
9:30	0	0	0	0	0	0	0
9:45	3	0	0	0	0	0	3
<b>H/TOT</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>
<b>P/TOT</b>	<b>106</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>108</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 2

DATE: 18/06/2014

LOCATION: WHITCHURCH SCHOOLS / WEMBOROUGH ROAD

DAY: WEDNESDAY

TIME	MOVEMENT 1 FROM WHITCHURCH SCHOOLS TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	2	0	0	0	0	0	2
16:15	5	0	0	0	0	0	5
16:30	10	0	0	0	0	0	10
16:45	4	0	0	0	0	0	4
<b>H/TOT</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>
17:00	1	0	0	0	0	0	1
17:15	1	0	0	0	0	0	1
17:30	5	1	0	0	0	0	6
17:45	6	0	0	0	0	0	6
<b>H/TOT</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
18:00	2	0	0	1	0	0	3
18:15	0	0	0	0	0	0	0
18:30	2	0	0	0	0	0	2
18:45	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>P/TOT</b>	<b>38</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>

TIME	MOVEMENT 2 FROM WHITCHURCH SCHOOLS TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	6	0	0	0	0	0	6
16:15	2	0	0	0	0	0	2
16:30	22	0	0	0	0	1	23
16:45	5	0	0	0	0	0	5
<b>H/TOT</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>36</b>
17:00	6	0	0	0	0	0	6
17:15	2	0	0	0	0	0	2
17:30	10	0	0	0	0	0	10
17:45	14	0	0	0	0	0	14
<b>H/TOT</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>
18:00	2	0	0	0	0	0	2
18:15	3	0	0	0	0	0	3
18:30	1	0	0	0	0	0	1
18:45	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>P/TOT</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>74</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 2

DATE: 18/06/2014

LOCATION: WHITCHURCH SCHOOLS / WEMBOROUGH ROAD

DAY: WEDNESDAY

TIME	MOVEMENT 3 FROM WEMBOROUGH ROAD (W) TO WHITCHURCH SCHOOLS						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	0	0	0	0	0	0	0
7:15	5	0	0	0	1	0	6
7:30	2	1	0	0	0	0	3
7:45	8	1	0	0	0	0	9
<b>H/TOT</b>	15	2	0	0	1	0	18
8:00	12	0	0	0	0	0	12
8:15	42	1	0	0	0	0	43
8:30	45	0	0	0	0	0	45
8:45	23	1	0	0	0	0	24
<b>H/TOT</b>	122	2	0	0	0	0	124
9:00	2	0	0	0	0	0	2
9:15	12	0	0	0	0	0	12
9:30	8	0	0	0	0	0	8
9:45	1	0	0	0	0	0	1
<b>H/TOT</b>	23	0	0	0	0	0	23
<b>P/TOT</b>	160	4	0	0	1	0	165

TIME	MOVEMENT 4 FROM WEMBOROUGH ROAD (E) TO WHITCHURCH SCHOOLS						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	0	0	0	0	0	0	0
7:15	1	0	0	0	0	0	1
7:30	0	0	0	0	0	0	0
7:45	4	0	0	0	0	0	4
<b>H/TOT</b>	5	0	0	0	0	0	5
8:00	12	0	0	0	0	0	12
8:15	12	0	0	0	0	0	12
8:30	40	1	0	0	0	2	43
8:45	33	1	0	0	0	0	34
<b>H/TOT</b>	97	2	0	0	0	2	101
9:00	3	0	0	0	0	0	3
9:15	7	0	0	0	0	0	7
9:30	8	0	0	0	0	0	8
9:45	9	0	0	0	0	0	9
<b>H/TOT</b>	27	0	0	0	0	0	27
<b>P/TOT</b>	129	2	0	0	0	2	133

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 2

DATE: 18/06/2014

LOCATION: WHITCHURCH SCHOOLS / WEMBOROUGH ROAD

DAY: WEDNESDAY

TIME	MOVEMENT 3 FROM WEMBOROUGH ROAD (W) TO WHITCHURCH SCHOOLS						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	2	0	0	0	0	0	2
16:15	7	0	0	0	0	0	7
16:30	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>
17:00	3	0	0	0	0	0	3
17:15	3	0	0	0	0	0	3
17:30	3	0	0	0	0	0	3
17:45	3	0	0	0	0	0	3
<b>H/TOT</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>
18:00	3	0	0	0	0	0	3
18:15	1	0	0	0	0	0	1
18:30	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
<b>P/TOT</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>

TIME	MOVEMENT 4 FROM WEMBOROUGH ROAD (E) TO WHITCHURCH SCHOOLS						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	3	0	0	0	0	0	3
16:15	8	0	0	0	0	0	8
16:30	8	0	0	0	0	0	8
16:45	2	0	0	0	0	0	2
<b>H/TOT</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>
17:00	2	0	0	0	0	0	2
17:15	5	0	0	0	0	0	5
17:30	1	1	0	0	0	0	2
17:45	1	0	0	0	0	0	1
<b>H/TOT</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>
18:00	1	0	0	0	0	0	1
18:15	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>P/TOT</b>	<b>31</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 1 FROM ABERCORN ROAD TO WEMBOROUGH ROAD (E)							MOVEMENT 2 FROM ABERCORN ROAD TO ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	30	7	0	0	0	0	37	44	5	0	0	0	0	49
7:15	32	3	1	0	0	1	37	59	7	0	1	0	0	67
7:30	28	5	0	1	0	1	35	88	9	0	1	0	1	99
7:45	29	6	0	0	0	0	35	84	10	0	1	0	0	95
<b>H/TOT</b>	119	21	1	1	0	2	144	275	31	0	3	0	1	310
8:00	37	4	0	1	0	0	42	108	1	1	2	0	0	112
8:15	42	0	0	1	1	1	45	84	2	0	0	0	1	87
8:30	45	0	0	0	0	0	45	50	4	0	1	0	0	55
8:45	34	2	0	0	0	0	36	57	4	0	1	0	0	62
<b>H/TOT</b>	158	6	0	2	1	1	168	299	11	1	4	0	1	316
9:00	26	1	0	0	0	0	27	87	6	0	0	2	0	95
9:15	28	2	0	0	0	0	30	55	5	0	1	0	0	61
9:30	19	3	1	0	0	0	23	38	4	0	0	0	0	42
9:45	38	3	0	1	0	0	42	41	4	1	2	0	0	48
<b>H/TOT</b>	111	9	1	1	0	0	122	221	19	1	3	2	0	246
<b>P/TOT</b>	388	36	2	4	1	3	434	795	61	2	10	2	2	872



**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 1 FROM ABERCORN ROAD TO WEMBOROUGH ROAD (E)							MOVEMENT 2 FROM ABERCORN ROAD TO ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	30	2	2	1	0	1	36	38	4	0	1	1	0	44
16:15	35	0	0	0	1	0	36	46	6	0	0	1	0	53
16:30	30	5	2	0	0	0	37	45	8	0	1	1	0	55
16:45	33	6	0	0	0	0	39	63	6	0	1	0	1	71
<b>H/TOT</b>	<b>128</b>	<b>13</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>148</b>	<b>192</b>	<b>24</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>223</b>
17:00	33	4	0	0	0	0	37	59	5	2	2	0	0	68
17:15	37	3	0	0	1	0	41	68	2	0	0	0	0	70
17:30	30	5	0	0	0	0	35	69	3	1	2	0	1	76
17:45	39	5	0	0	0	0	44	62	4	0	1	0	0	67
<b>H/TOT</b>	<b>139</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>157</b>	<b>258</b>	<b>14</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>281</b>
18:00	37	3	0	0	0	0	40	69	4	0	1	2	0	76
18:15	45	5	1	0	0	0	51	61	3	0	1	1	0	66
18:30	40	4	0	0	0	0	44	59	4	0	0	0	0	63
18:45	38	1	1	0	0	0	40	59	1	0	1	0	0	61
<b>H/TOT</b>	<b>160</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>175</b>	<b>248</b>	<b>12</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>266</b>
<b>P/TOT</b>	<b>427</b>	<b>43</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>480</b>	<b>698</b>	<b>50</b>	<b>3</b>	<b>11</b>	<b>6</b>	<b>2</b>	<b>770</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 3 FROM ABERCORN ROAD TO WEMBOROUGH ROAD (W)							MOVEMENT 4 FROM ABERCORN ROAD TO ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	16	2	0	0	0	0	18	1	0	0	0	0	0	1
7:15	10	2	0	2	1	0	15	0	0	0	0	0	0	0
7:30	17	1	1	0	0	1	20	0	0	0	0	0	0	0
7:45	10	4	1	0	0	0	15	1	0	0	0	0	0	1
<b>H/TOT</b>	53	9	2	2	1	1	68	2	0	0	0	0	0	2
8:00	14	0	0	0	0	0	14	0	0	0	0	0	0	0
8:15	19	2	0	0	0	0	21	1	0	0	0	0	0	1
8:30	15	1	0	0	0	1	17	5	0	0	0	0	0	5
8:45	21	1	1	0	1	1	25	5	0	1	0	0	0	6
<b>H/TOT</b>	69	4	1	0	1	2	77	11	0	1	0	0	0	12
9:00	13	2	0	0	1	0	16	0	0	0	0	0	0	0
9:15	28	1	0	1	0	0	30	0	0	0	0	0	0	0
9:30	15	6	0	1	0	0	22	0	0	0	0	0	0	0
9:45	19	0	0	0	0	1	20	0	0	0	0	0	0	0
<b>H/TOT</b>	75	9	0	2	1	1	88	0	0	0	0	0	0	0
<b>P/TOT</b>	197	22	3	4	3	4	233	13	0	1	0	0	0	14

# MANUAL CLASSIFIED COUNTS



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 3 FROM ABERCORN ROAD TO WEMBOROUGH ROAD (W)							MOVEMENT 4 FROM ABERCORN ROAD TO ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	15	3	0	1	0	0	19	0	0	0	0	0	0	0
16:15	26	4	0	0	0	1	31	2	0	0	0	0	0	2
16:30	30	1	0	0	0	0	31	2	0	0	0	0	0	2
16:45	33	3	0	0	1	4	41	0	0	0	0	0	0	0
<b>H/TOT</b>	104	11	0	1	1	5	122	4	0	0	0	0	0	4
17:00	31	4	0	0	0	0	35	0	0	0	0	0	0	0
17:15	24	4	0	0	0	0	28	0	0	0	0	0	0	0
17:30	41	3	0	0	0	0	44	0	0	0	0	0	0	0
17:45	36	4	0	0	0	2	42	1	0	0	0	0	0	1
<b>H/TOT</b>	132	15	0	0	0	2	149	1	0	0	0	0	0	1
18:00	28	2	0	0	1	0	31	1	0	0	0	0	0	1
18:15	24	3	0	0	0	0	27	0	0	0	0	0	0	0
18:30	39	0	1	0	1	0	41	1	0	0	0	0	0	1
18:45	37	4	0	0	2	0	43	2	0	0	0	0	0	2
<b>H/TOT</b>	128	9	1	0	4	0	142	4	0	0	0	0	0	4
<b>P/TOT</b>	364	35	1	1	5	7	413	9	0	0	0	0	0	9

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 5 FROM WEMBOROUGH ROAD (W) TO ABERCORN ROAD							MOVEMENT 6 FROM WEMBOROUGH ROAD (W) TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	18	1	0	0	0	0	19	68	17	4	2	1	4	96
7:15	30	5	0	1	0	1	37	96	15	1	2	0	0	114
7:30	30	8	1	0	0	0	39	105	17	2	3	3	1	131
7:45	31	2	0	0	0	1	34	87	6	1	4	0	0	98
<b>H/TOT</b>	109	16	1	1	0	2	129	356	55	8	11	4	5	439
8:00	40	6	1	0	0	0	47	87	8	2	2	1	0	100
8:15	20	0	0	0	0	0	20	91	9	1	2	0	0	103
8:30	16	1	0	1	0	1	19	37	6	0	0	0	0	43
8:45	16	4	1	0	1	0	22	81	6	0	2	1	0	90
<b>H/TOT</b>	92	11	2	1	1	1	108	296	29	3	6	2	0	336
9:00	39	0	1	1	0	0	41	70	12	3	1	2	0	88
9:15	35	3	0	1	1	0	40	62	10	1	2	0	1	76
9:30	25	1	0	0	0	1	27	77	10	2	1	2	1	93
9:45	20	1	2	0	0	1	24	60	8	3	2	0	0	73
<b>H/TOT</b>	119	5	3	2	1	2	132	269	40	9	6	4	2	330
<b>P/TOT</b>	320	32	6	4	2	5	369	921	124	20	23	10	7	1105

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 5 FROM WEMBOROUGH ROAD (W) TO ABERCORN ROAD							MOVEMENT 6 FROM WEMBOROUGH ROAD (W) TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	26	4	1	0	1	0	32	64	7	3	1	1	0	76
16:15	29	1	1	0	2	0	33	65	13	2	1	0	0	81
16:30	31	7	0	0	0	0	38	64	15	3	1	0	1	84
16:45	32	2	1	0	0	0	35	77	11	2	1	1	1	93
<b>H/TOT</b>	<b>118</b>	<b>14</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>138</b>	<b>270</b>	<b>46</b>	<b>10</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>334</b>
17:00	35	3	0	0	0	0	38	77	5	1	2	2	0	87
17:15	37	2	0	0	0	0	39	95	16	1	2	1	0	115
17:30	24	0	0	0	1	0	25	75	6	0	1	0	2	84
17:45	29	4	0	0	0	0	33	86	6	0	1	0	1	94
<b>H/TOT</b>	<b>125</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>135</b>	<b>333</b>	<b>33</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>380</b>
18:00	26	1	0	0	1	0	28	77	9	2	2	1	0	91
18:15	35	2	0	0	1	0	38	76	4	1	1	0	0	82
18:30	30	2	1	0	1	1	35	65	2	0	1	2	1	71
18:45	44	2	0	0	2	0	48	70	8	0	1	2	0	81
<b>H/TOT</b>	<b>135</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>149</b>	<b>288</b>	<b>23</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>325</b>
<b>P/TOT</b>	<b>378</b>	<b>30</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>422</b>	<b>891</b>	<b>102</b>	<b>15</b>	<b>15</b>	<b>10</b>	<b>6</b>	<b>1039</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 3

LOCATION: ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

DATE: 18/06/2014

DAY: WEDNESDAY

TIME	MOVEMENT 7 FROM WEMBOROUGH ROAD (W) TO ST. ANDREWS DRIVE							MOVEMENT 8 FROM WEMBOROUGH ROAD (W) TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	12	0	1	0	0	0	13	0	0	0	0	0	0	0
7:15	12	3	0	0	0	0	15	0	0	0	0	0	0	0
7:30	17	4	1	0	0	0	22	0	0	0	0	0	0	0
7:45	14	3	0	0	0	0	17	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>55</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
8:00	14	1	0	0	0	0	15	0	0	0	0	0	0	0
8:15	20	4	0	0	0	0	24	0	0	0	0	0	0	0
8:30	12	1	0	0	0	0	13	0	0	0	0	0	0	0
8:45	10	0	0	0	0	0	10	1	0	0	0	0	0	1
<b>H/TOT</b>	<b>56</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
9:00	14	1	0	0	0	0	15	1	0	0	0	0	0	1
9:15	7	2	0	0	0	0	9	0	0	0	0	0	0	0
9:30	12	1	0	0	0	0	13	1	0	0	0	0	0	1
9:45	6	1	0	0	0	0	7	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>39</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>P/TOT</b>	<b>150</b>	<b>21</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>173</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	MOVEMENT 7 FROM WEMBOROUGH ROAD (W) TO ST. ANDREWS DRIVE							MOVEMENT 8 FROM WEMBOROUGH ROAD (W) TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	10	1	0	0	0	0	11	0	0	0	0	0	0	0
16:15	7	1	0	0	0	0	8	0	0	0	0	0	0	0
16:30	8	3	0	0	0	0	11	0	0	0	0	0	0	0
16:45	9	1	0	0	0	0	10	0	0	0	0	0	0	0
<b>H/TOT</b>	34	6	0	0	0	0	40	0	0	0	0	0	0	0
17:00	10	2	0	0	0	0	12	0	0	0	0	0	0	0
17:15	11	2	0	0	0	0	13	0	0	0	0	0	0	0
17:30	8	1	0	0	0	0	9	0	0	0	0	0	0	0
17:45	17	0	0	1	0	0	18	0	0	0	0	0	0	0
<b>H/TOT</b>	46	5	0	1	0	0	52	0	0	0	0	0	0	0
18:00	13	1	0	0	0	0	14	0	0	0	0	0	0	0
18:15	12	3	0	0	0	0	15	0	0	0	0	0	0	0
18:30	10	1	0	0	0	0	11	0	0	0	0	0	0	0
18:45	14	0	0	0	0	0	14	0	0	0	0	0	0	0
<b>H/TOT</b>	49	5	0	0	0	0	54	0	0	0	0	0	0	0
<b>P/TOT</b>	129	16	0	1	0	0	146	0	0	0	0	0	0	0

175

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 9 FROM ST. ANDREWS DRIVE TO WEMBOROUGH ROAD (W)							MOVEMENT 10 FROM ST. ANDREWS DRIVE TO ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	3	0	0	0	0	0	3	17	2	0	0	0	1	20
7:15	3	0	0	0	0	0	3	46	4	1	0	0	0	51
7:30	6	1	0	0	0	0	7	53	23	0	1	0	0	77
7:45	11	0	0	0	0	0	11	57	3	0	2	0	0	62
<b>H/TOT</b>	<b>23</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>173</b>	<b>32</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>210</b>
8:00	3	0	0	1	0	0	4	69	2	0	1	0	0	72
8:15	13	1	0	1	0	0	15	64	3	0	0	0	0	67
8:30	7	1	0	0	0	0	8	71	4	0	1	0	0	76
8:45	9	1	0	0	0	0	10	62	3	0	1	0	0	66
<b>H/TOT</b>	<b>32</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>266</b>	<b>12</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>281</b>
9:00	7	3	0	0	0	0	10	40	1	0	1	0	0	42
9:15	3	0	1	0	0	0	4	47	1	0	1	1	0	50
9:30	3	1	0	0	0	0	4	33	2	0	1	0	0	36
9:45	6	0	0	0	0	0	6	46	0	1	1	0	0	48
<b>H/TOT</b>	<b>19</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>166</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>176</b>
<b>P/TOT</b>	<b>74</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>85</b>	<b>605</b>	<b>48</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>667</b>



**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	MOVEMENT 9 FROM ST. ANDREWS DRIVE TO WEMBOROUGH ROAD (W)							MOVEMENT 10 FROM ST. ANDREWS DRIVE TO ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	10	0	0	0	0	0	10	73	3	0	1	0	0	77
16:15	11	1	1	0	0	0	13	66	3	1	1	0	0	71
16:30	5	2	0	0	0	0	7	53	9	1	1	1	0	65
16:45	10	1	1	0	0	0	12	65	2	0	0	0	0	67
<b>H/TOT</b>	36	4	2	0	0	0	42	257	17	2	3	1	0	280
17:00	7	0	0	0	0	0	7	76	4	0	1	0	0	81
17:15	9	2	0	0	0	0	11	72	4	0	1	0	0	77
17:30	13	2	0	0	0	0	15	64	1	0	1	0	1	67
17:45	12	0	0	0	0	0	12	67	2	0	0	0	0	69
<b>H/TOT</b>	41	4	0	0	0	0	45	279	11	0	3	0	1	294
18:00	10	2	0	0	0	1	13	55	4	0	1	0	0	60
18:15	15	1	0	0	0	0	16	51	4	1	1	0	0	57
18:30	8	0	0	0	0	0	8	59	3	0	1	0	0	63
18:45	6	1	0	0	0	0	7	50	3	0	0	0	0	53
<b>H/TOT</b>	39	4	0	0	0	1	44	215	14	1	3	0	0	233
<b>P/TOT</b>	116	12	2	0	0	1	131	751	42	3	9	1	1	807

177

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 11 FROM ST. ANDREWS DRIVE TO WEMBOROUGH ROAD (E)							MOVEMENT 12 FROM ST. ANDREWS DRIVE TO ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	14	3	0	0	0	0	17	0	0	0	0	0	0	0
7:15	14	2	0	1	1	0	18	0	0	0	0	0	0	0
7:30	14	0	0	0	0	0	14	0	0	0	0	0	0	0
7:45	20	2	0	0	0	0	22	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>62</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>71</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
8:00	9	0	0	0	0	0	9	1	0	0	0	0	0	1
8:15	13	0	0	0	0	0	13	0	0	0	0	0	0	0
8:30	16	0	0	0	0	0	16	0	0	0	0	0	0	0
8:45	9	0	1	0	0	0	10	1	0	0	0	0	0	1
<b>H/TOT</b>	<b>47</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
9:00	9	1	0	0	0	0	10	0	0	0	0	0	0	0
9:15	7	1	0	0	0	0	8	1	0	0	0	0	0	1
9:30	6	1	0	0	0	0	7	0	0	0	0	0	0	0
9:45	11	2	1	0	0	0	14	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>33</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>P/TOT</b>	<b>142</b>	<b>12</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>158</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 11 FROM ST. ANDREWS DRIVE TO WEMBOROUGH ROAD (E)							MOVEMENT 12 FROM ST. ANDREWS DRIVE TO ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	19	2	0	0	0	0	21	0	0	0	0	0	0	0
16:15	17	3	0	0	0	0	20	0	0	0	0	0	0	0
16:30	12	0	0	0	0	0	12	0	0	0	0	0	0	0
16:45	10	0	0	0	0	0	10	0	0	0	0	0	0	0
<b>H/TOT</b>	58	5	0	0	0	0	63	0	0	0	0	0	0	0
17:00	6	1	0	0	0	0	7	0	0	0	0	0	0	0
17:15	10	2	0	0	0	0	12	0	0	0	0	0	0	0
17:30	18	1	0	0	0	0	19	0	0	0	0	0	0	0
17:45	13	1	2	0	0	0	16	0	0	0	0	0	0	0
<b>H/TOT</b>	47	5	2	0	0	0	54	0	0	0	0	0	0	0
18:00	16	2	0	0	0	0	18	0	0	0	0	0	0	0
18:15	11	1	0	0	0	0	12	0	0	0	0	0	0	0
18:30	10	0	0	0	0	0	10	0	0	0	0	0	0	0
18:45	13	1	0	0	0	0	14	1	0	0	0	0	0	1
<b>H/TOT</b>	50	4	0	0	0	0	54	1	0	0	0	0	0	1
<b>P/TOT</b>	155	14	2	0	0	0	171	1	0	0	0	0	0	1

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 13 FROM WEMBOROUGH ROAD (E) TO ST. ANDREWS DRIVE							MOVEMENT 14 FROM WEMBOROUGH ROAD (E) TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	11	1	0	0	0	1	13	26	4	1	3	1	2	37
7:15	9	2	0	0	0	0	11	47	10	2	2	0	0	61
7:30	21	1	0	0	0	0	22	59	16	0	1	0	0	76
7:45	9	0	0	0	0	0	9	60	13	2	0	1	1	77
<b>H/TOT</b>	50	4	0	0	0	1	55	192	43	5	6	2	3	251
8:00	13	1	1	0	0	1	16	90	10	1	2	1	1	105
8:15	18	0	0	0	0	1	19	83	8	3	1	0	4	99
8:30	18	2	0	0	0	0	20	63	6	1	3	1	0	74
8:45	22	1	0	0	0	0	23	61	5	4	3	1	1	75
<b>H/TOT</b>	71	4	1	0	0	2	78	297	29	9	9	3	6	353
9:00	17	1	0	0	0	0	18	84	13	3	5	0	0	105
9:15	16	2	0	0	0	0	18	46	6	5	2	1	0	60
9:30	16	2	0	0	0	0	18	49	9	2	1	0	0	61
9:45	14	3	0	0	0	0	17	43	9	3	5	0	1	61
<b>H/TOT</b>	63	8	0	0	0	0	71	222	37	13	13	1	1	287
<b>P/TOT</b>	184	16	1	0	0	3	204	711	109	27	28	6	10	891

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	MOVEMENT 13 FROM WEMBOROUGH ROAD (E) TO ST. ANDREWS DRIVE							MOVEMENT 14 FROM WEMBOROUGH ROAD (E) TO WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	13	2	0	0	0	0	15	90	9	2	3	1	1	106
16:15	22	1	0	0	0	1	24	69	13	2	4	1	2	91
16:30	18	1	0	0	0	0	19	93	12	2	1	1	1	110
16:45	20	0	0	0	1	1	22	78	9	1	1	3	4	96
<b>H/TOT</b>	73	4	0	0	1	2	80	330	43	7	9	6	8	403
17:00	11	0	0	0	0	0	11	81	10	2	3	1	1	98
17:15	15	1	0	0	0	0	16	103	12	1	1	1	3	121
17:30	18	0	0	0	0	0	18	96	14	2	1	1	3	117
17:45	6	2	0	0	0	0	8	97	11	1	1	0	0	110
<b>H/TOT</b>	50	3	0	0	0	0	53	377	47	6	6	3	7	446
18:00	15	0	0	0	0	0	15	85	8	2	1	0	4	100
18:15	23	1	0	0	0	0	24	103	15	1	1	1	2	123
18:30	15	1	0	0	0	0	16	92	11	1	3	1	0	108
18:45	22	0	0	0	0	0	22	109	13	0	1	1	4	128
<b>H/TOT</b>	75	2	0	0	0	0	77	389	47	4	6	3	10	459
<b>P/TOT</b>	198	9	0	0	1	2	210	1096	137	17	21	12	25	1308

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 3

LOCATION: ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

DATE: 18/06/2014

DAY: WEDNESDAY

TIME	MOVEMENT 15 FROM WEMBOROUGH ROAD (E) TO ABERCORN ROAD							MOVEMENT 16 FROM WEMBOROUGH ROAD (E) TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	14	7	0	0	0	0	21	0	0	0	0	0	0	0
7:15	25	6	1	0	1	0	33	0	1	0	0	0	0	1
7:30	42	7	0	0	0	0	49	1	0	0	0	0	0	1
7:45	56	1	0	0	0	0	57	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>137</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>160</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
8:00	38	0	2	0	0	0	40	0	0	0	0	0	0	0
8:15	45	5	0	0	0	0	50	0	1	0	0	0	0	1
8:30	33	3	0	1	0	0	37	0	0	0	0	0	0	0
8:45	39	2	0	1	0	0	42	0	0	0	0	0	0	0
<b>H/TOT</b>	<b>155</b>	<b>10</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>169</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
9:00	43	5	0	0	0	0	48	0	1	0	0	0	0	1
9:15	19	3	0	0	0	1	23	2	0	1	0	0	0	3
9:30	17	4	1	0	0	0	22	2	0	0	0	0	0	2
9:45	23	2	0	0	0	0	25	0	1	0	0	0	0	1
<b>H/TOT</b>	<b>102</b>	<b>14</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>118</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
<b>P/TOT</b>	<b>394</b>	<b>45</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>447</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

# MANUAL CLASSIFIED COUNTS



JOB REF: 17658

JOB NAME: WHITCHURCH FIELDS

SITE: 3

LOCATION: ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

DATE: 18/06/2014

DAY: WEDNESDAY

TIME	MOVEMENT 15 FROM WEMBOROUGH ROAD (E) TO ABERCORN ROAD							MOVEMENT 16 FROM WEMBOROUGH ROAD (E) TO WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	53	3	0	0	1	0	57	0	0	0	0	0	0	0
16:15	51	5	1	0	0	0	57	1	0	0	0	0	0	1
16:30	52	10	0	1	0	0	63	0	0	0	0	0	0	0
16:45	45	5	0	1	0	0	51	1	0	0	0	0	0	1
<b>H/TOT</b>	201	23	1	2	1	0	228	2	0	0	0	0	0	2
17:00	73	6	0	0	1	0	80	0	0	0	0	0	0	0
17:15	56	4	0	0	1	0	61	0	0	0	0	0	0	0
17:30	52	3	0	0	0	0	55	0	0	0	0	0	0	0
17:45	43	3	0	0	0	1	47	0	0	0	0	0	0	0
<b>H/TOT</b>	224	16	0	0	2	1	243	0	0	0	0	0	0	0
18:00	72	4	1	0	1	0	78	0	0	0	0	0	0	0
18:15	52	3	1	0	1	0	57	0	0	0	0	0	0	0
18:30	54	4	0	0	0	0	58	0	0	0	0	0	0	0
18:45	46	3	0	0	0	0	49	0	0	0	0	0	0	0
<b>H/TOT</b>	224	14	2	0	2	0	242	0	0	0	0	0	0	0
<b>P/TOT</b>	649	53	3	2	5	1	713	2	0	0	0	0	0	2

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM A ABERCORN ROAD							FROM ARM A ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	50	10	0	0	0	1	61	91	14	0	0	0	0	105
7:15	101	15	2	1	1	1	121	101	12	1	3	1	1	119
7:30	125	38	1	1	0	0	165	133	15	1	2	0	3	154
7:45	145	6	0	2	0	1	154	124	20	1	1	0	0	146
<b>H/TOT</b>	<b>421</b>	<b>69</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>501</b>	<b>449</b>	<b>61</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>524</b>
8:00	147	8	3	1	0	0	159	159	5	1	3	0	0	168
8:15	130	8	0	0	0	0	138	146	4	0	1	1	2	154
8:30	125	8	0	3	0	1	137	115	5	0	1	0	1	122
8:45	122	9	2	2	1	0	136	117	7	2	1	1	1	129
<b>H/TOT</b>	<b>524</b>	<b>33</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>570</b>	<b>537</b>	<b>21</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>573</b>
9:00	122	6	1	2	0	0	131	126	9	0	0	3	0	138
9:15	101	7	0	2	2	1	113	111	8	0	2	0	0	121
9:30	75	7	1	1	0	1	85	72	13	1	1	0	0	87
9:45	89	3	3	1	0	1	97	98	7	1	3	0	1	110
<b>H/TOT</b>	<b>387</b>	<b>23</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>426</b>	<b>407</b>	<b>37</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>456</b>
<b>P/TOT</b>	<b>1332</b>	<b>125</b>	<b>13</b>	<b>16</b>	<b>4</b>	<b>7</b>	<b>1497</b>	<b>1393</b>	<b>119</b>	<b>8</b>	<b>18</b>	<b>6</b>	<b>9</b>	<b>1553</b>



**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM A ABERCORN ROAD							FROM ARM A ABERCORN ROAD						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	152	10	1	1	2	0	166	83	9	2	3	1	1	99
16:15	148	9	3	1	2	0	163	109	10	0	0	2	1	122
16:30	138	26	1	2	1	0	168	107	14	2	1	1	0	125
16:45	142	9	1	1	0	0	153	129	15	0	1	1	5	151
<b>H/TOT</b>	<b>580</b>	<b>54</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>650</b>	<b>428</b>	<b>48</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>497</b>
17:00	184	13	0	1	1	0	199	123	13	2	2	0	0	140
17:15	165	10	0	1	1	0	177	129	9	0	0	1	0	139
17:30	140	4	0	1	1	1	147	140	11	1	2	0	1	155
17:45	140	9	0	0	0	1	150	138	13	0	1	0	2	154
<b>H/TOT</b>	<b>629</b>	<b>36</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>673</b>	<b>530</b>	<b>46</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>588</b>
18:00	154	9	1	1	2	0	167	135	9	0	1	3	0	148
18:15	138	9	2	1	2	0	152	130	11	1	1	1	0	144
18:30	144	9	1	1	1	1	157	139	8	1	0	1	0	149
18:45	142	8	0	0	2	0	152	136	6	1	1	2	0	146
<b>H/TOT</b>	<b>578</b>	<b>35</b>	<b>4</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>628</b>	<b>540</b>	<b>34</b>	<b>3</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>587</b>
<b>P/TOT</b>	<b>1787</b>	<b>125</b>	<b>10</b>	<b>11</b>	<b>15</b>	<b>3</b>	<b>1951</b>	<b>1498</b>	<b>128</b>	<b>10</b>	<b>13</b>	<b>13</b>	<b>10</b>	<b>1672</b>

TO ARM A IS TOTAL OF MOVEMENTS 4, 5, 10, 15  
 FROM ARM A IS TOTAL OF MOVEMENTS 1, 2, 3, 4

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	TO ARM B WEMBOROUGH ROAD (W)							FROM ARM B WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	45	6	1	3	1	2	58	98	18	5	2	1	4	128
7:15	60	12	2	4	1	0	79	138	23	1	3	0	1	166
7:30	82	18	1	1	0	1	103	152	29	4	3	3	1	192
7:45	81	17	3	0	1	1	103	132	11	1	4	0	1	149
<b>H/TOT</b>	<b>268</b>	<b>53</b>	<b>7</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>343</b>	<b>520</b>	<b>81</b>	<b>11</b>	<b>12</b>	<b>4</b>	<b>7</b>	<b>635</b>
8:00	107	10	1	3	1	1	123	141	15	3	2	1	0	162
8:15	115	11	3	2	0	4	135	131	13	1	2	0	0	147
8:30	85	8	1	3	1	1	99	65	8	0	1	0	1	75
8:45	92	7	5	3	2	2	111	108	10	1	2	2	0	123
<b>H/TOT</b>	<b>399</b>	<b>36</b>	<b>10</b>	<b>11</b>	<b>4</b>	<b>8</b>	<b>468</b>	<b>445</b>	<b>46</b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>507</b>
9:00	105	18	3	5	1	0	132	124	13	4	2	2	0	145
9:15	77	7	6	3	1	0	94	104	15	1	3	1	1	125
9:30	68	16	2	2	0	0	88	115	12	2	1	2	2	134
9:45	68	9	3	5	0	2	87	86	10	5	2	0	1	104
<b>H/TOT</b>	<b>318</b>	<b>50</b>	<b>14</b>	<b>15</b>	<b>2</b>	<b>2</b>	<b>401</b>	<b>429</b>	<b>50</b>	<b>12</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>508</b>
<b>P/TOT</b>	<b>985</b>	<b>139</b>	<b>31</b>	<b>34</b>	<b>9</b>	<b>14</b>	<b>1212</b>	<b>1394</b>	<b>177</b>	<b>28</b>	<b>27</b>	<b>12</b>	<b>12</b>	<b>1650</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM B WEMBOROUGH ROAD (W)							FROM ARM B WEMBOROUGH ROAD (W)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	115	12	2	4	1	1	135	100	12	4	1	2	0	119
16:15	106	18	3	4	1	3	135	101	15	3	1	2	0	122
16:30	128	15	2	1	1	1	148	103	25	3	1	0	1	133
16:45	121	13	2	1	4	8	149	118	14	3	1	1	1	138
<b>H/TOT</b>	470	58	9	10	7	13	567	422	66	13	4	5	2	512
17:00	119	14	2	3	1	1	140	122	10	1	2	2	0	137
17:15	136	18	1	1	1	3	160	143	20	1	2	1	0	167
17:30	150	19	2	1	1	3	176	107	7	0	1	1	2	118
17:45	145	15	1	1	0	2	164	132	10	0	2	0	1	145
<b>H/TOT</b>	550	66	6	6	3	9	640	504	47	2	7	4	3	567
18:00	123	12	2	1	1	5	144	116	11	2	2	2	0	133
18:15	142	19	1	1	1	2	166	123	9	1	1	1	0	135
18:30	139	11	2	3	2	0	157	105	5	1	1	3	2	117
18:45	152	18	0	1	3	4	178	128	10	0	1	4	0	143
<b>H/TOT</b>	556	60	5	6	7	11	645	472	35	4	5	10	2	528
<b>P/TOT</b>	1576	184	20	22	17	33	1852	1398	148	19	16	19	7	1607

TO ARM B IS TOTAL OF MOVEMENTS 3, 8, 9, 14  
 FROM ARM B IS TOTAL OF MOVEMENTS 5, 6, 7, 8

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM C ST. ANDREWS DRIVE							FROM ARM C ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	67	6	1	0	0	1	75	34	5	0	0	0	1	40
7:15	80	12	0	1	0	0	93	63	6	1	1	1	0	72
7:30	126	14	1	1	0	1	143	73	24	0	1	0	0	98
7:45	107	13	0	1	0	0	121	88	5	0	2	0	0	95
<b>H/TOT</b>	<b>380</b>	<b>45</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>432</b>	<b>258</b>	<b>40</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>305</b>
8:00	136	3	2	2	0	1	144	82	2	0	2	0	0	86
8:15	122	6	0	0	0	2	130	90	4	0	1	0	0	95
8:30	80	7	0	1	0	0	88	94	5	0	1	0	0	100
8:45	90	5	0	1	0	0	96	81	4	1	1	0	0	87
<b>H/TOT</b>	<b>428</b>	<b>21</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>458</b>	<b>347</b>	<b>15</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>368</b>
9:00	118	8	0	0	2	0	128	56	5	0	1	0	0	62
9:15	79	9	0	1	0	0	89	58	2	1	1	1	0	63
9:30	66	7	0	0	0	0	73	42	4	0	1	0	0	47
9:45	61	8	1	2	0	0	72	63	2	2	1	0	0	68
<b>H/TOT</b>	<b>324</b>	<b>32</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>362</b>	<b>219</b>	<b>13</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>240</b>
<b>P/TOT</b>	<b>1132</b>	<b>98</b>	<b>5</b>	<b>10</b>	<b>2</b>	<b>5</b>	<b>1252</b>	<b>824</b>	<b>68</b>	<b>5</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>913</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DATE:** 18/06/2014

**DAY:** WEDNESDAY

TIME	TO ARM C ST. ANDREWS DRIVE							FROM ARM C ST. ANDREWS DRIVE						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	61	7	0	1	1	0	70	102	5	0	1	0	0	108
16:15	75	8	0	0	1	1	85	94	7	2	1	0	0	104
16:30	71	12	0	1	1	0	85	70	11	1	1	1	0	84
16:45	92	7	0	1	1	2	103	85	3	1	0	0	0	89
<b>H/TOT</b>	<b>299</b>	<b>34</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>343</b>	<b>351</b>	<b>26</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>385</b>
17:00	80	7	2	2	0	0	91	89	5	0	1	0	0	95
17:15	94	5	0	0	0	0	99	91	8	0	1	0	0	100
17:30	95	4	1	2	0	1	103	95	4	0	1	0	1	101
17:45	85	6	0	2	0	0	93	92	3	2	0	0	0	97
<b>H/TOT</b>	<b>354</b>	<b>22</b>	<b>3</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>386</b>	<b>367</b>	<b>20</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>393</b>
18:00	97	5	0	1	2	0	105	81	8	0	1	0	1	91
18:15	96	7	0	1	1	0	105	77	6	1	1	0	0	85
18:30	84	6	0	0	0	0	90	77	3	0	1	0	0	81
18:45	96	1	0	1	0	0	98	70	5	0	0	0	0	75
<b>H/TOT</b>	<b>373</b>	<b>19</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>398</b>	<b>305</b>	<b>22</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>332</b>
<b>P/TOT</b>	<b>1026</b>	<b>75</b>	<b>3</b>	<b>12</b>	<b>7</b>	<b>4</b>	<b>1127</b>	<b>1023</b>	<b>68</b>	<b>7</b>	<b>9</b>	<b>1</b>	<b>2</b>	<b>1110</b>

TO ARM C IS TOTAL OF MOVEMENTS 2, 7, 12, 13  
 FROM ARM C IS TOTAL OF MOVEMENTS 9, 10, 11, 12

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM D WEMBOROUGH ROAD (E)							FROM ARM D WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
7:00	112	27	4	2	1	4	150	51	12	1	3	1	3	71
7:15	142	21	2	3	1	1	170	81	19	3	2	1	0	106
7:30	148	22	2	4	3	2	181	123	24	0	1	0	0	148
7:45	136	14	1	4	0	0	155	125	14	2	0	1	1	143
<b>H/TOT</b>	<b>538</b>	<b>84</b>	<b>9</b>	<b>13</b>	<b>5</b>	<b>7</b>	<b>656</b>	<b>380</b>	<b>69</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>468</b>
8:00	133	12	2	3	1	0	151	141	11	4	2	1	2	161
8:15	146	10	1	3	1	1	162	146	14	3	1	0	5	169
8:30	98	6	0	0	0	0	104	114	11	1	4	1	0	131
8:45	124	8	1	2	1	0	136	122	8	4	4	1	1	140
<b>H/TOT</b>	<b>501</b>	<b>36</b>	<b>4</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>553</b>	<b>523</b>	<b>44</b>	<b>12</b>	<b>11</b>	<b>3</b>	<b>8</b>	<b>601</b>
9:00	105	15	3	1	2	0	126	144	20	3	5	0	0	172
9:15	99	13	2	2	0	1	117	83	11	6	2	1	1	104
9:30	104	14	3	1	2	1	125	84	15	3	1	0	0	103
9:45	109	14	4	3	0	0	130	80	15	3	5	0	1	104
<b>H/TOT</b>	<b>417</b>	<b>56</b>	<b>12</b>	<b>7</b>	<b>4</b>	<b>2</b>	<b>498</b>	<b>391</b>	<b>61</b>	<b>15</b>	<b>13</b>	<b>1</b>	<b>2</b>	<b>483</b>
<b>P/TOT</b>	<b>1456</b>	<b>176</b>	<b>25</b>	<b>28</b>	<b>12</b>	<b>10</b>	<b>1707</b>	<b>1294</b>	<b>174</b>	<b>33</b>	<b>30</b>	<b>7</b>	<b>14</b>	<b>1552</b>

**MANUAL CLASSIFIED COUNTS**



**JOB REF:** 17658

**JOB NAME:** WHITCHURCH FIELDS

**SITE:** 3

**DATE:** 18/06/2014

**LOCATION:** ABERCORN ROAD / WEMBOROUGH ROAD / ST. ANDREWS DRIVE

**DAY:** WEDNESDAY

TIME	TO ARM D WEMBOROUGH ROAD (E)							FROM ARM D WEMBOROUGH ROAD (E)						
	CAR	LGV	HGV	PSV	MCL	PCL	TOT	CAR	LGV	HGV	PSV	MCL	PCL	TOT
16:00	113	11	5	2	1	1	133	156	14	2	3	2	1	178
16:15	118	16	2	1	1	0	138	143	19	3	4	1	3	173
16:30	106	20	5	1	0	1	133	163	23	2	2	1	1	192
16:45	121	17	2	1	1	1	143	144	14	1	2	4	5	170
<b>H/TOT</b>	<b>458</b>	<b>64</b>	<b>14</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>547</b>	<b>606</b>	<b>70</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>713</b>
17:00	116	10	1	2	2	0	131	165	16	2	3	2	1	189
17:15	142	21	1	2	2	0	168	174	17	1	1	2	3	198
17:30	123	12	0	1	0	2	138	166	17	2	1	1	3	190
17:45	138	12	2	1	0	1	154	146	16	1	1	0	1	165
<b>H/TOT</b>	<b>519</b>	<b>55</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>591</b>	<b>651</b>	<b>66</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>742</b>
18:00	130	14	2	2	1	0	149	172	12	3	1	1	4	193
18:15	132	10	2	1	0	0	145	178	19	2	1	2	2	204
18:30	115	6	0	1	2	1	125	161	16	1	3	1	0	182
18:45	121	10	1	1	2	0	135	177	16	0	1	1	4	199
<b>H/TOT</b>	<b>498</b>	<b>40</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>554</b>	<b>688</b>	<b>63</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>10</b>	<b>778</b>
<b>P/TOT</b>	<b>1475</b>	<b>159</b>	<b>23</b>	<b>16</b>	<b>12</b>	<b>7</b>	<b>1692</b>	<b>1945</b>	<b>199</b>	<b>20</b>	<b>23</b>	<b>18</b>	<b>28</b>	<b>2233</b>

TO ARM D IS TOTAL OF MOVEMENTS 1, 6, 11, 16

FROM ARM D IS TOTAL OF MOVEMENTS 13, 14, 15, 16

## **APPENDIX 6**

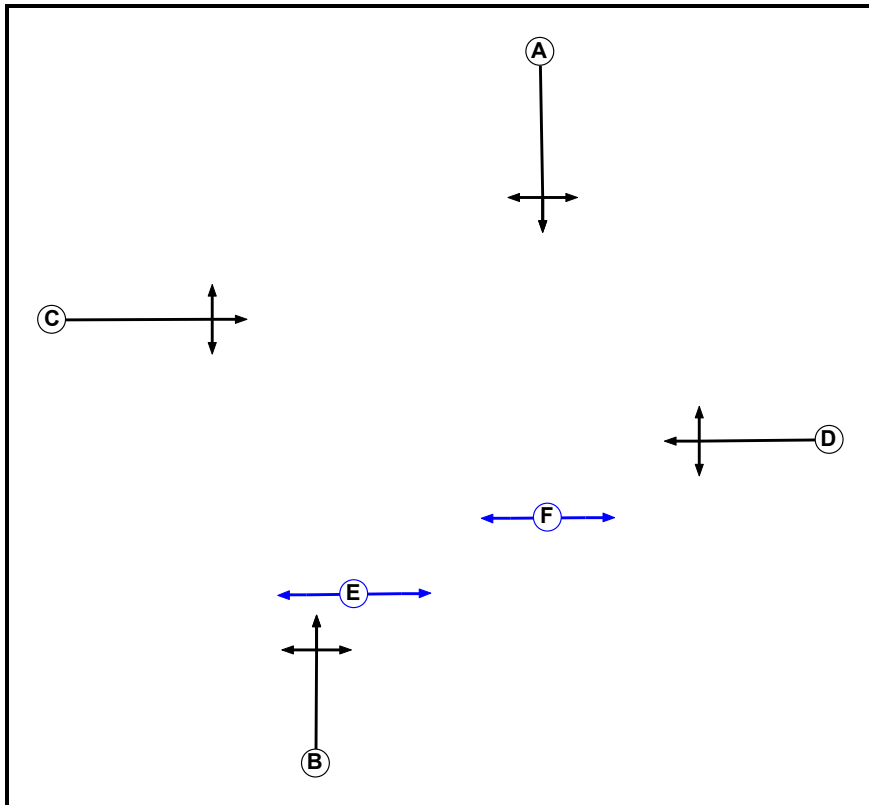


MTP Results Summary  
**MTP Results Summary**

**User and Project Details**

<b>Project:</b>	
<b>Title:</b>	
<b>Location:</b>	
<b>File name:</b>	2015-06 Whitchurch Lane - Wemborough Road - Honeypot Lane - Marsh Lane 14-042.lsg3x
<b>Author:</b>	
<b>Company:</b>	
<b>Address:</b>	
<b>Notes:</b>	

**Phase Diagram**



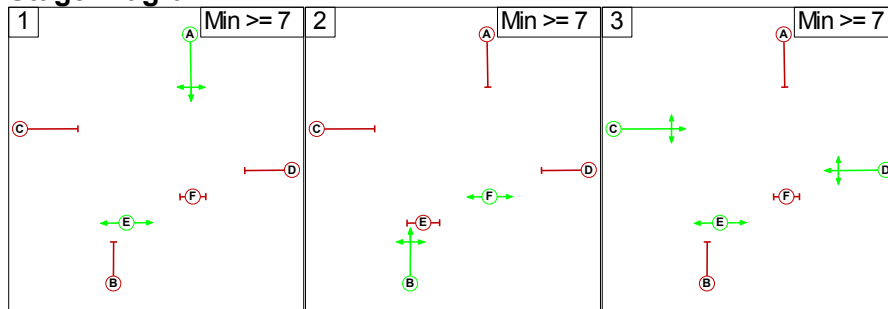
**Phase Input Data**

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		7	7

**Phase Intergreens Matrix**

	Starting Phase					
	A	B	C	D	E	F
Terminating Phase	A	6	7	7	-	9
	B	7	8	8	5	-
	C	8	8	-	-	10
	D	8	8	-	-	7
	E	-	8	-	-	-
	F	8	-	8	8	-

**Stage Diagram**

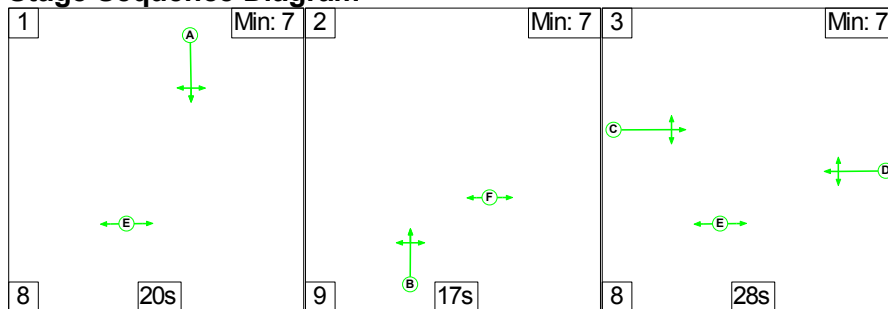


**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

**Scenario 1: 'AM Peak Surveyed' (FG1: 'AM Peak Surveyed', Plan 1: 'Network Control Plan 1')**

**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeypot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Peak Surveyed'	07:45	08:45	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

