OPTIMA
Intelligent Highways Solutions

Land South of Lee Lane, Royston
Proposed Residential Development
Transport Assessment

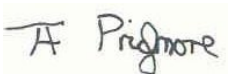
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Prepared on behalf of

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1. Introduction

1.1.1 Optima Highways & Transportation has been appointed by Johnson Mowat to prepare a Transport Assessment to accompany a planning application for a residential development on land to the south of the B6428 Lee Lane in Royston, Barnsley.

1.1.2 The scheme proposals, which are illustrated on STEN architectures indicative site masterplan, a copy of which is contained in Appendix A, can be summarised as follows:

- 100 new dwellings;
- Access via the existing roundabout on Lee Lane; and
- Associated parking, landscaping and infrastructure.

1.1.3 The Site forms part of a larger mixed-use allocation (referred to as MU5) in the recently adopted (January 2019) Local Plan. The overall allocation is for 992 dwellings, of which 166 dwellings have already been granted planning permission (Application Ref: 2016/1490) to the north of Lee Lane and are under construction by Barratt Homes.

1.1.4 A Travel Plan accompanies this application and should be read in conjunction with this report.

1.1.5 This report considers the suitability of the proposed access arrangements onto Lee Lane and the internal layout. It also identifies if any measures are required to accommodate the anticipated transport impacts of the scheme.

1.4 This report covers a variety of topics which are set out within the following chapters:

- Chapter 2 - describes the Site and the existing transport conditions;
- Chapter 3 - defines the development proposals including the proposed access strategy, internal layout and parking;
- Chapter 4 - shows the expected trip generation of the development and the likely trip distribution;
- Chapter 5 – describes the likely impact of the development on the local highway network and includes capacity assessments at appropriate local junctions; and
- Chapter 6 - summarises and concludes the Transport Assessment.

2. Existing Site Conditions

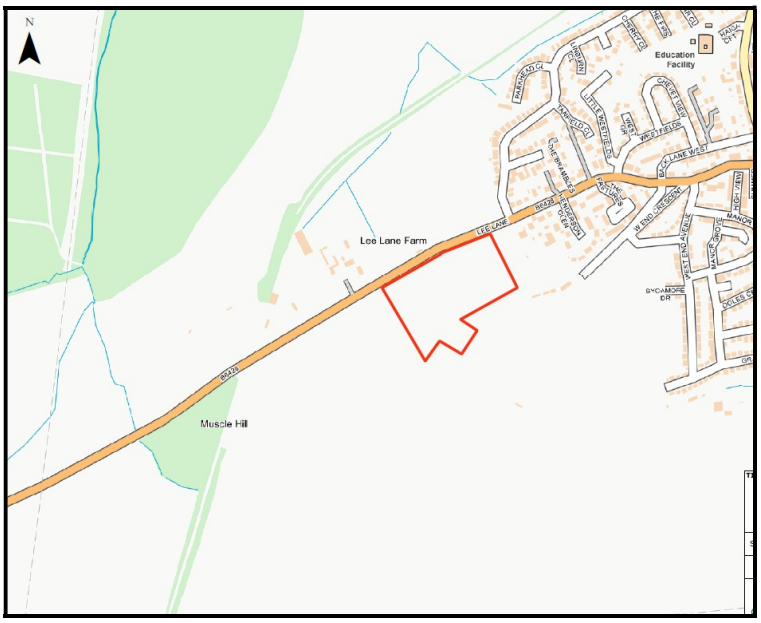
2.1 INTRODUCTION

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 existing accident data and describes the existing local facilities.

2.2 EXISTING SITE

2.2.1 The application Site is situated on land to the south of B6428 Lee Lane, Royston on the fringe of the village, some 5km north of Barnsley Town Centre. The proposed development in relation to the local and strategic transport networks is shown in Figures 1 and 2 respectively. The indicative Site boundary is illustrated in Image 2.1.

Image 2.1 Site Location



2.2.2 The Site, which is currently used for grazing/agricultural purposes, is bound to the north by the B6428 Lee Lane, to the south and west by open fields and to the east by a field and residential development beyond.

2.2.3 The B6428 Lee Lane, which forms the northern boundary of the Site and runs on an approximate east-west axis, connects the A61 Wakefield Road (and Staincross/Mapplewell beyond) to the west with the B6132 Church Street (and Ryhill beyond) to the east. As it approaches Royston town centre the B6428 becomes known as High Street.

2.2.4 High Street continues a further 600m east from the Summer Lane junction to meet the Midland Road/Church Street/Station Road junction in the centre of Royston.

2.2.5 To the north of the Site boundary, a four-arm roundabout has recently been constructed which provides access to the consented Barratts development for 166 dwellings and is proposed to provide access for this development. The roundabout is lit and the southern footway on the approaches to it has been widened to 2.0m. The start of the 30mph speed limit into Royston has also been relocated approximately 60m west of the roundabout.

2.2.6 A Plan identifying nearby public rights of way are contained in Appendix B.

2.2.7 To the south of the Site is Footpath 8, which offers a pedestrian route from Royston village to Wakefield Road, avoiding Lee Lane.

2.3 ACCESSIBILITY BY FOOT

2.3.1 The residential design guide "Manual for Streets" (MfS) advises that *"walkable neighbourhoods are typically characterised by having a range of facilities within ten minutes (up to about 800m) walking distance of residential areas…"* (ref para 4.4.1). However, this is not regarded as an upper limit in MfS and reference is also made to walking offering *"the greatest potential to replace short car trips, particularly those under 2km"*. The acceptability of walking trips up to 2km (an approximate 25 minute walk time) is also supported in the IHT document 'Providing for Journeys on Foot'.

2.3.2 Using GIS Network Analyst software, typical walk times (up to 25 mins) to specific local facilities situated in close proximity to the proposed Site are shown on Figure 3. This figure demonstrates that:

- The nearest nurseries are Little Nippers and Wise Owl. These are located in Royston and are some 1.3km and 1.4km from the Site;
- Meadstead Primary Academy School is situated to the east, approximately 900m away from the centre of the Site i.e. just over a 10 minute walk. Summerfields Primary Academy is also to the east and is 1.1km from the centre of the Site;
- Outwood Academy (Carlton) Secondary School is located some 2.4km south-east of the centre of the Site and can be reached within a 30 minute walk;
- Craven and Partners GP surgery is located to the east of the Site, on High Street and within a 15 minute walk of the centre of the Site. A pharmacy is also provided there;
- Royston Leisure Centre is located to the east within Royston centre and can be reached on foot within just over a 15minute walk of the centre of the Site; and
- There are a number of local retail opportunities, with the Lifestyle Express convenience store located just 650m from the centre of the Site, which equates to an 8 minute walk. The Co-op in the centre of Royston is 1.2km from the centre of the Site with the Asda store being 1.7km away. The remainder of the independent shops with the centre of Royston can be found within 1.3km of the centre of the Site, which is a 16 to 17 minute walk.

2.3.3 It is therefore concluded that the proposed Site is located in a sustainable area with many services located close by.

2.4 ACCESSIBILITY BY CYCLE

2.4.1 The measures proposed within the Travel Plan, which will positively influence cycle trips will assist in make cycling an attractive mode choice. The vehicular routes through the Site are considered to be appropriate for cycling as they will be lightly trafficked and low speed.

2.4.2 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 of up to 8km. Using GIS Network Analyst software typical cycle times from the Site are shown in Figure 4. This figure shows that:

- All four primary schools in Royston can be reached within a 10 minute cycle from the centre of the Site and the two nearest in less than 5 minutes;

- The closest secondary school can be cycled in a 10 minute cycle;
- Royston centre is within a 5 minute cycle ride of the Site;
- Both Darton and Barnsley Railway Stations are within a 25 minute cycle journey. Secure cycle parking is available at both; and
- Potential employment opportunities within the Industrial Estate at Carlton can be cycled within 15 minutes, with Barnsley town centre 25 minutes cycle distance away from the Site.

2.4.3 It is therefore concluded that the proposed Site, will provide excellent cycle accessibility to a range of local services and facilities within a 10 minute cycle ride as well as employment opportunities beyond the immediate local area – including the opportunity to 'bike and rail'.

2.5 PUBLIC TRANSPORT ACCESSIBILITY

2.5.1 The closest bus service to the Site (57) operates along Lee Lane within some 600m of the centre of the Site. With the development of the Barratts Site and the future development of the MU5 allocation, there is an excellent opportunity for bus services to extend westwards along Lee Lane and route through the development Site, particularly as services become more viable.

2.5.2 A summary of the existing services within the vicinity of the Site can be found at Table 2.1.

Table 2.1 Bus Service Summary

Service	Route	Operator	Days of Operation	Typical Approx. Frequency
57	Barnsley – Monk Bretton – Carlton - Royston	Stagecoach	Monday – Friday	2 per hour
			Saturday	2 per hour
			Sunday	-
451	Darton – Royston – Carlton – Holy Trinity School	Globe Coaches	Monday – Friday	1 per day (term time only)
			Saturday	-
			Sunday	-
451	Holy Trinity School – Carlton – Royston - Darton	Globe Coaches	Monday – Friday	1 per day (term time only)
			Saturday	-
			Sunday	-

2.5.3 As can be seen from Table 2.1, the existing 57 bus service provides regular journeys (two per hour) into Royston and Barnsley town centres. From Barnsley the bus station offers connections to all areas of South Yorkshire and further afield.

2.5.4 The bus services also allow residents to be able to interchange with rail services in Barnsley.

2.5.5 The railway station in Barnsley is managed by Northern and all services that stop there are also Northern services. There are four trains an hour to Sheffield, two of which are express services and only call at Meadowhall. The two express services pass through Sheffield and extend to Worksop, Retford and Lincoln and to Chesterfield and Nottingham. To the north there are three

trains an hour to Leeds, two of which only call at Wakefield Kirkgate and one train per hour to Huddersfield.

2.5.6 Darton rail station is within an acceptable cycling distance from the Site and offers one train per hour to Wakefield and Leeds to the north and Barnsley and Sheffield to the south. There are 18 covered cycle storage spaces at Darton rail station.

2.5.7 In summary it is concluded that the proposed development Site provides good accessibility by public transport and as such is in a sustainable location.

2.6 TRAFFIC SURVEYS

2.6.1 Traffic counts have been undertaken on 10th October 2018 and 22nd October 2019 at the junctions of:

- Wakefield Road/Lee Lane/Shaw Lane; and
- Station Road/High Street/Church Street/Midland Road.

2.6.2 The morning peak flows are slightly higher in 2018 and the evening peak hour flows slightly higher in 2019 and therefore these values have been adopted for the AM and PM peak periods. Combining the flows at both junctions together therefore identifies the following peaks (shown diagrammatically on Figures 10 and 11):

- Weekday AM Peak (using 2018 count) - 07:45 to 08:45; and
- Weekday PM Peak (using 2019 count) - 16:45 to 17:45.

2.7 PERSONAL INJURY ACCIDENT DATA

2.7.1 Personal injury accident (PIA) 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 2014 and 31st December 2018. The data is provided by Barnsley Metropolitan District Council And a copy is in Appendix C.

2.7.2 The study area includes the junction of Wakefield Road, with Shaw Lane and Lee Lane. The entirety of Lee Lane and High Street are also included within the study area and the junction at the centre of Royston of High Street/Station Road/Midland Road/Church Street.

2.7.3 During the five year period there has been a total of 36 collisions across the study area, 20 of which were slight in severity and 16 were serious in severity. There were no fatal collisions.

A61 Wakefield Road/B6428 Lee Lane/B6428 Shaw Lane Junction

2.7.4 During the five year period under consideration there has been a total of six collisions at the staggered crossroads that connect Wakefield Road (A61), Shaw Lane and Lee Lane.

2.7.5 Of the six collisions recorded, five were classified as slight and one as serious. The serious collision occurred when a vehicle turning right from Shaw Lane collided with a vehicle turning left out of Lee Lane. It is suggested that the vehicle that was turning from Lee Lane failed to look properly and failed to judge the other vehicle speed.

2.7.6 The five slight collisions involved drivers not paying attention to conditions and other road users, with regards to vehicles turning or stopping. A further collision was caused by an inebriated driver who then fled the scene of the accident.

2.7.7 The low incidence of accidents combined with a number of causal factors raises no specific concerns relating to existing or future highway safety.

B6428 Lee Lane/High Street Corridor

2.7.8 There have been 19 collisions in the last five years, along the length of Lee Lane between the two critical junctions. This equates to a length of approximately 3km and includes numerous side road junctions and private accesses. This level equates to just under four per year or six per kilometre over 5 years.

2.7.9 Of the 19 collisions, eight have been classified as serious with the remainder being classified as slight. There were no fatalities.

2.7.10 The first serious collision occurred when a car left Oakwood Drive and pulled on to Lee Lane without seeing a motorcycle, causing a collision. The second occurred when a motorcycle was confronted by an inebriated pedestrian in the carriageway. The motorcycle was unable to stop and a collision occurred.

2.7.11 The third serious collision occurred when a 14 year old riding a motorcycle turned into oncoming traffic. The fourth occurred when a car pulled out of a side road and failed to see an oncoming vehicle. The collision then hit a parked car and sent the parked car into an adjacent wall.

2.7.12 The fifth serious accident occurred when an elderly pedestrian tried crossing High Street and was given a glancing blow by a passing car. The sixth occurred in the early hours of a Saturday morning. The driver lost control and then hit a number of parked vehicles. Speed was said to be a cause.

2.7.13 The seventh collision occurred when guttering fell on to a pedestrian from a van while the pedestrian was walking along High Street. The final sever collision occurred when a car clipped a pedestrian and his dog as they walked along Lee Lane.

2.7.14 The low incidence of accidents along a considerable length of road, combined with a number of causal factors, raises no specific concerns relating to existing or future highway safety. High Street/Station Road/Midland Road/Church Street Junction

2.7.15 Six collisions have been recorded at this junction in the past 5 years of available data. These consist of four serious collisions and two serious, with no fatalities.

2.7.16 The first serious collision occurred when an elderly pedestrian was injured by a car manoeuvring out of a parking space on High Street, although the record states that the pedestrian was on the footway, the description of the collision is somewhat unclear.

2.7.17 The next serious collision occurred when a 13 year old on a scooter ran out in front of a vehicle without looking.

2.7.18 The third serious collision occurred when a pedestrian crossed the traffic signals when the pedestrian light was red. All witnesses at the scene stated that the pedestrian was at fault for the collision.

2.7.19 The fourth collision occurred when two drivers on different arms drove through the traffic signals. Due to the lack of CCTV of the signal arms, it was impossible to apportion blame on either driver but it is expected that one of the drivers drove through on a red signal.

2.7.20 Of the two slight collisions, one was caused by a cyclist having brake failure and crashing into a vehicle. The second involved a car being driven erratically, which hit other vehicles..

2.7.21 The low incidence of accidents combined with a number of causal factors over a five year period raises no specific concerns relating to existing or future highway safety at this urban signalised junction.

Other Junctions and Links within the Study Area

2.7.22 The remaining five collisions within the study area were classified as serious (3) and slight (2) in severity. They were dispersed around the highway network and showed no signs of clustering. There was one pedestrian involved in an accident and one motorcyclist but no other vulnerable road users.

2.7.23 The first serious collision occurred at the junction of Paddock Road and Shaw Lane. A distracted driver missed a give way sign, skidded off the highway, on to grass and into a wall. The second serious collision occurred on Church Street to the south of the signalised junction, an inebriated pedestrian attempted to cross the highway and was struck by the wing mirror of a passing car and their foot run over.

2.7.24 The final serious collision occurred when a car tried to access Station Road from a private entrance and due to failing to look properly pulled out in front of a motorcycle and a collision occurred.

2.7.25 The two slight collisions occurred when a pedestrian pushing a pushchair on the footway on Oakwood Road was struck by a passing vehicle and the second slight collision occurred when a vehicle pulled out of Paddock Road on to Wakefield Road, without looking properly.

Overall Statistics

2.7.26 The following statistics can be gathered from the 36 collisions recorded within the extensive study area:

- 30 of the 36 collisions (83%) occurred in fine weather, three in rain, one in fog and two were unclassified;
- 27 (75%) of the collisions occurred on dry roads, with the remaining nine on wet road surfaces;
- 23 of the collisions occurred during daylight (64%);
- 17% of collisions included pedestrians (6);
- 14% of collisions included a motorcycle (5); and
- 8% of collisions included a pedal cycle (3).

Summary

2.7.27 It can be concluded from the comparatively low incidence of accidents over an extended study area, over a five year period, combined with a number of causal factors and a variety of locations, that there are no specific causes for concern relating to existing or future highway safety.

3. Development Proposals and Access Arrangements

3.1 DEVELOPMENT PROPOSALS

3.1.1 The development proposals comprise the following:

- 100 new dwellings;
- Access via the existing roundabout on Lee Lane; and
- Associated parking, landscaping and infrastructure.

3.1.2 An illustrative layout indicating the principles of development produced by STEN is shown in Appendix A.

3.2 PROPOSED ACCESS STRATEGY

3.2.1 The Site will take its vehicular access from the southern arm of the roundabout on Lee Lane that forms the access to the Barratts development to the north, which is presently being built out.

3.2.2 Pedestrian and cycle access is also taken from the existing roundabout on Lee Lane.

3.3 INTERNAL LAYOUT

3.3.1 As this is an outline application the site masterplan is indicative only.

3.3.2 A future reserved matters application which fixes the Site layout will be designed with reference to Manual for Streets and the South Yorkshire Residential Design Guide.

3.3.3 The main access road off the will consist of a 6m carriageway as it is likely to form part of a bus route through the MU5 allocation.

3.4 CAR AND CYCLE PARKING

3.4.1 To accord with the Barnsley SPD on parking, each dwelling with have at least 2 parking spaces within the dwelling curtilage for properties with three or more bedrooms with one of two bedroom properties having a single space. Visitor parking, including on-street, is to be provided at one space per four dwellings but this is to be considered on a site by site basis.

3.4.2 Cycle parking for the development will be provided within garages, in those houses that are provided with them or in a separate secured covered area within the plot, in accordance with the parking SPD produced by Barnsley Council.

3.4.3 The full details of the parking at the Site will be determined at the reserved matters stage.

3.5 SERVICING

3.5.1 Servicing of the development will take place from the internal highway network. This will be designed in accordance with the South Yorkshire Residential Design Guide and be subject to vehicle tracking. Any bin store will be located within the prescribed distance of pulling for residents (30m) and refuse collection officers (25m).

3.5.2 Full details of the servicing arrangements will be provided at the reserved matters stage.

4. Trip Generation & Distribution

4.1 TRIP RATES AND GENERATION

4.1.1 For consistency of assessment, the trip rates that have been agreed with officers at BMBC for the adjacent Bellway application have been used for the development Site.

4.1.2 The TRICS database had been utilised in order to calculate representative and appropriate vehicular trip rates for the residential use. The following time periods have been selected with a morning peak hour of 08:00-09:00 and an evening peak hour of 17:00-18:00.

4.1.3 A summary of the trip rates shown in Table 4.1 and the resultant generated traffic shown in Table 4.2.

Table 4.1 TRICS Residential Vehicle Trip Rates per Unit

	AM Vehicle Trips			PM Vehicle Trips		
Land Use	**Arr**	**Dep**	**Total**	**Arr**	**Dep**	**Total**
Residential Dwellings	0.158	0.382	0.540	0.359	0.162	0.521

Table 4.2 Residential Vehicle Trip Generation

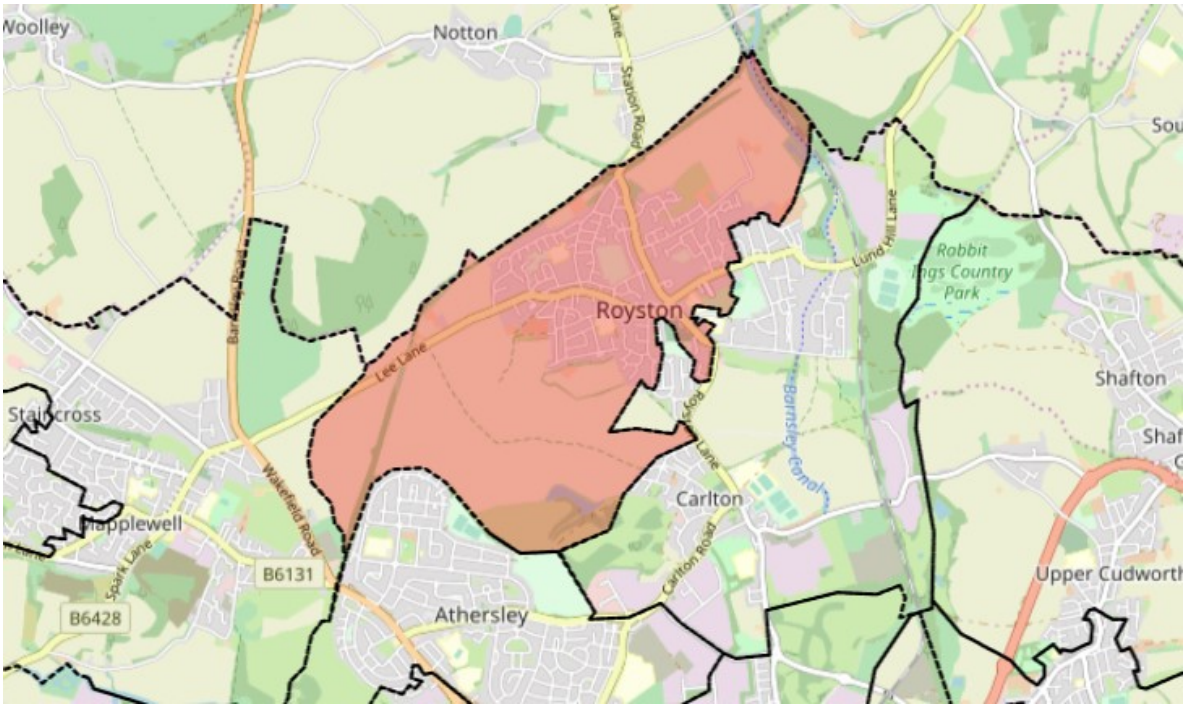
	AM Vehicle Trips			PM Vehicle Trips		
Land Use	**Arr**	**Dep**	**Total**	**Arr**	**Dep**	**Total**
100 Dwellings	16	38	54	36	16	52

4.2 TRIP DISTRIBUTION

4.2.1 Having established the development traffic generation for the Site, as shown in Table 4.2, a distribution exercise has been completed to predict the assignment of these trips onto the highway network. The latest census data (2011) has been interrogated for the Barnsley 001 super output area (middle layer) to predict the destination of residents travelling to work. The census data has been used to establish the journey to work destinations for all car driver trips travelling from Barnsley 001. The spreadsheet attached in Appendix D shows how the development traffic has been assigned to specific routes.

4.2.2 The proposed development is located in the super output area (mid layer) Barnsley 001 as illustrated in Image 4.1.

Image 4.1 Barnsley 001 Super output area



4.2.3 The development traffic has been distributed onto the local highway network using the following routes to/from the Site:

- Wakefield Road (South);
- Wakefield Road (North);
- Shaw Lane;
- Summer Lane;
- Church Street;
- Midland Road;
- Station Road; and
- Local traffic.

4.2.4 Table SD1 contained in Appendix D illustrates the proposed traffic distribution which is summarised within Table 4.3.

