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Proposed Residential Development

Land Off Hay Green Lane, Birdwell for Harworth Group

Transport Assessment

October 2020 (Revision 1)

Quality Management

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1. Introduction

1.1.1 This Transport Assessment (TA) has been prepared on behalf of Harworth Group to support a planning application for residential development on a Site to the south of Hay Green Lane, Birdwell. The scheme proposals which are illustrated on the Architects plans contained at Appendix A can be summarised as follows:

- 118 dwellings;
- Vehicular Site access via Hay Green Lane;
- Public Open Space; and
- Design of internal layout to a maximum speed of 20mph.

1.1.2 The Site is located in Birdwell, Barnsley, is currently vacant and is allocated for residential development in the Barnsley Adopted Local Plan under reference HS59.

1.1.3 The Site is rectangular in shape and is bound by both Hay Green Lane and existing dwellings to the north and west, and agricultural land to the east and south.

1.1.4 Pre-application discussions have been held with Barnsley Metropolitan Borough Council (BMBC) where the scope of the TA and TP were discussed. It is also highlighted that whilst there are no significant approved developments within the vicinity of the Site, the Hoyland North and Hoyland West masterplan sites to the west of the proposed Site could have a realistic impact on through movements along the A61, as such the potential impact of these developments has been considered.

1.1.5 The scoping response, attached at Appendix J, provided by Officers has been considered in the preparation of this report.

1.1.6 It should be noted that traffic surveys of the local highway network were undertaken in November 2019, prior to the scoping meeting held on 13th January 2020. At the scoping meeting it was requested that parking beat surveys were undertaken to determine the extent of parking associated with the school drop off. Due to Covid-19 these were unable to be undertaken until September 2020 when schools re-opened. As such this revision includes survey data that was not included in the original issue.

1.1.7 It was, and is, deemed appropriate that the mitigation measures were devised without parking beat surveys as highlighted in the original issue of this report and set out below:

- The mitigation measures proposed are considered to be the most that can be offered by the application due to the constraints faced;
- The mitigation proposals are seeking to resolve an existing issue i.e. it is not the responsibility of the application to resolve such matters but in the interest of improving the situation for all, including school users and local residents the application is seeking to assist.

1.1.8 The following sections of this Transport Assessment report cover the following topics:

- Chapter 2 – describes the Site and existing transport conditions;
- Chapter 3 – defines the development proposals including access strategy;
- Chapter 4 – Discusses the mitigation measures proposed;
- Chapter 5 – describes the accessibility of the Site and the measures to encourage sustainable travel;

- Chapter 6 – sets out the trip generation and distribution methodologies applied in the assessment of the highway network;
- Chapter 7 – describes the traffic flow information and provides an assessment of the impact of the Site on the local highway network; and
- Chapter 8 – summarises and concludes the report.

2. Existing Site Conditions

2.1.1 This chapter describes the Site and considers the baseline conditions on the surrounding highway network for a range of transport modes.

2.2 Existing Site

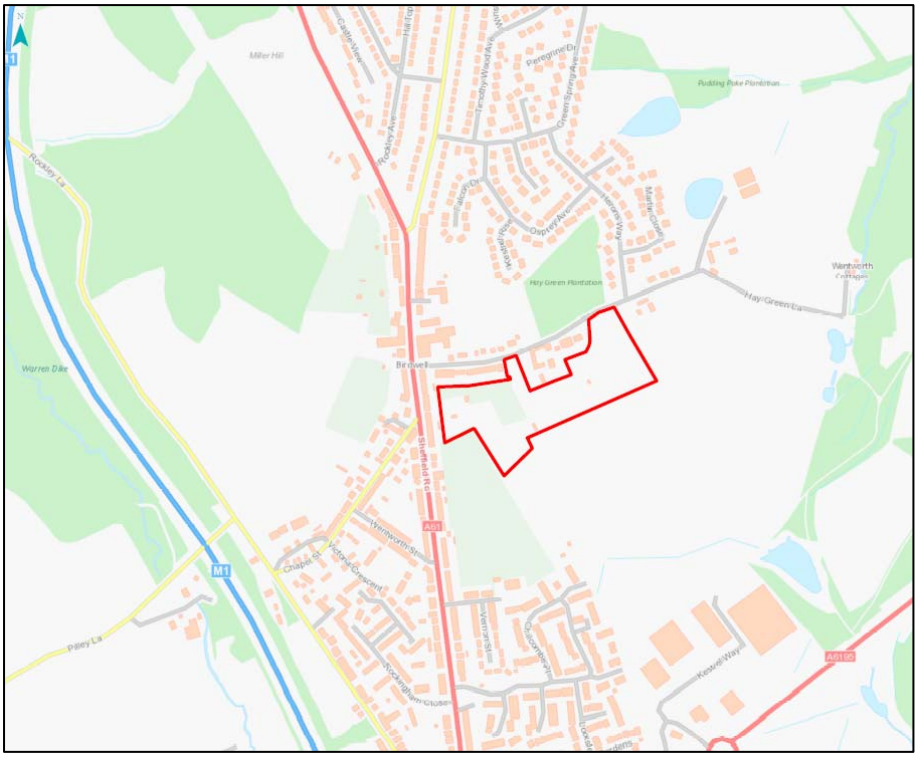
2.2.1 The development Site is located approximately 7.3km south of Barnsley, located within the Barnsley Local Authority Boundary.

2.2.2 The Site is bound by existing dwellings to the north and west and agricultural fields to the south and east.

2.2.3 The Site is allocated within the emerging core strategy under reference HS59 for residential use.

2.2.4 The Site in relation to the strategic and local transport networks is shown on Figure 1. An extract of Figure 1 is shown in Image 2.1.

Image 2.1 Site Location



2.3 Existing Local Highway Network

2.3.1 Hay Green Lane is a single carriageway road with a width of circa 5.7m with a circa 1.8m footway on either side of the highway, with the exception of the proposed Site access where the westbound carriageways footway is reduced to under 1m in width.

2.3.2 Hay Green Lane is street lit and is subject to a 30mph speed limit and has no parking restrictions in place.

2.3.3 Birdwell Primary School bounds the northern extent of Hay Green Lane on the eastbound carriageway where a side pedestrian access is provided.

2.3.4 There are two staggered parking bays on the northbound and southbound carriageway on Hay Green Lane, approximately 45m and 60m in length respectively, as shown in Image 2.2.

Image 2.2 Parking Bay on Hay Green Lane

2.3.5 A ghost island priority junction connects Hay Green Lane to A61 Sheffield Road to the east of the Site. Tactile paving and dropped crossings are provided on Hay Green Lane at the junction with A61 Sheffield Road, as seen in Image 2.3.

Image 2.3 School Parking Restrictions

2.3.6 The A61 Sheffield Road is single carriageway road with a width of circa 9.8m with a circa 2.3m footway on either side of the highway, as a local distributor highway it provides connections from the M1 J36 to the south and routes on a north-south axis to Barnsley centre through a number of residential areas including Birdwell and Worsbrough.

2.3.7 A61 Sheffield Road is subject to a 30mph speed limit and is street lit. The only parking restrictions in place are outside the school (Mon-Fri, 8am-5pm) which is located on the northern arm of the junction, as seen in Image 2.4.

Image 2.4 School Parking Restrictions

2.3.8 There is a pedestrian crossing with refuge island located approximately 35m south of the junction with Hay Green Lane with the provision of tactile paving, which is shown in Image 2.5.

Image 2.5 Pedestrian Refuge Island on A61 Sheffield Road

2.3.9 Approximately 115m south of the junction with Hay Green Lane a zebra crossing is provided on A61 Sheffield Road as shown in Image 2.6.

Image 2.6 Zebra Crossing on A61 Sheffield Road (Google Maps)

2.4 Existing School Facilities

2.4.1 As aforementioned, Birdwell Primary School bounds the northern extent of Hay Green Lane. In order to provide safe crossing for school users a school crossing patrol officer in place for the start and end of school times.

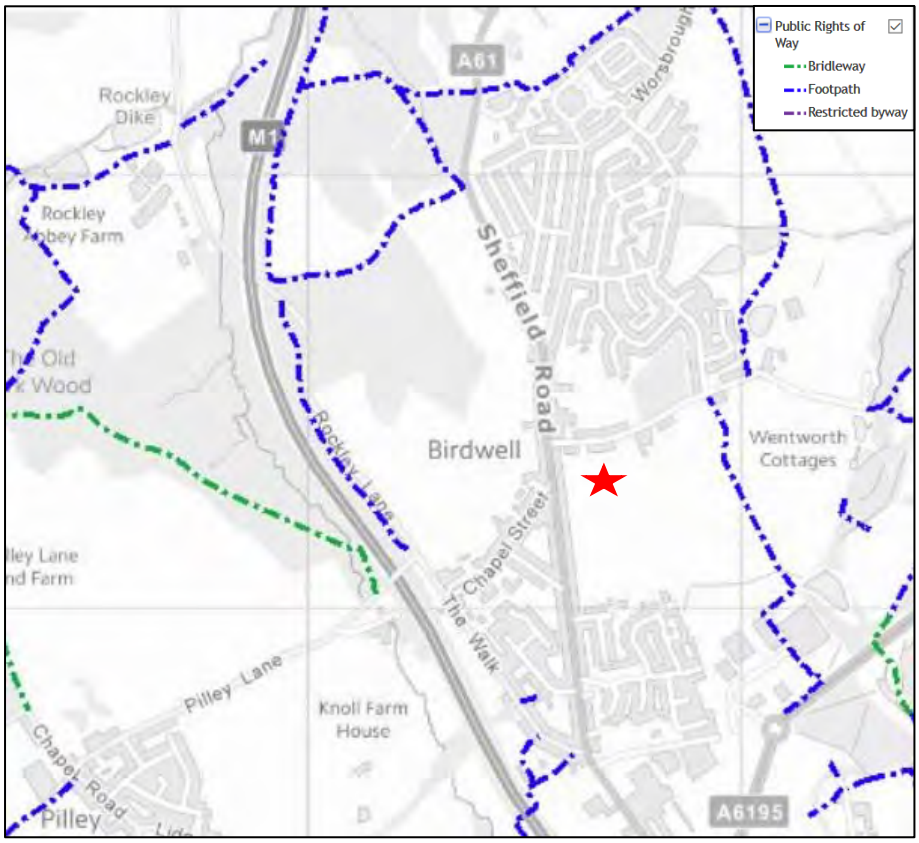
2.4.2 Whilst no designated parking is available for drop-off / pick-up facilities, the school has an agreement with the Birdwell Venue (BV) on the west of A61 Sheffield Road to utilise the parking spaces for school drop off/pick up.

2.4.3 Hay Green Lane has no parking restrictions nor does Sheffield Road, excluding the restrictions directly adjacent to the school enforced by zigzag markings as shown in Image 2.4, Sheffield Road within the vicinity of the school also has unrestricted parking.

2.5 Public Rights of Way

2.5.1 The public rights of way in the vicinity of the Site are shown in Image 2.7.

Image 2.7 BMBC Public Rights of Way Extract

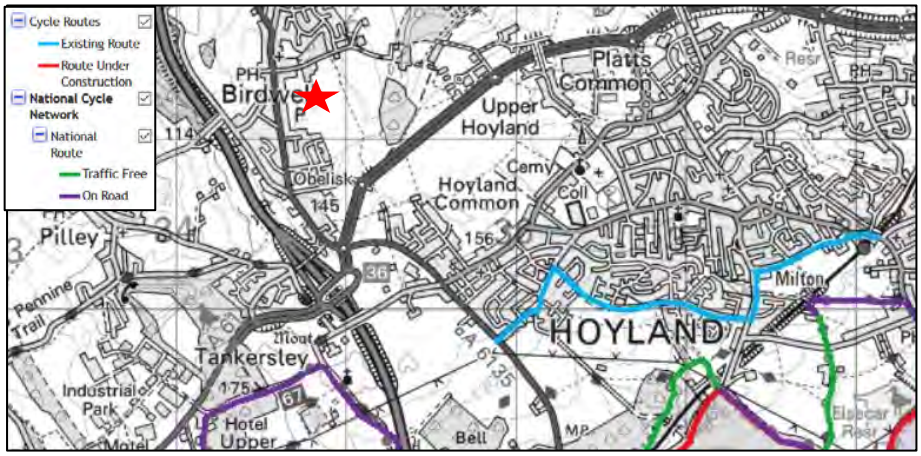


2.5.2 There is a public right of way that runs in close proximity to the eastern extent of the Site. A pedestrian link will be provided within the development proposals to connect to the public right of way, this is shown on the masterplan attached at Appendix A.

2.6 Cycle Infrastructure

2.6.1 BMBC have a network of cycle infrastructure in addition to the national cycle network. The cycle infrastructure in the vicinity of the Site is shown on Image 2.7.

Image 2.8 Extract of BMBC Cycle Map



2.7 Existing Bus Infrastructure

2.7.1 The nearest bus stops to the Site are located on A61 Sheffield Road some 350m west (as the crow flies) of the Site access junction. The northbound bus stop (37055027) is provided with a shelter, seating, raised kerbs, bus stop clearways and timetable information. The southbound bus stop (37055401) is provided with a bus shelter, raised kerbs, bus stop clearways and timetable information. The bus stops are shown in Images 2.9 and 2.10.

Image 2.9 Northbound Bus Stop

Image 2.10 Southbound Bus Stop

2.7.2 The existing services in the vicinity of the Site are shown in Image 2.10 and with a summary of the services provided in Table 2.1.

Image 2.11 Existing Bus Services

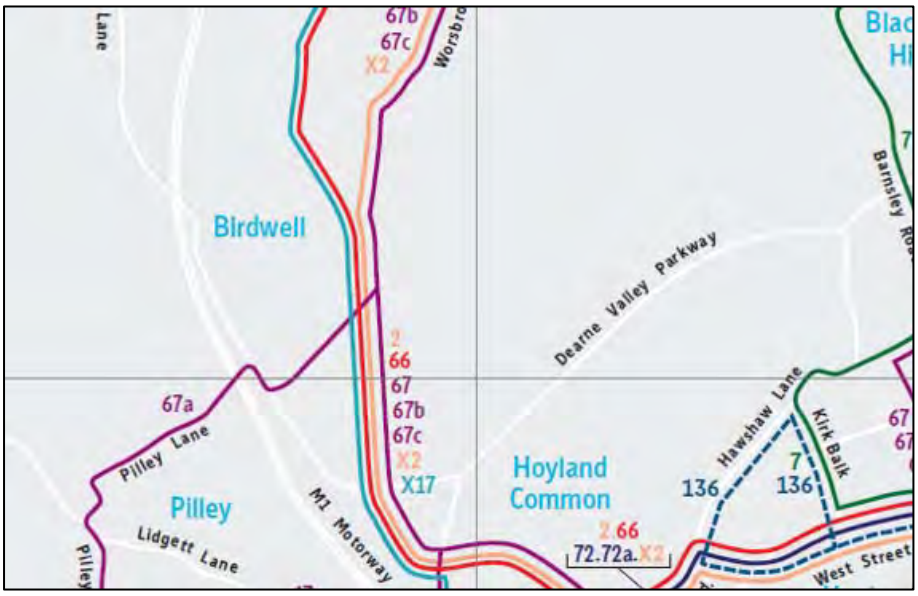


Table 2.1 Existing Bus Services

Service	Route	Day of Operation	Time of Operation	One Way Service Frequency
2 / X2	Barnsley - Sheffield	Weekday	06:07 – 22:55	2 per hour
		Saturday	07:37 – 22:55	2 per hour
		Sunday	08:49 – 22:55	1 per hour
2 / X2	Sheffield - Barnsley	Weekday	05:57 – 23:13	2 per hour
		Saturday	06:20 – 23:13	2 per hour
		Sunday	09:21 – 23:13	1 per hour
66	Barnsley Interchange – Barnsley Interchange via Elsecar	Weekday	06:00 – 23:40	4 per hour
		Saturday	06:20 – 23:40	4 per hour
		Sunday	08:30 – 23:40	2 per hour
67/67b/67c	Barnsley - Wombwell	Weekday	05:25 – 23:15	2 per hour
		Saturday	05:25 – 23:15	2 per hour
		Sunday	08:17 – 22:34	1 per hour
67/67b/67c	Wombwell - Barnsley	Weekday	04:25 – 23:15	2 per hour
		Saturday	04:25 – 23:15	2 per hour
		Sunday	08:35 – 23:32	1 per hour
X17	Barnsley – Sheffield - Matlock	Weekday	06:50 – 20:48	1 per hour
		Saturday	07:15 – 20:48	1 per hour
		Sunday	09:40 – 14:47	1 per hour
X17	Matlock – Sheffield - Barnsley	Weekday	06:05 – 22:50	1 per hour
		Saturday	08:14 – 22:50	1 per hour
		Sunday	09:14 – 19:14	1 per hour

2.7.3 During the weekday and Saturday, the services set out above combine to provide an overall frequency of 14 buses per hour travelling in each direction departing from the local bus stops on A61 Sheffield Road.

2.7.4 The bus services from these stops provide access to the following destinations:

- Barnsley – 17 minute journey, every 15 minutes;
- Sheffield – 47 minute journey, every 25 minutes;
- Elsecar – 24 minute journey, every 15 minutes; and
- Wombwell – 32 minute journey, every 60 minutes.

2.7.5 The existing bus services will provide residents of the Site with high frequency access to the centres of Barnsley and Sheffield and the large transport interchanges at both towns for travel further afield.

2.8 Existing Rail Services/Facilities

2.8.1 The nearest train station to the Site is situated at Elsecar on the Elland and Penistone Line. It is located an approximate 20 minute cycling distance from the Site as shown in Figure 3.

2.8.2 Trains from Elsecar serve destinations including Barnsley, Leeds, Wakefield, Huddersfield and Sheffield among others.

2.8.3 Elsecar Station benefits from cycle storage, ticket machines, CCTV and step-free access.

2.9 Traffic Surveys

2.9.1 Turning Count Surveys have been undertaken by an independent surveyor and are summarised in Table 2.2.

Table 2.2 2019 Traffic Surveys

Location	Type	Date	Assessment Period
Green Spring Avenue / Herons Way	Turning Counts	27th November 2019	AM Peak (06:30 – 09:30) PM Peak (16:30 – 19:30)
Hay Green Way/ Herons Way	Turning Counts	27th November 2019	AM Peak (06:30 – 09:30) PM Peak (16:30 – 19:30)
A61 Sheffield Road / Hay Green Way	Turning Counts	27th November 2019	AM Peak (06:30 – 09:30) PM Peak (16:30 – 19:30)
A61 Sheffield Road / Worsbrough Road /	Turning Counts	27th November 2019	AM Peak (06:30 – 09:30) PM Peak (16:30 – 19:30)

2.10 Updated Surveys

2.10.1 Surveys at school drop off times were not initially undertaken prior to the commencement of this TA due to Covid-19 restrictions and school closures. However, surveys were requested which have now been undertaken.

2.10.2 Table 2.3 summarises the surveys with the full outputs available in Appendix B.

Table 2.3 2020 Traffic Surveys

Location	Type	Date	Assessment Period
Green Spring Avenue / Herons Way	Turning Counts	23rd September 2020	PM Peak (14:30 – 18:30)
Hay Green Way/ Herons Way	Turning Counts	23rd September 2020	PM Peak (16:30 – 19:30)
A61 Sheffield Road / Hay Green Way	Turning Counts	22nd September 2020	PM Peak (16:30 – 19:30)
A61 Sheffield Road / Worsbrough Road /	Turning Counts	22nd September 2020	AM Peak (06:30 – 09:30) PM Peak (16:30 – 19:30)
A61 Sheffield Road	Parking Survey	15th September 2020	AM Peak (07:30 – 09:30) PM Peak (14:30 – 17:00)
Hay Green Lane	Parking Survey	15th September 2020	AM Peak (07:30 – 09:30) PM Peak (14:30 – 17:00)
Birdwell Venue	Parking Survey	15th September 2020	AM Peak (07:30 – 09:30) PM Peak (14:30 – 17:00)
A61 Sheffield Road School Crossing Patrol	Pedestrian Survey	16th September 2020	AM Peak (08:30 – 09:00) PM Peak (15:00 – 15:40)
A61 Sheffield Road Zebra Crossing	Pedestrian Survey	16th September 2020	AM Peak (07:30 – 09:30) PM Peak (14:30 – 17:00)

2.11 School Survey Summary

2.11.1 In summary the pedestrian surveys showed that the zebra crossing was used 23 times in the AM Peak (07:30-09:30) and 58 times in the PM Peak (14:30-17:00), holding on average 2 vehicles in the AM and 3 vehicles in the PM. The demand per hour within the peak periods is as follows:

- 07:30 – 08:30: 6
- 08:30 – 09:30: 17
- 14:30 - 15:30: 26
- 15:30 – 16:30: 25
- 16:30 – 17:00: 7

2.11.2 The school crossing patrol was used 15 times in the AM Peak (07:30-09:30) and 30 times in the PM Peak (14:30-17:00). Holding on average 10 vehicles in the AM and 7 vehicles in the PM. It was also found that a proportion of these crossings were users

of the Birdwell Venue Car Park, 85% in the AM and 62% in the PM showing that the BV is well used for school drop-off/collection.