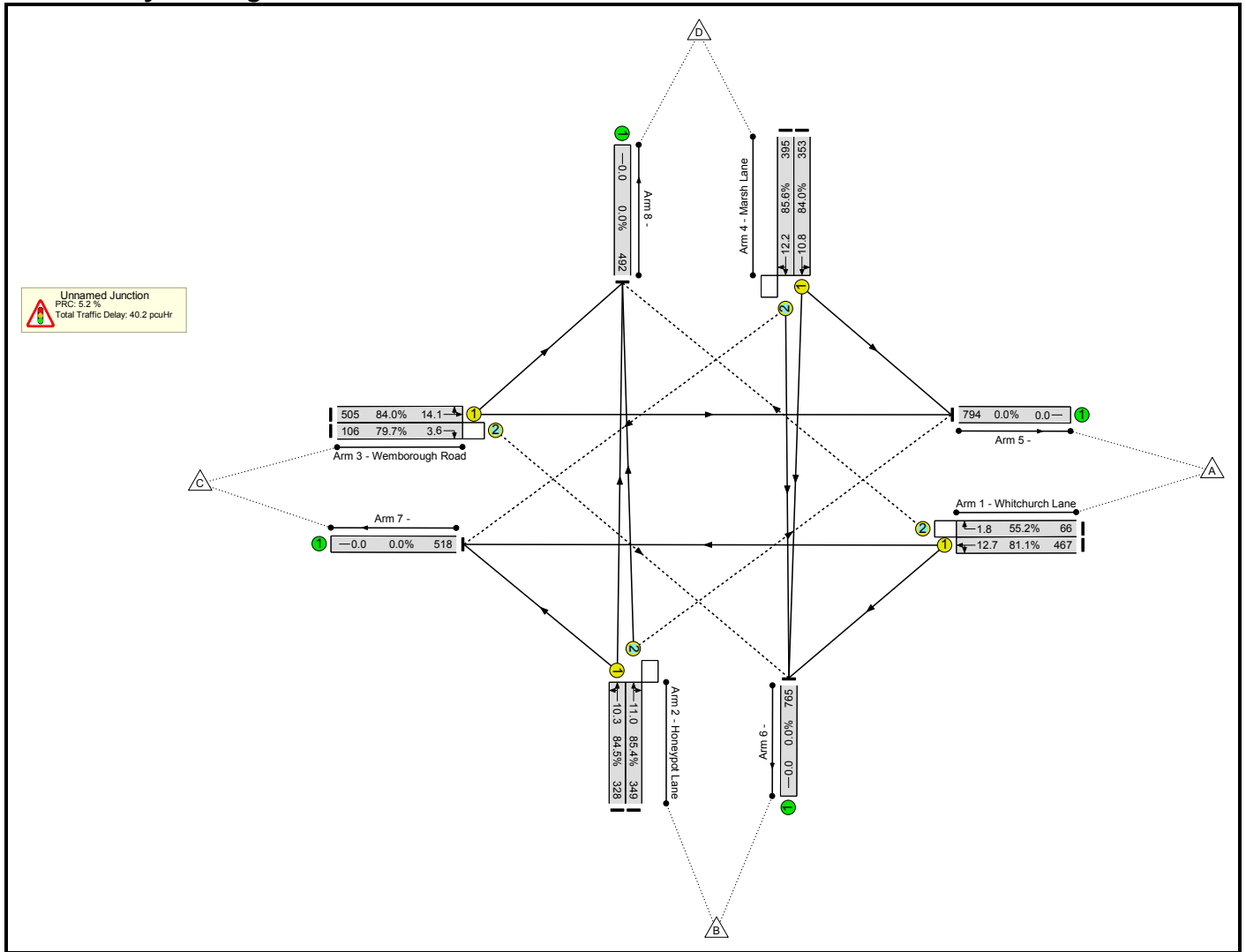
Origin	Destination					
	A	B	C	D	Tot.	
A	0	143	324	66	533	
B	224	0	80	373	677	
C	452	106	0	53	611	
D	118	516	114	0	748	
Tot.	794	765	518	492	2569	

MTP Results Summary

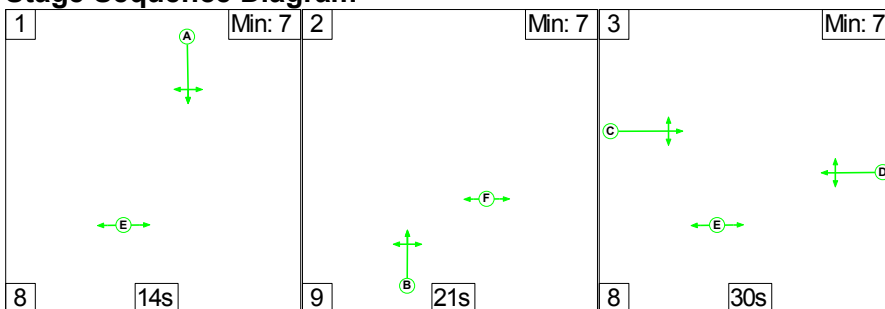
**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)						
<b>Network</b>	-	-	-		-	-	-	-	-	-	85.6%	133	330	47	40.2	-						
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	85.6%	133	330	47	40.2	-						
1/1	Whitchurch Lane Left Ahead	U	D		1	28	-	467	1788	576	81.1%	-	-	-	5.7	12.7						
1/2	Whitchurch Lane Right	O	D		1	28	-	66	1904	119	55.2%	59	0	7	1.4	1.8						
2/1	Honeypot Lane Left Ahead	U	B		1	18	-	328	1839	388	84.5%	-	-	-	5.6	10.3						
2/2	Honeypot Lane Right Ahead	O	B		1	18	-	349	1935	408	85.4%	0	219	5	6.0	11.0						
3/1	Wemborough Road Ahead Left	U	C		1	28	-	505	1865	601	84.0%	-	-	-	6.5	14.1						
3/2	Wemborough Road Right	O	C		1	28	-	106	1875	133	79.7%	74	0	32	3.0	3.6						
4/1	Marsh Lane Left Ahead	U	A		1	20	-	353	1800	420	84.0%	-	-	-	5.7	10.8						
4/2	Marsh Lane Ahead Right	O	A		1	20	-	395	1978	462	85.6%	0	111	3	6.4	12.2						
		C1	PRC for Signalled Lanes (%):		5.2		PRC Over All Lanes (%):		5.2		Total Delay for Signalled Lanes (pcuHr):		40.22		Total Delay Over All Lanes(pcuHr):		40.22		Cycle Time (s):		90	

MTP Results Summary  
**Network Layout Diagram**



**Scenario 2: 'PM Peak Surveyed'** (FG2: 'PM Peak Surveyed', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeygot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
2: 'PM Peak Surveyed'	16:15	17:15	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	122	325	81	528	
B	194	0	190	372	756	
C	377	134	0	58	569	
D	62	350	70	0	482	
Tot.	633	606	585	511	2335	



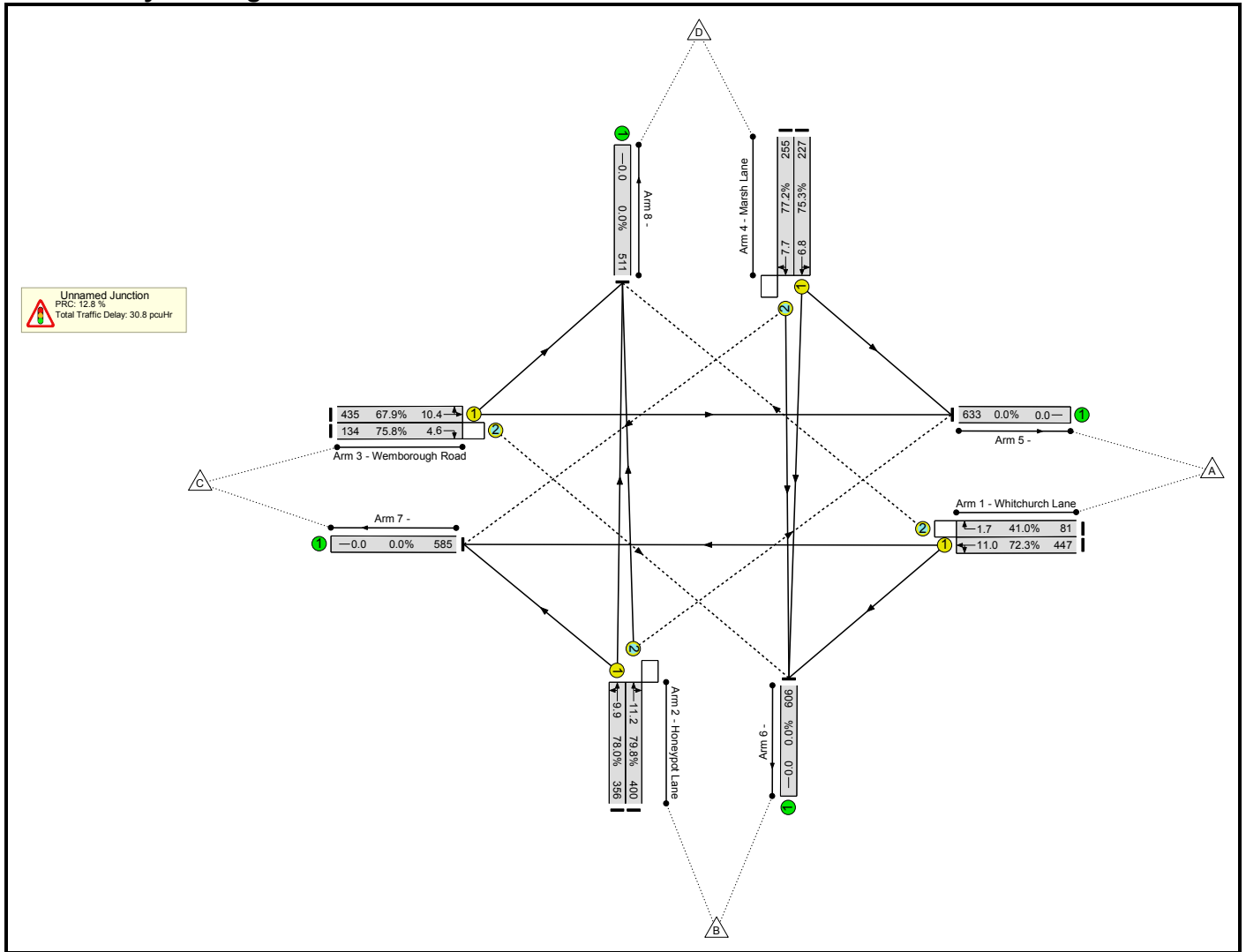
MTP Results Summary

**Network Results**

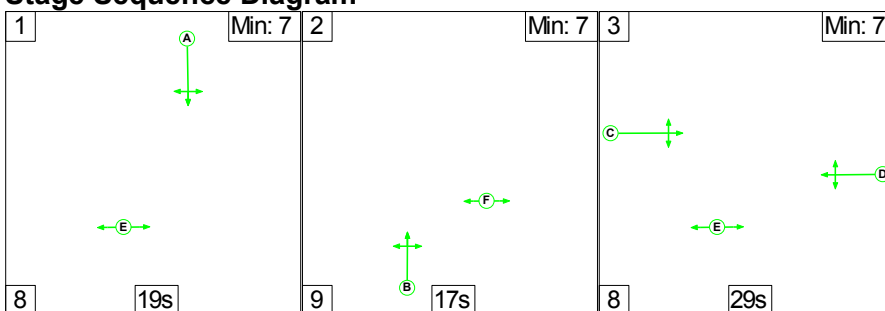
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)						
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>79.8%</b>	<b>199</b>	<b>258</b>	<b>22</b>	<b>30.8</b>	-						
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>79.8%</b>	<b>199</b>	<b>258</b>	<b>22</b>	<b>30.8</b>	-						
1/1	Whitchurch Lane Left Ahead	U	D		1	30	-	447	1796	619	72.3%	-	-	-	4.5	11.0						
1/2	Whitchurch Lane Right	O	D		1	30	-	81	1904	198	41.0%	81	0	0	1.2	1.7						
2/1	Honeypot Lane Left Ahead	U	B		1	22	-	356	1786	456	78.0%	-	-	-	4.8	9.9						
2/2	Honeypot Lane Right Ahead	O	B		1	22	-	400	1961	501	79.8%	0	190	4	5.4	11.2						
3/1	Wemborough Road Ahead Left	U	C		1	30	-	435	1860	641	67.9%	-	-	-	4.1	10.4						
3/2	Wemborough Road Right	O	C		1	30	-	134	1875	177	75.8%	118	0	16	3.0	4.6						
4/1	Marsh Lane Left Ahead	U	A		1	14	-	227	1809	302	75.3%	-	-	-	3.7	6.8						
4/2	Marsh Lane Ahead Right	O	A		1	14	-	255	1981	330	77.2%	0	68	2	4.2	7.7						
		C1	PRC for Signalled Lanes (%):		12.8		PRC Over All Lanes (%):		12.8		Total Delay for Signalled Lanes (pcuHr):		30.76		Total Delay Over All Lanes(pcuHr):		30.76		Cycle Time (s):		90	

201

MTP Results Summary  
**Network Layout Diagram**



**Scenario 3: 'AM Peak Base'** (FG3: 'AM Peak Base', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeypot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
3: 'AM Peak Base'	07:45	08:45	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	152	345	70	567	
B	238	0	85	397	720	
C	481	113	0	56	650	
D	125	550	121	0	796	
Tot.	844	815	551	523	2733	

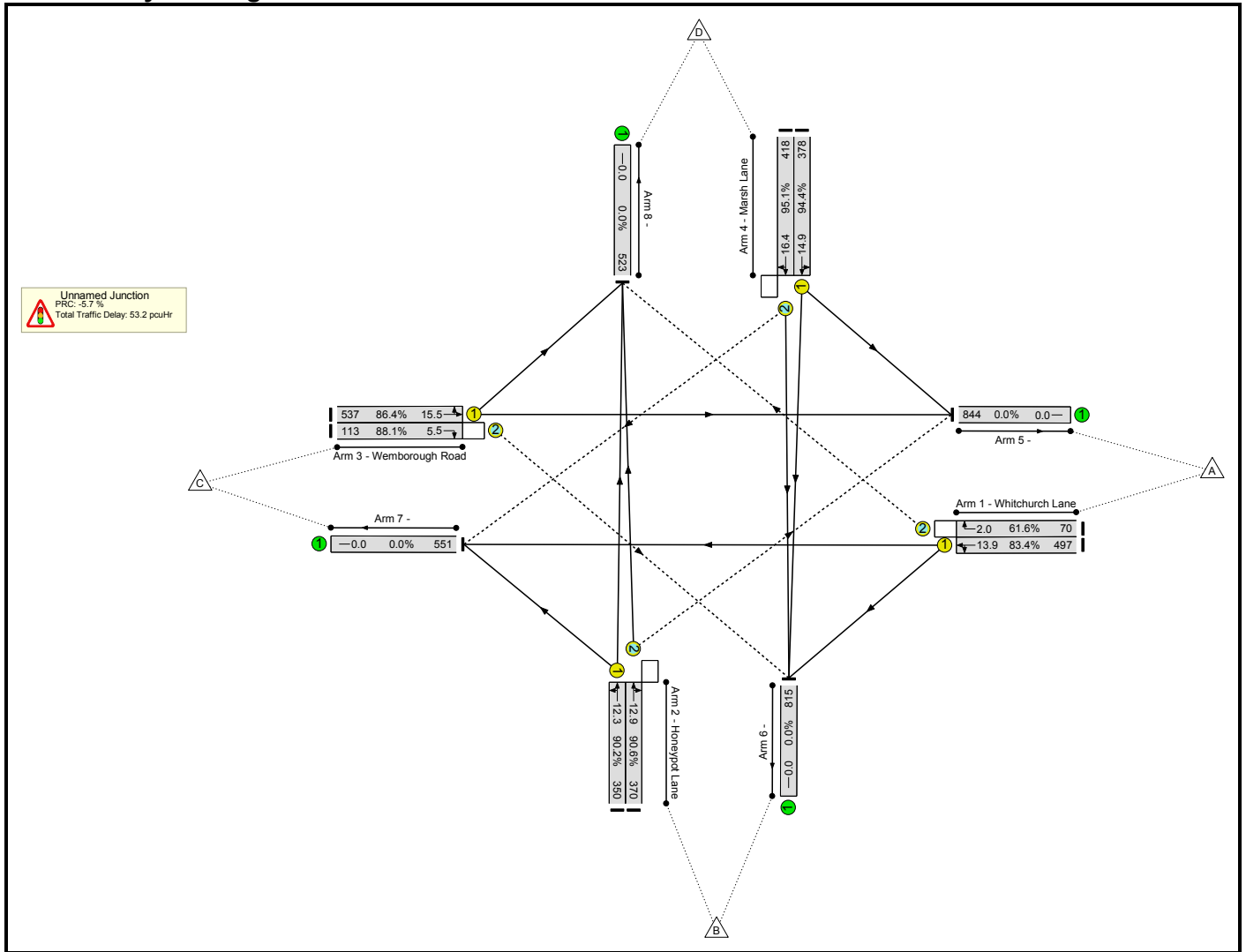
MTP Results Summary

**Network Results**

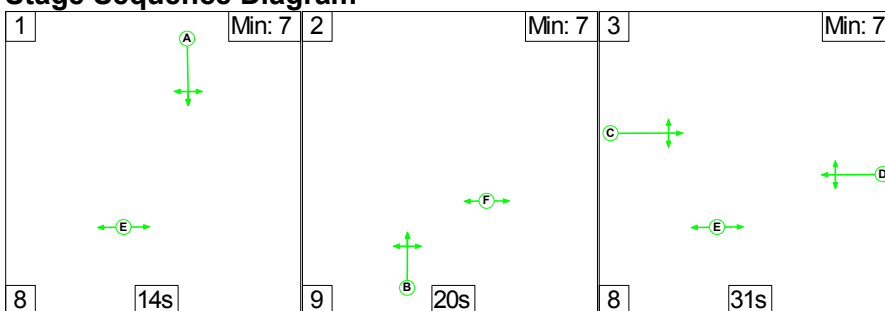
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)						
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>95.1%</b>	<b>121</b>	<b>347</b>	<b>74</b>	<b>53.2</b>	-						
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>95.1%</b>	<b>121</b>	<b>347</b>	<b>74</b>	<b>53.2</b>	-						
1/1	Whitchurch Lane Left Ahead	U	D		1	29	-	497	1788	596	83.4%	-	-	-	6.2	13.9						
1/2	Whitchurch Lane Right	O	D		1	29	-	70	1904	114	61.6%	53	0	17	1.6	2.0						
2/1	Honeypot Lane Left Ahead	U	B		1	18	-	350	1839	388	<b>90.2%</b>	-	-	-	7.2	12.3						
2/2	Honeypot Lane Right Ahead	O	B		1	18	-	370	1935	408	<b>90.6%</b>	0	233	5	7.5	12.9						
3/1	Wemborough Road Ahead Left	U	C		1	29	-	537	1865	622	86.4%	-	-	-	7.2	15.5						
3/2	Wemborough Road Right	O	C		1	29	-	113	1875	128	88.1%	68	0	45	4.1	<b>5.5</b>						
4/1	Marsh Lane Left Ahead	U	A		1	19	-	378	1801	400	<b>94.4%</b>	-	-	-	9.3	14.9						
4/2	Marsh Lane Ahead Right	O	A		1	19	-	418	1978	440	<b>95.1%</b>	0	115	6	10.2	<b>16.4</b>						
		C1	PRC for Signalled Lanes (%):		-5.7		PRC Over All Lanes (%):		-5.7		Total Delay for Signalled Lanes (pcuHr):		53.22		Total Delay Over All Lanes(pcuHr):		53.22		Cycle Time (s):		90	

205

MTP Results Summary  
**Network Layout Diagram**



**Scenario 4: 'PM Peak Base'** (FG4: 'PM Peak Base', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeygot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
4: 'PM Peak Base'	16:15	17:15	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	129	346	86	561	
B	207	0	202	396	805	
C	401	142	0	62	605	
D	66	382	74	0	522	
Tot.	674	653	622	544	2493	



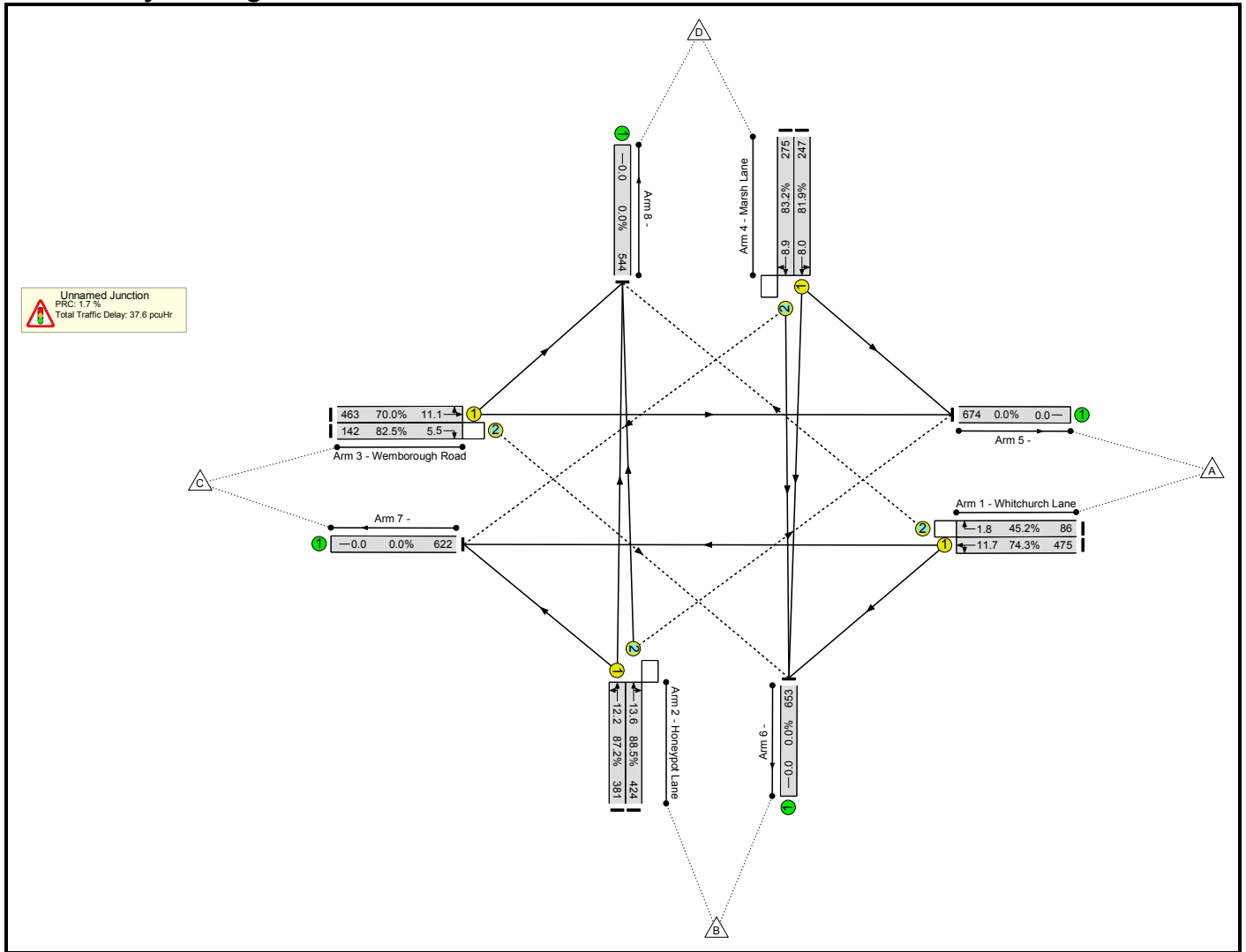
MTP Results Summary

**Network Results**

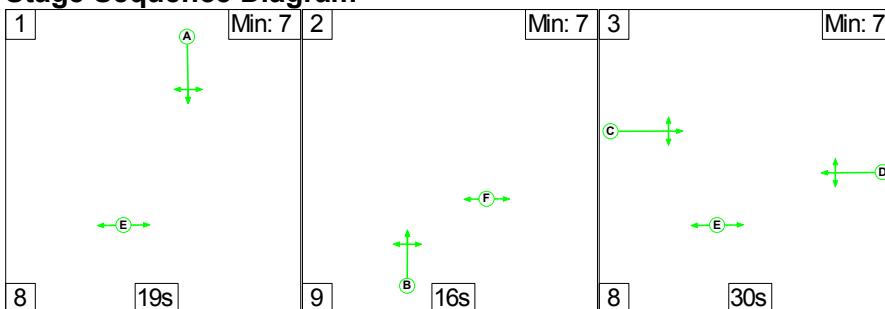
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network</b>	-	-	-		-	-	-	-	-	-	88.5%	199	275	36	37.6	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	88.5%	199	275	36	37.6	-
1/1	Whitchurch Lane Left Ahead	U	D		1	31	-	475	1797	639	74.3%	-	-	-	4.8	11.7
1/2	Whitchurch Lane Right	O	D		1	31	-	86	1904	190	45.2%	86	0	0	1.3	1.8
2/1	Honeypot Lane Left Ahead	U	B		1	21	-	381	1787	437	87.2%	-	-	-	6.5	12.2
2/2	Honeypot Lane Right Ahead	O	B		1	21	-	424	1960	479	88.5%	0	202	5	7.3	13.6
3/1	Wemborough Road Ahead Left	U	C		1	31	-	463	1860	661	70.0%	-	-	-	4.4	11.1
3/2	Wemborough Road Right	O	C		1	31	-	142	1875	172	82.5%	113	0	29	3.7	5.5
4/1	Marsh Lane Left Ahead	U	A		1	14	-	247	1810	302	81.9%	-	-	-	4.6	8.0
4/2	Marsh Lane Ahead Right	O	A		1	14	-	275	1982	330	83.2%	0	72	2	5.1	8.9
		C1	PRC for Signalled Lanes (%):		1.7		Total Delay for Signalled Lanes (pcuHr):		37.56		Cycle Time (s):		90			
			PRC Over All Lanes (%):		1.7		Total Delay Over All Lanes(pcuHr):		37.56							

209

MTP Results Summary  
**Network Layout Diagram**



**Scenario 5: 'AM Peak Base + CD'** (FG5: 'AM Peak Base + CD', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeypot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
5: 'AM Peak Base + CD'	07:45	08:45	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	152	363	70	585
	B	238	0	103	397	738
	C	499	131	0	74	704
	D	125	550	139	0	814
	Tot.	862	833	605	541	2841

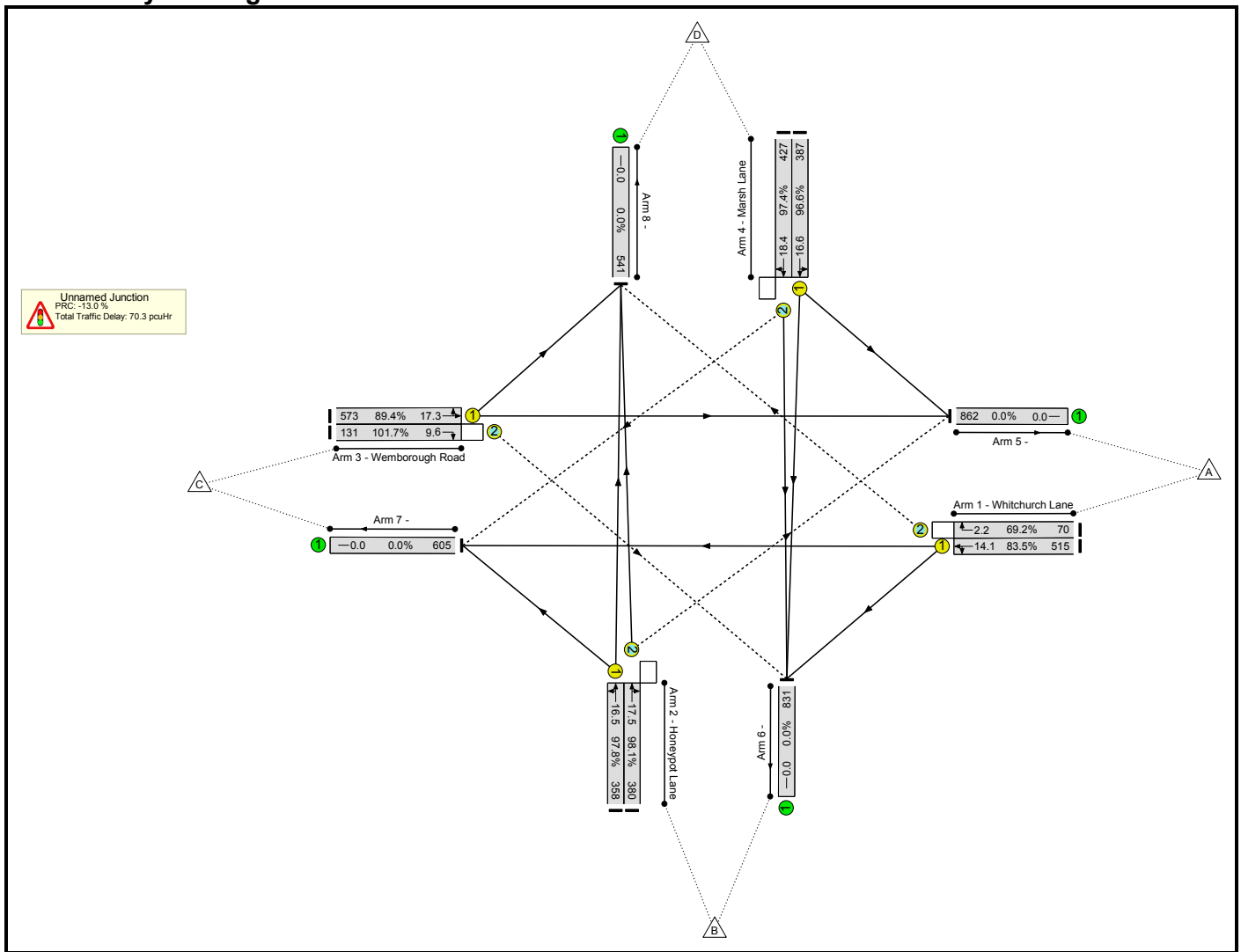
MTP Results Summary

**Network Results**

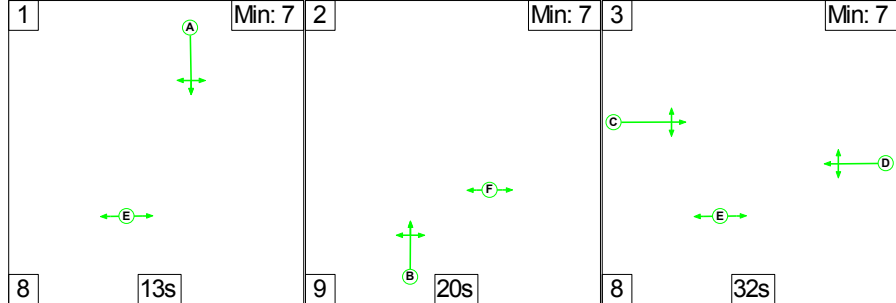
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network</b>	-	-	-		-	-	-	-	-	-	101.7%	109	344	122	70.3	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	101.7%	109	344	122	70.3	-
1/1	Whitchurch Lane Left Ahead	U	D		1	30	-	515	1791	617	83.5%	-	-	-	6.3	14.1
1/2	Whitchurch Lane Right	O	D		1	30	-	70	1904	101	69.2%	41	0	29	1.9	2.2
2/1	Honeypot Lane Left Ahead	U	B		1	17	-	358	1831	366	97.8%	-	-	-	11.2	16.5
2/2	Honeypot Lane Right Ahead	O	B		1	17	-	380	1937	387	98.1%	0	216	22	11.9	17.5
3/1	Wemborough Road Ahead Left	U	C		1	30	-	573	1860	641	89.4%	-	-	-	8.3	17.3
3/2	Wemborough Road Right	O	C		1	30	-	131	1875	129	101.7%	68	0	60	8.0	9.6
4/1	Marsh Lane Left Ahead	U	A		1	19	-	387	1802	400	96.6%	-	-	-	10.8	16.6
4/2	Marsh Lane Ahead Right	O	A		1	19	-	427	1973	438	97.4%	0	128	11	12.0	18.4
		C1	PRC for Signalled Lanes (%):		-13.0		Total Delay for Signalled Lanes (pcuHr):		70.26		Cycle Time (s):		90			
			PRC Over All Lanes (%):		-13.0		Total Delay Over All Lanes(pcuHr):		70.26							

213

MTP Results Summary  
**Network Layout Diagram**



**Scenario 6: 'PM Peak Base + CD'** (FG6: 'PM Peak Base + CD', Plan 1: 'Network Control Plan 1')



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeygot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
6: 'PM Peak Base + CD'	16:15	17:15	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	129	364	86	579
	B	207	0	220	396	823
	C	419	160	0	80	659
	D	66	382	92	0	540
	Tot.	692	671	676	562	2601

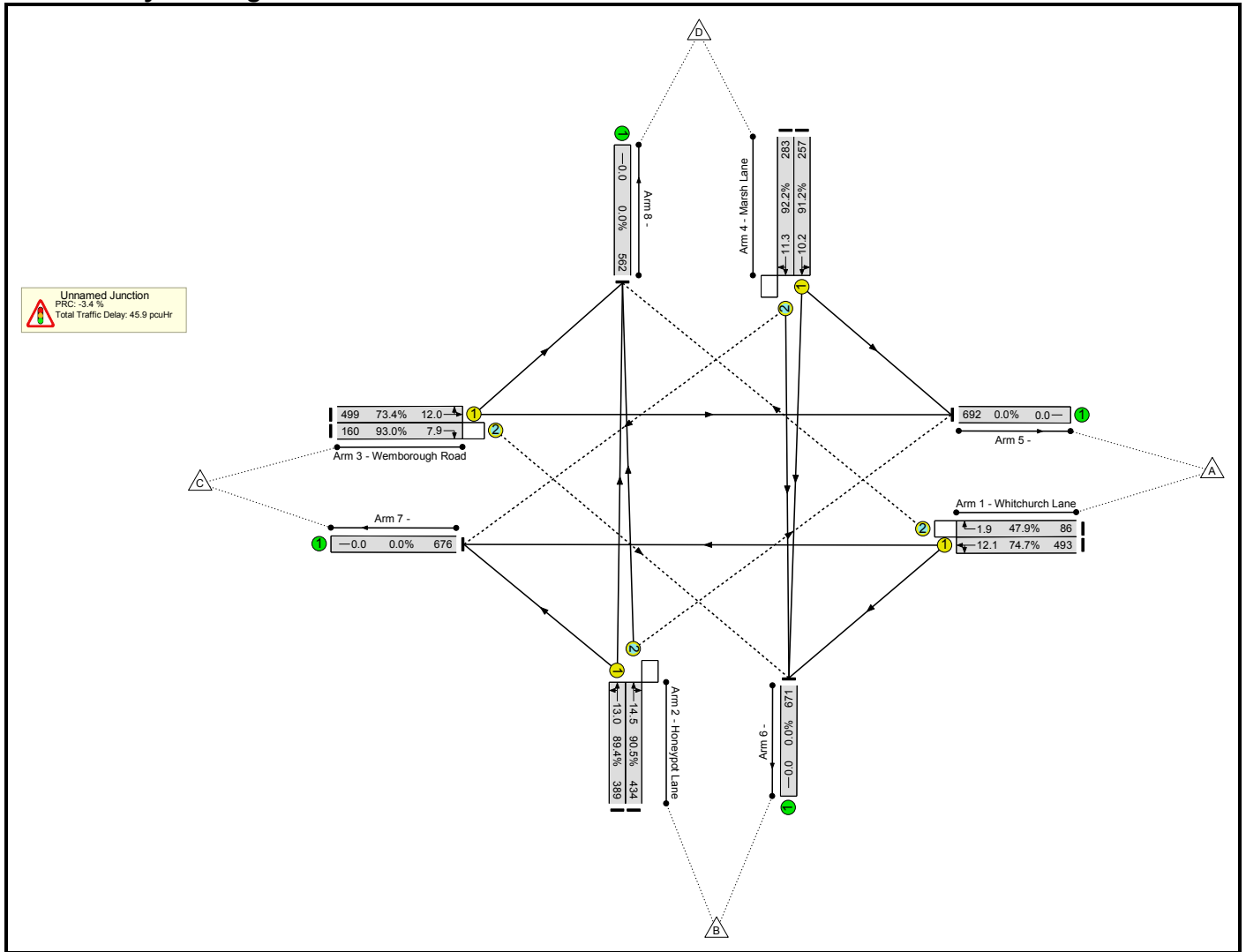


MTP Results Summary

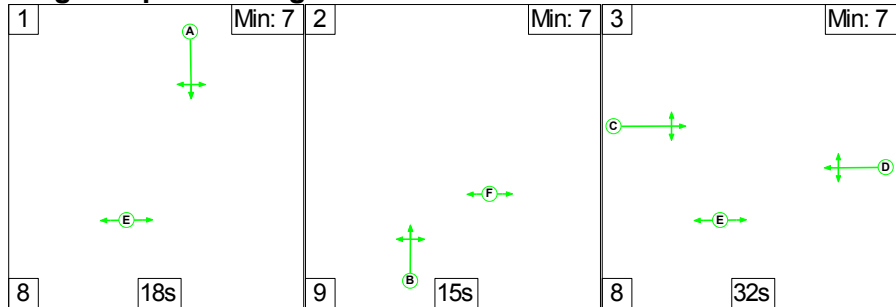
**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>93.0%</b>	<b>198</b>	<b>288</b>	<b>59</b>	<b>45.9</b>	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>93.0%</b>	<b>198</b>	<b>288</b>	<b>59</b>	<b>45.9</b>	-
1/1	Whitchurch Lane Left Ahead	U	D		1	32	-	493	1799	660	74.7%	-	-	-	4.9	12.1
1/2	Whitchurch Lane Right	O	D		1	32	-	86	1904	179	47.9%	86	0	0	1.3	1.9
2/1	Honeypot Lane Left Ahead	U	B		1	21	-	389	1781	435	89.4%	-	-	-	7.2	13.0
2/2	Honeypot Lane Right Ahead	O	B		1	21	-	434	1962	480	<b>90.5%</b>	0	202	5	8.0	14.5
3/1	Wemborough Road Ahead Left	U	C		1	32	-	499	1855	680	73.4%	-	-	-	4.8	12.0
3/2	Wemborough Road Right	O	C		1	32	-	160	1875	172	<b>93.0%</b>	112	0	48	5.8	<b>7.9</b>
4/1	Marsh Lane Left Ahead	U	A		1	13	-	257	1811	282	<b>91.2%</b>	-	-	-	6.6	10.2
4/2	Marsh Lane Ahead Right	O	A		1	13	-	283	1973	307	<b>92.2%</b>	0	86	6	7.3	<b>11.3</b>
		C1	PRC for Signalled Lanes (%):				-3.4	Total Delay for Signalled Lanes (pcuHr):		45.93		Cycle Time (s):		90		
			PRC Over All Lanes (%):				-3.4	Total Delay Over All Lanes(pcuHr):		45.93						

MTP Results Summary  
**Network Layout Diagram**



**Scenario 7: 'AM Peak Base + CD + Dev'** (FG7: 'AM Peak Base + CD + Dev', Plan 1: 'Network Control Plan 1')



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeygot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
7: 'AM Peak Base + CD + Dev'	07:45	08:45	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	152	388	70	610	
B	238	0	147	397	782	
C	506	144	0	89	739	
D	125	550	186	0	861	
Tot.	869	846	721	556	2992	

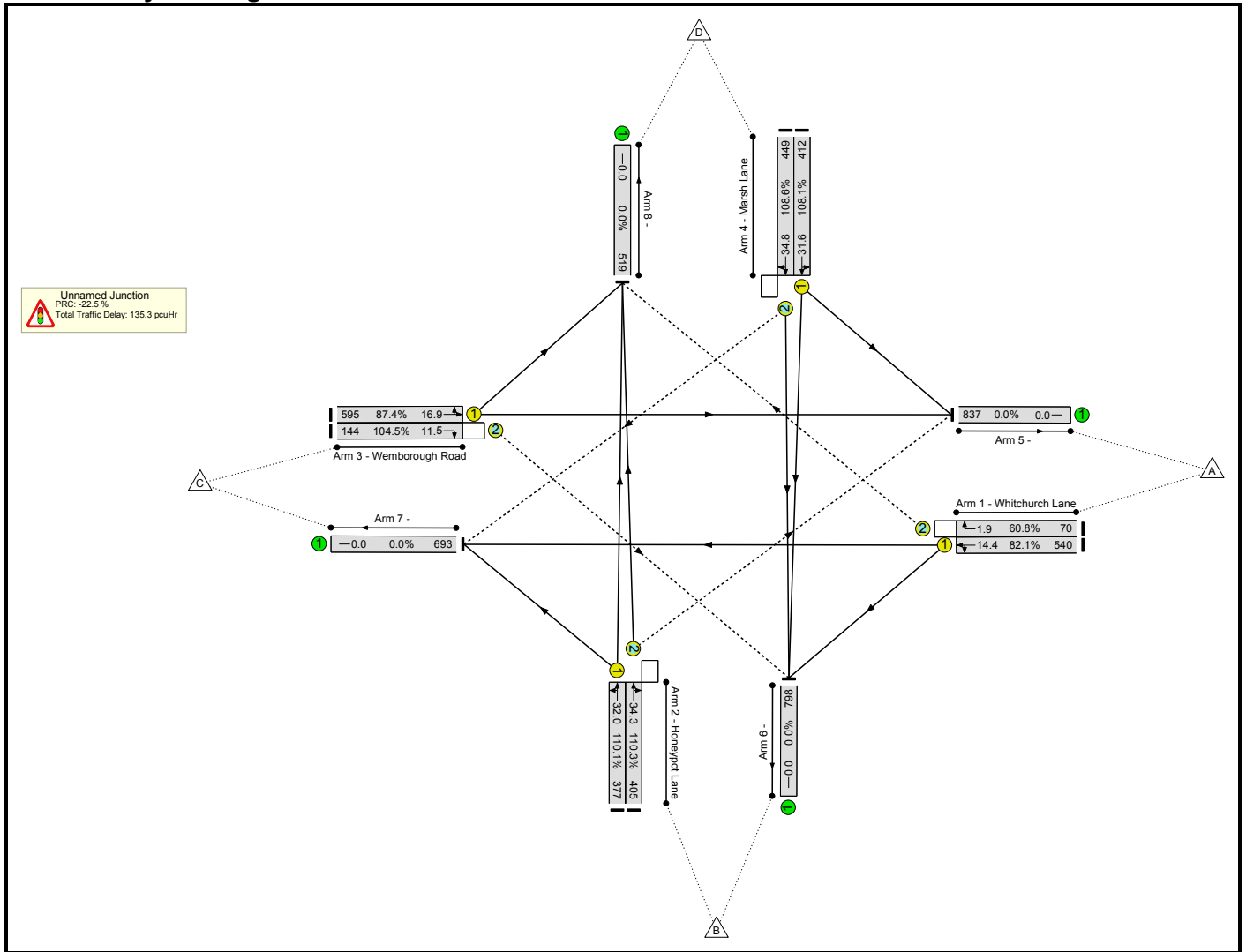
MTP Results Summary

**Network Results**

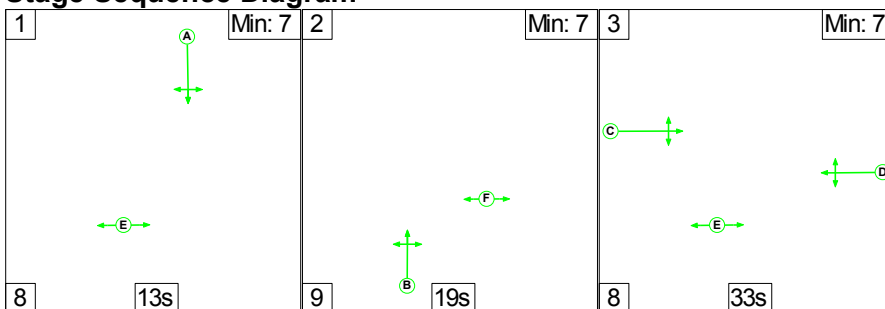
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>110.3%</b>	<b>129</b>	<b>344</b>	<b>122</b>	<b>135.3</b>	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>110.3%</b>	<b>129</b>	<b>344</b>	<b>122</b>	<b>135.3</b>	-
1/1	Whitchurch Lane Left Ahead	U	D		1	32	-	540	1794	658	82.1%	-	-	-	6.1	14.4
1/2	Whitchurch Lane Right	O	D		1	32	-	70	1904	115	60.8%	53	0	17	1.6	1.9
2/1	Honeypot Lane Left Ahead	U	B		1	16	-	377	1812	342	<b>110.1%</b>	-	-	-	26.8	32.0
2/2	Honeypot Lane Right Ahead	O	B		1	16	-	405	1944	367	<b>110.3%</b>	0	190	25	28.8	34.3
3/1	Wemborough Road Ahead Left	U	C		1	32	-	595	1857	681	87.4%	-	-	-	7.6	16.9
3/2	Wemborough Road Right	O	C		1	32	-	144	1875	138	<b>104.5%</b>	77	0	61	9.8	<b>11.5</b>
4/1	Marsh Lane Left Ahead	U	A		1	18	-	412	1805	381	<b>108.1%</b>	-	-	-	25.9	31.6
4/2	Marsh Lane Ahead Right	O	A		1	18	-	449	1959	414	<b>108.6%</b>	0	153	18	28.7	<b>34.8</b>
		C1	PRC for Signalled Lanes (%):				-22.5	Total Delay for Signalled Lanes (pcuHr):		135.31		Cycle Time (s):		90		
			PRC Over All Lanes (%):				-22.5	Total Delay Over All Lanes(pcuHr):		135.31						

221

MTP Results Summary  
**Network Layout Diagram**



**Scenario 8: 'PM Peak Base + CD + Dev'** (FG8: 'PM Peak Base + CD + Dev', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 7 Left	14.50
											Arm 8 Ahead	Inf
2/2 (Honeypot Lane)	O	B	2	3	60.0	Geom	-	2.90	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.70
3/2 (Wemborough Road)	O	C	2	3	2.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	2.35	0.00	Y	Arm 5 Left	18.10
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	O	A	2	3	3.0	Geom	-	2.70	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Honeypot Lane)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
				4/2	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (Marsh Lane)	7/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
8: 'PM Peak Base + CD + Dev'	16:15	17:15	01:00	

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	129	366	86	581	
B	207	0	225	396	828	
C	431	182	0	103	716	
D	66	382	96	0	544	
Tot.	704	693	687	585	2669	



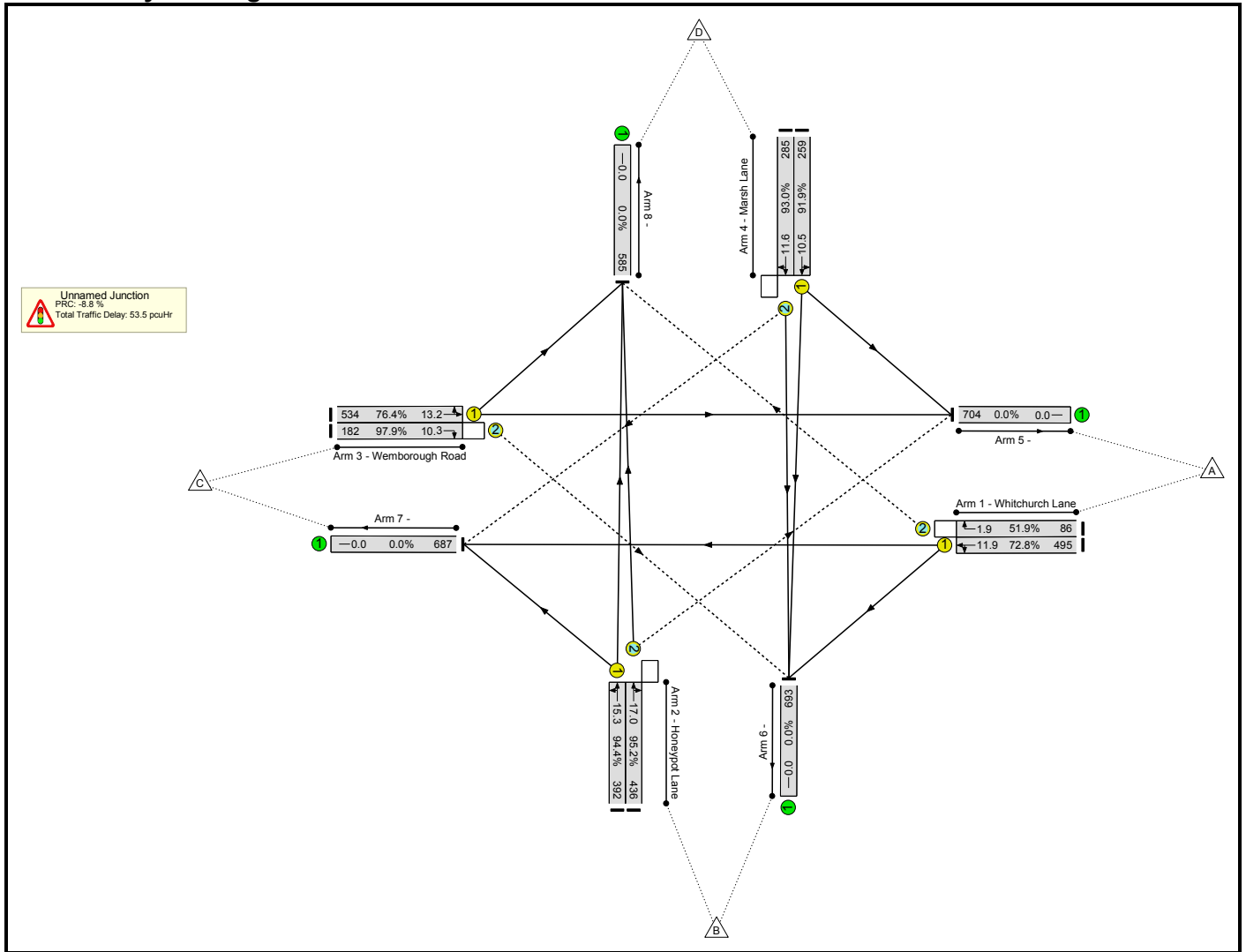
MTP Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)	
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>97.9%</b>	<b>212</b>	<b>285</b>	<b>74</b>	<b>53.5</b>	-	
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>97.9%</b>	<b>212</b>	<b>285</b>	<b>74</b>	<b>53.5</b>	-	
1/1	Whitchurch Lane Left Ahead	U	D		1	33	-	495	1799	680	72.8%	-	-	-	4.6	11.9	
1/2	Whitchurch Lane Right	O	D		1	33	-	86	1904	166	51.9%	86	0	0	1.5	1.9	
2/1	Honeypot Lane Left Ahead	U	B		1	20	-	392	1779	415	<b>94.4%</b>	-	-	-	9.4	15.3	
2/2	Honeypot Lane Right Ahead	O	B		1	20	-	436	1962	458	<b>95.2%</b>	0	197	10	10.4	17.0	
3/1	Wemborough Road Ahead Left	U	C		1	33	-	534	1849	699	76.4%	-	-	-	5.2	13.2	
3/2	Wemborough Road Right	O	C		1	33	-	182	1875	186	<b>97.9%</b>	126	0	56	7.9	<b>10.3</b>	
4/1	Marsh Lane Left Ahead	U	A		1	13	-	259	1812	282	<b>91.9%</b>	-	-	-	6.8	10.5	
4/2	Marsh Lane Ahead Right	O	A		1	13	-	285	1971	307	<b>93.0%</b>	0	89	7	7.6	<b>11.6</b>	
		C1	PRC for Signalled Lanes (%):				-8.8	Total Delay for Signalled Lanes (pcuHr):		53.50		Cycle Time (s):		90			
			PRC Over All Lanes (%):				-8.8	Total Delay Over All Lanes(pcuHr):		53.50							

225

MTP Results Summary  
**Network Layout Diagram**



## **APPENDIX 7**

TRL LIMITED

(C) COPYRIGHT 2010

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM  
RELEASE 5.0 (JUNE 2010) (Patch 15 Apr 2011)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT  
BY PERMISSION OF THE CONTROLLER OF HMSO

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE SALES  
TEL: CROWTHORNE (01344) 770758, FAX: 770356  
EMAIL: software@trl.co.uk  
-----

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

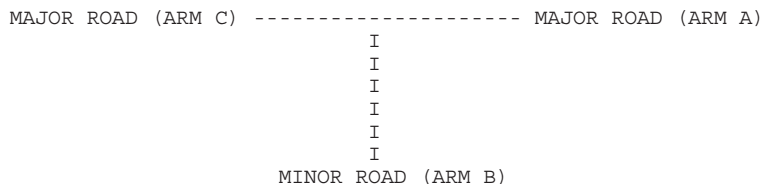
Run with file:-  
"S:\14 jobs\042 Avanti House Secondary School, Whitchurch Playing Fields\Technical Assessments\PICADY\  
Wemborough Road - Whitchurch Schools.vpi"  
(drive-on-the-left) at 13:03:06 on Tuesday, 2 June 2015

RUN INFORMATION  
\*\*\*\*\*

RUN TITLE : Wemborough Road / Whitchurch Schools  
LOCATION : Whitchurch Playing Fields, Harrow  
DATE : 20/04/15  
CLIENT : Education Funding Agency  
ENUMERATOR : Milestone4 - Newer [MILESTONE4-PC]  
JOB NUMBER : 14-042  
STATUS :  
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY  
\*\*\*\*\*

INPUT DATA  
-----



ARM A IS Wemborough Road (W)  
ARM B IS Whitchurch Schools  
ARM C IS Wemborough Road (E)

STREAM LABELLING CONVENTION  
-----

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B  
STREAM A-BC CONTAINS TRAFFIC GOING FROM ARM A TO ARM B AND TO ARM C  
ETC.