Table 4.3 Proposed Vehicular Distribution - Route Assignment Summary

	Wakefield Road (South)	Wakefield Road (North)	Shaw Lane	Summer Lane	Church Street	Midland Road	Station Road	Local Traffic
Percentage Distribution	8%	26%	26%	13%	16%	7%	2%	2%

4.2.5 The above distribution is based on journey to work data which encompasses the longest journey. Leisure, school and retail journeys are also accounted for within the trip rates and these

tend to be more localised journeys and would therefore not impact on the junctions further away from the Site. However, for robustness all trips have been assumed to be journey to work trips.

4.2.6 For the adjacent Bellway planning application Barnsley Council queried the use of Summer Lane and requested that this 13% is transferred to Station Road. Whilst it is not agreed that no vehicles will use Summer Lane the 13% figure has been transferred to Station Road so that a worst-case impact assessment is considered at The Wells junction. The revised/proposed distribution is therefore shown in table 4.4.

Table 4.4 Proposed Vehicular Distribution - Route Assignment Summary

	Wakefield Road (South)	Wakefield Road (North)	Shaw Lane	Summer Lane	Church Street	Midland Road	Station Road	Local Traffic
Percentage Distribution	8%	26%	26%	0%	16%	7%	15%	2%

4.2.7 The proposed residential distribution summarised in table 4.4 is shown in Figure 60 and applying the trip generation in Table 4.3 to these distributions produces the following figures:

- Figure 61 - Residential AM Peak Hour Trip Generation;
- Figure 62 - Residential PM Peak Hour Trip Generation;

5. Capacity Assessment

5.1 TRAFFIC FLOWS

5.1.1 To understand the effect of the development when it is built out, future year modelling has been undertaken for the design year of 2026.

5.1.2 Consented sites predicted to be built out by the design year, that have been considered, are as follows:

- Land North of Lee Lane, Royston, Barratts, 164 residential units (Application Ref: 2016/1490);
- Lidl (1,325sq.m), Mapplewell (Application Ref: 2017/1716);
- Land West of Wakefield Road, 193 residential units (Application Ref: 2017/0520); and
- Former William Freeman Works, Mapplewell, 85 residential units (Application Ref: 2017/1718).

5.1.3 In addition, the remainder of the allocated MU5 Site i.e. 250 dwellings discounting the approved Barratts site and the proposed Bellway appeal site, has been included in the base flows for robustness. These remaining dwellings have been split north and south of Lee Lane as follows:

- MU5 North remaining = 98 dwellings; and
- MU5 South remaining = 152 dwellings.

5.1.4 The total consented development flows, including the remaining MU5 allocation are shown on Figures 39 and 40 for the AM and PM peak hours, respectively.

5.1.5 A Tempro growth rate between 2018/2019 and 2026, discounted for the consented developments to avoid double counting, has been calculated using the Barnsley 001 Tempro area, the rates are as follows:

- AM Peak Hour 2018-2026 - 1.09
- PM Peak Hour 2019-2026 - 1.07

5.1.6 Applying these growth rates to the 2018/2019 counts (Figures 10 and 11) and the addition of the total consented development flows (Figures 39 and 40) produces the 2026 Base Flows as shown in Figures 50 and 51.

5.1.7 The proposed development traffic distributed along the local highway network shown on Figures 60 and 61 has then been added to the 2026 Base Flows to determine the 2026 Design Year flows which are shown diagrammatically on Figures 70 and 71.

5.1.8 Capacity modelling has been undertaken at the following junctions, as these are the only significant local junctions where 30 or more two way development trips pass through:

- Lee Lane/Site Access Roundabout Junction; and
- Lee Lane/Wakefield Road/Shaw Lane Staggered Crossroads.

5.1.9 The Wells signalised crossroads, within the centre of Royston, has not been modelled due to only 21 and 20 development trips utilising the junction throughout the AM and PM peak hours, respectively, therefore the impact of the development is considered immaterial.

5.1.10 The 2026 Design flows at the Wells junction are considered to be robust as no traffic is assumed to use Summer Lane, it instead travels into the centre of Royston and utilises the signalised crossroads.

5.1.11 This chapter now assesses the highway impact of the development proposals at the aforementioned junctions.

5.2 LEE LANE/SITE ACCESS ROUNDABOUT JUNCTION

5.2.1 The Site access is to be taken from the southern arm of the Barratts roundabout.

5.2.2 The junction has been modelled using the ARCADY module within the Junctions 9 software for the 'with development' 2026 Design scenario. The results for the AM and PM peak hour periods are summarised in Table 5.1 and the modelling output is in Appendix E.

Table 5.1 Lee Lane/Site Access Junction 2026

Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
B6481 High Street	0.26	0	0.22	0
Site Access	0.03	0	0.01	0
B6481 Lee Lane	0.20	0	0.33	1
Barratts Site Access	0.05	0	0.02	0

5.2.3 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a junction or arm operates within its predicted capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

5.2.4 The results demonstrate that the existing roundabout junction will operate comfortably within capacity during both the AM and PM peak hour periods in the 2026 Design scenario accommodating the traffic generated by the proposed development.

5.3 LEE LANE/WAKEFIELD ROAD/SHAW LANE PRIORITY JUNCTION

5.3.1 The junction currently operates as a staggered 'right-left' priority junction with the A61 Wakefield Road forming the major 'through' route and Lee Lane and Shaw Lane forming the two minor 'give-way' arms. Ghost island right turn lanes are provided from Wakefield Road into both Lee Lane and Shaw Lane.

5.3.2 The junction has initially been modelled with the existing morning and evening count traffic flows and the results are summarised in table 5.2. A full print out of the software analysis is provided in Appendix E.

Table 5.2 Lee Lane/Wakefield Road/Shaw Lane 2018/2019 Count

Movement	AM			PM		
	RFC	Q (pcu)	Recorded Queue	RFC	Q (pcu)	Recorded Queue
Lee Lane (Left Turn)	0.96	4	2	0.25	0	1
Lee Lane (Right Turn)	0.93	8	10	0.76	3	10
Wakefield Road (North)	0.20	0	1	0.30	0	1
Shaw Lane (Left Turn)	0.95	5	2	1.11	9	1
Shaw Lane (Right Turn)	0.98	10	13	1.10	25	17
Wakefield Road (South)	0.11	0	2	0.26	0	1

5.3.3 Table 5.2 shows that the on-site surveyed traffic queues during both peak hours validate sufficiently well against the predicted Picady queues, demonstrating that the model is representative of the existing junction operation.

5.3.4 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a priority junction is operating within its desirable practical capacity. An RFC value between 0.85 and 1.00 indicates that there are likely to be occasions during the period modelled when queues will develop and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity with an associated increase in queuing and delay within that specified time period.

5.3.5 The results in table 5.2 show that during the morning peak hour the existing junction operates between practical capacity (0.9) and absolute capacity (1.0). During the evening peak hour the existing junction exceeds absolute capacity on Shaw Lane with a maximum RFC of 1.11. Shaw Lane is the opposite arm to the highway, where the development takes access from.

5.3.6 The existing junction has then been modelled for the 2026 Base scenario i.e. without development trips but including background traffic growth, consented sites and partial MU5 build-out, and the results are summarised in table 5.3.

Table 5.3 Lee Lane/Wakefield Road/Shaw Lane 2026 Base

Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Lee Lane (Left Turn)	1.40	24	1.14	11
Lee Lane (Right Turn)	1.42	71	1.20	26
Wakefield Road (North)	0.27	0	0.35	1
Shaw Lane (Left Turn)	1.28	16	1.47	25
Shaw Lane (Right Turn)	1.33	49	1.51	103
Wakefield Road (South)	0.18	0	0.46	1

5.3.7 The results in table 5.3 show that both the Lee Lane and Shaw Lane arms of the junction will operate substantially over absolute capacity during both peak hour periods.

5.3.8 The existing junction has then been modelled for the 2026 design scenario which includes appeal site development trips as well as background traffic growth, consented sites and partial MU5 build-out. The results are summarised in table 5.4.

Table 5.4 Lee Lane/Wakefield Road/Shaw Lane 2026 with Development Design

Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Lee Lane (Left Turn)	1.46	30	1.23	14
Lee Lane (Right Turn)	1.49	86	1.29	33
Wakefield Road (North)	0.28	0	0.35	1
Shaw Lane (Left Turn)	1.32	18	1.53	28
Shaw Lane (Right Turn)	1.36	54	1.57	117
Wakefield Road (South)	0.19	0	0.51	1

5.3.9 The results in table 5.4 show that the operation of the junction worsens in the 2026 Design scenario with the addition of the development trips. However, compared to the 2026 Base scenario (table 5.3) the impact of the development trips, which are only 31 to 32 vehicles during the peak hours i.e. only very marginally above the 30 two-way threshold, is not considered to be material. In the absence of the growthed and consented trips the material impact of the development at the junction would be even lower.

5.3.10 In summary the volume of new trips that the proposed development would generate at the Wakefield Road/Shaw Lane/Lee Lane junction will not have a material impact on its operation and certainly cannot be considered as being 'severe' which is the test applied in the NPPF.

5.3.11 Notwithstanding the above, it is known that the Bellway planning application is already proposing a signalised improvement to this junction.

6. Conclusions

6.1.1 This Transport Assessment (TA) has been undertaken by Optima to consider the highways and transportation issues raised by a proposed residential development of 100 dwellings to the south of Lee Lane, Royston, Barnsley.

6.1.2 This TA supports an outline planning application with all matters reserved except access, made on behalf of Johnson Mowat.

6.1.3 Access is to be taken from Lee Lane to the north of the Site via the existing roundabout which also serves the Barratts development currently being built out.

6.1.4 The Site is located within walking distance of a number of nurseries and primary schools, with a high school just a short distance further away and easily within cycling distance. There are also a number of shops and other local facilities such as a GP surgery within walking distance of the Site. Overall, the proposed development Site provides good accessibility by foot, cycle and public transport and as such is in a sustainable location.

6.1.5 A detailed review of the persona injury accident data concludes that from the comparatively low incidence of accidents over an extended study area, over a five year period, combined with a number of causal factors and a variety of locations, that there are no specific causes for concern relating to existing or future highway safety.

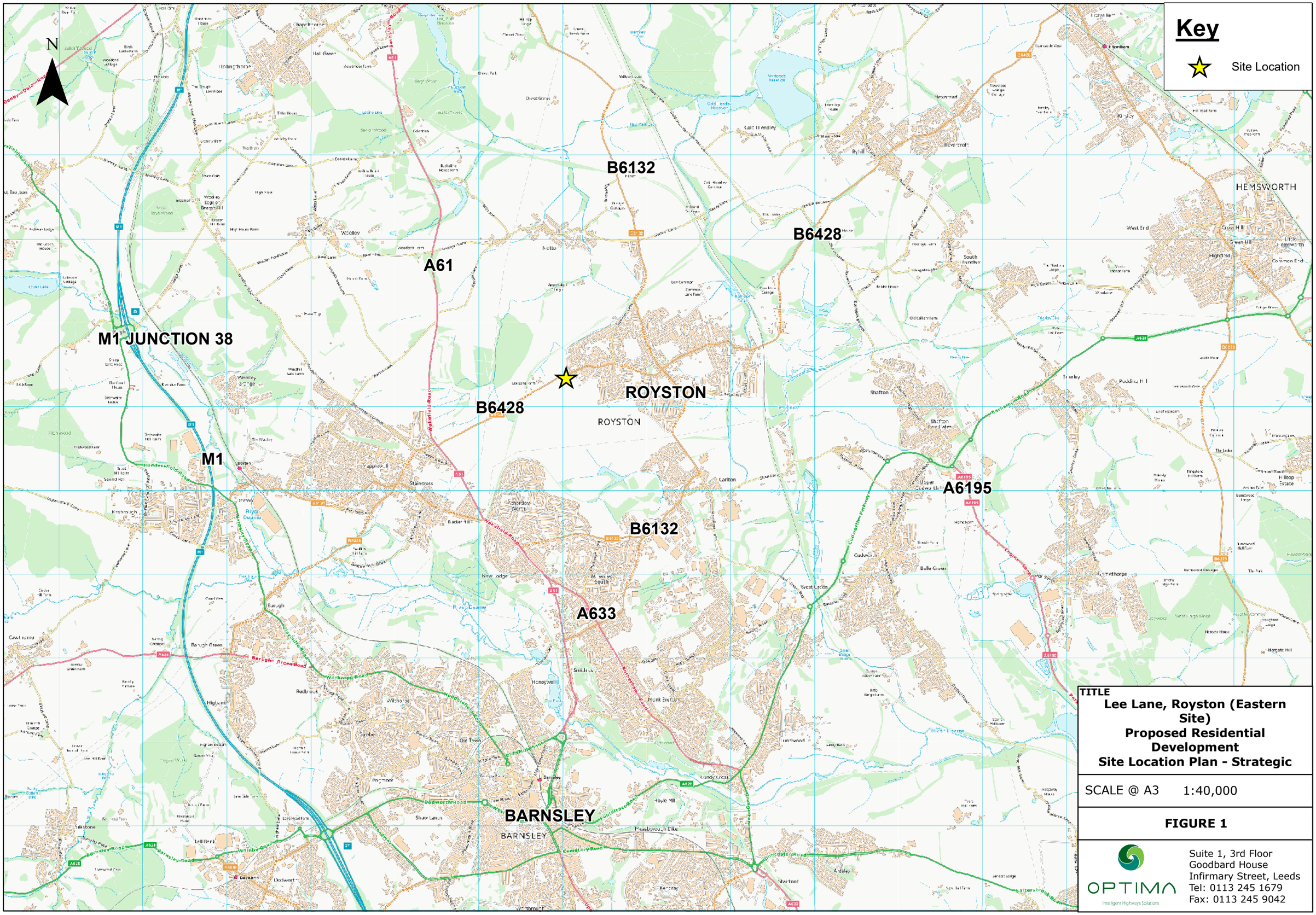
6.1.6 The modelling analysis undertaken demonstrates that the existing Lee Lane/Site Access roundabout is predicted to operate comfortably within desirable practical capacity in the with development 2026 design scenario.

6.1.7 The development will generate minimal trips at the signalised ‘Wells’ junction in the centre of Royston, well below the 30 two-way threshold. As such the development will not have a material impact at this junction.

6.1.8 The volume of new trips that the proposed development would generate at the Wakefield Road/Shaw Lane/Lee Lane junction will not have a material impact on its operation and certainly cannot be considered as being ‘severe’ which is the test applied in the NPPF. Furthermore, it is known that the Bellway planning application is already proposing a signalised improvement to this junction.

6.1.9 From the work undertaken, it is concluded that there are no reasons on highways or transport grounds why the development Site should not be granted outline planning permission.

Figures



TITLE

Lee Lane, Royston (Eastern Site)
Proposed Residential Development
Site Location Plan - Strategic

SCALE @ A3 1:40,000

FIGURE 1

OPTIMA
Intelligent Highways Solutions
Suite 1, 3rd Floor
Goodbard House
Infirmary Street, Leeds
Tel: 0113 245 1679
Fax: 0113 245 9042

Path: O:\Lee Lane, Royston Eastern Site\DRAWINGS\GIS\ARCEDITOR\1. Site Location Plan - Strategic.mxd

N

Key

Indicative Site Boundary

Lee Lane Farm

Muscle Hill

Education Facility

Education Facility

Chapel Hill

LEE LANE

B6428

B6428

HIGH STREET

BACK LANE WEST

OCCUPATION ROAD

MANOR

OAKWOOD

BUCKINGHAM WAY

CHEVET VIEW

WESTFIELDS

WEST GR

LITTLE WESTFIELDS

TANFIELD CL

PARKHEAD CL

LINBURN CL

CHERRY CL

THE FIRS

CEDAR CL

HAIGH CFT

THE BRAMBLES

HENDERSON GLEN

THE PASTURES

W END CRESCENT

WEST END AVENUE

HIGH VIEW

SUMMER VW

MANOR GROVE

MANOR DRIVE

MEADSTEAD DRIVE

DOLES CRESCENT

DOLES AVENUE

CROFT AVENUE

SYCAMORE DR

GRANGE ROAD

Path: O:\Lee Lane, Royston Eastern Site\DRAWINGS\GIS\ARCEDITOR\2. Site Location Plan - Local.mxd

TITLE

Lee Lane, Royston (Eastern Site)
Proposed Residential Development
Site Location - Local

SCALE @ A3 1:5,000

FIGURE 2

OPTIMA
Intelligent Highways Solutions

Suite 1, 3rd Floor
Goodbard House
Infirmary Street, Leeds
Tel: 0113 245 1679
Fax: 0113 245 9042

N

Key

- Site Location
- 1 Summerfields Primary Academy
- 2 Meadstead Primary Academy
- 3 Parkside Primary Academy
- 4 Royston S John Baptist CE VA Primary School
- 5 Little Nippers Pre-school
- 6 Wise Owl Pre-school
- 1 Royston Leisure Centre
- 1 The Wells Post Office
- 1 Co-op Food Royston
- 2 ASDA Supermarket Royston
- 3 One Stop
- 4 Fultons Foods
- 5 Londis
- 6 Lifestyle Express Convenience Store
- 1 Craven and Partners GP Surgery

Pedestrian Accessibility

(Walk Speed 4.8kmph)

- 0 - 5 Minutes
- 5 - 10 Minutes
- 10 - 15 Minutes
- 15 - 20 Minutes
- 20 - 25 Minutes

Path: O:\Lee Lane, Royston Eastern Site\DRAWINGS\GIS\ARCEDITOR\3. Pedestrian Accessibility.mxd

Lee Lane Farm
Muscle Hill
Windmill Hill
Low Common
Common Lane Farm
ROYSTON
Education Facility
Police Station
Sports/Leisure Centre
Chapel Hill
JESMOND AVENUE
GUILDFORD ROAD
BARNSLEY ROAD

TITLE

Lee Lane, Royston (Eastern Site)
Proposed Residential Development
Pedestrian Accessibility

SCALE @ A3 1:10,000

FIGURE 3

OPTIMA
Intelligent Highways Solutions
Suite 1, 3rd Floor
Goodbard House
Infirmary Street, Leeds
Tel: 0113 245 1679
Fax: 0113 245 9042

N

Key

Site Location

Cycle Accessibility

(Cycle Speed 16kmph)

- 0 - 5 Minutes
- 5 - 10 Minutes
- 10 - 15 Minutes
- 15 - 20 Minutes
- 20 - 25 Minutes
- 25 - 30 Minutes
- Train Station

ROYSTON

BARNSLEY

Path: O:\Lee Lane, Royston Eastern Site\DRAWINGS\GIS\ARCEDITOR\4. Cycle Accessibility.mxd

TITLE

Lee Lane, Royston (Eastern Site)
Proposed Residential Development
Cycle Accessibility

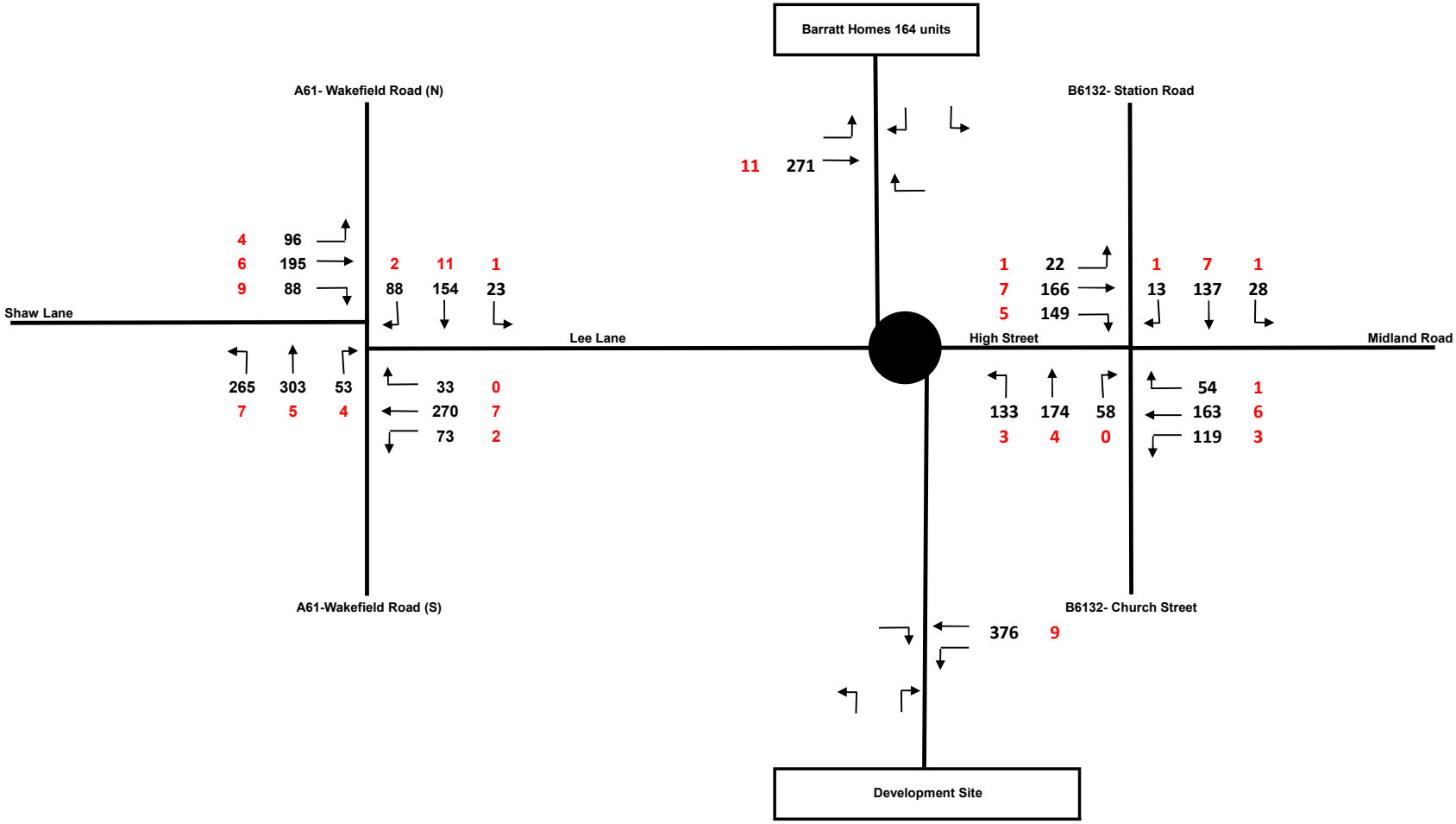
SCALE @ A3 1:40,000

FIGURE 4

OPTIMA
Intelligent Highways Solutions

Suite 1, 3rd Floor
Goodbard House
Infirmary Street, Leeds
Tel: 0113 245 1679
Fax: 0113 245 9042

