






Church Lane, Hoylandswaine
Proposed Residential Development
Transport Statement
David Wilson Homes

June 2014 (Rev 1)

QM

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1 Introduction

1.1.1 This Transport Statement (TS) has been undertaken by Optima to consider the highways and transportation issues raised by a planning application for residential development on land to the west of Church Lane, Hoylandswaine, Barnsley. The land, which is also referred to as the Site within this report, is allocated as safeguarded land for future development within the 2000 Barnsley Unitary Development Plan (UDP). The Site is now proposed as a housing allocation for low density housing within the emerging Development Sites and Places Development Plan Document (DPD).

1.1.2 This TS supports a full planning application made on behalf of David Wilson Homes. The location of the Site is shown on Figures 1 and 2 in relation to the strategic and local networks respectively.

1.1.3 The proposed development comprises 66 residential dwellings. Further details of the development proposals are provided in Chapter 3.

1.1.4 This TS has been prepared in accordance with the DfT's March 2007 "Guidance on Transport Assessment" document and the scope of this report has been discussed and agreed with highways officers at Barnsley Metropolitan Borough Council (BMBC).

1.1.5 Officers of BMBC requested that the suitability of the visibility at the Church Lane/Haigh Lane junction should be investigated.

1.1.6 A public consultation exercise was held on 16th January 2014 and consideration has also been given to feedback from this event in the finalisation of the scheme and this report.

1.1.7 This report sets out the transport issues relating to the proposed development and identifies if any measures are required to accommodate the anticipated transport impacts of the scheme. This TS considers the sustainability of the Site, reviewing the provision for, and quality of, facilities and connections to and from the surrounding areas. It covers a variety of topics and the document structure is as follows:

- Chapter 2 – describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals including the access strategy;
- Chapter 4 – describes the accessibility of the Site by non-car modes including accessibility to local facilities/services;
- Chapter 5 – sets out the trip generation and distribution methodologies applied in the assessments of the highway network;
- Chapter 6 – includes an assessment of the site access junction; and
- Chapter 7 – highlights the conclusions of the report.



2 Existing Site Conditions

2.1.1 This chapter describes the Site and considers the existing conditions on the surrounding highway network for a range of transport modes. It includes a review of traffic count information and accident data.

2.2 EXISTING SITE

2.2.1 The development Site is located to the north of Penistone and west of the M1 along the A628 to the west of Barnsley town centre and south of Wakefield city centre. By road it is approximately 14km west of Barnsley and 24km north of Sheffield.

2.2.2 The Site which has an overall area of approximately 3.30 hectares runs adjacent to Haigh Lane to the west of the existing housing estate served from Church Lane and St John's Church and vicarage. Haigh Head Road runs along the southern boundary of the Site. The site is accessible from Church Lane, which connects to Haigh Lane.

2.2.3 The centre of the Site is located approximately 4km to the north of Penistone and around 9km west of Barnsley, both of which benefit from numerous shops, employment opportunities and facilities.

2.2.4 The Site has no real village centre to speak of but consists of a church as well as a primary school, both of which are located to the northern perimeter of the site on Haigh Lane and within a short walking distance of each other.

2.3 EXISTING LOCAL HIGHWAY NETWORK

2.3.1 The Site is located on the western side of Haigh Lane, just off Church Lane. It currently comprises agricultural land which would be developed as part of the Site.

2.3.2 Haigh Lane has a carriageway width which varies between 5 and 6m and is subject to a 30mph speed limit in the vicinity of the Site. Haigh Lane is a partially lit highway with a footway along the western side (site frontage) measuring approximately 2m. Haigh Lane travelling southbound is a gradual ascent and starts to level out once the turning for Church Lane has been passed.

2.3.3 Haigh Lane continues south from the Site and leads onto the A628 Barnsley Road towards Barnsley (east) and Manchester (west) respectively. The A628 is easily accessible from a number of different priority junctions.

2.3.4 To ensure that the existing traffic conditions are comprehensively understood speed surveys have been undertaken along Haigh Lane on the approaches to the Church Lane junction.

2.3.5 The speed survey was undertaken by an independent survey company called Transport Data Collection (TDC). The survey was undertaken in accordance with the Design Manual for Roads and Bridges (DMRB) TA 22/81 entitled Vehicle Measurements on All Purpose Roads. This is the prevailing national guidance on how to record 85th percentile wet weather vehicle speeds for the purpose of highway design.

2.3.6 The South Yorkshire Residential Design Guide (SYRDG) refers directly to Manual for Streets and therefore requires designers to use wet weather design speeds where available.

2.3.7 The vehicle speeds both northbound and southbound were recorded along Haigh Lane using a radar speed gun. The northbound speeds were recorded at a position 50m south of the junction and the southbound speeds at a location 50m north of the junction. The speeds in each location are summarised below, the raw data of which is attached in Appendix B.



Table 2.1 – Vehicle Speed Survey Results

Haigh Lane/Church Lane	Northbound 154 readings	Southbound 138 readings
Mean Speed	28mph	27mph
85th Percentile Speed	32mph	30mph
85th Percentile Wet Weather Speed	29.54mph	27.40mph

2.3.8 As set out in TA 22/81 it is necessary to reduce the recorded 85th percentile speed when it is recorded in dry weather conditions. This is because the SSD recommendation is based on deceleration rates recorded in wet weather conditions. Therefore, it is necessary to reduce the vehicle speeds due to driver's behaviours changing in wet weather conditions.

2.3.9 In accordance with MFS the required visibility splays are as follows:

- Visibility to the left/north is 35.4m
- Visibility to the right/south is 39.6m

2.4 EXISTING PEDESTRIAN/CYCLE FACILITIES

2.4.1 An existing public right of way in the form of a footpath routes along the southern boundary of the site before connecting to footway on Haigh Head Road. This route is part of an extensive network of leisure footpaths in the local area to which the proposed development connects at its southern boundary.

2.4.2 An additional pedestrian connection is provided via the central access to the site. This provision connects with Church Lane before Haigh Lane which runs on a north to south alignment. Haigh Lane has a single sided footway on its western flank to the south of Church Lane that provides connection to Hoylandswaine Primary School which is approximately five minutes walk from the proposed development.

2.4.3 To the north of Church Lane the footway provision continues to the centre of Hoylandswaine and beyond to connect with the bus service provision (described below) on Barnsley Road.

2.4.4 All of the footway provision described above benefit from tarmacadam surfacing and street lighting making them an attractive option for journeys by foot.

2.4.5 The surrounding road network is subject to 30mph speed limit.

2.5 EXISTING BUS SERVICES/FACILITIES

2.5.1 The nearest bus stops are located along Barnsley Road in proximity to the Haigh Lane/Barnsley Road junction. The nearest bus stops are located some 750m from the Site entrance with a further bus stop approximately 1,200m from the site entrance. A summary of the bus stop provision is as follows:

Bus stop refs: 37051032/37055127

Location: Barnsley Road

Buses towards:

Services: 92, 92A

Bus Stop ref: 37051030

Location: A628 Barnsley Road

Buses towards:

Services: 20, 92, 92A,



2.5.2 Further details of the service routes and frequencies are given in Tables 2.2 (Barnsley Road) and 2.3 (A628 Barnsley Road)

Table 2.2 – Summary of Bus services on Barnsley Road

Service	Route	Days of Operation	Approx. (Two Way) Frequency	Time of operation
Barnsley Road				
92/92A	Barnsley – Hoylandswaine - Millhouse	Mon-Fri	2	06:25 to 22:30
		Sat	2	06:30 to 22:30
		Sun	1 service every two hours in each direction	08:30 to 22:30

Table 2.3– Summary of Bus services on A628 Barnsley Road

Service	Route	Days of Operation	Approx. (Two Way) Frequency	Time of operation
A628 Barnsley Road				
92/92A	Barnsley – Hoylandswaine - Millhouse	Mon-Fri	2	06:25 to 22:30
		Sat	2	06:30 to 22:30
		Sun	1 service every two hours in each direction	08:30 to 22:30
20	Barnsley – Hoylandswaine - Penistone	Mon-Fri	2	06:00 to 18:12
		Sat	2	08:07 to 18:12
		Sun	n/a	n/a

2.5.3 During the weekday and Saturday the services on Barnsley Road (Table 2.2) combine to provide an overall hourly frequency of a minimum of 2 buses per hour two-way. These services operate for the vast majority of the day operating between 06:25 and 22:30.

2.5.4 During the weekday and Saturday the services on Barnsley Road A628 (Table 2.3) combine to provide an overall hourly frequency of a minimum of 2 buses per hour two-way. These services operate for the vast majority of the day operating between 06:25 and 22:30.

2.5.5 The bus services as detailed above provide connections with Barnsley Interchange and Penistone Rail Station where numerous services to other locations are available.

2.5.6 It is concluded that the site is served by satisfactory bus facilities that will be further enhanced by the provision of a TravelMaster card for each dwelling.



2.6 RAIL FACILITIES

2.6.1 Penistone Rail Station is a five minute bus journey from Hoylandswaine. Penistone has hourly services to both Sheffield and Huddersfield which provide regional and national connections. These two cities also provide access to a wealth of services.

2.6.2 The provision of TravelMaster cards will further encourage rail travel.

2.7 EXISTING TRAFFIC COUNTS

2.7.1 Fully classified turning counts have been undertaken at the junction of Church Lane and Haigh Lane. A summary of the surveys undertaken is provided in Table 2.4.