2.11.3 The Parking Surveys found that the peak parking activity associated with the school drop off and pick up were as follows:

- AM Peak: 08:30 – 09:15
- PM Peak: 15:00 – 16:00

2.11.4 During the AM Peak period the peak parking demand was identified between 09:00-09:05 resulting in 89% and 21% of the total parking accumulation being occupied on Hay Green Lane and A61 Sheffield Road respectively.

2.11.5 During the PM Peak period the peak parking demand was identified between 15:30-15:35 resulting in 86% and 25% of the total parking accumulation being occupied on Hay Green Lane and A61 Sheffield Road respectively.

2.11.6 It can be seen that there is spare parking availability even in the peak with the peak.

2.11.7 School attendance data was obtained which showed that on the 15th/16th attendance was 93.9% and 97.8% respectively which is the broadly the same as pre-Covid-19 attendance levels, as confirmed by the Headteacher. At the time of the surveys, the arrival and departures of pupils into the school is staggered. In the morning arrivals are 08:45 and 08:55 which then transfer to 3:20 and 3:30 exits in the afternoon.

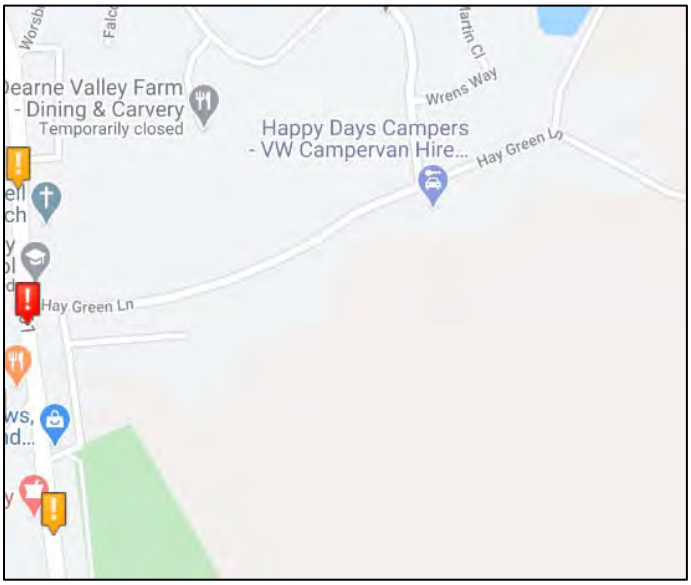
2.11.8 The staggered arrival/departures could impact traffic levels and congestion when the staggering ends. It is also noted that due to higher levels of parents/guardians working from home this may contribute to travelling to school via other means than the car. However, the mitigation package proposed is not dependant on the surveys as set out in the original TA. This is because the mitigation package is deemed to be the most appropriate solution to assist with easing the localised drop off issues experienced by local residents.

2.12 Existing Accident Data

2.12.1 Personal injury accident data has been obtained from www.crashmap.co.uk for the highway network in the vicinity of the Site for the most recently available five year period between 1st January 2015 and 31st December 2019. The study area includes Hay Green Lane and the A61 Sheffield Road.

2.12.2 For the 5-year period covered, there has been 3 accidents within the study area, 1 of which was serious in nature and the remaining were slight accidents. A location plan of these accidents is shown in Figure 2.11, with the accident data available in Appendix C.

Image 2.12 Accident Data



2.12.3 No accidents have occurred at the proposed Site Access junction.

2.12.4 The serious accident that occurred on the junction with Hay Green Lane and Sheffield Road involved a motorcycle and vehicle. No accidents involved pedestrians.

3. Proposed Development and Access Strategy

3.1 Development Proposals

3.1.1 The Site layout is shown in illustrative form in Appendix A and show a total of 118 units.

3.2 Vehicular Site Access

3.2.1 Vehicular access is proposed from Hay Green Lane via a simple priority junction. The access is provided to a width of 5.5m with two 2m footways to be provided on either side of the access road.

3.2.2 Visibility Splays of 2.4m x 43.0m are provided as shown on Drawing No. 18039.IN.10 attached in Appendix D.

3.3 Pedestrian / Cycle Site Access

3.3.1 Pedestrian and cycle access to the Site is via a separate link on Hay Green Lane, west of the vehicular access point. There is also a pedestrian/cyclist access on the eastern boundary of the Site which connects to the current public right of way.

3.3.2 In addition, there is a pedestrian access on the south west boundary of the Site that provides access to the community park and A61 Sheffield Road.

3.3.3 All movements from future residents of the Site are facilitated by the existing provisions available and the aforementioned accesses within the proposed development.

3.3.4 It is envisaged that anyone travelling on foot or via cycle will use the ped/cycle access to the west of the development onto A61 Sheffield Road. For residents on the parcel of land adjacent to Hay Green Lane who may use the vehicular access for pedestrian and cycle movements the footway on the northern flank is sufficient, this would involve crossing of Hay Green Lane for which a dropped crossing could be provided.

3.3.5 Hay Green Lane is not of sufficient width to create a formalised footway on the southern flank for this allocated development. Therefore, consideration was given to the movement of people through the Site.

3.3.6 At the pedestrian and cycle access a dropped kerb will be provided to allow cyclists to enter the carriageway on Hay Green Lane. Appropriate signage and tactile paving will be provided at this location to ensure that all users are aware of the other users that may be using the facilities in this location.

3.4 Parking Provision

3.4.1 The BMBC Parking Standards set out in the Supplementary Planning Document (2012) are as follows for residential dwellings:

- 1 or 2 bed dwellings – 1 space per dwelling;
- 3 or more bed dwellings – 2 spaces per dwellings;

3.4.2 All adoptable roads within the layout are provided to a width of 5.5m and can therefore accommodate visitor parking.

3.4.3 Parking will provided to accords with the adopted standards although exact numbers would be confirmed at reserved matters stage.

3.5 Servicing Provision

3.5.1 The internal layout has been designed so that the Barnsley design refuse vehicle can access all properties.

3.5.2 Swept path drawings are provided on the drawings included at Appendix E.

4. Mitigation Measures for Local Road Network

4.1 Introduction

4.1.1 Following a public consultation event and several site visits existing issues were identified on the local highway network surrounding the Site relating to Birdwell Primary School during drop-off/pick-up times.

4.1.2 The public consultation was held on 12th February 2020 and the Planning Case officer was advised of the date to ensure that officers could attend if they wanted to.

4.1.3 It is understood at present, the school has an agreement with the Birdwell Venue (BV) across the road to utilise the parking spaces for school drop off/pick up, however it is scarcely used. Discussions have been held with the manager of the BV regarding the proposed mitigation proposals set out below.

4.1.4 The mitigation proposals have also been discussed and agreed with the Headmaster of Birdwell Primary School as a sensible proposal to seek to encourage a change in behaviour.

4.1.5 The main issues identified by members of the public at the consultation event:

- The A61 Sheffield Road is a perceived barrier discouraging people from parking at BV and walking across to the school, despite crossing patrol;
- The walking distance between the Birdwell Venue to the School;
- Some children are dropped off on Hay Green Lane and therefore not escorted on foot to the gate;
- Some people park irresponsibly in the car park meaning that it is difficult for Birdwell Venue to receive deliveries

4.1.6 It has been noted that traffic issues are caused by inconsiderate driving (not exclusive to school drop off / pick up times) and the existing geometry of Hay Green Lane, most notably that it is not wide enough to accommodate parking on both sides of the road and maintain two-way traffic.

4.1.7 The proposed development itself is not going to materially increase the existing issue as the issues are not congestion related.

4.1.8 At a pre-application meeting it was envisaged that a study would be undertaken to evidence the scale of the parking issue at school drop-off/pick-up times, however due to the COVID-19 related disruption and schools being closed the earliest this could potentially be done is September 2020 however this is not confirmed.

4.1.9 However, it is not considered that baseline surveys in this instance are of value. The proposals described below represent the best means of seeking to reduce the existing issue around school drop off/pick up times.

4.2 Mitigation Measures - Infrastructure

4.2.1 In order to minimise the number of children being dropped off on Hay Green Lane and the number of children being dropped off at the school by car in general a twin pronged strategy is proposed that seeks to provides a rationalised drop off solution using the BV but also incentivises people to not drop off children in the car especially on Hay Green Lane.

4.2.2 The effectiveness of the strategy would require collaboration with the school (GDPR permitting). However, mitigation measures have been identified, which are outlined below, and shown in Appendix F.

4.2.3 It is proposed that rationalised parking is marked out at the BV, including circulatory flow arrows to encourage more reasonable driver behaviour. This will include a one way entrance/exit to the car park.

4.2.4 Following discussions with the club owner, it was also found that school drop off's park in the area directly outside his club, preventing him taking deliveries. As such this car parking will be allocated for visitors to BV and the parking to the rear of the car park will be allocated for Parents/Carers.

4.2.5 Bollards are proposed to be installed on Hay Green Lane on both sides of the carriageway at the junction with A61 Sheffield Road to prevent parking on the pavement.

4.2.6 On A61 Sheffield Road South of the junction with Hay Green Lane it is proposed that double yellow lines are provided around the junction radii in visibility splays. People should not park within 10m of junction radii but this is occurring and a traffic regulation order would prevent this. It is proposed that a contribution towards a traffic regulation order will be made by the developer.

4.3 Mitigation Measures – Incentives

4.3.1 In addition to the above infrastructure package, in collaboration with the school an incentive package will be provided to encourage people not to drive. It is proposed that on implementation of the infrastructure a campaign is launched that enters people into a prize draw whenever they do not drive to the school.

4.3.2 This proposal will operate as follows:

- Travelling sustainably gets 2 draw entries per day;
- Anyone driving and using BV gets one entry;
- Prize draw would be monthly.

4.3.3 The Developer will contribute £500 per month for the first 6 months following an agreed trigger point as a minimum. This would be of a scale sufficient to encourage change of habits when combined with the above.

4.3.4 Following the first 6 month period, the figure may then be reduced to a level to be agreed with the Council and school.

4.3.5 This success of the campaign will be reviewed by the Travel Plan Coordinator

4.4 Summary

4.4.1 Whilst Harworth are committed to doing everything they can to improve and mitigate the perceived parking/traffic flow issues on the highway network surrounding the Site, there is a limitation of what can be done in a condensed area. It should also be recognised that this is an existing issue.

4.4.2 It was envisaged that a study would be undertaken to analyse the scale of the issue. However, due to ongoing effects of Covid-19 in relation to normal school and work procedures additional surveys were undertaken in September to provide further evidence and the school attendance was comparable with the same dates in 2019, highlighting the mitigations measures provide a robust package to address

existing issues.

4.4.3 The mitigation measures outlined above include comprehensive mitigation measures in terms of an infrastructure package and incentives. It is deemed that any information gathered from further studies would not provide any new information or possible mitigation measures.

5. Site Accessibility and Measures to Promote Sustainable Travel

5.1.1 This chapter describes the accessibility of the Site by non-car modes and sets out how the additional improvements and measures proposed will further enhance accessibility and minimise car trips. The measures proposed accord with policy objectives contained within national and local documentation.

5.2 Pedestrian Accessibility

5.2.1 As described in the TA the measures proposed which will positively influence trips by foot include:

- Internal layout designed to restrict vehicular speeds to less than 20mph;
- Footway connection to the north and east;
- Travel Plan Measures.

5.2.2 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'.

5.2.3 Using GIS software typical walk times (up to 25 mins) from the proposed Site centre are shown on Figure 2. This figure demonstrates that:

- Two supermarkets are within a 20 minute walking distance;
- There are five bus stops within a 200m walking distance of the western boundary of the Site;
- Two Primary Schools are within a 20 minute walking distance. With one being opposite the Site; and
- One Secondary School is within a 25 minute walking distance.

5.2.4 It is therefore concluded that the Site is located in a sustainable location with opportunities to walk to schools, GPs, and public transport modes within a short walk distance.

5.3 Cycle Accessibility

5.3.1 The measures proposed which will positively influence cycle trips are detailed in the pedestrian section above. 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 on Figure 3. This figure shows that:

- The Site is within a 25 minute cycle ride from 5 train stations;
- Barnsley Centre is within a 25 minute cycle ride of the Site;
- The Site is located within a 15 minute cycle distance of the national cycle network, providing access across Barnsley and surrounding areas;
- The Hoyland North Masterplan area in within a 5 minute cycle.

5.3.2 It is therefore concluded that the proposed Site, will provide cycle accessibility to a range of local services within a 25 minute cycle, whilst large employment areas are accessible in a 30 minute cycle ride.

5.4 Accessibility by Bus

5.4.1 As detailed in Chapter 2 bus stops are located in close proximity to the Site on A61 Sheffield Road. Figure 4 shows that the majority of the Site is within 400m of the bus stops, whilst all the Site is within a 600m walk distance.

5.4.2 The bus services from these stops provide access to the following destinations:

- Barnsley – 17 minute journey, every 15 minutes;
- Sheffield – 47 minute journey, every 25 minutes;
- Elsecar – 24 minute journey, every 15 minutes; and
- Wombwell – 32 minute journey, every 60 minutes.

5.4.3 The existing bus services will provide residents of the Site with high frequency access to the city and town centres of Barnsley and Sheffield and the large transport interchanges at both towns for travel further afield.

5.4.4 Furthermore, the travel planning measures will have a positive influence on the sustainable travel choices made by users of the proposed Site.

5.5 Accessibility by Rail

5.5.1 The nearest train station to the Site is situated at Elsecar on the Elland and Penistone Line. It is located an approximate 20 minute cycling distance from the Site as shown in Figure 3.

5.5.2 Trains from Elsecar serve destinations including Barnsley, Leeds, Wakefield, Huddersfield and Sheffield among others.

5.5.3 Elsecar Station benefits from cycle storage, ticket machines, CCTV and step-free access.

6. Development Trip Generations and Distributions

6.1.1 This chapter sets out the trip generations and distribution methodologies associated with the proposed development Site. The trip generations for the residential development used in this assessment are taken from the approved Transport and Access Appraisal Report (TAAR) issued by Fore in May 2019 for the Hoyland North Masterplan.

6.2 Residential Trip Rate

6.2.1 In order to calculate a trip rate for the residential units, trip rates have been taken from the Fore TAAR. Table 6.1 shows the trip rates for the AM and PM Peak.

Table 6.1 Summary of Trip Rates for Hay Green Lane

AM Peak			PM Peak		
Arrival	Departure	Two Way	Arrival	Departure	Two Way
0.134	0.381	0.515	0.330	0.162	0.492

6.3 Residential Trip Generation

6.3.1 A total of 118 dwellings are proposed at the Site, as such the trip rates in Table 5.1 have been applied to the number of units to create the vehicular trip generations from the Site, shown in Table 6.2.

Table 6.2 Proposed Trip Generation

AM Peak (08:30-09:30)			PM Peak (16:30-17:30)		
Arrival	Departure	Two Way	Arrival	Departure	Two Way
16	45	62	40	19	59

6.4 Residential Trip Generations

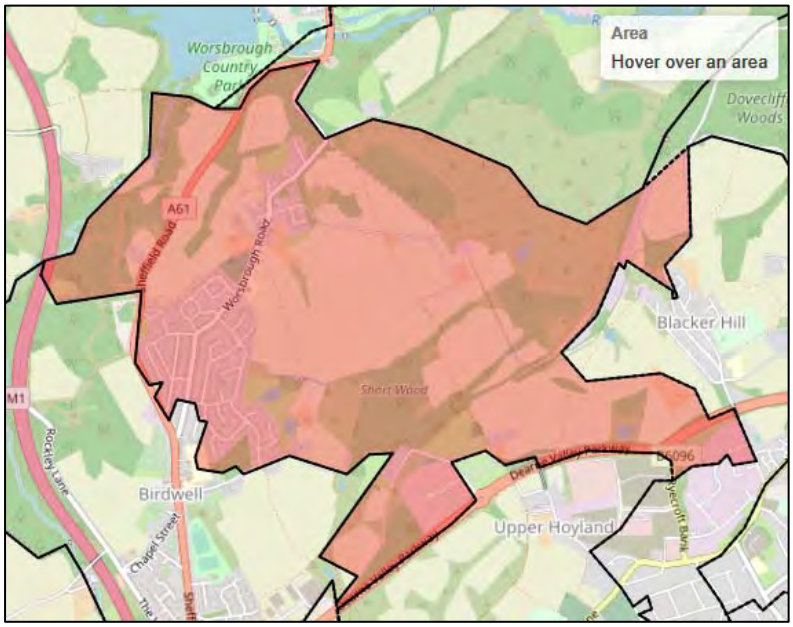
6.4.1 To establish the trip generations by mode for the development the 2011 Census Data has been interrogated for the residential area of Barnsley 028C Middle Layer Super Output Area as shown in Image 6.1, which is considered to reflect the proposed Site characteristics.

6.4.2 The census mode splits for the selected area is shown in Table 6.3.

Table 6.3 Residential Mode Split – Barnsley 028C

Method of Travel to Work	Total Residents	Percentage
Work mainly at or from home	144	3.7%
Train/Tram	34	0.9%
Bus, minibus or coach	265	6.8%
Taxi	11	0.3%
Motorcycle, scooter or moped	27	0.7%
Driving a car or van	2,927	74.7%
Passenger in a car or van	268	6.8%
Bicycle	25	0.6%
On foot	215	5.5%
Total	3,916	100.0%

Image 6.1 Barnsley 028C Lower Layer Super Output Area



6.4.3 Having established the total vehicular trip generations and the census modal split for existing residents, it is possible to calculate the number of trips by mode. To calculate trips by mode the total vehicular arrivals and departures have been multiplied by a factor of the Car/Van Driver and the modal splits shown in Table 6.3.

6.4.4 The resulting predicted number of development trips by different modes is shown in Tables 6.4 and 6.5 for the AM and PM peaks respectively

Table 6.4 AM Peak Multi Modal Trip Generations

Trip Type	Arrivals	Departures	Total
Work mainly at or from home	1	2	3
Train/Tram	0	0	1
Bus, minibus or coach	1	3	5
Taxi	0	0	0
Motorcycle, scooter or moped	0	0	0
Driving a car or van	14	38	51
Passenger in a car or van	1	3	5
Bicycle	0	0	0
On foot	1	3	4
Total	19	51	68

Table 6.5 PM Peak Multi Modal Trip Generations

Trip Type	Arrivals	Departures	Total
Work mainly at or from home	2	1	2
Train/Tram	0	0	1
Bus, minibus or coach	3	2	4
Taxi	0	0	0
Motorcycle, scooter or moped	0	0	0
Driving a car or van	33	17	49
Passenger in a car or van	3	2	4
Bicycle	0	0	0
On foot	2	1	4
Total	44	23	66

6.5 Residential Trip Distribution and Assignment

6.5.1 Having established the development traffic distribution using the 2011 Census Data, an assignment exercise has been completed to predict the assignment of these trips onto the highway network.

6.5.2 The existing distribution at Hay Green Lane / A61 Sheffield Road priority junction has been used as a basis to establish the distribution to/from the Site. The further distribution has been applied based on the shortest journey time.

6.5.3 The proposed residential distribution for the Site is shown in Figure 12. Applying the trip generations in Table 5.2 to the distributions produces the following figures:

- Figure 13 - AM Peak Hour Development Trip Generation; and
- Figure 14 - PM Peak Hour Development Trip Generation.

6.5.4 The analysis of the 2011 Census Data is available in Appendix G.

7. Traffic Flows and Development Impact

7.1 Introduction

7.1.1 This chapter sets out the traffic flow assumptions and provides an assessment of the development traffic impact on the existing highway network. It also includes an assessment of the impact of the development traffic on the local highway network.

7.2 Peak Hour Traffic Flows

7.2.1 The November 2019 traffic surveys identified the following existing weekday peak hour periods:

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

7.2.2 The traffic count flows for these periods are shown on Figures 10 and 11 for the morning and evening peak hours respectively and are used to provide an insight into the existing operation of the network.

7.3 Committed Development Flows

7.3.1 One plot on Rockingham Phase 1 (Ref: 2014/1452) has not yet been built out and this has approval for a 2,700sqm hotel. The trips associated with this plot have been taken from the associated Transport Assessment. An extract of the flows is attached in Appendix H. The consented trips have been distributed across the network for the AM and PM Peak period and are shown in Figures 15 and 16 respectively.

7.3.2 These have been added to the Development Trip Generations to create 2019 Base Flows as shown in the following figures:

- Figure 23 2019 AM Base; and
- Figure 24 2019 PM Base.

7.4 Future Assessment Year and Traffic Growth

7.4.1 Traffic growth is based on a combination of proposed future developments, car ownership and changing attitudes in the way people use and have access to their vehicles.

7.4.2 A development design year of 2025 is proposed in order to provide sufficient time for construction and occupation of the Site.

7.4.3 In addition to this, as the Site is allocated within the current adopted Local Plan to 2033, BMBC have requested that a design year of 2033 is assessed. This is included below.