Total Vehicles	0
HGV	0



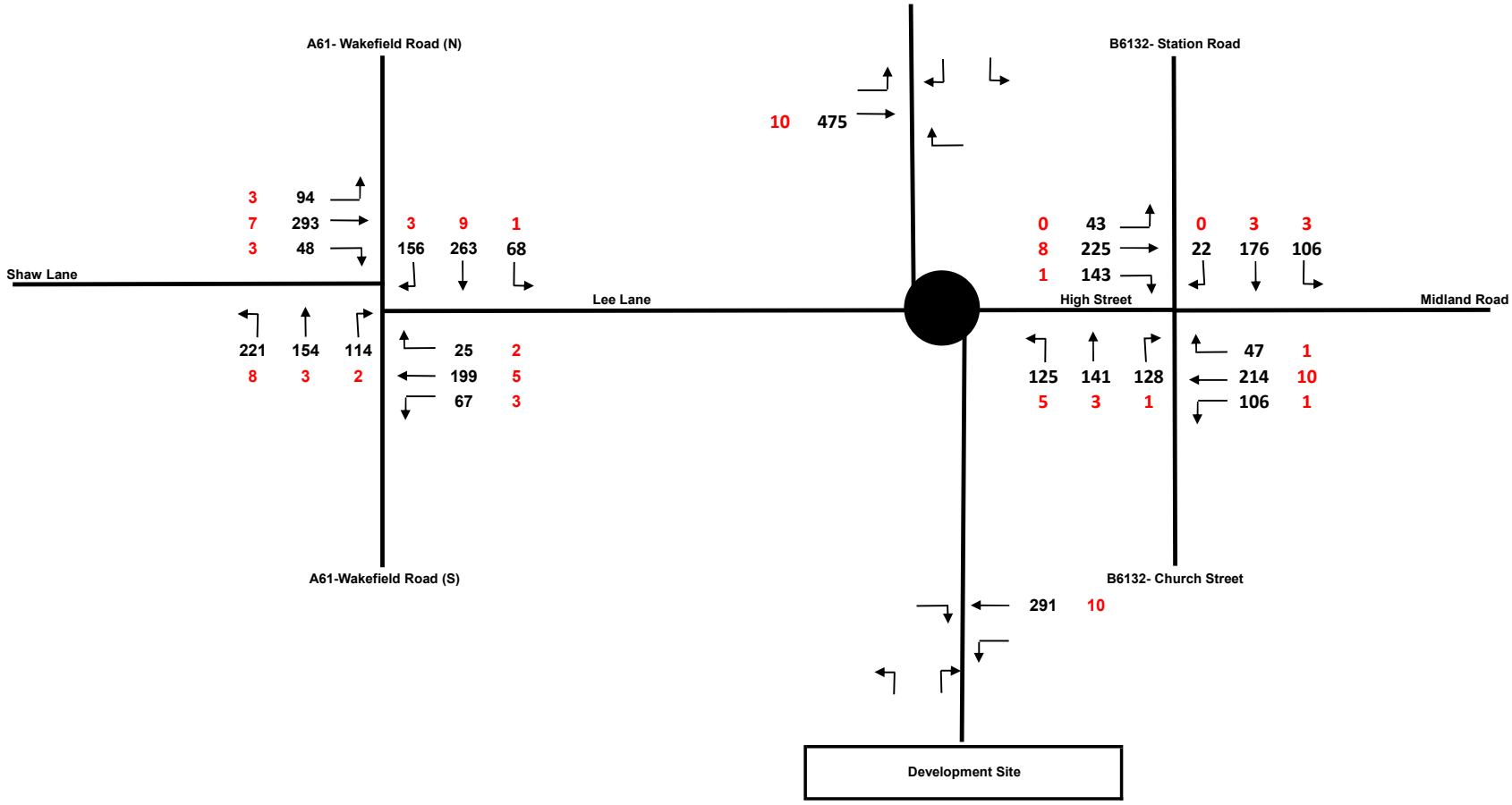
OPTIMA Intelligent Highways Solutions

Lee Road - Royston

AM PEAK HOUR TRAFFIC COUNTS 2018 (07:45-08:45)

Figure: 10

Total Vehicles	0
HGV	0

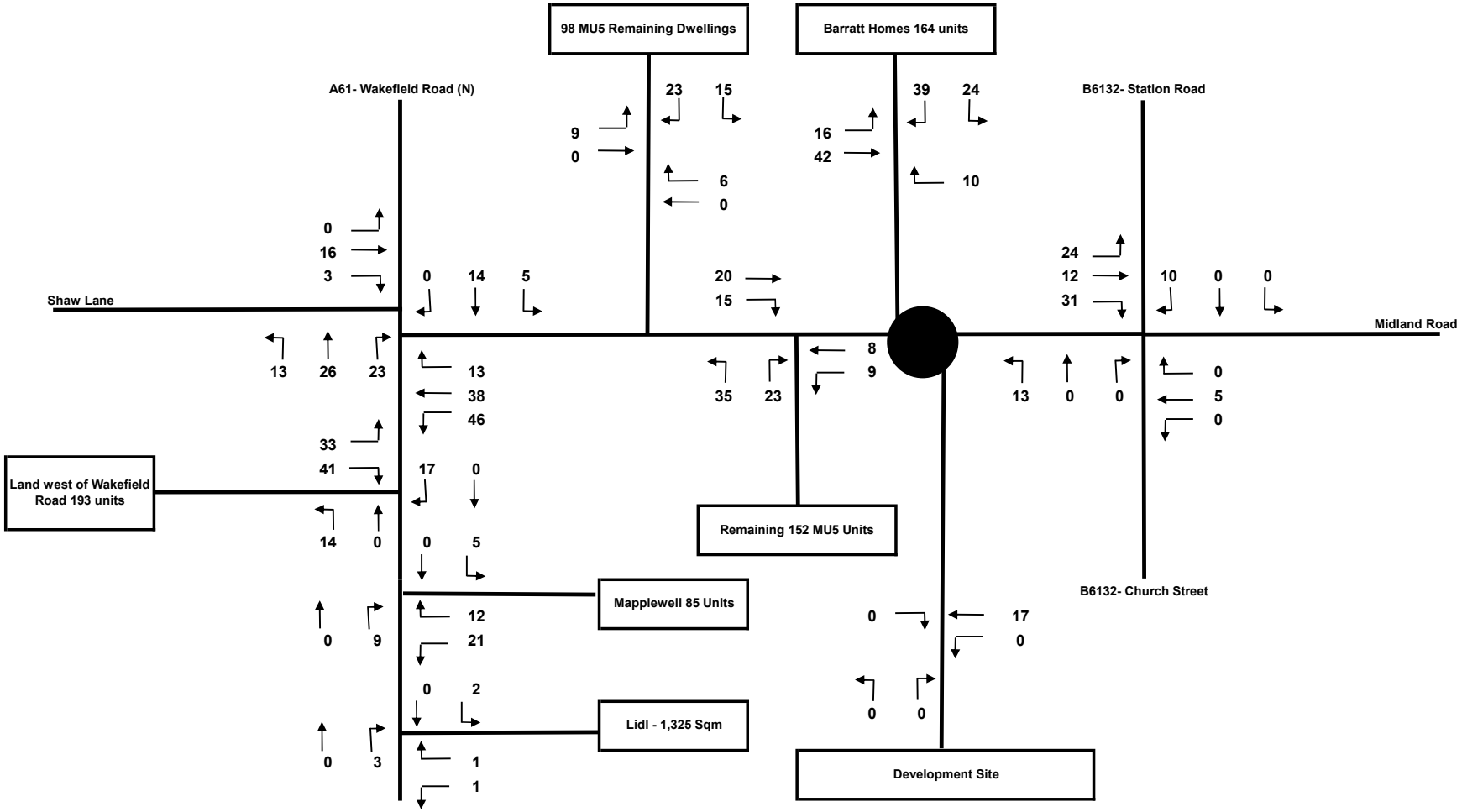


OPTIMA Intelligent Highways Solutions

Lee Road - Royston

PM PEAK HOUR TRAFFIC COUNTS 2019 (16:45-17:45)

Figure: 11

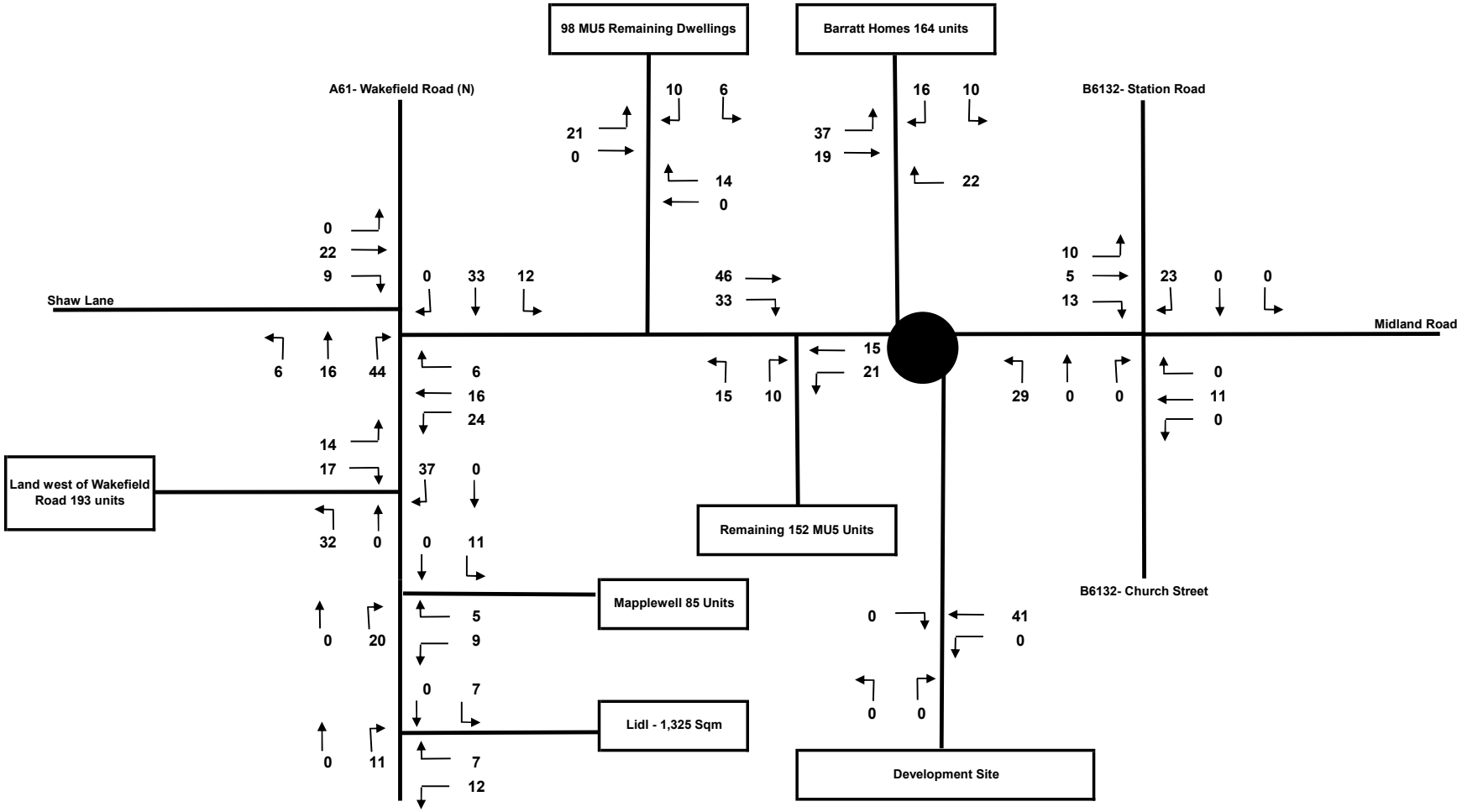


OPTIMA Intelligent Highways Solutions

Lee Road - Royston

AM TOTAL CONSENTED AND ALLOCATED DEVELOPMENTS 2026

Figure: 39

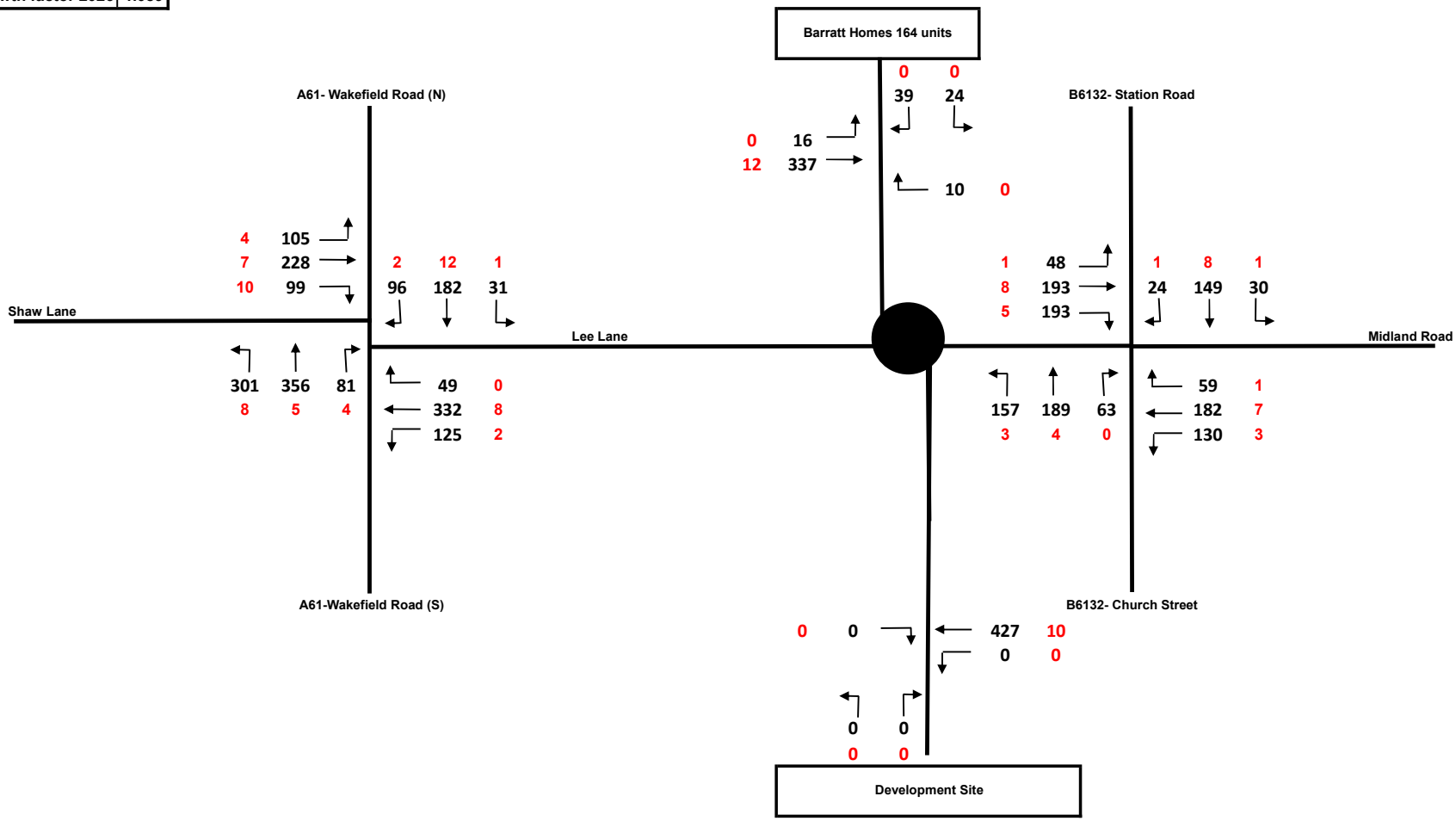


Lee Road - Royston

PM TOTAL CONSENTED AND ALLOCATED DEVELOPMENTS 2026

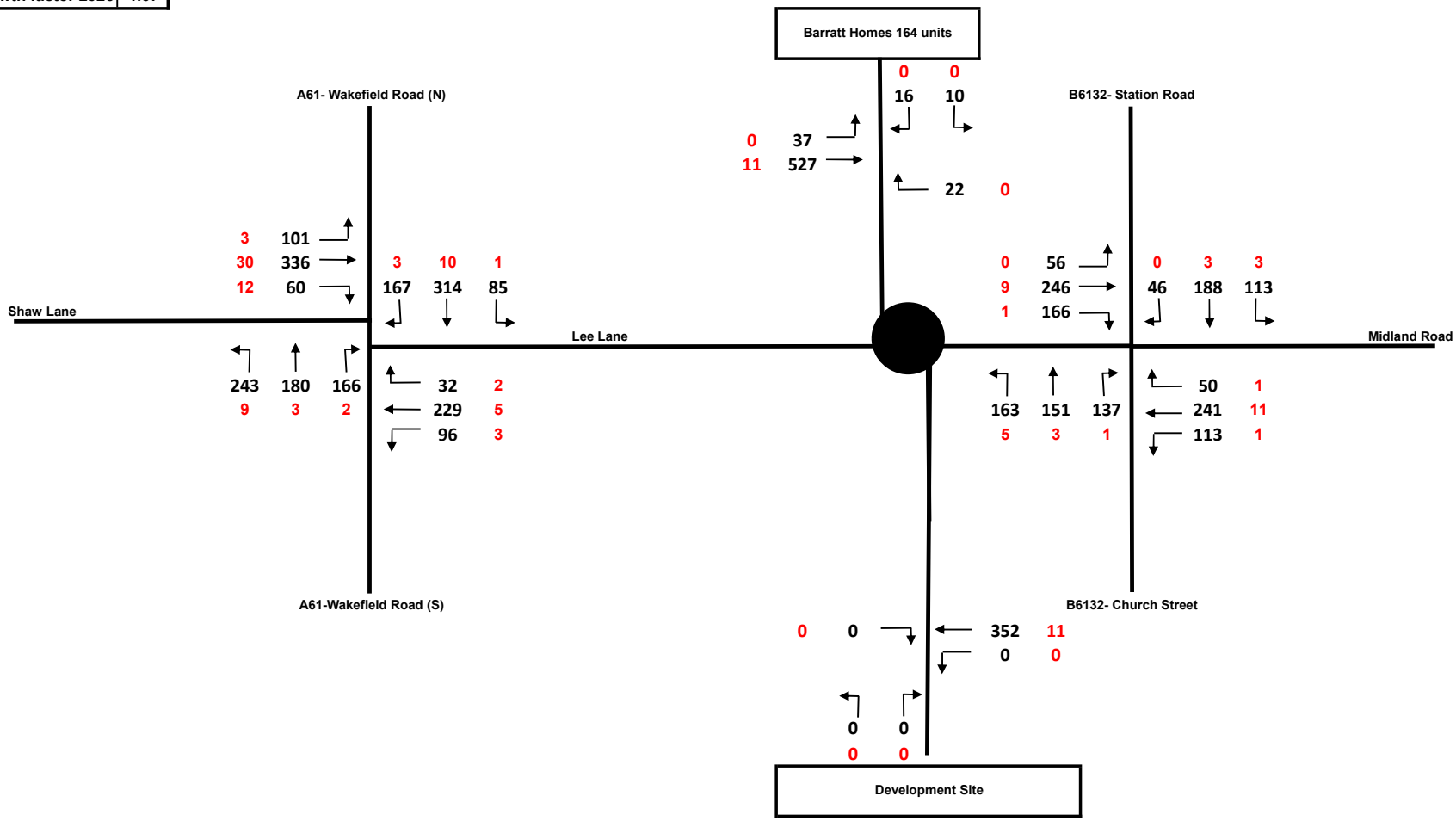
Figure: 40

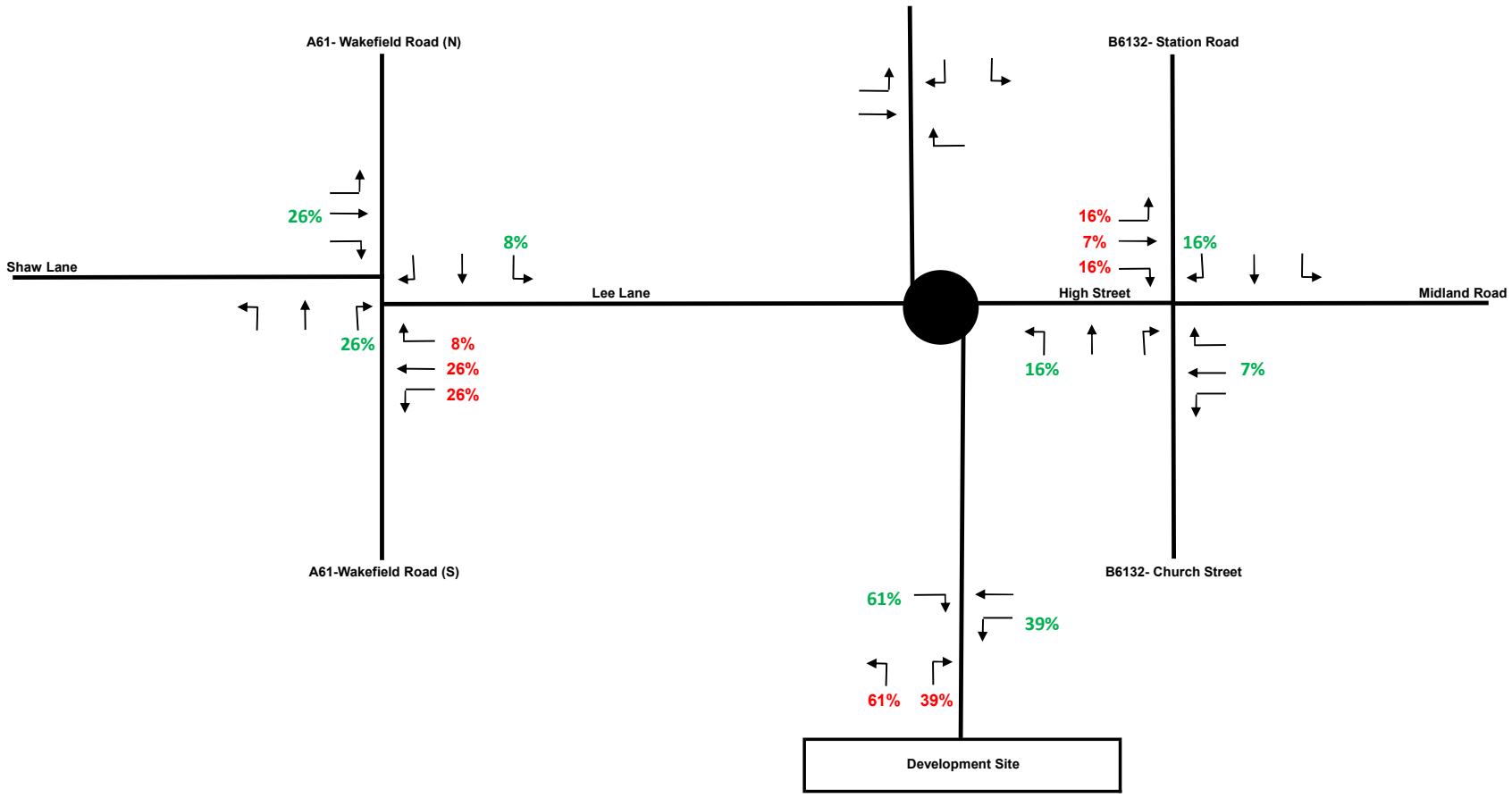
Total Vehicles	0
HGV	0
Growth factor 2026	**1.089**



OPTIMA Intelligent Highways Solutions	Lee Road - Royston **AM 2026 BASE FLOWS**	Figure: 50