-----  
 GEOMETRIC DATA  
 -----

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 9.30 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR ) 0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I
I	- VISIBILITY	I	(VC-B) 200.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 0 )	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 23.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 19.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 5.00 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 5.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	763.23		0.25		0.10	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	593.39		0.23		0.09		0.15		0.33	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	689.79		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

-----  
 TRAFFIC DEMAND DATA  
 -----

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: 2014 Surveyed AM

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I								
I	I	I	FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER	I	I	I								
I	I	I	TO RISE I IS REACHED I FALLING I PEAK I OF PEAK I PEAK	I	I	I								
I	I	I	I	I	I	I								
I	ARM A	I	15.00	I	45.00	I	75.00	I	8.26	I	12.39	I	8.26	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	1.01	I	1.52	I	1.01	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	6.18	I	9.26	I	6.18	I

Demand set: 2014 Surveyed AM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
07.30 - 09.00	ARM A		0.000		0.165		0.835		
			0.0		109.0		552.0		
			( 0.0)		( 0.0)		( 3.3)		
	ARM B		0.494		0.000		0.506		
			40.0		0.0		41.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.860		0.140		0.000		
			425.0		69.0		0.0		
			( 5.6)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2014 Surveyed AM  
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.30-07.45									
B-C	0.51	10.58	0.049		0.00	0.05	0.7		0.10
B-A	0.50	6.97	0.072		0.00	0.08	1.1		0.15
C-AB	1.45	13.07	0.111		0.00	0.21	3.2		0.09
C-A	4.75								
A-B	1.37								
A-C	6.93								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.61	10.15	0.061		0.05	0.06	0.9		0.10
B-A	0.60	6.40	0.094		0.08	0.10	1.5		0.17
C-AB	1.94	13.45	0.144		0.21	0.31	4.6		0.09
C-A	5.46								
A-B	1.63								
A-C	8.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.75	9.54	0.079		0.06	0.08	1.2		0.11
B-A	0.73	5.62	0.131		0.10	0.15	2.1		0.20
C-AB	2.83	14.06	0.202		0.31	0.49	7.4		0.09
C-A	6.23								
A-B	2.00								
A-C	10.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.75	9.54	0.079		0.08	0.09	1.3		0.11
B-A	0.73	5.61	0.131		0.15	0.15	2.2		0.21
C-AB	2.84	14.06	0.202		0.49	0.49	7.5		0.09
C-A	6.23								
A-B	2.00								
A-C	10.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.61	10.15	0.061		0.09	0.06	1.0		0.10
B-A	0.60	6.40	0.094		0.15	0.10	1.6		0.17
C-AB	1.95	13.46	0.145		0.49	0.32	4.8		0.09
C-A	5.46								
A-B	1.63								
A-C	8.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.51	10.57	0.049		0.06	0.05	0.8		0.10
B-A	0.50	6.97	0.072		0.10	0.08	1.2		0.15
C-AB	1.46	13.08	0.111		0.32	0.22	3.3		0.09
C-A	4.74								
A-B	1.37								
A-C	6.93								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.2
08.00	0.3
08.15	0.5
08.30	0.5
08.45	0.3
09.00	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	56.4	I	37.6	I	6.0	I	0.11	I
I	B-A	I	55.1	I	36.7	I	9.8	I	0.18	I
I	C-AB	I	187.0	I	124.7	I	30.7	I	0.16	I
I	C-A	I	492.9	I	328.6	I		I		I
I	A-B	I	150.0	I	100.0	I		I		I
I	A-C	I	759.8	I	506.5	I		I		I
I	ALL	I	1701.3	I	1134.2	I	46.5	I	0.03	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	A-C	STREAM A-B	A-B	I
I	763.23		0.25		0.10	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	A-C	STREAM A-B	A-B	STREAM C-A	C-A	STREAM C-B	C-B	I
I	593.39		0.23		0.09		0.15		0.33	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	A-C	STREAM A-B	A-B	I
I	689.79		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: 2014 Surveyed PM

TIME PERIOD BEGINS 16.00 AND ENDS 17.30

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	I	I	FLOW STARTS	I	BEFORE	I
I	I	I	TOP OF PEAK	I	AT TOP	I
I	I	I	IS REACHED	I	OF PEAK	I
I	I	I	FALLING	I	PEAK	I
I	I	I		I		I
I	ARM A	I	15.00	I	45.00	I
I	ARM B	I	15.00	I	45.00	I
I	ARM C	I	15.00	I	45.00	I
I		I		I	75.00	I
I		I		I	6.80	I
I		I		I	10.20	I
I		I		I	6.80	I
I		I		I	0.69	I
I		I		I	1.03	I
I		I		I	0.69	I
I		I		I	7.05	I
I		I		I	58	I
I		I		I	7.05	I



Demand set: 2014 Surveyed PM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
16.00 - 17.30	ARM A		0.000		0.020		0.980		
			0.0		11.0		533.0		
			( 0.0)		( 0.0)		( 3.0)		
	ARM B		0.636		0.000		0.364		
			35.0		0.0		20.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.965		0.035		0.000		
			544.0		20.0		0.0		
			( 3.9)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2014 Surveyed PM  
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.25	10.79	0.023		0.00	0.02	0.3		0.09
B-A	0.44	7.14	0.062		0.00	0.06	0.9		0.15
C-AB	0.45	14.20	0.031		0.00	0.04	0.6		0.07
C-A	6.63								
A-B	0.14								
A-C	6.69								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.30	10.41	0.029		0.02	0.03	0.4		0.10
B-A	0.52	6.60	0.079		0.06	0.09	1.2		0.16
C-AB	0.59	14.72	0.040		0.04	0.06	0.9		0.07
C-A	7.86								
A-B	0.16								
A-C	7.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.37	9.87	0.037		0.03	0.04	0.6		0.11
B-A	0.64	5.86	0.110		0.09	0.12	1.8		0.19
C-AB	0.93	15.79	0.059		0.06	0.10	1.4		0.07
C-A	9.42								
A-B	0.20								
A-C	9.78								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.37	9.87	0.037		0.04	0.04	0.6		0.11
B-A	0.64	5.86	0.110		0.12	0.12	1.8		0.19
C-AB	0.93	15.79	0.059		0.10	0.10	1.4		0.07
C-A	9.42								
A-B	0.20								
A-C	9.78								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.30	10.41	0.029		0.04	0.03	0.5		0.10
B-A	0.52	6.60	0.079		0.12	0.09	1.3		0.16
C-AB	0.59	14.72	0.040		0.10	0.06	0.9		0.07
C-A	7.86								
A-B	0.16								
A-C	7.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.25	10.79	0.023		0.03	0.02	0.4		0.09
B-A	0.44	7.14	0.062		0.09	0.07	1.0		0.15
C-AB	0.45	14.20	0.031		0.06	0.04	0.6		0.07
C-A	6.63								
A-B	0.14								
A-C	6.69								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.0
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	27.5	18.4	2.7
B-A	48.2	32.1	8.1
C-AB	59.1	39.4	5.8
C-A	717.2	478.1	
A-B	15.1	10.1	
A-C	733.6	489.1	
ALL	1600.8	1067.2	16.7

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For	Opposing	Slope For
STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B
763.23	0.25		0.10

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B	STREAM C-B
593.39	0.23	0.09	0.15	0.33		

Intercept For	Slope For	Opposing	Slope For
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B
689.79	0.23		0.23

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE (%)
A	100
B	100
C	100

Demand set: 2020 Base AM

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
A	15.00	45.00	8.80	13.20	8.80
B	15.00	45.00	1.09	1.63	1.09
C	15.00	45.00	6.56	84	6.56

Demand set: 2020 Base AM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
07.30 - 09.00	ARM A		0.000		0.165		0.835		
			0.0		116.0		588.0		
			( 0.0)		( 0.0)		( 3.3)		
	ARM B		0.494		0.000		0.506		
			43.0		0.0		44.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.861		0.139		0.000		
			452.0		73.0		0.0		
			( 5.6)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 Base AM  
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.30-07.45									
B-C	0.55	10.43	0.053		0.00	0.06	0.8		0.10
B-A	0.54	6.78	0.080		0.00	0.09	1.2		0.16
C-AB	1.59	13.19	0.121		0.00	0.24	3.5		0.09
C-A	5.00								
A-B	1.46								
A-C	7.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.66	9.97	0.066		0.06	0.07	1.0		0.11
B-A	0.64	6.18	0.104		0.09	0.11	1.7		0.18
C-AB	2.15	13.60	0.158		0.24	0.35	5.2		0.09
C-A	5.72								
A-B	1.74								
A-C	8.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.81	9.32	0.087		0.07	0.09	1.4		0.12
B-A	0.79	5.34	0.148		0.11	0.17	2.5		0.22
C-AB	3.18	14.26	0.223		0.35	0.57	8.6		0.09
C-A	6.45								
A-B	2.13								
A-C	10.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.81	9.32	0.087		0.09	0.09	1.4		0.12
B-A	0.79	5.34	0.148		0.17	0.17	2.6		0.22
C-AB	3.19	14.27	0.223		0.57	0.58	8.7		0.09
C-A	6.44								
A-B	2.13								
A-C	10.79								

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.30-08.45										I
I	B-C	0.66	9.97	0.066		0.09	0.07	1.1		0.11	I
I	B-A	0.64	6.17	0.104		0.17	0.12	1.8		0.18	I
I	C-AB	2.15	13.61	0.158		0.58	0.36	5.4		0.09	I
I	C-A	5.71									I
I	A-B	1.74									I
I	A-C	8.81									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.45-09.00										I
I	B-C	0.55	10.43	0.053		0.07	0.06	0.9		0.10	I
I	B-A	0.54	6.78	0.080		0.12	0.09	1.3		0.16	I
I	C-AB	1.60	13.20	0.121		0.36	0.25	3.7		0.09	I
I	C-A	4.99									I
I	A-B	1.46									I
I	A-C	7.38									I

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.1
09.00	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	0.2	
08.00	0.3	
08.15	0.6	*
08.30	0.6	*
08.45	0.4	
09.00	0.2	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	60.6	40.4	6.6
B-A	59.2	39.5	11.1
C-AB	207.9	138.6	35.2
C-A	514.8	343.2	
A-B	159.7	106.4	
A-C	809.3	539.6	
ALL	1811.4	1207.6	52.9

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
763.23	0.25		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
593.39	0.23	0.09	0.15	0.33		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
689.79	0.23		0.23	

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE (%)
A	100
B	100
C	100

Demand set: 2020 Base PM

TIME PERIOD BEGINS 16.00 AND ENDS 17.30

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
A	15.00	45.00	7.24	10.86	7.24
B	15.00	45.00	0.73	1.09	0.73
C	15.00	45.00	7.50	25	7.50

Demand set: 2020 Base PM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
16.00 - 17.30	ARM A		0.000		0.021		0.979		
			0.0		12.0		567.0		
			( 0.0)		( 0.0)		( 3.0)		
	ARM B		0.638		0.000		0.362		
			37.0		0.0		21.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.965		0.035		0.000		
			579.0		21.0		0.0		
			( 3.9)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 Base PM  
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.26	10.67	0.025		0.00	0.03	0.4		0.10
B-A	0.46	6.96	0.067		0.00	0.07	1.0		0.15
C-AB	0.48	14.37	0.034		0.00	0.05	0.7		0.07
C-A	7.04								
A-B	0.15								
A-C	7.11								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.31	10.26	0.031		0.03	0.03	0.5		0.10
B-A	0.55	6.39	0.087		0.07	0.09	1.4		0.17
C-AB	0.70	15.18	0.046		0.05	0.07	1.0		0.07
C-A	8.28								
A-B	0.18								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.39	9.68	0.040		0.03	0.04	0.6		0.11
B-A	0.68	5.61	0.121		0.09	0.14	2.0		0.20
C-AB	1.04	16.08	0.065		0.07	0.11	1.6		0.07
C-A	9.97								
A-B	0.22								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.39	9.68	0.040		0.04	0.04	0.6		0.11
B-A	0.68	5.61	0.121		0.14	0.14	2.0		0.20
C-AB	1.04	16.08	0.065		0.11	0.11	1.6		0.07
C-A	9.97								
A-B	0.22								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.31	10.26	0.031		0.04	0.03	0.5		0.10
B-A	0.55	6.39	0.087		0.14	0.10	1.5		0.17
C-AB	0.71	15.18	0.047		0.11	0.07	1.0		0.07
C-A	8.28								
A-B	0.18								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.26	10.67	0.025		0.03	0.03	0.4		0.10
B-A	0.46	6.96	0.067		0.10	0.07	1.1		0.15
C-AB	0.49	14.37	0.034		0.07	0.05	0.7		0.07
C-A	7.04								
A-B	0.15								
A-C	7.11								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.0
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I
I	B-C	I 28.9	I 19.3	I 2.9	I 0.10	I 2.9	I 0.10	I
I	B-A	I 50.9	I 34.0	I 9.0	I 0.18	I 9.0	I 0.18	I
I	C-AB	I 66.9	I 44.6	I 6.7	I 0.10	I 6.7	I 0.10	I
I	C-A	I 758.9	I 506.0	I	I	I	I	I
I	A-B	I 16.5	I 11.0	I	I	I	I	I
I	A-C	I 780.4	I 520.3	I	I	I	I	I
I	ALL	I 1702.6	I 1135.1	I 18.6	I 0.01	I 18.6	I 0.01	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	A-C	STREAM A-B	A-B	I
I	763.23	0.25		0.10		I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	A-C	STREAM A-B	A-B	STREAM C-A	C-A	STREAM C-B	C-B	I
I	593.39	0.23		0.09		0.15		0.33		I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	A-C	STREAM A-B	A-B	I
I	689.79	0.23		0.23		I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: Base + CD AM

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	I	I	FLOW STARTS	I	BEFORE	I
I	I	I	TOP OF PEAK	I	AT TOP	I
I	I	I	IS REACHED	I	OF PEAK	I
I	I	I	FALLING	I	PEAK	I
I	I	I		I		I
I	ARM A	I	15.00	I	9.48	I
I	ARM B	I	15.00	I	2.44	I
I	ARM C	I	15.00	I	7.24	I

Demand set: Base + CD AM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
07.30 - 09.00	ARM A		0.000		0.224		0.776		
			0.0		170.0		588.0		
			( 0.0)		( 0.0)		( 3.3)		
	ARM B		0.497		0.000		0.503		
			97.0		0.0		98.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.781		0.219		0.000		
			452.0		127.0		0.0		
			( 5.6)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base + CD AM  
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.30-07.45									
B-C	1.23	10.08	0.122		0.00	0.14	2.0		0.11
B-A	1.22	6.50	0.187		0.00	0.23	3.2		0.19
C-AB	2.79	13.06	0.213		0.00	0.43	6.4		0.10
C-A	4.48								
A-B	2.13								
A-C	7.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	1.47	9.52	0.154		0.14	0.18	2.6		0.12
B-A	1.45	5.83	0.249		0.23	0.33	4.7		0.23
C-AB	3.82	13.50	0.283		0.43	0.66	10.0		0.10
C-A	4.85								
A-B	2.55								
A-C	8.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	1.80	8.71	0.207		0.18	0.26	3.8		0.14
B-A	1.78	4.91	0.362		0.33	0.55	7.8		0.32
C-AB	5.63	14.11	0.399		0.66	1.18	17.8		0.12
C-A	5.00								
A-B	3.12								
A-C	10.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	1.80	8.70	0.207		0.26	0.26	3.9		0.14
B-A	1.78	4.91	0.363		0.55	0.56	8.3		0.32
C-AB	5.65	14.13	0.400		1.18	1.20	18.3		0.12
C-A	4.98								
A-B	3.12								
A-C	10.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.47	9.51	0.154		0.26	0.18	2.8		0.12
B-A	1.45	5.82	0.250		0.56	0.34	5.3		0.23
C-AB	3.84	13.52	0.284		1.20	0.69	10.5		0.10
C-A	4.83								
A-B	2.55								
A-C	8.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	1.23	10.07	0.122		0.18	0.14	2.2		0.11
B-A	1.22	6.48	0.188		0.34	0.23	3.7		0.19
C-AB	2.80	13.08	0.214		0.69	0.45	6.8		0.10
C-A	4.46								
A-B	2.13								
A-C	7.38								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.1
08.00	0.2
08.15	0.3
08.30	0.3
08.45	0.2
09.00	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	0.2	
08.00	0.3	
08.15	0.6	*
08.30	0.6	*
08.45	0.3	
09.00	0.2	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	0.4	
08.00	0.7	*
08.15	1.2	*
08.30	1.2	*
08.45	0.7	*
09.00	0.5	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	134.9	I	89.9	I	17.3	I	0.13	I
I	B-A	I	133.5	I	89.0	I	33.1	I	0.25	I
I	C-AB	I	367.9	I	245.3	I	69.7	I	0.19	I
I	C-A	I	429.1	I	286.0	I		I		I
I	A-B	I	234.0	I	156.0	I		I		I
I	A-C	I	809.3	I	539.6	I		I		I
I	ALL	I	2108.7	I	1405.8	I	120.0	I	0.06	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	A-C	STREAM A-B	A-B	I
I	763.23		0.25		0.10	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	A-C	STREAM A-B	A-B	STREAM C-A	C-A	STREAM C-B	C-B	I
I	593.39		0.23		0.09		0.15		0.33	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	A-C	STREAM A-B	A-B	I
I	689.79		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: Base + CD PM

TIME PERIOD BEGINS 16.00 AND ENDS 17.30

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	I	I	FLOW STARTS	I	BEFORE	I
I	I	I	TOP OF PEAK	I	AT TOP	I
I	I	I	IS REACHED	I	OF PEAK	I
I	I	I	FALLING	I	PEAK	I
I	ARM A	I	15.00	I	7.91	I
I	ARM B	I	15.00	I	2.08	I
I	ARM C	I	15.00	I	8.18	I

Demand set: Base + CD PM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
16.00 - 17.30	ARM A		0.000		0.104		0.896		
			0.0		66.0		567.0		
			( 0.0)		( 0.0)		( 3.0)		
	ARM B		0.548		0.000		0.452		
			91.0		0.0		75.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.885		0.115		0.000		
			579.0		75.0		0.0		
			( 3.9)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base + CD PM  
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.94	10.32	0.091		0.00	0.10	1.4		0.11
B-A	1.14	6.67	0.171		0.00	0.20	2.9		0.18
C-AB	1.85	14.42	0.129		0.00	0.28	4.2		0.08
C-A	6.35								
A-B	0.83								
A-C	7.11								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	1.12	9.81	0.115		0.10	0.13	1.9		0.12
B-A	1.36	6.04	0.226		0.20	0.29	4.1		0.21
C-AB	2.61	15.13	0.173		0.28	0.42	6.4		0.08
C-A	7.19								
A-B	0.99								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	1.38	9.08	0.152		0.13	0.18	2.6		0.13
B-A	1.67	5.18	0.322		0.29	0.46	6.6		0.28
C-AB	3.95	16.09	0.245		0.42	0.70	10.6		0.08
C-A	8.06								
A-B	1.21								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.38	9.07	0.152		0.18	0.18	2.7		0.13
B-A	1.67	5.18	0.323		0.46	0.47	7.0		0.28
C-AB	3.96	16.10	0.246		0.70	0.71	10.8		0.08
C-A	8.05								
A-B	1.21								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.12	9.80	0.115		0.18	0.13	2.0		0.12
B-A	1.36	6.04	0.226		0.47	0.30	4.7		0.21
C-AB	2.62	15.15	0.173		0.71	0.44	6.6		0.08
C-A	7.17								
A-B	0.99								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.94	10.31	0.091		0.13	0.10	1.5		0.11
B-A	1.14	6.67	0.171		0.30	0.21	3.3		0.18
C-AB	1.87	14.43	0.129		0.44	0.29	4.4		0.08
C-A	6.34								
A-B	0.83								
A-C	7.11								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.1
16.30	0.1
16.45	0.2
17.00	0.2
17.15	0.1
17.30	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.2
16.30	0.3
16.45	0.5
17.00	0.5
17.15	0.3
17.30	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.15	0.3	
16.30	0.4	
16.45	0.7	*
17.00	0.7	*
17.15	0.4	
17.30	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-C	I	103.2	I 68.8	I 12.1	I 0.12	I 12.1	I 0.12
I	B-A	I	125.3	I 83.5	I 28.6	I 0.23	I 28.6	I 0.23
I	C-AB	I	252.8	I 168.6	I 42.9	I 0.17	I 42.9	I 0.17
I	C-A	I	647.3	I 431.6	I	I	I	I
I	A-B	I	90.8	I 60.6	I	I	I	I
I	A-C	I	780.4	I 520.3	I	I	I	I
I	ALL	I	1999.9	I 1333.3	I 83.6	I 0.04	I 83.6	I 0.04

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	763.23		0.25		0.10	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	593.39		0.23		0.09		0.15		0.33	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	689.79		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: Base + CD + Dev AM

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	I	TOP OF PEAK IS REACHED	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I	
I	ARM A	I	15.00	I	45.00	I	75.00	I	10.06	I	15.09	I	10.06
I	ARM B	I	15.00	I	45.00	I	75.00	I	3.05	I	4.57	I	3.05
I	ARM C	I	15.00	I	45.00	I	75.00	I	8.69	I	03	I	8.69

Demand set: Base + CD + Dev AM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
07.30 - 09.00	ARM A		0.000		0.270		0.730		
			0.0		217.0		588.0		
			( 0.0)		( 0.0)		( 3.3)		
	ARM B		0.455		0.000		0.545		
			111.0		0.0		133.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.650		0.350		0.000		
			452.0		243.0		0.0		
			( 5.6)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base + CD + Dev AM  
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.30-07.45									
B-C	1.67	9.90	0.169		0.00	0.20	2.9		0.12
B-A	1.39	5.95	0.234		0.00	0.30	4.2		0.22
C-AB	5.41	12.97	0.417		0.00	1.04	15.1		0.13
C-A	3.32								
A-B	2.72								
A-C	7.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	1.99	9.27	0.215		0.20	0.27	4.0		0.14
B-A	1.66	5.17	0.322		0.30	0.46	6.6		0.28
C-AB	7.39	13.38	0.552		1.04	1.84	27.7		0.17
C-A	3.02								
A-B	3.25								
A-C	8.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	2.44	8.30	0.294		0.27	0.41	5.9		0.17
B-A	2.04	4.10	0.496		0.46	0.93	12.7		0.47
C-AB	11.04	14.02	0.787		1.84	5.25	75.8		0.31
C-A	1.72								
A-B	3.98								
A-C	10.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	2.44	8.27	0.295		0.41	0.41	6.2		0.17
B-A	2.04	4.05	0.502		0.93	0.97	14.4		0.49
C-AB	11.20	14.12	0.793		5.25	5.74	90.2		0.36
C-A	1.55								
A-B	3.98								
A-C	10.79								



TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.99	9.24	0.216		0.41	0.28	4.3		0.14
B-A	1.66	5.10	0.326		0.97	0.50	8.0		0.30
C-AB	7.54	13.52	0.557		5.74	2.03	34.3		0.18
C-A	2.88								
A-B	3.25								
A-C	8.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	1.67	9.88	0.169		0.28	0.21	3.2		0.12
B-A	1.39	5.92	0.235		0.50	0.31	4.9		0.22
C-AB	5.46	13.02	0.420		2.03	1.10	16.8		0.14
C-A	3.26								
A-B	2.72								
A-C	7.38								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.2
08.00	0.3
08.15	0.4
08.30	0.4
08.45	0.3
09.00	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.3
08.00	0.5
08.15	0.9 *
08.30	1.0 *
08.45	0.5
09.00	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	1.0 *
08.00	1.8 **
08.15	5.3 *****
08.30	5.7 *****
08.45	2.0 **
09.00	1.1 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	183.1	I	122.0	I	26.5	I	0.14	I
I	B-A	I	152.8	I	101.9	I	50.8	I	0.33	I
I	C-AB	I	720.6	I	480.4	I	259.9	I	0.36	I
I	C-A	I	236.1	I	157.4	I		I		I
I	A-B	I	298.7	I	199.1	I		I		I
I	A-C	I	809.3	I	539.6	I		I		I
I	ALL	I	2400.5	I	1600.3	I	337.1	I	0.14	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	763.23		0.25		0.10	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	593.39		0.23		0.09		0.15		0.33	I

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	689.79		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: Base + CD + Dev PM

TIME PERIOD BEGINS 16.00 AND ENDS 17.30

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	7.96	I	11.94	I	7.96	I
I	ARM B	I	15.00	I	45.00	I	3.08	I	4.61	I	3.08	I
I	ARM C	I	15.00	I	45.00	I	8.31	I	47	I	8.31	I

Demand set: Base + CD + Dev PM

TURNING PROPORTIONS									
TURNING COUNTS									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C		
16.00 - 17.30	ARM A		0.000		0.110		0.890		
			0.0		70.0		567.0		
			( 0.0)		( 0.0)		( 3.0)		
	ARM B		0.463		0.000		0.537		
			114.0		0.0		132.0		
			( 0.0)		( 0.0)		( 0.0)		
	ARM C		0.871		0.129		0.000		
			579.0		86.0		0.0		
			( 3.9)		( 0.0)		( 0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base + CD + Dev PM  
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	1.66	10.19	0.162		0.00	0.19	2.8		0.12
B-A	1.43	6.62	0.216		0.00	0.27	3.9		0.19
C-AB	2.13	14.41	0.148		0.00	0.32	4.8		0.08
C-A	6.22								
A-B	0.88								
A-C	7.11								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	1.98	9.65	0.205		0.19	0.26	3.7		0.13
B-A	1.71	5.98	0.285		0.27	0.39	5.6		0.23
C-AB	3.00	15.12	0.198		0.32	0.49	7.3		0.08
C-A	6.96								
A-B	1.05								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	2.42	8.85	0.274		0.26	0.37	5.4		0.16
B-A	2.09	5.10	0.410		0.39	0.67	9.4		0.33
C-AB	4.53	16.08	0.282		0.49	0.82	12.4		0.09
C-A	7.67								
A-B	1.28								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	2.42	8.84	0.274		0.37	0.37	5.6		0.16
B-A	2.09	5.10	0.410		0.67	0.68	10.2		0.33
C-AB	4.54	16.09	0.282		0.82	0.83	12.6		0.09
C-A	7.66								
A-B	1.28								
A-C	10.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.98	9.64	0.205		0.37	0.26	4.0		0.13
B-A	1.71	5.98	0.286		0.68	0.41	6.5		0.24
C-AB	3.01	15.14	0.199		0.83	0.50	7.6		0.08
C-A	6.95								
A-B	1.05								
A-C	8.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.66	10.18	0.163		0.26	0.20	3.0		0.12
B-A	1.43	6.61	0.216		0.41	0.28	4.4		0.19
C-AB	2.14	14.42	0.148		0.50	0.33	5.0		0.08
C-A	6.20								
A-B	0.88								
A-C	7.11								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.15	0.2
16.30	0.3
16.45	0.4
17.00	0.4
17.15	0.3
17.30	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.15	0.3	
16.30	0.4	
16.45	0.7	*
17.00	0.7	*
17.15	0.4	
17.30	0.3	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.15	0.3	
16.30	0.5	
16.45	0.8	*
17.00	0.8	*
17.15	0.5	*
17.30	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	181.7	24.6	0.14
B-A	156.9	39.9	0.25
C-AB	290.3	49.7	0.17
C-A	625.1		
A-B	96.3		
A-C	780.4		
ALL	2130.7	114.2	0.05

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

==== end of file =====

Printed at 13:03:15 on 02/06/2015]

**APPENDIX 8**

# ARCADY 7

Version: 7.1.1.245 [9th June 2011]  
 © Copyright Transport Research Laboratory 2011

For sales and distribution information, program advice and maintenance, contact TRL:  
 Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

**The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution**

**File:** S:\14 jobs\042 Avanti House Secondary School, Whitchurch Playing Fields\Technical Assessments\ARCADY\Abercorn Rd-Wmborough Rd-St Andrews Drive.arc7

**Report generation date:** 02/06/2015 13:13:33

## Summary of roundabout performance

	AM				PM			
	Queue (Veh)	Delay (min)	RFC	LOS	Queue (Veh)	Delay (min)	RFC	LOS
<b>(Default Analysis Set) - 2014 Surveyed Flows</b>								
Arm A	2.80	0.26	0.74	C	4.90	0.40	0.84	C
Arm B	1.38	0.20	0.58	B	1.91	0.29	0.66	C
Arm C	1.74	0.18	0.64	B	1.86	0.20	0.65	B
Arm D	3.52	0.34	0.79	C	2.17	0.23	0.69	B
<b>(Default Analysis Set) - 2020 Base Flows</b>								
Arm A	3.94	0.36	0.81	C	8.47	0.66	0.91	E
Arm B	1.74	0.24	0.64	B	2.65	0.38	0.74	C
Arm C	2.22	0.22	0.70	B	2.44	0.25	0.72	B
Arm D	5.38	0.50	0.86	D	2.86	0.29	0.75	C
<b>(Default Analysis Set) - Base + CD</b>								
Arm A	6.07	0.51	0.87	D	16.08	1.13	0.98	F
Arm B	2.13	0.29	0.69	C	3.44	0.48	0.79	D
Arm C	2.67	0.26	0.73	C	2.95	0.29	0.76	C
Arm D	7.65	0.70	0.90	E	3.59	0.35	0.79	C
<b>(Default Analysis Set) - Base + CD + Dev</b>								

Arm A	6.82	0.57	0.89	D	21.27	1.41	1.00	F
Arm B	2.50	0.32	0.72	C	3.56	0.49	0.80	D
Arm C	3.12	0.29	0.77	C	2.99	0.29	0.76	C
Arm D	10.91	0.97	0.95	F	3.62	0.35	0.79	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

2014 Surveyed Flows - AM runs from 07:45:00 to 09:15:00

2014 Surveyed Flows - PM runs from 16:45:00 to 18:15:00

2020 Base Flows - AM runs from 07:45:00 to 09:15:00

2020 Base Flows - PM runs from 16:45:00 to 18:15:00

Base + CD - AM runs from 07:45:00 to 09:15:00

Base + CD - PM runs from 16:45:00 to 18:15:00

Base + CD + Dev - AM runs from 07:45:00 to 09:15:00

Base + CD + Dev - PM runs from 16:45:00 to 18:15:00

## File summary

### File Description

Title	Wemborough Road/Abrecom Road/ St Andrew's Drive
Location	
Site Number	
Date	14/10/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	14-042
Enumerator	Milestone4-PC\Milestone4 - Newer
Description	

## Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

## Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

# A1 - (Default Analysis Set) - D1 - 2014 Surveyed Flows, AM



## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2014 Surveyed Flows, AM	2014 Surveyed Flows	AM			Yes			07:45	09:15	90	15	ONE HOUR

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

## Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

# Arms

## Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	593.00	100.000	N/A
B	ONE HOUR	Yes	376.00	100.000	N/A
C	ONE HOUR	Yes	531.00	100.000	N/A
D	ONE HOUR	Yes	586.00	100.000	N/A

## Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	446.44	459.30	N/A	N/A
1	B	283.07	287.51	N/A	N/A
1	C	399.76	410.31	N/A	N/A
1	D	441.17	447.08	N/A	N/A
2	A	533.09	548.45	N/A	N/A
2	B	338.02	343.31	N/A	N/A
2	C	477.36	489.95	N/A	N/A
2	D	526.80	533.85	N/A	N/A
3	A	652.91	671.72	N/A	N/A
3	B	413.98	420.47	N/A	N/A
3	C	584.64	600.07	N/A	N/A
3	D	645.20	653.83	N/A	N/A
4	A	652.91	671.72	N/A	N/A
4	B	413.98	420.47	N/A	N/A
4	C	584.64	600.07	N/A	N/A
4	D	645.20	653.83	N/A	N/A
5	A	533.09	548.45	N/A	N/A
5	B	338.02	343.31	N/A	N/A
5	C	477.36	489.95	N/A	N/A
5	D	526.80	533.85	N/A	N/A
6	A	446.44	459.30	N/A	N/A
6	B	283.07	287.51	N/A	N/A
6	C	399.76	410.31	N/A	N/A
6	D	441.17	447.08	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	62.000	346.000	184.000
	B	60.000	1.000	38.000	277.000
	C	343.000	69.000	1.000	118.000
	D	165.000	348.000	66.000	7.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.10	0.58	0.31
	B	0.16	0.00	0.10	0.74
	C	0.65	0.13	0.00	0.22
	D	0.28	0.59	0.11	0.01

# Vehicle Mix

## Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.016	1.038	1.016
	B	1.000	1.000	1.053	1.014
	C	1.035	1.000	1.000	1.017
	D	1.012	1.014	1.015	1.000

## Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	1.600	3.800	1.600
	B	0.000	0.000	5.300	1.400
	C	3.500	0.000	0.000	1.700
	D	1.200	1.400	1.500	0.000

# Results

## Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.74	0.26	2.80	C	544.15	816.22	144.26	0.18	1.60	144.28	0.18	0.548	1204.008
B	0.58	0.20	1.38	B	345.02	517.54	78.89	0.15	0.88	78.90	0.15	0.516	1073.293
C	0.64	0.18	1.74	B	487.25	730.88	98.21	0.13	1.09	98.22	0.13	0.562	1271.998
D	0.79	0.34	3.52	C	537.73	806.59	171.50	0.21	1.91	171.53	0.21	0.528	1113.227

## Main Results

### Main results: (07:45-08:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	446.44	111.61	443.09	425.34	367.40	0.00	972.09	834.91	0.459	0.00	0.84
B	283.07	70.77	280.99	358.48	452.01	0.00	820.70	618.64	0.345	0.00	0.52
C	399.76	99.94	397.21	336.95	396.05	0.00	1019.52	781.43	0.392	0.00	0.64
D	441.17	110.29	437.46	437.98	355.27	0.00	908.90	719.93	0.485	0.00	0.93

### Main results: (08:00-08:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	533.09	133.27	531.22	509.94	440.53	0.00	932.64	834.91	0.572	0.84	1.31
B	338.02	84.50	337.04	429.82	541.92	0.00	773.75	618.65	0.437	0.52	0.76

C	477.36	119.34	476.14	403.99	474.98	0.00	975.72	781.43	0.489	0.64	0.94
D	526.80	131.70	524.56	525.20	425.91	0.00	871.20	719.93	0.605	0.93	1.49

### Main results: (08:15-08:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	652.90	163.23	647.36	622.04	535.94	0.00	881.17	834.91	0.741	1.31	2.69
B	413.98	103.50	411.65	523.08	660.21	0.00	711.98	618.65	0.581	0.76	1.35
C	584.64	146.16	581.61	492.24	579.62	0.00	917.65	781.43	0.637	0.94	1.70
D	645.20	161.30	637.74	640.99	520.23	0.00	820.85	719.93	0.786	1.49	3.35

### Main results: (08:30-08:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	652.90	163.23	652.49	626.19	541.22	0.00	878.32	834.91	0.743	2.69	2.80
B	413.98	103.50	413.86	528.04	665.66	0.00	709.14	618.65	0.584	1.35	1.38
C	584.64	146.16	584.50	496.23	583.30	0.00	915.61	781.43	0.639	1.70	1.74
D	645.20	161.30	644.55	644.95	522.86	0.00	819.45	719.93	0.787	3.35	3.52

### Main results: (08:45-09:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	533.09	133.27	538.76	516.03	448.26	0.00	928.46	834.91	0.574	2.80	1.38
B	338.02	84.50	340.34	437.10	549.92	0.00	769.58	618.65	0.439	1.38	0.80
C	477.36	119.34	480.38	409.86	480.41	0.00	972.71	781.43	0.491	1.74	0.98
D	526.80	131.70	534.54	531.04	429.76	0.00	869.14	719.93	0.606	3.52	1.58

### Main results: (09:00-09:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	446.44	111.61	448.50	430.08	372.36	0.00	969.41	834.91	0.461	1.38	0.87
B	283.07	70.77	284.11	363.23	457.63	0.00	817.77	618.64	0.346	0.80	0.54
C	399.76	99.94	401.06	341.12	400.62	0.00	1016.98	781.43	0.393	0.98	0.65
D	441.17	110.29	443.65	442.90	358.79	0.00	907.02	719.93	0.486	1.58	0.96

## Queueing Delay Results

### Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.01	0.80	0.113	A	A
B	7.51	0.50	0.111	A	A
C	9.23	0.62	0.096	A	A
D	13.24	0.88	0.126	A	A

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total	Queueing Rate Of	Average Delay Per	Unsignalised Level	Signalised Level

	Delay (Veh-min)	Delay (Veh-min/min)	Arriving Vehicle (min)	Of Service	Of Service
A	18.71	1.25	0.149	A	A
B	11.06	0.74	0.137	A	A
C	13.67	0.91	0.120	A	A
D	21.17	1.41	0.172	B	B

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	36.77	2.45	0.251	C	B
B	19.06	1.27	0.198	B	B
C	24.03	1.60	0.177	B	B
D	44.63	2.98	0.315	C	B

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	41.33	2.76	0.265	C	B
B	20.50	1.37	0.203	B	B
C	25.84	1.72	0.181	B	B
D	51.78	3.45	0.340	C	C

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	21.96	1.46	0.156	A	A
B	12.47	0.83	0.141	A	A
C	15.32	1.02	0.123	A	A
D	25.62	1.71	0.183	B	B

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.48	0.90	0.116	A	A
B	8.28	0.55	0.113	A	A
C	10.11	0.67	0.098	A	A
D	15.06	1.00	0.130	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

# Overview: Time Segment Results

## Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	446.44	972.09	0.459	0.00	0.00	0.84	12.01	(0.02)	0.113
1	B	283.07	820.70	0.345	0.00	0.00	0.52	7.51	(0.02)	0.111
1	C	399.76	1019.52	0.392	0.00	0.00	0.64	9.23	(0.02)	0.096
1	D	441.17	908.90	0.485	0.00	0.00	0.93	13.24	(0.02)	0.126
2	A	533.09	932.64	0.572	0.00	0.84	1.31	18.71	(0.02)	0.149
2	B	338.02	773.75	0.437	0.00	0.52	0.76	11.06	(0.02)	0.137
2	C	477.36	975.72	0.489	0.00	0.64	0.94	13.67	(0.02)	0.120
2	D	526.80	871.20	0.605	0.00	0.93	1.49	21.17	(0.02)	0.172
3	A	652.90	881.17	0.741	0.00	1.31	2.69	36.77	(0.02)	0.251
3	B	413.98	711.98	0.581	0.00	0.76	1.35	19.06	(0.02)	0.198
3	C	584.64	917.65	0.637	0.00	0.94	1.70	24.03	(0.02)	0.177
3	D	645.20	820.85	0.786	0.00	1.49	3.35	44.63	(0.02)	0.315
4	A	652.90	878.32	0.743	0.00	2.69	2.80	41.33	(0.02)	0.265
4	B	413.98	709.14	0.584	0.00	1.35	1.38	20.50	(0.02)	0.203
4	C	584.64	915.61	0.639	0.00	1.70	1.74	25.84	(0.02)	0.181
4	D	645.20	819.45	0.787	0.00	3.35	3.52	51.78	(0.02)	0.340
5	A	533.09	928.46	0.574	0.00	2.80	1.38	21.96	(0.02)	0.156
5	B	338.02	769.58	0.439	0.00	1.38	0.80	12.47	(0.02)	0.141
5	C	477.36	972.71	0.491	0.00	1.74	0.98	15.32	(0.02)	0.123
5	D	526.80	869.14	0.606	0.00	3.52	1.58	25.62	(0.02)	0.183
6	A	446.44	969.41	0.461	0.00	1.38	0.87	13.48	(0.02)	0.116
6	B	283.07	817.77	0.346	0.00	0.80	0.54	8.28	(0.02)	0.113
6	C	399.76	1016.98	0.393	0.00	0.98	0.65	10.11	(0.02)	0.098
6	D	441.17	907.02	0.486	0.00	1.58	0.96	15.06	(0.02)	0.130

## A1 - (Default Analysis Set) - D2 - 2014 Surveyed Flows, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2014 Surveyed Flows, PM	2014 Surveyed Flows	PM			Yes			16:45	18:15	90	15	ONE HOUR

## Roundabout Network

### Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

### Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

## Arms

### Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

### Pedestrian Crossings

Arm	Crossing Type
-----	---------------



A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	704.00	100.000	N/A
B	ONE HOUR	Yes	371.00	100.000	N/A
C	ONE HOUR	Yes	523.00	100.000	N/A
D	ONE HOUR	Yes	528.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	530.01	544.31	N/A	N/A
1	B	279.31	284.64	N/A	N/A
1	C	393.74	404.97	N/A	N/A
1	D	397.51	403.66	N/A	N/A
2	A	632.88	649.96	N/A	N/A
2	B	333.52	339.89	N/A	N/A

2	C	470.17	483.57	N/A	N/A
2	D	474.66	482.01	N/A	N/A
3	A	775.12	796.04	N/A	N/A
3	B	408.48	416.28	N/A	N/A
3	C	575.83	592.25	N/A	N/A
3	D	581.34	590.34	N/A	N/A
4	A	775.12	796.04	N/A	N/A
4	B	408.48	416.28	N/A	N/A
4	C	575.83	592.25	N/A	N/A
4	D	581.34	590.34	N/A	N/A
5	A	632.88	649.96	N/A	N/A
5	B	333.52	339.89	N/A	N/A
5	C	470.17	483.57	N/A	N/A
5	D	474.66	482.01	N/A	N/A
6	A	530.01	544.31	N/A	N/A
6	B	279.31	284.64	N/A	N/A
6	C	393.74	404.97	N/A	N/A
6	D	397.51	403.66	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	73.000	381.000	250.000
	B	49.000	0.000	39.000	283.000
	C	340.000	41.000	0.000	142.000
	D	148.000	244.000	132.000	4.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.10	0.54	0.36
	B	0.13	0.00	0.11	0.76
	C	0.65	0.08	0.00	0.27
	D	0.28	0.46	0.25	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.042	1.012
	B	1.000	1.000	1.051	1.018
	C	1.038	1.000	1.000	1.014

	D	1.014	1.025	1.000	1.000
--	---	-------	-------	-------	-------

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	4.200	1.200
	B	0.000	0.000	5.100	1.800
	C	3.800	0.000	0.000	1.400
	D	1.400	2.500	0.000	0.000

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.84	0.40	4.90	C	646.00	969.01	222.87	0.23	2.48	222.91	0.23	0.548	1204.008
B	0.66	0.29	1.91	C	340.44	510.65	99.11	0.19	1.10	99.12	0.19	0.516	1073.293
C	0.65	0.20	1.86	B	479.92	719.87	102.70	0.14	1.14	102.71	0.14	0.562	1271.998
D	0.69	0.23	2.17	B	484.50	726.75	118.82	0.16	1.32	118.84	0.16	0.528	1113.227

### Main Results

#### Main results: (16:45-17:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	530.01	132.50	525.60	401.45	314.60	0.00	1001.91	846.80	0.529	0.00	1.10
B	279.31	69.83	277.00	267.48	572.71	0.00	756.13	559.82	0.369	0.00	0.58
C	393.74	98.44	391.15	412.20	437.51	0.00	994.24	789.17	0.396	0.00	0.65
D	397.51	99.38	394.53	507.13	321.53	0.00	924.19	749.04	0.430	0.00	0.74

#### Main results: (17:00-17:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	632.88	158.22	629.98	481.32	377.29	0.00	967.95	846.80	0.654	1.10	1.83
B	333.52	83.38	332.24	320.74	686.53	0.00	697.10	559.82	0.478	0.58	0.90
C	470.17	117.54	468.87	494.16	524.61	0.00	945.96	789.17	0.497	0.65	0.97
D	474.66	118.66	473.16	608.03	385.45	0.00	889.99	749.04	0.533	0.74	1.12