Table 2.4 – Summary of Traffic Surveys

Location	Type	Date Undertaken	Assessment Periods
1. Church Lane/Haigh Lane	Fully Classified Manual Turning Count	Tuesday 3 rd December 2013	07:00-10:00 & 16:00-19:00
3. Haigh Lane – 50m approach to Church Lane	Manual Speed Survey	Tuesday 3 rd December 2013	Off Peak

2.7.2 The traffic count surveys have identified the existing weekday morning and evening peak hour periods as follows:

- Weekday AM Peak – 08:15 to 09:15; and
- Weekday PM Peak – 16:30 to 17:30.

2.7.3 The surveyed AM and PM existing traffic flows are shown on Figure 10.

2.8 EXISTING ACCIDENT DATA ANALYSIS

2.8.1 Personal injury accident data has been obtained for the highway network in the vicinity of the Site for the most recently available five year period between 1st January 2008 and 31st December 2012. The area covers the housing estate served from Church Lane including its junction with Haigh Lane together with a 100m length on both approaches to the Church Lane/Haigh Lane junction.

2.8.2 For the five year period under consideration, no personal injury accidents have occurred within the study area.

2.8.3 Based upon the excellent road safety record, there are no specific concerns relating to either existing or future highway safety.

2.8.4 The response from Barnsley MBC Traffic team confirming no accidents is contained at Appendix C.



3 Development Proposals and Access Strategy

3.1.1 This section of the report provides details of the development scheme including the proposed access for vehicles, pedestrians and cyclists.

3.2 THE DEVELOPMENT PROPOSALS

3.2.1 The development proposals, which are shown on the David Wilson Homes site plan drawing contained in Appendix D, comprise the following:

- 66 residential dwellings; and
- Associated parking, landscaping and infrastructure works.

3.3 VEHICULAR ACCESS

3.3.1 The vehicular access into the Site is proposed to be taken from an extension to Church Lane as shown in detail on the drawing contained in Appendix E. The access road as it enters the Site will be laid out as a traditional estate road comprising of a 5.5m carriageway and 2m footway along its eastern and northern flanks and a 0.6m margin on the western and southern flanks. Segregated footway provision through the open space is available for pedestrians walking west before turning south to access the southern part of the development.

3.3.2 The proposed access into the site is a 4.8m narrowed section of road that acts as a natural traffic calming feature with a 90 degree bend. The principle of this access arrangement was agreed with Barnsley Council at a meeting held on 17th June 2013, the meeting notes are attached at Appendix A.

3.3.3 Development traffic emerging onto Haigh Lane from Church Lane is afforded visibility splays in excess of the requirements as set out in MfS for the recorded vehicle speeds. The results of the radar speed survey at this junction confirm the following 85th percentile wet weather speeds as indicated in Table 2.1:

- Southbound 85th percentile wet weather design speed = 27.40 mph
- Northbound 85th percentile wet weather design speed = 29.54 mph

3.3.4 In order to ascertain the required stopping site distance (SSD), the speeds have been input into the SSD formula provided at paragraph 7.5.3 of MfS. This calculation results in a required visibility splay of 35.4m to the left (north) and 39.6m to the right (south) of the junction.

3.3.5 As shown on the drawing in Appendix F visibility splays of 40.0m are provided within the adopted highway, these are in excess of those required set out in Manual for Streets.

3.4 PROPOSED PEDESTRIAN/CYCLE ACCESS

3.4.1 The Site Plan contained in Appendix D shows footways with a width of 2.0m and shared spaces throughout the Site. Internally the Site layout and any shared surfaces will ensure that vehicle speeds will be kept to a minimum, therefore making the bicycle an attractive form of transport when travelling through the Site.

3.4.2 Whilst for the majority of trips, travelling through the Site will comprise a small section of the overall journey distance, it is important to recognise that good design of the internal layout will act as a further incentive for cycling.



3.5 PARKING

3.5.1 All of the proposed dwellings on Site are proposed to accommodate at least 2 vehicles on site – in addition to this many of the plots have access to a garage. Parking for visitors can be safely accommodated on individual driveways. The internal road is provided at a width of 5.5m and as such can comfortably accommodate on street parking of visitors and/or delivery drivers without impacting on the operation of the roads including access for larger vehicles .e.g. refuse vehicles.

3.5.2 The proposed provision of spaces will ensure that the demand for parking on Site will not affect the local highway network operation or safety.

3.5.3 The proposed Site plan accommodates an additional 6 car parking spaces for St John’s Church. The level of parking has been determined and agreed with representatives of the Church.

3.6 SERVICING

3.6.1 The internal residential layout has been designed to ensure that the servicing requirements of the development can be comfortably accommodated. The drawing attached at Appendix G shows a large 11.13m refuse vehicle satisfactorily routing around the proposed development.

3.6.2 Furthermore, fire tenders are also able to get within 45.0m of the ground floor of all dwellings included as specified as a requirement in Section 6.7 of MfS.



4 Site Accessibility

4.1.1 This chapter describes the accessibility of the Site by non-car modes.

4.2 ACCESSIBILITY BY FOOT

4.2.1 As described in the previous chapter the measures proposed which will positively influence trips by foot include:

- All footways internal to the site will be provided with 2.0m footways to facilitate trips from the Site;
- The internal layout ties in with the external network at Church Lane and Haigh Head Road.
- The nearest primary school (Hoylandswaine Primary School) is located approximately 350 meters from the centre of the site or a 4.5 minute walk; and
- There is a public house/restaurant that is approximately 700m from the centre of the site.

4.2.2 It is therefore concluded that the proposed Site will provide good accessibility by foot to primary education facilities.

4.2.3 Access to other essential services such as secondary education, primary health care facilities, food retail are available in just a five minute short bus journey from Hoylandswaine.

4.3 ACCESSIBILITY BY CYCLE

4.3.1 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 kilometres as referred to in Local Transport Note 2/08 (published by the DfT). However, the same guidance also refers to commuting cycle trips up to 8km. The following points summarise accessibility by cycle:

- Penistone can be reached within an eight to ten minute cycle of the proposed development. This includes numerous essential services including food retail, education and health care;
- Penistone also provides residents with numerous employment opportunities;
- Penistone rail station is approximately 3.7km from the site which equates to a 17 minute cycle time. Penistone station provides hourly services to both Sheffield and Huddersfield.

4.3.2 It is therefore concluded that the proposed Site will provide good accessibility by cycle to a vast good of local services and facilities within a 20 minute cycle ride.

4.4 ACCESSIBILITY BY PUBLIC TRANSPORT

4.4.1 The bus services along Barnsley Road are an acceptable walk distance from the proposed development – approximately 10 minutes.

4.4.2 Indicative journey times from the Barnsley Road bus stops, (taken from www.transportdirect.info timetable information) to the following destinations are as follows:

- Penistone –5 minute journey time on average.

4.4.3 From Penistone centre multiple bus services are available with indicative journey times to numerous destinations some of which are listed below:

- Millhouse Green 10mins
- Dodworth 20 mins;



- Holmfirth 30 mins

4.4.4 In addition to the access afforded by the existing bus services the developer is committed to providing a yearly Travelmaster card.

4.4.5 It is therefore concluded that the proposed Site will provide satisfactory accessibility by bus to a range of local services and facilities as well as to wider employment opportunities.

4.5 ACCESSIBILITY BY RAIL

4.5.1 The nearest rail station to the Site is located in Penistone which is a short bus journey from Hoylandswaine and a comfortable cycle distance from the proposed development.

4.5.2 Penistone rail station provides regular hourly services to both Sheffield and Huddersfield.

4.5.3 It is therefore concluded that the proposed Site will provide satisfactory accessibility to rail services for all journey types.



5 Trip Generations and Distributions

5.1 INTRODUCTION

5.1.1 This chapter sets out the trip generations and distribution methodologies associated with the proposed development Site.

5.2 VEHICULAR TRIP GENERATIONS

5.2.1 The generally accepted methodology to predict trip rates for residential development is to interrogate the national TRICS database. However it is recognised that this methodology can have limitations if appropriate sites cannot be selected from within the database. Therefore in order to ensure that the predicted development trips are representative of the proposed development Site, bespoke trip rates have been obtained and calculated.

5.2.2 In order to establish bespoke trip rates it is necessary to identify an appropriate residential area that can be surveyed to establish the baseline patterns of journeys by car. The residential estate served from Church Lane and Church Heights is considered to be suitable – this approach was discussed and agreed with Barnsley Council. This estate comprises 17 dwellings.

5.2.3 Having established the area that is to be surveyed it is necessary to determine an appropriate methodology for recording the number of vehicle trips that the estate currently generates. The most appropriate method is to record the number of arrivals and departures at the junction of Church Lane and Haigh Lane.

5.2.4 Table 5.1 summarises the total number of vehicle trips that were recorded at this junction during the morning and evening peak hour periods.

Table 5.1 –Recorded Traffic Flows

Time Period	Existing Traffic Flows (vehicles)		
	Arrivals	Departures	Total
AM 08:15 – 09:15	5	7	12
PM 16:30 – 17:30	9	6	15

5.2.5 In order to calculate the trip rates per dwelling it is necessary to apply a factor of 17 (total number of surveyed dwellings) to the recorded traffic flows shown in Table 5.1. This calculation results in the bespoke trip rates shown in Table 5.2.

Table 5.2 –Estate Bespoke Trip Rates

Time Period	Bespoke Trip Rates (vehicles)		
	Arrivals	Departures	Total
AM 08:15 – 09:15	0.29	0.41	0.71
PM 16:30 – 17:30	0.53	0.35	0.88

5.2.6 Applying the bespoke trip rates given in Table 5.2 to the proposed 66 houses within the development Site results in the predicted development traffic generations shown in Table 5.3.