Total Vehicles	0
HGV	0
Growth factor 2026	**1.07**



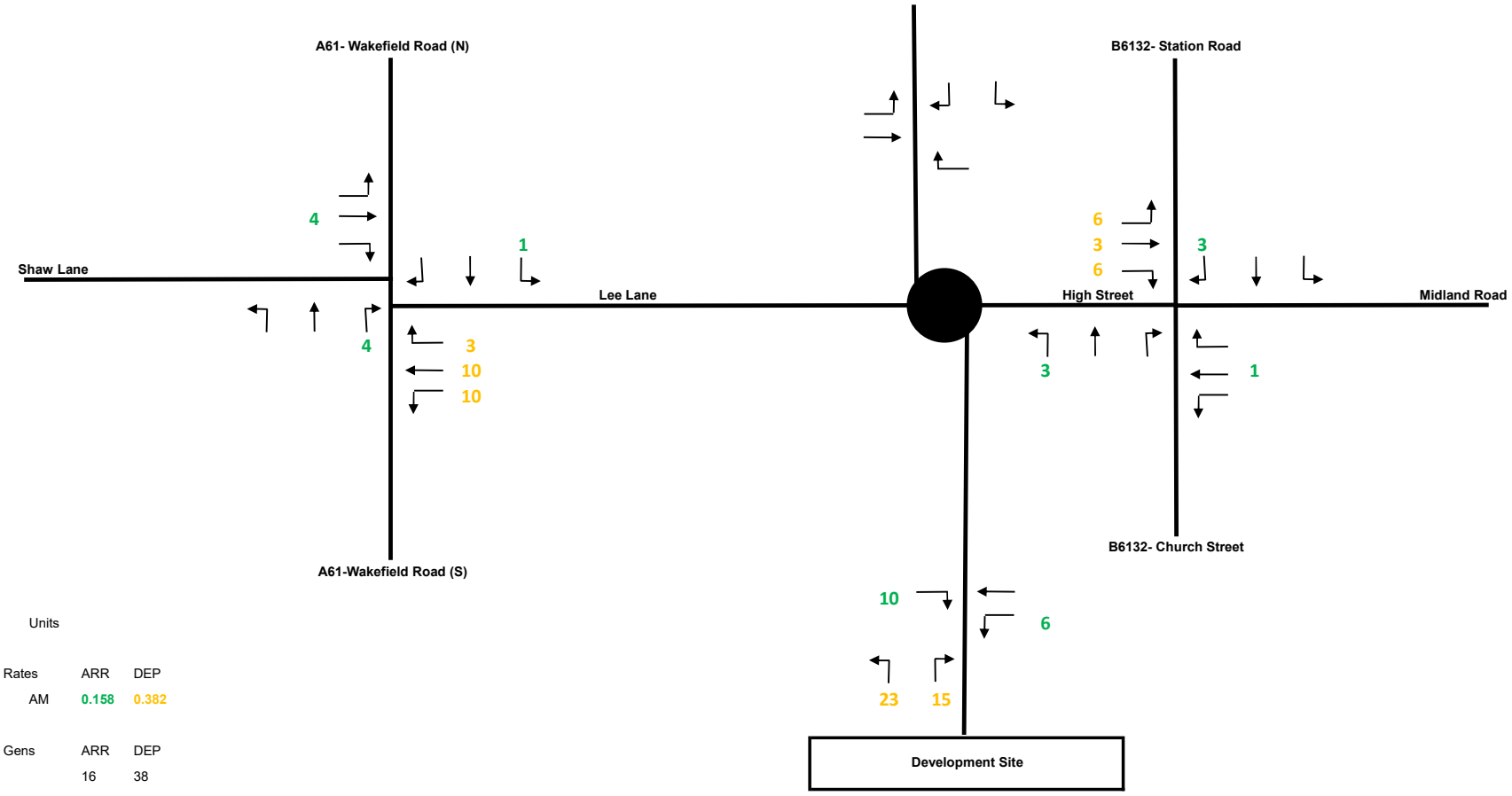


OPTIMA
Intelligent Highways Solutions

Lee Road - Royston

DISTRIBUTION

Figure: 60



100 Units

Trip Rates	ARR	DEP
AM	0.158	0.382

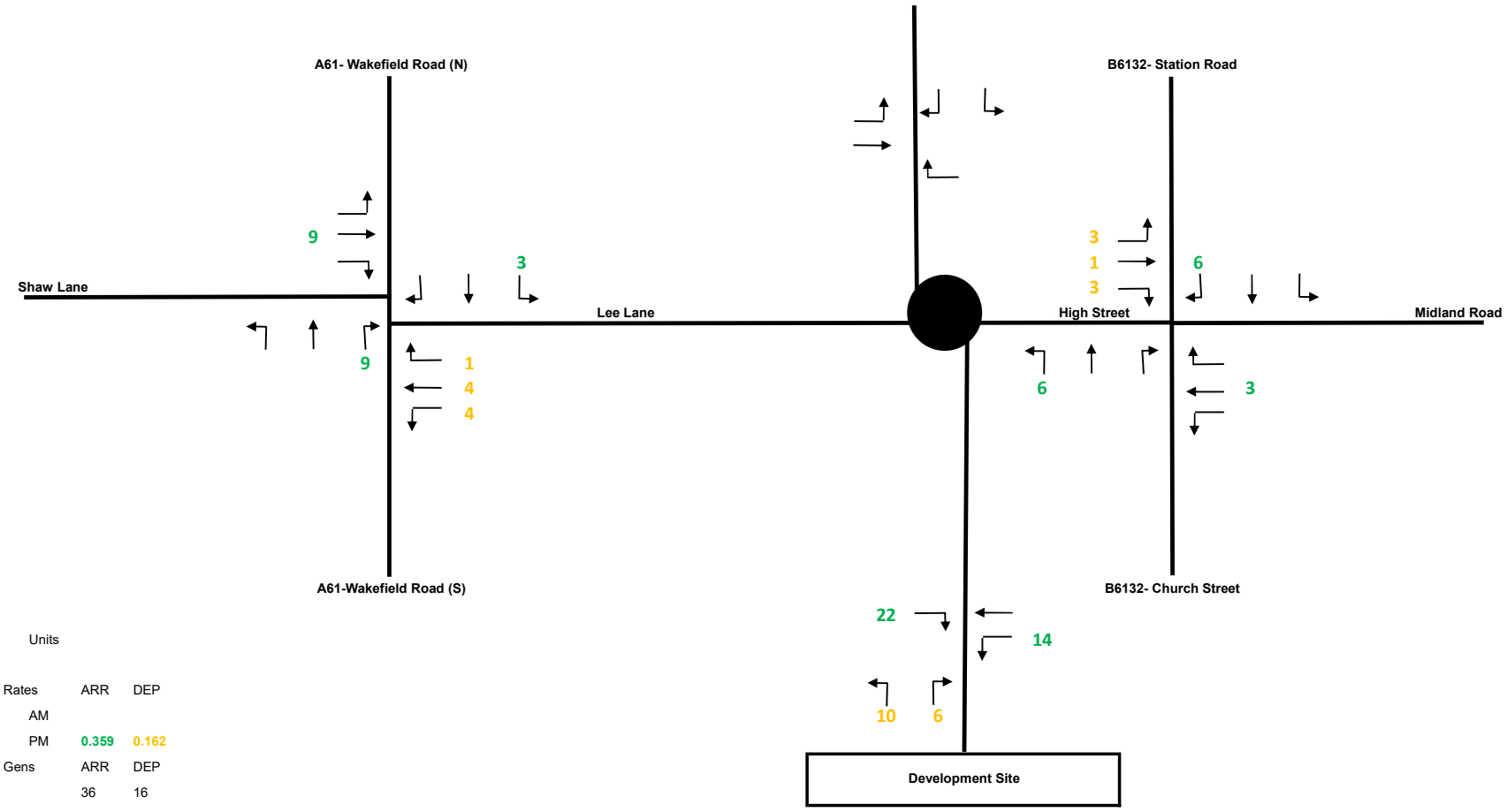
Trip Gens	ARR	DEP
	16	38

OPTIMA Intelligent Highways Solutions

Lee Road - Royston

AM TRIP GENERATION

Figure: 61



100 Units

Trip Rates	ARR	DEP
AM		
PM	0.359	0.162
Trip Gens	ARR	DEP
	36	16

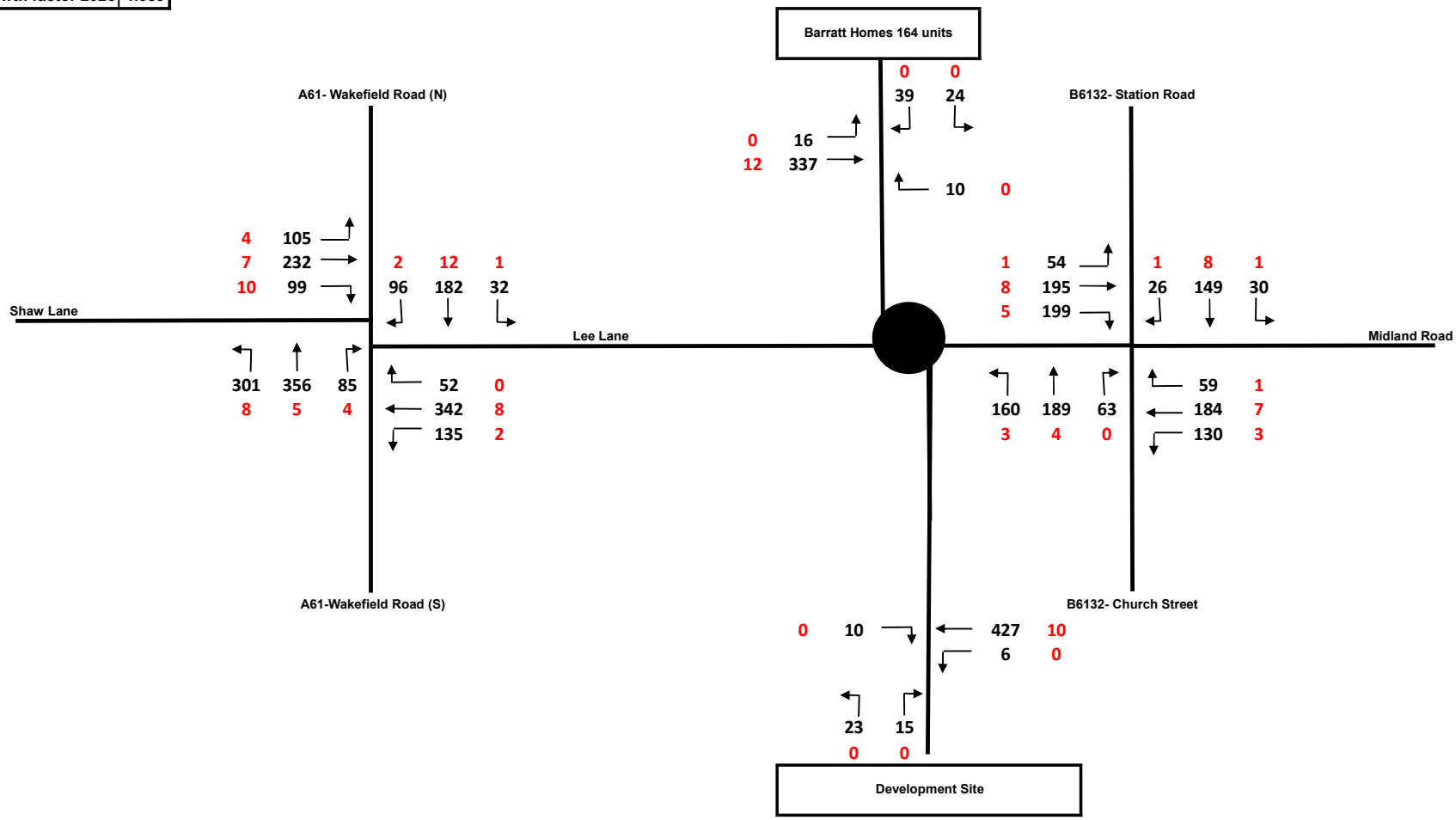
OPTIMA Intelligent Highways Solutions

Lee Road - Royston

PM TRIP GENERATION

Figure: 62

Total Vehicles	0
HGV	0
Growth factor 2026	**1.089**



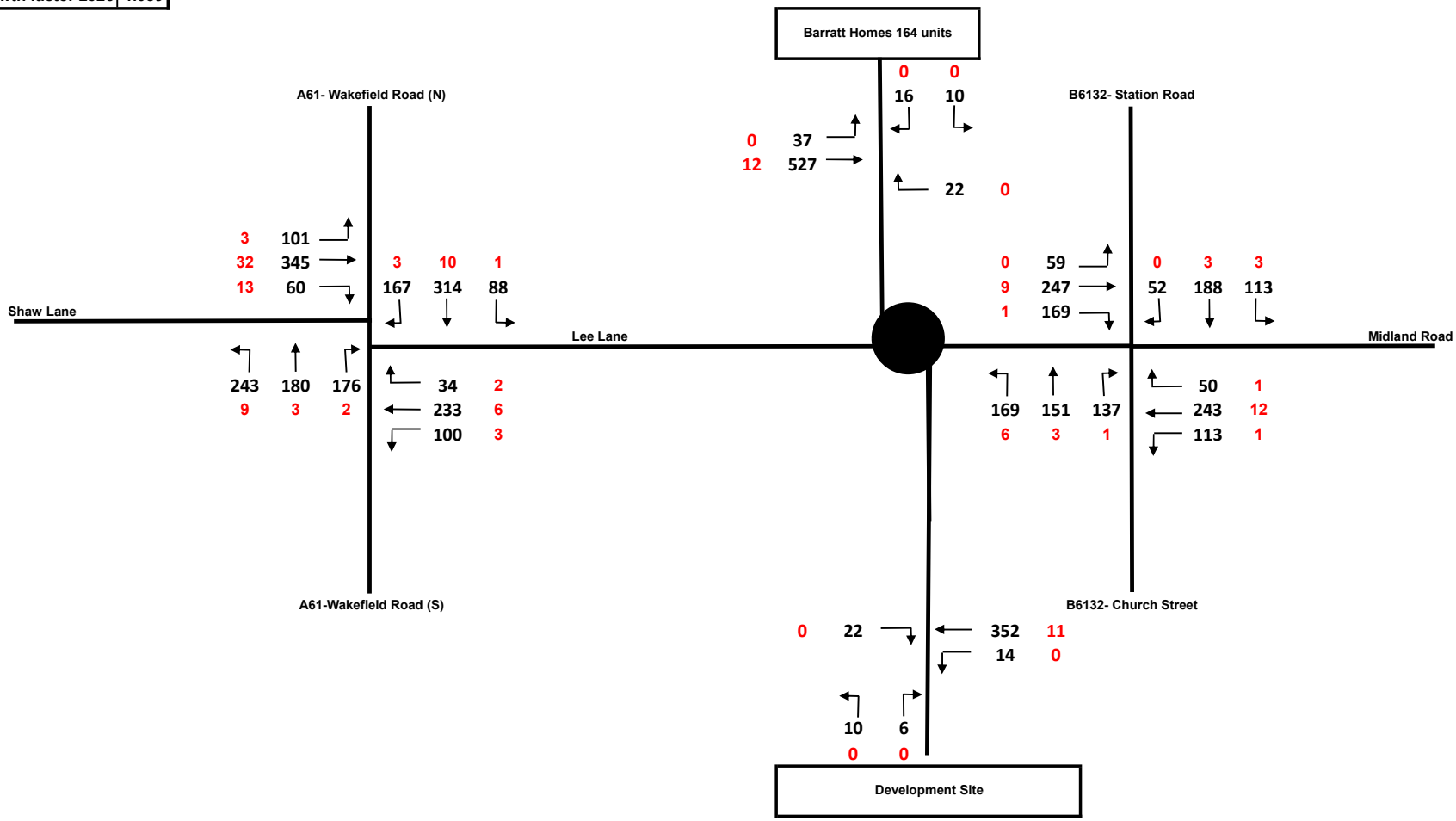
OPTIMA Intelligent Highways Solutions

Lee Road - Royston

AM 2026 DESIGN FLOWS

Figure: 70

Total Vehicles	0
HGV	0
Growth factor 2026	**1.089**



OPTIMA Intelligent Highways Solutions

Lee Road - Royston

PM 2026 DESIGN FLOWS

Figure: 71

Appendices

Appendix A Site Masterplan

Existing access gate to adjacent paddock replaced. Access to paddock fenced off from the development

Lee Lane (B 6428)

74m

ROYSTON INDICATIVE SCHEDULE					STEN ARCHITECTURE	
Reference	**Floor Area (Sqft)**	**Beds**	**Storeys**	**Total**	**Total Sqft**	**% of Mix**
Private						
2 BEDS						
2 Bed terrace	750	2	2	26	19500	28.9
3 BEDS						
3 Bed semi/terrace	900	3	2	28	25200	31.1
3 Bed detached	1050	3	2	5	5250	5.6
4 BEDS						
4 Bed detached	1300	4	2	20	26000	22.2
4 Bed detached	1500	4	2	11	16500	12.2
Sub-Total				90	**92450**	100.0
Affordable						
2 Bed terrace	750	2	2	6	4500	60.0
3 Bed terrace	900	3	2	4	3600	40.0
Sub-Total				10	**8100**	10.0%
Total				**100**	**100550**	

	hectares	acres
Approx gross area	3.68	9.09
POS	0.79	1.95
Approx nett area	2.89	7.14
coverage	35	**14080**

STEN ARCHITECTURE
STEN Architecture
The Studio
Harrison Street
Wakefield
West Yorkshire
WF1 1PS
Tel: 01924 950985
www.sten-architecture.co.uk

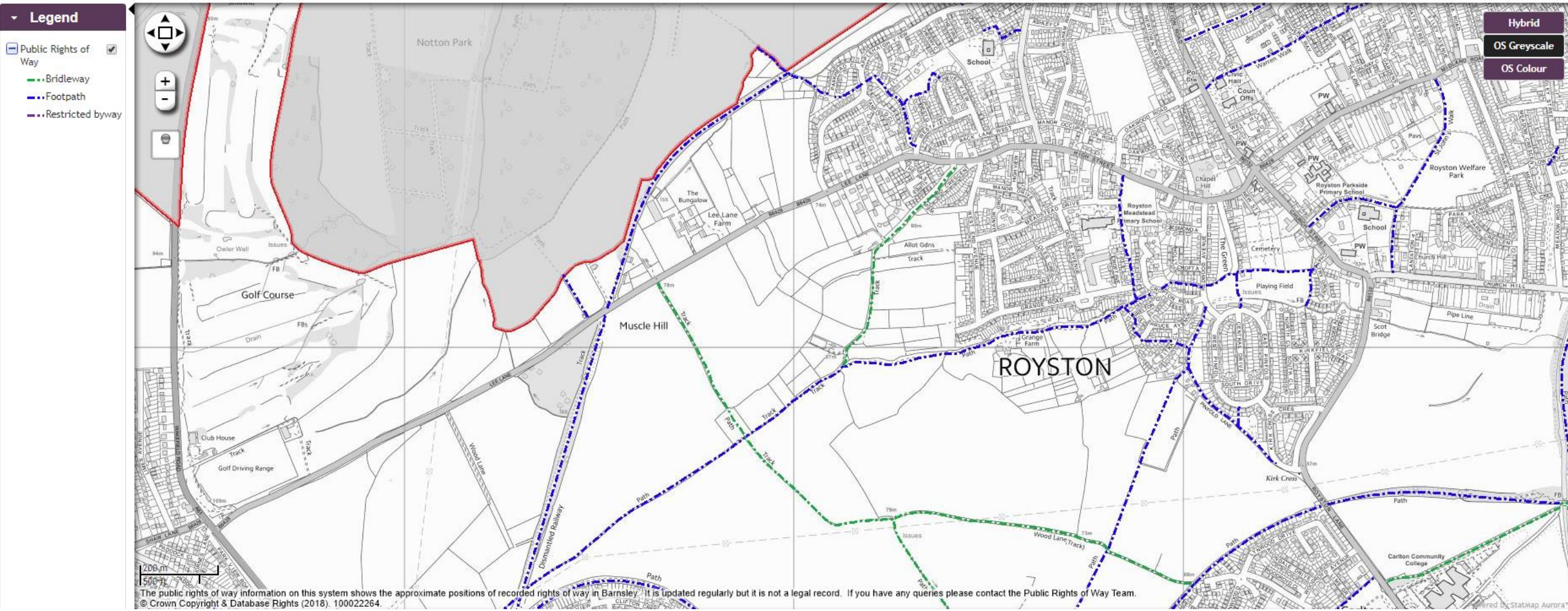
0 10 20 30 40 50

ILLUSTRATIVE MASTERPLAN REV A | MARCH 2020 | 1:500 @ A1

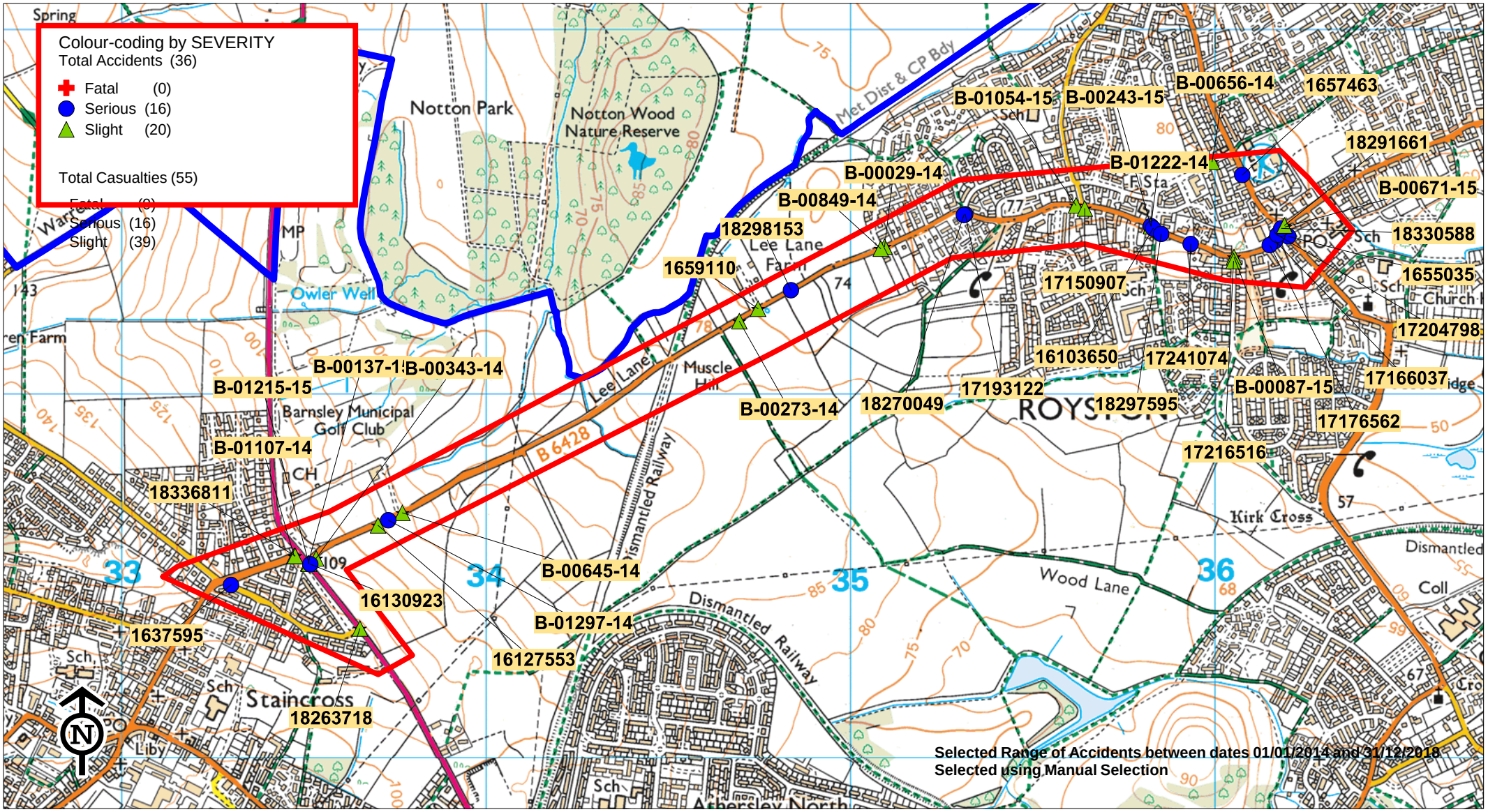
LEE LANE, ROYSTON

Appendix B Public Rights of Way Information

Location: Enter postcode, street or house name



Appendix C Accident Data



All rights reserved. Rotherham MBC Licence No. 100019587.
South Yorkshire LTP Partnership Licence No. 100019587 2019

MAKING SOUTH YORKSHIRE ROADS SAFER

Selected map area

SCALE	1 : 11840
DATE	09/10/2019
DRWG No.	
DRN BY	

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00029-14 11/01/2014 Saturday Time: 1530 Vehicles 2 Casualties 1 Slight
Easting: 435,095 Northing: 411,404
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: LEE LANE ROYSTON J/W APPLEHAIGH VIEW
Description: DRIVER OF V1 STOPPED AND GOT OUT TO CHECK VEH WHEN V2 COLL WITH REAR AND LEFT THE SCENE.