#### Main results: (17:15-17:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	775.12	193.78	764.12	587.47	460.41	0.00	922.91	846.79	0.840	1.83	4.58
B	408.48	102.12	404.76	390.93	833.60	0.00	620.83	559.82	0.658	0.90	1.83

C	575.84	143.96	572.49	600.43	637.93	0.00	883.15	789.17	0.652	0.97	1.81
D	581.34	145.33	577.37	739.91	470.51	0.00	844.47	749.04	0.688	1.12	2.11

### Main results: (17:30-17:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	775.12	193.78	773.84	591.02	463.36	0.00	921.31	846.79	0.841	4.58	4.90
B	408.48	102.12	408.17	393.92	843.28	0.00	615.80	559.82	0.663	1.83	1.91
C	575.84	143.96	575.65	606.99	644.46	0.00	879.53	789.17	0.655	1.81	1.86
D	581.34	145.33	581.12	746.85	473.26	0.00	843.00	749.04	0.690	2.11	2.17

### Main results: (17:45-18:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	632.88	158.22	644.62	486.56	381.60	0.00	965.61	846.80	0.655	4.90	1.97
B	333.52	83.38	337.33	325.15	701.06	0.00	689.55	559.82	0.484	1.91	0.96
C	470.17	117.54	473.53	503.98	534.40	0.00	940.54	789.17	0.500	1.86	1.02
D	474.66	118.66	478.64	618.42	389.51	0.00	887.82	749.04	0.535	2.17	1.17

### Main results: (18:00-18:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	530.01	132.50	533.28	405.83	318.23	0.00	999.95	846.80	0.530	1.97	1.15
B	279.31	69.83	280.74	270.72	580.79	0.00	751.94	559.82	0.371	0.96	0.60
C	393.74	98.44	395.14	417.90	443.63	0.00	990.85	789.17	0.397	1.02	0.67
D	397.51	99.38	399.12	513.83	324.93	0.00	922.37	749.04	0.431	1.17	0.77

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.70	1.05	0.125	A	A
B	8.30	0.55	0.125	A	A
C	9.37	0.62	0.099	A	A
D	10.70	0.71	0.113	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.87	1.72	0.176	B	B
B	12.92	0.86	0.164	A	A
C	14.07	0.94	0.125	A	A
D	16.13	1.08	0.143	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A					
B					
C					
D					

A	59.18	3.95	0.355	C	C
B	25.21	1.68	0.273	C	B
C	25.41	1.69	0.191	B	B
D	29.36	1.96	0.221	B	B

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	71.57	4.77	0.399	C	C
B	28.18	1.88	0.288	C	B
C	27.59	1.84	0.197	B	B
D	32.19	2.15	0.229	B	B

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	32.53	2.17	0.193	B	B
B	15.17	1.01	0.172	B	B
C	15.95	1.06	0.129	A	A
D	18.51	1.23	0.148	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.02	1.20	0.129	A	A
B	9.32	0.62	0.128	A	A
C	10.31	0.69	0.101	A	A
D	11.92	0.79	0.115	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	530.01	1001.91	0.529	0.00	0.00	1.10	15.70	(0.02)	0.125

1	B	279.31	756.13	0.369	0.00	0.00	0.58	8.30	(0.02)	0.125
1	C	393.74	994.24	0.396	0.00	0.00	0.65	9.37	(0.02)	0.099
1	D	397.51	924.19	0.430	0.00	0.00	0.74	10.70	(0.02)	0.113
2	A	632.88	967.95	0.654	0.00	1.10	1.83	25.87	(0.02)	0.176
2	B	333.52	697.10	0.478	0.00	0.58	0.90	12.92	(0.02)	0.164
2	C	470.17	945.96	0.497	0.00	0.65	0.97	14.07	(0.02)	0.125
2	D	474.66	889.99	0.533	0.00	0.74	1.12	16.13	(0.02)	0.143
3	A	775.12	922.91	0.840	0.00	1.83	4.58	59.18	(0.02)	0.355
3	B	408.48	620.83	0.658	0.00	0.90	1.83	25.21	(0.02)	0.273
3	C	575.84	883.15	0.652	0.00	0.97	1.81	25.41	(0.02)	0.191
3	D	581.34	844.47	0.688	0.00	1.12	2.11	29.36	(0.02)	0.221
4	A	775.12	921.31	0.841	0.00	4.58	4.90	71.57	(0.02)	0.399
4	B	408.48	615.80	0.663	0.00	1.83	1.91	28.18	(0.02)	0.288
4	C	575.84	879.53	0.655	0.00	1.81	1.86	27.59	(0.02)	0.197
4	D	581.34	843.00	0.690	0.00	2.11	2.17	32.19	(0.02)	0.229
5	A	632.88	965.61	0.655	0.00	4.90	1.97	32.53	(0.02)	0.193
5	B	333.52	689.55	0.484	0.00	1.91	0.96	15.17	(0.02)	0.172
5	C	470.17	940.54	0.500	0.00	1.86	1.02	15.95	(0.02)	0.129
5	D	474.66	887.82	0.535	0.00	2.17	1.17	18.51	(0.02)	0.148
6	A	530.01	999.95	0.530	0.00	1.97	1.15	18.02	(0.02)	0.129
6	B	279.31	751.94	0.371	0.00	0.96	0.60	9.32	(0.02)	0.128
6	C	393.74	990.85	0.397	0.00	1.02	0.67	10.31	(0.02)	0.101
6	D	397.51	922.37	0.431	0.00	1.17	0.77	11.92	(0.02)	0.115

## A1 - (Default Analysis Set) - D3 - 2020 Base Flows, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 Base Flows, AM	2020 Base Flows	AM			Yes			07:45	09:15	90	15	ONE HOUR

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

## Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

# Arms

## Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008

<b>B</b>		((calculated))	((calculated))	0.516	1073.293
<b>C</b>		((calculated))	((calculated))	0.562	1271.998
<b>D</b>		((calculated))	((calculated))	0.528	1113.227

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
<b>A</b>	ONE HOUR	Yes	631.00	100.000	N/A
<b>B</b>	ONE HOUR	Yes	400.00	100.000	N/A
<b>C</b>	ONE HOUR	Yes	565.00	100.000	N/A
<b>D</b>	ONE HOUR	Yes	624.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	475.05	488.73	N/A	N/A
1	B	301.14	305.85	N/A	N/A
1	C	425.36	436.59	N/A	N/A
1	D	469.78	476.07	N/A	N/A
2	A	567.26	583.60	N/A	N/A
2	B	359.59	365.21	N/A	N/A
2	C	507.92	521.33	N/A	N/A
2	D	560.96	568.48	N/A	N/A
3	A	694.74	714.76	N/A	N/A
3	B	440.41	447.29	N/A	N/A
3	C	622.08	638.50	N/A	N/A
3	D	687.04	696.24	N/A	N/A
4	A	694.74	714.76	N/A	N/A
4	B	440.41	447.29	N/A	N/A
4	C	622.08	638.50	N/A	N/A
4	D	687.04	696.24	N/A	N/A



5	A	567.26	583.60	N/A	N/A
5	B	359.59	365.21	N/A	N/A
5	C	507.92	521.33	N/A	N/A
5	D	560.96	568.48	N/A	N/A
6	A	475.05	488.73	N/A	N/A
6	B	301.14	305.85	N/A	N/A
6	C	425.36	436.59	N/A	N/A
6	D	469.78	476.07	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	66.000	368.000	196.000
	B	64.000	1.000	40.000	295.000
	C	365.000	73.000	1.000	126.000
	D	176.000	371.000	70.000	7.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.10	0.58	0.31
	B	0.16	0.00	0.10	0.74
	C	0.65	0.13	0.00	0.22
	D	0.28	0.59	0.11	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.016	1.038	1.016
	B	1.000	1.000	1.053	1.014
	C	1.035	1.000	1.000	1.017
	D	1.012	1.014	1.015	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	1.600	3.800	1.600
	B	0.000	0.000	5.300	1.400
	C	3.500	0.000	0.000	1.700
	D	1.200	1.400	1.500	0.000

# Results

## Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.81	0.36	3.94	C	579.01	868.52	185.92	0.21	2.07	185.95	0.21	0.548	1204.008
B	0.64	0.24	1.74	B	367.05	550.57	94.78	0.17	1.05	94.79	0.17	0.516	1073.293
C	0.70	0.22	2.22	B	518.45	777.68	119.21	0.15	1.32	119.23	0.15	0.562	1271.998
D	0.86	0.50	5.38	D	572.59	858.89	232.49	0.27	2.58	232.53	0.27	0.528	1113.227

## Main Results

### Main results: (07:45-08:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	475.05	118.76	471.19	452.76	390.26	0.00	959.75	835.37	0.495	0.00	0.96
B	301.14	75.28	298.78	381.36	480.09	0.00	806.06	618.92	0.374	0.00	0.59
C	425.36	106.34	422.46	357.64	421.24	0.00	1005.53	781.02	0.423	0.00	0.72
D	469.78	117.45	465.47	466.15	377.55	0.00	896.99	720.35	0.524	0.00	1.08

### Main results: (08:00-08:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	567.25	141.81	564.82	542.75	467.81	0.00	917.91	835.37	0.618	0.96	1.57
B	359.59	89.90	358.39	457.14	575.49	0.00	756.25	618.92	0.475	0.59	0.89
C	507.92	126.98	506.40	428.73	505.15	0.00	958.97	781.02	0.530	0.72	1.11
D	560.96	140.24	557.97	558.94	452.60	0.00	856.93	720.35	0.655	1.08	1.83

### Main results: (08:15-08:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	694.74	173.69	686.26	660.48	566.37	0.00	864.74	835.37	0.803	1.57	3.69
B	440.41	110.10	437.24	553.81	698.82	0.00	691.84	618.92	0.637	0.89	1.68
C	622.08	155.52	617.86	520.73	615.34	0.00	897.82	781.02	0.693	1.11	2.16
D	687.04	171.76	674.64	680.99	552.21	0.00	803.76	720.35	0.855	1.83	4.93

### Main results: (08:30-08:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	694.74	173.69	693.76	666.52	574.51	0.00	860.35	835.37	0.808	3.69	3.94
B	440.41	110.10	440.19	561.42	706.86	0.00	687.65	618.92	0.640	1.68	1.74
C	622.08	155.52	621.83	526.59	620.45	0.00	894.98	781.02	0.695	2.16	2.22
D	687.04	171.76	685.24	686.49	555.78	0.00	801.86	720.35	0.857	4.93	5.38

**Main results: (08:45-09:00)**

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	567.25	141.81	576.21	551.88	480.46	0.00	911.08	835.37	0.623	3.94	1.70
B	359.59	89.90	362.78	468.93	587.75	0.00	749.85	618.92	0.480	1.74	0.94
C	507.92	126.98	512.18	437.68	512.85	0.00	954.69	781.02	0.532	2.22	1.16
D	560.96	140.24	574.52	567.20	457.82	0.00	854.15	720.35	0.657	5.38	1.99

**Main results: (09:00-09:15)**

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	475.05	118.76	477.83	458.48	396.44	0.00	956.42	835.37	0.497	1.70	1.00
B	301.14	75.28	302.46	387.26	487.00	0.00	802.45	618.92	0.375	0.94	0.61
C	425.36	106.34	427.01	362.76	426.71	0.00	1002.49	781.02	0.424	1.16	0.75
D	469.78	117.45	473.22	472.03	381.69	0.00	894.78	720.35	0.525	1.99	1.13

**Queueing Delay Results**

**Queueing Delay results: (07:45-08:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.77	0.92	0.122	A	A
B	8.47	0.56	0.118	A	A
C	10.44	0.70	0.102	A	A
D	15.30	1.02	0.138	A	A

**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	22.36	1.49	0.169	B	B
B	12.83	0.86	0.150	A	A
C	15.95	1.06	0.132	A	A
D	25.72	1.71	0.199	B	B

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	48.77	3.25	0.322	C	B
B	23.47	1.56	0.233	B	B
C	30.02	2.00	0.211	B	B
D	62.23	4.15	0.429	D	C

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	57.65	3.84	0.355	C	C
B	25.75	1.72	0.242	B	B
C	32.98	2.20	0.219	B	B
D	77.89	5.19	0.498	D	C

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	27.66	1.84	0.184	B	B
B	14.81	0.99	0.156	A	A
C	18.26	1.22	0.137	A	A
D	33.60	2.24	0.224	B	B

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.70	1.05	0.126	A	A
B	9.44	0.63	0.120	A	A
C	11.56	0.77	0.105	A	A
D	17.75	1.18	0.143	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	475.05	959.75	0.495	0.00	0.00	0.96	13.77	(0.02)	0.122
1	B	301.14	806.06	0.374	0.00	0.00	0.59	8.47	(0.02)	0.118
1	C	425.36	1005.53	0.423	0.00	0.00	0.72	10.44	(0.02)	0.102
1	D	469.78	896.99	0.524	0.00	0.00	1.08	15.30	(0.02)	0.138
2	A	567.25	917.91	0.618	0.00	0.96	1.57	22.36	(0.02)	0.169
2	B	359.59	756.25	0.475	0.00	0.59	0.89	12.83	(0.02)	0.150
2	C	507.92	958.97	0.530	0.00	0.72	1.11	15.95	(0.02)	0.132
2	D	560.96	856.93	0.655	0.00	1.08	1.83	25.72	(0.02)	0.199
3	A	694.74	864.74	0.803	0.00	1.57	3.69	48.77	(0.02)	0.322
3	B	440.41	691.84	0.637	0.00	0.89	1.68	23.47	(0.02)	0.233
3	C	622.08	897.82	0.693	0.00	1.11	2.16	30.02	(0.02)	0.211
3	D	687.04	803.76	0.855	0.00	1.83	4.93	62.23	(0.02)	0.429
4	A	694.74	860.35	0.808	0.00	3.69	3.94	57.65	(0.02)	0.355

4	B	440.41	687.65	0.640	0.00	1.68	1.74	25.75	(0.02)	0.242
4	C	622.08	894.98	0.695	0.00	2.16	2.22	32.98	(0.02)	0.219
4	D	687.04	801.86	0.857	0.00	4.93	5.38	77.89	(0.02)	0.498
5	A	567.25	911.08	0.623	0.00	3.94	1.70	27.66	(0.02)	0.184
5	B	359.59	749.85	0.480	0.00	1.74	0.94	14.81	(0.02)	0.156
5	C	507.92	954.69	0.532	0.00	2.22	1.16	18.26	(0.02)	0.137
5	D	560.96	854.15	0.657	0.00	5.38	1.99	33.60	(0.02)	0.224
6	A	475.05	956.42	0.497	0.00	1.70	1.00	15.70	(0.02)	0.126
6	B	301.14	802.45	0.375	0.00	0.94	0.61	9.44	(0.02)	0.120
6	C	425.36	1002.49	0.424	0.00	1.16	0.75	11.56	(0.02)	0.105
6	D	469.78	894.78	0.525	0.00	1.99	1.13	17.75	(0.02)	0.143

## A1 - (Default Analysis Set) - D4 - 2020 Base Flows, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 Base Flows, PM	2020 Base Flows	PM			Yes			16:45	18:15	90	15	ONE HOUR

## Roundabout Network

### Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

### Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

# Arms

## Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies	Vehicle Mix Varies	Vehicle Mix Varies	Vehicle Mix Source	PCU Factor for a	Default Turning Proportions	Estimate from entry/exit	Turning Proportions Vary Over	Turning Proportions Vary Over	Turning Proportions Vary Over

	Over Time	Over Turn	Over Entry		HV (PCU)		counts	Time	Turn	Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	751.00	100.000	N/A
B	ONE HOUR	Yes	394.00	100.000	N/A
C	ONE HOUR	Yes	557.00	100.000	N/A
D	ONE HOUR	Yes	561.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	565.39	580.60	N/A	N/A
1	B	296.62	302.28	N/A	N/A
1	C	419.34	431.29	N/A	N/A
1	D	422.35	428.90	N/A	N/A
2	A	675.13	693.29	N/A	N/A
2	B	354.20	360.95	N/A	N/A
2	C	500.73	515.00	N/A	N/A
2	D	504.33	512.15	N/A	N/A
3	A	826.87	849.11	N/A	N/A
3	B	433.80	442.07	N/A	N/A
3	C	613.27	630.74	N/A	N/A
3	D	617.67	627.25	N/A	N/A
4	A	826.87	849.11	N/A	N/A
4	B	433.80	442.07	N/A	N/A
4	C	613.27	630.74	N/A	N/A
4	D	617.67	627.25	N/A	N/A
5	A	675.13	693.29	N/A	N/A
5	B	354.20	360.95	N/A	N/A
5	C	500.73	515.00	N/A	N/A
5	D	504.33	512.15	N/A	N/A
6	A	565.39	580.60	N/A	N/A
6	B	296.62	302.28	N/A	N/A
6	C	419.34	431.29	N/A	N/A
6	D	422.35	428.90	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	2.000	78.000	405.000	266.000
	B	52.000	0.000	41.000	301.000
	C	362.000	44.000	0.000	151.000
	D	157.000	260.000	140.000	4.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.10	0.54	0.35
	B	0.13	0.00	0.10	0.76
	C	0.65	0.08	0.00	0.27
	D	0.28	0.46	0.25	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.042	1.012
	B	1.000	1.000	1.051	1.018
	C	1.038	1.000	1.000	1.014
	D	1.014	1.025	1.000	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	4.200	1.200
	B	0.000	0.000	5.100	1.800
	C	3.800	0.000	0.000	1.400
	D	1.400	2.500	0.000	0.000

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.91	0.66	8.47	E	689.13	1033.70	326.28	0.32	3.63	326.33	0.32	0.548	1204.008
B	0.74	0.38	2.65	C	361.54	542.31	126.55	0.23	1.41	126.57	0.23	0.516	1073.293
C	0.72	0.25	2.44	B	511.11	766.67	126.88	0.17	1.41	126.90	0.17	0.562	1271.998
D	0.75	0.29	2.86	C	514.79	772.18	146.94	0.19	1.63	146.97	0.19	0.528	1113.227



## Main Results

### Main results: (16:45-17:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	565.39	141.35	560.19	428.14	334.60	0.00	991.16	846.83	0.570	0.00	1.30
B	296.62	74.16	293.97	285.24	609.55	0.00	737.07	560.38	0.402	0.00	0.66
C	419.34	104.83	416.38	437.24	466.27	0.00	978.32	787.94	0.429	0.00	0.74
D	422.35	105.59	418.96	538.86	343.79	0.00	912.29	748.16	0.463	0.00	0.85

### Main results: (17:00-17:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	675.13	168.78	671.11	513.28	401.24	0.00	955.05	846.82	0.707	1.30	2.31
B	354.20	88.55	352.54	341.98	730.37	0.00	674.40	560.38	0.525	0.66	1.08
C	500.73	125.18	499.09	523.98	558.92	0.00	926.97	787.94	0.540	0.74	1.15
D	504.33	126.08	502.42	645.91	412.10	0.00	875.74	748.16	0.576	0.85	1.33

### Main results: (17:15-17:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	826.87	206.72	806.72	625.41	488.77	0.00	907.62	846.82	0.911	2.31	7.34
B	433.80	108.45	428.28	415.47	880.02	0.00	596.81	560.38	0.727	1.08	2.46
C	613.27	153.32	608.51	632.34	675.96	0.00	862.09	787.94	0.711	1.15	2.34
D	617.68	154.42	611.96	782.26	502.22	0.00	827.52	748.16	0.746	1.33	2.75

### Main results: (17:30-17:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	826.87	206.72	822.37	630.40	492.92	0.00	905.37	846.82	0.913	7.34	8.47
B	433.80	108.45	433.05	419.89	895.39	0.00	588.82	560.38	0.737	2.46	2.65
C	613.27	153.32	612.88	642.59	685.86	0.00	856.61	787.94	0.716	2.34	2.44
D	617.68	154.42	617.24	792.66	506.07	0.00	825.46	748.16	0.748	2.75	2.86

### Main results: (17:45-18:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	675.13	168.78	698.76	520.74	407.33	0.00	951.75	846.82	0.709	8.47	2.56
B	354.20	88.55	360.03	348.95	757.13	0.00	660.48	560.38	0.536	2.65	1.19
C	500.73	125.18	505.59	541.60	575.56	0.00	917.75	787.94	0.546	2.44	1.23
D	504.33	126.08	510.16	663.25	417.91	0.00	872.64	748.16	0.578	2.86	1.40

### Main results: (18:00-18:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	565.39	141.35	570.18	433.44	338.93	0.00	988.81	846.83	0.572	2.56	1.36

<b>B</b>	296.62	74.16	298.61	289.21	619.92	0.00	731.68	560.38	0.405	1.19	0.69
<b>C</b>	419.34	104.83	421.18	444.49	474.04	0.00	974.02	787.94	0.431	1.23	0.77
<b>D</b>	422.35	105.59	424.45	547.29	347.93	0.00	910.08	748.16	0.464	1.40	0.88

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	18.36	1.22	0.138	A	A
<b>B</b>	9.49	0.63	0.135	A	A
<b>C</b>	10.66	0.71	0.106	A	A
<b>D</b>	12.15	0.81	0.121	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	32.15	2.14	0.208	B	B
<b>B</b>	15.39	1.03	0.185	B	B
<b>C</b>	16.57	1.10	0.140	A	A
<b>D</b>	18.96	1.26	0.160	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	87.70	5.85	0.515	D	C
<b>B</b>	32.99	2.20	0.345	C	C
<b>C</b>	32.29	2.15	0.232	B	B
<b>D</b>	37.41	2.49	0.271	C	B

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	119.87	7.99	0.658	E	D
<b>B</b>	38.67	2.58	0.382	C	C
<b>C</b>	36.06	2.40	0.245	B	B
<b>D</b>	42.29	2.82	0.287	C	B

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	46.61	3.11	0.257	C	B
<b>B</b>	19.19	1.28	0.203	B	B
<b>C</b>	19.41	1.29	0.147	A	A
<b>D</b>	22.41	1.49	0.168	B	B

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	21.59	1.44	0.145	A	A

<b>B</b>	10.83	0.72	0.139	A	A
<b>C</b>	11.89	0.79	0.109	A	A
<b>D</b>	13.71	0.91	0.124	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
<b>A</b>	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
<b>B</b>	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
<b>C</b>	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
<b>D</b>	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	565.39	991.16	0.570	0.00	0.00	1.30	18.36	(0.02)	0.138
1	B	296.62	737.07	0.402	0.00	0.00	0.66	9.49	(0.02)	0.135
1	C	419.34	978.32	0.429	0.00	0.00	0.74	10.66	(0.02)	0.106
1	D	422.35	912.29	0.463	0.00	0.00	0.85	12.15	(0.02)	0.121
2	A	675.13	955.05	0.707	0.00	1.30	2.31	32.15	(0.02)	0.208
2	B	354.20	674.40	0.525	0.00	0.66	1.08	15.39	(0.02)	0.185
2	C	500.73	926.97	0.540	0.00	0.74	1.15	16.57	(0.02)	0.140
2	D	504.33	875.74	0.576	0.00	0.85	1.33	18.96	(0.02)	0.160
3	A	826.87	907.62	0.911	0.00	2.31	7.34	87.70	(0.02)	0.515
3	B	433.80	596.81	0.727	0.00	1.08	2.46	32.99	(0.02)	0.345
3	C	613.27	862.09	0.711	0.00	1.15	2.34	32.29	(0.02)	0.232
3	D	617.68	827.52	0.746	0.00	1.33	2.75	37.41	(0.02)	0.271
4	A	826.87	905.37	0.913	0.00	7.34	8.47	119.87	(0.02)	0.658
4	B	433.80	588.82	0.737	0.00	2.46	2.65	38.67	(0.02)	0.382
4	C	613.27	856.61	0.716	0.00	2.34	2.44	36.06	(0.02)	0.245
4	D	617.68	825.46	0.748	0.00	2.75	2.86	42.29	(0.02)	0.287
5	A	675.13	951.75	0.709	0.00	8.47	2.56	46.61	(0.02)	0.257
5	B	354.20	660.48	0.536	0.00	2.65	1.19	19.19	(0.02)	0.203
5	C	500.73	917.75	0.546	0.00	2.44	1.23	19.41	(0.02)	0.147
5	D	504.33	872.64	0.578	0.00	2.86	1.40	22.41	(0.02)	0.168
6	A	565.39	988.81	0.572	0.00	2.56	1.36	21.59	(0.02)	0.145
6	B	296.62	731.68	0.405	0.00	1.19	0.69	10.83	(0.02)	0.139
6	C	419.34	974.02	0.431	0.00	1.23	0.77	11.89	(0.02)	0.109
6	D	422.35	910.08	0.464	0.00	1.40	0.88	13.71	(0.02)	0.124

# A1 - (Default Analysis Set) - D5 - Base + CD, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base + CD, AM	Base + CD	AM			Yes			07:45	09:15	90	15	ONE HOUR

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

## Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

# Arms

## Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00

B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	685.00	100.000	N/A
B	ONE HOUR	Yes	418.00	100.000	N/A
C	ONE HOUR	Yes	583.00	100.000	N/A
D	ONE HOUR	Yes	642.00	100.000	N/A

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	515.70	529.40	N/A	N/A
1	B	314.69	319.40	N/A	N/A
1	C	438.91	450.04	N/A	N/A
1	D	483.33	489.64	N/A	N/A
2	A	615.80	632.16	N/A	N/A
2	B	375.77	381.39	N/A	N/A
2	C	524.11	537.39	N/A	N/A
2	D	577.14	584.68	N/A	N/A
3	A	754.20	774.24	N/A	N/A
3	B	460.23	467.11	N/A	N/A
3	C	641.89	658.17	N/A	N/A
3	D	706.86	716.08	N/A	N/A
4	A	754.20	774.24	N/A	N/A
4	B	460.23	467.11	N/A	N/A
4	C	641.89	658.17	N/A	N/A
4	D	706.86	716.08	N/A	N/A
5	A	615.80	632.16	N/A	N/A
5	B	375.77	381.39	N/A	N/A
5	C	524.11	537.39	N/A	N/A
5	D	577.14	584.68	N/A	N/A
6	A	515.70	529.40	N/A	N/A
6	B	314.69	319.40	N/A	N/A
6	C	438.91	450.04	N/A	N/A
6	D	483.33	489.64	N/A	N/A

# Turning Proportions

## Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	84.000	386.000	214.000
	B	82.000	1.000	40.000	295.000
	C	383.000	73.000	1.000	126.000
	D	194.000	371.000	70.000	7.000

## Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.12	0.56	0.31
	B	0.20	0.00	0.10	0.71

	C	0.66	0.13	0.00	0.22
	D	0.30	0.58	0.11	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.013	1.036	1.015
	B	1.000	1.000	1.053	1.014
	C	1.033	1.000	1.000	1.017
	D	1.011	1.014	1.015	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	1.300	3.600	1.500
	B	0.000	0.000	5.300	1.400
	C	3.300	0.000	0.000	1.700
	D	1.100	1.400	1.500	0.000

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.87	0.51	6.07	D	628.57	942.85	254.48	0.27	2.83	254.53	0.27	0.548	1204.008
B	0.69	0.29	2.13	C	383.56	575.35	110.84	0.19	1.23	110.86	0.19	0.516	1073.293
C	0.73	0.26	2.67	C	534.97	802.46	136.65	0.17	1.52	136.67	0.17	0.562	1271.998
D	0.90	0.70	7.65	E	589.11	883.67	295.72	0.33	3.29	295.77	0.33	0.528	1113.227

### Main Results

#### Main results: (07:45-08:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	515.70	128.93	511.17	492.88	390.04	0.00	961.96	851.60	0.536	0.00	1.13
B	314.69	78.67	312.10	394.57	506.64	0.00	793.13	622.51	0.397	0.00	0.65
C	438.91	109.73	435.78	370.84	447.89	0.00	991.91	775.44	0.442	0.00	0.78
D	483.33	120.83	478.60	479.35	404.31	0.00	883.41	708.56	0.547	0.00	1.18

#### Main results: (08:00-08:15)

Arm	Demand	Arrivals	Entry	Exit	Circulating	Pedestrian	Capacity	Saturation	RFC	Start	End
-----	--------	----------	-------	------	-------------	------------	----------	------------	-----	-------	-----

	(Veh/hr)	(Veh)	Flow (Veh/hr)	Flow (Veh/hr)	Flow (Veh/hr)	Demand (Ped/hr)	(Veh/hr)	Capacity (Veh/hr)		Queue (Veh)	Queue (Veh)
<b>A</b>	615.80	153.95	612.53	590.77	467.39	0.00	920.14	851.60	0.669	1.13	1.95
<b>B</b>	375.77	93.94	374.34	472.82	607.10	0.00	740.70	622.51	0.507	0.65	1.01
<b>C</b>	524.11	131.03	522.33	444.41	537.02	0.00	942.43	775.44	0.556	0.78	1.23
<b>D</b>	577.14	144.29	573.49	574.69	484.67	0.00	840.59	708.56	0.687	1.18	2.10

### Main results: (08:15-08:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	754.20	188.55	740.32	716.85	562.46	0.00	868.75	851.60	0.868	1.95	5.42
<b>B</b>	460.23	115.06	456.13	569.56	733.23	0.00	674.89	622.51	0.682	1.01	2.03
<b>C</b>	641.90	160.47	636.55	537.01	652.35	0.00	878.41	775.44	0.731	1.23	2.56
<b>D</b>	706.86	176.71	688.67	698.27	590.63	0.00	784.12	708.56	0.901	2.10	6.64

### Main results: (08:30-08:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	754.20	188.55	751.58	725.11	572.96	0.00	863.06	851.60	0.874	5.42	6.07
<b>B</b>	460.23	115.06	459.84	579.74	744.82	0.00	668.84	622.51	0.688	2.03	2.13
<b>C</b>	641.90	160.47	641.49	545.25	659.40	0.00	874.50	775.44	0.734	2.56	2.67
<b>D</b>	706.86	176.71	702.82	705.63	595.25	0.00	781.65	708.56	0.904	6.64	7.65

### Main results: (08:45-09:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	615.80	153.95	631.38	604.20	485.72	0.00	910.22	851.60	0.677	6.07	2.18
<b>B</b>	375.77	93.94	379.96	490.46	626.64	0.00	730.51	622.51	0.514	2.13	1.08
<b>C</b>	524.11	131.03	529.58	458.30	548.30	0.00	936.17	775.44	0.560	2.67	1.30
<b>D</b>	577.14	144.29	598.42	586.38	491.49	0.00	836.95	708.56	0.690	7.65	2.33

### Main results: (09:00-09:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	515.70	128.93	519.66	499.81	397.03	0.00	958.18	851.60	0.538	2.18	1.19
<b>B</b>	314.69	78.67	316.33	401.51	515.18	0.00	788.66	622.51	0.399	1.08	0.67
<b>C</b>	438.91	109.73	440.87	377.03	454.48	0.00	988.25	775.44	0.444	1.30	0.81
<b>D</b>	483.33	120.83	487.69	486.20	409.16	0.00	880.83	708.56	0.549	2.33	1.24

## Queueing Delay Results

### Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	16.09	1.07	0.132	A	A
<b>B</b>	9.31	0.62	0.124	A	A
<b>C</b>	11.27	0.75	0.107	A	A



D	16.69	1.11	0.147	A	A
---	-------	------	-------	---	---

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	27.41	1.83	0.193	B	B
B	14.47	0.96	0.163	A	A
C	17.63	1.18	0.142	A	A
D	29.21	1.95	0.222	B	B

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	67.90	4.53	0.427	D	C
B	27.96	1.86	0.269	C	B
C	35.12	2.34	0.243	B	B
D	79.54	5.30	0.547	D	C

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	87.14	5.81	0.514	D	C
B	31.42	2.09	0.286	C	B
C	39.42	2.63	0.256	C	B
D	108.36	7.22	0.696	E	D

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.21	2.48	0.226	B	B
B	17.20	1.15	0.173	B	B
C	20.64	1.38	0.149	A	A
D	42.24	2.82	0.272	C	B

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.72	1.25	0.138	A	A
B	10.48	0.70	0.127	A	A
C	12.58	0.84	0.110	A	A
D	19.67	1.31	0.154	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008

<b>B</b>	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
<b>C</b>	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
<b>D</b>	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	515.70	961.96	0.536	0.00	0.00	1.13	16.09	(0.02)	0.132
1	B	314.69	793.13	0.397	0.00	0.00	0.65	9.31	(0.02)	0.124
1	C	438.91	991.91	0.442	0.00	0.00	0.78	11.27	(0.02)	0.107
1	D	483.33	883.41	0.547	0.00	0.00	1.18	16.69	(0.02)	0.147
2	A	615.80	920.14	0.669	0.00	1.13	1.95	27.41	(0.02)	0.193
2	B	375.77	740.70	0.507	0.00	0.65	1.01	14.47	(0.02)	0.163
2	C	524.11	942.43	0.556	0.00	0.78	1.23	17.63	(0.02)	0.142
2	D	577.14	840.59	0.687	0.00	1.18	2.10	29.21	(0.02)	0.222
3	A	754.20	868.75	0.868	0.00	1.95	5.42	67.90	(0.02)	0.427
3	B	460.23	674.89	0.682	0.00	1.01	2.03	27.96	(0.02)	0.269
3	C	641.90	878.41	0.731	0.00	1.23	2.56	35.12	(0.02)	0.243
3	D	706.86	784.12	0.901	0.00	2.10	6.64	79.54	(0.02)	0.547
4	A	754.20	863.06	0.874	0.00	5.42	6.07	87.14	(0.02)	0.514
4	B	460.23	668.84	0.688	0.00	2.03	2.13	31.42	(0.02)	0.286
4	C	641.90	874.50	0.734	0.00	2.56	2.67	39.42	(0.02)	0.256
4	D	706.86	781.65	0.904	0.00	6.64	7.65	108.36	(0.02)	0.696
5	A	615.80	910.22	0.677	0.00	6.07	2.18	37.21	(0.02)	0.226
5	B	375.77	730.51	0.514	0.00	2.13	1.08	17.20	(0.02)	0.173
5	C	524.11	936.17	0.560	0.00	2.67	1.30	20.64	(0.02)	0.149
5	D	577.14	836.95	0.690	0.00	7.65	2.33	42.24	(0.02)	0.272
6	A	515.70	958.18	0.538	0.00	2.18	1.19	18.72	(0.02)	0.138
6	B	314.69	788.66	0.399	0.00	1.08	0.67	10.48	(0.02)	0.127
6	C	438.91	988.25	0.444	0.00	1.30	0.81	12.58	(0.02)	0.110
6	D	483.33	880.83	0.549	0.00	2.33	1.24	19.67	(0.02)	0.154

## A1 - (Default Analysis Set) - D6 - Base + CD, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor	Network Capacity Scaling	Reason For Scaling
------	-------------	-------------------	-------------------------	------------	--------	-----------------------------	--------------------------	--------------------

						(%)	Factor (%)	Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base + CD, PM	Base + CD	PM			Yes			16:45	18:15	90	15	ONE HOUR

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

## Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

# Arms

## Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	

D	3.35	4.80	2.60	6.30	19.00	14.00	
---	------	------	------	------	-------	-------	--

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	805.00	100.000	N/A
B	ONE HOUR	Yes	412.00	100.000	N/A
C	ONE HOUR	Yes	575.00	100.000	N/A
D	ONE HOUR	Yes	579.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	606.05	621.14	N/A	N/A
1	B	310.18	315.83	N/A	N/A

1	C	432.89	444.78	N/A	N/A
1	D	435.90	442.38	N/A	N/A
2	A	723.68	741.70	N/A	N/A
2	B	370.38	377.13	N/A	N/A
2	C	516.91	531.11	N/A	N/A
2	D	520.51	528.24	N/A	N/A
3	A	886.32	908.39	N/A	N/A
3	B	453.62	461.89	N/A	N/A
3	C	633.09	650.48	N/A	N/A
3	D	637.49	646.96	N/A	N/A
4	A	886.32	908.39	N/A	N/A
4	B	453.62	461.89	N/A	N/A
4	C	633.09	650.48	N/A	N/A
4	D	637.49	646.96	N/A	N/A
5	A	723.68	741.70	N/A	N/A
5	B	370.38	377.13	N/A	N/A
5	C	516.91	531.11	N/A	N/A
5	D	520.51	528.24	N/A	N/A
6	A	606.05	621.14	N/A	N/A
6	B	310.18	315.83	N/A	N/A
6	C	432.89	444.78	N/A	N/A
6	D	435.90	442.38	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	2.000	96.000	423.000	284.000
	B	70.000	0.000	41.000	301.000
	C	380.000	44.000	0.000	151.000
	D	175.000	260.000	140.000	4.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.12	0.53	0.35
	B	0.17	0.00	0.10	0.73
	C	0.66	0.08	0.00	0.26
	D	0.30	0.45	0.24	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To

From	A	1.000	1.000	1.040	1.011
	B	1.000	1.000	1.051	1.018
	C	1.036	1.000	1.000	1.014
	D	1.012	1.025	1.000	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

From	To				
	A	0.000	0.000	4.000	1.100
	B	0.000	0.000	5.100	1.800
	C	3.600	0.000	0.000	1.400
	D	1.200	2.500	0.000	0.000

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.98	1.13	16.08	F	738.68	1108.02	513.33	0.46	5.70	513.41	0.46	0.548	1204.008
B	0.79	0.48	3.44	D	378.06	567.09	154.36	0.27	1.72	154.38	0.27	0.516	1073.293
C	0.76	0.29	2.95	C	527.63	791.44	146.49	0.19	1.63	146.51	0.19	0.562	1271.998
D	0.79	0.35	3.59	C	531.30	796.95	173.19	0.22	1.92	173.22	0.22	0.528	1113.227

### Main Results

#### Main results: (16:45-17:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	606.05	151.51	599.94	468.28	334.45	0.00	993.18	863.40	0.610	0.00	1.53
B	310.17	77.54	307.23	298.51	635.89	0.00	724.39	565.24	0.428	0.00	0.74
C	432.89	108.22	429.68	450.33	492.79	0.00	964.81	782.86	0.449	0.00	0.80
D	435.90	108.98	432.20	551.94	370.53	0.00	899.00	736.12	0.485	0.00	0.93

#### Main results: (17:00-17:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	723.68	180.92	718.13	561.34	401.01	0.00	957.03	863.41	0.756	1.53	2.91
B	370.38	92.59	368.35	357.77	761.38	0.00	659.33	565.24	0.562	0.74	1.24
C	516.91	129.23	514.99	539.32	590.41	0.00	910.69	782.86	0.568	0.80	1.28
D	520.51	130.13	518.25	661.28	444.12	0.00	859.69	736.12	0.605	0.93	1.49

#### Main results: (17:15-17:30)

Arm	Demand	Arrivals	Entry	Exit	Circulating	Pedestrian	Capacity	Saturation	RFC	Start	End
-----	--------	----------	-------	------	-------------	------------	----------	------------	-----	-------	-----

	(Veh/hr)	(Veh)	Flow (Veh/hr)	Flow (Veh/hr)	Flow (Veh/hr)	Demand (Ped/hr)	(Veh/hr)	Capacity (Veh/hr)		Queue (Veh)	Queue (Veh)
<b>A</b>	886.32	221.58	849.64	682.72	487.48	0.00	910.09	863.40	0.974	2.91	12.09
<b>B</b>	453.62	113.40	446.26	432.15	904.96	0.00	584.94	565.24	0.776	1.24	3.08
<b>C</b>	633.09	158.27	627.07	643.16	708.06	0.00	845.46	782.86	0.749	1.28	2.79
<b>D</b>	637.49	159.37	629.88	794.80	540.33	0.00	808.29	736.12	0.789	1.49	3.40

### Main results: (17:30-17:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	886.32	221.58	870.34	689.40	492.68	0.00	907.27	863.40	0.977	12.09	16.08
<b>B</b>	453.62	113.40	452.20	438.11	924.91	0.00	574.57	565.24	0.789	3.08	3.44
<b>C</b>	633.09	158.27	632.44	656.30	720.81	0.00	838.40	782.86	0.755	2.79	2.95
<b>D</b>	637.49	159.37	636.73	807.91	545.35	0.00	805.62	736.12	0.791	3.40	3.59

### Main results: (17:45-18:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	723.68	180.92	774.34	571.62	408.76	0.00	952.83	863.41	0.760	16.08	3.41
<b>B</b>	370.38	92.59	378.28	369.67	813.43	0.00	632.26	565.24	0.586	3.44	1.46
<b>C</b>	516.91	129.23	523.10	572.31	619.40	0.00	894.64	782.86	0.578	2.95	1.40
<b>D</b>	520.51	130.13	528.46	690.57	451.93	0.00	855.53	736.12	0.608	3.59	1.60

### Main results: (18:00-18:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	606.05	151.51	613.23	474.80	339.23	0.00	990.58	863.40	0.612	3.41	1.62
<b>B</b>	310.17	77.54	312.94	303.32	649.15	0.00	717.51	565.24	0.432	1.46	0.77
<b>C</b>	432.89	108.22	435.16	459.39	502.69	0.00	959.32	782.86	0.451	1.40	0.83
<b>D</b>	435.90	108.98	438.45	562.28	375.58	0.00	896.31	736.12	0.486	1.60	0.96

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	21.39	1.43	0.150	A	A
<b>B</b>	10.49	0.70	0.143	A	A
<b>C</b>	11.53	0.77	0.111	A	A
<b>D</b>	13.20	0.88	0.128	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	39.87	2.66	0.245	B	B
<b>B</b>	17.63	1.18	0.205	B	B
<b>C</b>	18.38	1.23	0.151	A	A
<b>D</b>	21.22	1.41	0.175	B	B

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	130.53	8.70	0.735	E	D
B	40.33	2.69	0.412	C	C
C	37.82	2.52	0.268	C	B
D	45.09	3.01	0.323	C	B

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	213.72	14.25	1.129	F	E
B	49.61	3.31	0.480	D	C
C	43.35	2.89	0.289	C	B
D	52.67	3.51	0.351	C	C

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	81.89	5.46	0.407	C	C
B	24.12	1.61	0.243	B	B
C	22.42	1.49	0.164	A	A
D	25.94	1.73	0.188	B	B

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.93	1.73	0.162	A	A
B	12.18	0.81	0.149	A	A
C	12.99	0.87	0.115	A	A
D	15.07	1.00	0.132	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving
--------------	-----	-----------------	-------------------	-----	----------------------------	-------------------	-----------------	--------------------------------	---------------------------------	----------------------------



										Vehicle (min)
1	A	606.05	993.18	0.610	0.00	0.00	1.53	21.39	(0.02)	0.150
1	B	310.17	724.39	0.428	0.00	0.00	0.74	10.49	(0.02)	0.143
1	C	432.89	964.81	0.449	0.00	0.00	0.80	11.53	(0.02)	0.111
1	D	435.90	899.00	0.485	0.00	0.00	0.93	13.20	(0.02)	0.128
2	A	723.68	957.03	0.756	0.00	1.53	2.91	39.87	(0.02)	0.245
2	B	370.38	659.33	0.562	0.00	0.74	1.24	17.63	(0.02)	0.205
2	C	516.91	910.69	0.568	0.00	0.80	1.28	18.38	(0.02)	0.151
2	D	520.51	859.69	0.605	0.00	0.93	1.49	21.22	(0.02)	0.175
3	A	886.32	910.09	0.974	0.00	2.91	12.09	130.53	(0.02)	0.735
3	B	453.62	584.94	0.776	0.00	1.24	3.08	40.33	(0.02)	0.412
3	C	633.09	845.46	0.749	0.00	1.28	2.79	37.82	(0.02)	0.268
3	D	637.49	808.29	0.789	0.00	1.49	3.40	45.09	(0.02)	0.323
4	A	886.32	907.27	0.977	0.00	12.09	16.08	213.72	(0.02)	1.129
4	B	453.62	574.57	0.789	0.00	3.08	3.44	49.61	(0.02)	0.480
4	C	633.09	838.40	0.755	0.00	2.79	2.95	43.35	(0.02)	0.289
4	D	637.49	805.62	0.791	0.00	3.40	3.59	52.67	(0.02)	0.351
5	A	723.68	952.83	0.760	0.00	16.08	3.41	81.89	(0.02)	0.407
5	B	370.38	632.26	0.586	0.00	3.44	1.46	24.12	(0.02)	0.243
5	C	516.91	894.64	0.578	0.00	2.95	1.40	22.42	(0.02)	0.164
5	D	520.51	855.53	0.608	0.00	3.59	1.60	25.94	(0.02)	0.188
6	A	606.05	990.58	0.612	0.00	3.41	1.62	25.93	(0.02)	0.162
6	B	310.17	717.51	0.432	0.00	1.46	0.77	12.18	(0.02)	0.149
6	C	432.89	959.32	0.451	0.00	1.40	0.83	12.99	(0.02)	0.115
6	D	435.90	896.31	0.486	0.00	1.60	0.96	15.07	(0.02)	0.132

## A1 - (Default Analysis Set) - D7 - Base + CD + Dev, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
------	---------------	------------------	-------------	--------	-------------------	------------------	--------------	--------------------	---------------------	--------------------------	---------------------------	----------------------

Base + CD + Dev, AM	Base + CD + Dev	AM			Yes			07:45	09:15	90	15	ONE HOUR
---------------------	-----------------	----	--	--	-----	--	--	-------	-------	----	----	----------

## Roundabout Network

### Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

### Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

## Arms

### Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

### Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	699.00	100.000	N/A
B	ONE HOUR	Yes	437.00	100.000	N/A
C	ONE HOUR	Yes	599.00	100.000	N/A
D	ONE HOUR	Yes	654.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	526.24	539.81	N/A	N/A
1	B	329.00	333.70	N/A	N/A
1	C	450.96	462.18	N/A	N/A
1	D	492.37	498.62	N/A	N/A
2	A	628.39	644.59	N/A	N/A
2	B	392.85	398.47	N/A	N/A
2	C	538.49	551.89	N/A	N/A
2	D	587.93	595.40	N/A	N/A
3	A	769.61	789.45	N/A	N/A
3	B	481.15	488.03	N/A	N/A
3	C	659.51	675.93	N/A	N/A

3	D	720.07	729.21	N/A	N/A
4	A	769.61	789.45	N/A	N/A
4	B	481.15	488.03	N/A	N/A
4	C	659.51	675.93	N/A	N/A
4	D	720.07	729.21	N/A	N/A
5	A	628.39	644.59	N/A	N/A
5	B	392.85	398.47	N/A	N/A
5	C	538.49	551.89	N/A	N/A
5	D	587.93	595.40	N/A	N/A
6	A	526.24	539.81	N/A	N/A
6	B	329.00	333.70	N/A	N/A
6	C	450.96	462.18	N/A	N/A
6	D	492.37	498.62	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	90.000	391.000	217.000
	B	101.000	1.000	40.000	295.000
	C	399.000	73.000	1.000	126.000
	D	206.000	371.000	70.000	7.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.13	0.56	0.31
	B	0.23	0.00	0.09	0.68
	C	0.67	0.12	0.00	0.21
	D	0.31	0.57	0.11	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.012	1.035	1.015
	B	1.000	1.000	1.053	1.014
	C	1.032	1.000	1.000	1.017
	D	1.010	1.014	1.015	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
From		A	B	C	D

	A	0.000	1.200	3.500	1.500
	B	0.000	0.000	5.300	1.400
	C	3.200	0.000	0.000	1.700
	D	1.000	1.400	1.500	0.000

# Results

## Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.89	0.57	6.82	D	641.41	962.12	276.98	0.29	3.08	277.03	0.29	0.548	1204.008
B	0.72	0.32	2.50	C	401.00	601.50	125.48	0.21	1.39	125.50	0.21	0.516	1073.293
C	0.77	0.29	3.12	C	549.65	824.48	153.50	0.19	1.71	153.52	0.19	0.562	1271.998
D	0.95	0.97	10.91	F	600.12	900.18	375.89	0.42	4.18	375.95	0.42	0.528	1113.227

## Main Results

### Main results: (07:45-08:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	526.24	131.56	521.52	527.78	389.84	0.00	962.81	863.36	0.547	0.00	1.18
B	329.00	82.25	326.19	398.87	512.49	0.00	790.72	622.11	0.416	0.00	0.70
C	450.96	112.74	447.62	374.48	464.20	0.00	983.40	773.77	0.459	0.00	0.84
D	492.36	123.09	487.27	481.47	430.34	0.00	870.11	696.08	0.566	0.00	1.27

### Main results: (08:00-08:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	628.39	157.10	624.86	632.49	466.95	0.00	921.09	863.36	0.682	1.18	2.06
B	392.85	98.21	391.21	477.79	614.01	0.00	737.74	622.11	0.533	0.70	1.11
C	538.49	134.62	536.48	448.70	556.53	0.00	932.14	773.77	0.578	0.84	1.34
D	587.93	146.98	583.60	577.17	515.84	0.00	824.58	696.08	0.713	1.27	2.36