7.4.4 Traffic growth rates, between 2019 and 2025 and 2019 and 2033 have been obtained from TEMPro v7.2 using Barnsley 028 area and these values are as follows:

- 2019-2025 AM growth rate of 1.0577
- 2019-2025 PM growth rate of 1.0578
- 2019-2033 AM growth rate of 1.1255
- 2019-2033 PM growth rate of 1.1265

7.4.5 The 2025 and 2033 Base traffic flows have been calculated by applying the TEMPro growth factors to the 2019 count. These Base flows are shown in the following Figures:

- 2025 AM Base Flow – Figure 25
- 2025 PM Base Flow – Figure 26
- 2033 AM Base Flow – Figure 31
- 2033 PM Base Flow – Figure 32

7.5 Design Traffic Flows

7.5.1 Adding the proposed development trips described in Chapter 5 and shown in Figures 13 and 14 to the 2025 and 2033 base traffic flows produces the design traffic flows as shown in the following figures:

- 2025 AM Design Flow – Figure 27
- 2025 PM Design Flow – Figure 28
- 2033 AM Design Flow – Figure 33
- 2033 PM Design Flow – Figure 34

7.6 Allocated Development Flows

7.6.1 As requested in the pre-application the Hoyland North Masterplan Site has been considered in this assessment, the anticipated traffic flows associated with Hoyland North (which includes the Rockingham Development and the Wider Masterplan) for the AM and PM are shown in Figures 20 and 21 respectively.

7.6.2 These have then been combined with the 2025 and 2033 Design Flows to create Design Sensitivity Flows which are shown in the following figures:

- 2025 AM Design Sensitivity Flow – Figure 28
- 2025 PM Design Sensitivity Flow – Figure 29
- 2033 AM Design Sensitivity Flow – Figure 35
- 2033 PM Design Sensitivity Flow – Figure 36

7.7 Capacity Assessment of Hay Green Lane / A61 Sheffield Road Priority Junction

7.7.1 Hay Green Lane / A61 Sheffield Road Priority Junction has been modelled to assess the impact of the development using the PICADY function in the Junctions 9 software for the following scenarios:

- 2019 AM and PM Count;
- 2019 AM and PM Base;
- 2025 AM and PM Base;
- 2025 AM and PM Design;
- 2025 AM and PM Design Sensitivity;
- 2033 AM and PM Base;
- 2033 AM and PM Design; and
- 2033 AM and PM Design Sensitivity.

7.7.2 The junction has been modelled as a priority junction and the outputs are in Appendix I and the results summarised in Table 7.1.

Table 7.1 Summary of Modelling Outputs

Scenario	Lane	AM Peak Hour		PM Peak Hour	
		RFC	Ave Q	RFC	Ave Q
2019 Count Validation	A61 Sheffield Road	0.13	0.2	0.08	0.1
	Hay Green Lane	0.10	0.1	0.08	0.1
2019 Base Assessment	A61 Sheffield Road	0.13	0.2	0.08	0.1
	Hay Green Lane	0.10	0.1	0.08	0.1
2025 Base Assessment	A61 Sheffield Road	0.15	0.2	0.09	0.1
	Hay Green Lane	0.11	0.1	0.09	0.1
2025 Design Assessment	A61 Sheffield Road	0.34	0.5	0.17	0.2
	Hay Green Lane	0.11	0.1	0.16	0.2
2025 Design Sensitivity Assessment	A61 Sheffield Road	0.36	0.6	0.18	0.2
	Hay Green Lane	0.11	0.1	0.16	0.2
2033 Base Assessment	A61 Sheffield Road	0.18	0.2	0.10	0.1
	Hay Green Lane	0.12	0.1	0.09	0.1
2033 Design Assessment	A61 Sheffield Road	0.39	0.6	0.19	0.2
	Hay Green Lane	0.12	0.1	0.17	0.2
2033 Design Sensitivity	A61 Sheffield Road	0.41	0.7	0.20	0.2
	Hay Green Lane	0.13	0.1	0.17	0.2

7.7.3 A Ratio of Flow to Capacity 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.

7.7.4 Table 7.1 demonstrates that the junction operates well within capacity in all scenarios.

8. Summary and Conclusions

8.1.1 Mosodi have been appointed to produce this Transport Assessment (TA) on behalf of Harworth Group to support a planning application for a residential development on a Site to the south of Hay Green Lane, Birdwell.

8.1.2 The proposed layout is shown on the architects plans in Appendix A and comprises:

- 118 dwellings;
- Vehicular Site access via Hay Green Lane;
- Public Open Space; and
- Design of internal layout to a maximum speed of 20mph.

8.1.3 The Site is located in Birdwell, Barnsley and is currently vacant and is allocated for residential development in the Barnsley Adopted Local Plan under reference HS59.

8.1.4 The report has identified what measures will be taken to deal with any anticipated impacts of the scheme proposals and has defined what improvements and initiatives will be implemented to improve accessibility to the Site by all modes of travel.

8.1.5 Following a consultation and subsequent Site Visit a number of issues were identified on the local highway network surrounding the Site, in particular at the Birdwell Primary School during drop-off/pick-up times. This report has been updated to include survey data that could not have been collected at the time of initial issues due to school closures resulting from the COVID-19 pandemic. As such Chapter 4 outlines in depth mitigation measures to improve traffic flow and encourage considerate driving around the Site. These measures have been discussed the school and the Birdwell Venue.

8.1.6 The proposed development is also supported by a robust travel plan.

8.1.7 A detailed assessment of the accessibility of the site has been completed in Chapter 5 concluding the following:

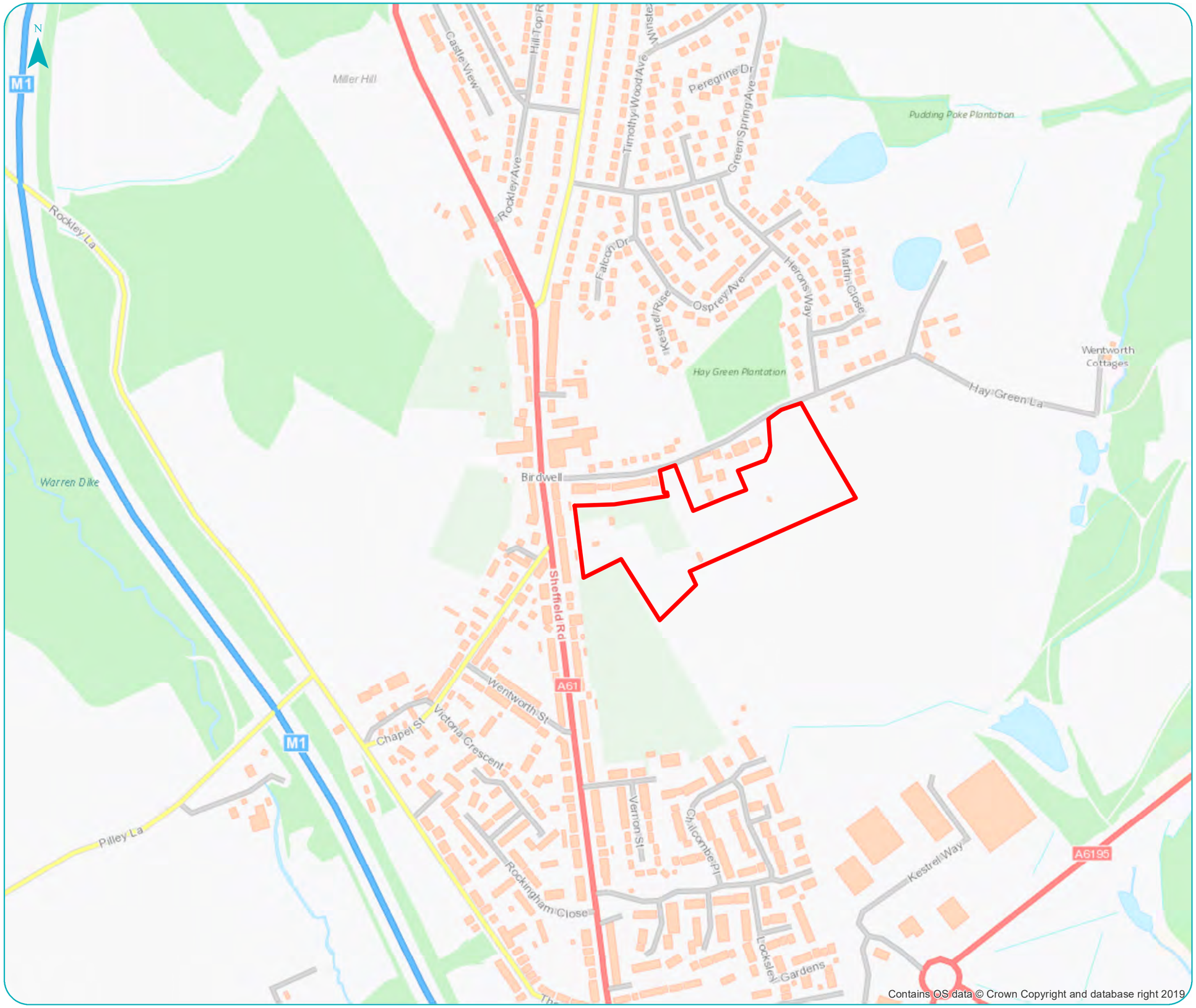
- Two primary schools are within a 20 minute walk;
- A secondary school is within a 30 minute walk;
- Two supermarkets are within a 20 minute walking distance;
- There are 5 bus stops within a 200m walking distance of the Site;
- The Site is within a 25 minute cycle ride from 5 train stations; and
- Barnsley City Centre is within a 25 minute cycle ride of the Site.

8.1.8 It is therefore concluded that the proposed Site will provide excellent accessibility by foot and cycle to a vast range of services, facilities and employment opportunities.

8.1.9 The distribution and assignment of potential development traffic shows that the increase in traffic is modest. Capacity assessments have demonstrated that the development traffic can be comfortably accommodated by the highway network.

8.1.10 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 planning permission for change of use.

Figures



Key

- Indicative Site Boundary
- Site Location

Hay Green Lane, Birdwell
Residential Development
Site Location Plan

Figure 1

Scale @ A3 1:5,000

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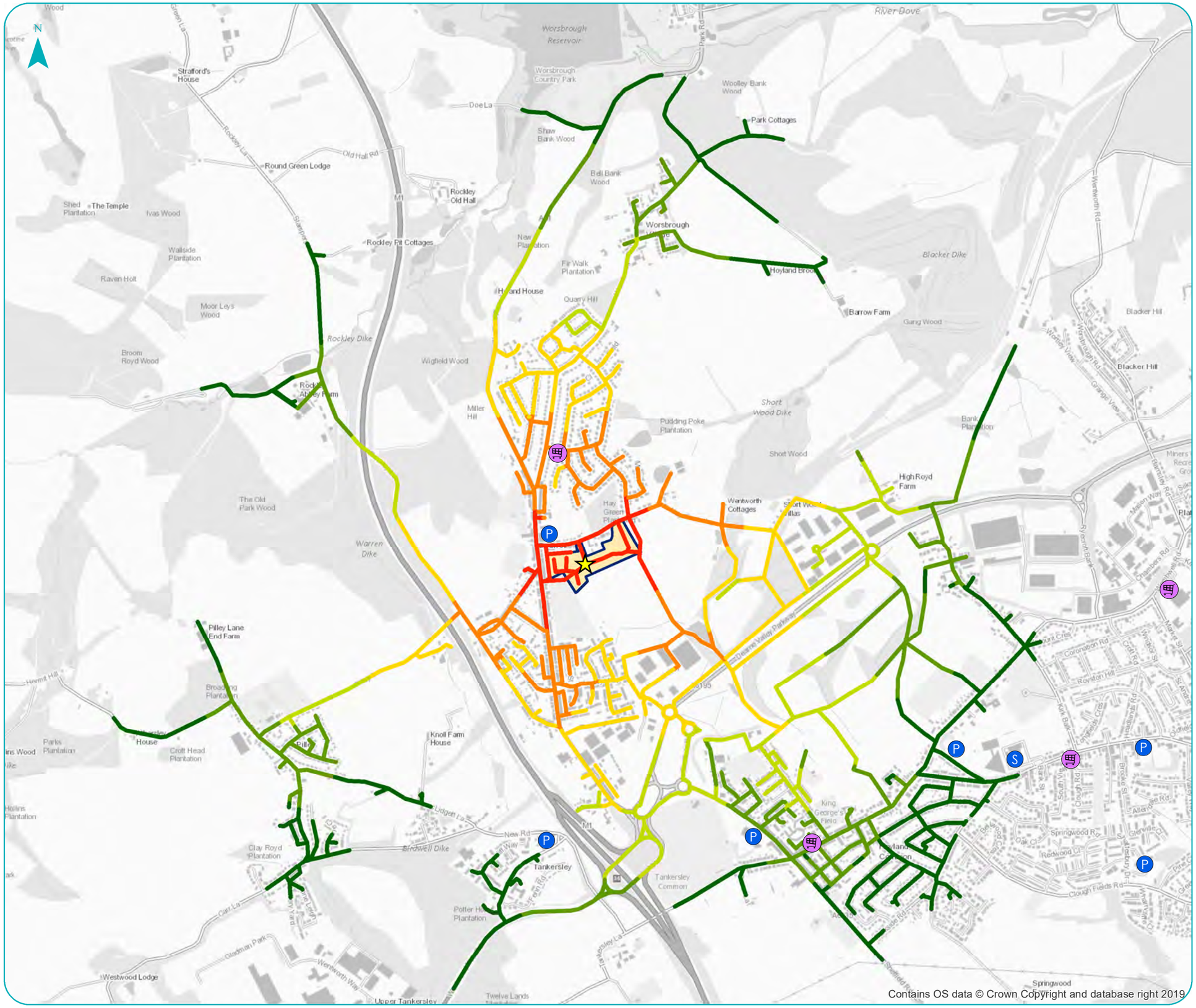

Key

- Indicative Site Boundary
- Site Location
- Supermarkets
- GP

Schools

- All Through
- Nursery
- Primary
- Secondary
- College

Walk Accessibility (4.8kph)

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

Hay Green Lane, Birdwell
Residential Development
Pedestrian Accessibility

Figure 2

Scale @ A3 1:15,000

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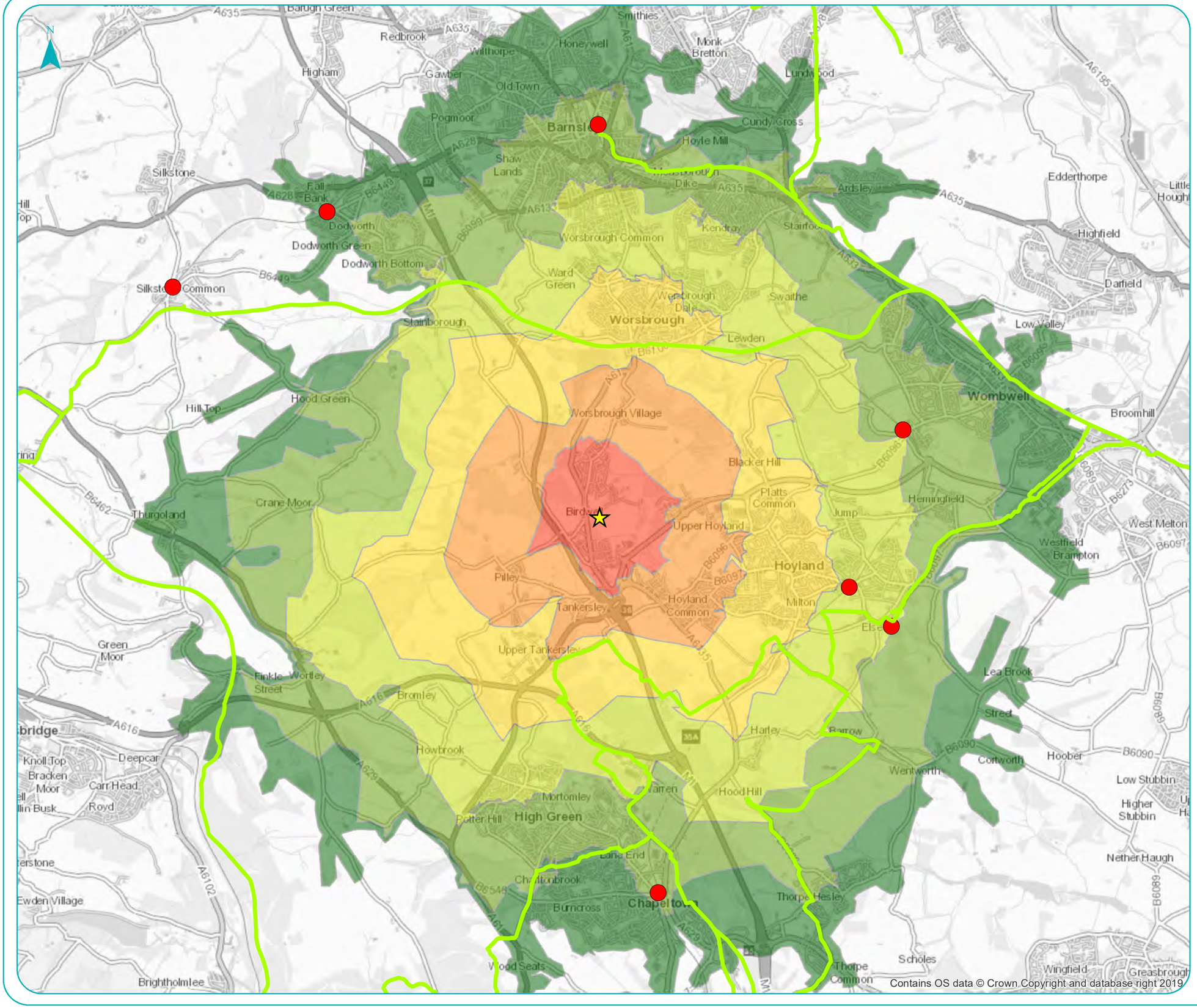

Key

- Site Location
- Railway Stations
- National Cycle Routes

Cycle Accessibility (16kph)

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

Hay Green Lane, Birdwell
Residential Development
Cycle Accessibility

Figure 3

Scale @ A3 1:50,000

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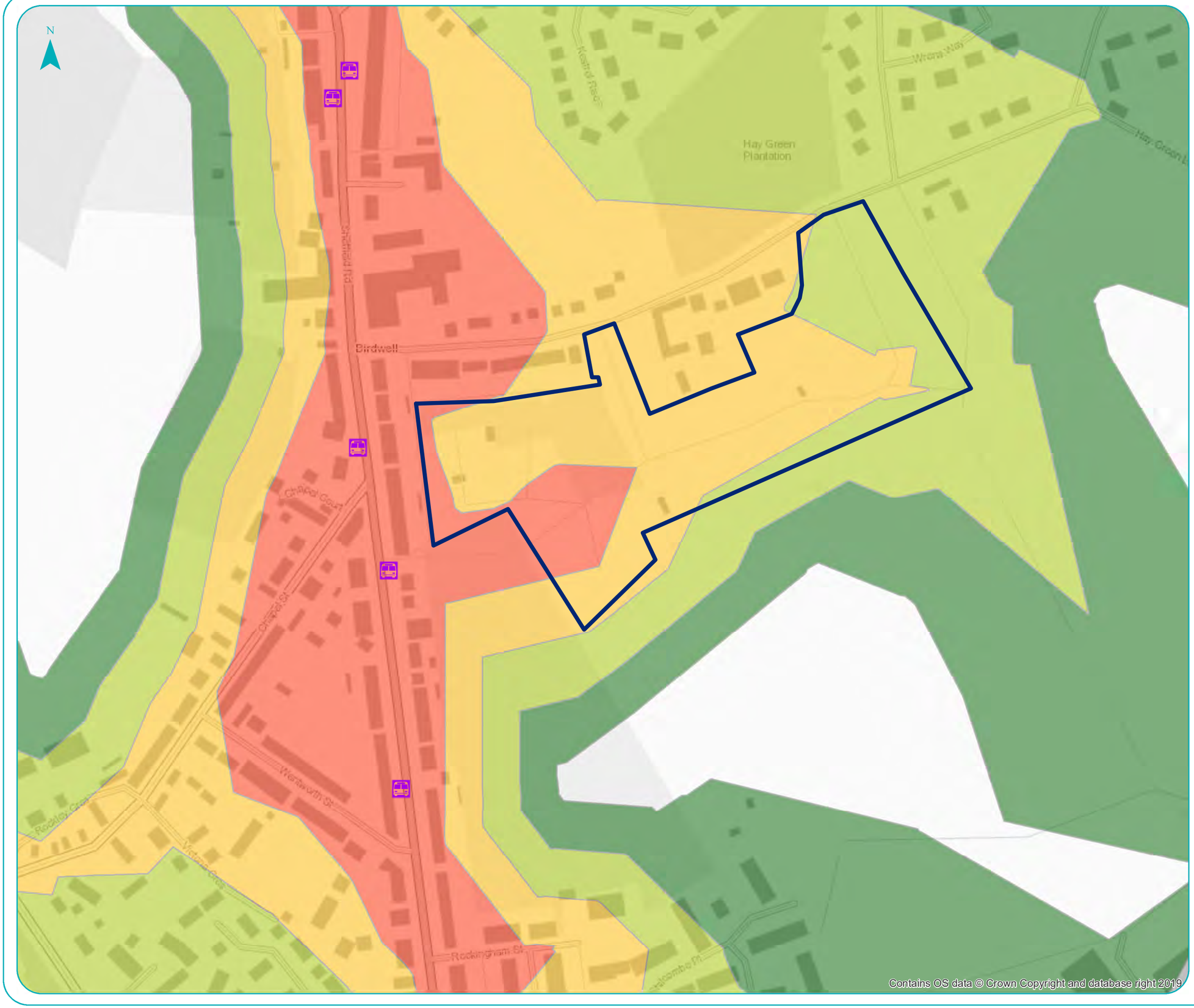