Table 5.3 – Proposed Residential Bespoke Trip Generations

Time Period	Proposed Traffic Flows (vehicles) 66 Dwellings		
	Arrivals	Departures	Total
AM 08:15 – 09:15	19	27	46
PM 16:30 – 17:30	35	23	58

5.3 MULTIMODAL TRIP GENERATION

5.3.1 In order to establish the trip generations by mode for the development the 2011 Census Data has been interrogated for the Penistone East ward. The selected areas benefits from a similar level of accessibility as the proposed development. The average census mode split for the selected wards is shown in Table 5.4 with the Census data contained at Appendix H.

Table 5.4 – Summary of Census Mode Splits

	Car/Van Driver	Car/Taxi Passenger	Cycle	M'cycle	Walk	Bus	Rail	Home Working	Total
Average Trips Percentage	76.62%	4.23%	0.60%	0.56%	4.30%	2.34%	2.03%	9.25%	100.00%

5.3.2 Having established the total vehicular trip generations from a bespoke survey and the census modal split for existing residents, it is possible to calculate the number of trips by mode. In order to calculate trips by mode the total vehicular arrivals and departures have been multiplied by a factor of the Car/Van Driver and the modal splits shown in Table 5.4. The resulting predicted number of development trips by different modes is shown in Tables 5.5 and 5.6 for the AM and PM peaks respectively.

Table 5.5 – Proposed AM Weekday Multi Modal Trip Generations

	AM Peak								
	Car/Van Driver	Car/Taxi Passenger	Cycle	M'cycle	Walk	Bus	Rail	Home Working	Total
Arr	19	1	0	0	1	1	1	2	25
Dep	27	1	0	0	2	1	1	3	35

Table 5.6 – Proposed PM Weekday Multi Modal Trip Generations

	PM Peak								
	Car/Van Driver	Car/Taxi Passenger	Cycle	M'cycle	Walk	Bus	Rail	Home Working	Total
Arr	35	2	0	0	2	1	1	4	46
Dep	23	1	0	0	1	1	1	3	30



5.4 TRIP DISTRIBUTION AND ASSIGNMENT

5.4.1 The distribution of traffic for the proposed development has been assessed based on existing turning movements at the Church Lane/Haigh Lane junction. A distribution from this junction can be used to predict the likely distribution of traffic flows onto the highway network as the majority of traffic arriving at this junction is from residential properties of a similar character to the proposed (detached, semi-detached and terraced) it therefore provides a robust basis on which to provide the distribution.

5.4.2 The distribution for the proposed residential traffic is shown on Figure 12. To illustrate the specific distribution and routing of traffic to and from the development site, the distribution values as shown on Figure 12 has been applied to the trip generations in Table 5.3 to produce the proposed weekday AM and PM peak development flows in Figure 13.



6 Identification of Impacts and Mitigation

6.1 INTRODUCTION

6.1.1 This chapter describes the impact of the development trips on the Church Lane/Haigh Lane junction.

6.1.2 As shown on Figure 13 the predicted development trips total 46 and 58 in the AM and PM peaks respectively.

6.2 PEAK HOUR TRAFFIC COUNT

6.2.1 As referred to in Chapter 2, the traffic surveys identified the following existing weekday peak hour periods:

- Weekday AM Peak – 08:15 to 09:15
- Weekday PM Peak – 16:30 to 17:30.

6.2.2 The traffic count flows for these periods are shown on Figure 10 for the morning and evening peak hours.

6.3 BASE TRAFFIC FLOWS

Future Assessment Year and Traffic Growth

6.3.1 In accordance with the DfT guidelines on the preparation of Transport Assessments it is necessary to test the capacity of the highway network for 'a minimum of 5 years post registration of the application'. However, in consideration of a future year assessment it is also important to recognise the likely future build out of the scheme. A design year of 2019 has therefore been proposed as this would provide an appropriate timescale in which the development would be built out and occupied.

6.3.2 Average weekday background traffic growth rates, between 2013 and 2019, have been obtained from TEMPRO v6.2 and these values are as follows:

- Average weekday growth rate of 9.15%;

6.3.3 Applying the identified growth rates to the 2013 traffic counts shown in Figure 10 produces the 2019 Base traffic flows shown on Figure 11 for the morning and evening peak hours.

6.4 DESIGN TRAFFIC FLOWS

6.4.1 Adding the proposed development trips shown on Figure 13 to the 2019 Base traffic flows (Figure 11) produces the design traffic flows and these are shown diagrammatically on Figure 14 for the morning and evening peak hours.

6.5 OPERATIONAL ASSESSMENT OF HIGHWAY NETWORK

6.5.1 This section describes the junction capacity assessments which have been undertaken for the proposed residential scheme. Full software output data can be found at Appendix I.



Church Lane/Haigh Lane Priority Junction

6.5.2 The Church Lane/Haigh Lane junction is shown on the drawing in Appendix F and has been modelled as a simple 3 arm priority junction using the PICADY software. The junction has been modelled for the AM and PM 2019 design peak hours and the results are summarised in Table 6.1.

Table 6.1 Church Lane/Haigh Lane AM and PM 2019 Design

Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
B – AC (Church Lane)	0.07	0.08	0.06	0.07
C-AB (Right turn)	0.02	0.02	0.01	0.01

All Queue values are in PCUs

6.5.3 The results in Table 6.1 show that the proposed site access junction is predicted to operate comfortably within capacity in both the AM and PM peak periods with no queuing predicted.



7 Summary and Conclusions

7.1.1 This Transport Statement has been prepared by Optima to support a planning application for the development of land off Church Lane, Hoylandswaine for a total of 66 dwellings.

7.1.2 This report has provided a commentary on the existing Site and its conditions. It has demonstrated that the Site is located in a sustainable location that is easily accessible with good public transport and pedestrian links. This provision provides future residents with opportunities to travel via alternatives modes of transport and minimise trips by the private car.

7.1.3 Personal injury accident information has been interrogated and concludes that there are no specific causes of concern.

7.1.4 The internal site layout has been designed to embrace the principles of guidance contained within Manual for Streets and the South Yorkshire Residential Design Guide in that where possible the movement of pedestrians has been afforded priority over vehicle movements.

7.1.5 Junction capacity assessments have been undertaken for the site access, using industry standard software for the application submission date plus five years (2019) scenario. The analysis undertaken has demonstrated that the Church Lane/Haigh Lane junction can comfortably and safely accommodate the traffic generated by the proposed development.

7.1.6 From all of the work undertaken it is concluded that there are no reasons on highways or transport grounds why the development Site should not be granted planning permission for residential purposes.



Appendices and Figures



Appendix A Pre-Application Meeting Minutes



Hoylandswaine

Meeting with Barnsley MBC

Project	Hoylandswaine, Barnsley		
Subject:	Highway Meeting	Date:	17 th June 2013
Client:	David Wilson Homes	Time:	2:00pm
Job No:		Venue:	Barnsley Council Offices
Present	Barbara Wilson (BW) (Barnsley Council Highways) Andrew Burton (AB) (Barnsley Council Planning Department) Colin Simpson (CS) (David Wilson Homes) Mark Johnson (MJ) (Johnson Brook) Howard Sturgess (HS) (NPS) Steven Phillips (SP) (Optima Highways)		
Apologies	None		

Matters Arising		Action
1.0	<u>Planning Policy</u>	
1.1	<ul style="list-style-type: none"> Principle of development: The land was currently Safeguarded Land in the UDP. It was a proposed housing allocation in the emerging Local Plan. There was a recognition that BMBC did not have a 5 yr housing land supply and the application was not being deemed premature. A 'Low density' housing proposal was considered appropriate and in line with the emerging Local Plan allocation. A proposal of circa 70 dwellings on 3.5ha of land was appropriate. Affordable housing at 25% may be more than meeting a very local need and the applicants may consider a part on-site and part-off-site approach, possibly 10% on site. BMBC would be seeking a landscape buffer along the northern edge to soften the impact on the Green Belt. 	

1.2	<p>Access</p> <ul style="list-style-type: none">• Access would taken from Church Lane.• While it was recognised as being slightly constrained, Barbara Wilson agreed a 4.8m wide access with a single footpath on the right hand site would be acceptable.• Barbara Wilson requested the access design be drawn as a curved access road and not as a t-junction.• Barbara Wilson requested a 500mm strip to the left hand side of the access road which would need to be widened to 700mm if it contained any lighting column.• DWH may need to consider the cost of a TRO to control parking on the junctions which are a local issue at school pick up and drop off times.	