### Main results: (08:15-08:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	769.61	192.40	754.03	764.81	557.43	0.00	872.14	863.36	0.882	2.06	5.96
B	481.15	120.29	476.16	571.67	739.79	0.00	672.10	622.11	0.716	1.11	2.36
C	659.51	164.88	652.98	540.78	675.17	0.00	866.27	773.77	0.761	1.34	2.97
D	720.07	180.02	694.39	700.31	627.85	0.00	764.94	696.08	0.941	2.36	8.78

### Main results: (08:30-08:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow	Exit Flow	Circulating Flow	Pedestrian Demand	Capacity (Veh/hr)	Saturation Capacity	RFC	Start Queue	End Queue
-----	-----------------	----------------	------------	-----------	------------------	-------------------	-------------------	---------------------	-----	-------------	-----------

			(Veh/hr)	(Veh/hr)	(Veh/hr)	(Ped/hr)		(Veh/hr)		(Veh)	(Veh)
A	769.61	192.40	766.16	775.20	569.90	0.00	865.39	863.36	0.889	5.96	6.82
B	481.15	120.29	480.60	583.68	752.39	0.00	665.53	622.11	0.723	2.36	2.50
C	659.51	164.88	658.91	549.82	683.17	0.00	861.83	773.77	0.765	2.97	3.12
D	720.07	180.02	711.52	708.50	633.58	0.00	761.88	696.08	0.945	8.78	10.91

### Main results: (08:45-09:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	628.39	157.10	646.22	651.65	493.53	0.00	906.68	863.36	0.693	6.82	2.36
B	392.85	98.21	398.00	502.74	637.02	0.00	725.75	622.11	0.541	2.50	1.21
C	538.49	134.62	545.25	465.27	569.76	0.00	924.79	773.77	0.582	3.12	1.43
D	587.93	146.98	620.81	590.63	524.38	0.00	820.03	696.08	0.717	10.91	2.69

### Main results: (09:00-09:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	526.24	131.56	530.72	535.92	397.72	0.00	958.54	863.36	0.549	2.36	1.24
B	329.00	82.25	330.91	406.69	521.75	0.00	785.89	622.11	0.419	1.21	0.73
C	450.96	112.74	453.21	381.19	471.47	0.00	979.36	773.77	0.460	1.43	0.87
D	492.36	123.09	497.76	488.81	435.87	0.00	867.16	696.08	0.568	2.69	1.34

## Queueing Delay Results

### Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.74	1.12	0.135	A	A
B	10.05	0.67	0.128	A	A
C	11.99	0.80	0.111	A	A
D	17.90	1.19	0.155	A	A

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	28.91	1.93	0.200	B	B
B	15.91	1.06	0.172	B	B
C	19.13	1.28	0.151	A	A
D	32.52	2.17	0.245	B	B

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	73.57	4.90	0.457	D	C
B	32.05	2.14	0.299	C	B
C	40.09	2.67	0.273	C	B
D	99.24	6.62	0.684	E	D

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	97.03	6.47	0.568	D	C
B	36.70	2.45	0.322	C	B
C	45.93	3.06	0.294	C	B
D	149.53	9.97	0.968	F	E

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	41.11	2.74	0.245	B	B
B	19.36	1.29	0.186	B	B
C	22.88	1.53	0.161	A	A
D	55.27	3.68	0.344	C	C

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.61	1.31	0.142	A	A
B	11.41	0.76	0.132	A	A
C	13.48	0.90	0.115	A	A
D	21.42	1.43	0.165	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	526.24	962.81	0.547	0.00	0.00	1.18	16.74	(0.02)	0.135
1	B	329.00	790.72	0.416	0.00	0.00	0.70	10.05	(0.02)	0.128
1	C	450.96	983.40	0.459	0.00	0.00	0.84	11.99	(0.02)	0.111
1	D	492.36	870.11	0.566	0.00	0.00	1.27	17.90	(0.02)	0.155
2	A	628.39	921.09	0.682	0.00	1.18	2.06	28.91	(0.02)	0.200
2	B	392.85	737.74	0.533	0.00	0.70	1.11	15.91	(0.02)	0.172

2	C	538.49	932.14	0.578	0.00	0.84	1.34	19.13	(0.02)	0.151
2	D	587.93	824.58	0.713	0.00	1.27	2.36	32.52	(0.02)	0.245
3	A	769.61	872.14	0.882	0.00	2.06	5.96	73.57	(0.02)	0.457
3	B	481.15	672.10	0.716	0.00	1.11	2.36	32.05	(0.02)	0.299
3	C	659.51	866.27	0.761	0.00	1.34	2.97	40.09	(0.02)	0.273
3	D	720.07	764.94	0.941	0.00	2.36	8.78	99.24	(0.02)	0.684
4	A	769.61	865.39	0.889	0.00	5.96	6.82	97.03	(0.02)	0.568
4	B	481.15	665.53	0.723	0.00	2.36	2.50	36.70	(0.02)	0.322
4	C	659.51	861.83	0.765	0.00	2.97	3.12	45.93	(0.02)	0.294
4	D	720.07	761.88	0.945	0.00	8.78	10.91	149.53	(0.02)	0.968
5	A	628.39	906.68	0.693	0.00	6.82	2.36	41.11	(0.02)	0.245
5	B	392.85	725.75	0.541	0.00	2.50	1.21	19.36	(0.02)	0.186
5	C	538.49	924.79	0.582	0.00	3.12	1.43	22.88	(0.02)	0.161
5	D	587.93	820.03	0.717	0.00	10.91	2.69	55.27	(0.02)	0.344
6	A	526.24	958.54	0.549	0.00	2.36	1.24	19.61	(0.02)	0.142
6	B	329.00	785.89	0.419	0.00	1.21	0.73	11.41	(0.02)	0.132
6	C	450.96	979.36	0.460	0.00	1.43	0.87	13.48	(0.02)	0.115
6	D	492.36	867.16	0.568	0.00	2.69	1.34	21.42	(0.02)	0.165

## A1 - (Default Analysis Set) - D8 - Base + CD + Dev, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base + CD + Dev, PM	Base + CD + Dev	PM			Yes			16:45	18:15	90	15	ONE HOUR

## Roundabout Network

### Roundabout Type(s)



ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D	Standard			

## Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

## Arms

### Arms

ID	Name	Description
A	Wemborough Road (E)	
B	St Andrew's Drive	
C	Wemborough Road (W)	
D	Abercorn Road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.70	4.50	3.40	7.00	19.00	16.50	
B	3.45	4.10	2.10	6.00	19.00	15.00	
C	4.20	4.45	2.80	6.00	19.00	10.00	
D	3.35	4.80	2.60	6.30	19.00	14.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.548	1204.008
B		((calculated))	((calculated))	0.516	1073.293
C		((calculated))	((calculated))	0.562	1271.998
D		((calculated))	((calculated))	0.528	1113.227

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	826.00	100.000	N/A
B	ONE HOUR	Yes	414.00	100.000	N/A
C	ONE HOUR	Yes	576.00	100.000	N/A
D	ONE HOUR	Yes	580.00	100.000	N/A

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	A	621.86	636.90	N/A	N/A
1	B	311.68	317.33	N/A	N/A
1	C	433.64	445.56	N/A	N/A
1	D	436.65	443.14	N/A	N/A
2	A	742.56	760.53	N/A	N/A
2	B	372.18	378.93	N/A	N/A
2	C	517.81	532.04	N/A	N/A
2	D	521.41	529.15	N/A	N/A
3	A	909.44	931.45	N/A	N/A
3	B	455.82	464.09	N/A	N/A
3	C	634.19	651.62	N/A	N/A
3	D	638.59	648.07	N/A	N/A
4	A	909.44	931.45	N/A	N/A
4	B	455.82	464.09	N/A	N/A
4	C	634.19	651.62	N/A	N/A
4	D	638.59	648.07	N/A	N/A
5	A	742.56	760.53	N/A	N/A
5	B	372.18	378.93	N/A	N/A
5	C	517.81	532.04	N/A	N/A
5	D	521.41	529.15	N/A	N/A
6	A	621.86	636.90	N/A	N/A

6	B	311.68	317.33	N/A	N/A
6	C	433.64	445.56	N/A	N/A
6	D	436.65	443.14	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (Veh/hr) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	106.000	431.000	289.000
	B	72.000	0.000	41.000	301.000
	C	381.000	44.000	0.000	151.000
	D	176.000	260.000	140.000	4.000

### Turning Proportions (Veh) - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.13	0.52	0.35
	B	0.17	0.00	0.10	0.73
	C	0.66	0.08	0.00	0.26
	D	0.30	0.45	0.24	0.01

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.039	1.011
	B	1.000	1.000	1.051	1.018
	C	1.036	1.000	1.000	1.014
	D	1.012	1.025	1.000	1.000

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	3.900	1.100
	B	0.000	0.000	5.100	1.800
	C	3.600	0.000	0.000	1.400
	D	1.200	2.500	0.000	0.000

## Results

### Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept
-----	-----	-----	-----	-----	-------	-------	-------	---------	---------	-----------	-----------	-------	-----------

	RFC	Delay (min)	Queue (Veh)	LOS	Demand (Veh/hr)	Arrivals (Veh)	Queueing Delay (Veh-min)	Queueing Delay (min)	Queueing Delay (Veh-min/min)	Queueing Total Delay (Veh-min)	Queueing Average Delay (min)		(PCU/hr)
A	1.00	1.41	21.27	F	757.95	1136.93	636.91	0.56	7.08	637.00	0.56	0.548	1204.008
B	0.80	0.49	3.56	D	379.89	569.84	159.65	0.28	1.77	159.67	0.28	0.516	1073.293
C	0.76	0.29	2.99	C	528.55	792.82	148.23	0.19	1.65	148.25	0.19	0.562	1271.998
D	0.79	0.35	3.62	C	532.22	798.33	174.55	0.22	1.94	174.58	0.22	0.528	1113.227

## Main Results

### Main results: (16:45-17:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	621.86	155.46	615.35	469.76	334.44	0.00	993.86	864.78	0.626	0.00	1.63
B	311.68	77.92	308.68	305.92	643.87	0.00	720.43	569.18	0.433	0.00	0.75
C	433.64	108.41	430.41	456.16	496.40	0.00	962.80	783.06	0.450	0.00	0.81
D	436.65	109.16	432.93	555.55	371.26	0.00	898.61	735.43	0.486	0.00	0.93

### Main results: (17:00-17:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	742.56	185.64	736.22	563.11	401.00	0.00	957.69	864.78	0.775	1.63	3.21
B	372.18	93.04	370.07	366.60	770.62	0.00	654.74	569.18	0.568	0.75	1.28
C	517.81	129.45	515.86	546.11	594.59	0.00	908.37	783.06	0.570	0.81	1.30
D	521.41	130.35	519.12	665.46	444.98	0.00	859.23	735.43	0.607	0.93	1.50

### Main results: (17:15-17:30)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	909.44	227.36	862.83	684.85	487.41	0.00	910.75	864.78	0.999	3.21	14.86
B	455.82	113.96	448.22	441.51	908.73	0.00	583.22	569.18	0.782	1.28	3.18
C	634.19	158.55	628.10	646.89	710.07	0.00	844.34	783.06	0.751	1.30	2.82
D	638.59	159.65	630.87	796.78	541.39	0.00	807.72	735.43	0.791	1.50	3.43

### Main results: (17:30-17:45)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	909.44	227.36	883.80	691.60	492.66	0.00	907.89	864.78	1.002	14.86	21.27
B	455.82	113.96	454.31	447.73	928.73	0.00	572.83	569.18	0.796	3.18	3.56
C	634.19	158.55	633.52	660.11	722.94	0.00	837.21	783.06	0.758	2.82	2.99
D	638.59	159.65	637.81	810.01	546.45	0.00	805.02	735.43	0.793	3.43	3.62

### Main results: (17:45-18:00)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
A	742.56	185.64	812.07	573.40	408.84	0.00	953.44	864.78	0.779	21.27	3.90

<b>B</b>	372.18	93.04	380.14	381.59	839.32	0.00	619.01	569.18	0.601	3.56	1.57
<b>C</b>	517.81	129.45	524.03	589.18	630.27	0.00	888.61	783.06	0.583	2.99	1.43
<b>D</b>	521.41	130.35	529.47	701.53	452.76	0.00	855.08	735.43	0.610	3.62	1.61

### Main results: (18:00-18:15)

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)
<b>A</b>	621.86	155.46	630.51	476.43	339.25	0.00	991.25	864.78	0.627	3.90	1.73
<b>B</b>	311.68	77.92	314.78	311.11	658.65	0.00	712.76	569.18	0.437	1.57	0.79
<b>C</b>	433.64	108.41	436.01	466.19	507.24	0.00	956.79	783.06	0.453	1.43	0.84
<b>D</b>	436.65	109.16	439.22	566.80	376.45	0.00	895.84	735.43	0.487	1.61	0.97

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	22.71	1.51	0.156	A	A
<b>B</b>	10.67	0.71	0.145	A	A
<b>C</b>	11.60	0.77	0.112	A	A
<b>D</b>	13.26	0.88	0.128	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	43.55	2.90	0.263	C	B
<b>B</b>	18.07	1.20	0.209	B	B
<b>C</b>	18.55	1.24	0.152	A	A
<b>D</b>	21.33	1.42	0.175	B	B

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	153.68	10.25	0.849	F	D
<b>B</b>	41.40	2.76	0.422	D	C
<b>C</b>	38.20	2.55	0.270	C	B
<b>D</b>	45.48	3.03	0.326	C	B

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	273.68	18.25	1.409	F	F
<b>B</b>	51.21	3.41	0.494	D	C
<b>C</b>	43.86	2.92	0.293	C	B
<b>D</b>	53.22	3.55	0.355	C	C

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
<b>A</b>	273.68	18.25	1.409	F	F
<b>B</b>	51.21	3.41	0.494	D	C
<b>C</b>	43.86	2.92	0.293	C	B
<b>D</b>	53.22	3.55	0.355	C	C

A	115.27	7.68	0.561	D	C
B	25.85	1.72	0.259	C	B
C	22.90	1.53	0.167	B	B
D	26.12	1.74	0.189	B	B

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	28.01	1.87	0.170	B	B
B	12.45	0.83	0.152	A	A
C	13.10	0.87	0.116	A	A
D	15.14	1.01	0.132	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	3.70	4.50	3.40	7.00	19.00	16.50		0.548	1204.008
B	3.45	4.10	2.10	6.00	19.00	15.00		0.516	1073.293
C	4.20	4.45	2.80	6.00	19.00	10.00		0.562	1271.998
D	3.35	4.80	2.60	6.30	19.00	14.00		0.528	1113.227

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)
1	A	621.86	993.86	0.626	0.00	0.00	1.63	22.71	(0.02)	0.156
1	B	311.68	720.43	0.433	0.00	0.00	0.75	10.67	(0.02)	0.145
1	C	433.64	962.80	0.450	0.00	0.00	0.81	11.60	(0.02)	0.112
1	D	436.65	898.61	0.486	0.00	0.00	0.93	13.26	(0.02)	0.128
2	A	742.56	957.69	0.775	0.00	1.63	3.21	43.55	(0.02)	0.263
2	B	372.18	654.74	0.568	0.00	0.75	1.28	18.07	(0.02)	0.209
2	C	517.81	908.37	0.570	0.00	0.81	1.30	18.55	(0.02)	0.152
2	D	521.41	859.23	0.607	0.00	0.93	1.50	21.33	(0.02)	0.175
3	A	909.44	910.75	0.999	0.00	3.21	14.86	153.68	(0.02)	0.849
3	B	455.82	583.22	0.782	0.00	1.28	3.18	41.40	(0.02)	0.422
3	C	634.19	844.34	0.751	0.00	1.30	2.82	38.20	(0.02)	0.270
3	D	638.59	807.72	0.791	0.00	1.50	3.43	45.48	(0.02)	0.326
4	A	909.44	907.89	1.002	0.00	14.86	21.27	273.68	(0.02)	1.409
4	B	455.82	572.83	0.796	0.00	3.18	3.56	51.21	(0.02)	0.494
4	C	634.19	837.21	0.758	0.00	2.82	2.99	43.86	(0.02)	0.293
4	D	638.59	805.02	0.793	0.00	3.43	3.62	53.22	(0.02)	0.355

5	A	742.56	953.44	0.779	0.00	21.27	3.90	115.27	(0.02)	0.561
5	B	372.18	619.01	0.601	0.00	3.56	1.57	25.85	(0.02)	0.259
5	C	517.81	888.61	0.583	0.00	2.99	1.43	22.90	(0.02)	0.167
5	D	521.41	855.08	0.610	0.00	3.62	1.61	26.12	(0.02)	0.189
6	A	621.86	991.25	0.627	0.00	3.90	1.73	28.01	(0.02)	0.170
6	B	311.68	712.76	0.437	0.00	1.57	0.79	12.45	(0.02)	0.152
6	C	433.64	956.79	0.453	0.00	1.43	0.84	13.10	(0.02)	0.116
6	D	436.65	895.84	0.487	0.00	1.61	0.97	15.14	(0.02)	0.132

**APPENDIX 9**



# PTAI Study Report File Summary

## PTAI Run Parameters

PTAI Run 20142305144724  
Description 20142305144724  
Run by user PTAL web application  
Date and time 23/05/2014 14:47

## Walk File Parameters

Walk File PLSQLTest  
Day of Week M-F  
Time Period AM Peak  
Walk Speed 4.8 kph  
BUS Walk Access Time (mins) 8  
BUS Reliability Factor 2.0  
LU LRT Walk Access Time (mins) 12  
LU LRT Reliability Factor 0.75  
NATIONAL\_RAIL Walk Access Time (mins) 12  
NATIONAL\_RAIL Reliability Factor 0.75

Coordinates: 517579, 191147

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	WEMBOROUGH RD ABERCORN R	186	251.47	3.0	0.5	3.14	12.0	15.14	1.98	0.99

BUS	WHITCHURCH LANE MARSH LN	79	263.33	5.0	1.0	3.29	8.0	11.29	2.66	2.66
BUS	WHITCHURCH LANE MARSH LN	340	263.33	5.0	0.5	3.29	8.0	11.29	2.66	1.33
BUS	ABERCORN ROAD	324	421.63	3.0	0.5	5.27	12.0	17.27	1.74	0.87
LU LRT	Canons Park	Jubilee Line Stanmore to Stratford	639.9	17.8	1.0	8.0	2.44	10.43	2.88	2.88

NR SAP Points Not Found

Total AI for this POI is 8.73.

PTAL Rating is 2.

**APPENDIX 10**

# **2015 Avanti House School**

## **School Travel Plan**

- 1. Introduction**
- 2. Survey Results**
- 3. Working group & Involvement**
- 4. Travel & Transport Issues**
- 5. Objectives & Targets**
- 6. Consultation and Collaboration**
- 7. Travel Initiatives**
- 8. Monitoring and Review**
- 9. Sign off and Formal Approval**

## Introduction

---

### Description of the school

School Name\*: Avanti House School

School Address\*: Common Road, Stanmore, HA7 3JB

Travel Plan  
Coordinator\*: Nadira Morris

Telephone  
Number\*: 020 8249 6830

Email Address: [nadira.morris@avanti.org.uk](mailto:nadira.morris@avanti.org.uk)

Website Address: <http://harrowtp.org/teachers/www.avanti.org.uk>

DcSF Number\*: 310/4000

Type of School: Secondary

Location of the  
school\*: School is situated to the east of the A409 Common Road and southwest of the redeveloped Bentley Priory estate site, which provides 93 residential units and a museum.

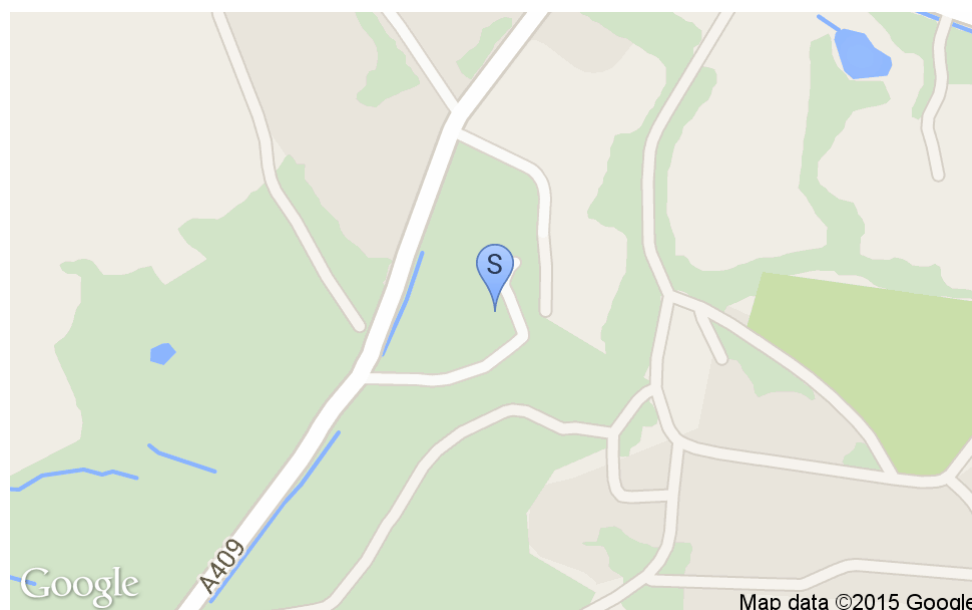
Pedestrian and  
school entrances\*: The main school entrance is located on Common Road, Stanmore. The A409 Common Road benefits from street lighting, wide footway on its northwestern side and existing school signage alerting drivers to the fact that there may be children crossing the road. This section of the road is subject to a

## Description of the school

40mph speed limit. A pedestrian refuge island is provided across the A409 Common Road adjacent to the school access, facilitating pedestrian access from footway on the northwestern side of the road.


Uncontrolled pedestrian crossing facilities are provided at the A409 Magpie Hall Road/A4140. North and South of the crossroads continuous footways are provided on both sides of the carriageway connecting to Stanmore and Bushey local centres.

## School Map



## Catchment area\*:

The catchment area of Avanti House (Secondary School element) shows a geographical spread of current Year 7 students as well as those enrolled to start in September 2014, reasonable proportion of which 53% reside within the adjoining postcode areas of HA3, HA7, HA8, HA5, HA1, HA2, HA9 and would have the opportunity to walk and cycle to school.

Facilities		
	Description	Numbers
Car Park	No. of staff parking spaces	20
	No. of visitor spaces:	1
	No. of disables spaces:	1
Cycle Storage	Received free Cycle Storage (Mayor's Scheme):	
	Covered Sheffield Stands	nil
	Sheffield Stands	nil
	Cycle Racks	
	Cycle Pod / Mini Pod	nil
	Other Cycle Spaces	nil
	Scooter Parking Available	nil
If storage is available, how secure is it?		
Storage Lockers:	No. of staff storage lockers:	18
	No. of pupils storage lockers:	nil



## Facilities

Shower Facilities:

Are staff shower facilities available:



Are pupil shower facilities available:



**School opening and closing times\*:**

	Start Time:	Finish Time:
School Site:	07.00	18.00
Pupils official school time:	08:00	15:20
Breakfast Club (if applicable)	07:30	08:00
After school Club (if applicable)	15:30	17:00

**Transportation Links**

**Buses\*:**  
[Map](#)

Bus service 258 runs from Watford Junction station to South Harrow station. Bus stops are located at regular intervals along the A409 Common Road of which the nearest is located 50m southwest of the school access for services in both directions. Each stop is provided with a bus shelter. this route provides four services per hour through daytime hours, Monday - Saturday.

Bus 142 service runs from Watford Junction Station, Stanmore Underground to Brent Cross centre and stops at the High Road (A4140), 500m northeast of the school. Service 142 operates 5 hourly services through weekday daytime periods, reducing to 3-4 hourly services through evenings and Sundays. This service provided an opportunity, particularly for secondary school children to access the school from the Stanmore area, completing the journey on foot.

**Trains / Tubes\*:**

Stanmore London Underground station is the northern terminus of the Jubilee Line which runs into central London. Stanmore LU is located approximately 4 kilometres to the east of the school site. From this station, direct access can be gained to the school site using bus route 142 followed by a 500m walk. Bushey rail station is located approximately 4.6 kilometres to the north-west of the application site. Bus route 258 stops outside Bushey rail station and connects directly with the school site.

**Roads\*:**

Within 5 kilometres of Avanti House school there is a comprehensive network of on and off-road cycle routes, the London Outer Orbital Path runs along the southern boundary of the Bentley Priory Estate.

## Transportation Links

The A409 Common Road benefits from street lighting, wide footway on its northwestern side and existing school signage alerting drivers to the fact that there may be children crossing the road. This section of the A409 is subject to a 40mph speed limit. A pedestrian refuge island is provided across the A409 Common Road adjacent to the school access, facilitating pedestrian access from footway on the northwestern side of the road.

### Pupils and staff numbers

Pupils roll\*: 316

Age range of pupils\*: 11-13

Number of pupils entitled to SEN transportation and how their needs are taken into account\*: nil

Full - Time Staff roll\*: 32

Part - Time Staff roll: 3

Support Staff roll: 9

### About our Pupils and Staff

Pupils roll\*: 316

Age range of pupils\*: 11-13

Other information about the pupils who attend our school:

Staff roll\*: 44

Other information about the people who work at our school:

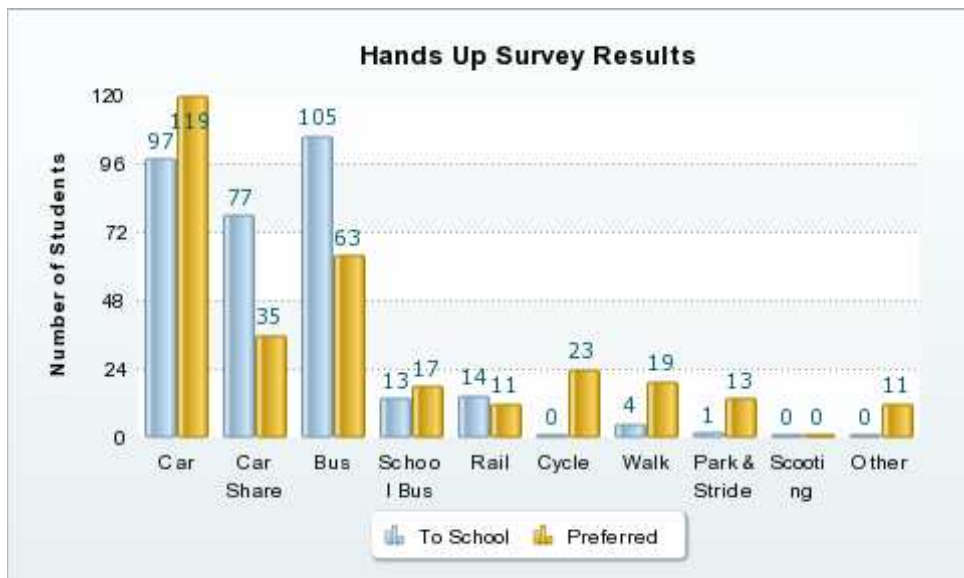
## Survey Results

### Pupils Hands Up Results

Responses: **311**

Response Rate: **98 %**

Data Collection Date: **Monday 01st December 2014**



	Actual Mode of Travel									
	Bus	School Bus	Car	Car Share	Cycle	Park / Stride	Rail	Scooting	Walk	Other

<b>Total 2015 Responses:</b> <b>311</b>	105	13	97	77	0	1	14	0	4	0
--	-----	----	----	----	---	---	----	---	---	---

%	34%	4%	31%	25%	0%	0%	5%	0%	1%	0%
---	-----	----	-----	-----	----	----	----	----	----	----

<b>Total 2014 Responses:</b> <b>184</b>	51	1	69	43	0	0	17	0	3	0
--	----	---	----	----	---	---	----	---	---	---

%	28%	1%	38%	23%	0%	0%	9%	0%	2%	0%
---	-----	----	-----	-----	----	----	----	----	----	----

	Preferred Mode of Travel									
	Bus	School Bus	Car	Car Share	Cycle	Park / Stride	Rail	Scooting	Walk	Other

<b>Total 2015</b>	63	17	119	35	23	13	11	0	19	11
-------------------	----	----	-----	----	----	----	----	---	----	----

%	20%	5%	38%	11%	7%	4%	4%	0%	6%	4%
---	-----	----	-----	-----	----	----	----	----	----	----

<b>Total 2014</b>	44	3	57	21	23	0	12	0	3	21
-------------------	----	---	----	----	----	---	----	---	---	----

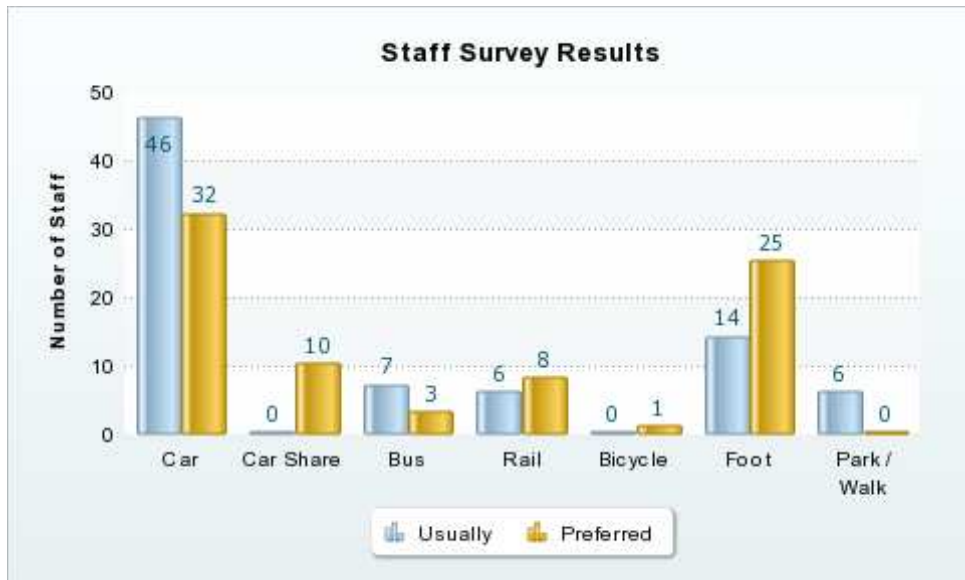
%	24%	2%	31%	11%	13%	0%	7%	0%	2%	11%
---	-----	----	-----	-----	-----	----	----	----	----	-----

**Staff survey Results**

Responses: **34**

Response Rate: **77%**

Data Collection Date: **Monday 05th January 2015**



**Actual Mode of of Travel**

	Bus	Car	Car Share	Cycle	Park / Walk	Rail	Walk	Other
--	-----	-----	-----------	-------	-------------	------	------	-------

<b>Total 2015 Responses:</b> <b>34</b>	4	18	8	0	0	4	0	0
---	---	----	---	---	---	---	---	---

<b>%</b>	12%	53%	24%	0%	0%	12%	0%	0%
----------	-----	-----	-----	----	----	-----	----	----

<b>Total 2014 Responses:</b> <b>55</b>	18	6	4	0	0	18	9	0
---	----	---	---	---	---	----	---	---

<b>%</b>	33%	11%	7%	0%	0%	33%	16%	0%
----------	-----	-----	----	----	----	-----	-----	----

	Preferred Mode of Travel							
	Bus	Car	Car Share	Cycle	Park / Walk	Rail	Walk	Other
<b>Total 2015</b>	3	14	14	0	0	3	0	0
<b>%</b>	9%	41%	41%	0%	0%	9%	0%	0%
<b>Total 2014</b>	9	15	4	0	0	9	0	0
<b>%</b>	16%	27%	7%	0%	0%	16%	0%	0%

## Working Group and Involvement

---

### Working Group

---

Nadira Morris	School Travel Plan Advisor
---------------	----------------------------

---

Upendra Kalan	Bursar / School Office
---------------	------------------------

---

Mark Bennison	Headteacher
---------------	-------------

---

Toby Gosden	Assistant
-------------	-----------

---

Nadira Morris	Deputy Head teacher
---------------	---------------------

Funmi Atolagbe	Travel Planner (Harrow Council)
----------------	---------------------------------



## Travel and Transport Issues – **Toby to complete/update**

---

### Original Travel and Transportation Issues

Details of the issue/concern	Photo	Is this still an issue?	Please Explain:
------------------------------	-------	-------------------------	-----------------

### New Travel and Transport Issues

## Objectives and Targets

### Modal Shift

		Car	Car Share	Bus	Dedicated Bus	Rail	Cycle	Walk	Park Then Walk	Scooting	Other	Total
<b>2015</b>	<b>Number</b>	97	77	105	13	14	0	4	1	0	0	311
	<b>%</b>	31%	25%	34%	4%	5%	0%	1%	0%	0%	0%	
<b>2014</b>	<b>Number</b>	69	43	51	1	17	0	3	0	0	0	184
	<b>%</b>	38%	23%	28%	1%	9%	0%	2%	0%	0%	0%	
<b>2013</b>	<b>Number</b>											0
	<b>%</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>2012</b>	<b>Number</b>											0
	<b>%</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>2011</b>	<b>Number</b>											0
	<b>%</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>2010</b>	<b>Number</b>											0
	<b>%</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

## New Objectives

---

**S1.** Committed to ensuring that everyone travelling to and from the school can do so as safely as possible - The school will encourage staff and students to make transport choices that demonstrate absolute regard for the need to minimise potential damage to the environment.

---

**S2.** To raise awareness of road safety and environmental issues relating to mode of travel choices.

---

**AO1.** Ensure that staff and students travel to and from the school by foot, bicycle and/or public transport and that they are offered assistance in identifying routes by which they can travel by these modes.

---

**AO2.** To maximise opportunities for the use of alternative modes of travel.

---

**H1.** Aim to provide a focus for a range of initiatives to encourage journeys to the school by sustainable modes of transport and to inform the targets that in turn will assist in identifying and evaluating its success or otherwise.

---

**H2.** To increase awareness of the health benefits of walking and cycling to the school

---

**E1.** To reduce congestion on surrounding roads thereby improving road safety and minimising the effects in terms of emissions.

---

## New Targets









---

**T1.** To reduce the percentage of journeys by cars to and from the school by 2% by September 2015

---

**T2.** To increase the percentage of students using sustainable modes of travel by walking/cycling or public transport by 5% by September 2015.

## Consultation and Collaboration

Code	Activity	Details
 S1	The school has an STP working group (should include student representatives)	Use the 'Working Group & Involvement' tab above to complete this action
 S2	Conducted consultation with parents: Evidence of questionnaires, survey results	
 S3	Whole school community involvement: Evidence of minutes of meetings with governors, staff, management team and school council	
 S4	Pupil involvement: evidence of pupils work relating to the plan (e.g. updating plan, run travel initiatives, survey analysis, posters, monitoring of WoW)	
 S5	The school has carried out in depth research/alternative consultation methods (e.g. walking/cycling audits with pupils, mapping exercises)	
 G1	Residents and neighbours are aware of the schools plans to promote more safe and active travel	
 G2	The travel plan is an agenda item on at least one governors/ senior management meeting a year	
 G3	Safe and active travel is part of the School Improvement Plan/ School Development Plan.	

Further Information:

Use this section to state what other

Code	Activity	Details
	<p>consultation your school is doing or why your school has not been able to meet one of the criteria above.</p>	
		<p>Details are included on how any funding allocation of the capital grant has been spent</p>
		<p>If applicable, provide information or evidence on how the school has spent other funding from the Local Authority (Small Claim grants...)</p>
		<p>The school has identified and obtained other sources of funding aside from that available from the local authority</p>

## Initiatives – Action Plan

---

### Planned Initiatives

Initiative	Details	Reporting	Evidence (where required)
<b>Walking</b>			
W3 Walk to school week	TPC May 2015	Publicise local pedestrian routes on school website and promote participation in 'Walk to School Week' in May every year.	
<b>Cycling</b>			
C4 Cycle training for pupils (E.g. Bikeability)	TPC May 2015	Provide cycle training through the Government-supported 'Bikeability' scheme ( <a href="http://www.dft.gov.uk/bikeability">www.dft.gov.uk/bikeability</a> ).	
<b>Smarter Driving</b>			
SD1 School promotes car sharing/has a car pool scheme	TPC May 2015	Encourage car-sharing by directing parents towards websites such as <a href="http://www.school-carshare.co.uk">http://www.school-carshare.co.uk</a> where they can register to find other local people travelling to the school.	
SD7 Other Smarter Driving Initiatives	TPC May 2015	Set up list of marshalls, rota and 'back up' marshalls for both AM and PM drop-off / pick-up periods on every school day – ensuring 4-5 marshalls are on-site to manage traffic flow. Marshalls should be provided with a strategy document for effective traffic management.	

Initiative	Details	Reporting	Evidence (where required)
Walking			

### Public Transportation

PT2  
School promotes public transport

TPC  
May 2015

### Promotion

PR1  
Newsletter

TPC  
May 2015

Re-engage parents through website and newsletters on demand for mini-bus facility. Pupils / parents could be surveyed to identify strategic collection / drop-off locations. Within newsletter also provide updates on Travel Plan, survey results and new initiatives.

PR2  
Notice Board

TPC  
May 2015

Notice boards to be placed in a communal area near the entrance of the main building and in the staff room. Notice boards will display information related to the Travel Plan and sustainable transport. They will display details of existing facilities such as bus routes and the locations of the nearby underground and rail stations, in addition to cycle routes in the vicinity of the school.

PR6  
Information on website

TPC  
May 2015

Update school website to provide page on travel, including information on walk / cycle initiatives, public transport, and updates on the Travel Plan.

PR8  
Within the Prospectus

TPC  
May 2015

Update school prospectus to include statement on Travel Planning and expectation that wherever possible students should travel to school by sustainable modes.

Initiative	Details	Reporting	Evidence (where required)
Walking			
PR14 Distributing cycling and public transport maps	TPC	Publicise improvements to local cycle routes and public transport information via school website / newsletters	
PR15 Other promotion method	TPC May 2015	Investigate potential to provide additional stagger to start / finish times ie. separate start and finish times for Years 7 , 8 and 9.	
Road Safety			
R4 Other Road Safety Initiatives	MTP / TPC May 2015	Investigate potential for physical works to improve school access way and road safety within school site eg. Localised widening to allow for drop-offs / pick-ups on both sides of school access whilst still facilitating two-way traffic flow.	



## Sign off and Formal Approval

---

Our next hands up surveys be on: October 2015

Our Annual Progress review will be completed in: January 2016, 2017, 2018, 2019, 2020, 2021 and 2022

The person responsible for ensuring that the annual review will be actioned is : Nadira Morris

**When reviewing our School travel Plan we will take into consideration any issues arising from new developments in education and transport since the original STP was completed with specific emphasis on the proposed school expansion.**

### Sign off and formal approval of STP

School Name: Avanti House School

School travel plan champion Nadira Morris

Year of school travel plan document 2015

#### School signatures

**Approval of the school travel plan by the school travel plan champion confirms the schools management (including but not limited to the Head Teacher and Governors) have read, understood and agreed to the contents of this document. Avanti House School further acknowledges that they have committed to achieving all targets highlighted in their action plan and to the annual review and monitoring of the plan.**

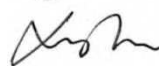
School Travel Plan  
Champion\* Nadira Morris



Head Teacher's Name\*: Mark Bennison



Chair of Governors  
Name\*: Yuraj Rana



Pupil Representatives  
(Optional):

Parent Governors  
(Optional):

Other Stakeholders  
involved (Optional):  
e.g. Police, bus operators  
etc.

#### Council signatures

**The following signatures confirm that the document has been Quality Assessed checked by representatives from The London Borough of Harrow.**

School Travel Plan Officer:

**APPENDIX 11**

Calculation Reference: AUDIT-740101-150330-0303

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 04 - EDUCATION

Category : B - SECONDARY

**MULTI-MODAL CYCLISTS**Selected regions and areas:**01 GREATER LONDON**

BN	BARNET	1 days
HM	HAMMERSMITH AND FULHAM	1 days
IS	ISLINGTON	1 days

*This section displays the number of survey days per TRICS® sub-region in the selected set*

**Filtering Stage 2 selection:**

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Number of pupils  
 Actual Range: 610 to 1200 (units: )  
 Range Selected by User: 610 to 1200 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 25/11/09

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

Wednesday 3 days

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

Manual count 3 days  
 Directional ATC Count 0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Suburban Area (PPS6 Out of Centre) 3

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:

Residential Zone 3

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

**Filtering Stage 3 selection:**Use Class:

D1	3 days
----	--------

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Population within 1 mile:

25,001 to 50,000	1 days
50,001 to 100,000	2 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

Population within 5 miles:

500,001 or More	3 days
-----------------	--------

*This data displays the number of selected surveys within stated 5-mile radii of population.*

Car ownership within 5 miles:

0.6 to 1.0	3 days
------------	--------

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

Travel Plan:

Not Known	1 days
No	2 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

LIST OF SITES relevant to selection parameters

- |  |  |
|--|--|
| <p><b>1</b> <b>BN-04-B-01</b>      <b>SECONDARY SCHOOL</b><br/>CHESTNUT GROVE</p> <p>EAST BARNET<br/>Suburban Area (PPS6 Out of Centre)<br/>Residential Zone<br/>Total Number of pupils: 1200<br/><i>Survey date: WEDNESDAY 19/10/05</i></p> | <p><b>BARNET</b></p> <p><i>Survey Type: MANUAL</i></p>                 |
| <p><b>2</b> <b>HM-04-B-01</b>      <b>SECONDARY SCHOOL</b><br/>KINGWOOD ROAD</p> <p>FULHAM<br/>Suburban Area (PPS6 Out of Centre)<br/>Residential Zone<br/>Total Number of pupils: 610<br/><i>Survey date: WEDNESDAY 04/12/02</i></p>        | <p><b>HAMMERSMITH AND FULHAM</b></p> <p><i>Survey Type: MANUAL</i></p> |
| <p><b>3</b> <b>IS-04-B-01</b>      <b>SECONDARY SCH.</b><br/>TURLE ROAD</p> <p>FINSBURY PARK<br/>Suburban Area (PPS6 Out of Centre)<br/>Residential Zone<br/>Total Number of pupils: 850<br/><i>Survey date: WEDNESDAY 25/11/09</i></p>      | <p><b>ISLINGTON</b></p> <p><i>Survey Type: MANUAL</i></p>              |

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
LB-04-B-01	Too Central

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

**MULTI-MODAL CYCLISTS****Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	887	0.002	3	887	0.000	3	887	0.002
08:00 - 09:00	<b>3</b>	<b>887</b>	<b>0.008</b>	3	887	0.000	<b>3</b>	<b>887</b>	<b>0.008</b>
09:00 - 10:00	3	887	0.000	3	887	0.000	3	887	0.000
10:00 - 11:00	3	887	0.001	3	887	0.000	3	887	0.001
11:00 - 12:00	3	887	0.000	3	887	0.000	3	887	0.000
12:00 - 13:00	3	887	0.000	3	887	0.000	3	887	0.000
13:00 - 14:00	3	887	0.000	3	887	0.000	3	887	0.000
14:00 - 15:00	3	887	0.000	3	887	0.002	3	887	0.002
15:00 - 16:00	3	887	0.002	<b>3</b>	<b>887</b>	<b>0.006</b>	3	887	0.008
16:00 - 17:00	3	887	0.000	3	887	0.005	3	887	0.005
17:00 - 18:00	3	887	0.000	3	887	0.001	3	887	0.001
18:00 - 19:00	2	1025	0.000	2	1025	0.000	2	1025	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.013			0.014			0.027

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

**Parameter summary**

Trip rate parameter range selected: 610 - 1200 (units: )  
 Survey date date range: 01/01/00 - 25/11/09  
 Number of weekdays (Monday-Friday): 3  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

**MULTI-MODAL VEHICLE OCCUPANTS****Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	887	0.029	3	887	0.003	3	887	0.032
08:00 - 09:00	<b>3</b>	<b>887</b>	<b>0.129</b>	3	887	0.039	<b>3</b>	<b>887</b>	<b>0.168</b>
09:00 - 10:00	3	887	0.031	3	887	0.012	3	887	0.043
10:00 - 11:00	3	887	0.022	3	887	0.017	3	887	0.039
11:00 - 12:00	3	887	0.008	3	887	0.011	3	887	0.019
12:00 - 13:00	3	887	0.019	3	887	0.013	3	887	0.032
13:00 - 14:00	3	887	0.011	3	887	0.009	3	887	0.020
14:00 - 15:00	3	887	0.011	3	887	0.027	3	887	0.038
15:00 - 16:00	3	887	0.012	<b>3</b>	<b>887</b>	<b>0.063</b>	3	887	0.075
16:00 - 17:00	3	887	0.007	3	887	0.044	3	887	0.051
17:00 - 18:00	3	887	0.008	3	887	0.017	3	887	0.025
18:00 - 19:00	2	1025	0.012	2	1025	0.012	2	1025	0.024
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.299			0.267			0.566

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

**Parameter summary**

Trip rate parameter range selected: 610 - 1200 (units: )  
 Survey date date range: 01/01/00 - 25/11/09  
 Number of weekdays (Monday-Friday): 3  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

**MULTI-MODAL PEDESTRIANS****Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	887	0.039	3	887	0.005	3	887	0.044
08:00 - 09:00	<b>3</b>	<b>887</b>	<b>0.358</b>	3	887	0.006	3	887	0.364
09:00 - 10:00	3	887	0.053	3	887	0.005	3	887	0.058
10:00 - 11:00	3	887	0.017	3	887	0.027	3	887	0.044
11:00 - 12:00	3	887	0.016	3	887	0.012	3	887	0.028
12:00 - 13:00	3	887	0.008	3	887	0.020	3	887	0.028
13:00 - 14:00	3	887	0.024	3	887	0.020	3	887	0.044
14:00 - 15:00	3	887	0.021	3	887	0.014	3	887	0.035
15:00 - 16:00	3	887	0.024	<b>3</b>	<b>887</b>	<b>0.393</b>	<b>3</b>	<b>887</b>	<b>0.417</b>
16:00 - 17:00	3	887	0.008	3	887	0.027	3	887	0.035
17:00 - 18:00	3	887	0.004	3	887	0.011	3	887	0.015
18:00 - 19:00	2	1025	0.003	2	1025	0.003	2	1025	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.575			0.543			1.118

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

**Parameter summary**

Trip rate parameter range selected: 610 - 1200 (units: )  
 Survey date date range: 01/01/00 - 25/11/09  
 Number of weekdays (Monday-Friday): 3  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

**MULTI-MODAL PUBLIC TRANSPORT USERS****Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	887	0.036	3	887	0.000	3	887	0.036
08:00 - 09:00	<b>3</b>	<b>887</b>	<b>0.233</b>	3	887	0.000	3	887	0.233
09:00 - 10:00	3	887	0.064	3	887	0.011	3	887	0.075
10:00 - 11:00	3	887	0.005	3	887	0.001	3	887	0.006
11:00 - 12:00	3	887	0.002	3	887	0.000	3	887	0.002
12:00 - 13:00	3	887	0.003	3	887	0.002	3	887	0.005
13:00 - 14:00	3	887	0.011	3	887	0.000	3	887	0.011
14:00 - 15:00	3	887	0.002	3	887	0.019	3	887	0.021
15:00 - 16:00	3	887	0.037	<b>3</b>	<b>887</b>	<b>0.322</b>	<b>3</b>	<b>887</b>	<b>0.359</b>
16:00 - 17:00	3	887	0.007	3	887	0.024	3	887	0.031
17:00 - 18:00	3	887	0.000	3	887	0.023	3	887	0.023
18:00 - 19:00	2	1025	0.012	2	1025	0.015	2	1025	0.027
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.412			0.417			0.829

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

**Parameter summary**

Trip rate parameter range selected: 610 - 1200 (units: )  
 Survey date date range: 01/01/00 - 25/11/09  
 Number of weekdays (Monday-Friday): 3  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

**MULTI-MODAL TOTAL PEOPLE****Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	887	0.105	3	887	0.008	3	887	0.113
08:00 - 09:00	<b>3</b>	<b>887</b>	<b>0.729</b>	3	887	0.045	3	887	0.774
09:00 - 10:00	3	887	0.148	3	887	0.028	3	887	0.176
10:00 - 11:00	3	887	0.044	3	887	0.045	3	887	0.089
11:00 - 12:00	3	887	0.026	3	887	0.024	3	887	0.050
12:00 - 13:00	3	887	0.030	3	887	0.034	3	887	0.064
13:00 - 14:00	3	887	0.046	3	887	0.029	3	887	0.075
14:00 - 15:00	3	887	0.035	3	887	0.062	3	887	0.097
15:00 - 16:00	3	887	0.076	<b>3</b>	<b>887</b>	<b>0.785</b>	<b>3</b>	<b>887</b>	<b>0.861</b>
16:00 - 17:00	3	887	0.022	3	887	0.100	3	887	0.122
17:00 - 18:00	3	887	0.011	3	887	0.052	3	887	0.063
18:00 - 19:00	2	1025	0.027	2	1025	0.031	2	1025	0.058
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.299			1.243			2.542

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is:  $COUNT/TRP*FACT$ . Trip rates are then rounded to 3 decimal places.