Vehicle Reference: 1 Car Parked
First point of impact: Back
Vehicle direction: Parked to Parked Journey: Other
Age of Driver : 39 Breath test: Not requested

Contributory Factors : 308 406

Casualty Reference: 1 Age: 39 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: W to E Journey: Other
Age of Driver : Breath test: Driver not contacted

Contributory Factors : 308 406

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00273-14 26/03/2014 Wednesda Time: 0835 Vehicles 2 Casualties 2 Slight
Easting: 434,696 Northing: 411,199
Fine without high winds Road Surface: Wet/Damp Daylight
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE ROYSTON 435 MTS APPLEHAIGH VIEW
Description: V2 SLOWING DOWN INTENDING TO TURN RGT, V1 FOLLOWING FAILED TO REACT IN TIME AND COLL WITH REAR OF V2.

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: NE to SW Journey: Commuting to/from work
Age of Driver : 18 Breath test: Negative

Contributory Factors : 406 405 605

Vehicle Reference: 2 Car Slowing or Stopping
First point of impact: Back
Vehicle direction: NE to SW Journey: Pupil riding to/from school
Age of Driver : 37 Breath test: Negative

Contributory Factors : 406 405 605

Casualty Reference: 1 Age: 37 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 47 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00343-14 10/04/2014 Thursday Time: 1859 Vehicles 2 Casualties 2 Slight
Easting: 433,534 Northing: 410,547
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE BARNSLEY 20 MTS WAKEFIELD ROAD
Description: V2 STATIONARY IN TF ON ROYSTON LN WAITING TO JOIN WAKEFIELD RD, V1 ON WAKEFIELD RD TURNING INTO ROYSTON LN COLLIDED WITH F/O/S OF V2 CAUSING V1 TO TURN ONTO SIDE.

Vehicle Reference: 1 Car Turning left
First point of impact: Front
Vehicle direction: NW to NE Journey: Other
Age of Driver : 26 Breath test: Negative

Contributory Factors : 401

Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Waiting to go ahead but held up
First point of impact: Offside
Vehicle direction: NE to SW Journey: Other
Age of Driver : 29 Breath test: Not requested

Contributory Factors : 401

Casualty Reference: 2 Age: 29 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00645-14 14/07/2014 Monday Time: 1200 Vehicles 4 Casualties 5 Slight
Easting: 433,771 Northing: 410,672
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE ROYSTON 280 MTS WAKEFIELD ROAD
Description: TRAFFIC STATIONARY TO ALLOW TRACTOR TO TURN, V1 FAILED TO REACT IN TIME AND COLL WITH REAR OF V2 PUSHING IT INTO V3 PUSHING IT INTO V4.

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: SW to NE Journey: Other
Age of Driver : 25 Breath test: Positive

Contributory Factors : 306 307

Vehicle Reference: 2 Car Waiting to go ahead but held up
First point of impact: Back
Vehicle direction: SW to NE Journey: Other
Age of Driver : 26 Breath test: Not requested

Contributory Factors : 306 307

Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

Vehicle Reference: 3 Car — Waiting to go ahead but held up
First point of impact: Back
Vehicle direction: SW to NE — Journey: Other
Age of Driver : 30 — Breath test: Not requested

Contributory Factors : 306 307

Casualty Reference: 2 Age: 30 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 3 Age: 33 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 4 Age: 3 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 5 Age: 1 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 4 Car — Waiting to go ahead but held up
First point of impact: Back
Vehicle direction: SW to NE — Journey: Other
Age of Driver : 46 — Breath test: Not requested

Contributory Factors : 306 307

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00656-14 16/07/2014 Wednesda Time: 1745 Vehicles 1 Casualties 2 Slight
Easting: 435,995 Northing: 411,637
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: OAKWOOD ROAD ROYSTON J/W OAKWOOD AVENUE
Description: PEDESTRIAN PUSHING HIS CHILD IN PUSHCHAIR HAS BEEN STRUCK BY UNKNOWN RED VEHICLE AS HE WALKED ALONG RD, V1 FAILS TO STOP, NO VRM GAINED

Vehicle Reference: 1 Car Moving off
First point of impact: Front
Vehicle direction: N to E Journey: Other
Age of Driver : Breath test: Not requested

Contributory Factors :

Casualty Reference: 1 Age: 21 Male Pedestrian Severity: Slight
Ped Dir: Pedestrian Ped Movement : Driver's offside
Ped Location: In carr elsewhere

Casualty Reference: 2 Age: 2 Female Pedestrian Severity: Slight
Ped Dir: Pedestrian Ped Movement : Driver's offside
Ped Location: In carr elsewhere

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00849-14 16/09/2014 Tuesday Time: 1836 Vehicles 2 Casualties 1 Slight
Easting: 435,085 Northing: 411,398
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: LEE LANE ROYSTON J/W APPLEHAIGH VIEW
Description: V1 PULLED OUT OF JUNCTION TURNING RIGHT AND COLL WITH V2 ON MAIN C/W

Vehicle Reference: 1 Car Turning right
First point of impact: Front
Vehicle direction: N to W Journey: Commuting to/from work
Age of Driver : 44 Breath test: Not requested

Contributory Factors : 405

Vehicle Reference: 2 Pedal cycle Going ahead
First point of impact: Front
Vehicle direction: E to W Journey: Other
Age of Driver : 45 Breath test: Not requested

Contributory Factors : 405

Casualty Reference: 1 Age: 45 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-01107-14 17/11/2014 Monday Time: 1745 Vehicles 2 Casualties 2 Slight
Easting: 433,474 Northing: 410,553
Fog or mist Road Surface: Dry Darkness: street lighting unknown
Road Type: Single carriageway Speed Limit: 40

Location: SHAW LANE MAPPLEWELL J/W WAKEFIELD ROAD
Description: V1 STATIONARY AT JCT, V2 FOLLOWING FAILED TO REACT IN TIME AND COLL WITH REAR OF V1.

Vehicle Reference: 1 Car Waiting to go ahead but held up
First point of impact: Back
Vehicle direction: W to E Journey: Other
Age of Driver : 21 Breath test: Driver not contacted

Contributory Factors : 405

Casualty Reference: 1 Age: 21 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 21 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: W to E Journey: Other
Age of Driver : 80 Breath test: Driver not contacted

Contributory Factors : 405

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-01222-14 04/12/2014 Thursday Time: 1907 Vehicles 2 Casualties 1 Serious
Easting: 435,827 Northing: 411,460
Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET ROYSTON J/W OAKWOOD DRIVE
Description: V1 EMERGED FROM JCT INTO PATH OF V2 AND COLL OCC.

Vehicle Reference: 1 Car Turning right
First point of impact: Front
Vehicle direction: N to NW Journey: Other
Age of Driver : 60 Breath test: Negative

Contributory Factors :

Vehicle Reference: 2 Motorcycle over 50cc and up Going ahead
First point of impact: Front
Vehicle direction: NW to SE Journey: Other
Age of Driver : 17 Breath test: Not requested

Contributory Factors :

Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-01297-14 24/12/2014 Wednesda Time: 2105 Vehicles 1 Casualties 2 Serious
Easting: 433,732 Northing: 410,652
Fine without high winds Road Surface: Dry Darkness: no street lighting
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE STAINCROSS 240 MTS WAKEFIELD ROAD
Description: DRIVER CONFRONTED BY DRUNK PED BUT NO TIME TO BRAKE AND COLL OCC.

Vehicle Reference: 1 Motorcycle over 50cc and up Going ahead
First point of impact: Front
Vehicle direction: W to E Journey: Journey as part of work
Age of Driver : 22 Breath test: Negative

Contributory Factors : 806 805 809

Casualty Reference: 1 Age: 22 Male Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 22 Male Pedestrian Severity: Slight
Ped Dir: 9 Ped Movement : Movement U/K
Ped Location: In carr not crossing

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00087-15 27/01/2015 Tuesday Time: 1730 Vehicles 2 Casualties 1 Slight
Easting: 436,055 Northing: 411,375
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET ROYSTON J/W REDWOOD AVENUE
Description: A SCOOTER (V1) HAS CUT ACROSS FRONT OF V2 AND THEY HAVE COLLIDED RESULTING IN INJURY TO RIDER OF V1

Vehicle Reference: 1 Motorcycle 50cc and under Turning right
First point of impact: Front
Vehicle direction: W to S Journey: Other
Age of Driver : 16 Breath test: Not requested

Contributory Factors : 406 406 605 605

Casualty Reference: 1 Age: 16 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: E to W Journey: Other
Age of Driver : 37 Breath test: Not requested

Contributory Factors : 406 406 605 605

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00137-15 11/02/2015 Wednesda Time: 1748 Vehicles 2 Casualties 1 Slight
Easting: 433,512 Northing: 410,533
Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 40

Location: WAKEFIELD ROAD STAINCROSS J/W LEE LANE
Description: V1 TR ALONG CARR WHEN V2 EMERGED FROM JCT INTO PATH OF V1 AND COLL OCC.

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: NW to SE Journey: Other
Age of Driver : 70 Breath test: Not requested

Contributory Factors : 302 405 405 402

Casualty Reference: 1 Age: 70 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Turning right
First point of impact: Offside
Vehicle direction: NE to NW Journey: Other
Age of Driver : 45 Breath test: Negative

Contributory Factors : 302 405 405 402

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00243-15 22/02/2015 Sunday Time: 1357 Vehicles 2 Casualties 4 Slight
Easting: 435,827 Northing: 411,460
Raining without high winds Road Surface: Wet/Damp Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET ROYSTON J/W OAKWOOD ROAD
Description: VH1 M/CAR TRV EB ON HIGH ST. VH2 M/CAR TURNS R INTO OAKWOOD RD ACROSS PATH VH1 CAUSING COLLISION

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: W to E Journey: Other
Age of Driver : 20 Breath test: Not requested

Contributory Factors : 306 307 405 406 403

Casualty Reference: 2 Age: 20 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 3 Age: 2 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 4 Age: 16 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

Vehicle Reference: 2 Car Turning right
First point of impact: Front
Vehicle direction: E to N Journey: Other
Age of Driver : 70 Breath test: Not requested

Contributory Factors : 306 307 405 406 403

Casualty Reference: 1 Age: 70 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-00671-15 24/07/2015 Friday Time: 0815 Vehicles 2 Casualties 1 Slight
Easting: 436,195 Northing: 411,458
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: MIDLAND ROAD ROYSTON JW CHURCH STREET
Description: PEDAL CYCLE OVER TAKEN BY VEH 1 AT JUNCTION. VEH 1 STOPPED AT RED LIGHTS PEDAL CYCLE ATTEMPTED TO BRAKE BUT BRAKES FAILED AND COLLIDED WITH VEH 1

Vehicle Reference: 1 Car — Waiting to go ahead but held up
First point of impact: Nearside
Vehicle direction: NE to SW — Journey: Journey as part of work
Age of Driver : 52 — Breath test: Driver not contacted

Contributory Factors : 410 203

Vehicle Reference: 2 Pedal cycle — Slowing or Stopping
First point of impact: Front
Vehicle direction: NE to SW — Journey: Other
Age of Driver : 37 — Breath test: Not applicable

Contributory Factors : 410 203

Casualty Reference: 1 Age: 37 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-01054-15 16/11/2015 Monday Time: 0001 Vehicles 2 Casualties 2 Slight
Easting: 435,621 Northing: 411,517
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET ROYSTON J/W SUMMER LANE
Description: V1 TV HIGH ST BEGINS TO OVTK VEH2 WHICH IS WAITING TO OVTK PARKED VEH. COLL OCCURS.

Vehicle Reference: 1 Car Overtaking moving vehicle on its offside
First point of impact: Nearside
Vehicle direction: W to E Journey: Commuting to/from work
Age of Driver : 35 Breath test: Not requested

Contributory Factors : 405 406

Casualty Reference: 1 Age: 35 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Moving off
First point of impact: Offside
Vehicle direction: W to E Journey: Other
Age of Driver : 35 Breath test: Not requested

Contributory Factors : 405 406

Casualty Reference: 2 Age: 35 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

B-01215-15 24/12/2015 Thursday Time: 1530 Vehicles 2 Casualties 1 Slight
Easting: 433,514 Northing: 410,532
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 40

Location: WAKEFIELD ROAD BARNSLEY JW LEE LANE
Description: VEH 1 INDICATING TO TURN RIGHT ONTO LEES LANE. VEH 2 PULLS OUT OF LEES LANE AND COLLIDED WITH VEH 1.

Vehicle Reference: 1 Car Turning right
First point of impact: Front
Vehicle direction: SE to NE Journey: Other
Age of Driver : 59 Breath test: Driver not contacted

Contributory Factors : 405 403

Casualty Reference: 1 Age: 27 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Turning right
First point of impact: Front
Vehicle direction: NE to NW Journey: Other
Age of Driver : Breath test: Driver not contacted

Contributory Factors : 405 403

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

1637595 03/01/2016 Sunday Time: 0153 Vehicles 1 Casualties 2 Serious
Easting: 433,300 Northing: 410,474
Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: PADDOCK ROAD BARNSLEY AT OR WITHIN 20 MTS OF SHAW LANE (B6428)
Description: FEMALE DRIVER DISTRACTED MISSES GIVEWAY, ATTEMPTS TO BRAKE SKIDS ON WET FLOOR ON TO WET GRASS VERGE AND COLLIDES WITH STONE GARDEN WALL

Vehicle Reference: 1 Car Turning left
First point of impact: Front
Vehicle direction: SE to SW Journey: Other
Age of Driver : 42 Breath test: Negative

Contributory Factors : 103 509

Casualty Reference: 1 Age: 42 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 21 Female Passenger Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

1655035 05/03/2016 Saturday Time: 1915 Vehicles 1 Casualties 1 Serious
Easting: 436,204 Northing: 411,432
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: CHURCH STREET (B6132) BARNSLEY
Description: VEH 1 TRAV TOWARDS JET STATION. PED STOOD ON NARROW PART OF PAVEMENT WAITING TO CROSS HAS BEEN STRUCK BY WINGMIRROR AND FOOT RAN OVER

Vehicle Reference: 1 Car Going ahead
First point of impact: Nearside
Vehicle direction: NW to SE Journey: Not known
Age of Driver : 18 Breath test: Driver not contacted

Contributory Factors : 809 806 802

Casualty Reference: 1 Age: 45 Female Pedestrian Severity: Serious

Ped Dir: Pedestrian Ped Movement : Movement U/K
Ped Location: On footpath / verge

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

1657463 01/04/2016 Friday Time: 0650 Vehicles 2 Casualties 1 Serious
Easting: 436,078 Northing: 411,601
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: STATION ROAD (B6132) BARNSLEY J/W PRIVATE ENTRANCE
Description: V1 WAITING TO JOIN MAIN ROAD FROM PASSAGE BET TERRACED HOUSES. PARKED VEHS ALONG STATION ROAD. V2 TRAVELLING STATION ROAD INTO PATH OF V1 AND COLL OCCURRED.

Vehicle Reference: 1 Car Waiting to turn right
First point of impact: Front
Vehicle direction: W to S Journey: Commuting to/from work
Age of Driver : 65 Breath test: Negative

Contributory Factors : 405 108 108 404

Vehicle Reference: 2 Motorcycle over 50cc and up Going ahead
First point of impact: Nearside
Vehicle direction: S to N Journey: Commuting to/from work
Age of Driver : 36 Breath test: Negative

Contributory Factors : 405 108 108 404

Casualty Reference: 1 Age: 36 Male Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

1659110 11/04/2016 Monday Time: 0920 Vehicles 2 Casualties 1 Slight
Easting: 434,748 Northing: 411,233
Other Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE (B6428) BARNSLEY J/W PRIVATE ENTRANCE
Description: V1 TRAVELLING ALONG LEE LANE TOWARDS ROYSTON, V2 PULLED OUT OF DRIVE WAY ONTO LEE LANE IN THE DIRECTIONOF ROYSTON COLLIDING WITH V1

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: SW to NE Journey: Commuting to/from work
Age of Driver : 47 Breath test: Driver not contacted

Contributory Factors :

Casualty Reference: 1 Age: Female Passenger Severity: Slight

Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Turning left
First point of impact: Offside
Vehicle direction: NW to NE Journey: Not known
Age of Driver : Breath test: Driver not contacted

Contributory Factors :

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

16103650 10/08/2016 Wednesda Time: 1452 Vehicles 2 Casualties 1 Serious
Easting: 435,833 Northing: 411,454
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY J/W PRIVATE ENTRANCE
Description: V1 TURNING RIGHT INTO CAR PARK AND HIT BY V2 TRAVELLING IN OPP DIRECTION

Vehicle Reference: 1 Car Turning right
First point of impact: Front
Vehicle direction: NW to S Journey: Other
Age of Driver : 47 Breath test: Driver not contacted

Contributory Factors : 605

Vehicle Reference: 2 Motorcycle - unknown cc Going ahead
First point of impact: Front
Vehicle direction: SE to NW Journey: Other
Age of Driver : 14 Breath test: Driver not contacted

Contributory Factors : 605

Casualty Reference: 1 Age: 14 Male Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

16127553 06/11/2016 Sunday Time: 1900 Vehicles 2 Casualties 1 Slight
Easting: 433,704 Northing: 410,638
Fine without high winds Road Surface: Dry Darkness: no street lighting
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE (B6428) BARNSLEY
Description: V2 COLL WITH REAR OF V1 CAUSING V1 TO CROSS ROAD AND END UP IN THE BUSHES. V2 FTS

Vehicle Reference: 1 Car Going ahead
First point of impact: Back
Vehicle direction: NE to SW Journey: Other
Age of Driver : 27 Breath test: Not requested

Contributory Factors : 501

Casualty Reference: 1 Age: 27 Female Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: NE to SW Journey: Not known
Age of Driver : Breath test: Driver not contacted

Contributory Factors : 501

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

16130923 13/11/2016 Sunday Time: 1300 Vehicles 2 Casualties 1 Serious
Easting: 433,518 Northing: 410,531
Unknown Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 40

Location: WAKEFIELD ROAD (A61) BARNSLEY AT OR WITHIN 20 MTS OF LEE LANE (B6428)
Description: V1 TRAVELLED FROM DIRECTION OF SHAW LANE TURNING RIGHT INTO WAKEFIELD ROAD. V2 TRAVELLED FROM LEE LANE TURNING LEFT INTO WAKEFIELD ROAD AND A COLL OCCURRED.

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: NW to SE Journey: Other
Age of Driver : 91 Breath test: Not requested

Contributory Factors : 302 406 406 405 505

Casualty Reference: 1 Age: 91 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Van or Goods <= 3.5 tonnes Turning left
First point of impact: Offside
Vehicle direction: NE to SE Journey: Journey as part of work
Age of Driver : 21 Breath test: Not requested

Contributory Factors : 302 406 406 405 505

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17150907 24/01/2017 Tuesday Time: 1150 Vehicles 1 Casualties 1 Slight
Easting: 435,645 Northing: 411,509
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH SUMMER LANE
Description: V1 A MOBILITY SCOOTER, TRAVELLING ALONG THE PATHWAY COLLIDED WITH THE PEDESTRIAN ON THE PATHWAY. PEDESTRIAN INJURED.

Vehicle Reference: 1 Mobility Scooter Going ahead
First point of impact: Front
Vehicle direction: E to W Journey: Not known
Age of Driver : Breath test: Not applicable

Contributory Factors :

Casualty Reference: 1 Age: 82 Female Pedestrian Severity: Slight
Ped Dir: Pedestrian Ped Movement : Movement U/K
Ped Location: On footpath / verge

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17166037 06/03/2017 Monday Time: 0900 Vehicles 1 Casualties 1 Serious
Easting: 436,168 Northing: 411,420
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY
Description: V001 REVERSES FROM A PARKING BAY ON NEARSIDE OF ROAD - ORIGINAL POSITION PARKED NOSE INTO SPACE, 90 DEGREES TO CARRIAGEWAY. AS V001 REVERSES, C001 - WHO IS STANDING ON THE PAVEMENT BEHIND - IS STRUCK BY THE VEHICLE, CAUSING INJURIES TO RIGHT ARM.

Vehicle Reference: 1 Car Reversing
First point of impact: Back
Vehicle direction: SE to NW Journey: Other
Age of Driver : 85 Breath test: Driver not contacted

Contributory Factors : 405 710

Casualty Reference: 1 Age: 83 Female Pedestrian Severity: Serious
Ped Dir: 9 Ped Movement : Movement U/K
Ped Location: Location U/K

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17176562 14/04/2017 Friday Time: 1800 Vehicles 1 Casualties 1 Serious
Easting: 436,153 Northing: 411,408
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH NEW STREET
Description: CASUALTY WAS CROSSING ROAD (HIGH STREET) OPPOSITE NEW ST - STRPPED OUT IN FRONT OF A CAR COMING OUT FROM NEW ST TURNING RIGHT. LOW SPEED COLLISION CAUSED MINOR INJURY - BRUISING TO LOWER LEFT LEG & RAN OVER BOYS SCOOTER. NO VEHICLE DAMAGE.

Vehicle Reference: 1 Car Turning right
First point of impact: Front
Vehicle direction: SE to NE Journey: Other
Age of Driver : 50 Breath test: Not requested

Contributory Factors : 803 802 405

Casualty Reference: 1 Age: 13 Male Pedestrian Severity: Serious
Ped Dir: Pedestrian Ped Movement : Driver's nearside
Ped Location: Within 50m ped crossing

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17193122 13/06/2017 Tuesday Time: 0631 Vehicles 3 Casualties 1 Serious
Easting: 435,317 Northing: 411,493
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH WESTFIELDS
Description: VEHICLE 1 HAS BEEN DRIVING OUT OF WESTFIELDS TURNING LEFT ONTO HIGH STREET, ROYSTON. VEHICLE 2 WAS TRAVELLING ON HIGH STREET TOWARDS ROYSTON, WHEN VEHICLE 1 HAS PULLED OUT COLLIDING WITH THE REAR NEARSIDE OF VEHICLE 2. VEHICLE 2 HAS THEN SPUN AND COLLIDE D WITH THE FRONT OFFSIDE OF VEHICLE 3 WHICH WAS PARKED ON THE PAVEMENT OUTSIDE 2 RAILWAY COURT. THIS CAUSED VEHICLE 3 TO SPIN AND COLLIDE WITH THE WALL OF RAILWAY COURT.