Appendix B Survey Information



Classified Turning Counts, Hoylandswaine, Sheffield



DATE: TUESDAY 3rd DECEMBER 2013

LOCATION: HAIGH LANE / CHURCH ROAD

ARM: HAIGH LANE (SOUTH)

TIME / CLASS	LEFT TO CHURCH ROAD							STRAIGHT TO HAIGH LANE (NORTH)							TOTAL MOVEMENT FROM ARM
	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	
7:00 - 7:15	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4
7:15 - 7:30	0	1	0	0	0	0	1	0	15	1	0	0	0	16	17
7:30 - 7:45	0	2	0	0	0	0	2	0	13	1	0	0	0	14	16
7:45 - 8:00	0	1	0	0	0	0	1	0	15	2	0	0	0	17	18
HOURLY TOTAL	0	4	0	0	0	0	4	0	46	5	0	0	0	51	55
8:00 - 8:15	0	0	0	0	0	0	0	0	16	0	0	0	0	16	16
8:15 - 8:30	0	0	0	0	0	0	0	0	15	1	1	0	0	17	17
8:30 - 8:45	0	1	0	0	0	0	1	0	15	1	0	0	0	16	17
8:45 - 9:00	0	2	0	0	0	0	2	0	35	3	1	0	0	39	41
HOURLY TOTAL	0	3	0	0	0	0	3	0	81	5	2	0	0	88	91
9:00 - 9:15	0	0	0	0	0	0	0	0	10	1	0	0	0	11	11
9:15 - 9:30	0	0	0	0	0	0	0	0	4	4	1	0	0	9	9
9:30 - 9:45	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7
9:45 - 10:00	0	0	0	0	0	0	0	0	5	1	0	0	0	6	6
HOURLY TOTAL	0	0	0	0	0	0	0	0	26	6	1	0	0	33	33

PERIOD TOTAL	0	7	0	0	0	0	7	0	153	16	3	0	0	172	179
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16:00 - 16:15	0	2	0	0	0	0	2	0	5	2	0	0	0	7	9
16:15 - 16:30	0	1	0	0	0	0	1	0	8	1	0	0	0	9	10
16:30 - 16:45	0	1	0	0	0	0	1	0	8	0	0	0	0	8	9
16:45 - 17:00	0	2	0	0	0	0	2	0	7	0	0	0	0	7	9
HOURLY TOTAL	0	6	0	0	0	0	6	0	28	3	0	0	0	31	37
17:00 - 17:15	0	2	0	0	0	0	2	0	7	0	0	0	0	7	9
17:15 - 17:30	0	3	0	0	0	0	3	0	9	0	0	0	0	9	12
17:30 - 17:45	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
17:45 - 18:00	0	1	0	0	0	0	1	0	8	0	0	0	0	8	9
HOURLY TOTAL	0	6	0	0	0	0	6	0	28	0	0	0	0	28	34
18:00 - 18:15	0	0	0	0	0	0	0	0	11	0	0	0	0	11	11
18:15 - 18:30	0	1	0	0	0	0	1	0	7	0	0	0	0	7	8
18:30 - 18:45	0	2	0	0	0	0	2	0	4	0	0	0	0	4	6
18:45 - 19:00	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
HOURLY TOTAL	0	4	0	0	0	0	4	0	22	0	0	0	0	22	26

PERIOD TOTAL	0	16	0	0	0	0	16	0	78	3	0	0	0	81	97
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Classified Turning Counts, Hoylandswaine, Sheffield



DATE: TUESDAY 3rd DECEMBER 2013

LOCATION: HAIGH LANE / CHURCH ROAD

ARM: CHURCH ROAD

TIME / CLASS	LEFT TO HAIGH LANE (NORTH)							RIGHT TO HAIGH LANE (SOUTH)							TOTAL MOVEMENT FROM ARM
	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	
7:00 - 7:15	0	1	0	0	0	0	1	0	2	0	0	0	0	2	3
7:15 - 7:30	0	1	0	0	0	0	1	0	3	0	0	0	0	3	4
7:30 - 7:45	0	1	0	0	0	0	1	0	2	0	0	0	0	2	3
7:45 - 8:00	0	3	0	0	0	0	3	0	1	0	0	0	0	1	4
HOURLY TOTAL	0	6	0	0	0	0	6	0	8	0	0	0	0	8	14
8:00 - 8:15	0	1	0	0	0	0	1	0	1	0	0	0	0	1	2
8:15 - 8:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	3	0	0	0	0	3	0	2	0	0	0	0	2	5
HOURLY TOTAL	0	4	0	0	0	0	4	0	4	0	0	0	0	4	8
9:00 - 9:15	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
9:15 - 9:30	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
9:30 - 9:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
9:45 - 10:00	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
HOURLY TOTAL	0	2	0	0	0	0	2	0	3	0	0	0	0	3	5

PERIOD TOTAL	0	12	0	0	0	0	12	0	15	0	0	0	0	15	27
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16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
16:45 - 17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
HOURLY TOTAL	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
17:00 - 17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
17:15 - 17:30	0	2	0	0	0	0	2	0	1	0	0	0	0	1	3
17:30 - 17:45	0	1	0	0	0	0	1	0	1	0	0	0	0	1	2
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	3	0	0	0	0	3	0	3	0	0	0	0	3	6
18:00 - 18:15	0	1	0	0	0	0	1	0	1	0	0	0	0	1	2
18:15 - 18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30 - 18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45 - 19:00	0	1	0	0	0	0	1	0	2	0	0	0	0	2	3
HOURLY TOTAL	0	2	0	0	0	0	2	0	3	0	0	0	0	3	5

PERIOD TOTAL	0	5	0	0	0	0	5	0	8	0	0	0	0	8	13
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Classified Turning Counts, Hoylandswaine, Sheffield



DATE: TUESDAY 3rd DECEMBER 2013

LOCATION: HAIGH LANE / CHURCH ROAD

ARM: HAIGH LANE (NORTH)

TIME / CLASS	STRAIGHT TO HAIGH LANE (SOUTH)							RIGHT TO CHURCH ROAD							TOTAL MOVEMENT FROM ARM	
	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL		
7:00 - 7:15	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:15 - 7:30	0	2	1	0	0	0	3	0	0	0	0	0	0	0	0	3
7:30 - 7:45	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	5
7:45 - 8:00	0	7	1	0	0	0	8	0	0	0	0	0	0	0	0	8
HOURLY TOTAL	0	15	2	0	0	0	17	0	0	0	0	0	0	0	0	17
8:00 - 8:15	0	6	1	0	0	1	8	0	0	0	0	0	0	0	0	8
8:15 - 8:30	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	4
8:30 - 8:45	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	4
8:45 - 9:00	0	14	1	0	0	0	15	0	0	0	0	0	0	0	0	15
HOURLY TOTAL	0	28	2	0	0	1	31	0	0	0	0	0	0	0	0	31
9:00 - 9:15	0	13	0	1	0	0	14	0	2	0	0	0	0	0	2	16
9:15 - 9:30	0	5	1	1	0	0	7	0	0	0	0	0	0	0	0	7
9:30 - 9:45	0	6	1	1	0	0	8	0	0	0	0	0	0	0	0	8
9:45 - 10:00	0	5	0	1	0	0	6	0	0	0	0	0	0	0	0	6
HOURLY TOTAL	0	29	2	4	0	0	35	0	2	0	0	0	0	2	37	

PERIOD TOTAL	0	72	6	4	0	1	83	0	2	0	0	0	0	2	85
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16:00 - 16:15	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	9
16:15 - 16:30	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	14
16:30 - 16:45	0	18	0	0	0	0	18	0	0	0	0	0	0	0	0	18
16:45 - 17:00	0	20	0	0	0	0	20	0	0	0	0	0	0	0	0	20
HOURLY TOTAL	0	61	0	0	0	0	61	0	0	0	0	0	0	0	0	61
17:00 - 17:15	0	12	1	0	0	0	13	0	1	0	0	0	0	1	14	
17:15 - 17:30	0	12	1	0	0	0	13	0	0	0	0	0	0	0	13	
17:30 - 17:45	0	7	0	0	0	0	7	0	0	0	0	0	0	0	7	
17:45 - 18:00	0	11	0	0	0	0	11	0	0	0	0	0	0	0	11	
HOURLY TOTAL	0	42	2	0	0	0	44	0	1	0	0	0	0	1	45	
18:00 - 18:15	0	9	1	0	0	0	10	0	1	0	0	0	0	1	11	
18:15 - 18:30	0	9	0	0	0	0	9	0	1	0	0	0	0	1	10	
18:30 - 18:45	0	6	0	0	0	0	6	0	3	0	0	0	0	3	9	
18:45 - 19:00	0	6	0	0	0	0	6	0	0	0	0	0	0	0	6	
HOURLY TOTAL	0	30	1	0	0	0	31	0	5	0	0	0	0	5	36	

PERIOD TOTAL	0	133	3	0	0	0	136	0	6	0	0	0	0	6	142
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Appendix C Accident Data



Martin Whittaker

From: Traffic <Traffic@barnsley.gov.uk>
Sent: 14 January 2014 16:45
To: Martin Whittaker
Subject: RE: Accident Data Request - Hoylandswaine
Attachments: "AVG certification".txt

Hi Martin,

I have carried out a trawl of the collision data system, and I can confirm that there have been no recorded personal injury collisions between 1/1/2008 and 31/12/2012 in the area as identified in your plan. 2013 data has not yet been signed off by the Department for Transport so I am unable to check this data at this time.

As no collision reports have had to be produced in respect of your enquiry, the charge for this service will be £50.00 plus VAT. A sales order will be raised in due course.

Many thanks

Lisa Kenny
Technical Assistant
Traffic Group

From: Martin Whittaker [mailto:martin.whittaker@optimahighways.com]
Sent: 14 January 2014 11:58
To: Traffic
Subject: RE: Accident Data Request - Hoylandswaine

Lisa

Please could you confirm when you will be in a position to issue the data?