**Parameter summary**

Trip rate parameter range selected: 610 - 1200 (units: )  
 Survey date date range: 01/01/00 - 25/11/09  
 Number of weekdays (Monday-Friday): 3  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys manually removed from selection: 1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

## **APPENDIX 12**

## 2014 -> 2020 AM Peak: x 1.0647

The screenshot displays the TEMPRO main form interface. On the left, there are panels for 'Data selections', 'Trip and by time period selections', and 'Trip end type'. The 'Data selections' panel includes options for 'Growth factors' (Future year minus base year, Base year data, Future year data) and 'Weekday AM peak period (0700 - 0950)'. The 'Trip end type' panel has 'Production/Attraction' and 'Origin/Destination' options. The main area is titled 'Results' and contains a 'Car Driver' section with 'Combined Modes' selected. A central dialog box, 'NTM Traffic Growth Calculations', is open. It has five steps: 1. Select NTH Dataset (with a table showing 'From' 2014 and 'To' 2020), 2. Select Areas to make up the geographic region (with 'Harrow (00AQ1)' selected), 3. Select area type (Urban, Rural, All), 4. Select road type (Motorway, Trunk, Principal, Minor, All), and 5. Select which area it serves (Region, District). A 'Calculate the adjusted local growth figure' button is present. Below the dialog, a 'Results' table shows: Level: 00AQ1, Area: Harrow, Local Growth Figure: 1.0647. On the right, 'All Purposes' and 'Destination' (1.0427) are visible.

## 2014 -> 2020 PM Peak: x 1.0637

The screenshot displays the TEMPRO main form interface for the PM Peak. The 'Data selections' panel shows 'Weekday PM peak period (1600 - 1850)'. The 'NTM Traffic Growth Calculations' dialog box is identical to the one in the AM peak screenshot, but the 'Results' table shows a 'Local Growth Figure' of 1.0637. The 'Destination' value on the right is 1.0302.

**APPENDIX 13**

Sign Off	Assessed By	Toby Gosden	Date	05.06.15
	Reviewed By	Kevin Chaney	Date	05.06.15
Summary Info	Location Name	Wemborough Road		
	Location Type	Full Footway Width		
	Area Type	Residential		
	Average Flow (PPH)			
	Peak Hour Flow (PPH)	1,650		
	Total Footway Width	2.6m		
	Clear Footway Width	2.4m		
	Total Street Furniture Impact	0m	0m	0m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	B+ : 11 ppm		
	Total Width Required for PCL B+	2.50		
	Clear Width Required For PCL B+	2.30		
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A+ : 0 ppm		
	Total Width Required for PCL B+	1.70		
	Clear Width Required For PCL B+	1.50		
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	#VALUE!	#VALUE!
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	#VALUE!	#VALUE!
Impact	Notes			
Impact	Mitigation			

350

**APPENDIX 14**

PARKING BEATS



352





**PARKING BEATS**



**JOB REF: 18420**

**DATE: 20/01/2015**

**JOB NAME: HARROW**

**DAY: TUESDAY**

TIME	ZONE									
	1		2			3				
	STANDARD	ILLEGAL	STANDARD	DISABLED	ILLEGAL	STANDARD	DISABLED	DROP OFF ONLY	ILLEGAL	
<b>TOTAL SPACES</b>	<b>28</b>	<b>N/A</b>	<b>64</b>	<b>3</b>	<b>N/A</b>	<b>10</b>	<b>2</b>	<b>N/A</b>	<b>N/A</b>	
7:00	0	0	1	0	0	0	0	0	0	
7:15	0	0	1	0	0	0	0	0	0	
7:30	1	0	2	0	0	4	1	0	0	
7:45	0	0	4	0	0	8	2	3	0	
8:00	5	0	4	0	0	8	2	1	0	
8:15	11	0	7	0	0	10	2	1	0	
8:30	22	5	20	0	0	10	2	4	0	
8:45	28	5	64	3	0	10	2	6	0	
9:00	24	3	40	1	0	10	1	2	0	
9:15	23	0	28	1	0	10	1	0	0	
9:30	23	0	28	1	0	9	0	1	0	
9:45	23	1	28	1	0	9	0	1	0	
10:00	24	1	28	1	0	8	0	1	0	
15:00	28	5	64	2	6	10	2	3	0	
15:15	28	5	64	3	8	10	2	4	0	
15:30	28	5	50	1	0	10	2	4	0	
15:45	24	2	20	1	0	9	0	0	0	
16:00	22	1	19	1	0	9	0	0	0	
16:15	28	5	16	1	0	9	1	4	0	
16:30	25	2	14	1	0	4	0	4	0	
16:45	17	1	11	1	0	4	0	3	0	
17:00	14	1	9	1	0	4	0	2	0	
17:15	11	1	5	1	0	2	0	3	0	
17:30	11	1	4	1	0	3	0	4	0	
17:45	9	0	4	1	0	1	0	3	0	
18:00	2	0	0	0	0	0	0	1	0	

NOTE: THE VEHICLES PARKED ILLEGALLY IN ZONE 1, PARKED IN AN AREA RESERVED FOR COACH PARKING.  
 (NO COACHES WERE OBSERVED, ONLY CARS USED THIS AREA WHICH COULD HOLD APPROXIMATELY 5 CARS).  
 THE VEHICLES PARKED ILLEGALLY IN ZONE 2 WERE NOT PARKED IN DESIGNATED BAYS.  
 THREE POLICE OFFICERS WERE ON SITE BETWEEN 14:55 TO 15:55 MOVING ON VEHICLES WHICH WERE PARKED ILLEGALLY.

353

**APPENDIX 15**

Period and School Activity		Surveyed Spare Capacity in Public Car Park	Committed Parking Demand (Whitchurch Schools Expansion) *	No. AHFS Pupils Arrive / Depart	TRICS Derived AHFS Parking Accumulation**	Resultant Spare Capacity
<b>AM PEAK</b>						
07:00-07:15	AHFS Breakfast Club	101	0	30	6	95
07:15-07:30		44	0	110	21	23
07:30-07:45	AHFS KS4 Start	95	0	240	45	50
07:45-08:00		90	0	130	25	65
08:00-08:15	AHFS KS3 Start	85	0	390	74	11
08:15-08:30		74	0	0	0	74
08:30-08:45	Whitchurch Drop-Off	50	54	0	0	-4
08:45-09:00	Whitchurch Drop-Off	0	54	0	0	-54
09:00-09:15		58	0	0	0	58
09:15-09:30		41	0	90	17	24
09:30-09:45	AHFS KS5 Start	42	0	270	51	-9
09:45-10:00		42	0	0	0	42
<b>PM PEAK</b>						
15:00-15:15	Whitchurch Pick-Up	0	54	0	0	-54
15:15-15:30	Whitchurch Pick-Up	0	54	0	0	-54
15:30-15:45		14	0	50	6	8
15:45-16:00	AHFS KS3&4 Finish	49	0	350	43	6
16:00-16:15		52	0	0	0	52
16:15-16:30		49	0	0	0	49
16:30-16:45		59	0	125	16	44
16:45-17:00	AHFS KS3/4 Clubs Finish	70	0	375	47	24
17:00-17:15		75	0	0	0	75
17:15-17:30		84	0	90	11	73
17:30-17:45	AHFS KS5 Finish	84	0	270	33	51

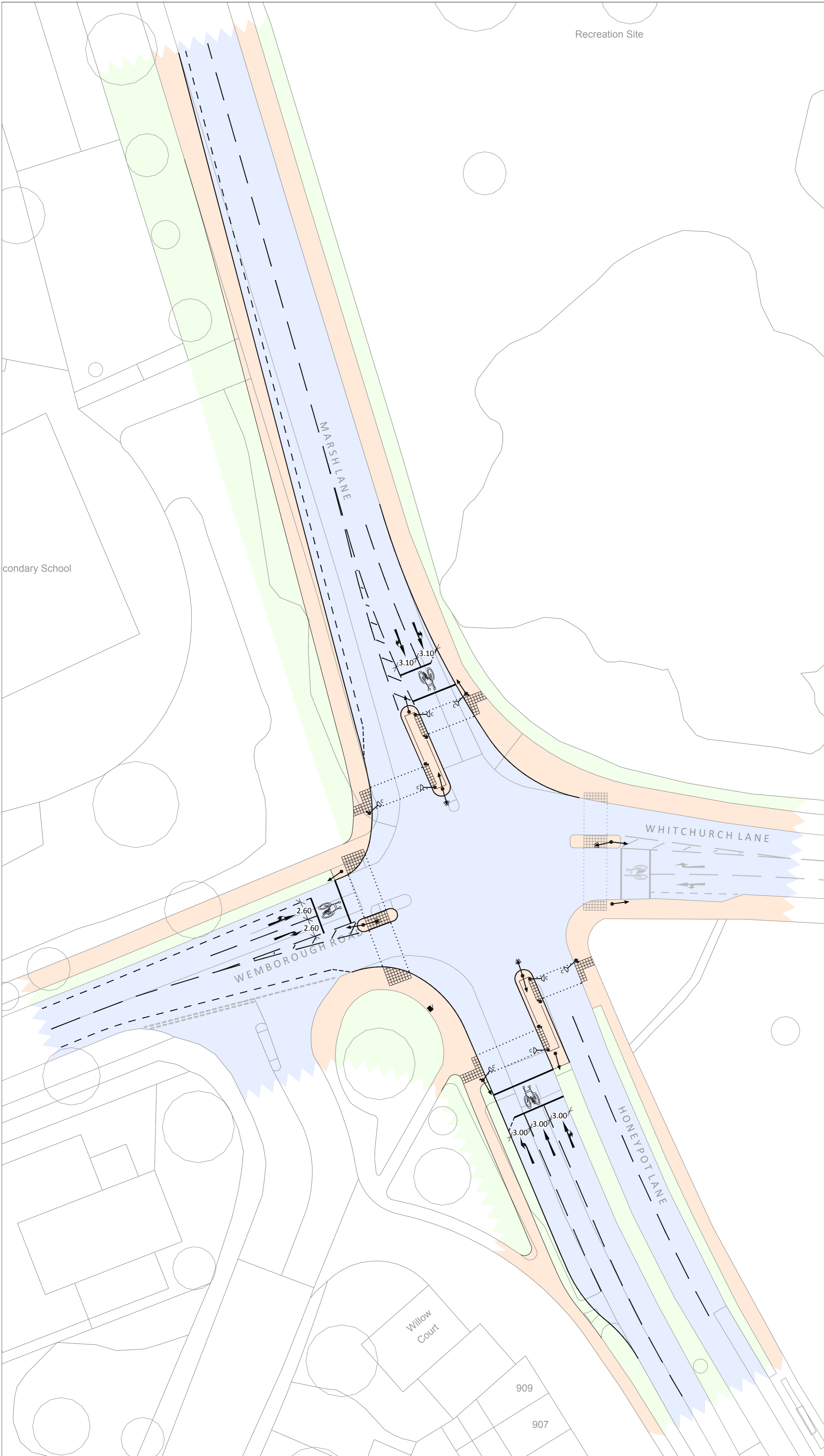
Notes:

\* Committed Whitchurch Schools expansion vehicle trip generation taken from approved Mott MacDonalds Transport Assessment (March 2014)

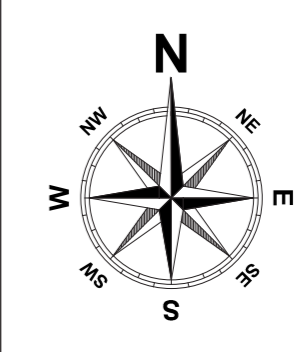
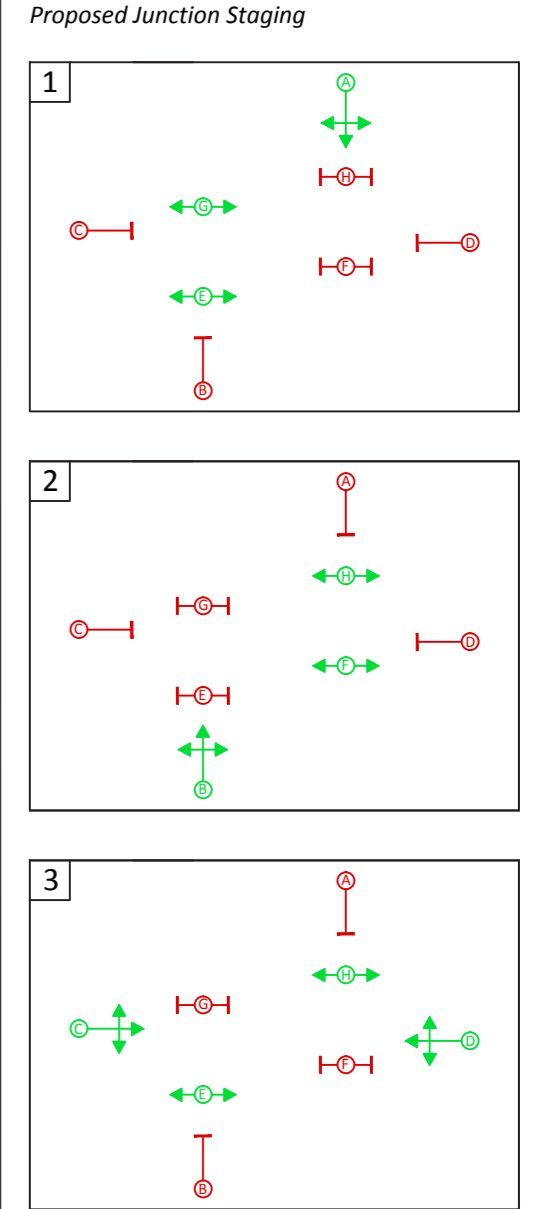
\*\* AHFS Parking accumulation derived from total TRICS vehicle arrival / departure trip rates over AM / PM periods (broken down by start / finish times - assumed 75% pupils arrive/exit school in 15 minutes before or after school start/ finish time. 25% pupils arrive/exit school 15-30 minutes before or after school start/ finish time).

**APPENDIX 16**

Recreation Site



- Key**
- Carriageway / Footway Works
    - Topographical survey base
    - Junction Improvement Proposals
    - Tactile paving
  - Shading
    - Carriageway
    - Footway
    - Verge
  - Traffic / Pedestrian Signals
    - Primary signal head
    - Secondary signal head
    - Pedestrian / cyclist signal
    - Pedestrian / cyclist push button
    - Signal controller



Drawing Revisions

Rev	Date	Details

Client  
**EDUCATION FUNDING AGENCY**

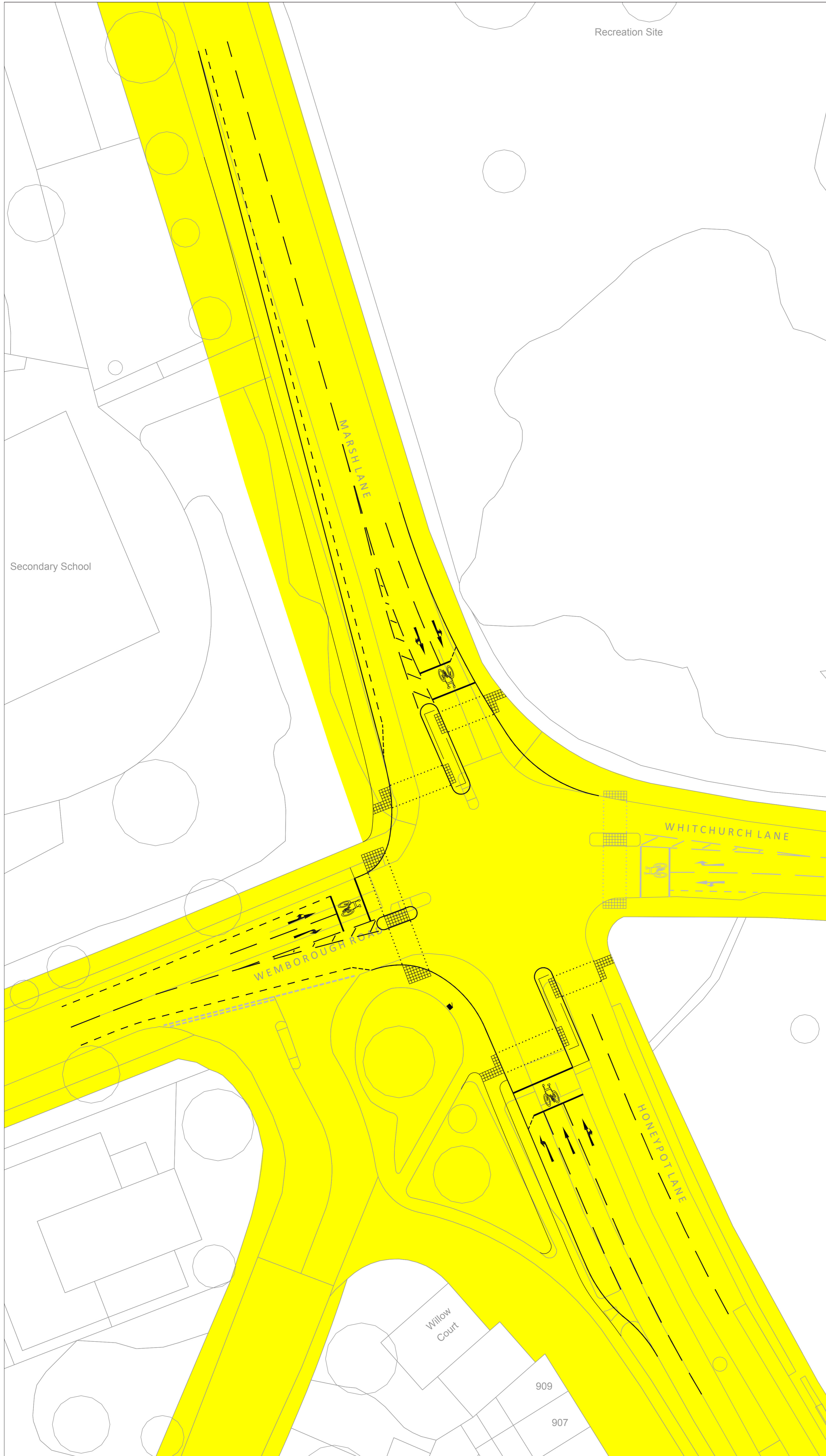
Project  
**AVANTI HOUSE SCHOOL, WHITCHURCH PLAYING FIELDS**

Title  
**PROPOSED JUNCTION IMPROVEMENT SCHEME: MARSH LN / WHITCHURCH LN WEMBOROUGH RD / HONEYPOT LN**



Status <b>FOR DISCUSSION</b>	Scale 1:250 @ A1
Drawn TG	Checked Date Aug 2015
Drawing Number 14042/01	Revision -

**APPENDIX 17**



Recreation Site

Secondary School

MARSH LANE

WHITCHURCH LANE

WEMBOROUGH ROAD

HONEY POT LANE

Willow Court

909

907

**Key**

*Carriageway / Footway Works*

- Topographical survey base
- Junction Improvement Proposals
- Tactile paving

*Shading*

- Extent of Highway Boundary

Drawing Revisions

Rev	Date	Details

Client

**EDUCATION FUNDING AGENCY**

Project

**AVANTI HOUSE SCHOOL, WHITCHURCH PLAYING FIELDS**

Title

**PROPOSED JUNCTION IMPROVEMENT SCHEME HIGHWAY BOUNDARY OVERLAY: WEMBOROUGH RD / HONEYPOT LN MARSH LN / WHITCHURCH LN**

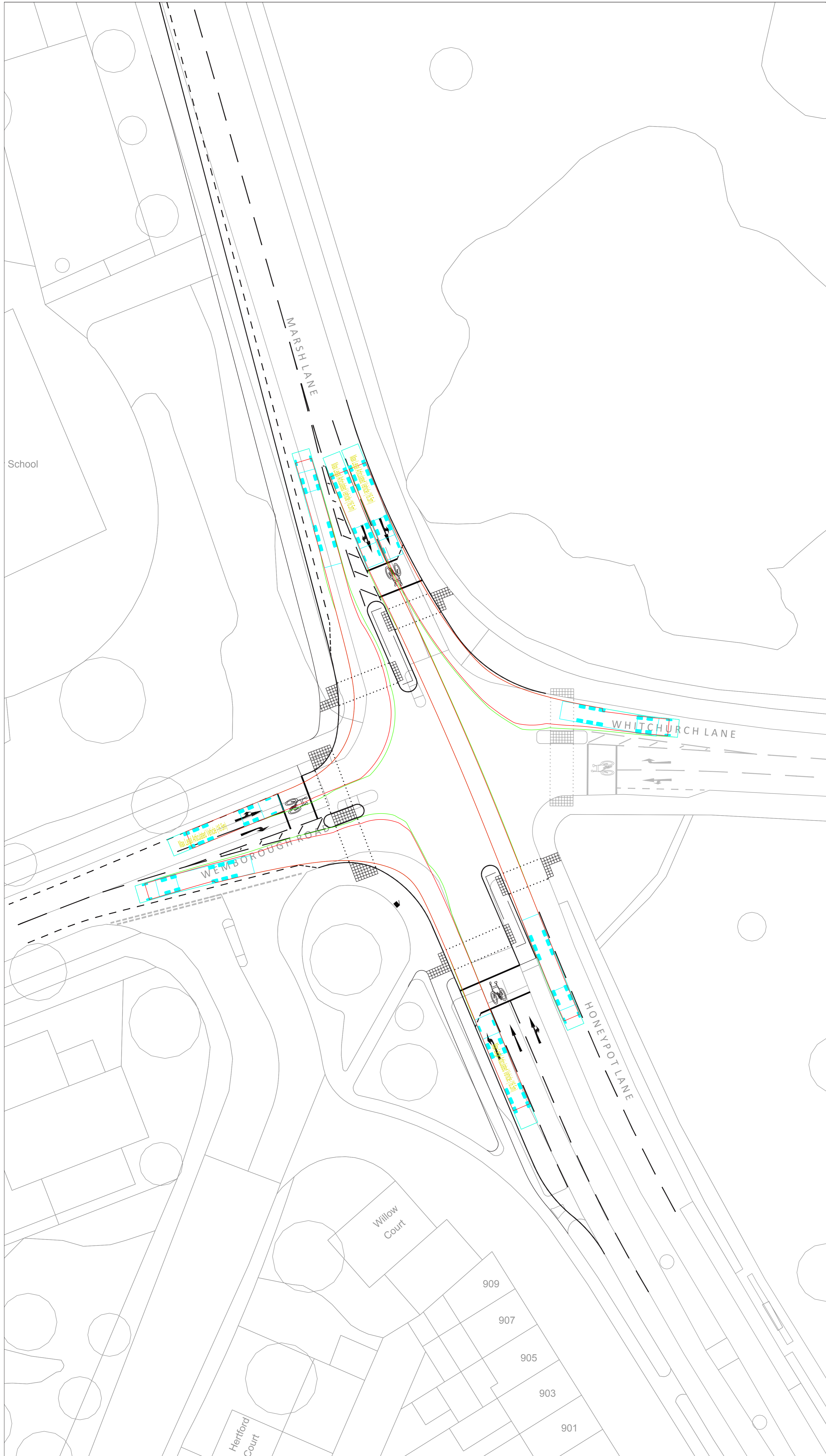
**MILESTONE**  
TRANSPORT PLANNING

Heritage House, 7 Wey Court, Mary Road  
Guildford, Surrey, GU1 4QU  
Tel: 01483 397888  
web: www.milestonetp.co.uk

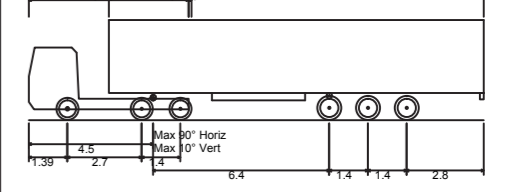
Status	FOR DISCUSSION	Scale	1:250 @ A1
Drawn	TG	Checked	Date
Drawing Number	14042/02	Revision	-

**APPENDIX 18**

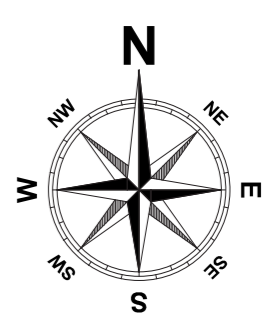




Autotrack vehicle profile:



Max Legal Articulated Vehicle (16.5m)  
 Overall Length 16.500m  
 Overall Width 2.500m  
 Overall Body Height 3.652m  
 Min Body Ground Clearance 0.966m  
 Max Track Width 2.500m  
 Lock to Lock Time 6.00s  
 Kerb to Kerb Turning Radius 6.870m



Drawing Revisions

Rev	Date	Details

Client

EDUCATION FUNDING AGENCY

Project

AVANTI HOUSE SCHOOL, WHITCHURCH PLAYING FIELDS

Title

PROPOSED JUNCTION IMPROVEMENT SCHEME SWEEP PATH ANALYSIS: MARSH LN / WHITCHURCH LN WEMBOROUGH RD / HONEYPOT LN



Heritage House, 7 Wey Court, Mary Road  
 Guildford, Surrey, GU1 4QU  
 Tel: 01483 397888  
 web: www.milestonetp.co.uk

Status	FOR DISCUSSION	Scale	1:250 @ A1
--------	----------------	-------	------------

Drawn	TG	Checked		Date	Aug 2015
-------	----	---------	--	------	----------

Drawing Number	14042/TK01	Revision	-
----------------	------------	----------	---

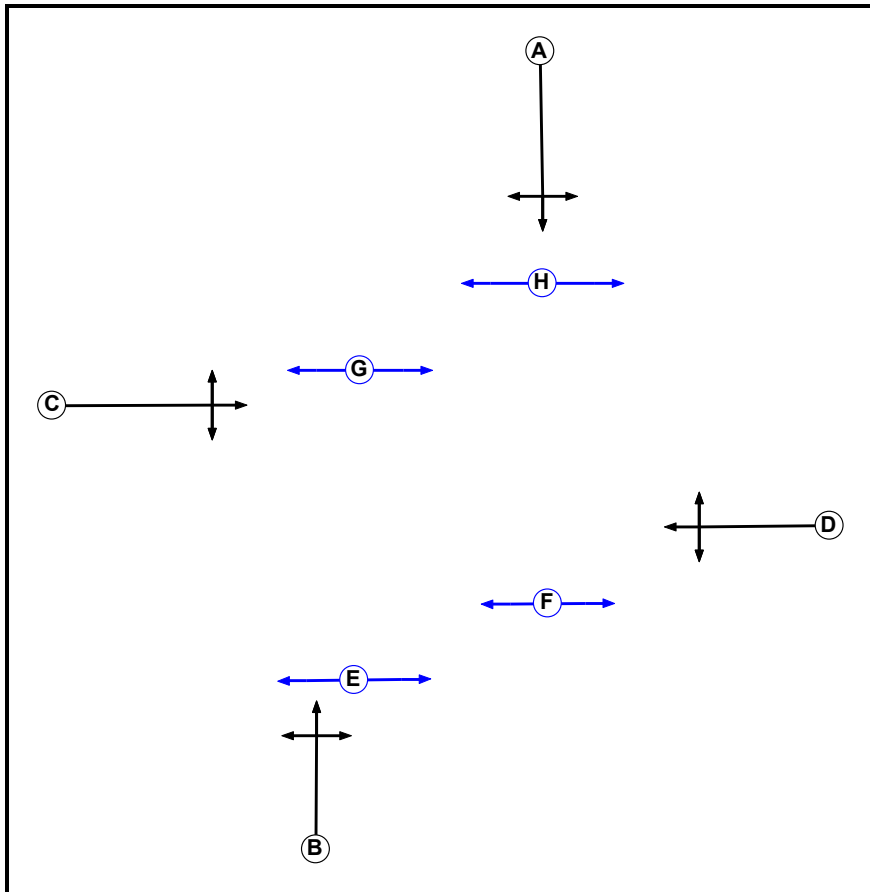
**APPENDIX 19**

MTP Results Summary  
**MTP Results Summary**

**User and Project Details**

<b>Project:</b>	
<b>Title:</b>	
<b>Location:</b>	
<b>File name:</b>	2015-06 Whitchurch Lane - Wemborough Road - Honeypt Lane - Marsh Lane MITIGATION V2 14-042.lsg3x
<b>Author:</b>	
<b>Company:</b>	
<b>Address:</b>	
<b>Notes:</b>	

**Phase Diagram**



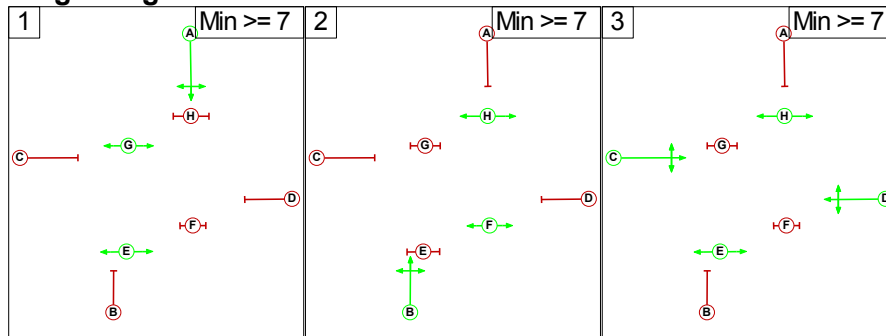
**Phase Input Data**

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7

**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	6	7	7	-	9	-	5	
B	7	8	8	5	-	9	-	
C	8	8	-	-	10	6	-	
D	8	8	-	-	7	9	-	
E	-	9	-	-	-	-	-	
F	7	-	7	7	-	-	-	
G	-	8	8	8	-	-	-	
H	7	-	-	-	-	-	-	

**Stage Diagram**

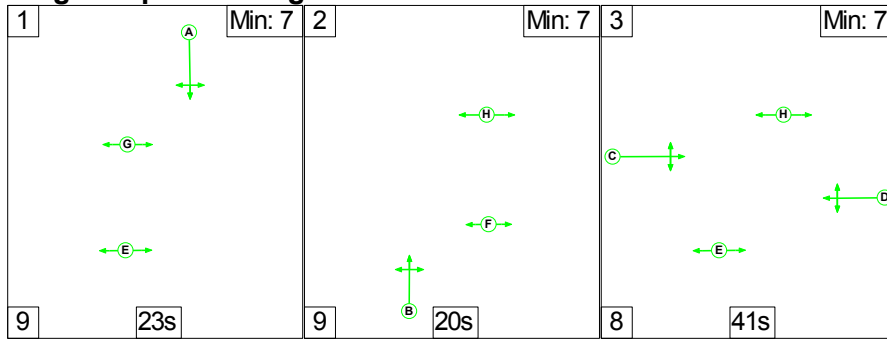


**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Scenario 1: 'AM Peak Base + CD + Dev' (FG2: 'PM Peak Base + CD + Dev', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	5.0	Geom	-	3.00	0.00	Y	Arm 7 Left	14.50
2/2 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 8 Ahead	Inf
2/3 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.60	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	18.00
3/2 (Wemborough Road)	O	C	2	3	3.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Left	26.50
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	U	A	2	3	3.0	Geom	-	3.10	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
	8/2 (Right)	1439	0	3/1	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
	6/2 (Right)	1439	0	1/1	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
2: 'PM Peak Base + CD + Dev'	16:15	17:15	01:00	

**Traffic Flows, Actual**

Actual Flow :

Origin	Destination					
	A	B	C	D	Tot.	
A	0	152	388	70	610	
B	238	0	147	397	782	
C	506	144	0	89	739	
D	125	550	186	0	861	
Tot.	869	846	721	556	2992	

MTP Results Summary

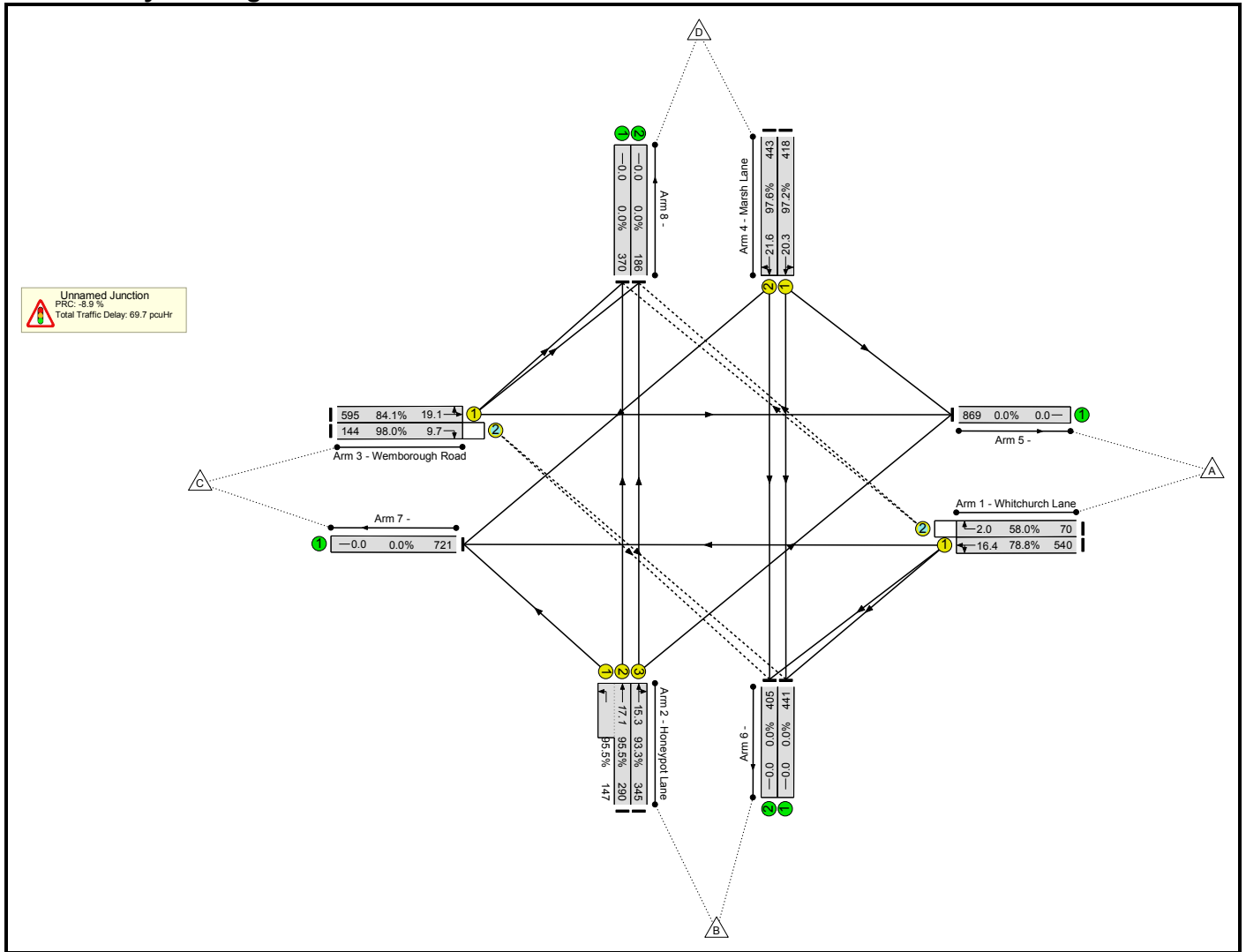
**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network</b>	-	-	-		-	-	-	-	-	-	<b>98.0%</b>	<b>166</b>	<b>0</b>	<b>48</b>	<b>69.7</b>	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	<b>98.0%</b>	<b>166</b>	<b>0</b>	<b>48</b>	<b>69.7</b>	-
1/1	Whitchurch Lane Left Ahead	U	D		1	41	-	540	1794	685	78.8%	-	-	-	6.3	16.4
1/2	Whitchurch Lane Right	O	D		1	41	-	70	1904	121	58.0%	70	0	0	1.6	2.0
2/2+2/1	Honeypot Lane Left Ahead	U	B		1	20	-	437	2055:1735	304+154	<b>95.5 : 95.5%</b>	-	-	-	11.7	17.1
2/3	Honeypot Lane Right Ahead	U	B		1	20	-	345	1936	370	<b>93.3%</b>	-	-	-	9.2	15.3
3/1	Wemborough Road Ahead Left	U	C		1	41	-	595	1852	707	84.1%	-	-	-	7.7	19.1
3/2	Wemborough Road Right	O	C		1	41	-	144	1875	147	<b>98.0%</b>	97	0	47	7.4	<b>9.7</b>
4/1	Marsh Lane Left Ahead	U	A		1	24	-	418	1893	430	<b>97.2%</b>	-	-	-	12.5	20.3
4/2	Marsh Lane Ahead Right	U	A		1	24	-	443	1997	454	<b>97.6%</b>	-	-	-	13.3	<b>21.6</b>
C1				PRC for Signalled Lanes (%):		-8.9		Total Delay for Signalled Lanes (pcuHr):			69.68		Cycle Time (s): 110			
				PRC Over All Lanes (%):		-8.9		Total Delay Over All Lanes(pcuHr):			69.68					

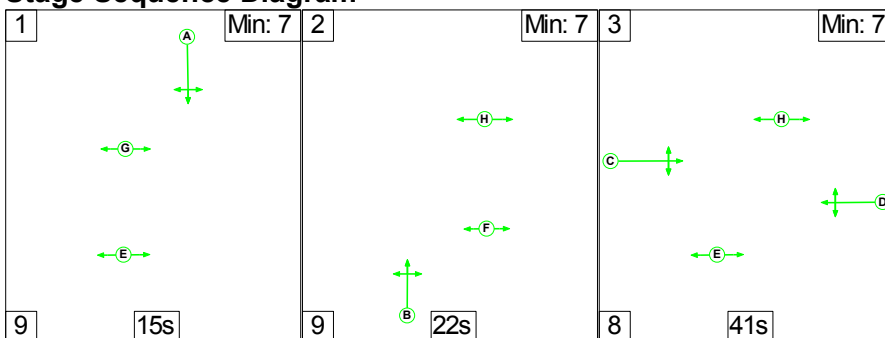
368



MTP Results Summary  
**Network Layout Diagram**



**Scenario 2: 'PM Peak Base + CD + Dev'** (FG2: 'PM Peak Base + CD + Dev', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**



**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Whitchurch Lane)	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.70
											Arm 7 Ahead	Inf
1/2 (Whitchurch Lane)	O	D	2	3	7.0	Geom	-	2.80	0.00	N	Arm 8 Right	21.80
2/1 (Honeypot Lane)	U	B	2	3	5.0	Geom	-	3.00	0.00	Y	Arm 7 Left	14.50
2/2 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 8 Ahead	Inf
2/3 (Honeypot Lane)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Right	16.90
											Arm 8 Ahead	Inf
3/1 (Wemborough Road)	U	C	2	3	60.0	Geom	-	2.60	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	18.00
3/2 (Wemborough Road)	O	C	2	3	3.0	Geom	-	2.60	0.00	N	Arm 6 Right	20.10
4/1 (Marsh Lane)	U	A	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Left	26.50
											Arm 6 Ahead	Inf
4/2 (Marsh Lane)	U	A	2	3	3.0	Geom	-	3.10	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	18.40
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Whitchurch Lane)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
	8/2 (Right)	1439	0	3/1	1.09	All					
3/2 (Wemborough Road)	6/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
	6/2 (Right)	1439	0	1/1	1.09	All					

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
2: 'PM Peak Base + CD + Dev'	16:15	17:15	01:00	

**Traffic Flows, Actual**

Actual Flow :

Origin	Destination					
	A	B	C	D	Tot.	
A	0	129	366	86	581	
B	207	0	225	396	828	
C	431	182	0	103	716	
D	66	382	96	0	544	
Tot.	704	693	687	585	2669	

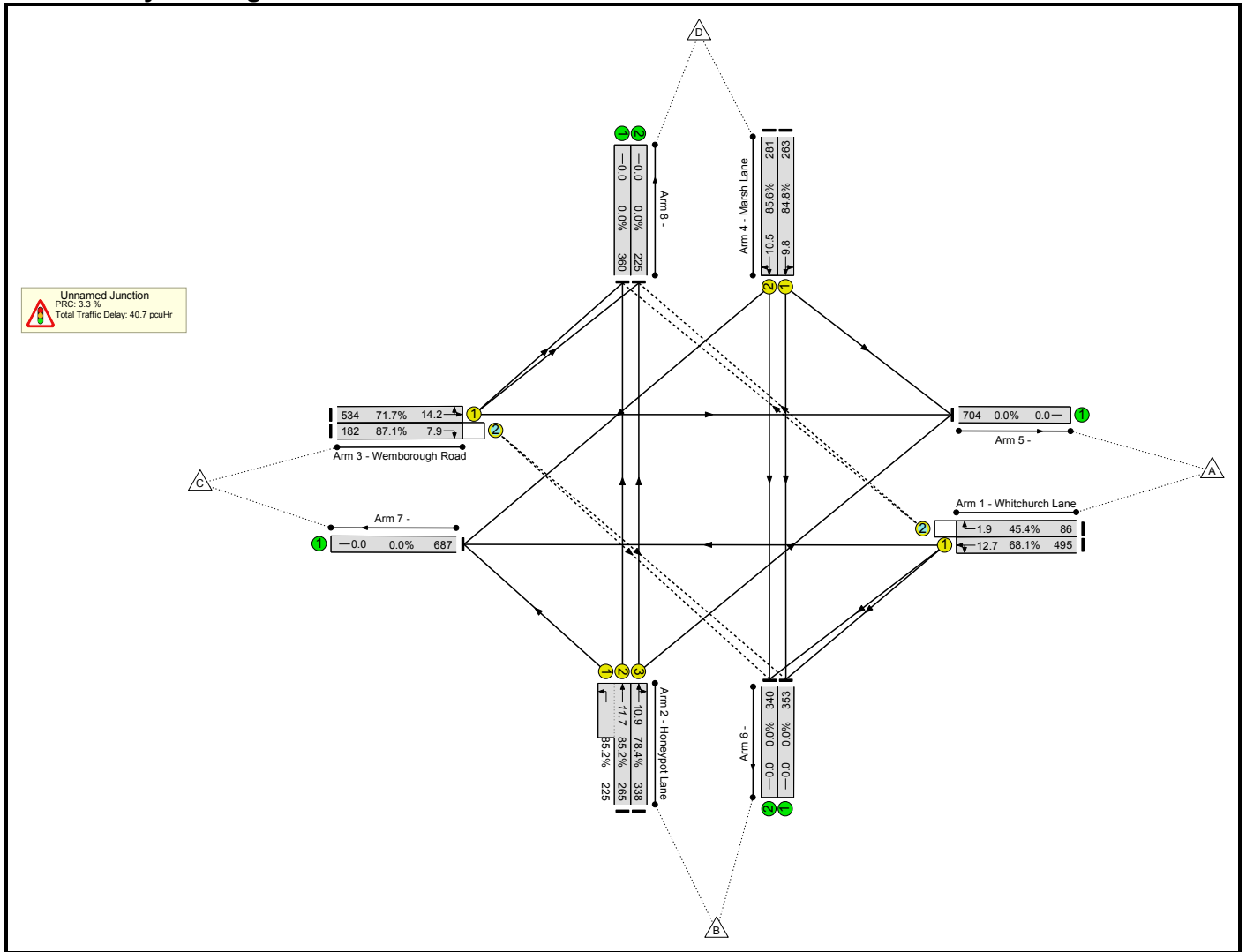
MTP Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)				
<b>Network</b>	-	-	-		-	-	-	-	-	-	87.1%	243	0	25	40.7	-				
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	87.1%	243	0	25	40.7	-				
1/1	Whitchurch Lane Left Ahead	U	D		1	41	-	495	1799	727	68.1%	-	-	-	4.6	12.7				
1/2	Whitchurch Lane Right	O	D		1	41	-	86	1904	189	45.4%	86	0	0	1.4	1.9				
2/2+2/1	Honeypot Lane Left Ahead	U	B		1	22	-	490	2055:1735	311+264	85.2 : 85.2%	-	-	-	7.7	11.7				
2/3	Honeypot Lane Right Ahead	U	B		1	22	-	338	1949	431	78.4%	-	-	-	5.3	10.9				
3/1	Wemborough Road Ahead Left	U	C		1	41	-	534	1845	745	71.7%	-	-	-	5.1	14.2				
3/2	Wemborough Road Right	O	C		1	41	-	182	1875	209	87.1%	157	0	25	5.0	7.9				
4/1	Marsh Lane Left Ahead	U	A		1	16	-	263	1898	310	84.8%	-	-	-	5.6	9.8				
4/2	Marsh Lane Ahead Right	U	A		1	16	-	281	2009	328	85.6%	-	-	-	6.0	10.5				
		C1	PRC for Signalled Lanes (%):		3.3		PRC Over All Lanes (%):		3.3		Total Delay for Signalled Lanes (pcuHr):		40.72		Total Delay Over All Lanes(pcuHr):		40.72		Cycle Time (s): 104	

372

MTP Results Summary  
**Network Layout Diagram**



This page is intentionally left blank

**AVANTI HOUSE SCHOOL,  
WHITCHURCH PLAYING FIELDS**

**Travel Plan**

October 2015





**AVANTI HOUSE SCHOOL,  
WHITCHURCH PLAYING FIELDS**

**Travel Plan**

October 2015

MTP Ref: 14/042

Produced by

**Milestone Transport Planning**

Heritage House  
7 Wey Court  
Mary Road  
Guildford  
Surrey  
GU1 4QU

Tel: 01483 397888

Email: [mail@milestonetp.co.uk](mailto:mail@milestonetp.co.uk)





## CONTENTS

<b>1.</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>2.</b>	<b>INTRODUCTION AND SCOPE OF TRAVEL PLAN.....</b>	<b>2</b>
	Scope of Travel Plan.....	4
<b>3.</b>	<b>TRAVEL PLAN AIMS AND OBJECTIVES.....</b>	<b>5</b>
<b>4.</b>	<b>AVANTI HOUSE SCHOOL AND TRAVEL PATTERNS .....</b>	<b>6</b>
	The Proposal .....	6
	Vehicular Access .....	7
	Car and Cycle Parking Provision.....	10
	Public Transport Accessibility .....	10
	PTAL .....	12
	Surrounding Highway Network.....	12
	Pedestrian & Cycle Accessibility .....	13
<b>5.</b>	<b>TRAVEL PLAN MANAGEMENT .....</b>	<b>16</b>
	Travel Plan Coordinator .....	16
	Travel Plan Working Group.....	16
	Action Plan .....	17
	Administration .....	18
	Publicity.....	18
<b>6.</b>	<b>SUSTAINABLE TRAVEL INITIATIVES.....</b>	<b>19</b>
	Travel Plan Initiatives.....	19
	Travel Information .....	22
	Staff Car Sharing.....	25
<b>7.</b>	<b>TRAVEL PLAN TARGETS AND ACTION PLAN .....</b>	<b>26</b>
	TfL STARS Targets.....	27
<b>8.</b>	<b>MONITORING AND REVIEW .....</b>	<b>29</b>
	Monitoring .....	29
	Review.....	29



**TABLES**

Table 4.1	Proposed School Start and Finish Times .....	6
Table 4.2	Direct Bus Services & Frequencies .....	11
Table 4.3	Connecting Bus Services.....	11
Table 7.1	AHFS Travel Plan - Action Plan .....	26
Table 7.2	Travel Plan Targets.....	28

**ANNEXES**

Annex 1	TfL STARS Travel Plan Accreditation Criteria – 2014/2015 Academic Year
Annex 2	Avanti House Secondary School Example STARS Travel Plan
Annex 3	PTAL Output



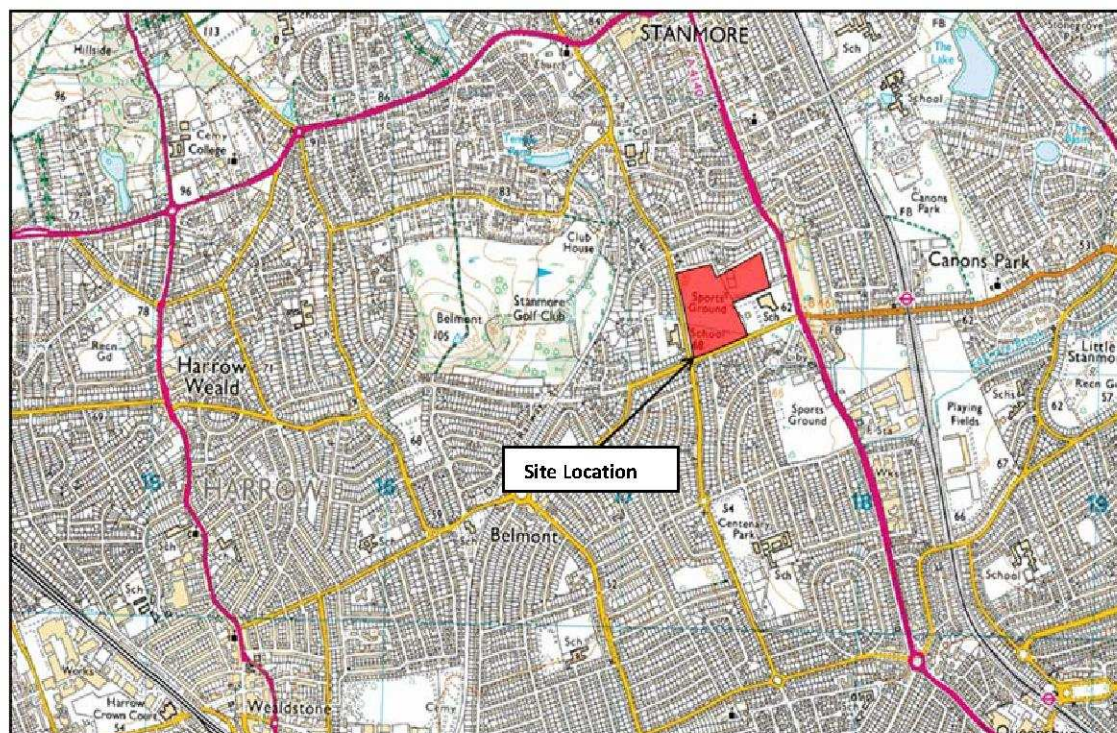
## 1. EXECUTIVE SUMMARY

- 1.1 Avanti House School (AHFS) is committed to minimising congestion, emissions and inconvenience to the local residents which may be caused by the operation of the school on Wemborough Road and the surrounding area. Through the implementation of this Travel Plan, which will be overseen by a member of staff who will be appointed to take on the role of Travel Plan Coordinator (TPC) and in liaison with Harrow Council the overall traffic and environmental footprint of the school will be managed;
- 1.2 The school is committed to implementing a TfL STARS accredited Travel Plan that will be underpinned by a comprehensive and deliverable Action Plan. The Action Plan will clearly outline a list of initiatives to be undertaken so as to promote the Travel Plan to students, parents/ carers and staff;
- 1.3 The success of the Travel Plan will be judged against TfL STARS accreditation criteria (as set out for the 2014/2015 academic year at Annex 1). An indicative STARS format Travel Plan for the AHFS has been developed by MTP, incorporating 'Gold' level STARS-specific objectives, targets, action plan and consultation / review processes. This should form the basis for the STARS Travel Plan to be completed on occupation of the site and is included at Annex 2;
- 1.4 Annual travel surveys of staff and students will be conducted, and survey results will be submitted to Harrow Council for monitoring. Following initial occupation, travel surveys will be carried out in the Autumn term of the 2017/2018 academic year. The TPC will be responsible for undertaking the initial and subsequent surveys as well as monitoring other aspects of the Travel Plan; and
- 1.5 Should it transpire that targets are not being met the TPC will, in consultation with the Harrow Council School Travel Plan Officer, amend the Action Plan detailing agreed activities to be undertaken and timescales for the implementation of recommendations/ modifications.