Hay Green Lane, Birdwell
Residential Development
Bus Stop Accessibility

Figure 4

Scale @ A3 1:2,500

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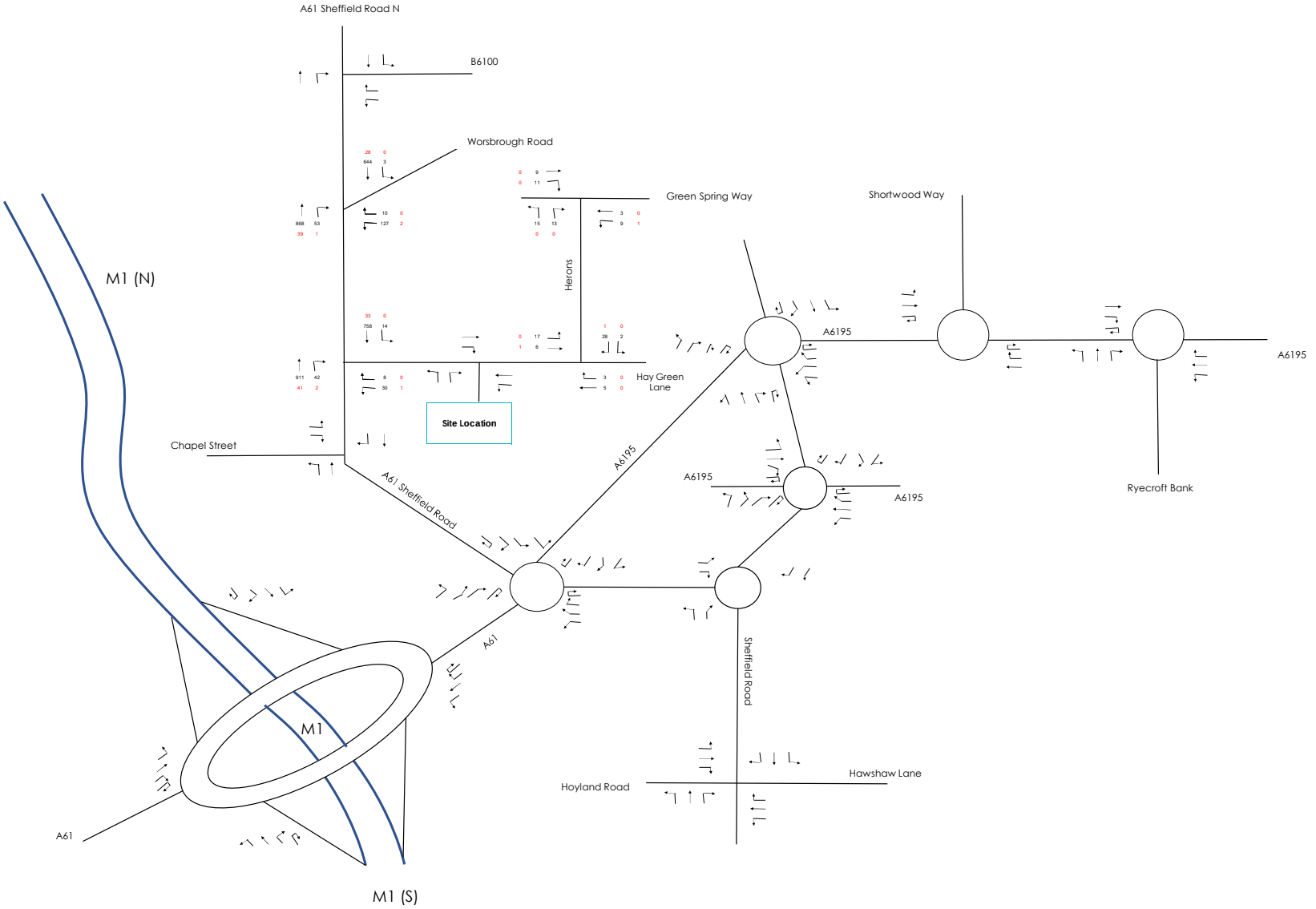

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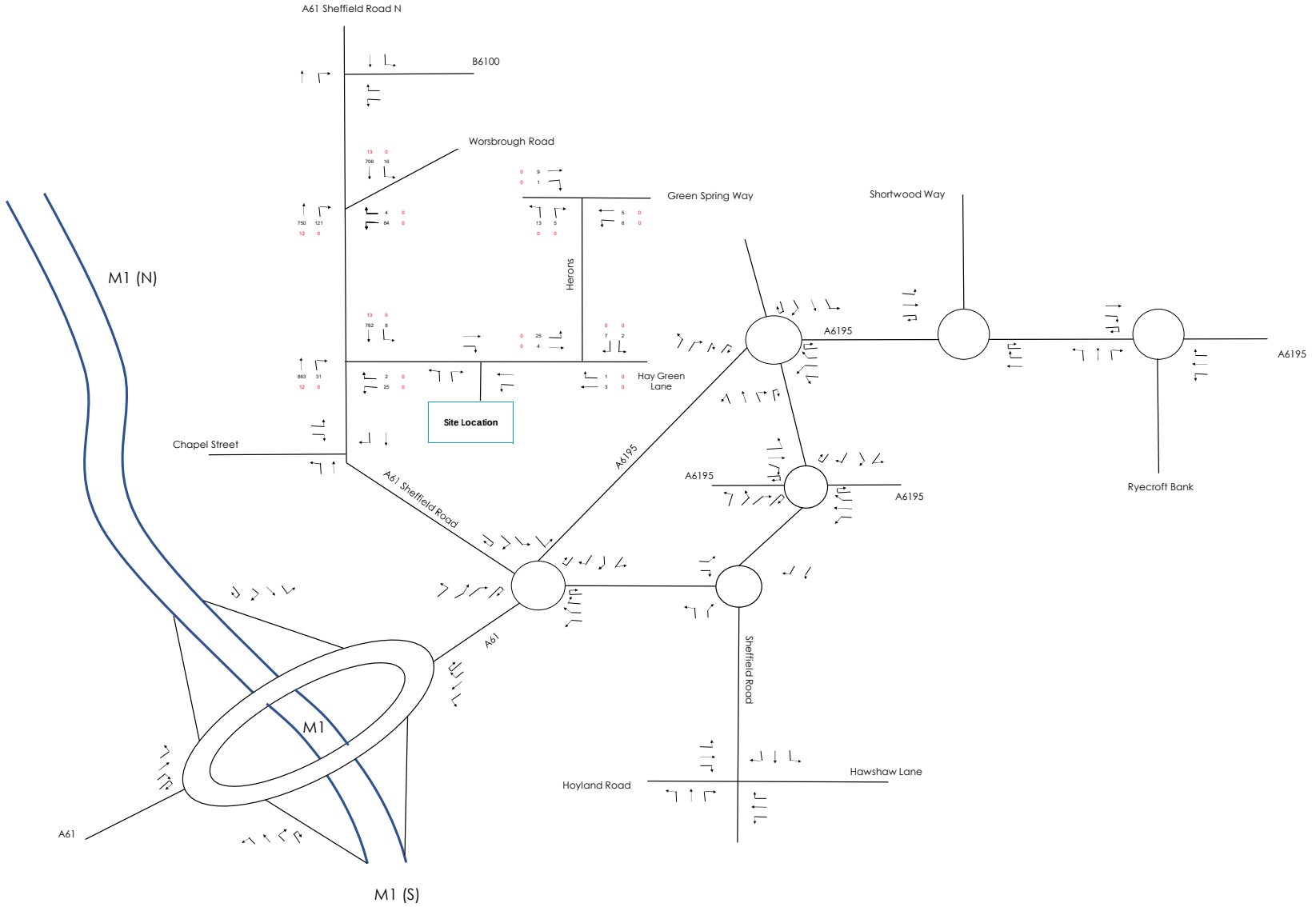
Project : Hay Green Lane, Barnsley

AM 2019 Count (08:30-09:30)

Figure 10



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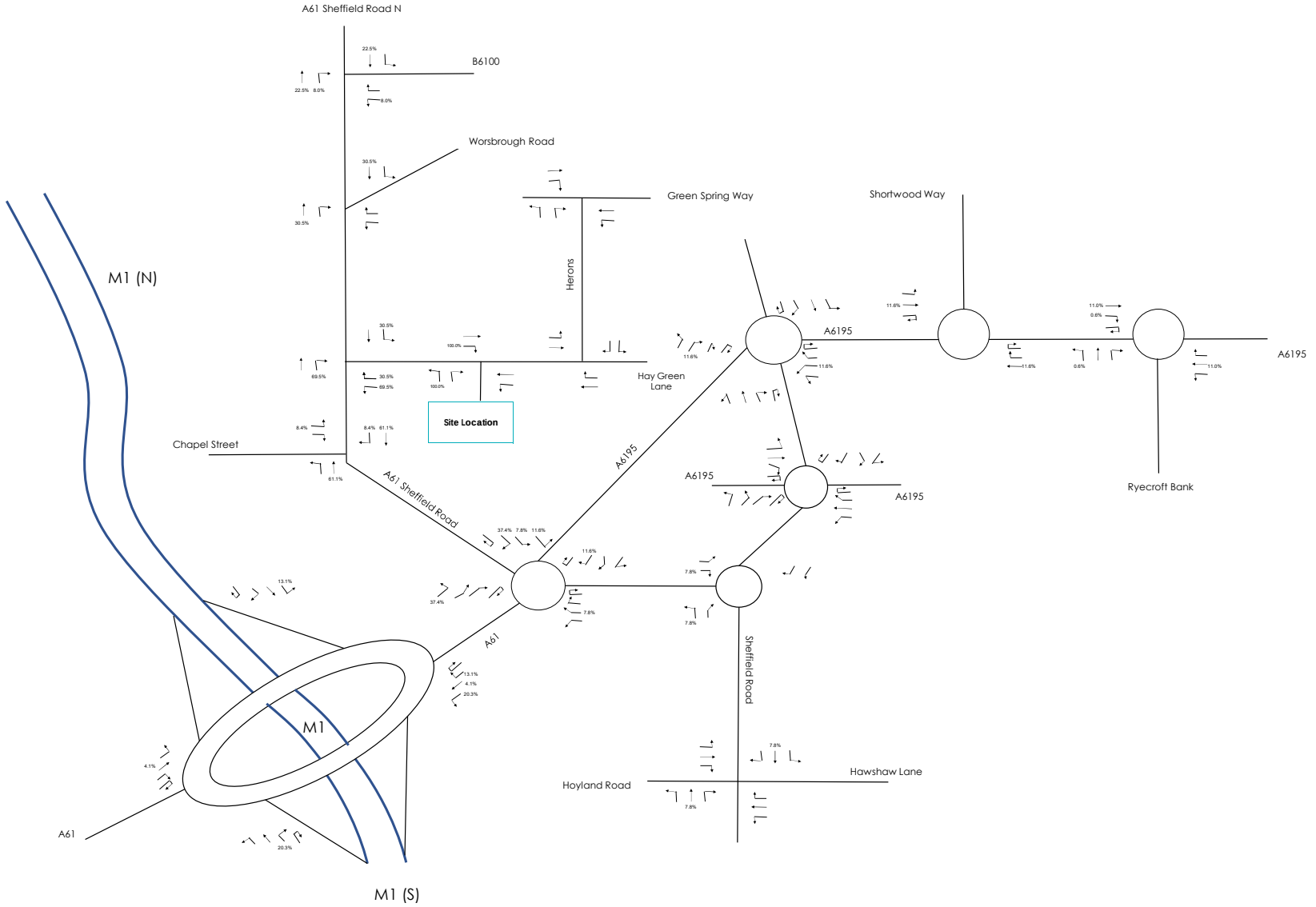
PM 2019 Count (16:30-17:30)

Figure 11



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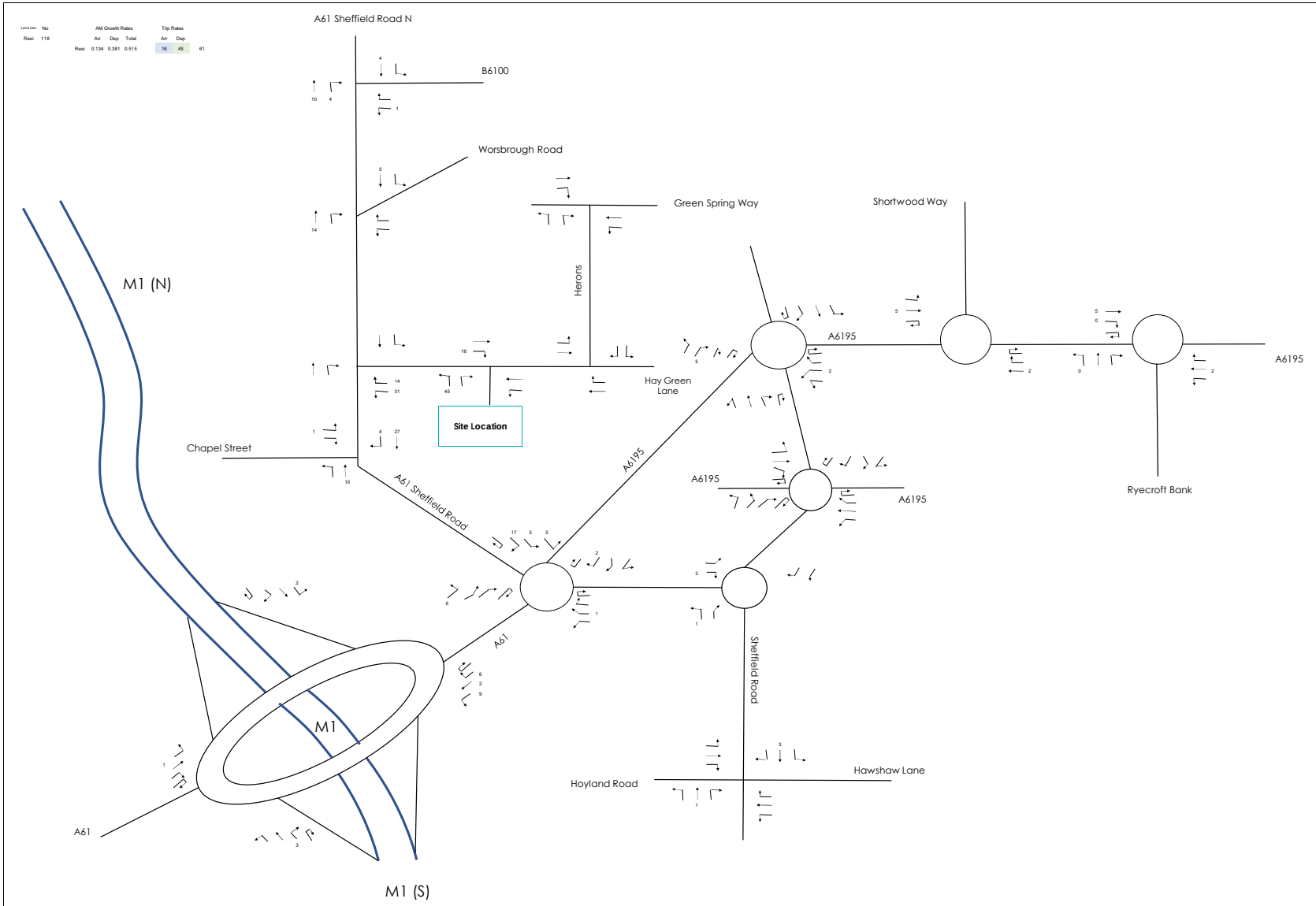
Trip Distribution

Figure 12



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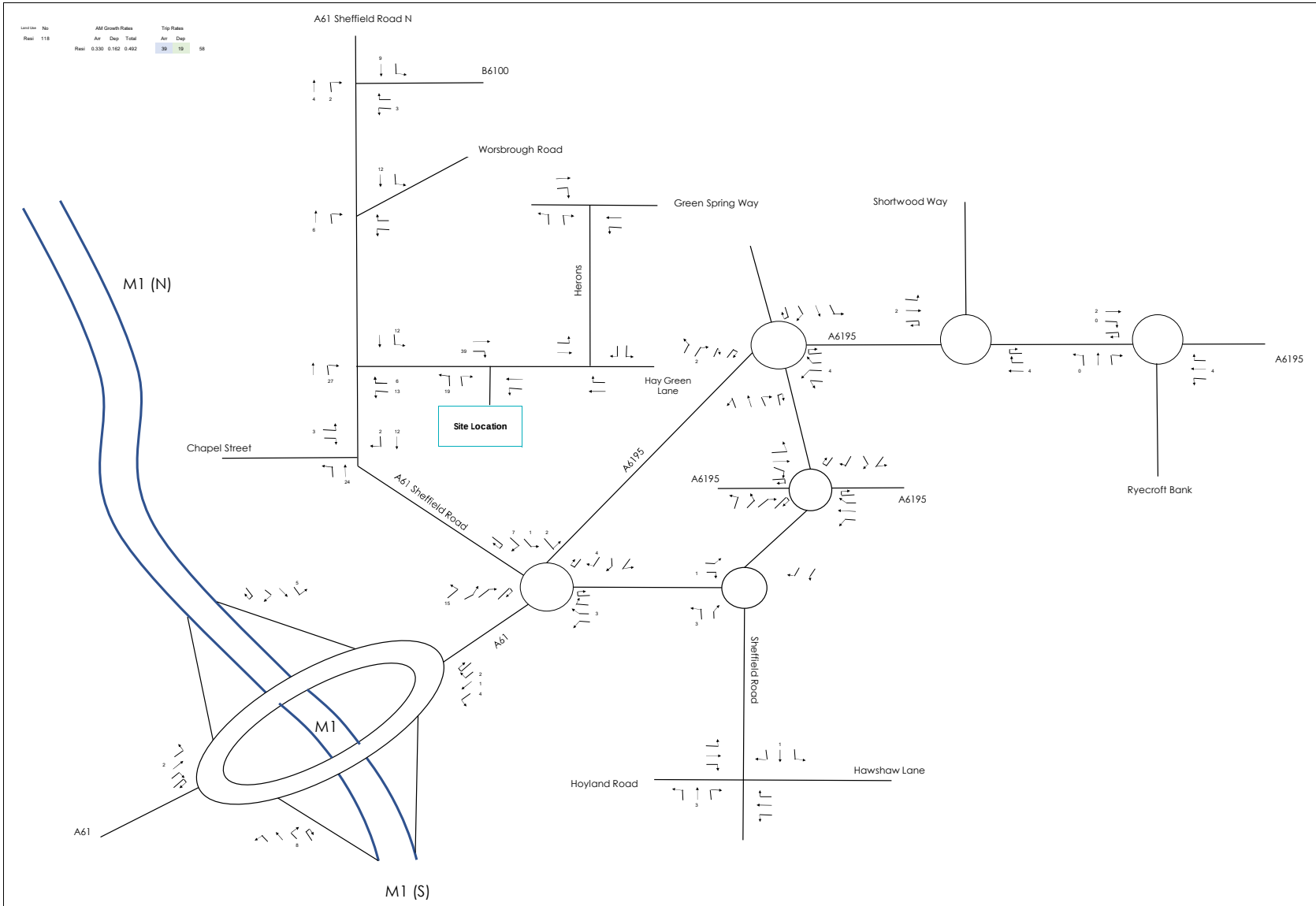
Trip Generation AM Peak (08:30-09:30)