Thanks

Martin

Martin Whittaker
Principal Engineer
Optima Highways & Transportation
Atlas House, 31 King Street, Leeds, LS1 2HL
www.optimahighways.com
Tel: 0113 245 1679
Mob: 07889 054 042
Fax: 0113 245 9042

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Registered address - Leigh House 28-32 St Paul's Street, Leeds, LS1 2JT
Company Registration Number: 07328946

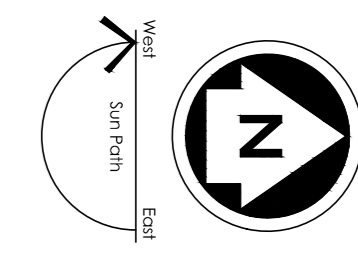
From: Martin Whittaker
Sent: 13 January 2014 09:36
To: 'Traffic'

Appendix D Proposed Masterplan



Church Lane, Hoylandswaine Planning Layout

type		Sq. Ft	No.
469	4 bed detached	1536	12
454	4 bed detached	1823	11
497	4 bed detached	1703	8
534	5 bed detached	1797	8
536	5 bed detached	2236	5
526	5 bed detached	2273	5
500	5 bed detached	1823	11
206	2 bed semi-detached	678	4
383	3 bed semi-detached	832	2
TOTAL			66



Legend

- Shared Surface
- Private Drive
- 1.8m high timber screen fence
- 0.9 high timber post and rail fence
- Front entrance door
- Lockable gate
- Indicative Landscaping
- Existing trees and hedges to remain.
- Existing trees and hedgerow removed (shown dotted).

A 03.06.14 Mix revised. Layout re-drawn	
Development:	Church Lane
Location:	Hoylandswaine
Marketing Name:	
Drawing Title:	Planning Layout
Drawing Number:	HS-PL / 01
Revision:	A
Scale @ A0:	1:500
Drawn By:	KL
Date Started:	Dec 2013

Space to live.

David Wilson Homes

Vico Court, Ring Road, Lower Wortley, Leeds, LS12 6AN
Tel: 0113 279 0099 Fax: 0113 279 0038

Appendix E Site Access Arrangements



Appendix F Church Lane / Haigh Lane Existing Junction

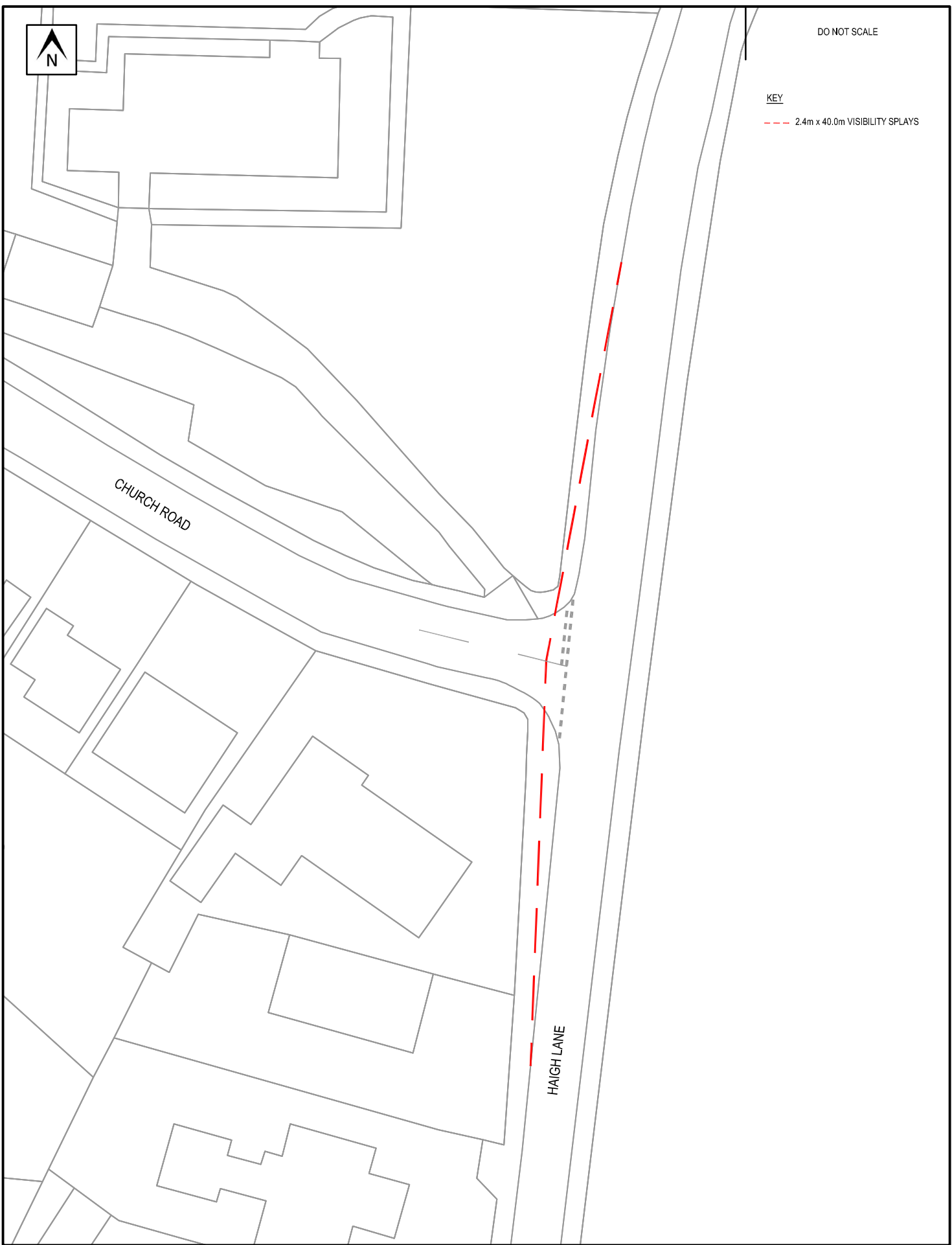




DO NOT SCALE

KEY

--- 2.4m x 40.0m VISIBILITY SPLAYS

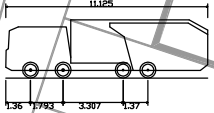
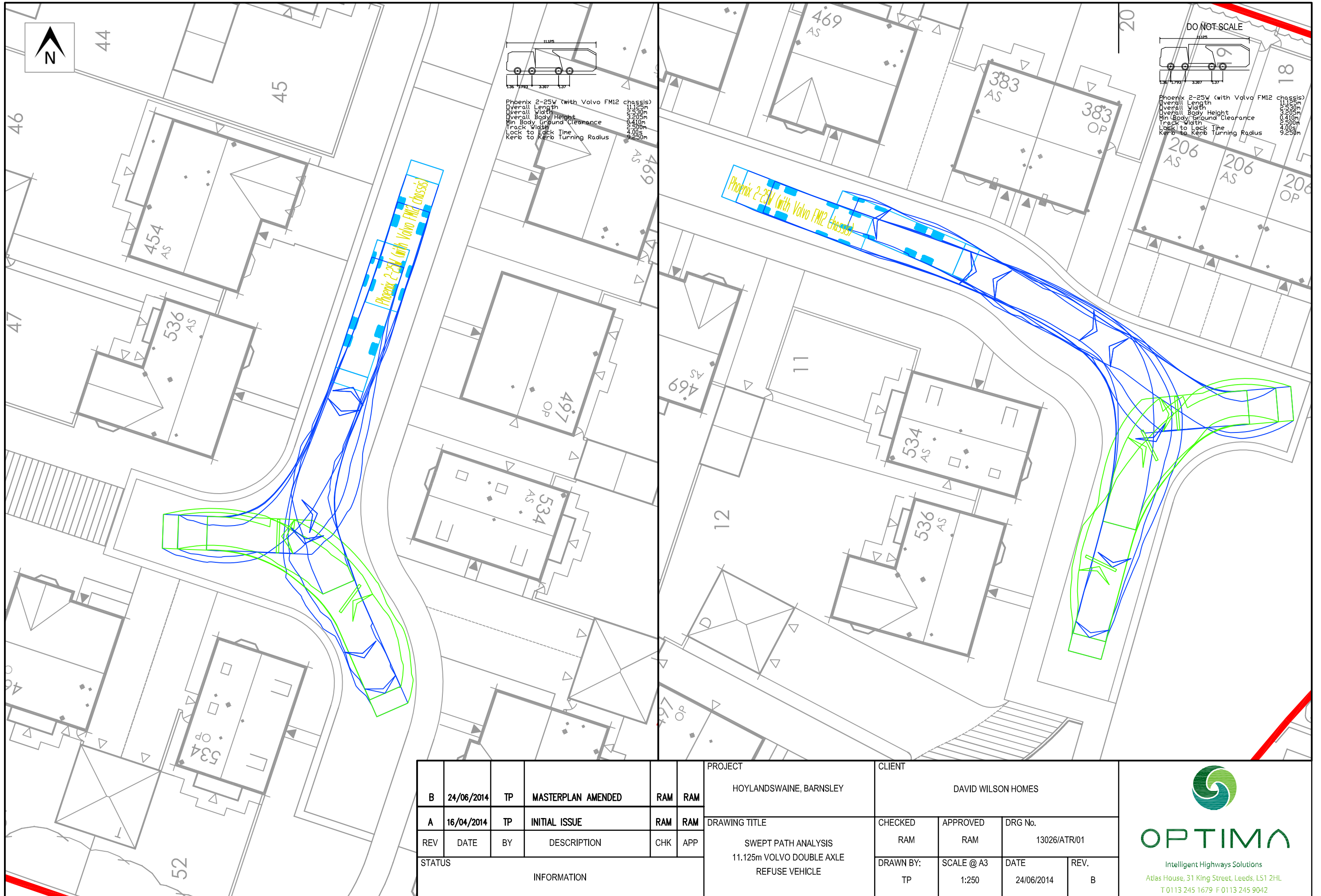