Vehicle Reference: 1 Car Turning left
First point of impact: Front
Vehicle direction: N to E Journey: Journey as part of work
Age of Driver : 66 Breath test: Not requested

Contributory Factors : 602

Vehicle Reference: 2 Car Going ahead
First point of impact: Back
Vehicle direction: W to E Journey: Journey as part of work
Age of Driver : 52 Breath test: Not requested

Contributory Factors : 602

Casualty Reference: 1 Age: 52 Female Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 3 Car Parked
First point of impact: Back
Vehicle direction: Parked to Parked Journey: Other
Age of Driver : 53 Breath test: Not requested

Contributory Factors : 602

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17204798 13/07/2017 Thursday Time: 1515 Vehicles 1 Casualties 1 Serious
Easting: 436,174 Northing: 411,436
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH CHURCH STREET (B6132)
Description: V1 TRAVELLING ALONG MIDLAND ROAD TOWARDS THE FOUR WAY CROSSROADS AT ROYSTON. TRAVELLED ACROSS THE FOUR WAY JUNCTION WHEN THE TRAFFIC LIGHTS WERE GREEN ONTO HIGH STREET, ROYSTON. ON HIGH STREET AT ROYSTON JUST AT THE FOUR WAY JUNCTION A MALE HAS CROSS AT
THE TRAFFIC LIGHT CONTROLLED CROSSING WHEN HE SHOULDNT HAVE AND HAS BEEN HIT BY V1. MALE CONVEYED TO LEEDS HOSPITAL FOR TREATMENT. NUMEROUS WITNESSES AT SCENE CONFIRM THAT MALE CROSSED ROAD WHEN HE SHOULDNT HAVE

Vehicle Reference: 1 Van or Goods <= 3.5 tonnes Going ahead
First point of impact: Front
Vehicle direction: NE to SW Journey: Other
Age of Driver : 28 Breath test: Not requested

Contributory Factors : 804

Casualty Reference: 1 Age: 70 Male Pedestrian Severity: Serious
Ped Dir: Pedestrian Ped Movement : Driver's nearside
Ped Location: On Ped Crossing

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

17216516 08/08/2017 Tuesday Time: 1730 Vehicles 2 Casualties 4 Slight
Easting: 436,054 Northing: 411,364
Raining without high winds Road Surface: Wet/Damp Daylight
Road Type: Single carriageway Speed Limit: 30

Location: REDWOOD AVENUE BARNSLEY AT OR NR JN WITH HIGH STREET (B6428)
Description: V 1 WAS WAITING ON REDWOOD AVENUE WITH ONE CAR IN FRONT OF THEM AT THE JUNCTION. WHILST WAITING, V2 HIT V1 FROM THE BACK. V2 THEN DROPPED BACK A BIT AND THEN DID A 3 POINT TURN IN THE ROAD AND WENT BACK TO REDWOOD AVENUE.

Vehicle Reference: 1 Minibus Waiting to go ahead but held up
First point of impact: Back
Vehicle direction: S to N Journey: Other
Age of Driver : 49 Breath test: Driver not contacted

Contributory Factors :

Casualty Reference: 1 Age: 16 Male Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 8 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 3 Age: 48 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 4 Age: 49 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: S to N Journey: Not known
Age of Driver : Breath test: Driver not contacted

Contributory Factors :

17241074 01/11/2017 Wednesda Time: 1757 Vehicles 1 Casualties 1 Serious
Easting: 435,936 Northing: 411,411
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH HALLCROFT RISE
Description: VEHICLE ONE WAS TRAVELLING ALONG HIGH STREET, ROYSTON HEADONG TOWARDS MAPPLEWELL. A FEMALE WAS CROSSING THE ROAD WAS CROSSING THE ROAD AND HAS BEEN HIT ON THE OFFSIDE WING. IP HAS PAIN IN THE SHOUDLER AND HIP AND HAS BEEN TAKEN TO BDGH

Vehicle Reference: 1 Car Going ahead
First point of impact: Offside
Vehicle direction: SE to NW Journey: Commuting to/from work
Age of Driver : 45 Breath test: Not requested

Contributory Factors : 809

Casualty Reference: 1 Age: 83 Female Pedestrian Severity: Serious

Ped Dir: Pedestrian Ped Movement : Driver's offside
Ped Location: In carr elsewhere

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18263718 15/01/2018 Monday Time: 0900 Vehicles 2 Casualties 1 Slight
Easting: 433,654 Northing: 410,354
Raining without high winds Road Surface: Wet/Damp Daylight
Road Type: Single carriageway Speed Limit: 40

Location: WAKEFIELD ROAD (A61) BARNSLEY AT OR NR JN WITH PADDOCK ROAD
Description: VEHICLE 1 HAS BEEN AT THE JUNCTION OF PADDOCK ROAD WITH WAKEFIELD ROAD AND HAS TURNED OUT RIGHT ONTO WAKEFIELD ROAD. VEHICLE 2 HAS BEEN TRAVELLING DOWN WAKEFIELD ROAD AWAY FROM BARNSLEY TOWARDS WAKEFIELD. THE TWO VEHICLES HAVE COLLIDED ON WAKEFIELD R
OAD. DRIVER OF VEHICLE 2 HAS ATTENDED HOSPITAL WITH NECK PAIN. NO ONE ELSE INVOLVED OTHER THAN THE TWO DRIVERS.

Vehicle Reference: 1 Car Turning right
First point of impact: Offside
Vehicle direction: SW to SE Journey: Not known
Age of Driver : 22 Breath test: Not requested

Contributory Factors : 406 406

Vehicle Reference: 2 Car Going ahead
First point of impact: Nearside
Vehicle direction: SE to NW Journey: Not known
Age of Driver : 37 Breath test: Not requested

Contributory Factors : 406 406

Casualty Reference: 2 Age: 37 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18270049 03/02/2018 Saturday Time: 0155 Vehicles 4 Casualties 1 Serious
Easting: 435,313 Northing: 411,491
Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY AT OR NR JN WITH WESTFIELDS
Description: V1 TRAVELLING ALONG LEE LANE, ROYSTON, TOWARDS HIGH STREET. AS IT APPROACHES THE BEND WHERE IT BECOMES HIGH STREET, V1 HAS LOST CONTROL AND HAS CRASHED INTO V2 AND V3 AND PUSHED V3 SOME DISTANCE DOWN THE ROAD TAKING OUT A LAMP POST. V2 HAS BEEN PUSHED IN TO A WALL, KNOCKING IT DOWN AND ONTO V4 CAUSING DAMAGE TO IT.

Vehicle Reference: 1 Car Going ahead right hand bend
First point of impact: Front
Vehicle direction: W to E Journey: Other
Age of Driver : 20 Breath test: Negative

Contributory Factors : 602

Casualty Reference: 1 Age: 20 Female Driver/rider Severity: Serious

Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Car Parked
First point of impact: Back
Vehicle direction: Parked to Parked Journey: Other
Age of Driver : 23 Breath test: Not requested

Contributory Factors : 602

Vehicle Reference: 3 Car Parked
First point of impact: Back
Vehicle direction: Parked to Parked Journey: Other
Age of Driver : 23 Breath test: Not requested

Contributory Factors : 602

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

Vehicle Reference: 4 Car Parked
First point of impact: Did not impact
Vehicle direction: Parked to Parked Journey: Other
Age of Driver : 24 Breath test: Not requested

Contributory Factors : 602

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18291661 28/04/2018 Saturday Time: 1730 Vehicles 3 Casualties 2 Slight
Easting: 436,194 Northing: 411,462
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: MIDLAND ROAD (B6428) BARNSLEY AT OR NR JN WITH STATION ROAD (B6132)
Description: V1 HAD TRAVELLED THROUGH THE CROSS ROADS AT ROYSTON AND WAS ON MIDLAND ROAD HEADING TOWARDS ASDA. V2 HAS TRIED TO OVERTAKE V1 WHILST ANOTHER CAR PARALLEL TO V1 - V2 HAS HIT BOTH VEHICLES, AND HAS PUSHED V1 INTO THE KERB THEREBY CAUSING DAMAGE TO BOTH SIDES OF THE VEHICLE. WITNESS 3 (NAME UNKNOWN) HAS DASHCAM FOOTAGE OF THE INCIDENT. THE POST OFFICE ON THE CROSS ROAD HAS CCTV CAMERAS WHICH APPEARED TO BE POINTING IN THE RIGHT DIRECTION AT THE TIME OF THE INCIDENT. THERE IS A FINANCE COMPANY OPPOS

ITE THEPOST OFFICE WHICH ALSO HAS CCTV. PARTS BELONGING TO V2 HAVE BEEN PICKED UP OFF THE ROAD AND HAVE BEEN RETAINED BY V1 DRIVER, ANOTHER VEHICLE, V3 HAS ALSO REPORTED, THEIR DETAILS ARE ADDED TO THE REPORT AND THIS IS THEIR 'HOW COLLISION OCCURE

D' DETAILS V3 WAITING FOR TRAFFIC SIGNAL TO CHANGE ON MIDLAND ROAD ROYSTON WHEN V2 CAME FROM HIGH STREET ROYSTON AND TRYED TO GET BACK INTO TRAFFIC WHICH THEN HIT V1 CAUSING DAMAGE AND THEN DROVE OFF LEAVING NO DETAILS.

Vehicle Reference: 1 Car Going ahead
First point of impact: Offside
Vehicle direction: SW to NE Journey: Other
Age of Driver : 24 Breath test: Driver not contacted

Contributory Factors : 602

Casualty Reference: 1 Age: 24 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 20 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

Vehicle Reference: 2 Car Going ahead
First point of impact: Nearside
Vehicle direction: SW to NE Journey: Not known
Age of Driver : Breath test: Driver not contacted

Contributory Factors : 602

Vehicle Reference: 3 Minibus Going ahead
First point of impact: Front
Vehicle direction: SW to NE Journey: Not known
Age of Driver : 64 Breath test: Driver not contacted

Contributory Factors : 602

18297595 22/05/2018 Tuesday Time: 1625 Vehicles 1 Casualties 1 Serious
Easting: 435,855 Northing: 411,439
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: HIGH STREET (B6428) BARNSLEY
Description: V1 DRIVING ALONG HIGH STREET ROYSTON TOWARDS THE ROYSTON CENTRE. CASUALTY WAS WALKING ON PAVEMENT TOWARDS LEE LANE. AS V1 IS TRAVELLING, SOME GUTTERING COMES LOOSE FROM VAN AND HITS CASUALTY IN THE HEAD CAUSING HER TO FALL TO THE GROUND AND BANG HER HER HEAD RESULTING IN AN INJURY.

Vehicle Reference: 1 Van or Goods <= 3.5 tonnes Going ahead
First point of impact: Did not impact
Vehicle direction: NW to SE Journey: Other
Age of Driver : Breath test: Driver not contacted

Contributory Factors :

Casualty Reference: 1 Age: 40 Female Pedestrian Severity: Serious
Ped Dir: Pedestrian Ped Movement : Movement U/K
Ped Location: On footpath / verge

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18298153 25/05/2018 Friday Time: 2350 Vehicles 1 Casualties 1 Serious
Easting: 434,838 Northing: 411,284
Fine without high winds Road Surface: Dry Darkness: no street lighting
Road Type: Single carriageway Speed Limit: 60

Location: LEE LANE (B6428) BARNSLEY
Description: PEDESTRIAN 1 WAS WALKING ALONG LEE LANE ROYSTON WITH A SHORT HAIRED GERMAN POINTER DOG TOWARDS ROYSTON . VEHICLE 1 WAS TRAVELLING ALONG LEE LANE TOWARDS ROYSTON AND HAS HIT BOTH PEDESTRIAN AND DOG. V1 DID NOT STOP AND INJURIES TO PEDESTRIAN AND DOG

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: SW to NE Journey: Not known
Age of Driver : 19 Breath test: Driver not contacted

Contributory Factors : 405

Casualty Reference: 1 Age: 33 Male Pedestrian Severity: Serious

Ped Dir: Pedestrian Ped Movement : In carr back to traffic
Ped Location: In carr not crossing

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18330588 10/09/2018 Monday Time: 1320 Vehicles 2 Casualties 1 Serious
Easting: 436,185 Northing: 411,454
Fine without high winds Road Surface: Dry Daylight
Road Type: Single carriageway Speed Limit: 30

Location: CHURCH STREET (B6132) BARNSLEY AT OR NR JN WITH MIDLAND ROAD (B6428)
Description: BOTH VEHICLES USING TRAFFIC LIGHT CONTROLLED JUNCTION. BOTH STATE LIGHTS ON GREEN AND AS SUCH MOVE FORWARD COLLIDING IN THE CENTRE OF THE JUNCTION. CCTV VIEWED AT THE POST OFFICE WHICH SHOWS THE COLLISION BUT NOT THE TRAFFIC LIGHTS. THERE IS NO OTHER CCT V AND THEREFORE THERE IS NO EVIDENCE TO FIND THE CAUSE OF THE COLLISION. NO OTHER WITNESSES, NO DASH CAM FOOTAGE.

Vehicle Reference: 1 Car Going ahead
First point of impact: Offside
Vehicle direction: SE to NW Journey: Other
Age of Driver : 57 Breath test: Not requested

Contributory Factors : 301 301

Casualty Reference: 1 Age: 57 Female Driver/rider Severity: Serious
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference: 2 Van or Goods <= 3.5 tonnes Going ahead
First point of impact: Front
Vehicle direction: NE to SW Journey: Other
Age of Driver : 46 Breath test: Not requested

Contributory Factors : 301 301

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**
Selection: **Notes:**
Selected using Build Query : Local_auth = 'Barnsley' **Tom Pridmore - Optima Highways**

18336811 11/10/2018 Thursday Time: 1941 Vehicles 2 Casualties 2 Slight
Easting: 433,476 Northing: 410,554
Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 40

Location: SHAW LANE (B6428) BARNSLEY AT OR NR JN WITH WAKEFIELD ROAD (A61)
Description: VEHICLE 1 HAS TURNED ONTO THE B6428 SHAW LANE, MAPPLEWELL, BARNSLEY FROM THE A61 WAKEFIELD RD, BARNSLEY. THE VEHICLE HAS TRAVELLED ONTO THE WRONG SIDE OF THE ROAD AND HIS VEHICLE 2 WHICH WAS TRAVELLING TOWARDS HIM. THIS HAS CAUSED DAMAGE TO VEHICLE 1S OF
F SIDE FRONT WHEEL AND VEHICLE 2 OFF REAR WHEEL. THE DRIVER OF VEHICLE 1 HAS THEN SPOKEN TO A WITNESS WHO COULD SMELL ALCOHOL ON HIS BREATH. THE DRIVER HAS THEN LEFT THE SCENE ABANDONING THE VEHICLE PRIOR TO POLICE ARRIVAL.

Vehicle Reference: 1 Car Turning left
First point of impact: Front
Vehicle direction: SE to SW Journey: Not known
Age of Driver : 44 Breath test: Driver not contacted

Contributory Factors : 501

Vehicle Reference: 2 Car Going ahead
First point of impact: Front
Vehicle direction: SW to NE Journey: Other
Age of Driver : 51 Breath test: Not requested

Contributory Factors : 501

Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference: 2 Age: 25 Female Passenger Severity: Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates **01/01/2014** **and** **31/12/2018** **(60) months**

Selection:

Selected using Build Query : Local_auth = 'Barnsley'

Notes:

Tom Pridmore - Optima Highways

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only excluding 2-wheels	0	12	16	28
2-wheeled motor vehicles	0	4	1	5
Pedal cycles	0	0	2	2
Horses & other	0	0	1	1
Total	0	16	20	36

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	5	18	23
Passenger	0	1	14	15
Motorcycle rider	0	4	1	5
Cyclist	0	0	2	2
Pedestrian	0	7	4	11
Other	0	0	0	0
Total	0	16	39	55

Appendix D Trip Distribution

2011 Census Development Distribution Data

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Amber Valley 003	1	0.06%			0.06%						0.06%
Amber Valley 004	1	0.06%			0.06%						0.06%
Amber Valley 016	1	0.06%			0.06%						0.06%
Barnsley 001	81	4.58%							2.29%	2.29%	4.58%
Barnsley 002	100	5.65%		1.69%			1.69%	2.26%			5.65%
Barnsley 003	8	0.45%					0.45%				0.45%
Barnsley 004	41	2.32%		0.93%	1.39%						2.32%
Barnsley 005	22	1.24%			1.24%						1.24%
Barnsley 006	20	1.13%					0.79%	0.34%			1.13%
Barnsley 007	59	3.33%		1.67%			1.67%				3.33%
Barnsley 008	10	0.56%		0.06%			0.28%	0.23%			0.56%
Barnsley 009	12	0.68%		0.20%			0.47%				0.68%
Barnsley 010	37	2.09%		2.09%							2.09%
Barnsley 011	21	1.19%		0.24%			0.95%				1.19%
Barnsley 012	78	4.41%			4.41%						4.41%
Barnsley 013	160	9.04%		9.04%							9.04%
Barnsley 014	12	0.68%					0.68%				0.68%
Barnsley 015	94	5.31%		3.19%			2.12%				5.31%
Barnsley 016	8	0.45%			0.45%						0.45%
Barnsley 017	19	1.07%		1.07%							1.07%
Barnsley 018	7	0.40%		0.28%			0.12%				0.40%
Barnsley 019	14	0.79%		0.16%	0.63%						0.79%
Barnsley 020	5	0.28%		0.20%			0.08%				0.28%
Barnsley 021	9	0.51%		0.36%			0.15%				0.51%
Barnsley 022	7	0.40%					0.40%				0.40%
Barnsley 023	14	0.79%		0.47%			0.32%				0.79%
Barnsley 024	8	0.45%			0.45%						0.45%
Barnsley 025	3	0.17%					0.17%				0.17%
Barnsley 026	11	0.62%		0.50%			0.12%				0.62%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Barnsley 027	10	0.56%			0.56%						0.56%
Barnsley 028	13	0.73%		0.59%	0.15%						0.73%
Barnsley 030	4	0.23%		0.18%	0.05%						0.23%
Bassetlaw 009	3	0.17%			0.17%						0.17%
Birmingham 050	2	0.11%			0.11%						0.11%
Bradford 001	1	0.06%		0.03%	0.03%						0.06%
Bradford 018	1	0.06%			0.06%						0.06%
Bradford 026	1	0.06%		0.03%	0.03%						0.06%
Bradford 038	1	0.06%		0.03%	0.03%						0.06%
Bradford 039	3	0.17%			0.08%	0.08%					0.17%
Bradford 040	1	0.06%		0.03%	0.03%						0.06%
Bradford 044	2	0.11%		0.06%	0.06%						0.11%
Bradford 046	1	0.06%		0.03%	0.03%						0.06%
Bradford 053	2	0.11%		0.06%	0.06%						0.11%
Bradford 057	6	0.34%		0.17%	0.17%						0.34%
Bradford 059	1	0.06%		0.03%	0.03%						0.06%
Bradford 060	2	0.11%		0.06%	0.06%						0.11%
Calderdale 008	3	0.17%			0.17%						0.17%
Calderdale 015	2	0.11%			0.11%						0.11%
Calderdale 016	2	0.11%			0.11%						0.11%
Calderdale 019	2	0.11%			0.11%						0.11%
Calderdale 025	1	0.06%			0.06%						0.06%
Chesterfield 003	1	0.06%			0.06%						0.06%
Chesterfield 010	1	0.06%			0.06%						0.06%
Chesterfield 012	1	0.06%			0.06%						0.06%
Cotswold 005	2	0.11%			0.11%						0.11%
Coventry 024	1	0.06%					0.06%				0.06%
Crawley 004	1	0.06%					0.06%				0.06%
Doncaster 002	1	0.06%					0.06%				0.06%
Doncaster 005	2	0.11%					0.11%				0.11%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Doncaster 006	1	0.06%					0.06%				0.06%
Doncaster 007	1	0.06%		0.01%			0.05%				0.06%
Doncaster 008	2	0.11%					0.11%				0.11%
Doncaster 009	1	0.06%		0.01%			0.05%				0.06%
Doncaster 011	1	0.06%		0.01%			0.05%				0.06%
Doncaster 012	1	0.06%		0.01%			0.05%				0.06%
Doncaster 013	1	0.06%		0.01%			0.05%				0.06%
Doncaster 015	3	0.17%		0.03%			0.14%				0.17%
Doncaster 019	2	0.11%		0.02%			0.09%				0.11%
Doncaster 020	1	0.06%		0.01%			0.05%				0.06%
Doncaster 021	1	0.06%		0.01%			0.05%				0.06%
Doncaster 022	2	0.11%		0.02%			0.09%				0.11%
Doncaster 023	2	0.11%		0.06%			0.06%				0.11%
Doncaster 025	1	0.06%		0.03%			0.03%				0.06%
Doncaster 027	1	0.06%		0.03%			0.03%				0.06%
Doncaster 028	4	0.23%					0.23%				0.23%
Doncaster 031	1	0.06%		0.01%	0.01%		0.04%				0.06%
Doncaster 032	1	0.06%		0.01%	0.01%		0.04%				0.06%
Doncaster 034	1	0.06%		0.01%	0.01%		0.04%				0.06%
Gateshead 005	1	0.06%			0.06%						0.06%
Gateshead 007	1	0.06%			0.06%						0.06%
Harrogate 007	1	0.06%			0.01%	0.04%	0.01%				0.06%
Harrogate 012	1	0.06%			0.01%	0.04%	0.01%				0.06%
Harrogate 016	1	0.06%			0.01%	0.04%	0.01%				0.06%
Kirklees 001	1	0.06%			0.06%						0.06%
Kirklees 002	2	0.11%			0.11%						0.11%
Kirklees 005	2	0.11%			0.11%						0.11%
Kirklees 007	4	0.23%	0.11%		0.11%						0.23%
Kirklees 013	3	0.17%	0.08%		0.08%						0.17%
Kirklees 014	2	0.11%	0.06%		0.06%						0.11%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Kirklees 015	1	0.06%	0.03%		0.03%						0.06%
Kirklees 016	2	0.11%	0.06%		0.06%						0.11%
Kirklees 017	6	0.34%	0.17%		0.17%						0.34%
Kirklees 019	1	0.06%	0.03%		0.03%						0.06%
Kirklees 021	1	0.06%	0.03%		0.03%						0.06%
Kirklees 022	1	0.06%	0.03%		0.03%						0.06%
Kirklees 023	1	0.06%	0.03%		0.03%						0.06%
Kirklees 024	5	0.28%	0.14%		0.14%						0.28%
Kirklees 025	2	0.11%	0.06%		0.06%						0.11%
Kirklees 026	1	0.06%	0.03%		0.03%						0.06%
Kirklees 029	3	0.17%			0.17%						0.17%
Kirklees 033	1	0.06%			0.06%						0.06%
Kirklees 034	1	0.06%			0.06%						0.06%
Kirklees 042	1	0.06%			0.06%						0.06%
Kirklees 043	1	0.06%			0.06%						0.06%
Kirklees 044	1	0.06%			0.06%						0.06%
Kirklees 046	3	0.17%			0.17%						0.17%
Kirklees 051	2	0.11%			0.11%						0.11%
Kirklees 053	1	0.06%			0.06%						0.06%
Kirklees 054	1	0.06%			0.06%						0.06%
Kirklees 057	5	0.28%		0.07%	0.21%						0.28%
Kirklees 058	2	0.11%			0.11%						0.11%
Leeds 001	1	0.06%			0.06%						0.06%
Leeds 002	1	0.06%			0.06%						0.06%
Leeds 007	2	0.11%			0.11%						0.11%
Leeds 009	1	0.06%			0.06%						0.06%
Leeds 016	1	0.06%			0.06%						0.06%
Leeds 019	2	0.11%			0.11%						0.11%
Leeds 023	1	0.06%			0.06%						0.06%
Leeds 027	1	0.06%			0.06%						0.06%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Leeds 028	1	0.06%			0.06%						0.06%
Leeds 030	2	0.11%			0.06%	0.06%					0.11%
Leeds 032	2	0.11%			0.02%	0.09%					0.11%
Leeds 034	1	0.06%			0.01%	0.05%					0.06%
Leeds 035	2	0.11%			0.02%	0.09%					0.11%
Leeds 040	1	0.06%			0.03%	0.03%					0.06%
Leeds 042	1	0.06%			0.03%	0.03%					0.06%
Leeds 048	1	0.06%			0.03%	0.03%					0.06%
Leeds 055	5	0.28%			0.14%	0.14%					0.28%
Leeds 057	1	0.06%			0.03%	0.03%					0.06%
Leeds 061	3	0.17%			0.08%	0.08%					0.17%
Leeds 063	3	0.17%			0.08%	0.08%					0.17%
Leeds 064	5	0.28%			0.14%	0.14%					0.28%
Leeds 065	1	0.06%			0.03%	0.03%					0.06%
Leeds 066	1	0.06%			0.03%	0.03%					0.06%
Leeds 067	2	0.11%			0.06%	0.06%					0.11%
Leeds 068	2	0.11%			0.06%	0.06%					0.11%
Leeds 070	3	0.17%			0.08%	0.08%					0.17%
Leeds 071	4	0.23%			0.11%	0.11%					0.23%
Leeds 073	2	0.11%			0.06%	0.06%					0.11%
Leeds 075	3	0.17%			0.08%	0.08%					0.17%
Leeds 076	1	0.06%			0.03%	0.03%					0.06%
Leeds 081	1	0.06%			0.03%	0.03%					0.06%
Leeds 082	4	0.23%			0.11%	0.11%					0.23%
Leeds 083	1	0.06%			0.03%	0.03%					0.06%
Leeds 085	3	0.17%			0.08%	0.08%					0.17%
Leeds 086	2	0.11%			0.06%	0.06%					0.11%
Leeds 087	1	0.06%			0.03%	0.03%					0.06%
Leeds 088	1	0.06%			0.03%	0.03%					0.06%
Leeds 090	2	0.11%			0.06%	0.06%					0.11%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Leeds 091	2	0.11%			0.06%	0.06%					0.11%
Leeds 093	6	0.34%			0.17%	0.17%					0.34%
Leeds 095	1	0.06%			0.03%	0.03%					0.06%
Leeds 098	1	0.06%			0.03%	0.03%					0.06%
Leeds 099	2	0.11%			0.06%	0.06%					0.11%
Leeds 100	2	0.11%			0.06%	0.06%					0.11%
Leeds 102	2	0.11%			0.06%	0.06%					0.11%
Leeds 103	2	0.11%			0.06%	0.06%					0.11%
Leeds 104	1	0.06%			0.03%	0.03%					0.06%
Leeds 106	2	0.11%			0.06%	0.06%					0.11%
Leeds 111	13	0.73%		0.15%	0.29%	0.29%					0.73%
Leeds 112	27	1.53%		0.31%	0.61%	0.61%					1.53%
North East Derbyshire	2	0.11%		0.03%	0.06%		0.03%				0.11%
North Lincolnshire 00	1	0.06%					0.06%				0.06%
North Lincolnshire 00	1	0.06%					0.06%				0.06%
North Warwickshire 0	1	0.06%			0.06%						0.06%
North Warwickshire 0	1	0.06%			0.06%						0.06%
North Warwickshire 0	1	0.06%			0.06%						0.06%
Oldham 011	1	0.06%			0.06%						0.06%
Oldham 024	1	0.06%			0.06%						0.06%
Rochdale 001	1	0.06%			0.06%						0.06%
Rochdale 010	1	0.06%			0.06%						0.06%
Rochdale 018	1	0.06%			0.06%						0.06%
Rochdale 020	1	0.06%			0.06%						0.06%
Rotherham 001	14	0.79%		0.40%			0.40%				0.79%
Rotherham 002	28	1.58%		0.79%			0.79%				1.58%
Rotherham 003	5	0.28%		0.14%			0.14%				0.28%
Rotherham 006	1	0.06%			0.01%		0.05%				0.06%
Rotherham 008	3	0.17%			0.03%		0.14%				0.17%
Rotherham 009	2	0.11%		0.03%	0.06%		0.03%				0.11%