Figure 13



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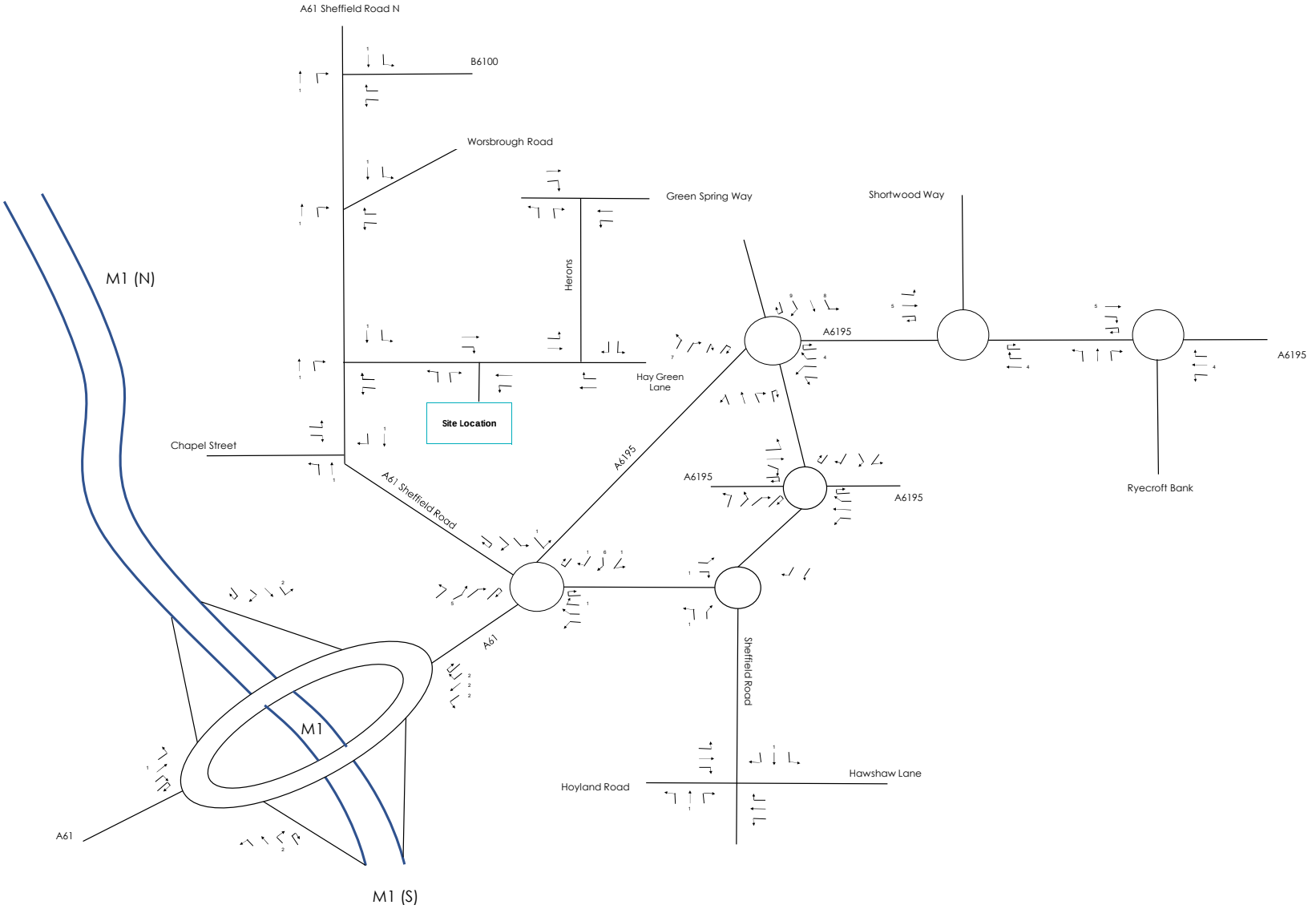
PM Trip Generation (16:30-17:30)

Figure 14



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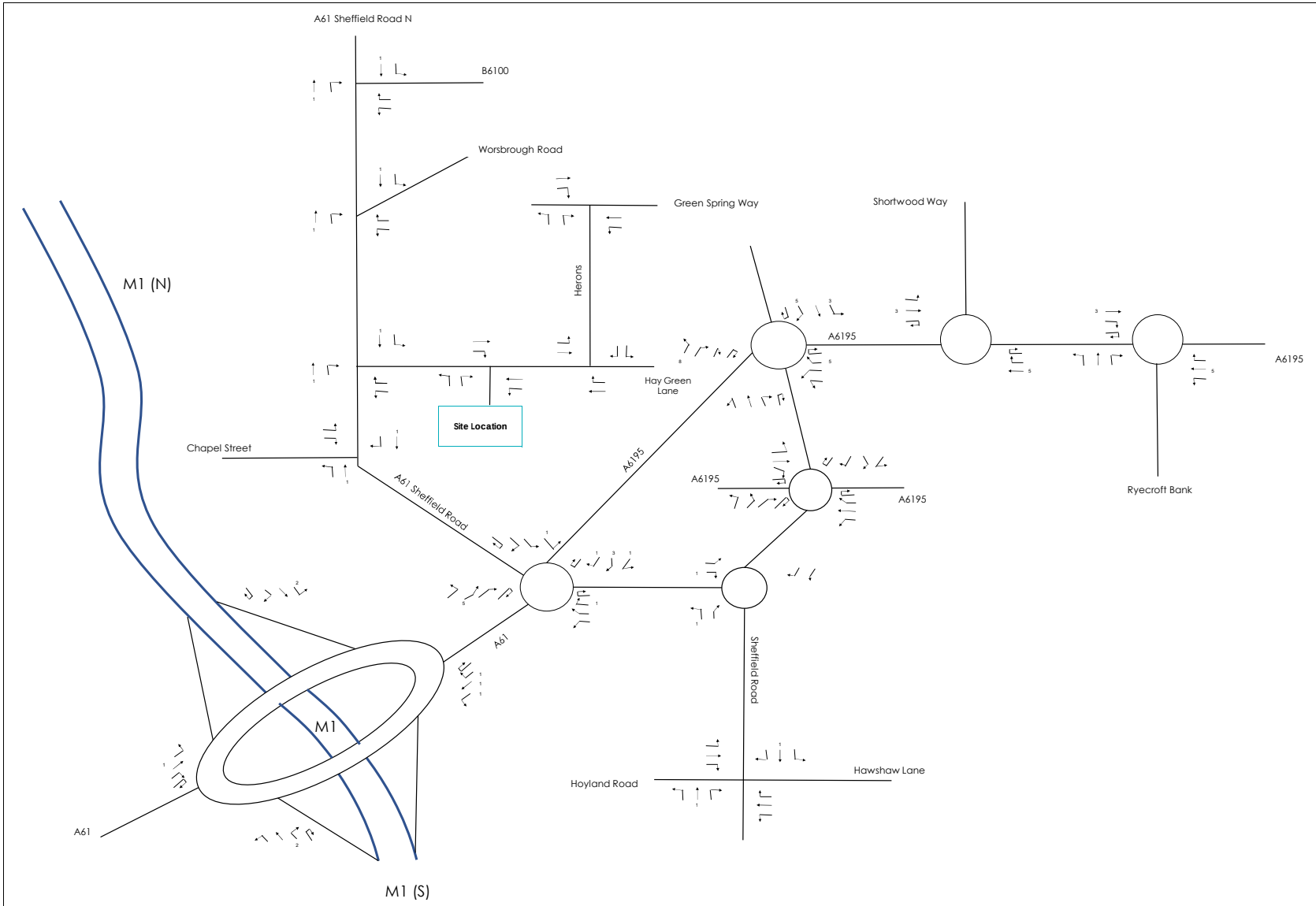
Committed Hotel Development AM Peak

Figure 15



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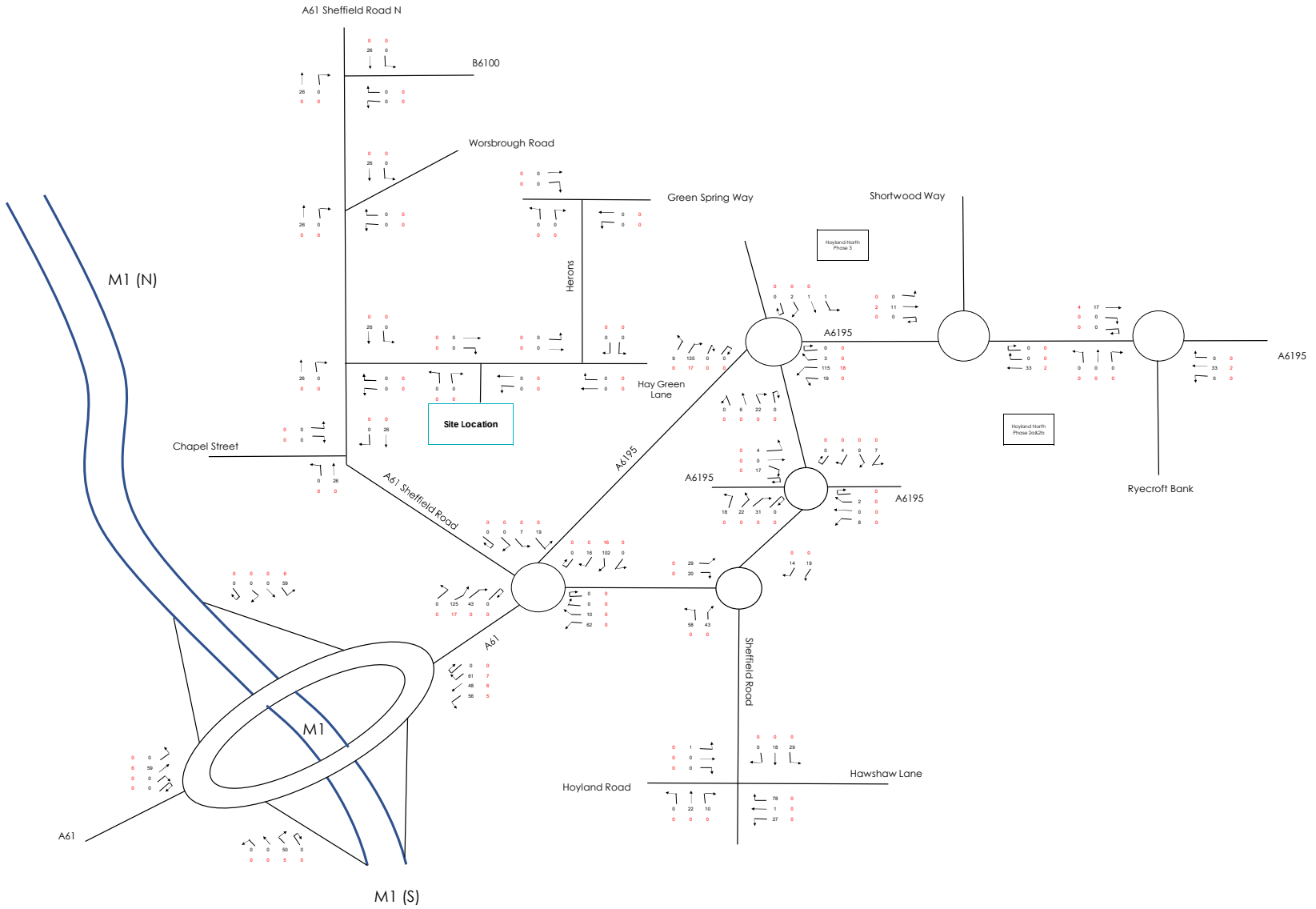
Project : Hay Green Lane, Barnsley

Committed Hotel Development PM Peak

Figure 16



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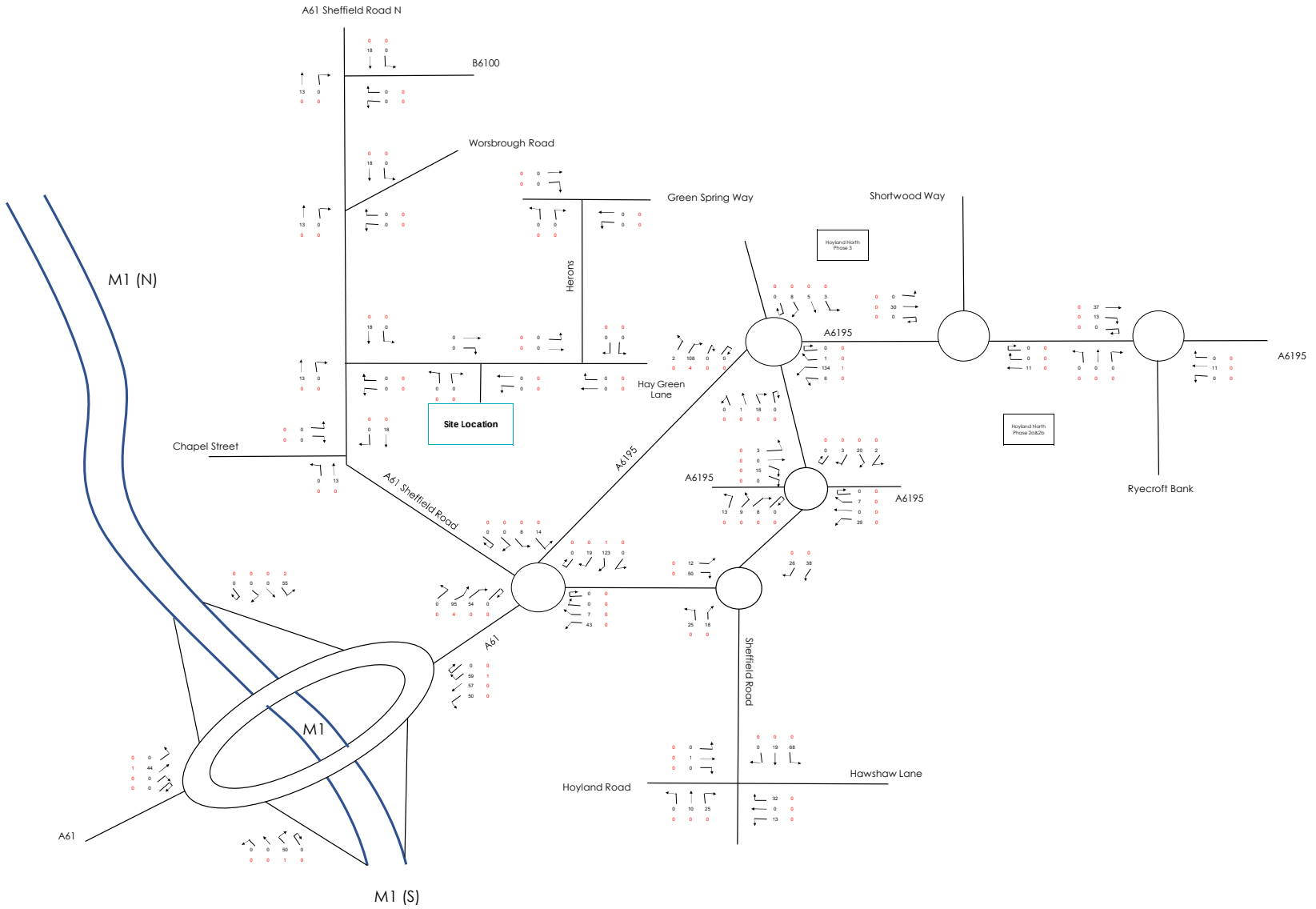
Project : Hay Green Lane, Barnsley

Total Hoyland Consented Development AM Peak

Figure 21



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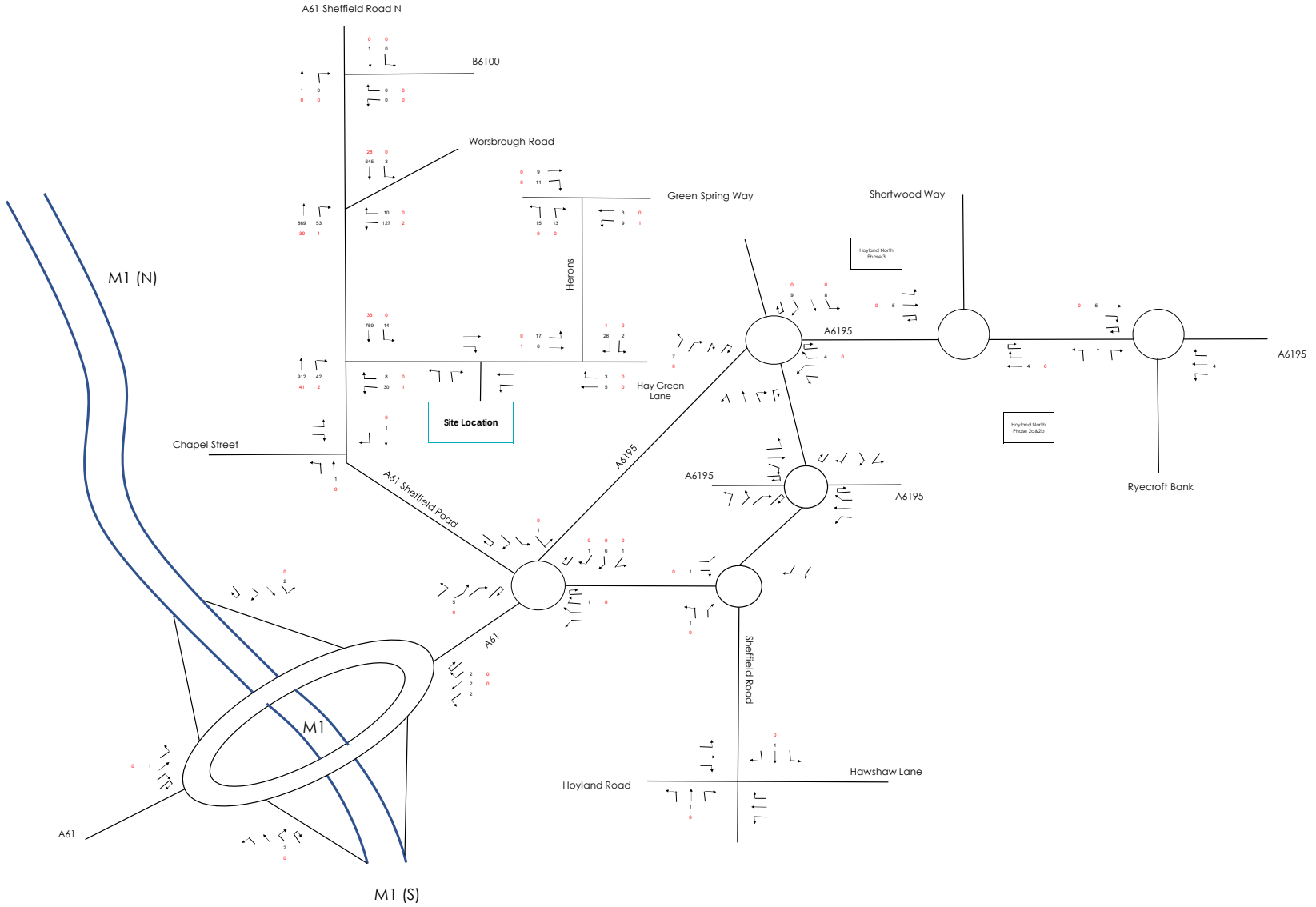
Project : Hay Green Lane, Barnsley

Total Hoyland Consented Development PM Peak

Figure 22



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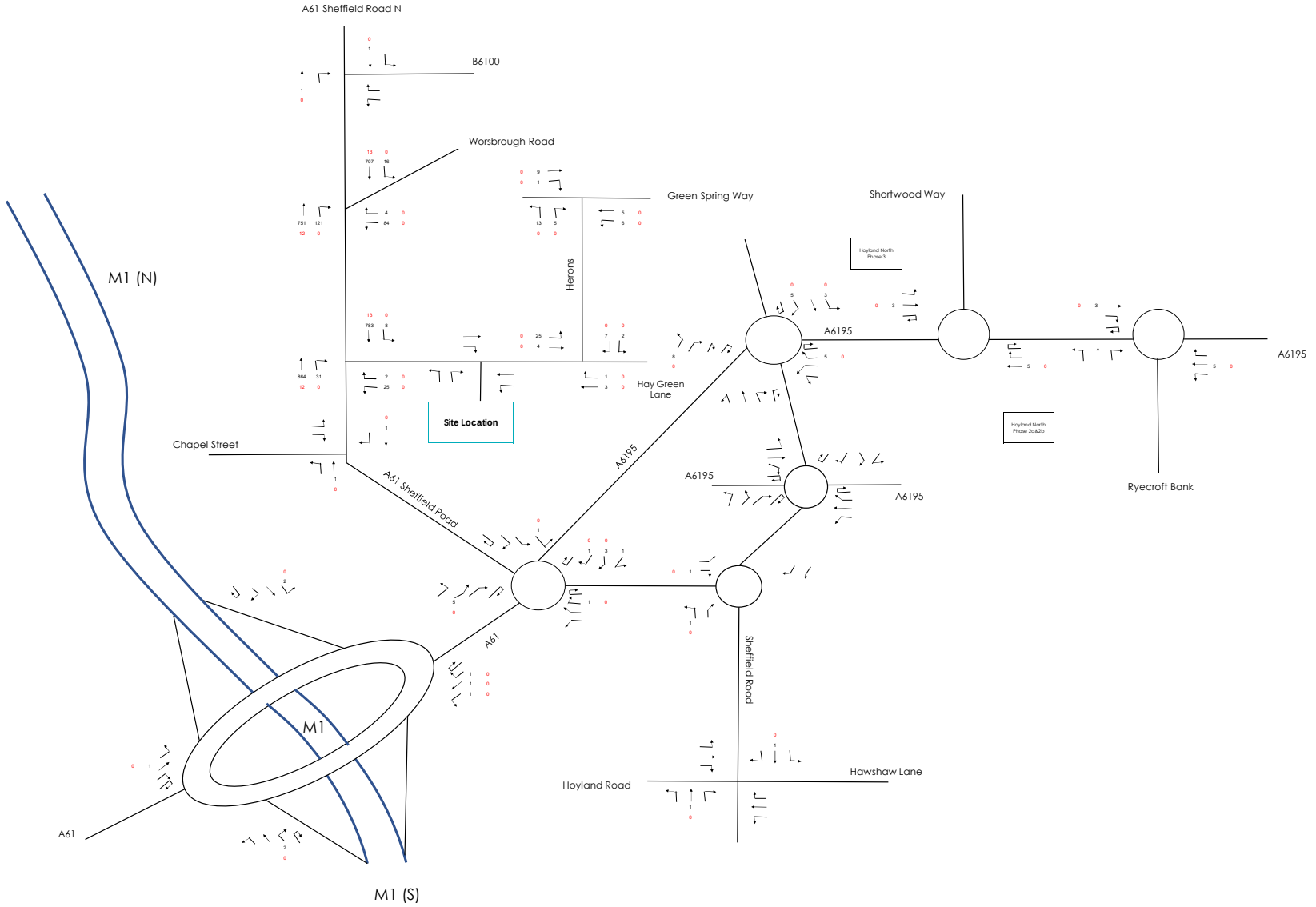
Project : Hay Green Lane, Barnsley