PROJECT		CLIENT							
HOYLANDSWAINE, BARNSELY		DAVID WILSON HOMES							
REV	DATE	BY	DESCRIPTION	CHK	APP	DRAWING TITLE	CHECKED	APPROVED	DRG No.
A	14/04/2014	MEW	INITIAL ISSUE	RAM	PMO	CHURCH LANE/HAIGH LANE VISIBILITY SPLAYS	RAM	PMO	13026-IN-01
STATUS						INFORMATION			
						DRAWN BY:	SCALE @ A4	DATE	REV.
						MEW	1:500	16/04/2014	A

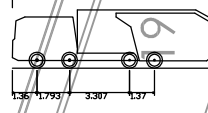
Intelligent Highways Solutions
 Atlas House, 31 King Street, Leeds, LS1 2HL
 T 0113 245 1679 F 0113 245 9042

Appendix G Swept Path Analysis





Phoenix 2-25W (with Volvo FM12 chassis)
 Overall Length 11.125m
 Overall Width 3.307m
 Overall Body Height 3.205m
 Min Body Ground Clearance 0.410m
 Track Width 1.570m
 Lock to Lock Time 4.00s
 Kerb to Kerb Turning Radius 9.250m



Phoenix 2-25W (with Volvo FM12 chassis)
 Overall Length 11.125m
 Overall Width 3.307m
 Overall Body Height 3.205m
 Min Body Ground Clearance 0.410m
 Track Width 1.570m
 Lock to Lock Time 4.00s
 Kerb to Kerb Turning Radius 9.250m

DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APP
B	24/06/2014	TP	MASTERPLAN AMENDED	RAM	RAM
A	16/04/2014	TP	INITIAL ISSUE	RAM	RAM

PROJECT	HOYLANDSWAINE, BARNSLEY
DRAWING TITLE	SWEPT PATH ANALYSIS 11.125m VOLVO DOUBLE AXLE REFUSE VEHICLE

CLIENT	DAVID WILSON HOMES		
CHECKED	APPROVED	DRG No.	
RAM	RAM	13026/ATR/01	
DRAWN BY:	SCALE @ A3	DATE	REV.
TP	1:250	24/06/2014	B



OPTIMA
 Intelligent Highways Solutions
 Atlas House, 31 King Street, Leeds, LS1 2HL
 T 0113 245 1679 F 0113 245 9042

Appendix H Census Derived Mode Split Data



Method of Travel to Work (QS701EW)

Penistone East
Ward

All Usual Residents Aged 16 to 74	Count	Persons	Mar-11	8630
Work Mainly at or From Home	Count	Persons	Mar-11	525
Underground, Metro, Light Rail, Tram	Count	Persons	Mar-11	21
Train	Count	Persons	Mar-11	94
Bus, Minibus or Coach	Count	Persons	Mar-11	133
Taxi	Count	Persons	Mar-11	4
Motorcycle, Scooter or Moped	Count	Persons	Mar-11	32
Driving a Car or Van	Count	Persons	Mar-11	4349
Passenger in a Car or Van	Count	Persons	Mar-11	240
Bicycle	Count	Persons	Mar-11	34
On Foot	Count	Persons	Mar-11	244
Other Method of Travel to Work	Count	Persons	Mar-11	25
Not in Employment	Count	Persons	Mar-11	2929
				5676

	%	
Work Mainly at or From Home	525	9.25
Rail	115	2.03
Bus, Minibus or Coach	133	2.34
Taxi	4	0.07
Motorcycle, Scooter or Moped	32	0.56
Driving a Car or Van	4349	76.62
Passenger in a Car or Van	240	4.23
Bicycle	34	0.60
On Foot	244	4.30
	5676	100

Appendix I Capacity Assessment Outputs



ARCADY 8
Version: 8.0.0.296 [27 Feb 2012] © Copyright Transport Research Laboratory 2014
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

Filename: Church Lane_Haigh Lane Hoylandswaine.arc8
Path: O:\Hoylandswaine, Barnsley\ANALYSIS\PICADY
Report generation date: 24/06/2014 16:08:18

- « (Default Analysis Set) - AM 2019 DESIGN, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - AM 2019 DESIGN			
Stream B-AC	0.08	7.34	0.07	A
Stream C-AB	0.02	5.46	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - PM 2019 DESIGN, PM" model duration: 16:15 - 17:45
 "D2 - AM 2019 DESIGN, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 24/06/2014 16:08:17

File summary

File Description

Title	Church Lane/Haigh Lane, Hoylandswaine
Location	
Site Number	
Date	29/01/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Richard.Murphy
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - AM 2019 DESIGN, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - PM 2019 DESIGN, PM	Demand Set 1: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D2 - AM 2019 DESIGN, AM	Demand Set 2: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
AM 2019 DESIGN, AM	AM 2019 DESIGN	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	6.89	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Haigh Lane (S)		Major
B	Church Lane		Minor
C	Haigh Lane (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
-----	--------------------------	----------------------------	-------------------------------------	--------------------	--------------------------	-------------------------------	---------	----------------------

C	6.00		0.00		2.20	170.00	✓	0.00
---	------	--	------	--	------	--------	---	------

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										12	14

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	488.436	0.089	0.225	0.141	0.321
1	B-C	632.750	0.097	0.245	-	-
1	C-B	672.412	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	107.00	100.000
B	ONE HOUR	✓	34.00	100.000
C	ONE HOUR	✓	51.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

	To
--	----

		A	B	C
From	A	0.000	14.000	93.000
	B	15.000	0.000	19.000
	C	41.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.44	0.00	0.56
	C	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	7.34	0.08	A
C-AB	0.02	5.46	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	25.60	25.40	0.00	538.18	0.048	0.05	7.021	A
C-AB	7.89	7.84	0.00	671.12	0.012	0.01	5.427	A
C-A	30.51	30.51	0.00	-	-	-	-	-
A-B	10.54	10.54	0.00	-	-	-	-	-

A-C	70.02	70.02	0.00	-	-	-	-	-
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Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.57	30.52	0.00	533.96	0.057	0.06	7.150	A
C-AB	9.51	9.50	0.00	670.95	0.014	0.02	5.442	A
C-A	36.34	36.34	0.00	-	-	-	-	-
A-B	12.59	12.59	0.00	-	-	-	-	-
A-C	83.61	83.61	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	37.43	37.37	0.00	528.13	0.071	0.08	7.335	A
C-AB	11.80	11.78	0.00	670.75	0.018	0.02	5.462	A
C-A	44.35	44.35	0.00	-	-	-	-	-
A-B	15.41	15.41	0.00	-	-	-	-	-
A-C	102.39	102.39	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	37.43	37.43	0.00	528.13	0.071	0.08	7.335	A
C-AB	11.80	11.80	0.00	670.75	0.018	0.02	5.462	A
C-A	44.35	44.35	0.00	-	-	-	-	-
A-B	15.41	15.41	0.00	-	-	-	-	-
A-C	102.39	102.39	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.57	30.62	0.00	533.95	0.057	0.06	7.152	A
C-AB	9.51	9.53	0.00	670.95	0.014	0.02	5.444	A
C-A	36.34	36.34	0.00	-	-	-	-	-
A-B	12.59	12.59	0.00	-	-	-	-	-
A-C	83.61	83.61	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	25.60	25.64	0.00	538.16	0.048	0.05	7.023	A
C-AB	7.89	7.90	0.00	671.12	0.012	0.01	5.429	A
C-A	30.50	30.50	0.00	-	-	-	-	-
A-B	10.54	10.54	0.00	-	-	-	-	-
A-C	70.02	70.02	0.00	-	-	-	-	-

ARCADY 8
Version: 8.0.0.296 [27 Feb 2012] © Copyright Transport Research Laboratory 2014
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
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Filename: Church Lane_Haigh Lane Hoylandswaine.arc8
Path: O:\Hoylandswaine, Barnsley\ANALYSIS\PICADY
Report generation date: 24/06/2014 16:09:13

- « (Default Analysis Set) - PM 2019 DESIGN, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - PM 2019 DESIGN				
Stream B-AC	0.07	7.57	0.06	A
Stream C-AB	0.01	5.24	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - PM 2019 DESIGN, PM " model duration: 16:15 - 17:45
 "D2 - AM 2019 DESIGN, AM" model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 24/06/2014 16:09:11

File summary

File Description

Title	Church Lane/Haigh Lane, Hoylandswaine
Location	
Site Number	
Date	29/01/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Richard.Murphy
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - PM 2019 DESIGN, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - PM 2019 DESIGN, PM	Demand Set 1: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D2 - AM 2019 DESIGN, AM	Demand Set 2: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
PM 2019 DESIGN, PM	PM 2019 DESIGN	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	7.19	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Haigh Lane (S)		Major
B	Church Lane		Minor
C	Haigh Lane (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

C	6.00		0.00		2.20	170.00	✓	0.00
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Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										12	14

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	488.436	0.089	0.225	0.141	0.321
1	B-C	632.750	0.097	0.245	-	-
1	C-B	672.412	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	73.00	100.000
B	ONE HOUR	✓	29.00	100.000
C	ONE HOUR	✓	75.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

	To
--	----

		A	B	C
From	A	0.000	39.000	34.000
	B	19.000	0.000	10.000
	C	70.000	5.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.53	0.47
	B	0.66	0.00	0.34
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	7.57	0.07	A
C-AB	0.01	5.24	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	21.83	21.66	0.00	514.73	0.042	0.04	7.299	A
C-AB	4.07	4.05	0.00	691.50	0.006	0.01	5.236	A
C-A	52.39	52.39	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-