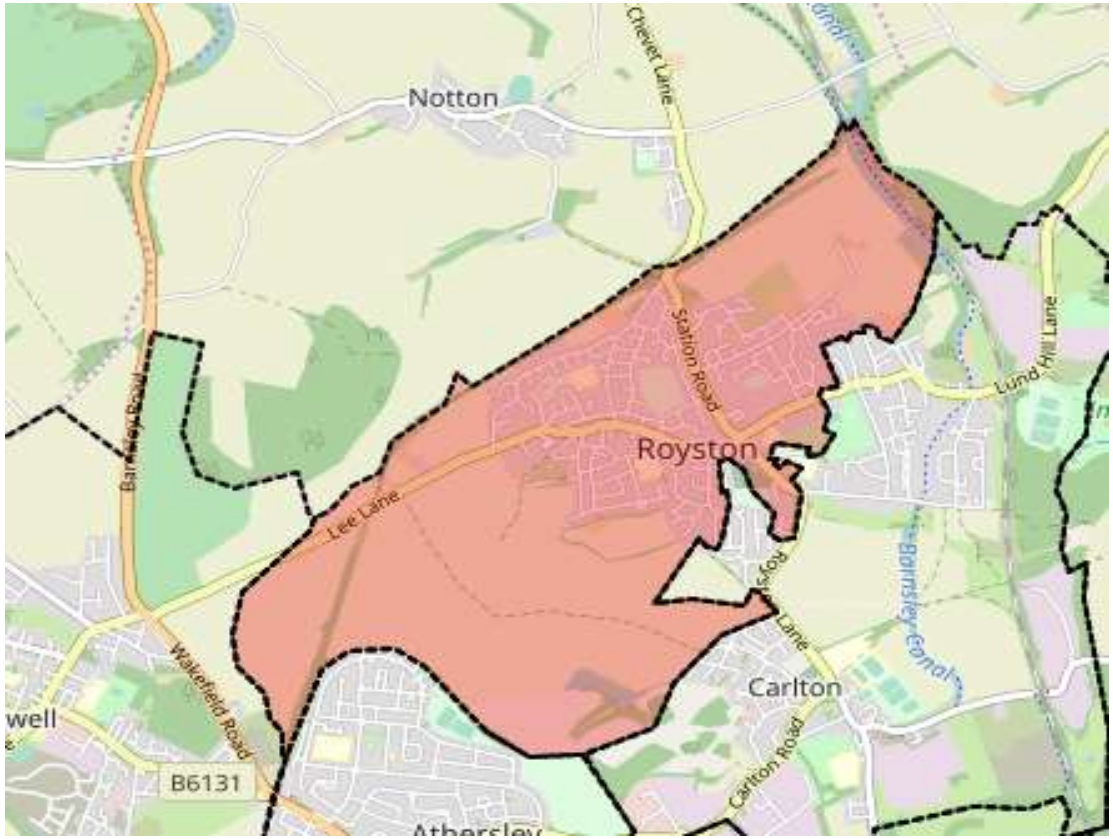
place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Rotherham 010	1	0.06%		0.01%			0.05%				0.06%
Rotherham 011	1	0.06%		0.01%	0.03%		0.01%				0.06%
Rotherham 014	1	0.06%		0.03%			0.02%				0.06%
Rotherham 016	4	0.23%			0.11%		0.11%				0.23%
Rotherham 017	3	0.17%			0.08%		0.08%				0.17%
Rotherham 018	1	0.06%		0.01%	0.03%		0.02%				0.06%
Rotherham 023	2	0.11%		0.02%	0.06%		0.03%				0.11%
Rotherham 025	1	0.06%		0.01%	0.03%		0.02%				0.06%
Rotherham 027	1	0.06%		0.01%	0.03%		0.02%				0.06%
Rotherham 028	2	0.11%		0.02%	0.06%		0.03%				0.11%
Rushcliffe 003	2	0.11%			0.06%		0.06%				0.11%
Rushcliffe 014	1	0.06%			0.03%		0.03%				0.06%
Ryedale 003	2	0.11%			0.02%			0.09%			0.11%
Ryedale 007	1	0.06%			0.01%			0.05%			0.06%
Selby 004	5	0.28%						0.28%			0.28%
Selby 008	2	0.11%						0.11%			0.11%
Selby 009	1	0.06%						0.06%			0.06%
Selby 010	7	0.40%						0.40%			0.40%
Sheffield 001	4	0.23%			0.23%						0.23%
Sheffield 003	2	0.11%			0.11%						0.11%
Sheffield 004	10	0.56%			0.56%						0.56%
Sheffield 005	1	0.06%			0.06%						0.06%
Sheffield 013	1	0.06%			0.06%						0.06%
Sheffield 014	3	0.17%			0.17%						0.17%
Sheffield 017	1	0.06%			0.06%						0.06%
Sheffield 018	18	1.02%			0.76%		0.25%				1.02%
Sheffield 021	1	0.06%			0.04%		0.01%				0.06%
Sheffield 022	9	0.51%			0.38%		0.13%				0.51%
Sheffield 023	1	0.06%			0.04%		0.01%				0.06%
Sheffield 026	1	0.06%			0.04%		0.01%				0.06%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Sheffield 030	2	0.11%			0.08%		0.03%				0.11%
Sheffield 032	5	0.28%			0.21%		0.07%				0.28%
Sheffield 042	1	0.06%			0.04%		0.01%				0.06%
Sheffield 051	1	0.06%			0.04%		0.01%				0.06%
Sheffield 061	1	0.06%			0.04%		0.01%				0.06%
Sheffield 073	10	0.56%			0.56%						0.56%
Sheffield 074	2	0.11%			0.11%						0.11%
Sheffield 075	4	0.23%			0.23%						0.23%
Shropshire 034	8	0.45%			0.45%						0.45%
South Cambridgeshire	1	0.06%					0.06%				0.06%
South Gloucestershire	1	0.06%					0.06%				0.06%
Wakefield 001	1	0.06%				0.03%		0.03%			0.06%
Wakefield 002	9	0.51%				0.25%		0.25%			0.51%
Wakefield 004	8	0.45%				0.45%					0.45%
Wakefield 005	9	0.51%				0.31%		0.20%			0.51%
Wakefield 006	9	0.51%			0.13%	0.38%					0.51%
Wakefield 007	2	0.11%			0.03%	0.08%					0.11%
Wakefield 008	5	0.28%			0.07%	0.21%					0.28%
Wakefield 009	5	0.28%			0.04%	0.24%					0.28%
Wakefield 010	2	0.11%						0.11%			0.11%
Wakefield 011	3	0.17%						0.17%			0.17%
Wakefield 012	2	0.11%						0.11%			0.11%
Wakefield 013	18	1.02%				0.76%		0.25%			1.02%
Wakefield 014	21	1.19%			0.47%	0.71%					1.19%
Wakefield 015	6	0.34%				0.08%		0.25%			0.34%
Wakefield 016	4	0.23%				0.19%		0.03%			0.23%
Wakefield 017	61	3.45%	1.72%			1.72%					3.45%
Wakefield 018	1	0.06%						0.06%			0.06%
Wakefield 019	37	2.09%	1.05%			1.05%					2.09%
Wakefield 020	1	0.06%	0.03%			0.03%					0.06%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
Wakefield 021	7	0.40%	0.16%		0.24%						0.40%
Wakefield 022	7	0.40%	0.28%		0.12%						0.40%
Wakefield 023	1	0.06%						0.06%			0.06%
Wakefield 024	5	0.28%				0.07%		0.21%			0.28%
Wakefield 025	5	0.28%	0.17%		0.11%						0.28%
Wakefield 026	6	0.34%	0.34%								0.34%
Wakefield 027	2	0.11%				0.03%		0.08%			0.11%
Wakefield 028	19	1.07%	0.86%		0.11%	0.11%					1.07%
Wakefield 029	4	0.23%			0.23%						0.23%
Wakefield 030	34	1.92%	0.77%			1.15%					1.92%
Wakefield 031	7	0.40%	0.24%		0.16%						0.40%
Wakefield 032	2	0.11%				0.11%					0.11%
Wakefield 033	15	0.85%				0.85%					0.85%
Wakefield 034	1	0.06%						0.06%			0.06%
Wakefield 035	7	0.40%	0.12%		0.28%						0.40%
Wakefield 036	14	0.79%	0.47%		0.32%						0.79%
Wakefield 037	5	0.28%	0.20%		0.08%						0.28%
Wakefield 038	22	1.24%	0.75%			0.50%					1.24%
Wakefield 039	2	0.11%						0.11%			0.11%
Wakefield 040	7	0.40%						0.40%			0.40%
Wakefield 042	5	0.28%						0.28%			0.28%
Wakefield 043	11	0.62%					0.62%				0.62%
Wakefield 044	13	0.73%					0.59%	0.15%			0.73%
Wakefield 045	2	0.11%					0.09%	0.02%			0.11%
Westminster 020	2	0.11%			0.11%						0.11%
Westminster 021	1	0.06%			0.06%						0.06%
Wokingham 006	1	0.06%			0.06%						0.06%
Wokingham 010	1	0.06%			0.06%						0.06%
York 011	2	0.11%			0.03%	0.08%					0.11%
York 019	1	0.06%			0.01%	0.04%					0.06%

place of work : 2011 super output area - middle layer	E02001509 : Barnsley 001	Percentage	Wakefield (North)	Wakefield (South)	Shaw Lane	Summer Lane	Church Street	B6428 Midland Road	Station Road	Local	Total
York 020	1	0.06%			0.01%	0.04%					0.06%
York 021	1	0.06%			0.01%	0.04%					0.06%
York 022	1	0.06%			0.01%	0.04%					0.06%
	1,770	**100%**	**8%**	**26%**	**26%**	**13%**	**16%**	**7%**	**2%**	**2%**	**100%**

Super Output Area Barnsley 001



Appendix E Modelling Outputs

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462
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Filename: Site Access Junction.j9
Path: O:\Lee Lane, Royston Eastern Site\ANALYSIS\CAPACITY\Roundabouts\Site Access Junction
Report generation date: 23/03/2020 11:12:01

»2026 Design, AM
»2026 Design, PM

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	2026 Design													
1 - B6481 High Street	D1	0.3	2.49	0.26	A	2.41	256 % [1 - B6481 High Street]	D2	0.3	2.38	0.22	A	2.54	190 % [3 - B6481 Lee Lane]
2 - Site Access		0.0	2.83	0.03	A				0.0	2.66	0.01	A		
3 - B6481 Lee Lane		0.3	2.23	0.20	A				0.5	2.63	0.33	A		
4 - Barratts Site Access		0.1	2.70	0.05	A				0.0	2.91	0.02	A		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	20/03/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Optima
Description	

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2026 Design	AM	ONE HOUR	07:30	09:00	15	✓
D2	2026 Design	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2026 Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - B6481 Lee Lane - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.41	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	256	1 - B6481 High Street

Arms

Arms

Arm	Name	Description
1	B6481 High Street	
2	Site Access	
3	B6481 Lee Lane	
4	Barratts Site Access	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - B6481 High Street	4.40	7.70	25.0	15.8	40.0	34.0	
2 - Site Access	3.50	6.40	20.0	29.0	40.0	36.0	
3 - B6481 Lee Lane	3.80	7.40	40.0	27.0	40.0	26.6	
4 - Barratts Site Access	3.50	6.30	17.0	29.5	40.0	25.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - B6481 High Street	0.690	1981
2 - Site Access	0.630	1651
3 - B6481 Lee Lane	0.719	2047
4 - Barratts Site Access	0.646	1670

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2026 Design	AM	ONE HOUR	07:30	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B6481 High Street		ONE HOUR	✓	453	100.000
2 - Site Access		ONE HOUR	✓	38	100.000
3 - B6481 Lee Lane		ONE HOUR	✓	375	100.000
4 - Barratts Site Access		ONE HOUR	✓	63	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - B6481 High Street	2 - Site Access	3 - B6481 Lee Lane	4 - Barratts Site Access
From	1 - B6481 High Street	0	6	437	10
	2 - Site Access	15	0	23	0
	3 - B6481 Lee Lane	349	10	0	16
	4 - Barratts Site Access	24	0	39	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - B6481 High Street	2 - Site Access	3 - B6481 Lee Lane	4 - Barratts Site Access
From	1 - B6481 High Street	0	0	0	0
	2 - Site Access	0	0	0	0
	3 - B6481 Lee Lane	0	0	0	0
	4 - Barratts Site Access	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - B6481 High Street	0.26	2.49	0.3	A	416	624
2 - Site Access	0.03	2.83	0.0	A	35	52
3 - B6481 Lee Lane	0.20	2.23	0.3	A	344	516
4 - Barratts Site Access	0.05	2.70	0.1	A	58	87

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand	Junction Arrivals	Circulating flow	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side)	Start queue	End queue	Delay (s)	Unsignalised level of

	(PCU/hr)	(PCU)	(PCU/hr)				(PCU/hr)	(PCU)	(PCU)		service
1 - B6481 High Street	341	85	37	1956	0.174	340	291	0.0	0.2	2.226	A
2 - Site Access	29	7	365	1421	0.020	29	12	0.0	0.0	2.584	A
3 - B6481 Lee Lane	282	71	19	2034	0.139	282	375	0.0	0.2	2.055	A
4 - Barratts Site Access	47	12	281	1488	0.032	47	20	0.0	0.0	2.498	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	407	102	44	1951	0.209	407	349	0.2	0.3	2.331	A
2 - Site Access	34	9	437	1376	0.025	34	14	0.0	0.0	2.682	A
3 - B6481 Lee Lane	337	84	22	2031	0.166	337	448	0.2	0.2	2.124	A
4 - Barratts Site Access	57	14	336	1453	0.039	57	23	0.0	0.0	2.578	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	499	125	54	1944	0.257	498	427	0.3	0.3	2.490	A
2 - Site Access	42	10	535	1314	0.032	42	18	0.0	0.0	2.828	A
3 - B6481 Lee Lane	413	103	28	2027	0.204	413	549	0.2	0.3	2.229	A
4 - Barratts Site Access	69	17	412	1404	0.049	69	29	0.0	0.1	2.697	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	499	125	54	1944	0.257	499	427	0.3	0.3	2.490	A
2 - Site Access	42	10	535	1314	0.032	42	18	0.0	0.0	2.829	A
3 - B6481 Lee Lane	413	103	28	2027	0.204	413	549	0.3	0.3	2.229	A
4 - Barratts Site Access	69	17	412	1404	0.049	69	29	0.1	0.1	2.697	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	407	102	44	1951	0.209	408	349	0.3	0.3	2.332	A
2 - Site Access	34	9	437	1376	0.025	34	14	0.0	0.0	2.683	A
3 - B6481 Lee Lane	337	84	22	2031	0.166	337	449	0.3	0.2	2.127	A
4 - Barratts Site Access	57	14	336	1452	0.039	57	23	0.1	0.0	2.579	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	341	85	37	1956	0.174	341	292	0.3	0.2	2.229	A
2 - Site Access	29	7	366	1421	0.020	29	12	0.0	0.0	2.587	A
3 - B6481 Lee Lane	282	71	19	2034	0.139	282	376	0.2	0.2	2.055	A
4 - Barratts Site Access	47	12	282	1488	0.032	47	20	0.0	0.0	2.501	A

2026 Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - B6481 Lee Lane - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.54	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	190	3 - B6481 Lee Lane

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2026 Design	PM	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B6481 High Street		ONE HOUR	✓	399	100.000
2 - Site Access		ONE HOUR	✓	16	100.000
3 - B6481 Lee Lane		ONE HOUR	✓	598	100.000
4 - Barratts Site Access		ONE HOUR	✓	26	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - B6481 High Street	2 - Site Access	3 - B6481 Lee Lane	4 - Barratts Site Access
From	1 - B6481 High Street	0	14	363	22
	2 - Site Access	6	0	10	0
	3 - B6481 Lee Lane	539	22	0	37
	4 - Barratts Site Access	10	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - B6481 High Street	2 - Site Access	3 - B6481 Lee Lane	4 - Barratts Site Access
From	1 - B6481 High Street	0	0	0	0
	2 - Site Access	0	0	0	0
	3 - B6481 Lee Lane	0	0	0	0
	4 - Barratts Site Access	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - B6481 High Street	0.22	2.38	0.3	A	366	549
2 - Site Access	0.01	2.66	0.0	A	15	22
3 - B6481 Lee Lane	0.33	2.63	0.5	A	549	823
4 - Barratts Site Access	0.02	2.91	0.0	A	24	36

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	300	75	29	1962	0.153	300	417	0.0	0.2	2.164	A
2 - Site Access	12	3	301	1461	0.008	12	27	0.0	0.0	2.483	A
3 - B6481 Lee Lane	450	113	21	2032	0.222	449	292	0.0	0.3	2.273	A
4 - Barratts Site Access	20	5	426	1395	0.014	20	44	0.0	0.0	2.617	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	359	90	34	1958	0.183	359	499	0.2	0.2	2.250	A
2 - Site Access	14	4	360	1424	0.010	14	32	0.0	0.0	2.553	A
3 - B6481 Lee Lane	538	134	25	2029	0.265	537	350	0.3	0.4	2.413	A
4 - Barratts Site Access	23	6	509	1341	0.017	23	53	0.0	0.0	2.732	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	439	110	42	1953	0.225	439	611	0.2	0.3	2.378	A
2 - Site Access	18	4	441	1373	0.013	18	40	0.0	0.0	2.655	A
3 - B6481 Lee Lane	658	165	31	2025	0.325	658	428	0.4	0.5	2.633	A
4 - Barratts Site Access	29	7	624	1267	0.023	29	65	0.0	0.0	2.907	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	439	110	42	1953	0.225	439	611	0.3	0.3	2.378	A
2 - Site Access	18	4	442	1373	0.013	18	40	0.0	0.0	2.655	A
3 - B6481 Lee Lane	658	165	31	2025	0.325	658	428	0.5	0.5	2.633	A

4 - Barratts Site Access	29	7	624	1266	0.023	29	65	0.0	0.0	2.907	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	359	90	34	1958	0.183	359	499	0.3	0.2	2.253	A
2 - Site Access	14	4	361	1424	0.010	14	32	0.0	0.0	2.553	A
3 - B6481 Lee Lane	538	134	25	2029	0.265	538	350	0.5	0.4	2.414	A
4 - Barratts Site Access	23	6	510	1340	0.017	23	53	0.0	0.0	2.733	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B6481 High Street	300	75	29	1962	0.153	301	418	0.2	0.2	2.168	A
2 - Site Access	12	3	302	1461	0.008	12	27	0.0	0.0	2.486	A
3 - B6481 Lee Lane	450	113	21	2032	0.222	451	293	0.4	0.3	2.278	A
4 - Barratts Site Access	20	5	427	1394	0.014	20	44	0.0	0.0	2.619	A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462
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Filename: 200320 Shaw Lane-Lee Lane Junction.j9
Path: O:\Lee Lane, Royston Eastern Site\ANALYSIS\CAPACITY\Priority Junctions\Wakefield Road Staggered Junction\200320 Model
Report generation date: 24/03/2020 16:02:20