2019 Base AM Flows

Figure 23



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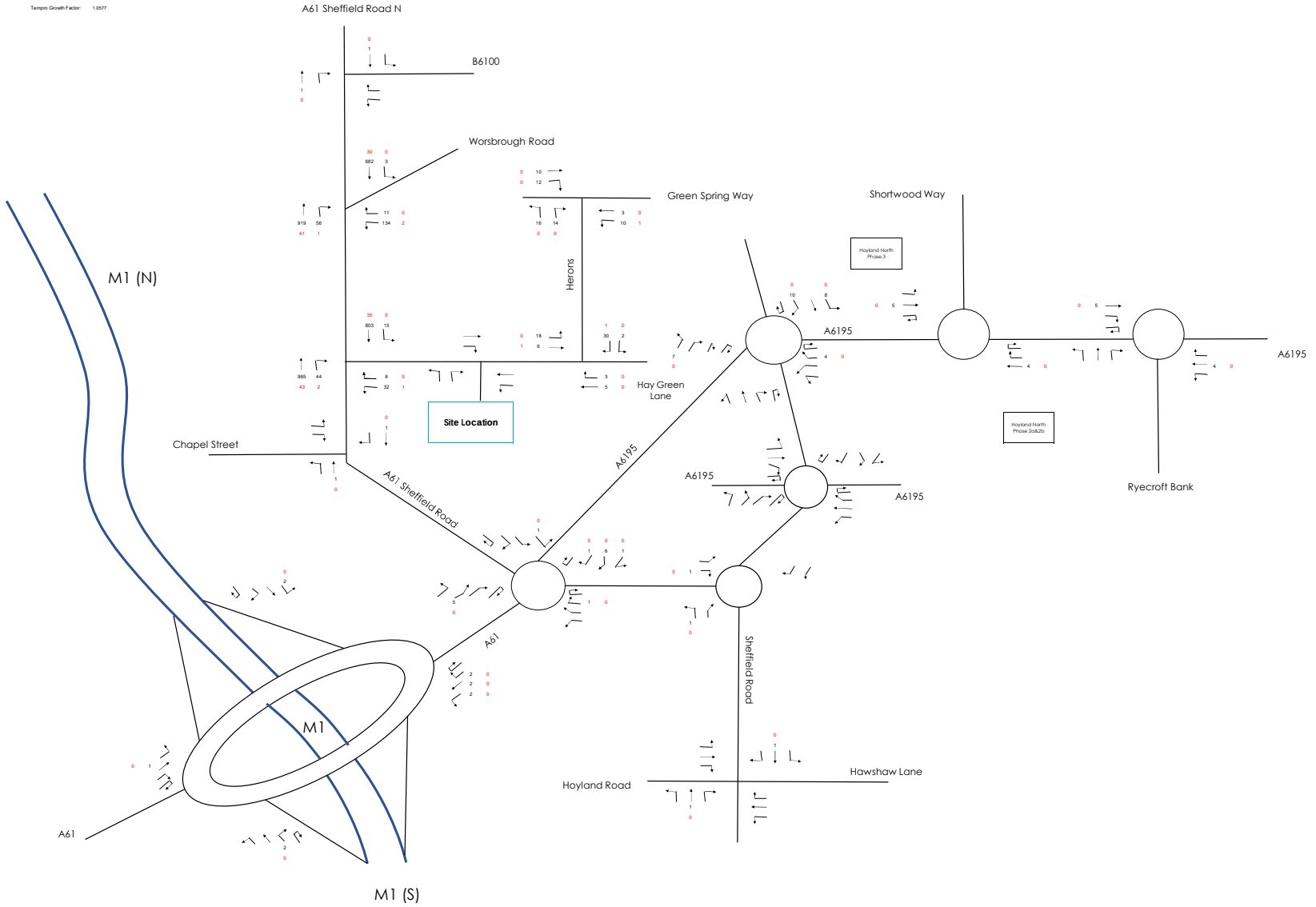
2019 Base PM Flows

Figure 24

Tempro Growth Factor: 1.0577



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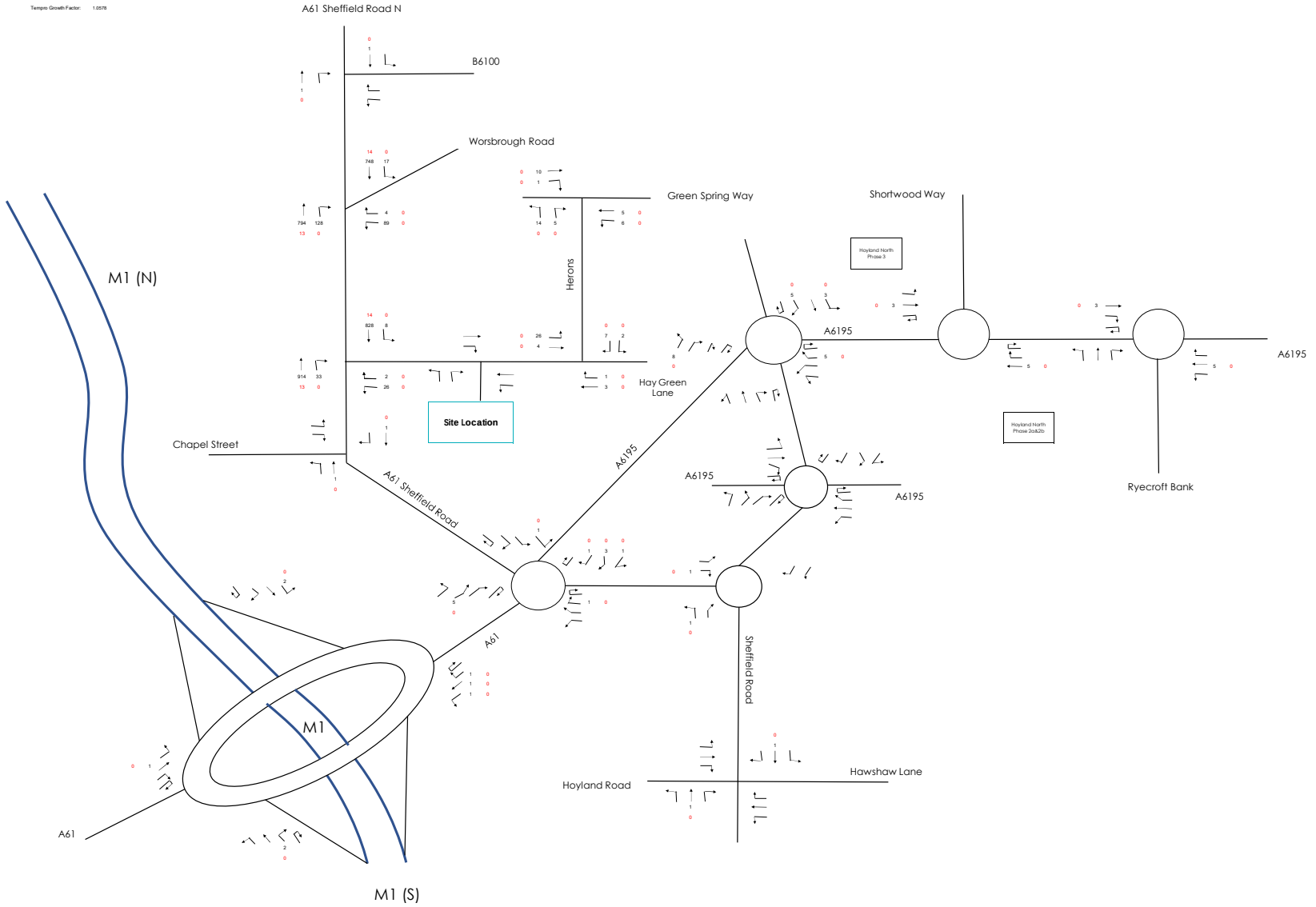
2025 AM Base Flows

Figure 25



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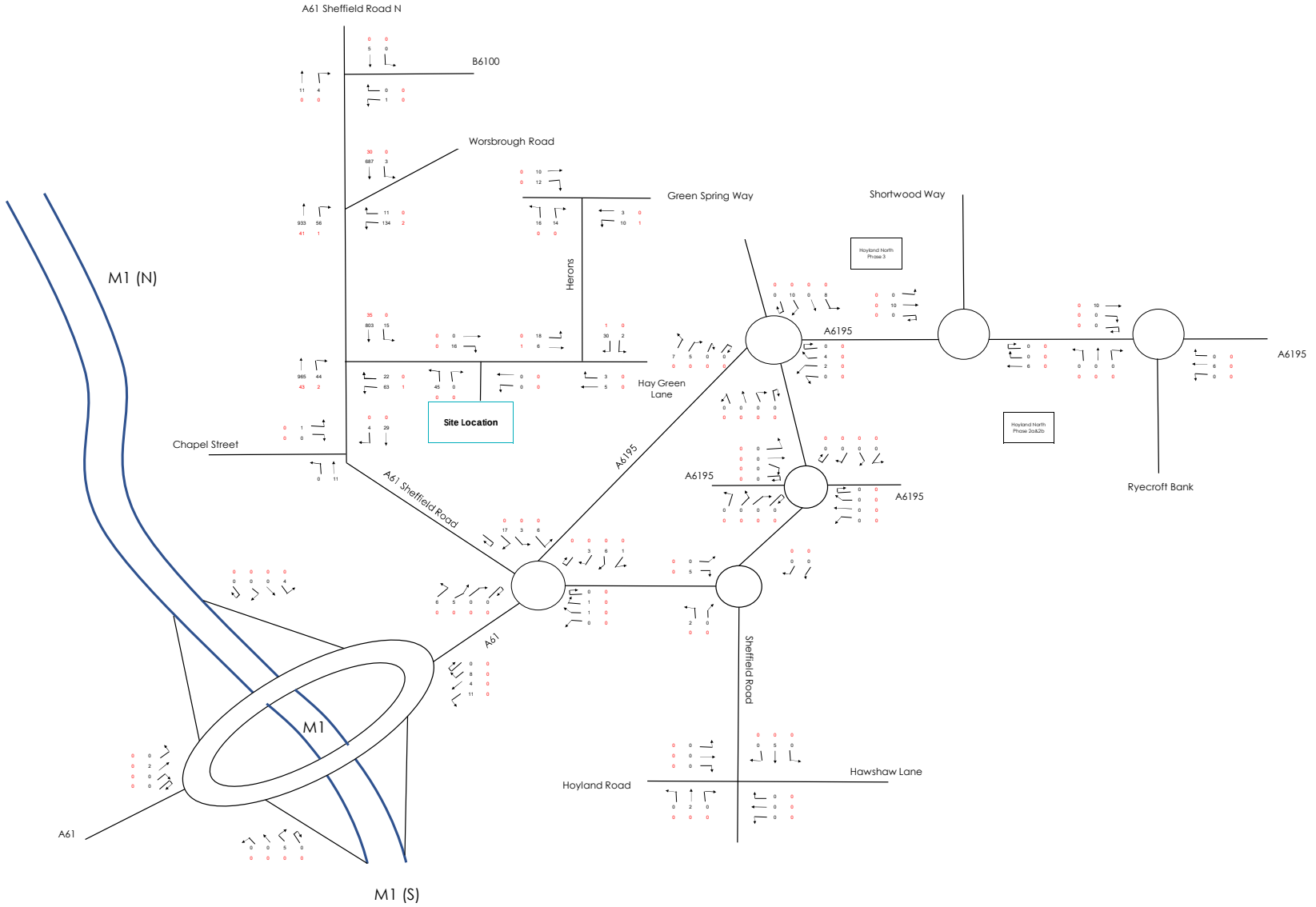
2025 PM Base Flows

Figure 26



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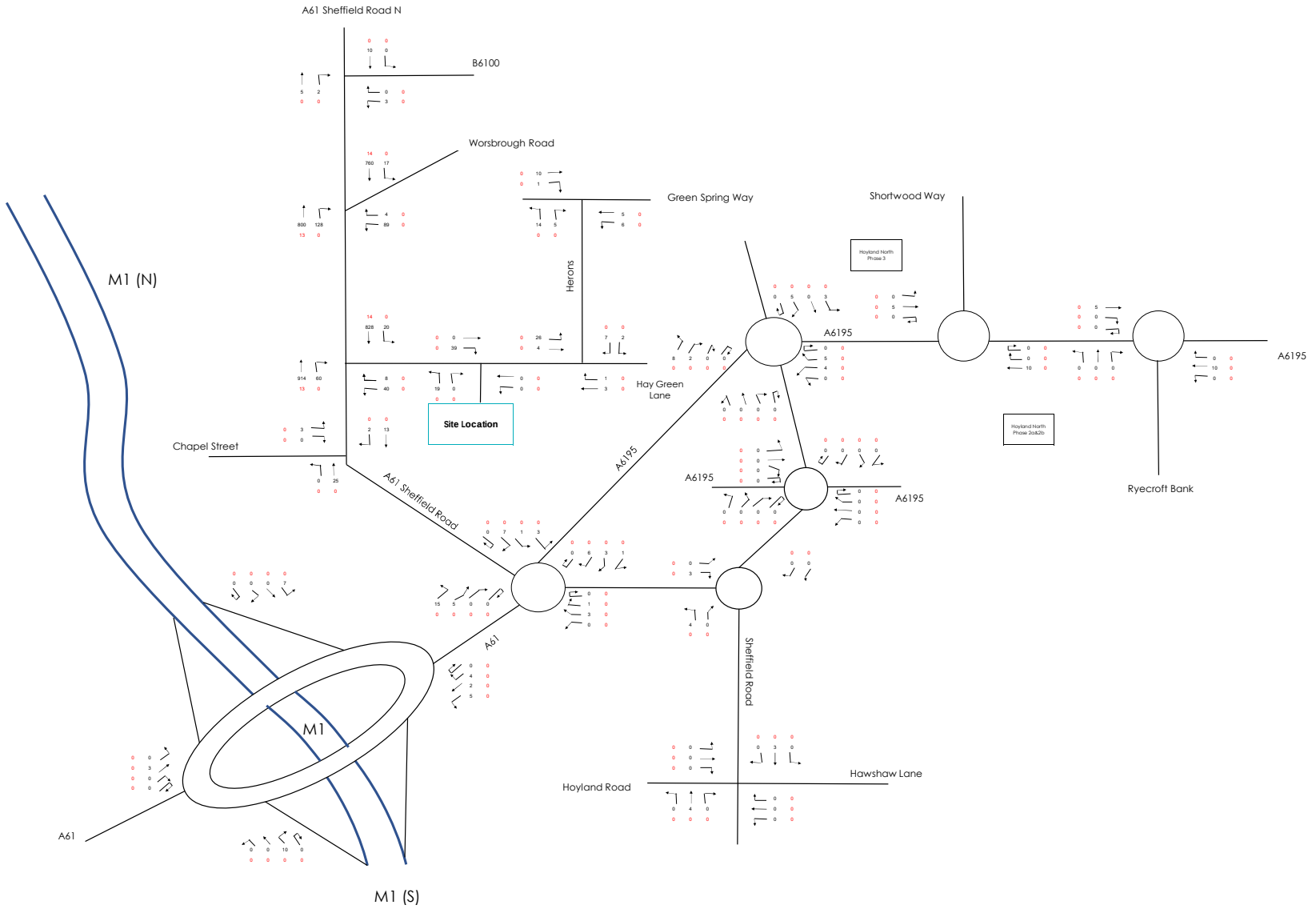
2025 AM Design Flows

Figure 27



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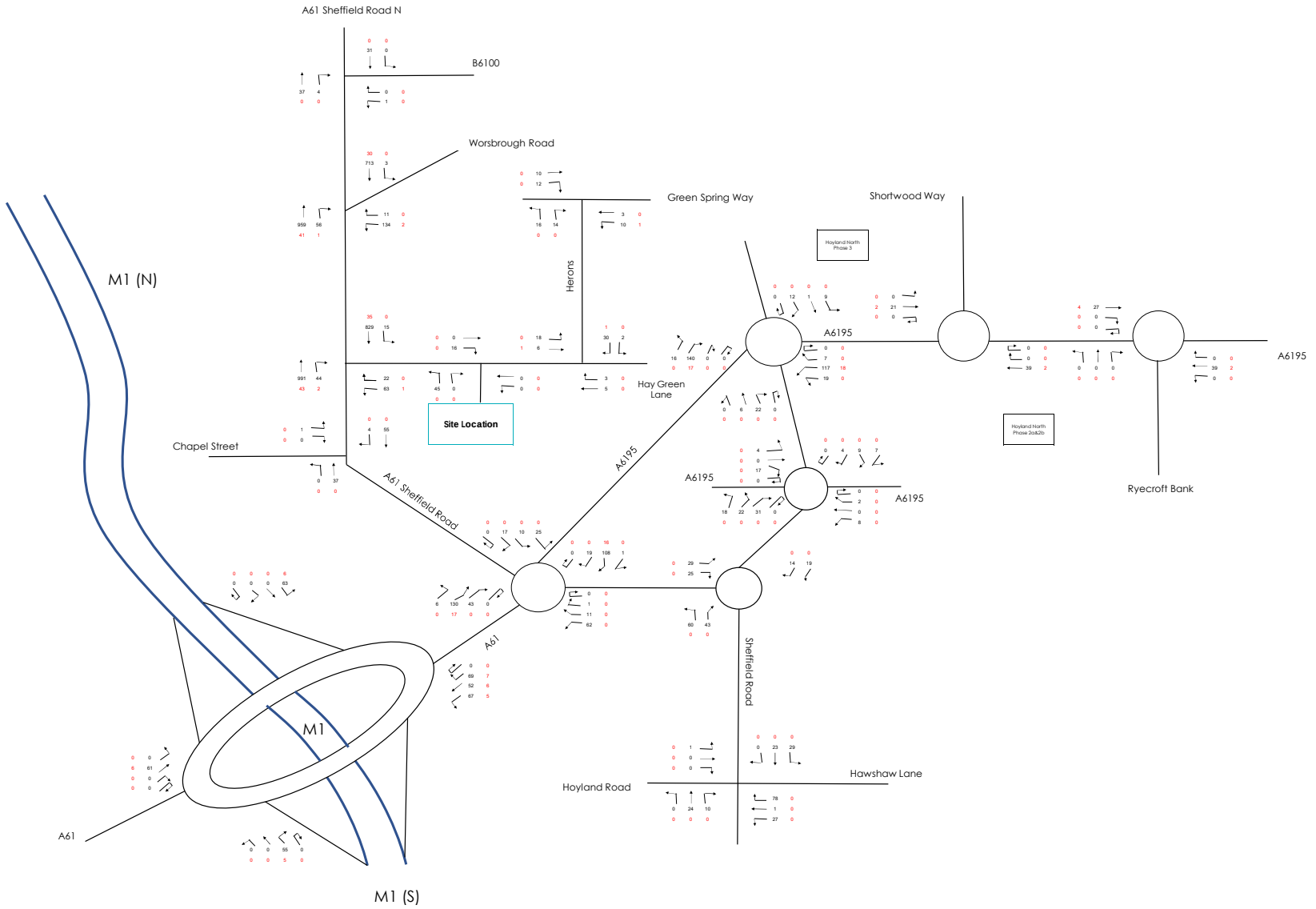
2025 AM Design Flows