A-C	25.60	25.60	0.00	-	-	-	-	-
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Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.07	26.03	0.00	511.72	0.051	0.05	7.411	A
C-AB	4.94	4.93	0.00	695.29	0.007	0.01	5.214	A
C-A	62.49	62.49	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	30.57	30.57	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	31.93	31.88	0.00	507.57	0.063	0.07	7.567	A
C-AB	6.18	6.17	0.00	700.56	0.009	0.01	5.183	A
C-A	76.40	76.40	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	37.43	37.43	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	31.93	31.93	0.00	507.57	0.063	0.07	7.567	A
C-AB	6.18	6.18	0.00	700.57	0.009	0.01	5.183	A
C-A	76.40	76.40	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	37.43	37.43	0.00	-	-	-	-	-

Main results: (17:15-17:30)

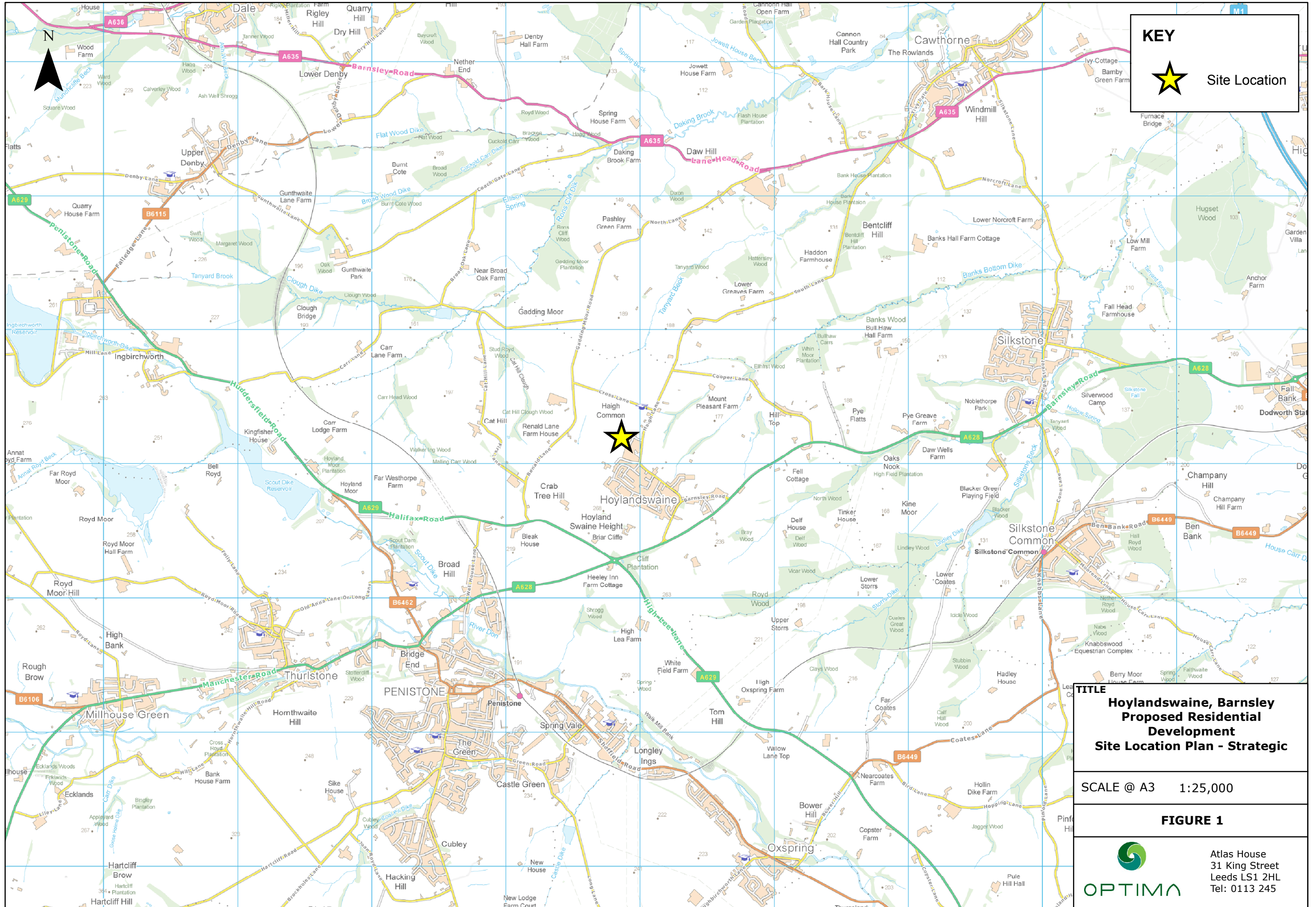
Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.07	26.12	0.00	511.72	0.051	0.05	7.416	A
C-AB	4.94	4.95	0.00	695.29	0.007	0.01	5.216	A
C-A	62.48	62.48	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	30.57	30.57	0.00	-	-	-	-	-

Main results: (17:30-17:45)


Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	21.83	21.87	0.00	514.72	0.042	0.04	7.304	A
C-AB	4.07	4.08	0.00	691.50	0.006	0.01	5.236	A
C-A	52.39	52.39	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	25.60	25.60	0.00	-	-	-	-	-

Figures





KEY




Site Location

TITLE
Hoylandswaine, Barnsley
Proposed Residential
Development
Site Location Plan - Strategic

SCALE @ A3 1:25,000

FIGURE 1



Atlas House
 31 King Street
 Leeds LS1 2HL
 Tel: 0113 245




KEY

— Indicative Site Boundary

TITLE
Hoylandswaine, Barnsley
Proposed Residential
Development
Site Location Plan - Local

SCALE @ A3 1:10,000

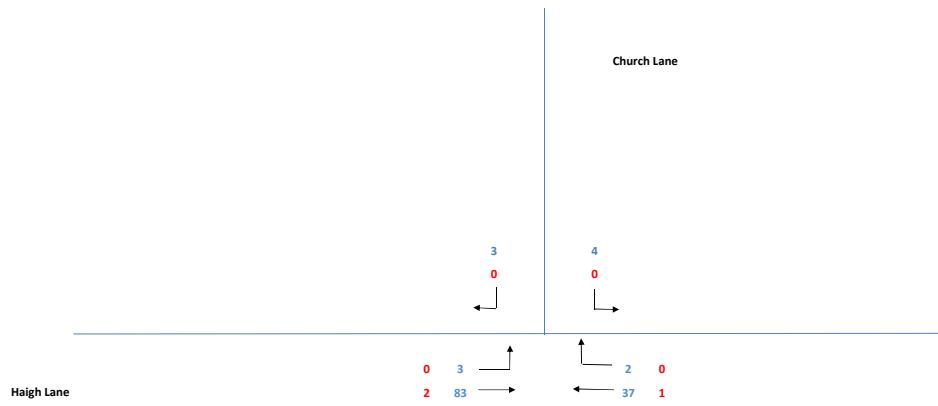
FIGURE 2



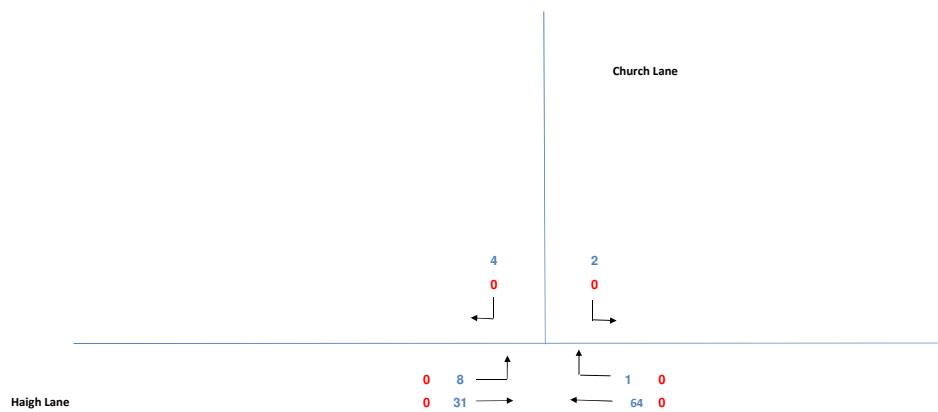
Atlas House
 31 King Street
 Leeds LS1 2HL
 Tel: 0113 245