## 2. INTRODUCTION AND SCOPE OF TRAVEL PLAN

- 2.1 This Travel Plan has been prepared on behalf of the Avanti House School in conjunction with the Education Funding Agency (EFA). It supports a planning application to develop a Secondary School on existing Greenfield land at Whitchurch Playing Fields, Stanmore, HA7 2EQ.
- 2.2 AHFS is expected to accommodate 540 pupils from September 2017 and increase at a rate of 180 until the school reaches a full capacity of 1,260 pupils. The school will act as the successive school from the Avanti House Primary School, Common Road, Stanmore.
- 2.3 The site is situated to the west of Marsh Lane (A4140) and east of Abercorn Road in a predominately residential area. The site entrance is located approximately 300 metres eastward along Wemborough Road which is directly south of the site. Its location in relation to the surrounding area is shown in Figure 1.

Figure 1 Site Location



- 2.4 Harrow Council's 'Sustainable Modes of Travel Strategy' sets out Harrow's sustainable transport strategy, highlighting the "borough's commitment to a sustainable future". The strategy details the importance of finding alternative to reliance on car travel and the initiatives the Council us to encourage this modal shift.



- 2.5 This involves a range of initiatives such as: *"raising awareness of available travel options through targeted promotions; supporting sustainable travel through small scale infrastructure projects such as cycle racks; building an understanding of factors motivating travel behaviour; and engaging directly with schools, workplaces and local communities."*
- 2.6 In terms of school accessibility, the borough encourages walking to school by supporting and promoting events such as Living Streets Walk to School campaign, International Walk to School Month, Walk on Wednesdays, Theatre in Education, Junior Walks and encouraging school walking buses. These all form part of the school travel plan.
- 2.7 In the preparation of this document, reference has also been made to the National Planning Policy Framework (NPPF) (March 2012), the London Plan (March 2015), and Harrow Council's Core Strategy (adopted February 2012). Reference has also been made to TfL's *'Travel Planning Guidance (November 2013)'*.
- 2.8 Paragraph 35 of the NPPF states that *"Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people."* It identifies a number of objectives including to 1) give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and 2) create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians.
- 2.9 Para. 36 of NPPF states that *"Travel Plans are a key tool to facilitate these objectives. All developments which generate significant amounts of movement should be required to provide a Travel Plan."*
- 2.10 The London Plan has development plan status with considerable weight in the planning process in Greater London. Policy 6.1 states that the Mayor will adopt a strategic approach to better integrate transport and development by *"Encouraging patterns and nodes of development that reduce the need to travel, especially by car."*
- 2.11 Harrow Council's Core Strategy, adopted 12 February 2012, is a key part of Harrow's Local Plan, and sets out the Borough's strategic approach to managing growth and development to 2026.
- 2.12 Within the Core Strategy, there are a number of objectives which relate to transport:
- *"enhance the infrastructure, environment and other resources which make Harrow a desirable place to live, work and visit by improving sustainable transport capacity, accessibility and quality to meet users' needs and expectations;*
  - *manage the Borough's contribution to climate change by co-ordinating development and public transport to promote more sustainable patterns of land use to reduce reliance on private vehicles;*
  - *adapt to population and demographic changes to meet people's needs and quality of life by promoting walking, cycling and participation in sport by all ages."*



### Scope of Travel Plan

- 2.13 Section 3 outlines the aims and objectives of the AHFS Travel Plan in accordance with the policies referred to in this section. Section 4 provides a description of the school's characteristics and expected travel patterns as well as existing infrastructure and accessibility.
- 2.14 Section 5 outlines the management of the Travel Plan in respect of roles and responsibilities of the Travel Plan Coordinator (TPC) and the Travel Plan Working Group (TPWG). Section 6 provides details of the measures and initiatives designed to deliver a successful Travel Plan;
- 2.15 Section 7 details the Travel Plan's Action Plan and Targets whilst Section 8 sets out the monitoring and review process and the corrective measures to be considered should targets not be met.



### **3. TRAVEL PLAN AIMS AND OBJECTIVES**

- 3.1 AHFS is committed to ensuring that everyone travelling to and from the school can do so as safely as possible. The school will encourage staff and students to choose active and sustainable modes of travel.
- 3.2 A further aim is to ensure that staff and students travel to and from the school by foot, bicycle and/ or public transport and that they are offered assistance in identifying routes by which they can travel by these modes.
- 3.3 The objectives of the AHFS Travel Plan will be to provide a focus for a range of initiatives to encourage journeys to the site to be made by sustainable modes of transport, and to inform the targets that in turn will assist in identifying and evaluating its success.
- 3.4 In accordance with the national and local policies identified in Section 2, the key objectives of the Travel Plan are as follows:
- Staff, students and parents/ guardians will support the aims of the Travel Plan to reduce trips by car to and from the school by using alternative modes of transport;
  - Reduce congestion on surrounding roads to improve road safety and minimise harmful emissions;
  - Maximise opportunities for the use of alternative modes of travel;
  - Increase awareness of the health benefits of walking and cycling to the school; and
  - Raise awareness of road safety and environmental issues.



## 4. AVANTI HOUSE SCHOOL AND TRAVEL PATTERNS

### The Proposal

4.1 As noted in Section 2, the proposed AHFS plans to take occupation of the site in the Autumn term of the 2017/2018 academic year. The school will see an annual intake of 180 per annum until full occupation of 1,260 pupils plus 120 FTE staff. The school will provide secondary education for Year 7 – 11 inclusive in addition to sixth form.

4.2 School opening hours will be 07:00-17:30 and include a comprehensive range of pre and post-school activities including a breakfast club and additional education / training and sporting activities after school which will operate on a daily basis. This will result in staggering the start and finish times of the school, as detailed below.

**Table 4.1 Proposed School Start and Finish Times**

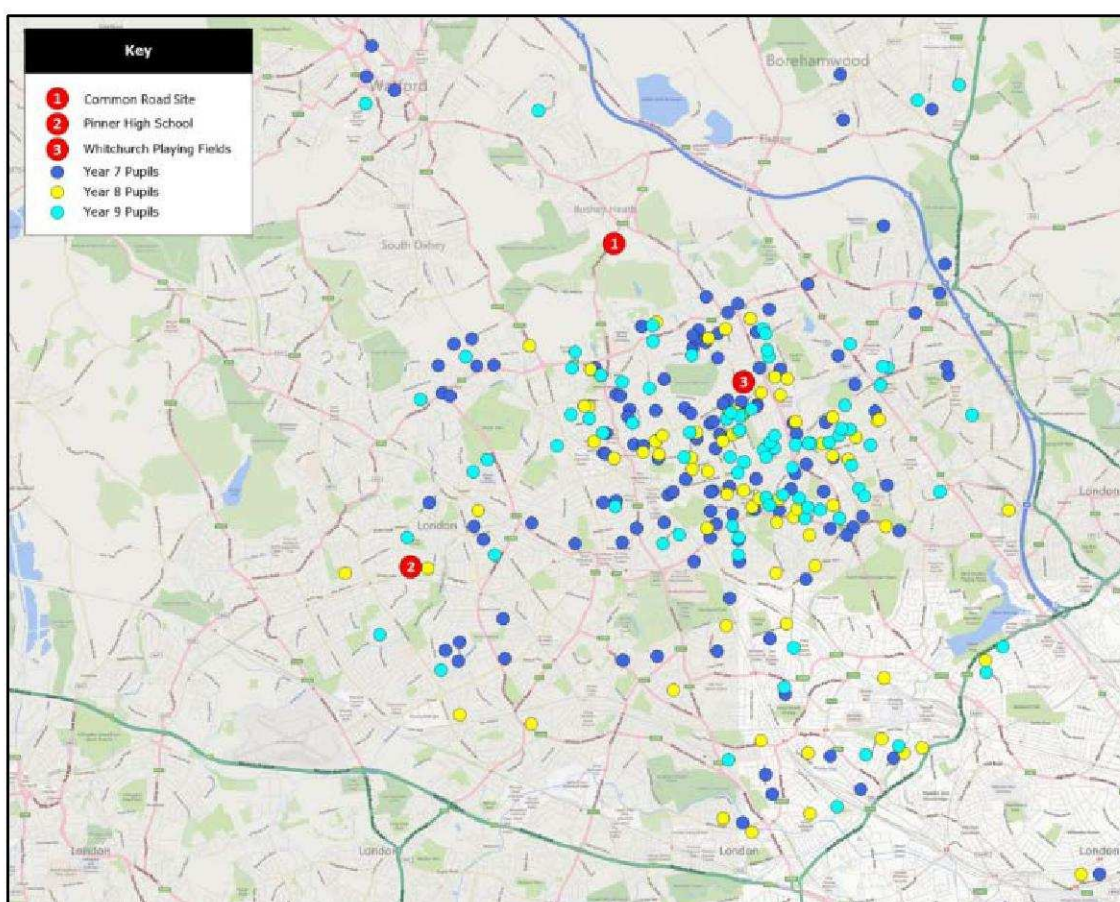
Time	Activity	No. Pupil Arrivals / Departures
<b>Morning</b>		
07:00-08:00	Breakfast Club	60
07:45	Key Stage 4 Registration	320
08:15	Key Stage 3 Registration	520
09:45	Key Stage 5 Registration	340
<b>Evening</b>		
15:45	Official KS3 & KS4 end of day	400
16:45	KS3/KS4 After School Clubs end	500
17:30	Official KS5 end of day	360

4.3 The majority of both staff and students of AHFS will be arriving and departing at different times to those of the network peak and the neighbouring Whitchurch Schools, which operate start times of 08:45/08:55 and finish times of 15:15/15:20. It is also the case that the arrival / departures times of the proposed school will be during the AM and PM 'shoulder' peak periods on the wider highway network thereby minimising the impact of school-related trips on the operation of the surrounding highway and transport networks.



4.4 It should be noted that the 2014/2015 Year 7-9 pupil home locations are not focused around the school site (at that time) on Common Road. It is in fact the case that the catchment of 2014-2015 pupils was centred more around the Whitchurch playing fields site providing considerable opportunity for existing and prospective pupils to walk and cycle to school. Figure 2 illustrates the 2014/2015 Year 7-9 pupil's home postcode locations, and also shows the location of the previous school site (as vacated July 2015), temporary school site on Beaulieu Drive, Pinner (to be occupied by the school over the 2015-2017 academic years) and the permanent school site at Whitchurch playing fields.

**Figure 2 2014/2015 Year 7-9 Pupil Home Locations**



4.5 Whilst a significant proportion of students within the catchment area will be able to use a public bus service, or combination of bus services to travel to school, it is proposed to supplement this with a private school operated bus service. Further details of the school bus service are provided later in this report.

### **Vehicular Access**

4.6 The existing playing fields on the proposed development site, and the Whitchurch First and Junior Schools southeast of the site are accessed from Wemborough Road via separate entry and egress simple priority junctions, and thereafter a shared access way. The egress onto Wemborough Road is provided with segregated left and right turn lanes.



- 4.7 With regard to the future vehicular access arrangements, upon occupation of the site by AHFS, it is proposed to utilise the existing priority junction arrangement and shared access way from Wemborough Road into the site for deliveries / servicing and staff access only. Delivery movements will be restricted to times away from the start and finish of the school day and outside of peak hours of congestions on the local highway network.
- 4.8 Further to the scoping meeting held with Harrow Council Highways on 13 January 2015, it was considered that vehicular set-down / pick-up trips were most likely to be undertaken in the public car park to the south of the school. On this basis, a parking beat survey was undertaken at the car park during the typical AM and PM drop-off / pick-up periods on 20 January 2015. The results of this parking survey with analysis of available parking supply and demand generated by the AHFS proposals are presented in the Transport Assessment that forms part of this planning submission.
- 4.9 Figure 3 shows the proposed movement and access arrangements for AHFS. These arrangements will be supported by signage and road markings, as appropriate. The strategy will also be embodied within the School's Delivery / Servicing Plan such that all end users will be made aware of the arrangements to be put in place. It should be noted that the pedestrian access point off Wemborough Road will act as the sole point of access on foot.

**Figure 3 Site Layout, Movement & Access Arrangements**



4.10 It is proposed that cyclists accessing the site use the dedicated routes on Wemborough Road, and alight before manoeuvring through the public car park to the south of the site (using the wide footways provided). Likewise, cyclists should not cycle through the car park on departure, mounting their cycles prior to joining Wemborough Road. This arrangement is proposed to avoid conflict between cyclists and vehicles within the public car park to the south of the site, particularly given the shared use with the Whitchurch First and Junior School.



### **Car and Cycle Parking Provision**

- 4.11 There is no prescriptive car parking standard within the London Plan (Further Alterations) or Harrow Council's Development Management Policies document in respect of education-based land uses. It is proposed to provide a total of 69 parking spaces (including 5% disabled provision, 10% active electric vehicle charging points and 10% passive electric vehicle charging points).
- 4.12 This level of parking is considered appropriate based on site specific demand for the school and any proposed 'out of hours' leisure activities. The disabled and electric vehicle provision accords with London Plan standards and reflects consultation with the GLA.
- 4.13 Specific guidance in respect of cycle parking is provided in the adopted London Plan Further Alterations (March 2015) document. It is therefore proposed to provide 1 long-term cycle parking space per 8 students / staff plus an additional short stay space per 100 students. In this regard, at full capacity, the school will provide as a minimum covered long-stay cycle parking for 173 cycles and 12 additional short stay spaces.

### **Public Transport Accessibility**

#### ***Bus Services***

- 4.14 The nearest bus stops to the application site are located on Wemborough Road, the closest being 250m west from the main pedestrian entrance to the school. The bus stops further west are provided with bus shelters, seating, timetable information, with the exception of Stop BL which is not provided with sheltering. The stops are served by route 186.
- 4.15 To the east of the site, services 79, 186 and 340 stop regularly along Whitchurch Lane (B461) and benefit from shelters, seating and timetable information. The walking route along these bus stops to the school is provided with a pelican pedestrian crossing with refuge island at the crossroads between Marsh Lane (A4140) / Whitchurch Lane (B461) / Honeypot Lane (A4140) / Wemborough Road.
- 4.16 The closest bus stop for Route N98 is located 480m south of the site on Honeypot Lane and is provided with a bus shelter, seating and timetable information. Abercorn Road, west of the school, links bus service 324 which stops approximately 420 metres from the school entrance. The service runs between Stanmore London Underground (LU) Station and Brent Cross via Kingsbury. The walking route is provided with a zebra crossing at the roundabout, south on Abercorn Road.
- 4.17 A summary of the weekday daytime operations of these bus services is provided in Table 4.2.



**Table 4.2 Direct Bus Services & Frequencies**

Route No.	Nearest Bus Stop	Route	Frequency
186	250 metres	St Mark's Hospital-Harrow-Edgware-Brent Cross	Every 12 minutes
79	260 metres	Edgware-Honeypot Lane-Alperton	Every 12 minutes
340	260 metres	Edgware-Stanmore-Harrow	Every 12 minutes
324	420 metres	Stanmore-Kingsbury Station-Brent Cross	3 p/hr
N98	480 metres	Stanmore-Willesden-Edgware-Holborn	4 p/hr

4.18 The bus routes set out in Table 4.2 will provide a direct route to the proposed school for a good proportion of prospective students. Table 4.3 identifies additional connecting bus services which will allow access from other home locations with North London, particularly around the Enfield / Bush Hill Park or Cockfosters areas.

**Table 4.3 Connecting Bus Services**

Route No.	Route	Connecting At	Connecting Route No.	Frequency
32	Edgware-Cricklewood-Kilburn	High Street (A5)	79/186/340	Every 20 minutes
142	Watford-Bushey-Brent Cross	High Street (A5)	79/186/340	Every 12 minutes
204	Edgware-Wembley Central Station-Sudbury	High Street (A5)	79/186/340	Every 10 minutes
288	Queensbury-Edgware Bus Station-Broadfields	High Street (A5)	79/186/340	Every 10 minutes
292	Borehamwood-Barnet Way-Colindale	High Street (A5)	79/186/340	Every 15 minutes
644	Hatfield-Barnet-Edgware-Wembley Park Station	High Street (A5)	79/186/340	Every 30 minutes

4.19 It can be seen that these connections offer students the opportunity to travel from their home from a variety of locations to the school by public transport, i.e. 'door to door' in a maximum journey time of 45 minutes.



### **Rail Services**

- 4.20 The nearest train station to the proposed school is Canons Park, approximately 600 metres (10 minute walk-time) to the east. Canons Park is operated by London Underground on the Jubilee Line located between Stanmore to the north and Queensbury to the south. A service is provided every 5 minutes and bus routes 79, 186 and 340 stop outside then station.
- 4.21 Edgware Station (London Underground) is the northern terminus on the Northern Line, approximately 2.4km from the proposed site and is also served by bus services 79, 186 and 340. Services arrive in Edgware every 12 minutes.

### **PTAL**

- 4.22 PTAL or Public Transport Accessibility Level is a widely adopted tool amongst London Authorities for measuring a sites' accessibility. The PTAL methodology identifies the key factors that influence personal choice of a public transport mode as being, number of accessible services, walk distances, frequency, reliability and time of day / day of week. On the basis of these factors, a formula has been developed to calculate an Accessibility Index (AI) for any given location.
- 4.23 Using the PTAL methodology / formula, a PTAL has been calculated for the application site, the results of which are included as Annex 3. From Annex 3 it can be seen that the application site has an AI value of 8.73 or a PTAL banding of 2.
- 4.24 In overall terms, whilst the PTAL value for the site is low, the accessibility of the application site by public transport offers a range of alternative travel choices to both student and staff and there are a wide range of journey origins and destinations can be reached by the bus and underground networks.

### **Surrounding Highway Network**

- 4.25 Wemborough Road is a two-way residential road which forms a crossroad junction with Marsh Lane (A4140) / Whitchurch Lane (B461) / Honeypot Lane (A414) to the east and a 4-arm roundabout with Abercorn Road / St. Andrew's Drive to the west. To the east of the signal junction is Canons Park Underground Station and to the north Stanmore Underground Station.
- 4.26 St Andrew's Drive has no on-street parking restrictions except within the vicinity of the roundabout. Abercorn Road is subject to on-street parking restrictions within the vicinity of the roundabout and the Stanburn Primary School access, with single yellow line parking restrictions present on the southbound side of the carriageway operational Monday-Friday 0800-0930 & 1500-1630.
- 4.27 Wemborough Road is the subject of a 30mph speed limit which continues along St. Andrew's Drive, Abercorn Road, Marsh Lane and Whitchurch Lane. The road has a vehicular weight restriction of 7.5T except for access.



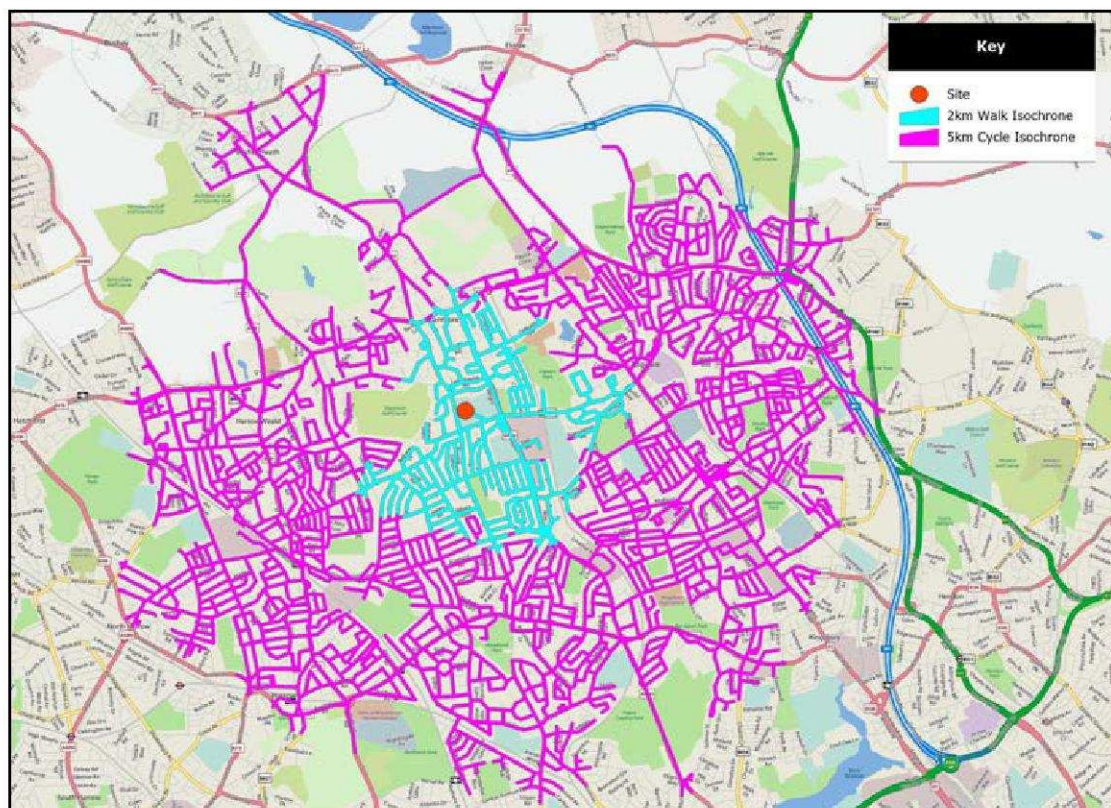
- 4.28 Honeypot Lane (A4140), a dual carriageway, is subject to a 40mph speed limit and is provided with grass verges between the footway and both the north and southbound carriageways. Both Honeypot Lane (A4140) and Marsh Lane to the north of the crossroad junction are subject to double yellow line parking restrictions.
- 4.29 Whitchurch Lane (B461) is subject to double yellow line restrictions for an approximate distance of 500m east of the crossroad junction and thereafter single yellow line restriction apply. Wemborough Road forms three priority junctions with Gyles Park, Bush Grove and Bromfield. Bush Grove and Bromfield are subject to single yellow line parking restrictions Monday – Friday 1400-1500 whereas Gyles Park has no on-street parking restrictions.
- 4.30 North of the development site, Old Church Lane connects with other neighbouring residential streets and cul-de-sacs including Cranmer Close and Lansdowne Road.
- 4.31 Wemborough Road is subject to recently implemented single yellow line parking restrictions, save for the pedestrian crossings and bus stops outside the school entrance. These were introduced following the Canons Park Area parking review. Restrictions are operational Mon–Fri, 2-3pm, aiming to reduce parking congestion created by commuters using Canons Park LU Station.
- 4.32 On-street parking bays are located outside Canons Park shopping parade which specifies restrictions Monday – Saturday 0800-1830. Parking is free for permit holders or pay and displays machines are available for a maximum stay of 2 hours. Single yellow restrictions apply Monday – Saturday 1000-1100 & 1400-1500 at this location also.
- 4.33 To the north of the application site, Marsh Lane junctions with London Road and The Broadway. London Road provides access to the M1 via the A41 and the Broadway provides access to north Stanmore and further north towards Watford.

### **Pedestrian & Cycle Accessibility**

- 4.34 The Chartered Institution of Highways and Transportation document ‘Guidelines for Providing for Journeys on Foot’ state that “walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile”. The document also provides guidance on acceptable walking distances and suggests that a preferred maximum walking distance of 2km is applicable for school trips. In relation to cycling, it is also recognised that this mode also has the potential to substitute short car journeys particularly those less than 5.0 kilometres. Figure 4 below illustrates the 2.0km walking and 5.0km cycling catchment areas of AHFS.
- 4.35 Wemborough Road is provided with lit footways on both sides of the carriageway and approximately 10 metres from the main site entrance is a pelican crossing across Wemborough Road. Existing school signage and carriageway markings are present altering drivers to the fact that children will be crossing the road.

- 4.36 Pedestrian infrastructure within the vicinity of the site is of a good standard with pedestrian crossing points present along key pedestrian desire lines and the local footway network provided with lit footways. Abercorn Road to the west of the site benefits from three pedestrian crossing points.
- 4.37 The 4-arm roundabout located to the west of the site benefits from safe pedestrian crossing zones, with either zebra crossing facilities or pedestrian refuge islands and tactile paving on all junction arms.
- 4.38 Located to the east of the site is a signalised crossroad junction linking Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) / Wemborough Road which benefits from pedestrian crossings with tactile paving and pedestrian refuge islands on all arms of the junction. Honeypot Lane is provided with signalised pedestrian crossing facilities.
- 4.39 It is demonstrated within the Transport Assessment, forming part of this planning application submission that the footways surrounding the site access are capable of absorbing existing foot traffic and that associated with the school proposals and expansion of the neighbouring Whitchurch schools.
- 4.40 In consideration of the personal injury accident record at the signalised crossroads to the east of the site, and following comments from Harrow Council Highways and TfL, consideration has been given to the implementation of additional controlled crossing facilities at the junction. To this end, and contained within the TA submission for the scheme, it is proposed to remodel the junction and introduce a staggered pelican crossing facility over the junction's northern arm. The proposed layout and capacity modelling has been presented to Harrow Council Highways and accepted in principle.

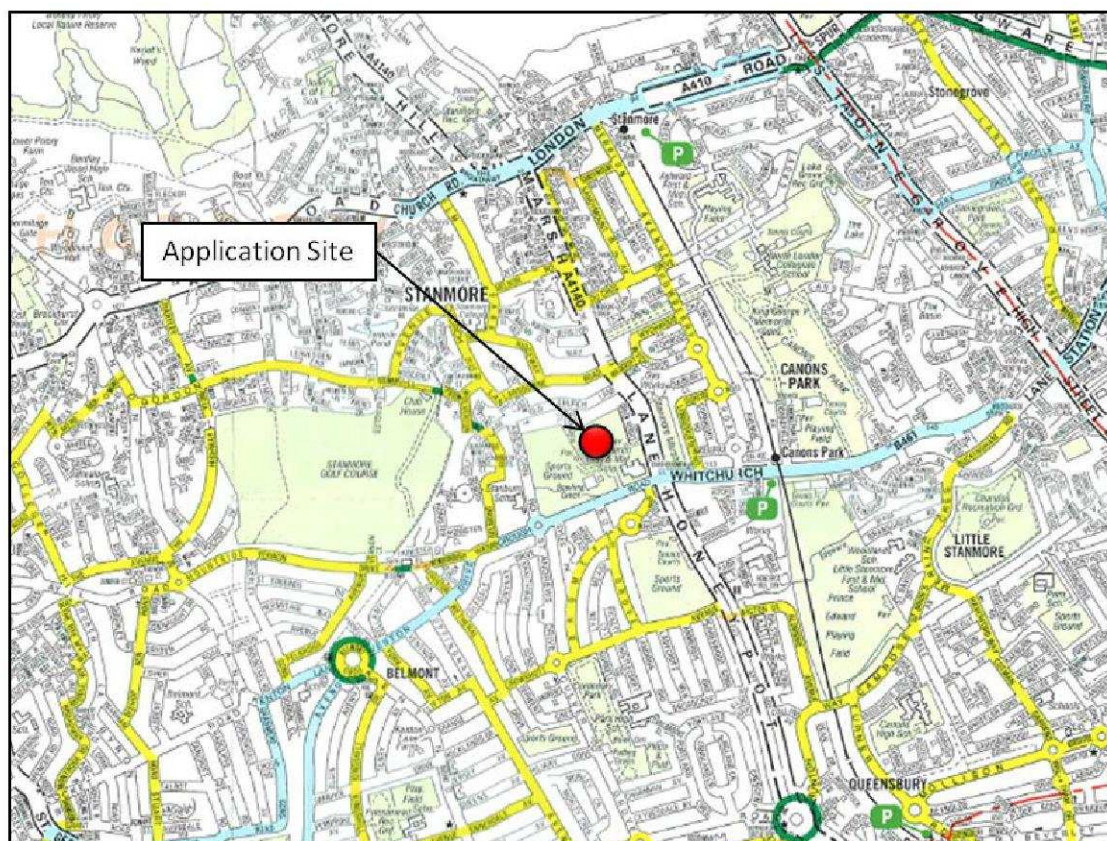
**Figure 4 Potential Walk & Cycle Catchment**





- 4.41 Figure 5 shows an extract of the local TfL cycle guide from which it can be seen that there is a network of signed and recommended routes for cyclists within the vicinity of the proposed school. Wemborough Road benefits from dedicated on-road cycle lanes as does Marsh Lane.
- 4.42 Whitchurch Lane benefits from on-road cycle markings (diag. 1057) alerting drivers to the presence of cyclists. A dedicated cycle lane is present along the eastbound side of the carriageway approximately 160 metres from the signalised junction.
- 4.43 It is noted that proposals will be coming forward for the implementation of the 'Jubilee Line Quietway' cycle route, which, in the vicinity of the site, will run north-south along Honeypot Lane / Marsh Lane. This proposal will likely be implemented prior to the occupation of the school, and will therefore offer additional dedicated cycle connectivity between the school and its immediate catchment.
- 4.44 Where dedicated cycle routes are not present, carriageway widths are wide enough to accommodate both cyclists and vehicles and visibility is generally of a good level aiding inter-visibility between cyclists and vehicles.

**Figure 5 Local Cycle Routes**



- 4.45 Within Figure 5, yellow routes denote quieter roads that have been recommended by other cyclists and may connect to other route sections. Blue routes are signed or marked for use by cyclists on a mixture of quiet or busier roads and green routes are off-road routes which may also be shared with pedestrians. The full map can be found in the TfL Local Cycle Guide 3.



## 5. TRAVEL PLAN MANAGEMENT

### Travel Plan Coordinator

5.1 AHFS places great importance on the role of the Travel Plan Coordinator (TPC) to deliver the aims and objectives of the Travel Plan. A member of staff will be appointed to carry out the role of TPC. This is most likely to be the Deputy Head Teacher, currently acting as TPC for AHFS. Contact details of the TPC will be provided to Harrow Council, and the Council will be informed should there be a change to the contact details of the appointed TPC.

5.2 The primary responsibilities of the TPC are to implement, communicate, monitor and manage the defined aims and objectives contained within the Travel Plan. The role of TPC also involves:

- Overseeing the development and implementation of the Travel Plan;
- Raising awareness of the Travel Plan through continued communication with staff, students and parents/ carers;
- Setting up and coordinating the Travel Plan Working Group (TPWG);
- Organising the necessary surveys or other data collection exercises required to develop/ review the Travel Plan including questionnaires to staff and students;
- Liaising with the Harrow Council regarding all Travel Plan related matters;
- Coordinating the monitoring programme for the Travel Plan and ensuring targets are met (as agreed with Harrow Council and in line with the TfL school travel plan STARS 'Gold' level accreditation criteria); and
- Reporting each term to the wider school and annually to the governors.

5.3 A budget will be allocated to implementing, managing and reviewing the Travel Plan. This budget will also cover any costs associated with the provision of infrastructure to support the implementation and on-going management of the Travel Plan.

### Travel Plan Working Group

5.4 The TPWG will be set up / reviewed in September 2017, following occupation of the site. Initially, the group will meet monthly to coordinate the travel survey that will be carried out during the Autumn term. Following the survey, the TPWG will meet each term to review the progress towards meeting the Travel Plan objectives and targets.

5.5 The members of the TPWG will be:

- The TPC;



- The Headteacher;
- Student representatives;
- Parent representatives;
- One member of non-teaching staff; and
- One governor.

5.6 The TPWG will be responsible for supporting the TPC in distributing surveys and analysing the survey results. Surveys will be in line with TfL's ATTrBuTE guidance and TfL's STARS school travel plan assessment criteria.

5.7 Following the analysis of the initial survey and the communication of the results to all interested parties, the on-going responsibilities of the TPWG will involve the following:

- To engage regularly with external groups in the local community (particularly local residents associations) to ascertain any real or perceived issues or problems;
- To monitor and review the progress towards the fulfilment of the agreed actions and targets;
- To ensure that the objectives remain relevant and in focus;
- To ensure that those with responsibilities around the Travel Plan are held to account;
- To identify potential barriers to future progress, and to plan how to avoid, surmount or dismantle them;
- To keep alert of new developments in education and transport since the original Travel Plan was completed;
- To plan and carry out an annual repeat of the initial baseline survey; and
- To plan for the next triennial review of the whole Plan.

### **Action Plan**

5.8 The AHFS Travel Plan will be underpinned by a comprehensive and deliverable Action Plan that will clearly and concisely outline a list of actions to be undertaken in the implementation and communication of the Travel Plan to the wider school community, i.e. students, parents/ guardians and staff. The success of the Travel Plan will be judged against TfL STARS accreditation criteria. The school will target TfL STARS 'Gold' accreditation by year two, to be maintained for the life of the Travel Plan thereafter.



- 5.9 Full details of the Action Plan and Targets are provided in Section 7 and details of the monitoring and review process are set out in Section 8. Indicative STARS-based initiatives that will form the basis of the full Travel Plan at the site are set out within Annex 2.

### **Administration**

- 5.10 Administration of the Travel Plan involves the maintenance of necessary systems, data and paperwork, consultation and promotion. The TPC will be responsible for carrying out the administrative duties which include the regular updating of the Travel Plan document.
- 5.11 In the interest of confidentiality, any correspondence or data collected for the purposes of the Travel Plan will be retained within a secure, restricted access filing system, maintained by the TPC alone. Specifically in relation to the operation of the Travel Plan, the TPC will maintain details of travel patterns, monitoring records, historic review reports (for analysis of the longer term effectiveness of the Plan), details of meetings and feedback from the TPWG and comments from staff, students and parents/ guardians as well as any general observations.

### **Publicity**

- 5.12 The success of the Travel Plan is reliant upon effective communication strategies to ensure that governors, staff, students and parents/ guardians are made fully aware of the principles and initiatives established. Accordingly the TPC will market and promote the Travel Plan through the following:
- Letters to parents;
  - Welcome packs (including sustainable travel maps);
  - Parents' Travel Plan Charter;
  - Integration of active travel into the curriculum;
  - The school website;
  - Notice boards;
  - Newsletters and blogs; and
  - Meetings and Open Days.



## 6. SUSTAINABLE TRAVEL INITIATIVES

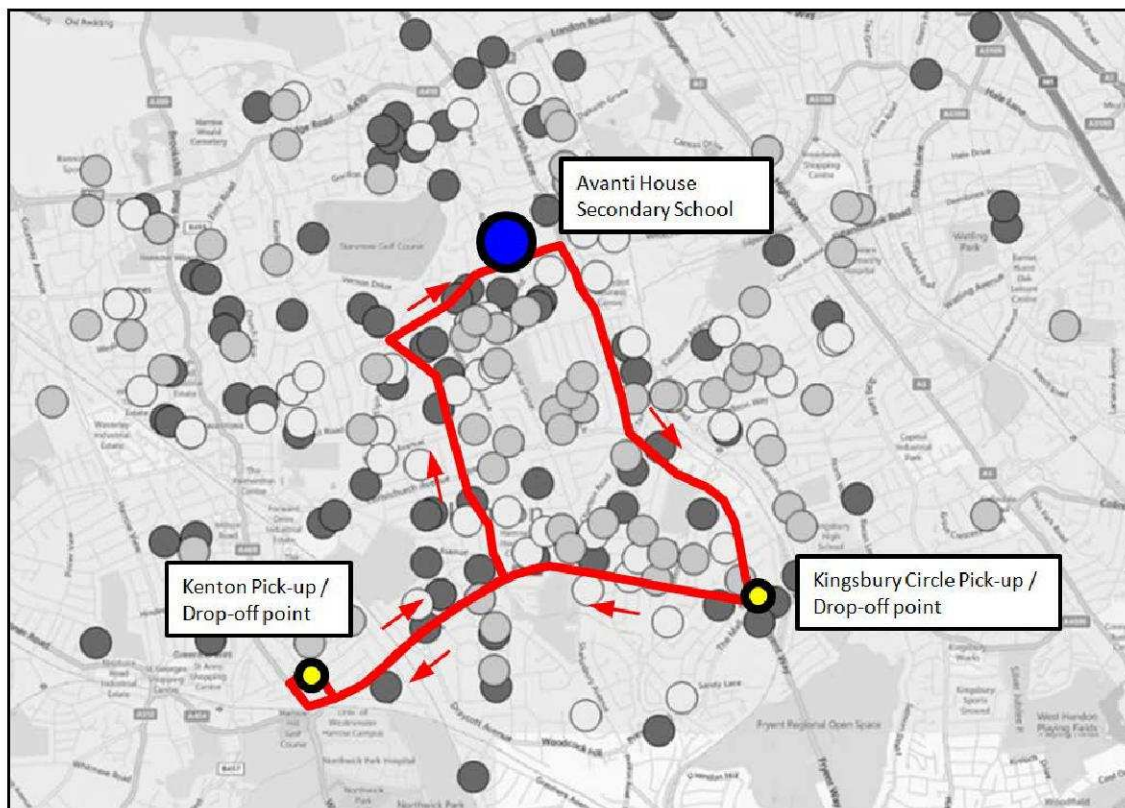
6.1 AHFS is committed to the promotion of maximising opportunities for sustainable transport as well as minimising the impact of travel to/ from the school on other road users. As such, a number of physical and management initiatives have been designed to facilitate travel to and from the school by sustainable modes of transport. The measures outlined in this section are designed to be reviewed as the school grows and as the Travel Plan develops. A full range of likely initiatives to form part of the full School Travel Plan are provided within Annex 2.

### Travel Plan Initiatives

6.2 Key physical and management initiatives to be implemented within the AHFS Travel Plan include:

- Staggering of school start / finish times by key stage and encouraging uptake of Breakfast and afterschool activities in order to dissipate school drop-off / pick-up traffic;
- Travel Information on the School Website and on notice boards, as appropriate, to include:
  - guidance on road safety and safe access to / from the school;
  - details of safe walking and cycling routes to the school;
  - details of public transport services, with links to the TfL and other useful websites;
  - details of the Car Share scheme.
- The implementation of a bus service to serve those students within the catchment area of the school that do not have direct access to existing public transport routes;
  - Service to be provided over a single bus or two mini-buses (currently liaising with operators TfL and Desi Coaches);
  - At full capacity service to transport 50 students over each start / finish time (totalling 150 students);
  - Active promotion of service on School website;
  - Regular monitoring of usage and increased provision to respond to demand, as required.
  - On the basis of 2014/2015 home postcodes and bus service operations, Figure 6 below identifies an indicative route with two pick-up / drop-off points at strategic locations within the catchment. The route journey time would take less than 30 minutes and would therefore provided opportunity for buses to undertake a trip within each start / finish time stagger;

Figure 6 Indicative School Bus Route



- Engage with pupils and parents to promote principles of the highway code, and remind parents of parking awareness during school drop-off / pick-up periods;
- The establishment and operation of a School Car Share scheme;
  - secure area on school website where parents can register interest and be linked up with other parents in their local vicinity;
  - TPC to manage and promote scheme highlighting financial and environmental benefits of car sharing.
- Promotion of Walking and Cycling as viable modes of travel amongst students and staff;
  - Integral part of school's daily exercise regime;
  - Easy to understand mapping made available to students and staff;
  - Promotion and participation in walking and cycling events / initiatives;
  - Provision of secure, covered cycle parking close to pedestrian entrance of school building to accord with London Plan standards;



- Road safety training as part of the curriculum with specific guidance on the use of safe crossing facilities;
- Cycle skills training as part of curriculum including the Government-supported 'Bikeability' scheme;
- Cycle trips / excursions undertaken to build cycle skills and confidence;
- Cycling lessons provided as part of the PE curriculum;
- 'Cycle Club' to be set up for all cycling students or those that wish to cycle to school with lessons provided on cycle safety and maintenance.
- Active encouragement of the use of existing, local public transport services for access to the school;
  - Website links to public transport operators;
  - Raise awareness of Zip Oyster Cards that allow free bus travel for children aged 11-15 yrs;
  - Easy to understand mapping made available to students and staff of most direct and safe routes to bus stops, rail and underground stations.
- The implementation of a personalised sustainable travel planning service;
  - Parents / guardians provided with the opportunity to discuss the travel options available for their children when accessing AHFS.
- Working in partnership with Travel Plan officers at the Council and TPC's at other local schools;
  - Develop partnerships to promote sustainable travel, coordinate joint activities and share ideas;
  - Students to be involved in road safety initiatives, environmental and active travel voluntary organisations.
- Set up list of marshalls, rota and 'back up' marshalls for both AM and PM drop-off / pick-up periods on every school day – ensuring 4-5 marshalls are on-site at the car park to the south of the site to manage traffic flow. Marshalls should be provided with a strategy document for effective traffic management;
- Provide staff presence at key crossing locations around the school to promote safety of students, staff and visitors;
  - Analysis of personal injury accident records undertaken within our submitted Transport Assessment showed that a number of accidents involving pedestrians have occurred at the signal junction to the east of the site as a result of the misuse or misunderstanding of crossing facilities. As noted previously, a junction improvement proposal has been put forward by MTP and agreed in principle with Harrow Council Highways which delivers an additional controlled crossing over the northern arm of the signalised crossroads to the east of the site.



- Parents agreeing and signing a 'Travel Plan charter' committing to the minimisation of car travel wherever possible. All school parents will be required to agree and sign the Travel Plan Charter as part of the application process for their child to attend the school.

## **Travel Information**

### ***Website***

- 6.3 The school will update the travel page on its website. It will include information about the role of the Travel Plan and the importance of minimising trips by car. It will also set out details of all the modes of transport available for travelling to and from the school and the benefits of using them. The website will also display information about the benefits of using these 'active' modes of transport.
- 6.4 Details of the public transport services available in the vicinity of the site will also be set out on the website. Links to public transport websites such as <http://www.tfl.gov.uk/> will be included.
- 6.5 The website will also be used to share information about the progress of the Travel Plan, including the results of travel surveys. In this way, staff, students and parents/ guardians will all be able to access the information and will therefore feel involved in the Travel Plan.
- 6.6 A link to a copy of the Travel Plan will be included on the AHFS website so that the aims and objectives of the Travel Plan, as well as the school's commitment to meeting targets can be viewed by those who travel to/ from the site.

### ***Notice Boards***

- 6.7 Notice boards will be placed in a communal area near the entrance of the main building and in the staff room. The notice boards will display information related to the Travel Plan and sustainable transport. They will display details of existing facilities such as bus routes and the locations of the nearby underground and rail stations, in addition to cycle routes in the vicinity of the school.
- 6.8 Information on notice boards will promote upcoming events, and will also display the results of past events. The aim will be to motivate the community to support Travel Plan activities by seeing the results and the benefits of the implemented initiatives.
- 6.9 Pupils will be provided with the opportunity to prepare their own sustainable travel material to be presented on notice boards.

### ***Newsletters / Blogs***

- 6.10 Updates to the Travel Plan, survey results and new initiatives will be included in newsletters / blogs that are available to parents/ carers. Continued support of the Travel Plan is more likely if regular progress updates are given.





- 6.11 Newsletters, blogs and emails will also be used as a means of communicating local changes that may affect travelling to the site.

### ***Meetings and Open Days***

- 6.12 Open Days for future students will include information about the Travel Plan so that potential students can consider their travel options prior to starting to attend the school.
- 6.13 When appropriate, updates about the Travel Plan will be included on the agenda at staff meetings. In addition, student meetings may be used as a means of communication regarding travel related issues.
- 6.14 Meetings with external parties may also include information about the Travel Plan so that other local organisations are kept aware of the measures that the school has put in place to promote a healthy community and to protect the environment.

### ***Walking***

- 6.15 Walking to the school and the health benefits attributed to walking will be actively promoted through the school website. Walking is a form of 'active travel' that represents an important element of recommended daily exercise. Students and parents/guardians will be made aware of the pedestrian access routes to the school.
- 6.16 The school will arrange for the TfL Safety and Citizenship team and Harrow Council's Safer Transport Team to speak at school assemblies and provide key information on pedestrian and general travel skills. This will include specific guidance on the use of local pedestrian crossing facilities. Staff will also be provided with road safety and awareness training.
- 6.17 The school and TPC will actively promote participation in initiatives such as 'Walk to School Week', 'International Walk to School Month' and 'Walk in May'. Promotion will be undertaken using TfL toolkits (linked to the STARS programme), through incentivised competitions and promotional assemblies. These events aim to reduce car usage as well as promote the health, social and environmental benefits of walking.
- 6.18 Staff will be provided with access to a locker. This supports travel by foot by removing the need to transport everything home on a daily basis. It also allows the safe and secure storage of coats and umbrellas. The requirement for lockers for pupils will be monitored.
- 6.19 The school will coordinate with parents / pupils to set up 'walking buses' to escort students to / from the school from local residential catchments. Where possible, the school will use walking as a mode of transport for school trips / places of interest (combined with other sustainable modes where required). Walking buses will also be used as a method of educating children on the use of crossing facilities and more specifically the safest facilities to use in accessing the school.



### **Cycling**

- 6.20 Cycle parking facilities will be provided at AHFS in accordance with current London Plan standards of 1 cycle parking space per 8 staff or students. Cycle parking will be provided in a secure, covered location.
- 6.21 The TPC will arrange events to promote staff and parent cycling to the school in conjunction with local and national events.
- 6.22 In addition, cycle training will be provided to older students through the Government-supported 'Bikeability' scheme ([www.dft.gov.uk/bikeability](http://www.dft.gov.uk/bikeability)). The TPC will liaise with Harrow Council with the view to setting this up at the School annually to provide students with the opportunity to increase their confidence and to improve their road safety awareness. The 'Bikeability' training courses also assist individuals with planning cycle routes for students and parents between home and the School.
- 6.23 Staff will have access to showers. This facility will encourage cycling by providing an opportunity to freshen up and change clothes if necessary after the journey to school.