Figure 28



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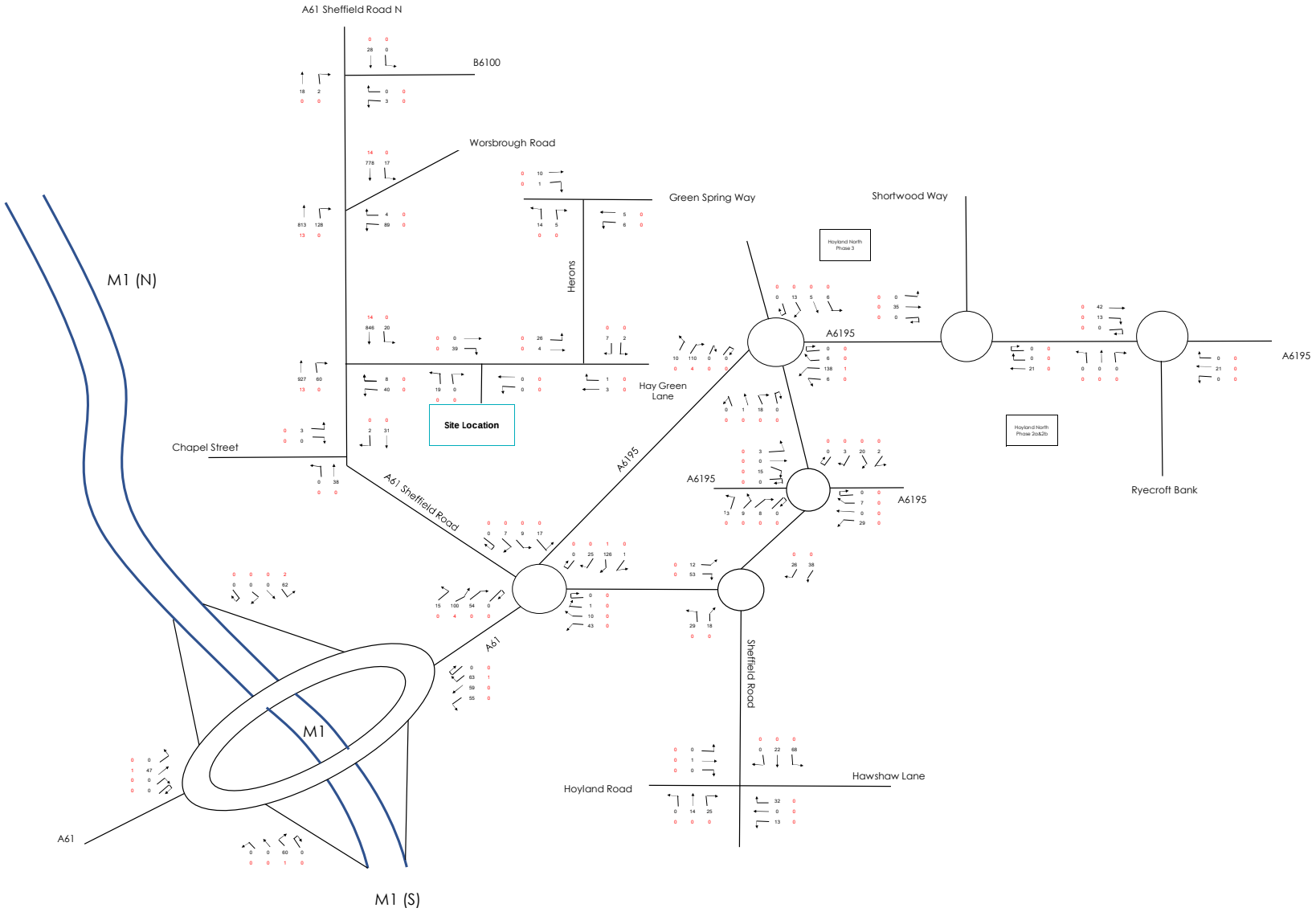
Project : Hay Green Lane, Barnsley

2025 Design Sensitivity AM

Figure 29



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Project : Hay Green Lane, Barnsley

2025 Design Sensitivity PM

Figure 30

Appendices

Appendix A Masterplan

RESIDENTIAL (118 UNITS @ 42 DWELLINGS PER HECTARE)	2.77 HECTARES
PUBLIC OPEN SPACE (15% POLICY REQUIREMENT = 0.54 HECTARES)	0.33 HECTARES
BASIN AMENITY AREA	0.29 HECTARES
ASH TREE AMENITY AREA	0.05 HECTARES
FOOTPATH/ CYCLEWAY AMENITY AREA	0.09 HECTARES
SWALE AREA	0.06 HECTARES
GROSS SITE AREA	3.59 HECTARES

VEHICLE ACCESS

PEDESTRIAN & CYCLE ACCESS

PROPOSED HEDGE PLANTING TO INFILL GAPS AND COMPLETE BOUNDARY

PUBLIC OPEN SPACE TO FORM AN EXTANSION TO BIRDWELL COMMUNITY PARK

ASH TREE RETAINED WITH SUITABLE STAND-OFF TO DWELLINGS

SURFACE WATER ATTENUATION BASIN WITH POTENTIAL BIODIVERSITY BENEFITS

PEDESTRIAN LINK TO PUBLIC FOOTPATH

SWALE COLLECTING SURFACE WATER

EXISTING HEDGES RETAINED

DWELLINGS OVERLOOKING RECREATION GROUND

OAK TREE FORMS A FOCAL POINT

PEDESTRIAN LINK TO COMMUNITY PARK

BIRDWELL COMMUNITY PARK

LEAP

MUGA

PROPOSED NEAP

OVERHEAD ELECTRICITY LINE

PUBLIC FOOTPATH

Hay Green Plantation

Birdwell Primary School

Methodist Church

Hawkwood Cottage

Hay Green Cottage

Robin Cottage

Dalton Cottage

Heather Cottage

Hay Green Court

SHEFFIELD ROAD

GREEN LANE

SHEFFIELD ROAD

Allotment Gardens

Parker's Terrace

Shelter

TCB

TREES FROM TOPO

REV	DATE	DESCRIPTION	BY	CHECK
D	25.04.20	PROW TO WESTERN BOUNDARY ADJUSTED TO REFLECT EXISTING ROUTE AS SHOWN ON PROW PLAN & AREAS ADJUSTED	LS	LB
C	17.04.20	DETAILED MASTER PLAN FORMULATED SHOWING POTENTIAL EXTENTS OF HOUSING DEVELOPMENT.	LS	LB
B	31.01.20	OPEN SPACE AMENDED TO ACCOMMODATE 30m STAND-OFF TO POTENTIAL NEAP EXTENSION OF EXISTING PLAYSPACE	LB	TS
A	30.01.20	MASTERPLAN REVISED IN RESPONSE TO PRE-APP: OPEN SPACE LOCATED ADJACENT TO COMMUNITY PARK RED LINE AMENDED TO BE COMPLETELY WITHIN ALLOCATION EMERGENCY LINK REMOVED	LB	TS

jrp ARCHITECTURE | PLANNING | LANDSCAPE

CLIENT: HARWORTH GROUP

PROJECT: HAY GREEN LANE BIRDWELL

DRAWING: ILLUSTRATIVE MASTERPLAN

DRAWING NUMBER: 17 5085 12

SCALE @ A1: 1:1000

DRAWN: LB **DATE:** 06.11.19

CHECKED: TS **DATE:** 06.11.19

NORTH

1:1000 SCALE 100m

14 MARINER COURT / CALDER PARK / WAKEFIELD / WF4 3FL
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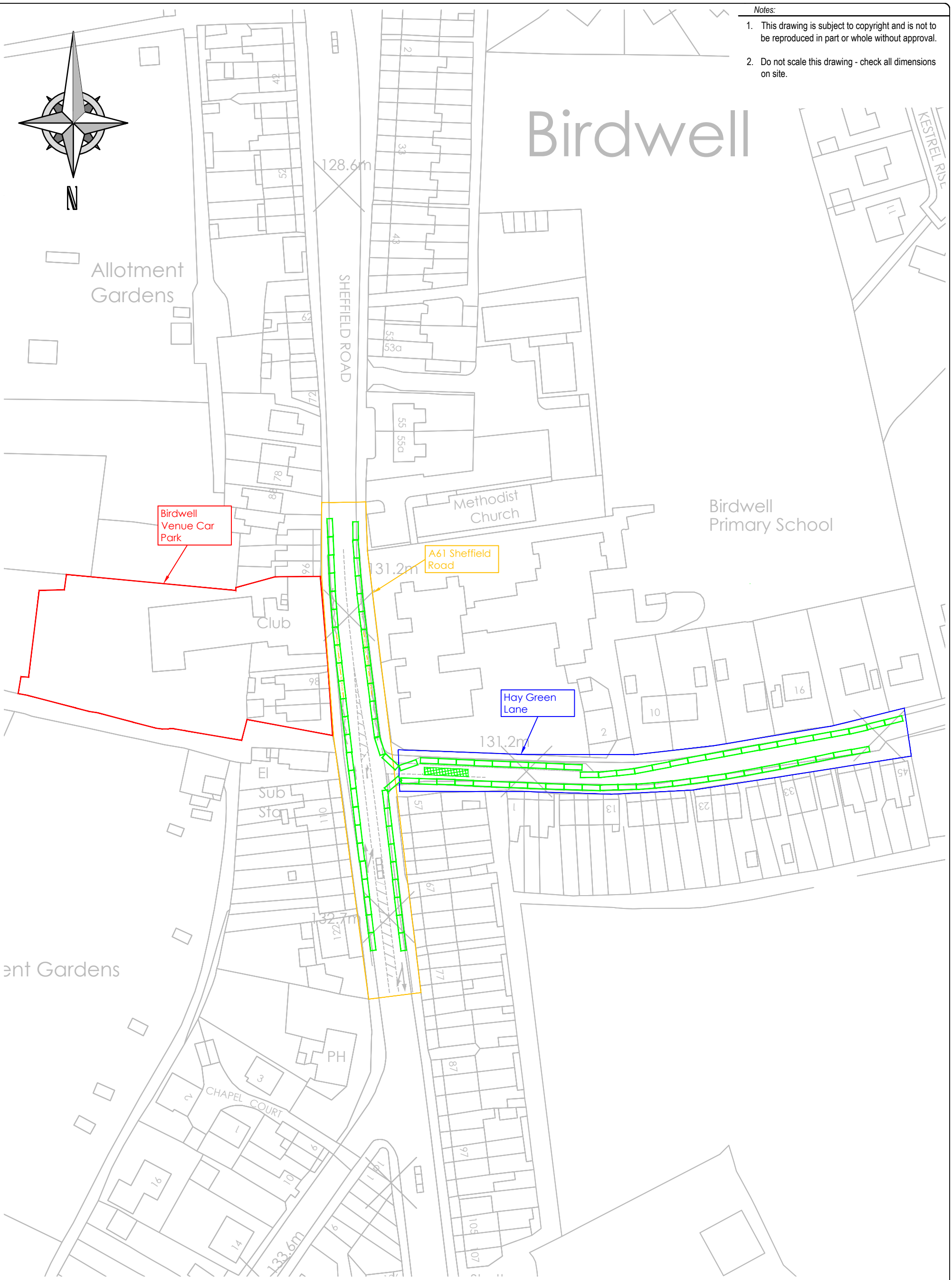
12 / ILLUSTRATIVE MASTERPLAN

Appendix B Surveys

Notes:

1. This drawing is subject to copyright and is not to be reproduced in part or whole without approval.
2. Do not scale this drawing - check all dimensions on site.



Rev:	Date:	Status/Amendments:	By:
-	09.09.20	INITIAL ISSUE	KG

mosodi
mobility solutions through design and innovation

Manchester 0161 413 5168
Leeds 0113 323 0854

Client: HARWORTH

Project: HAY GREEN LANE, BIRDWELL

Drawing Title: PARKING SURVEY

Drawn By:	*Checked By:*	*Approved By:*
KG	-	-
Scale: 1:1000	*Paper Size:* A3	*Date Created:* 09.09.20
Drawing Number: 18079.IN.10		*Drawing Revision:* -

A61 SHEFFIELD ROAD, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

West	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Time	122		120	118	116	114	112	110	108	106	104	-	-	102	100	98	Birdwell Venue					96	94	92
07:30	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
07:35	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
07:40	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
07:45	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
07:50	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
07:55	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:00	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:05	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:10	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:15	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:20	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:25	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:30	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:35	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:40	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:45	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:50	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:55	-	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:00	-	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:05	-	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:10	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:15	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:20	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:25	-	-	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-

A61 SHEFFIELD ROAD, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

East	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Time	Meth.	Chur.	Birdwell Primary School											HGL	HGL	57	59	61	63	65	67	69	71	73
07:30	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
07:35	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
07:40	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
07:45	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
07:50	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
07:55	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
08:00	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y
08:05	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:10	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:15	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:20	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:25	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:30	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:35	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
08:40	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	Y	-
08:45	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	Y	-
08:50	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	Y	-
08:55	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	Y	-	-	Y	Y	-
09:00	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:05	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:10	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:15	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:20	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
09:25	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-

A61 SHEFFIELD ROAD, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

West	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Time	122		120	118	116	114	112	110	108	106	104	-	-	102	100	98	Birdwell Venue					96	94	92
14:30	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:35	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:40	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:45	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:50	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:55	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:00	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	Y	Y	-
15:05	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	Y	Y	-
15:10	-	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	Y	Y	-
15:15	-	-	-	-	-	-	-	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:20	Y	-	-	-	-	-	-	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:25	Y	-	-	-	-	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:30	Y	-	-	-	-	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:35	Y	-	-	-	-	-	-	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:40	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:45	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:50	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:55	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:00	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:05	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:10	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:15	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:20	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:25	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:30	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:35	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:40	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:45	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:50	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
16:55	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-

A61 SHEFFIELD ROAD, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

East	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Time	Meth.	Chur.	Birdwell Primary School											HGL	HGL	57	59	61	63	65	67	69	71	73
14:30	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-

14:35	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:40	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:45	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:50	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:55	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:00	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-
15:05	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	Y	Y	-
15:10	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	-	-	Y	Y	-
15:15	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	-	-	Y	Y	-
15:20	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	-	-	Y	Y	-
15:25	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	Y	-
15:30	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	-	-	Y	Y	-
15:35	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	-	-	Y	-	-
15:40	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-
15:45	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:50	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:55	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:05	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:10	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:15	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:20	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:25	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:30	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:35	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:40	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:45	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:50	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HAY GREEN LANE, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

North	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Time	Birdwell Primary School Layby										2			10			12		14			16			18			
07:30	Y	-	-	Y	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
07:35	Y	-	-	Y	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
07:40	Y	-	-	Y	-	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
07:45	Y	-	-	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
07:50	Y	-	-	Y	-	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
07:55	Y	-	-	Y	-	-	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:00	Y	-	-	Y	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:05	Y	-	-	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:10	Y	-	-	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:15	Y	-	-	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08:20	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:25	Y	Y	Y	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:30	Y	Y	Y	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:35	Y	Y	Y	-	-	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:40	Y	Y	Y	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:45	Y	Y	Y	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
08:50	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	Y	-	-	-	-	Y	-	-	-	Y	-	-
08:55	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y
09:00	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
09:05	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	Y	Y	-	-	-	Y	-	-	Y	-	Y	Y	Y
09:10	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	Y	-	-	-	-	Y	-	-	-	-	-	-	-	-	-
09:15	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09:20	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09:25	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-

HAY GREEN LANE, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

South	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56

Time	41	39	37	35	33	31	29	27	35	23	21	19	17	15	13	11	7/9	5	3	1	-	Side of Number 57 Sheffield Road						
07:30	-	-	-	Y	Y	Y	Y	-	-	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	-	Y	-	Y	-	Y	-	-
07:35	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
07:40	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
07:45	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
07:50	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
07:55	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:00	-	-	-	Y	Y	Y	Y	-	-	-	-	-	Y	Y	Y	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:05	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:10	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:15	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:20	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:25	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	Y	-	Y	-	-	Y	-	Y	-	Y	-	-
08:30	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	Y	Y	-	Y	-	Y	-	-	-	-	Y	-	Y	-	-
08:35	-	-	-	Y	Y	-	Y	-	-	Y	-	-	Y	Y	Y	-	Y	-	Y	-	-	-	-	Y	-	Y	-	-
08:40	-	-	-	Y	Y	-	Y	-	-	Y	-	-	Y	Y	-	-	Y	-	Y	-	-	-	-	Y	-	Y	-	-
08:45	Y	-	-	Y	Y	-	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	Y	-	Y	-	-
08:50	Y	Y	Y	Y	Y	-	Y	-	Y	Y	Y	Y	Y	Y	-	Y	Y	-	Y	-	-	Y	Y	Y	-	Y	-	-
08:55	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	-	Y	-	-	Y	Y	Y	-	Y	-	-
09:00	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	-
09:05	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	-	Y	-	Y	-	-	Y	Y	-	Y	-	-
09:10	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	-	Y	-	Y	-	-	Y	Y	-	Y	-	-
09:15	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	Y	Y	-	-	-	Y	-	Y	-	-	Y	Y	-	Y	-	-
09:20	Y	-	Y	Y	Y	-	Y	-	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	Y	Y	-	Y	-	-
09:25	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	Y	Y	Y	-	-	Y	-	Y	-	-	Y	Y	-	Y	-	-

HAY GREEN LANE, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

North	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Time	Birdwell Primary School Layby										2			10			12		14			16			18			
14:30	Y	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	Y
14:35	Y	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:40	Y	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-

14:45	Y	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:50	Y	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	Y	-
14:55	Y	-	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	-	Y	-
15:00	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	-	Y	-
15:05	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:10	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:15	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:20	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	-	-	-	-	-	-	Y	-	Y	Y
15:25	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	-	-	-	-	-	-	Y	-	Y	Y
15:30	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	-	Y	-	Y	Y	Y	Y
15:35	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:40	Y	-	Y	-	-	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:45	Y	-	Y	-	-	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:50	Y	-	Y	-	-	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
15:55	Y	-	Y	-	-	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
16:00	Y	-	Y	-	-	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
16:05	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
16:10	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:15	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:20	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:25	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:30	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:35	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:40	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	Y	-
16:45	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	Y	-	-	Y	-
16:50	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	Y	-	-	Y	-
16:55	Y	-	Y	-	-	Y	-	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	Y	-	Y	-	-	Y	-

HAY GREEN LANE, BIRDWELL PARKING SURVEY - TUESDAY 15 SEPTEMBER 2020

South	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Time	41	39	37	35	33	31	29	27	35	23	21	19	17	15	13	11	7/9	5	3	1	-	Side of Number 57 Sheffield Road						
14:30	Y	Y	Y	Y	Y	Y	Y	-	-	Y	-	Y	Y	-	-	Y	Y	Y	-	Y	-	-	-	-	Y	Y	-	-
14:35	Y	Y	Y	Y	Y	Y	Y	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y	-	-	-	-	Y	Y	-	-
14:40	Y	Y	Y	Y	Y	Y	Y	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y	-	-	-	-	Y	Y	-	-
14:45	Y	Y	Y	Y	Y	Y	Y	-	-	-	Y	Y	Y	-	-	Y	Y	-	-	Y	-	-	-	-	Y	Y	-	-
14:50	Y	Y	Y	Y	Y	Y	Y	-	-	-	Y	Y	Y	-	-	Y	Y	-	-	Y	-	-	-	-	Y	Y	-	-

14:55	-	Y	Y	Y	Y	Y	Y	Y	-	-	Y	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	-	Y	Y	-	-
15:00	-	Y	Y	Y	Y	Y	Y	Y	-	-	Y	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	-	Y	Y	-	-
15:05	-	Y	Y	Y	Y	Y	Y	Y	-	-	Y	Y	Y	Y	-	Y	Y	Y	-	Y	-	Y	Y	-	Y	Y	-	-
15:10	-	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	-	-
15:15	-	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	Y	-	Y	Y	Y	-	-
15:20	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	Y	Y	Y	Y	Y	Y	-
15:25	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	Y	Y	Y	Y	Y	Y	-
15:30	Y	Y	Y	Y	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	Y	Y	Y	-	Y	-	-	-	-	Y	Y	-	-
15:35	-	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	-	-	-	Y	Y	-	Y	-	-	-	-	-	Y	-	-
15:40	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	-	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
15:45	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	-	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
15:50	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
15:55	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:00	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:05	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:10	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:15	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	Y	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:20	Y	-	Y	Y	Y	-	Y	-	-	-	Y	Y	Y	-	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:25	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	-	-	-	Y	-	Y	-	-	-	-	-	-	Y	-	-
16:30	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
16:35	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
16:40	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
16:45	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
16:50	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-
16:55	Y	Y	Y	Y	Y	-	Y	-	-	Y	Y	Y	Y	Y	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-