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AM PEAK

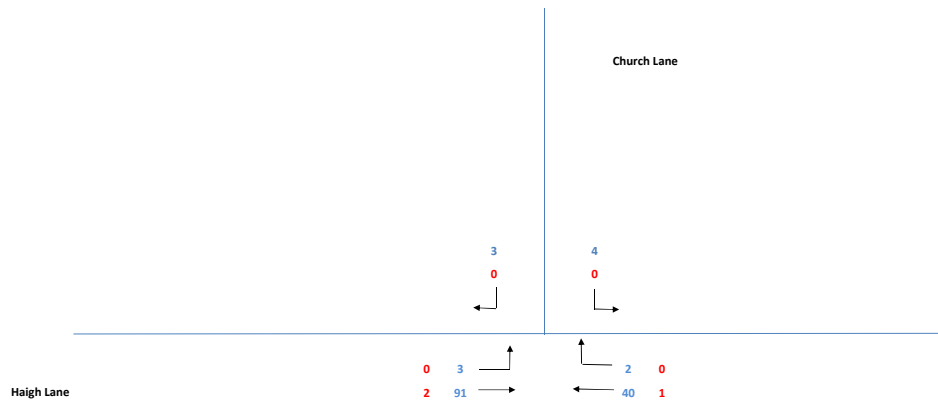


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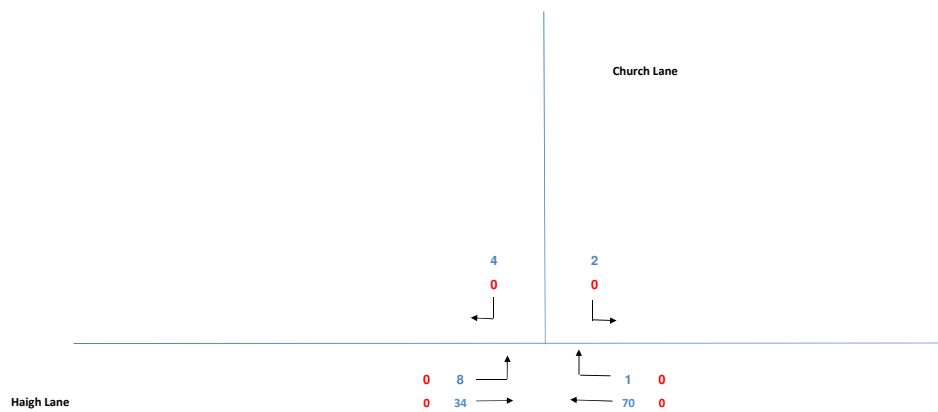
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HGV(inc in Total) 100

AM PEAK



Growth Factor 1.092

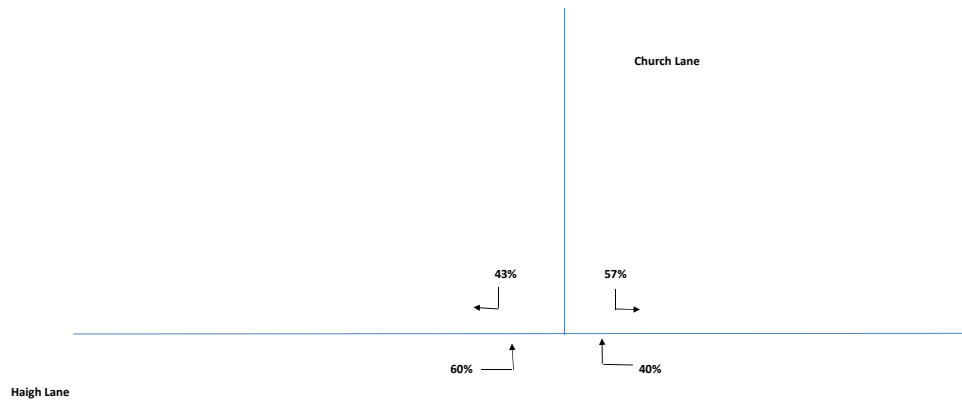
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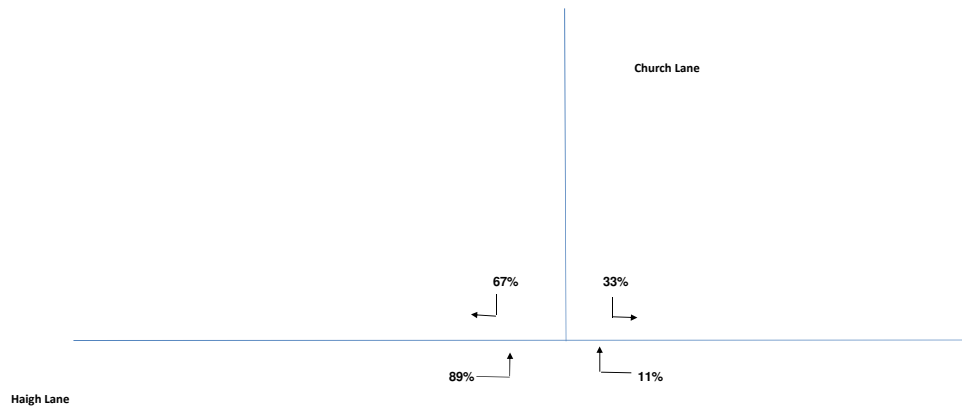
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HGV(inc in Total) 100

Growth Factor 1.092

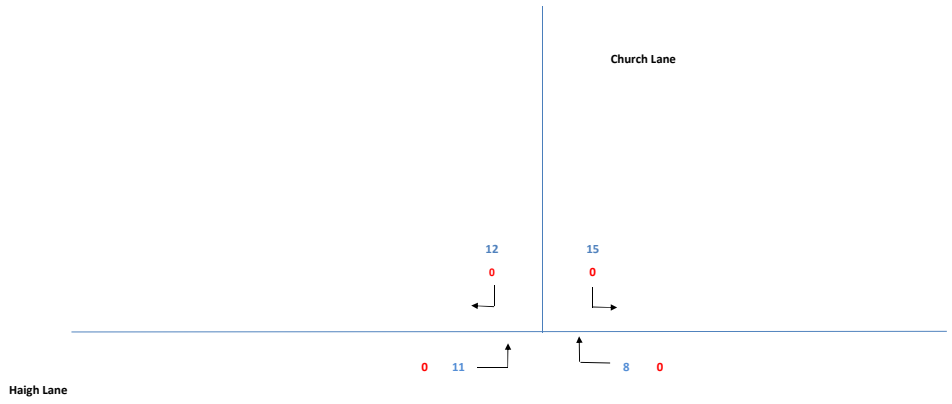
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PM PEAK

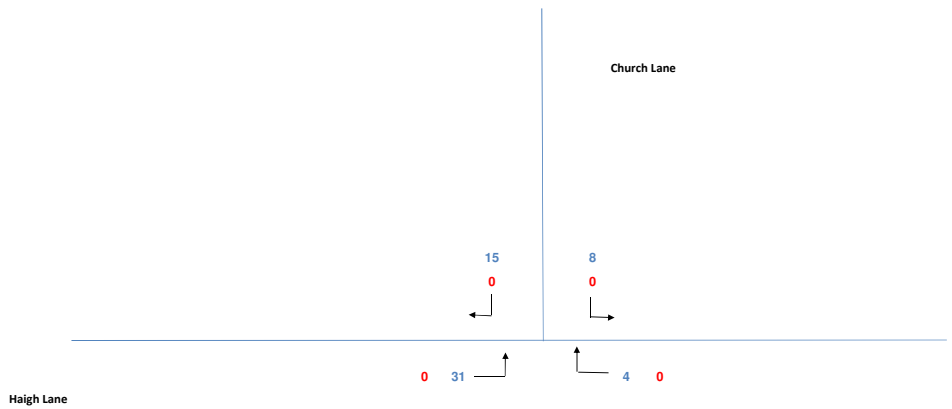


AM PEAK



Arr Dep
19 27

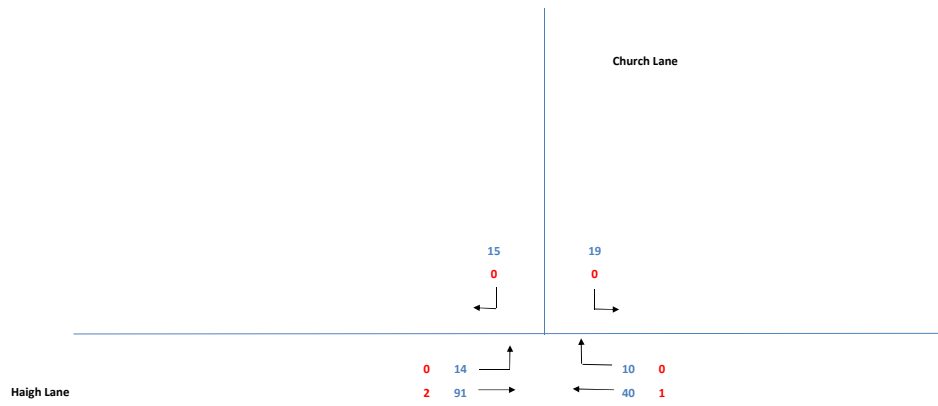
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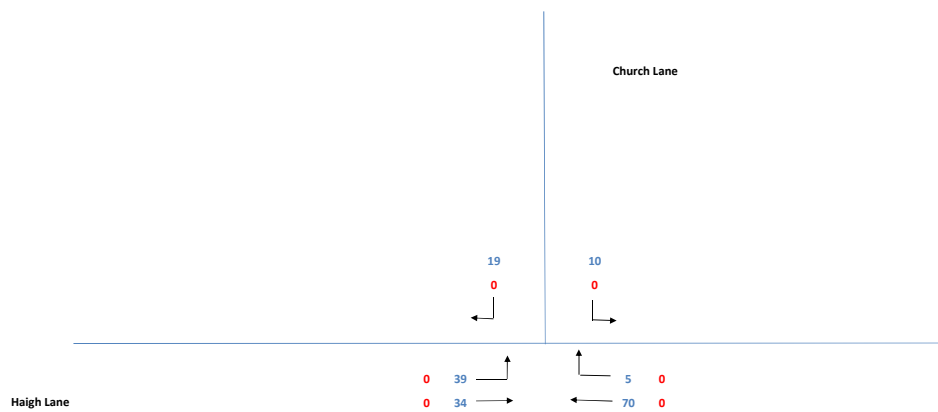
Total Vehicles 100
HGV(inc in Total) 100

Arr Dep
35 23

AM PEAK



PM PEAK



Total Vehicles 100
HGV(inc in Total) 100