### **Public Transport**

- 6.24 AHFS is served by five frequent public bus services during the periods at the start and end of the academic day. The school website will include direct links to external websites that provide timetable information and route maps for these bus services and connecting services. Links will also be provided to rail and underground sites and journey planning websites including <http://www.transportdirect.info> and the TfL journey planner at <http://www.tfl.gov.uk/plan-a-journey>.
- 6.25 AHFS will actively encourage pupils to become 'Youth Travel Ambassadors' (YTAs). YTA is a youth-led TfL programme for Secondary Schools and Sixth Forms, where teams of up to 12 pupils are supported by the London Transport Museum and Harrow Council to create a behavioural change in local travel. The YTA programme contributes towards STARS accreditation.
- 6.26 Notice boards will also be used to display details of the bus routes that stop in the vicinity of the school and the routes that they connect to so as to help staff and students to plan their journeys. A map showing the location of the nearby bus stops, railway station and underground station will also be on display. New Year 7 students will be provided with guidance on the safe and active use of public transport and other sustainable travel modes within their introductory student handbooks. New Year 7 students will also be provided with practical independent travel training by the school's YTA team.
- 6.27 The school will arrange for the TfL Safety and Citizenship team and Harrow Council's Safer Transport Team to speak at school assemblies and provide key information on local public transport, and promote responsible behaviour on public transport.



- 6.28 Staff will all be issued with information about travelling by public transport and the benefits of purchasing season tickets and/or an Oyster Card. Staff will also be able to take advantage of Season Ticket loans and the government's cycle to work scheme enabling them to purchase bikes tax free via the school. Public transport will be used for school trips wherever feasible.

### **Staff Car Sharing**

- 6.29 Staff will be encouraged to car share. A car sharing company will be used to pair staff living in the same locality, with staff records updated on an annual basis (as advised to the car sharing company by the TPC with staff permission). The car sharing company will undertake the relevant vehicle and driver checks prior to pairing staff.

### ***Personalised Sustainable Travel Planning***

- 6.30 Parents to new students at the school will be offered the opportunity to discuss their travel needs with the TPC. This will help them to consider all the options available to them and to understand the role of the AHFS Travel Plan.

### ***Curriculum and Partnership***

- 6.31 The school will promote will use the school curriculum, particular through PE and Science to educate children in the benefits and environmental impacts of sustainable travel. Exercises in sustainable travel routing and planning will also be undertaken as part of Geography lessons.
- 6.32 The school will build partnerships with the TfL Safety and Citizenship team, Harrow Council's Safer Transport Team, local Police and MPs in order to promote and build the School Travel Plan. The school will seek to liaise with the neighbouring Whitchurch Schools in particular to manage drop-off / pick-up in the car park to the south of the school, but also to investigate whether any sustainable travel resources can be shared between the schools.



## 7. TRAVEL PLAN TARGETS AND ACTION PLAN

- 7.1 As is noted in the preceding sections, a key aspiration of the AHFS Travel Plan is to increase awareness of the sustainable travel options available for travel to/ from the site, with the objective of ensuring that journeys to and from the school are made by alternative modes of transport. The comprehensive TfL STARS monitoring and review programme will be put in place enabling the progress of the Travel Plan to be checked in the context of specific targets.
- 7.2 In order to achieve the aims and objectives of the Travel Plan, it is recognised that a clear framework of targets and milestones for implementation is required against which its success can be judged. This will be achieved through the Action Plan. The targets and milestones defined within the Action Plan are designed to be transparent, realistic and justified in the context of current National and Local Government guidance.
- 7.3 The Action Plan is not intended to be exhaustive and the TPC, in conjunction with the TPWG, will review and revise the list at appropriate milestones and investigate other potential initiatives. A comprehensive STARS Action Plan is provided with Annex 2.
- 7.4 The Action Plan will be reviewed by the TPC and the TPWG to check performance and to identify the need for any corrective actions that may need to be put in place. A revised Action Plan will then be incorporated into future updates of the Travel Plan. An indicative Action Plan is provided in Table 7.1.

**Table 7.1 AHFS Travel Plan - Action Plan**

Action	Timescale	Responsibility
Appoint Travel Plan Coordinator	In advance of 2017/18 academic year	AHFS
Update 'Travel' page on the school website	In advance of 2017/18 academic year	TPC
Provide cycle parking	In advance of 2017/18 academic year	Developer
Engage with parents regarding school bus facility	In advance of 2017/18 academic year (ongoing)	TPC
Display information about the Travel Plan on notice boards	Prior to initial occupation and updated regularly	TPC
Set up / review the TPWG	Within the first half of the Autumn Term	TPC
Undertake initial travel survey	Autumn term 2017/18	TPC and TPWG



**Table 7.1 (Cont.) AHFS Travel Plan - Action Plan**

Action	Timescale	Responsibility
Produce a Full Travel Plan for submission to Harrow Council (TfL STARS compliant)	6 months into 2017/18 academic year	TPC and TPWG
Achieve TfL 'Silver' Level accreditation	By end of 2017/18 academic year	TPC and TPWG
Achieve TfL 'Gold' Level accreditation	By end of 2018/2019 academic year and maintained thereafter	TPC and TPWG
Re-issue travel surveys to staff and students	Annually	TPC and TPWG
Update the Action Plan and submit the updated report to Harrow Council	Annually within 3 months of undertaking travel surveys	TPC and TPWG
Include travel related information in newsletters / blogs	Termly	TPC and TPWG
Organise sustainable transport events such as 'Walk to School Week' and 'Car Share Week'	Annually	TPC

**TfL STARS Targets**

7.5 The predominant indicator of the success of a Travel Plan is generally considered to be a change in the modal split of trips to and from the site with a greater proportion of trips by non-car modes and a reduction in the number of single occupancy vehicles. An initial modal split has been identified on the basis of the existing school location, pupil catchment and TRICS data. On this basis targets have been set over the first five years of occupation with STARS 'Silver' accreditation targeted within one year and 'Gold' accreditation by year 2 to be maintained thereafter.



**Table 7.2 Travel Plan Targets**

Mode	Baseline Modal Split*	2017/18 (540 students)	2018/19 (720 students)	2019/20 (900 students)	2020/21 (1080 students)
Car Occupants	15%	12%	9%	9%	9%
Cycle	1%	2%	3%	3%	3%
Walk	33%	34%	35%	35%	35%
Public Transport	36%	37%	38%	38%	38%
School Bus	15%	15%	15%	15%	15%
<b>TOTALS</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

7.6 It should be noted that in order to derive future targets, staff and pupils surveys will be undertaken at the start of the 2017 / 2018 academic year, the results of which will form the baseline modal split for future assessment. Any amendments to targets will be subject to agreement with the Harrow Council travel planning team.

7.7 Should targets not be met at years 3 and 5, financial sanctions will be imposed to fund additional measures to support the travel plan and increases the school’s sustainable mode share.



## 8. MONITORING AND REVIEW

### Monitoring

- 8.1 AHFS is committed to the regular monitoring and review of the Travel Plan as a means of ensuring that it meets the aims, objectives and targets set within the Plan. An annual programme of monitoring and review will be put in place to generate information by which the success of the Travel Plan will be evaluated.
- 8.2 Monitoring and review will be the responsibility of the TPC. It is expected that the TPWG will be able to assist with the process. All monitoring will be compliant with TfL's ATTrBuTE guidance and TfL's STARS school travel plan assessment criteria.
- 8.3 The most important part of the monitoring process will be the regular re—survey of students and staff on an annual basis. The main purpose of the surveys will be to identify modal split and monitor staff and student travel patterns. The results of these surveys will be analysed by the TPC and Harrow Council School Travel Plan Officer and will form a key element of the monitoring process. The surveys will seek to understand why certain modes of transport are used and to identify any possible barriers to using sustainable modes of transport.
- 8.4 All members of the AHFS community will be encouraged to comment upon the success or otherwise of the Travel Plan and general travel issues throughout the academic year. Information gathered through the monitoring process will be recorded for input to the annual review process.
- 8.5 Monitoring the use of the cycle parking facilities will also take place at the same time as the surveys are undertaken. This will be an important action to ensure that the supply of cycle parking remains sufficient.
- 8.6 Following the travel survey that will take place in the Autumn term of the 2017/18 academic year, the Action Plan will be reviewed. The TPC will discuss the actions with the School Travel Advisor at Harrow Council to agree any changes prior to implementing them. Further surveys will then be undertaken annually in the Autumn term of the following two years so as to be able to compare the modal split at the same time of year on an annual basis.

### Review

- 8.7 The results of the monitoring process, and in particular the travel survey results, will be compiled into an updated TfL STARS accredited Travel Plan and Monitoring Report. The Monitoring Report will contain the modal split as identified through travel surveys compared with the baseline modal split set out in this report. The results will show the progress of the Travel Plan towards meeting objectives and targets.



- 8.8 The results of the surveys and monitoring will be reported annually to the Harrow Council travel planning team to ensure targets are being met.
- 8.9 Minutes of the TPWG meetings will also be recorded for use within the review process. In addition, any feedback from Governor meetings specifically related to the Travel Plan will also be recorded and reported within the Monitoring Report.
- 8.10 If the Monitoring Report shows that targets are not being met at years 3 and 5, financial sanctions will be imposed to fund additional measures to support the travel plan and increase the school's sustainable mode share.



## **ANNEX 1**

## Criteria for STARS Accreditation for academic year 2014/15

### Bronze criteria – Silver criteria – Gold criteria

School Profile Information	Hands up surveys and targets
School details	Hands up survey completed for pupils with at least an 90% respondent rate reason given if not achieved
DfE number	
Type of school	Staff hands up surveys completed
Age range	
Number of pupils including nursery	Modal shift away from the car must be achieved for silver level
Number of staff full time and part time	
School opening and closing time	Mode shift away from car of at least 6% is required for gold level or 90% must travel by non-car modes
Catchment area	
Facilities	Targets set for a minimum of two modes
Engineering e.g. pedestrian guard railing, zebra crossing, traffic calming outside school	
Working group members - Pupils are required for silver and gold level accreditation	Targets from last academic year achieved or exceeded for specific modes of travel for gold level

All Silver consultations required	All Gold Consultations required
All items in silver must be completed to achieve silver level – consultations completed in the current or previous 3 academic years are valid (2011/ 12-2014/ 15)	All items in gold must be completed to achieve gold level – consultations completed in the current or previous 3 academic years are valid (2011/ 12-2014/ 15)
The school has an STP working group (should include student representatives)	Residents and neighbours are aware of the schools plans to promote more safe and active travel
Whole school community involvement: Evidence of minutes of meetings with governors, staff, management team and school council	The travel plan is an agenda item on at least one governors/ senior management meeting a year
Pupil involvement: evidence of pupils work relating to the plan (e.g. updating plan, run travel initiatives, survey analysis, posters, monitoring of WoW)	Safe and active travel is part of the School Improvement Plan/ School Development Plan.
The school has carried out in depth research/alternative consultation methods (e.g. walking/cycling audits with pupils, mapping exercises)	
Conducted consultation with parents: Evidence of questionnaires, survey results	

**Validity of initiatives** – **Completed initiatives** carried out in the current and previous academic year (2013/ 14 - 2014/ 15) count towards bronze level, the current and previous 2 academic years (2012/13 - 2014/15) for silver level and the current and 3 academic years (2011/12 – 2014/15) for gold level.

#### Bronze award

**You need to complete 10 different travel initiatives from Walking, Scooting, Cycling, Road Safety, Smarter Driving and Public Transport. No evidence required, but recommended.**

#### Silver award

You need to complete 20 different travel initiatives from Walking, Scooting, Cycling, Road Safety, Smarter Driving and Public Transport. Evidence needs to be provided for each item; this can be a photograph, minutes, a letter or a poster etc to show the initiative was completed.

#### Gold standard

**You need to complete 25 different travel initiatives from Walking, Scooting, Cycling, Road Safety, Smarter Driving and Public Transport. Evidence needs to be provided for each item.**

**You must also demonstrate an outstanding level of participation in, walking, cycling, road safety, smarter driving, public transport or a pupil led project, which needs to be entered into the STARS tab.**

If your school is unable to meet specific criteria, contact your borough officer for discussion and state the reason in the comments box on the online system 'sign off page'.

Walking/scooting, Cycling and Road Safety			Public Transport / Smarter Driving	
WoW (Walk on Wednesdays), Step Up or Free your Feet		TfL New Families toolkit (walking and cycling - primary schools)		School promotes car sharing/has a car pool scheme
Walk to school week (WTSW)		TfL New Pupils toolkit (walking and cycling – secondary schools)		Car free days
October Walk to school month (WTSM)		TfL Bikers Breakfast Toolkit		Park and walk/car free zone in place
Other walking events/competitions		TfL Cycle Club toolkit (primary)		Removal of car parking spaces
Other walking reward schemes		Cycle parking/cycle pod installed		Lobbied for speed reduction
Walking bus in place		Cycling trips/holidays/ excursions		Highway code is promoted to students, staff and parents
Walking trips		Cycling lessons (PE)		TfL Zig Zag – Park and walk toolkit
TfL Big Walking Month Toolkit (Primary)		Cycling at break times (SEN)		School keep clear / zig zag enforcement
TfL Walking and Running Toolkit (Primary)		Pool bike/scooter system in place		Other smarter driving initiative - 1
Independent travel training		Cycling competitions/ schools cycle challenge		Other smarter driving initiative - 2
Road Safety Talks		Other cycle reward schemes		Public transport used for school trips
Pedestrian skills training		Bike week		School promotes public transport
Junior Citizen weeks		Bikers breakfast		Use of transition resources (E.g. TfL Start your journey Zcard)
JRSO's / JTAs in place (KS1/2)		Bike maintenance sessions		TfL Safety and Citizenship have visited
YTAs in place (KS3)		Cycle club in place		School promotes responsible behaviour on public transport
Children's Traffic Club (Essential for nurseries)		Balance Bike training		Private coaches used for school trips, pick up and set down follow a strict code of conduct
Scooter storage installed		TfL Big Bikers Breakfast toolkit (secondary)		Additional information SEN, Nursery, PRU and Infant schools
Scooter training		TfL Cycle track toolkit		Personal Safety
TfL Scooter and bike pool toolkit (primary)		Other walking, cycling or road safety initiative - 1		Other public transport initiative - 1
Cycle training for staff and/or parents		Other walking, cycling or road safety initiative – 2		Other public transport initiative - 2
Pupils cycle training (E.g. Bikeability)		<b>Total for W,C&amp;RS</b>		<b>Total for PT &amp;SD</b>

### Supporting Activities

#### Bronze level

You need to complete a minimum of 6 supporting activities from the following categories; at least 3 Curriculum activities, 2 Promotion activities, 1 Partnership or Funding activity. No evidence required but recommended.

**Silver level**

You need to complete at least 10 supporting activities from the following categories; a minimum of 4 Curriculum activities, 4 Promotion activities, 2 activities from Partnerships and Funding. Evidence needs to be provided for each activity.

**Gold level**

You need to complete at least 15 supporting activities from the following Categories from Promotion, Curriculum and Partnerships and Funding.

Evidence needs to be provided for each activity.

Please note: If your school is unable to meet specific criteria, contact your borough officer for discussion and state the reason in the comments box on the sign off page (STARS website)

Promotion		Curriculum	
Newsletter		School takes part in competitions (E.g. WoW badge design)	
Notice Board		Cycle curriculum resource (KS2 or KS3)	
Competitions		Curriculum Focus on the Environment i.e. cleaner air, carbon reduction (KS1 & 2)	
Councillor/MP/Mayor invited to an event		School teaches the health benefits of safe and active travel in PSHE, Science, or PE.	
Presenting to/sharing ideas with other schools		School teaches the environmental benefits of active travel in PSHE, Geography etc	
Information on the website		Theatre in Education	
Assembly		A-Z traffic tales (KS1)	
Within the Prospectus		Just a journey (KS2)	
Letter from Head Teacher to Parents		Life's journey (KS3)	
Info sent to residents		In a flash (Post 16)	
Local media		Learning zone (KS3+4)	
Distributing cycling and public transport maps		For SEN schools sustainability, active travel and road safety education is included in the curriculum	
Parents' evenings/Induction evenings		Other curriculum work	
Parent coffee mornings		Mapping exercises – route planning	
Other promotion method		Pupil journey planning	
<b>Total Promotion</b>		<b>Total Curriculum</b>	
Funding		Partnerships	
School needs to show funding has been identified and obtained other sources of funding aside from that available from Transport for London and the local authority – provide information and evidence	Information and how much	Attendance at TfL/ borough school travel workshop	
		Police/Safer Neighbourhood Team	
Additional information to justify why criteria not met or why should be a <b>Silver</b> or <b>Gold</b> STARS Accredited		Local councillors/Mayor/MPs	
		School is working towards or has achieved Eco School status	
		Buddy schools – running joint initiatives with schools and advising on school travel activities	
		School works with local charities/NGOs to promote safe and sustainable travel	
		School working towards or has achieved healthy schools status	
		Other Partnership	
		<b>Total Partnerships</b>	

## **ANNEX 2**



**Avanti House Free School,  
Whitchurch Playing Fields**



**School Travel Plan**

**[To be Completed on Occupation]**





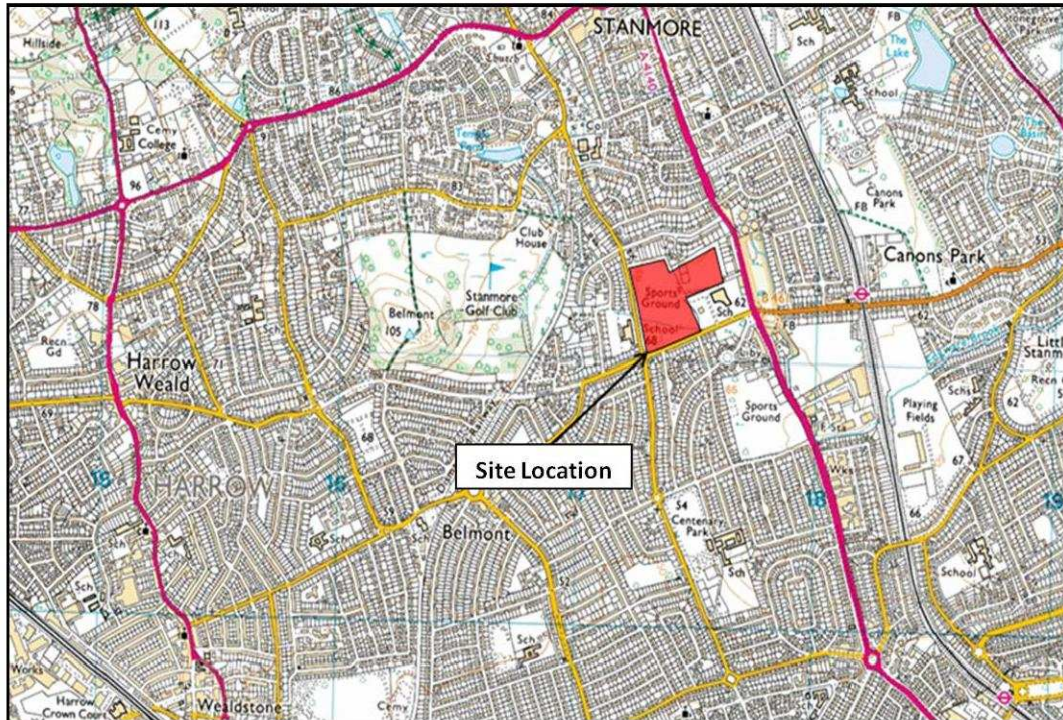
## 1. Introduction

Description of the School	
School Name:	Avanti House School
School Address:	Wemborough Road, Stanmore, HA7 2EQ
Travel Plan Coordinator:	TBC
Telephone Number:	020 8249 6830
Email Address:	avantihouse@avanti.org.uk
Website Address:	<a href="http://www.avantihouse.org.uk">http://www.avantihouse.org.uk</a>
DcSF Number:	310/4000
Type of School:	Secondary
Location of the school:	North of Wemborough Road, west of Marsh Lane and east of Abercorn Road
Pedestrian & school entrances:	Single pedestrian and vehicular access point from the public car park to the south of the site (accessed from Wemborough Road)

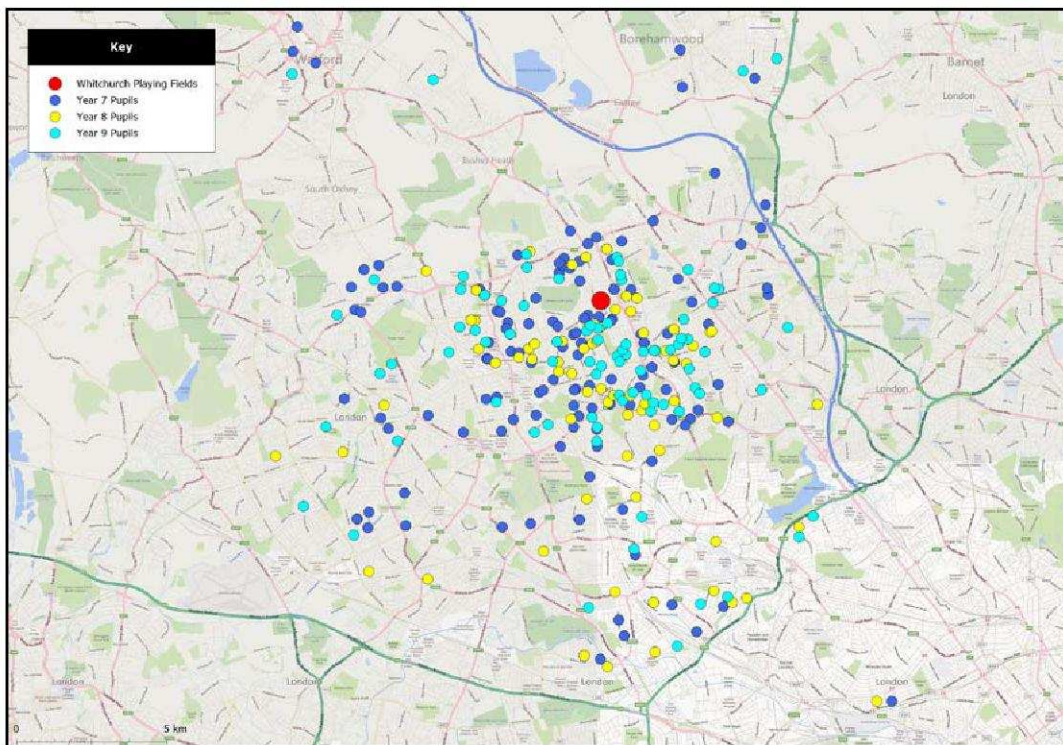


### Description of the School

School Map:



Catchment:







Facilities		
	Description	Numbers
Car Park	No. staff parking spaces	69 [Shared staff and visitor]
	No. visitor spaces	69 [Shared staff and visitor]
	No. disabled spaces	6
Cycle Storage	Received free Cycle Storage (Mayor's Scheme):	
	Covered Sheffield Stands:	173 [long stay]
	Sheffield Stands:	12 [short stay]
	Cycle Racks:	
	Cycle Pod / Mini Pod:	
	Other Cycle Spaces:	
	Scooter Parking Available:	
If storage is available, how secure is it?		
Storage Lockers:	No. staff storage lockers:	
	No. Pupil storage lockers:	
Shower Facilities	Are staff shower facilities available?	
	Are pupil show facilities available?	



**School opening and closing times:**

	Start Time:	Finish Time:
School Site:	07:00	17:30
Pupils official school time	07:45 (KS4), 08:15 (KS3), 09:45 (KS5)	15:45 (KS3/4), 17:30 (KS5)
Breakfast club (if applicable)	07:00	08:00
Afterschool club (if applicable)	15:45	16:45

**Transportation Links**

**Buses**

The nearest bus stops to the application site are located on Wemborough Road, the closest being 250m west of the main pedestrian entrance to the school. The bus stops further west are provided with bus shelters, seating, timetable information, with the exception of Stop BL which is not provided with sheltering. These stops are served by route 186.

To the east of the site, services 79, 186 and 340 stop regularly along Whitchurch Lane and benefit from shelters, seating and timetable information. Route 79, 186 and 340 operate services approximately every 12 minutes during weekday daytime hours.

A bus stop for Route N98 is located 480m south of the site on Honeypot Lane and is provided with a bus shelter, seating and timetable information. Route N98 provides approximately 4 buses per hour during weekday daytime hours.

Abercorn Road, west of the school, links bus service 324 which stops approximately 420 metres from the school entrance. The service runs between Stanmore Station and Brent Cross via Kingsbury and provides approximately 3 buses per hour during weekday daytime hours.



## Transportation Links

### Trains / Tubes

The nearest train / LU station to the proposed school is Canons Park, approximately 600 metres (10 minute walk-time) to the east. Canons Park is operated by London Underground on the Jubilee Line located between Stanmore to the north and Queensbury to the south. A service is provided every 5 minutes and bus routes 79, 186 and 340 stop outside then station.

Edgware Station (London Underground) is the northern terminus on the Northern Line, approximately 2.4km from the proposed site and is served by bus routes 79, 186 and 340.

### Roads

Wemborough Road is provided with lit footways on both sides of the carriageway and approximately 10 metres from the main site entrance is a pelican crossing across Wemborough Road. Existing school signage and carriageway markings are present alerting drivers to the fact that children will be crossing the road.

Pedestrian infrastructure within the vicinity of the site is of a good standard with pedestrian crossing points present along key pedestrian desire lines and the local footway network provided with lit footways. Abercorn Road to the west of the site benefits from three pedestrian crossing points along the length of the road.

The 4-arm roundabout located to the west of the site benefits from safe pedestrian crossing zones, with either zebra crossing facilities or pedestrian refuge islands and tactile paving on all arms of the junction.

Located to the east of the site is a signalised crossroad junction linking Marsh Lane / Whitchurch Lane (B461) / Honeypot Lane (A4140) / Wemborough Road which benefits from pedestrian crossings with tactile paving and pedestrian refuge islands on all arms of the junction. Honeypot Lane is provided with signalised pedestrian crossing facilities.

Wemborough Road benefits from dedicated on-road cycle lanes as does Marsh Lane. Whitchurch Lane benefits from on-road cycle markings (diag. 1057) alerting drivers to the presence of cyclists. A dedicated cycle lane is present along the eastbound side of the carriageway approximately 160 metres from the signalised junction.

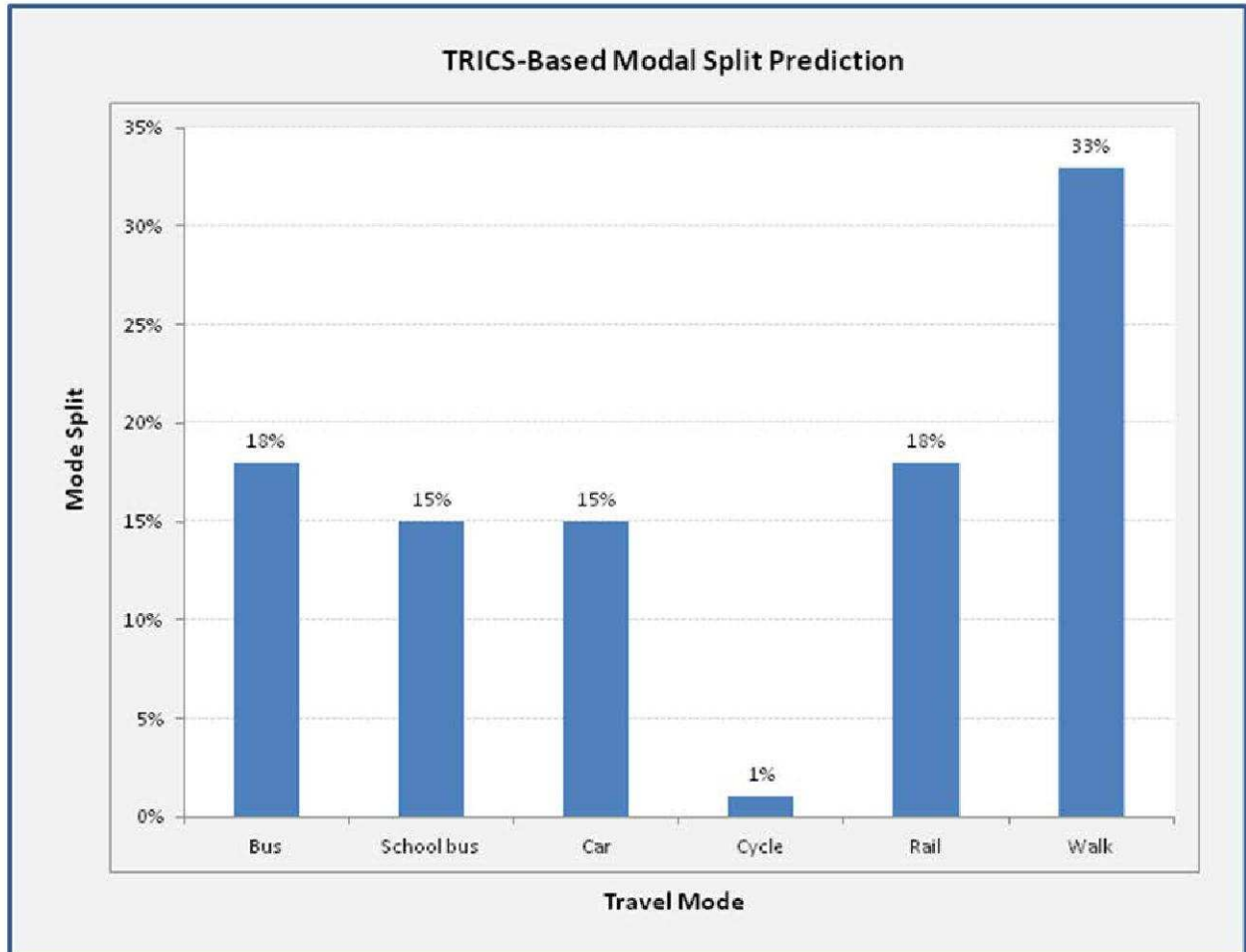


<b>Pupils and Staff Numbers</b>	
Pupils roll:	1,260 (Max)
Age range of pupils:	11-18
Number of pupils entitled to SEN transportation and how their needs are taken into account:	
Full-time staff roll:	
Part-time staff roll:	
Support staff roll:	
Use of school outside of school hours including extended school activities:	
Other information about the pupils who attend our school:	
Other information about the people who work at our school:	



## 2. Survey Results (Predicted)

### TRICS Generated Travel Mode Predictions (Students & Staff)



	Actual Mode of Travel									
	Bus	School bus	Car	Car Share	Cycle	Park / Stride	Rail	Scoot	Walk	Other
<b>2015 % (TRICS)</b>	18%	15%	15%		1%		18%		33%	
<b>2017 % (Surveyed)</b>	TO BE COMPLETED ON OCCUPATION									



**3. Working Group & Involvement [TO BE COMPLETED ON OCCUPATION]**

Working Group	



#### 4. Travel and Transport Issues [TO BE COMPLETED ON OCCUPATION]

##### Original Travel and Transportation Issues

Details of the Issue/concern	Photo	Is this still an issue?	Please Explain:

##### New Travel and Transportation Issues



## 5. Objectives and Targets

### Modal Shift

	Bus	School bus	Car	Car Share	Cycle	Park / Stride	Rail	Scoot	Walk	Other
<b>2018 % (Target)</b>	TO BE COMPLETED ON OCCUPATION									
<b>2017 % (Surveyed)</b>	TO BE COMPLETED ON OCCUPATION									

### New Objectives

**S1.** Committed to ensuring that everyone travelling to and from the school can do so as safely as possible - The school will encourage staff and students to make transport choices that demonstrate absolute regard for the need to minimise potential damage to the environment.

**S2.** To raise awareness of road safety and environmental issues relating to mode of travel choices.

**AO1.** Ensure that staff and students travel to and from the school by foot, bicycle and/or public transport and that they are offered assistance in identifying routes by which they can travel by these modes.

**AO2.** To maximise opportunities for the use of alternative modes of travel.

**H1.** Aim to provide a focus for a range of initiatives to encourage journeys to the school by sustainable modes of transport and to inform the targets that in turn will assist in identifying and evaluating its success or otherwise.

**H2.** To increase awareness of the health benefits of walking and cycling to the school

**E1.** To reduce congestion on surrounding roads thereby improving road safety and minimising the effects in terms of emissions.

### New Targets





## 6. Consultation and Collaboration

Code	Activity	Details
 S1	The school has an STP working group (should include student representatives).	
 S2	Conducted consultation with parents: Evidence of questionnaires, survey results.	
 S3	Whole school community involvement: Evidence of minutes of meetings with governors, staff, management team and school council.	
 S4	Pupil involvement: evidence of pupils work relating to the plan (e.g. updating plan, run travel initiatives, survey analysis, posters, monitoring of WoW).	
 S5	The school has carried out in depth research/alternative consultation methods (e.g. walking/cycling audits with pupils, mapping exercises).	
 G1	Residents and neighbours are aware of the schools plans to promote more safe and active travel.	
 G2	The travel plan is an agenda item on at least one governors/ senior management meeting a year.	
 G3	Safe and active travel is part of the School Improvement Plan/ School Development Plan.	



## 7. Initiatives – Action Plan

### Planned Initiatives

Initiative	Details	Reporting	Evidence (where required)
<b>Walking</b>			
W1 Walk on Wednesday, Step Up or Free Your Feet	On occupation	Ensure participation in walking initiatives such as 'Walk on Wednesdays'.	
W3 Walk to school week	On occupation	Publicise local pedestrian routes on school website and promote participation in 'Walk to School Week' in May every year.	
W7 Walking Bus	On occupation	Set up walking bus to escort children to / from local home locations.	
W8 Walking Trips	On occupation	Whenever possible students should walk to places of interest for trips.	
W9 Independent Travel training	On occupation	Inclusion Team to work closely with students to develop independent travel eg. through 1:1 bus trips or sessions about independent travel.	
W10 Pedestrian skills training	On occupation	TPC to book in skills training with road safety officer.	
W12 Travel skills training	On occupation	Travel skills training to be provided to students + arrange visits from TfL Safety and Citizenship team / Harrow Council Safer Transport Team.	



Initiative	Details	Reporting	Evidence (where required)
<b>Cycling</b>			
C4 Cycle training for pupils (E.g. Bikeability)	On occupation	Provide cycle training through the Government-supported 'Bikeability' scheme ( <a href="http://www.dft.gov.uk/bikeability">www.dft.gov.uk/bikeability</a> ). Undertake cycle trips / excursions to build skills and confidence.	
C7 Cycling lessons	On occupation	Provide cycling lessons as part of PE curriculum.	
C18 Other cycle initiatives	On occupation	Provide lessons on cycle safety and maintenance.  Set up a 'cycle club' for all pupils cycling or proposing to cycle to school.	
<b>Smarter Driving</b>			
SD1 School promotes car sharing/has a car pool scheme	On occupation	Encourage car-sharing by setting up school database where parents can register to find other local people travelling to the school.	
SD6 Highway Code education	On occupation	Promote highway code to students and staff through assemblies. Remind parents of parking awareness during school drop-off / pick-up periods and through newsletters / blog.	
SD7 Other Smarter Driving Initiatives	On occupation	Set up list of marshalls, rota and 'back up' marshalls for both AM and PM drop-off / pick-up periods on every school day – ensuring 4-5 marshalls are on-site to manage traffic flow. Marshalls should be provided with a strategy document for effective traffic management.	
<b>Public Transportation</b>			



Initiative	Details	Reporting	Evidence (where required)
PT1 Public transport used for school trips	On occupation	Use public transport for school trips (risk assessments to be completed).	
PT2 School promotes public transport	On occupation	Use school assemblies and parent newsletters to encourage use of local TfL bus services.	
PT3 Use of transition resources	On occupation	Continue to provide guidance on safe and active travel within Year 7 student handbooks.	
PT4 School invites experts / organisations to talk about personal safety	On occupation	Invite representatives from TfL and Harrow Council Safer Transport Team to attend and deliver assemblies on safety and citizenship.	
PT5 School promotes responsible behaviour on public transport	On occupation	Ensure students attend assemblies where TfL / Harrow Council Safer Transport Team representatives provide tips about behaviour and personal safety.	
PT7 Other public transportation initiatives	On occupation	Maintain engagement with TfL on the delivery of additional bus services for pupils.	
PT7 Other public transportation initiatives	On occupation	Provision of privately run school bus service with strategic pick-up / drop-off points to offset car trips.	
PT9 TfL Safety & Citizenship invited to talk to pupils	On occupation	Invite TfL Safety and Citizenship team to deliver assemblies to all school year groups.	



Initiative	Details	Reporting	Evidence (where required)
<b>Promotion</b>			
PR1 Newsletter	On occupation	Within newsletter and blogs provide updates on Travel Plan, survey results and new initiatives.	
PR2 Notice Board	On occupation	Notice boards to be placed in a communal area near the entrance of the main building and in the staff room. Notice boards will display information related to the Travel Plan and sustainable transport. They will display details of existing facilities such as bus routes and the locations of the nearby underground and rail stations, in addition to cycle routes in the vicinity of the school.	
PR2 Notice Board	On occupation	Students to prepare presentations board on sustainable travel and display at a central location within the school.	
PR4 Assembly	On occupation	Arrange regular assemblies with guest speakers providing information on road safety / cycling / citizenship / public transport.	
PR5 Parents / Induction evenings	On occupation	Provide Travel Plan information as part of evening events for parents / students.	
PR6 Information on website	On occupation	Update school website to provide page on travel, including information on walk / cycle initiatives, public transport, and updates on the Travel Plan.	
PR7 Councillor / MP / Mayor invited to an event	On occupation	Arrange for local MP to visit school.	



Initiative	Details	Reporting	Evidence (where required)
PR8 Within the Prospectus	On occupation	Update school prospectus to include statement on Travel Planning and expectation that wherever possible students should travel to school by sustainable modes.	
PR14 Distributing cycling and public transport maps	On occupation	Publicise improvements to local cycle routes and public transport information via school website / newsletters.	
<b>Road Safety</b>			
R4 Other Road Safety Initiatives	On occupation	Stagger start / finish times by key stage to alleviate traffic impact.	
R5 School crossing patrol	On occupation	Provide staff presence at key crossing locations around the school to promote safety of students, staff and visitors.	
R6 Pedestrian skills training	On occupation	Arrange pedestrian skills training from road safety officer.	
R7 Road safety talks	On occupation	Arrange senior leaders or TfL representatives to deliver assemblies on road safety and citizenship.	
<b>Curriculum</b>			
CU2 School teaches the health benefits of safe / active travel	On occupation	School to deliver assemblies on safe / active travel.	



Initiative	Details	Reporting	Evidence (where required)
CU3 School teaches environmental benefits of active travel	On occupation	Use science curriculum to demonstrate need for active transport and identify impact on environment.	
CU14 Mapping exercises – route planning	On occupation	Use route and planning exercises as part of geography work.	
<b>Partnerships</b>			
P1 Police / Safer Neighbourhood Team	On occupation	Invite Police / Harrow Council Safer Transport Team to deliver assemblies to students.	
P2 Local councillors / Mayor / MPs	On occupation	Arrange for local MP to visit and take part in Q&A with Travel Plan Working Group.	
P4 School is working towards or has achieved healthy schools status	On occupation	School to work towards 'Healthy Schools' status.	
P9 Attendance at TfL / Borough school travel workshop	On occupation	School to arrange attendance at workshop.	
P10 Buddy schools – running joint initiatives with schools and advising on school travel activities	On occupation	School to liaise with Whitchurch Schools in particular to managing drop-off / pick-up in car park to south and sharing of resources.	



## 8. Monitoring and Review

Our next hands up surveys be on:

Our Annual Progress review will be completed in:

The person responsible for ensuring that the annual review will be actioned is:

**When reviewing our School travel Plan we will take into consideration any issues arising from new developments in education and transport since the original STP was completed with specific emphasis on the proposed school expansion.**

## 9. Sign Off

School Name:

School travel plan champion:

Year of school travel plan document:

**Approval of the school travel plan by the school travel plan champion confirms the schools management (including but not limited to the Head Teacher and Governors) have read, understood and agreed to the contents of this document. Avanti House School further acknowledges that they have committed to achieving all targets highlighted in their action plan and to the annual review and monitoring of the plan.**

School Travel Plan Champion*	
Head Teacher's Name*:	
Chair of Governors Name*:	
Pupil Representatives (Optional):	
Parent Governors (Optional):	
Other Stakeholders involved (Optional): e.g. Police, bus operators etc.	



**ANNEX 3**

# PTAI Study Report File Summary

## PTAI Run Parameters

PTAI Run 20142305144724  
Description 20142305144724  
Run by user PTAL web application  
Date and time 23/05/2014 14:47

## Walk File Parameters

Walk File PLSQLTest  
Day of Week M-F  
Time Period AM Peak  
Walk Speed 4.8 kph  
BUS Walk Access Time (mins) 8  
BUS Reliability Factor 2.0  
LU LRT Walk Access Time (mins) 12  
LU LRT Reliability Factor 0.75  
NATIONAL\_RAIL Walk Access Time (mins) 12  
NATIONAL\_RAIL Reliability Factor 0.75

Coordinates: 517579, 191147

434

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	WEMBOROUGH RD ABERCORN R	186	251.47	3.0	0.5	3.14	12.0	15.14	1.98	0.99

BUS	WHITCHURCH LANE MARSH LN	79	263.33	5.0	1.0	3.29	8.0	11.29	2.66	2.66
BUS	WHITCHURCH LANE MARSH LN	340	263.33	5.0	0.5	3.29	8.0	11.29	2.66	1.33
BUS	ABERCORN ROAD	324	421.63	3.0	0.5	5.27	12.0	17.27	1.74	0.87
LU LRT	Canons Park	Jubilee Line Stanmore to Stratford	639.9	17.8	1.0	8.0	2.44	10.43	2.88	2.88

NR SAP Points Not Found

Total AI for this POI is 8.73.

PTAL Rating is 2.

This page is intentionally left blank

## **Avanti House Free School, Whitchurch Playing Fields**

### **Planning Committee Members Highways and Transport Briefing Note**

**March 2016**

---

#### **Introduction**

This note considers the Highways and Transport comments raised by Harrow Council Planning Committee Members at Planning Committee on 17 February 2016. The queries relate to the Avanti House Free School proposal, Whitchurch Playing Fields (Harrow Council planning ref: P/4910/15).

At Planning Committee, members were minded to grant planning permission subject to referral to the Greater London Authority (GLA), conditions, and completion of a Section 106 obligation to be brought to separate committee by July 2016. The remainder of this notes seek to clarify and address member's highways and transport comments.

#### **Member's Highways and Transport Comments**

##### ***Wemborough Road / Abercorn Road / St Andrews Drive Roundabout***

Comments were made in relation to the existing and proposed performance of the above roundabout junction to the west of the application site. Cllr Kendler in particular raised concerns over peak hour queuing and wished to see additional mitigation measures provided at this junction.

It is worth noting that the junction capacity modelling undertaken reflects *average maximum queuing* over the AM and PM peak hourly periods, and it is accepted that over an hourly period there will be inevitable peaks and troughs in traffic flow and queuing.

The analysis undertaken within the Transport Assessment submission took a robust approach towards junction capacity testing, by superimposing all Avanti House School morning / afternoon car trips onto the *network peak* hour periods. In reality, due to proposals to stagger school start / finish times this would not be the case - by example, in the AM only around 40% of Avanti trips would take place between 0745-0845 when local roads are at their busiest.

Whilst accepted that the roundabout junction does operate close to capacity and with notable queuing (in particular on the Wemborough Road (E) and Abercorn Road approaches), investigation has been undertaken into physical mitigation measures such as conversion to a signalised junction.

Table 1 below compares predicted queuing at the junction with Avanti House School traffic under both roundabout and signalised layout conditions. The signal arrangement tested uses optimised signal timings and makes no allowance for controlled pedestrians crossing facilities.

**Table 1      Wemborough Road / Abercorn Road / St Andrews Drive Roundabout / Signals Queue Comparison**

Approach Arm	AM Peak Ave. Queue		PM Peak Ave. Queue	
	Roundabout	Signals	Roundabout	Signals
Wemborough Road (E)	6.8	14.2	21.3	16.1
St Andrews Drive	2.5	8.5	3.6	7.0
Wemborough Road (W)	3.1	7.8	3.0	6.4
Abercorn Road	10.9	14.0	3.6	12.5
<b>TOTAL:</b>	<b>23.3</b>	<b>44.5</b>	<b>31.5</b>	<b>42.0</b>

The results indicate that under signalised conditions, although there would be a slight improvement in queuing on the Wemborough Road (E) approach in the PM peak all remaining approach arms would experience significant queue increases across both peak periods. This reflects the traffic flow characteristics at this location where high volumes of right-turning traffic enter from each approach.

It should also be taken into account that the junction arrangement as existing has no discernible record of personal injury accidents, and it would be beneficial to retain such a record given the vicinity to local schools.

On the basis of the above and in consultation with Harrow Council Highway Officers it has been concluded that retaining the existing roundabout arrangement represents the best option to maximise junction capacity and safety at this location.

***Avanti House Minibuses***

Planning Committee Members also queried whether Avanti House could increase the number of school-operated minibuses to minimise the number of pupils being brought to school by car. For clarification, it is proposed that the school minibus service will accommodate c. 50 pupils and will run 3 services in the AM and PM to reflect the staggered school start / finish times.

A route and strategic pick-up / drop-off points have been identified within the submitted School Travel Plan confirming that this operation would be feasible. The school minibus service would in total transport c. 150 pupils to and from the school.

***Public Bus Services***

Through consultation with the GLA and Transport for London (TfL) it has been identified that the route 186 bus, which runs along Wemborough Road, experiences capacity concerns at peak times. TfL have confirmed that Mayoral funds are available to mitigate the public transport impacts of free school developments, and they will contribute £75,000 to operate an additional AM and PM peak service on route 186 (exact timings to be confirmed – for confirmation see appended email). The bus will be double-deck and accommodate 87 seated passengers (with additional standing capacity).

***Coordinated Marshalling and Travel Planning Strategy with Whitchurch Schools***

Owing to the staggered start / finish times of Avanti House, it is not envisaged that there would be simultaneous drop-off / pick-up activity with Whitchurch Schools. It is however noted that a consistent and coordinated approach should be taken by both schools when managing traffic through the public car park area.

It is therefore suggested and will be written into the Avanti House School Travel Plan that regular termly meetings should be undertaken between Avanti, Whitchurch and Stanburn Schools to ensure that any travel issues between the schools are raised and addressed, and that coordinated approaches are taken to traffic marshalling with car sharing between siblings at separate schools encouraged.

Committee members also questioned whether additional controls could be implemented within the Harrow Council public car park, in particular with regard to use by Avanti House School Sixth Form students. Whilst this is not a matter that can be addressed through the planning mechanism, Harrow Council Highways will in consultation with their car parking and property services departments, investigate the option of introducing controls that would discourage long-term parking. This is with a view to maximising space available for pupil drop-off / pick-up for both Avanti and Whitchurch Schools.

***Avanti House School Travel Plan***

The Avanti House School Travel Plan as submitted includes details on the routing and operation of the school minibus service but will be updated to reflect proposals for the additional TfL 186 bus services and further emphasise the importance of coordinated Travel Planning between Avanti, Whitchurch and Stanburn Schools.

Whilst noted that the targeted 'Car Occupants' modal split of 9% is ambitious, this is reflective of the above measures and the track-record of Avanti House in their occupation at Common Road and Beaulieu Drive. It is therefore considered that, subject to baseline travel surveys, this target is maintained, monitored and enforced through the TfL STARS Travel Planning mechanism and the school's Section 106 agreement.

**Summary**

In light of the above measures and additional detail provided it is considered that the impact of the Avanti House School proposals has been duly considered with suitable and robust mitigation measures developed to ensure the school has a minimal impact on the operation of the local highway and transport networks.

Appendix 1 – Email Confirmation of TfL Funding for Increased Service on Route 186

---

**From:** Pak-Lim Wong <PakLim.Wong@tfl.gov.uk>  
**Sent:** Thursday, March 3, 2016 3:52 PM  
**To:**  
**Subject:** RE: Avanti House School - TfL Buses

Hi

Following our conversation earlier in the week, based on the trip estimated in the transport assessment for school; TfL is currently envisaged that an addition return bus journey, likely to be the 186 would be required to mitigate increase demand to bus service following the occupation of the school. As per previous advice, TfL not seeking a financial contribution from this school having understood this is a Free School.

The cost for the additional service, estimated at approx. £75K per year will be funded by the lump sum granted by the Government to TfL toward bus service improvements for Free Schools.

I hope this is of helpful.

Kind regards

**PakLim Wong**  
Planning Officer  
Borough Planning, Transport for London  
10th Floor, Windsor House, 50 Victoria Street, London SW1H 0TL  
Tel: (020) 3054 1779 | Auto: 81779 |  
Email: paklim.wong@tfl.gov.uk

For more information regarding the TfL Borough Planning team, including TfL's *Transport assessment best practice guidance* and pre-application advice please visit

<http://www.tfl.gov.uk/info-for/urban-planning-and-construction/planning-applications?intcmp=3484>