»2018, AM Count
»2019, PM Count
»2026, AM Base
»2026, PM Base
»2026, AM Design
»2026, PM Design

Summary of junction performance

	AM Count					PM Count					AM Base					PM Base					AM Design					PM Design				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2018																													
Stream B-C	D1	3.9	155.47	0.96	F																									
Stream B-AD		8.0	90.33	0.93	F																									
Stream A-D		0.3	9.36	0.20	A																									
Stream D-A		5.2	173.95	0.95	F																									
Stream D-BC		10.3	117.67	0.98	F																									
Stream C-B		0.1	7.32	0.11	A																									
	2019																													
Stream B-C						D2	0.3	15.75	0.25	C																				
Stream B-AD							2.9	43.09	0.76	E																				
Stream A-D							0.4	8.95	0.30	A																				
Stream D-A							8.6	310.95	1.11	F																				
Stream D-BC							25.4	228.48	1.10	F																				
Stream C-B							0.4	10.05	0.26	B																				
	2026																													
Stream B-C											D7	24.1	761.54	1.40	F	D8	10.7	374.86	1.14	F	D9	30.0	898.30	1.46	F	D10	13.5	464.27	1.23	F
Stream B-AD												71.4	726.77	1.42	F		25.8	303.51	1.20	F		86.2	863.96	1.49	F		33.2	417.81	1.29	F
Stream A-D												0.4	12.62	0.27	B		0.5	10.28	0.35	B		0.4	13.14	0.28	B		0.5	10.48	0.35	B
Stream D-A												16.3	590.88	1.28	F		25.0	1037.38	1.47	F		17.8	658.50	1.32	F		27.5	1160.81	1.53	F
Stream D-BC												48.7	545.11	1.33	F		102.6	988.62	1.51	F		53.9	613.70	1.36	F		116.5	1110.74	1.57	F
Stream C-B												0.2	8.63	0.18	A		0.8	16.71	0.46	C		0.2	8.79	0.19	A		1.0	18.58	0.51	C

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	08/11/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Optima
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018	AM Count	ONE HOUR	07:30	09:00	15
D2	2019	PM Count	ONE HOUR	16:15	17:45	15
D7	2026	AM Base	ONE HOUR	07:30	09:00	15
D8	2026	PM Base	ONE HOUR	16:15	17:45	15
D9	2026	AM Design	ONE HOUR	07:30	09:00	15
D10	2026	PM Design	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2018, AM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		54.96	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Wakefield Rd N		Major
B	Lee Lane		Minor
C	Wakefield Rd SE		Major
D	Shaw Lane		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - Wakefield Rd N	6.50		✓	3.00	250.0		-
C - Wakefield Rd SE	6.50		✓	3.00	130.0		-

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	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 - Lee Lane	One lane plus flare	10.00	8.70	6.00	4.90	4.40	✓	3.00	74	66
D - Shaw Lane	One lane plus flare	10.00	6.00	4.00	3.50	3.50	✓	1.00	141	52

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-B	Slope for D-C
A-D	781	-	-	-	0.296	0.296	0.296	-	0.296	-	-
B-AD	613	0.109	0.276	-	-	-	0.174	0.394	0.174	0.109	0.276
B-C	621	0.093	0.235	-	-	-	-	-	-	0.093	0.235
C-B	706	0.268	0.268	-	-	-	-	-	-	0.268	0.268
D-A	673	-	-	-	0.255	0.101	0.255	-	0.101	-	-
D-BC	610	0.173	0.173	0.393	0.275	0.109	0.275	-	0.109	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018	AM Count	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	279	100.000
B - Lee Lane		✓	385	100.000
C - Wakefield Rd SE		✓	637	100.000
D - Shaw Lane		✓	398	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	24	165	90
	B - Lee Lane	33	0	75	277
	C - Wakefield Rd SE	308	57	0	272
	D - Shaw Lane	100	201	97	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.96	155.47	3.9	F
B-AD	0.93	90.33	8.0	F
A-B				
A-C				
A-D	0.20	9.36	0.3	A
D-A	0.95	173.95	5.2	F
D-BC	0.98	117.67	10.3	F
C-D				
C-A				
C-B	0.11	7.32	0.1	A

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	471	0.120	56	0.1	8.655	A
B-AD	233	447	0.522	229	1.1	16.224	C
A-B	18			18			
A-C	124			124			
A-D	68	583	0.116	67	0.1	6.973	A
D-A	75	438	0.172	74	0.2	9.876	A
D-BC	224	439	0.511	220	1.0	16.192	C
C-D	205			205			
C-A	232			232			
C-B	43	608	0.071	43	0.1	6.368	A

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	400	0.169	67	0.2	10.805	B
B-AD	279	414	0.673	275	1.9	25.274	D
A-B	22			22			
A-C	148			148			
A-D	81	543	0.149	81	0.2	7.783	A
D-A	90	338	0.266	89	0.4	14.430	B
D-BC	268	401	0.668	264	1.9	25.739	D
C-D	245			245			
C-A	277			277			
C-B	51	588	0.087	51	0.1	6.711	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	83	164	0.502	80	0.9	41.268	E
B-AD	341	369	0.925	324	6.3	63.659	F
A-B	26			26			
A-C	182			182			
A-D	99	489	0.203	99	0.3	9.221	A
D-A	110	126	0.872	98	3.3	104.253	F
D-BC	328	342	0.960	306	7.3	75.056	F
C-D	299			299			
C-A	339			339			
C-B	63	560	0.112	63	0.1	7.231	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	83	86	0.960	71	3.9	155.469	F
B-AD	341	365	0.934	334	8.0	90.334	F
A-B	26			26			
A-C	182			182			
A-D	99	484	0.205	99	0.3	9.359	A
D-A	110	116	0.949	103	5.2	173.949	F
D-BC	328	336	0.976	316	10.3	117.668	F
C-D	299			299			
C-A	339			339			
C-B	63	555	0.113	63	0.1	7.319	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	352	0.192	82	0.2	14.034	B
B-AD	279	406	0.686	301	2.4	39.594	E
A-B	22			22			
A-C	148			148			
A-D	81	535	0.151	81	0.2	7.941	A
D-A	90	269	0.334	109	0.5	24.908	C
D-BC	268	389	0.689	299	2.5	49.276	E
C-D	245			245			
C-A	277			277			
C-B	51	578	0.089	51	0.1	6.841	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	463	0.122	57	0.1	8.877	A
B-AD	233	446	0.523	238	1.1	17.757	C
A-B	18			18			
A-C	124			124			
A-D	68	580	0.117	68	0.1	7.031	A
D-A	75	426	0.177	76	0.2	10.346	B
D-BC	224	437	0.513	230	1.1	17.812	C
C-D	205			205			
C-A	232			232			

C-B	43	605	0.071	43	0.1	6.405	A

2019, PM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		70.82	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2019	PM Count	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	500	100.000
B - Lee Lane		✓	301	100.000
C - Wakefield Rd SE		✓	502	100.000
D - Shaw Lane		✓	448	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	69	272	159
	B - Lee Lane	27	0	70	204
	C - Wakefield Rd SE	157	116	0	229
	D - Shaw Lane	97	300	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.25	15.75	0.3	C
B-AD	0.76	43.09	2.9	E
A-B				
A-C				
A-D	0.30	8.95	0.4	A
D-A	1.11	310.95	8.6	F
D-BC	1.10	228.48	25.4	F
C-D				
C-A				
C-B	0.26	10.05	0.4	B

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	485	0.109	52	0.1	8.308	A
B-AD	174	426	0.408	171	0.7	13.980	B
A-B	52			52			
A-C	205			205			
A-D	120	644	0.186	119	0.2	6.847	A
D-A	73	417	0.175	72	0.2	10.408	B
D-BC	264	442	0.598	259	1.4	19.082	C
C-D	172			172			
C-A	118			118			
C-B	87	566	0.154	87	0.2	7.492	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	63	441	0.143	63	0.2	9.518	A
B-AD	208	390	0.532	206	1.1	19.363	C
A-B	62			62			
A-C	245			245			
A-D	143	616	0.232	143	0.3	7.595	A
D-A	87	278	0.314	86	0.4	18.726	C
D-BC	316	404	0.780	309	3.0	35.507	E
C-D	206			206			
C-A	141			141			
C-B	104	538	0.194	104	0.2	8.294	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	330	0.233	77	0.3	14.160	B
B-AD	254	341	0.747	248	2.6	36.922	E
A-B	76			76			
A-C	299			299			
A-D	175	579	0.302	175	0.4	8.892	A
D-A	107	96	1.109	84	6.1	189.178	F
D-BC	386	353	1.093	338	15.1	121.170	F
C-D	252			252			
C-A	173			173			
C-B	128	499	0.256	127	0.3	9.682	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	305	0.252	77	0.3	15.748	C
B-AD	254	334	0.761	253	2.9	43.090	E
A-B	76			76			
A-C	299			299			
A-D	175	577	0.303	175	0.4	8.953	A
D-A	107	103	1.038	97	8.6	310.955	F
D-BC	386	350	1.104	346	25.4	228.483	F
C-D	252			252			
C-A	173			173			
C-B	128	486	0.263	128	0.4	10.051	B

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	63	419	0.150	64	0.2	10.144	B
B-AD	208	378	0.550	214	1.3	22.745	C
A-B	62			62			
A-C	245			245			
A-D	143	614	0.233	143	0.3	7.665	A
D-A	87	113	0.768	102	4.9	239.855	F
D-BC	316	389	0.810	375	10.6	180.378	F
C-D	206			206			
C-A	141			141			
C-B	104	512	0.204	105	0.3	8.842	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	477	0.111	53	0.1	8.494	A
B-AD	174	420	0.414	176	0.7	14.864	B
A-B	52			52			
A-C	205			205			
A-D	120	642	0.186	120	0.2	6.896	A
D-A	73	354	0.206	92	0.3	14.652	B
D-BC	264	436	0.606	300	1.6	32.616	D
C-D	172			172			
C-A	118			118			
C-B	87	555	0.157	88	0.2	7.705	A

2026, AM Base

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		309.31	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2026	AM Base	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	324	100.000
B - Lee Lane		✓	517	100.000
C - Wakefield Rd SE		✓	756	100.000
D - Shaw Lane		✓	453	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	32	194	98
	B - Lee Lane	49	0	128	340
	C - Wakefield Rd SE	362	85	0	309
	D - Shaw Lane	109	235	109	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.40	761.54	24.1	F
B-AD	1.42	726.77	71.4	F
A-B				
A-C				
A-D	0.27	12.62	0.4	B
D-A	1.28	590.88	16.3	F
D-BC	1.33	545.11	48.7	F
C-D				
C-A				
C-B	0.18	8.63	0.2	A

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	96	396	0.243	95	0.3	11.922	B
B-AD	293	409	0.716	284	2.3	27.157	D
A-B	24			24			
A-C	146			146			
A-D	74	545	0.135	73	0.2	7.620	A
D-A	82	360	0.228	81	0.3	12.859	B
D-BC	259	407	0.637	252	1.6	22.485	C
C-D	233			233			
C-A	273			273			
C-B	64	591	0.108	64	0.1	6.819	A

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	115	156	0.739	108	2.2	67.387	F
B-AD	350	369	0.949	330	7.2	70.826	F
A-B	29			29			
A-C	174			174			
A-D	88	496	0.177	88	0.2	8.808	A
D-A	98	193	0.508	95	1.0	35.956	E
D-BC	309	358	0.863	298	4.5	52.002	F
C-D	278			278			
C-A	325			325			
C-B	76	567	0.135	76	0.2	7.335	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	141	103	1.368	99	12.7	326.596	F
B-AD	428	315	1.361	312	36.2	277.927	F
A-B	35			35			
A-C	214			214			
A-D	108	427	0.253	107	0.3	11.240	B
D-A	120	94	1.277	87	9.2	264.816	F
D-BC	379	301	1.258	296	25.3	209.788	F
C-D	340			340			
C-A	399			399			
C-B	94	533	0.176	93	0.2	8.182	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	141	101	1.398	100	23.0	662.314	F
B-AD	428	301	1.422	301	68.1	614.234	F
A-B	35			35			
A-C	214			214			
A-D	108	393	0.275	108	0.4	12.621	B
D-A	120	93	1.284	92	16.3	535.738	F
D-BC	379	286	1.326	285	48.7	472.195	F
C-D	340			340			
C-A	399			399			
C-B	94	511	0.183	94	0.2	8.625	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	115	112	1.024	111	24.1	761.544	F
B-AD	350	338	1.035	337	71.4	726.766	F
A-B	29			29			
A-C	174			174			
A-D	88	418	0.211	89	0.3	10.926	B
D-A	98	103	0.954	98	16.3	590.884	F
D-BC	309	318	0.974	310	48.5	545.111	F
C-D	278			278			
C-A	325			325			
C-B	76	517	0.148	77	0.2	8.185	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	96	125	0.771	120	18.2	639.832	F
B-AD	293	375	0.781	370	52.1	602.969	F
A-B	24			24			
A-C	146			146			
A-D	74	460	0.160	74	0.2	9.324	A
D-A	82	114	0.722	107	10.1	455.007	F
D-BC	259	349	0.741	342	27.7	405.072	F
C-D	233			233			
C-A	273			273			
C-B	64	539	0.119	64	0.1	7.581	A

2026, PM Base

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		317.36	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2026	PM Base	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	580	100.000
B - Lee Lane		✓	367	100.000
C - Wakefield Rd SE		✓	603	100.000
D - Shaw Lane		✓	542	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	86	324	170
	B - Lee Lane	34	0	99	234
	C - Wakefield Rd SE	183	168	0	252
	D - Shaw Lane	104	366	72	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.14	374.86	10.7	F
B-AD	1.20	303.51	25.8	F
A-B				
A-C				
A-D	0.35	10.28	0.5	B
D-A	1.47	1037.38	25.0	F
D-BC	1.51	988.62	102.6	F
C-D				
C-A				
C-B	0.46	16.71	0.8	C

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	447	0.167	74	0.2	9.622	A
B-AD	202	379	0.533	197	1.1	19.414	C
A-B	65			65			
A-C	244			244			
A-D	128	625	0.205	127	0.3	7.220	A
D-A	78	275	0.284	77	0.4	18.004	C
D-BC	330	416	0.792	317	3.2	32.955	D
C-D	190			190			
C-A	138			138			
C-B	126	535	0.236	125	0.3	8.760	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	89	352	0.253	88	0.3	13.648	B
B-AD	241	334	0.722	236	2.3	35.278	E
A-B	77			77			
A-C	291			291			
A-D	153	593	0.258	152	0.3	8.167	A
D-A	93	87	1.072	74	5.2	190.110	F
D-BC	394	373	1.055	354	13.1	107.790	F
C-D	227			227			
C-A	165			165			
C-B	151	498	0.303	151	0.4	10.333	B

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	109	97	1.122	85	6.4	191.964	F
B-AD	295	268	1.101	254	12.7	136.354	F
A-B	95			95			
A-C	357			357			
A-D	187	549	0.341	187	0.5	9.903	A
D-A	115	82	1.399	80	13.9	500.908	F
D-BC	482	324	1.491	322	53.1	392.880	F
C-D	277			277			
C-A	201			201			
C-B	185	442	0.419	184	0.7	13.889	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	109	95	1.143	92	10.7	374.865	F
B-AD	295	245	1.203	243	25.8	303.510	F
A-B	95			95			
A-C	357			357			
A-D	187	537	0.348	187	0.5	10.283	B
D-A	115	78	1.467	77	23.1	869.538	F
D-BC	482	319	1.512	319	94.0	798.763	F
C-D	277			277			
C-A	201			201			
C-B	185	399	0.463	184	0.8	16.710	C

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	89	108	0.825	102	7.4	320.254	F
B-AD	241	282	0.854	271	18.2	291.493	F
A-B	77			77			
A-C	291			291			
A-D	153	564	0.271	153	0.4	8.789	A
D-A	93	87	1.076	86	25.0	1037.380	F
D-BC	394	360	1.095	359	102.6	988.622	F
C-D	227			227			
C-A	165			165			
C-B	151	401	0.376	152	0.6	14.486	B

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	261	0.285	102	0.4	26.673	D
B-AD	202	322	0.628	267	2.0	98.235	F
A-B	65			65			
A-C	244			244			
A-D	128	603	0.212	128	0.3	7.590	A
D-A	78	96	0.818	92	21.6	915.005	F
D-BC	330	397	0.830	393	86.7	867.187	F
C-D	190			190			
C-A	138			138			
C-B	126	425	0.297	127	0.4	12.110	B

2026, AM Design

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		364.15	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2026	AM Design	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	325	100.000
B - Lee Lane		✓	539	100.000
C - Wakefield Rd SE		✓	760	100.000
D - Shaw Lane		✓	457	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	33	194	98
	B - Lee Lane	52	0	137	350
	C - Wakefield Rd SE	362	89	0	309
	D - Shaw Lane	109	239	109	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.46	898.30	30.0	F
B-AD	1.49	863.96	86.2	F
A-B				
A-C				
A-D	0.28	13.14	0.4	B
D-A	1.32	658.50	17.8	F
D-BC	1.36	613.70	53.9	F
C-D				
C-A				
C-B	0.19	8.79	0.2	A

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	103	381	0.271	102	0.4	12.838	B
B-AD	303	406	0.745	292	2.6	29.453	D
A-B	25			25			
A-C	146			146			
A-D	74	542	0.136	73	0.2	7.667	A
D-A	82	353	0.232	81	0.3	13.170	B
D-BC	262	405	0.647	255	1.7	23.086	C
C-D	233			233			
C-A	273			273			
C-B	67	590	0.114	66	0.1	6.872	A

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	123	123	1.005	104	5.2	139.433	F
B-AD	361	366	0.988	336	9.0	84.096	F
A-B	30			30			
A-C	174			174			
A-D	88	493	0.179	88	0.2	8.888	A
D-A	98	180	0.545	95	1.1	40.948	E
D-BC	313	356	0.879	300	4.8	55.366	F
C-D	278			278			
C-A	325			325			
C-B	80	566	0.141	80	0.2	7.408	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	111	1.355	109	15.7	405.655	F
B-AD	443	310	1.426	309	42.5	327.895	F
A-B	36			36			
A-C	214			214			
A-D	108	421	0.256	107	0.3	11.467	B
D-A	120	92	1.301	86	9.7	281.066	F
D-BC	383	299	1.284	294	27.2	225.690	F
C-D	340			340			
C-A	399			399			
C-B	98	531	0.184	98	0.2	8.300	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	104	1.456	103	27.7	767.647	F
B-AD	443	297	1.491	297	79.0	717.160	F
A-B	36			36			
A-C	214			214			
A-D	108	381	0.283	108	0.4	13.144	B
D-A	120	91	1.324	89	17.3	578.871	F
D-BC	383	281	1.363	281	52.9	516.088	F
C-D	340			340			
C-A	399			399			
C-B	98	507	0.193	98	0.2	8.792	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	123	115	1.072	114	30.0	898.299	F
B-AD	361	333	1.086	332	86.2	863.959	F
A-B	30			30			
A-C	174			174			
A-D	88	402	0.219	89	0.3	11.495	B
D-A	98	99	0.987	96	17.8	658.504	F
D-BC	313	311	1.005	309	53.9	613.704	F
C-D	278			278			
C-A	325			325			
C-B	80	511	0.157	80	0.2	8.361	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	103	127	0.811	123	25.0	807.348	F
B-AD	303	369	0.819	365	70.6	774.750	F
A-B	25			25			
A-C	146			146			
A-D	74	440	0.168	74	0.2	9.849	A
D-A	82	110	0.749	104	12.4	532.056	F
D-BC	262	341	0.767	335	35.6	483.689	F
C-D	233			233			
C-A	273			273			
C-B	67	532	0.126	67	0.1	7.742	A

2026, PM Design

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Shaw Lane-Lee Lane	Right-Left Stagger	Two-way		370.17	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2026	PM Design	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd N		✓	584	100.000
B - Lee Lane		✓	379	100.000
C - Wakefield Rd SE		✓	614	100.000
D - Shaw Lane		✓	554	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	89	325	170
	B - Lee Lane	36	0	104	239
	C - Wakefield Rd SE	184	178	0	252
	D - Shaw Lane	104	377	73	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Wakefield Rd N	B - Lee Lane	C - Wakefield Rd SE	D - Shaw Lane
From	A - Wakefield Rd N	0	0	0	0
	B - Lee Lane	0	0	0	0
	C - Wakefield Rd SE	0	0	0	0
	D - Shaw Lane	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.23	464.27	13.5	F
B-AD	1.29	417.81	33.2	F
A-B				
A-C				
A-D	0.35	10.48	0.5	B
D-A	1.53	1160.81	27.5	F
D-BC	1.57	1110.74	116.5	F
C-D				
C-A				
C-B	0.51	18.58	1.0	C

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	78	441	0.178	77	0.2	9.882	A
B-AD	207	374	0.554	202	1.2	20.482	C
A-B	67			67			
A-C	245			245			
A-D	128	623	0.206	127	0.3	7.246	A
D-A	78	254	0.308	77	0.4	20.189	C
D-BC	339	415	0.817	324	3.6	35.699	E
C-D	190			190			
C-A	139			139			
C-B	134	532	0.252	133	0.3	8.991	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-C	93	331	0.282	93	0.4	15.043	C
B-AD	247	327	0.755	241	2.6	39.426	E
A-B	80			80			
A-C	292			292			
A-D	153	591	0.259	152	0.3	8.209	A
D-A	93	85	1.105	73	5.6	205.205	F
D-BC	405	372	1.087	357	15.5	122.119	F
C-D	227			227			
C-A	165			165			
C-B	160	494	0.324	159	0.5	10.737	B

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	115	96	1.191	86	7.5	217.247	F
B-AD	303	260	1.166	250	15.9	166.152	F
A-B	98			98			
A-C	358			358			
A-D	187	546	0.343	187	0.5	9.984	A
D-A	115	79	1.449	77	14.9	550.625	F
D-BC	495	322	1.539	321	59.1	441.709	F
C-D	277			277			
C-A	203			203			
C-B	196	435	0.451	195	0.8	14.902	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	115	93	1.234	91	13.5	455.608	F
B-AD	303	235	1.287	234	33.2	389.556	F
A-B	98			98			
A-C	358			358			
A-D	187	531	0.353	187	0.5	10.475	B
D-A	115	75	1.525	75	24.8	959.962	F
D-BC	495	316	1.569	316	104.0	889.001	F
C-D	277			277			
C-A	203			203			
C-B	196	388	0.505	195	1.0	18.582	C

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	93	105	0.888	99	12.1	464.274	F
B-AD	247	271	0.912	263	29.2	417.815	F
A-B	80			80			
A-C	292			292			
A-D	153	553	0.277	153	0.4	9.031	A
D-A	93	83	1.121	83	27.5	1160.807	F
D-BC	405	355	1.140	355	116.5	1110.740	F
C-D	227			227			
C-A	165			165			
C-B	160	387	0.414	161	0.7	16.030	C

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	78	120	0.651	111	3.9	283.216	F
B-AD	207	307	0.674	297	6.7	230.206	F
A-B	67			67			
A-C	245			245			
A-D	128	588	0.218	128	0.3	7.838	A
D-A	78	92	0.855	88	25.0	1072.408	F
D-BC	339	391	0.866	388	104.2	1024.855	F
C-D	190			190			
C-A	139			139			
C-B	134	407	0.329	135	0.5	13.270	B