A61 SHEFFIELD ROAD, BIRDWELL - ZEBRA CROSSING SURVEY

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			Pedestrians E/B			Pedestrians Total			Queues	
Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	N/B	S/B
07:38	0	0	0	0	2	2	0	2	2	-	-
07:46	0	0	0	1	0	1	1	0	1	3	2
08:13	1	0	1	0	0	0	1	0	1	-	1
08:14	0	0	0	1	0	1	1	0	1	2	3
08:18	1	0	1	0	0	0	1	0	1	-	-
08:19	1	0	1	0	0	0	1	0	1	2	2
08:31	0	0	0	2	1	3	2	1	3	3	2
08:41	0	0	0	1	2	3	1	2	3	2	2
08:51	0	0	0	1	1	2	1	1	2	4	4
08:52	1	0	1	0	0	0	1	0	1	5	6
08:56	0	0	0	1	0	1	1	0	1	-	-
08:58	0	0	0	1	0	1	1	0	1	3	2
08:59	0	0	0	1	1	2	1	1	2	3	-
09:01	1	0	1	0	0	0	1	0	1	1	2
09:02	1	0	1	0	0	0	1	0	1	-	-
09:03	0	0	0	1	0	1	1	0	1	-	1
09:05	0	0	0	1	0	1	1	0	1	1	6
09:06	1	0	1	0	0	0	1	0	1	1	5
09:12	1	0	1	0	0	0	1	0	1	-	1
09:15	0	0	0	1	1	2	1	1	2	2	-
09:24	2	0	2	0	0	0	2	0	2	1	2
09:25	0	0	0	1	0	1	1	0	1	-	1
09:26	1	0	1	0	0	0	1	0	1	2	4
14:35	1	0	1	0	0	0	1	0	1	3	-
14:36	0	0	0	1	1	2	1	1	2	4	1
14:37	0	0	0	1	0	1	1	0	1	2	-
14:38	0	0	0	1	0	1	1	0	1	4	-
14:39	1	0	1	0	0	0	1	0	1	-	-
14:44	1	0	1	0	0	0	1	0	1	-	-
14:45	0	0	0	1	0	1	1	0	1	4	1
14:48	1	0	1	0	0	0	1	0	1	2	2
14:48	0	0	0	1	0	1	1	0	1	3	1
14:50	0	0	0	1	1	2	1	1	2	4	3
14:51	1	0	1	0	0	0	1	0	1	5	-
14:54	0	0	0	1	1	2	1	1	2	1	-
14:55	1	0	1	0	0	0	1	0	1	-	-
15:04	0	0	0	1	0	1	1	0	1	3	3
15:09	0	0	0	1	0	1	1	0	1	5	2
15:10	0	0	0	1	0	1	1	0	1	3	1
15:11	0	0	0	1	0	1	1	0	1	4	-

A61 SHEFFIELD ROAD, BIRDWELL - ZEBRA CROSSING SURVEY

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			Pedestrians E/B			Pedestrians Total			Queues	
Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	N/B	S/B
15:15	0	0	0	1	0	1	1	0	1	4	2
15:19	0	0	0	1	0	1	1	0	1	6	-
15:20	0	1	1	0	0	0	0	1	1	-	-
15:22	2	1	3	0	0	0	2	1	3	3	4
15:24	0	0	0	1	0	1	1	0	1	-	2
15:26	0	0	0	1	1	2	1	1	2	4	3
15:27	1	1	2	0	0	0	1	1	2	2	2
15:28	1	0	1	0	0	0	1	0	1	1	-
15:30	2	0	2	0	0	0	2	0	2	3	-
15:31	0	0	0	1	0	1	1	0	1	2	2
15:33	1	2	3	0	0	0	1	2	3	8	4
15:36	0	0	0	1	0	1	1	0	1	7	2
15:37	0	2	2	0	0	0	0	2	2	7	1
15:40	1	2	3	0	0	0	1	2	3	9	5
15:41	1	7	8	0	0	0	1	7	8	12	6
15:44	0	0	0	1	0	1	1	0	1	-	6
15:48	1	0	1	0	0	0	1	0	1	2	1
15:49	0	0	0	1	0	1	1	0	1	2	1
15:50	1	0	1	0	0	0	1	0	1	2	1
15:51	1	0	1	1	0	1	2	0	2	12	-
15:53	1	1	2	0	0	0	1	1	2	10	1
15:55	0	0	0	1	0	1	1	0	1	8	2
15:56	2	0	2	0	0	0	2	0	2	8	-
16:03	0	0	0	1	1	2	1	1	2	10	-
16:04	1	1	2	0	0	0	1	1	2	11	-
16:05	0	0	0	1	0	1	1	0	1	2	2
16:07	0	0	0	1	0	1	1	0	1	2	3
16:08	0	0	0	0	1	1	0	1	1	1	-
16:09	0	0	0	1	0	1	1	0	1	1	3
16:10	1	0	1	0	0	0	1	0	1	-	-
16:11	0	0	0	1	1	2	1	1	2	5	1
16:12	0	0	0	1	0	1	1	0	1	3	-
16:17	1	0	1	0	0	0	1	0	1	3	-
16:26	0	0	0	2	0	2	2	0	2	7	1
16:32	0	0	0	1	0	1	1	0	1	9	2
16:34	0	0	0	1	2	3	1	2	3	-	2
16:39	0	0	0	0	2	2	0	2	2	8	2
16:40	0	0	0	1	0	1	1	0	1	2	1
16:43	1	0	1	0	0	0	1	0	1	4	5
16:47	1	0	1	0	0	0	1	0	1	2	2
16:55	2	0	2	0	0	0	2	0	2	2	-

A61 SHEFFIELD ROAD, BIRDWELL - SCHOOL CROSSING SURVEY (TOTAL)

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			Pedestrians E/B			Pedestrians Total			Queues	
Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	N/B	S/B
08:39	0	0	0	1	1	2	1	1	2	-	3
08:40	0	0	0	8	13	21	8	13	21	15	14
08:43	0	0	0	3	4	7	3	4	7	8	11
08:44	0	0	0	2	3	5	2	3	5	4	8
08:45	0	0	0	3	6	9	3	6	9	3	13
08:46	2	0	2	2	2	4	4	2	6	10	14
08:47	1	0	1	1	2	3	2	2	4	9	-
08:47	1	0	1	2	3	5	3	3	6	15	7
08:48	3	1	4	2	3	5	5	4	9	11	20
08:49	0	0	0	0	1	1	0	1	1	8	19
08:50	0	0	0	1	1	2	1	1	2	9	17
08:50	1	0	1	0	0	0	1	0	1	10	16
08:50	4	0	4	0	0	0	4	0	4	1	15
08:55	1	0	1	0	0	0	1	0	1	7	8
08:56	1	0	1	1	2	3	2	2	4	9	12

A61 SHEFFIELD ROAD, BIRDWELL - SCHOOL CROSSING SURVEY (TOTAL)

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			Pedestrians E/B			Pedestrians Total			Queues	
Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	N/B	S/B
15:09	0	0	0	1	0	1	1	0	1	7	1
15:12	0	0	0	1	0	1	1	0	1	9	4
15:12	0	0	0	2	1	3	2	1	3	9	6
15:13	0	0	0	3	0	3	3	0	3	12	9
15:14	0	0	0	2	0	2	2	0	2	6	6
15:15	0	0	0	1	0	1	1	0	1	10	7
15:15	0	0	0	1	0	1	1	0	1	9	4
15:16	0	0	0	1	0	1	1	0	1	4	4
15:17	1	1	2	1	0	1	2	1	3	3	-
15:17	0	0	0	1	1	2	1	1	2	6	2
15:18	1	1	2	1	0	1	2	1	3	10	11

15:18	0	0	0	1	0	1	1	0	1	10	8
15:19	1	1	2	0	0	0	1	1	2	5	9
15:19	1	1	2	4	0	4	5	1	6	9	12
15:20	1	2	3	2	0	2	3	2	5	7	9
15:20	1	1	2	1	0	1	2	1	3	3	9
15:21	1	1	2	0	0	0	1	1	2	3	1
15:22	2	3	5	0	0	0	2	3	5	3	4
15:22	2	5	7	0	0	0	2	5	7	10	4
15:23	2	3	5	0	0	0	2	3	5	8	6
15:24	5	6	11	0	0	0	5	6	11	5	12
15:27	2	6	8	0	0	0	2	6	8	9	5
15:30	3	4	7	0	0	0	3	4	7	1	6
15:31	1	2	3	0	0	0	1	2	3	11	3
15:33	3	4	7	0	0	0	3	4	7	7	3
15:34	1	0	1	0	0	0	1	0	1	-	5
15:35	1	1	2	0	0	0	1	1	2	7	2
15:37	1	2	3	0	0	0	1	2	3	10	12
15:37	1	2	3	0	0	0	1	2	3	11	15
15:38	1	2	3	0	0	0	1	2	3	6	5

A61 SHEFFIELD ROAD, BIRDWELL - SCHOOL CROSSING SURVEY (BIRDWELL VENUE)

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			**Pedestrians E/B**			**Pedestrians Total**		
Time	**Adults**	**Children**	**Total**	**Adults**	**Children**	**Total**	**Adults**	**Children**	**Total**
08:39	0	0	0	1	1	2	1	1	2
08:40	0	0	0	6	9	15	6	9	15
08:43	0	0	0	2	3	5	2	3	5
08:44	0	0	0	2	3	5	2	3	5
08:45	0	0	0	2	5	7	2	5	7
08:46	2	0	2	2	2	4	4	2	6
08:47	1	0	1	1	2	3	2	2	4
08:47	1	0	1	2	3	5	3	3	6
08:48	2	1	3	2	3	5	4	4	8
08:49	0	0	0	0	1	1	0	1	1
08:50	0	0	0	1	1	2	1	1	2
08:50	1	0	1	0	0	0	1	0	1
08:50	3	0	3	0	0	0	3	0	3

08:55	1	0	1	0	0	0	1	0	1
08:56	1	0	1	1	2	3	2	2	4

A61 SHEFFIELD ROAD, BIRDWELL - SCHOOL CROSSING SURVEY (BIRDWELL VENUE)

WEDNESDAY 16 SEPTEMBER 2020

	Pedestrians W/B			Pedestrians E/B			Pedestrians Total		
Time	**Adults**	**Children**	**Total**	**Adults**	**Children**	**Total**	**Adults**	**Children**	**Total**
15:09	0	0	0	1	0	1	1	0	1
15:12	0	0	0	1	0	1	1	0	1
15:12	0	0	0	1	1	2	1	1	2
15:13	0	0	0	2	0	2	2	0	2
15:14	0	0	0	2	0	2	2	0	2
15:15	0	0	0	1	0	1	1	0	1
15:15	0	0	0	1	0	1	1	0	1
15:16	0	0	0	1	0	1	1	0	1
15:17	1	1	2	1	0	1	2	1	3
15:17	0	0	0	0	0	0	0	0	0
15:18	1	1	2	1	0	1	2	1	3
15:18	0	0	0	1	0	1	1	0	1
15:19	1	1	2	0	0	0	1	1	2
15:19	1	1	2	2	0	2	3	1	4
15:20	1	2	3	0	0	0	1	2	3
15:20	1	1	2	1	0	1	2	1	3
15:21	1	1	2	0	0	0	1	1	2
15:22	1	1	2	0	0	0	1	1	2
15:22	2	4	6	0	0	0	2	4	6
15:23	2	3	5	0	0	0	2	3	5
15:24	3	4	7	0	0	0	3	4	7
15:27	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0
15:31	1	2	3	0	0	0	1	2	3
15:33	1	1	2	0	0	0	1	1	2
15:34	1	0	1	0	0	0	1	0	1
15:35	0	0	0	0	0	0	0	0	0
15:37	0	0	0	0	0	0	0	0	0
15:37	1	2	3	0	0	0	1	2	3
15:38	1	2	3	0	0	0	1	2	3

BIRDWELL VENUE CAR PARK SURVEY - WEDNESDAY 16 SEPTEMBER 2020 (TOTAL)

Time	A - D	B - D	C - D	Total	D - A	D - B	D - C	Total	Acc.
07:30	0	0	0	0	0	0	0	0	1
07:35	0	0	0	0	0	0	0	0	1
07:40	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	1
07:50	0	0	0	0	0	0	0	0	1
07:55	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	1
08:05	0	0	0	0	0	0	0	0	1
08:10	0	0	1	1	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	2
08:20	0	0	0	0	0	0	0	0	2
08:25	0	0	0	0	0	0	0	0	2
08:30	0	0	0	0	0	0	0	0	2
08:35	3	1	7	11	0	0	0	0	2
08:40	1	0	4	5	0	0	0	0	13
08:45	0	0	4	4	2	0	1	3	18
08:50	1	1	2	4	3	0	4	7	19
08:55	1	0	1	2	3	0	2	5	16
09:00	0	0	1	1	0	0	2	2	13
09:05	0	0	0	0	1	0	1	2	12
09:10	0	0	0	0	1	0	2	3	10
09:15	1	0	2	3	0	0	1	1	7
09:20	1	0	3	4	1	0	0	1	9
09:25	0	0	2	2	0	0	0	0	12
Total	**8**	**2**	**27**	**37**	**11**	**0**	**13**	**24**	14

07:30 - 1 **09:30 - 14**

BIRDWELL VENUE CAR PARK SURVEY - WEDNESDAY 16 SEPTEMBER 2020 (TOTAL)

Time	A - D	B - D	C - D	Total	D - A	D - B	D - C	Total	Acc.
14:30	0	0	0	0	0	0	0	0	4
14:35	0	0	0	0	0	0	0	0	4
14:40	0	0	0	0	0	0	0	0	4
14:45	0	0	0	0	0	0	0	0	4
14:50	1	0	1	2	1	0	0	1	4
14:55	1	0	0	1	0	0	0	0	5
15:00	1	0	1	2	0	0	0	0	6

15:05	2	0	4	6	0	0	1	1	8
15:10	2	0	2	4	0	0	0	0	13
15:15	1	0	3	4	0	0	1	1	17
15:20	0	0	0	0	0	0	1	1	20
15:25	0	0	1	1	2	0	4	6	19
15:30	0	0	0	0	2	0	2	4	14
15:35	0	0	0	0	1	0	1	2	10
15:40	0	0	1	1	3	0	2	5	8
15:45	0	0	1	1	1	0	0	1	4
15:50	1	1	0	2	0	0	0	0	4
15:55	0	0	0	0	0	0	2	2	6
16:00	0	0	0	0	0	0	0	0	4
16:05	0	0	0	0	0	0	0	0	4
16:10	0	0	0	0	0	0	0	0	4
16:15	0	0	0	0	0	0	0	0	4
16:20	0	0	0	0	0	0	0	0	4
16:25	0	0	1	1	1	0	0	1	4
16:30	1	0	2	3	1	0	0	1	4
16:35	0	0	0	0	0	0	0	0	6
16:40	0	0	0	0	0	0	0	0	6
16:45	0	0	0	0	0	0	0	0	6
16:50	0	0	0	0	0	0	0	0	6
16:55	0	0	0	0	0	0	0	0	6
Total	**10**	**1**	**17**	**28**	**12**	**0**	**14**	**26**	6

14:30 - 4 **17:00 - 6**

BIRDWELL VENUE CAR PARK SURVEY - WEDNESDAY 16 SEPTEMBER 2020 (NORTH)

Time	A - D	B - D	C - D	Total	D - A	D - B	D - C	Total
07:30	0	0	0	0	0	0	0	0
07:35	0	0	0	0	0	0	0	0
07:40	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
07:50	0	0	0	0	0	0	0	0
07:55	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:05	0	0	0	0	0	0	0	0
08:10	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0

08:20	0	0	0	0	0	0	0	0
08:25	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:35	0	0	0	0	0	0	0	0
08:40	0	0	0	0	0	0	0	0
08:45	0	0	0	0	2	0	1	3
08:50	0	0	0	0	2	0	2	4
08:55	0	0	0	0	2	0	2	4
09:00	0	0	0	0	0	0	1	1
09:05	0	0	0	0	1	0	0	1
09:10	0	0	0	0	0	0	0	0
09:15	1	0	1	2	0	0	1	1
09:20	0	0	0	0	1	0	0	1
09:25	0	0	0	0	0	0	0	0
Total	**1**	**0**	**1**	**2**	**8**	**0**	**7**	**15**

BIRDWELL VENUE CAR PARK SURVEY - WEDNESDAY 16 SEPTEMBER 2020 (NORTH)

Time	A - D	B - D	C - D	Total	D - A	D - B	D - C	Total
14:30	0	0	0	0	0	0	0	0
14:35	0	0	0	0	0	0	0	0
14:40	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
14:50	0	0	0	0	1	0	0	1
14:55	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:05	0	0	0	0	0	0	1	1
15:10	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	1	1
15:20	0	0	0	0	0	0	1	1
15:25	0	0	0	0	2	0	1	3
15:30	0	0	0	0	1	0	1	2
15:35	0	0	0	0	1	0	1	2
15:40	0	0	0	0	3	0	2	5
15:45	0	0	0	0	0	0	0	0
15:50	0	0	0	0	0	0	0	0
15:55	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:05	0	0	0	0	0	0	0	0
16:10	0	0	0	0	0	0	0	0

16:15	0	0	0	0	0	0	0	0
16:20	0	0	0	0	0	0	0	0
16:25	0	0	0	0	1	0	0	1
16:30	0	0	0	0	1	0	0	1
16:35	0	0	0	0	0	0	0	0
16:40	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
16:50	0	0	0	0	0	0	0	0
16:55	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**10**	**0**	**8**	**18**

Site 1: Green Spring Avenue/Herons Way

Day: Wednesday

Date: 23 September 2020

Weather: Overcast & Rain

A: Green Spring Avenue (East)

B: Herons Way

C: Green Spring Avenue/ (West)

From A

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	3	0	1	0	0	0	0	4
14:45	2	2	0	0	0	0	0	4
15:00	3	1	0	0	0	0	0	4
15:15	2	0	0	0	0	0	0	2
15:30	3	1	0	0	0	0	0	4
15:45	2	0	0	0	0	0	0	2
16:00	2	1	0	0	0	0	0	3
16:15	7	0	0	0	0	0	0	7
16:30	4	1	0	0	0	0	0	5
16:45	3	1	0	0	0	0	0	4
17:00	0	2	0	0	0	0	0	2
17:15	0	1	0	0	0	0	0	1
17:30	1	1	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0
18:00	3	1	0	0	0	0	0	4
18:15	2	0	0	0	0	0	0	2
Total	**37**	**12**	**1**	**0**	**0**	**0**	**0**	**50**

From B

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	2	1	0	0	0	0	0	3
14:45	2	1	0	0	0	0	0	3
15:00	6	2	0	0	0	0	0	8
15:15	8	1	0	0	0	0	0	9
15:30	15	0	0	0	0	0	0	15
15:45	4	0	0	0	0	0	0	4
16:00	3	0	0	0	0	0	0	3
16:15	3	1	0	0	1	0	0	5
16:30	3	1	0	0	0	0	0	4
16:45	5	0	0	0	0	0	0	5
17:00	4	0	0	0	0	0	0	4
17:15	4	0	0	0	0	0	0	4
17:30	0	0	0	0	0	0	0	0
17:45	3	0	0	0	1	0	0	4
18:00	3	0	0	0	0	0	0	3
18:15	4	0	0	0	0	0	0	4
Total	**68**	**10**	**0**	**0**	**1**	**1**	**0**	**80**

From C

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	3	0	1	0	0	0	0	4
14:45	0	0	0	0	0	0	0	0
15:00	5	0	0	0	0	0	0	5
15:15	6	1	0	0	0	0	0	7
15:30	3	1	0	0	0	0	0	4
15:45	7	0	0	0	0	0	0	7
16:00	3	1	0	0	0	0	0	4
16:15	3	1	0	0	0	0	0	4
16:30	2	1	0	0	0	0	0	3
16:45	4	0	0	0	0	0	0	4
17:00	2	0	0	0	0	0	0	2
17:15	3	0	0	0	0	1	0	4
17:30	2	0	0	0	0	0	0	2
17:45	4	1	0	0	0	0	0	5
18:00	4	0	0	0	1	0	0	5
18:15	4	0	0	0	0	0	0	4
Total	**55**	**6**	**1**	**0**	**1**	**1**	**0**	**64**

To A

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	1	0	1	0	0	0	0	2
14:45	0	0	0	0	0	0	0	0
15:00	4	1	0	0	0	0	0	5
15:15	4	2	0	0	0	0	0	6
15:30	9	1	0	0	0	0	0	10
15:45	5	0	0	0	0	0	0	5
16:00	2	1	0	0	0	0	0	3
16:15	3	1	0	0	1	0	0	5
16:30	3	2	0	0	0	0	0	5
16:45	3	0	0	0	0	0	0	3
17:00	1	0	0	0	0	0	0	1
17:15	2	1	0	0	0	0	0	3
17:30	1	0	0	0	0	0	0	1
17:45	2	1	0	0	0	0	0	3
18:00	4	0	0	0	0	0	0	4
18:15	4	0	0	0	0	0	0	4
Total	**48**	**10**	**1**	**0**	**1**	**0**	**0**	**60**

To B

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	3	0	0	0	0	0	0	3
14:45	2	1	0	0	0	0	0	3
15:00	6	1	0	0	0	0	0	7
15:15	5	0	0	0	0	0	0	5
15:30	3	0	0	0	0	0	0	3
15:45	5	0	0	0	0	0	0	5
16:00	3	0	0	0	0	0	0	3
16:15	6	0	0	0	0	0	0	6
16:30	1	0	0	0	0	0	0	1
16:45	4	1	0	0	0	0	0	5
17:00	2	1	0	0	0	0	0	3
17:15	3	0	0	0	0	1	0	4
17:30	1	1	0	0	0	0	0	2
17:45	3	0	0	0	0	0	0	3
18:00	2	1	0	0	1	0	0	4
18:15	1	0	0	0	0	0	0	1
Total	**50**	**6**	**0**	**0**	**1**	**1**	**0**	**58**

To C

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	4	1	1	0	0	0	0	6
14:45	2	2	0	0	0	0	0	4
15:00	4	1	0	0	0	0	0	5
15:15	7	0	0	0	0	0	0	7
15:30	9	1	0	0	0	0	0	10
15:45	3	0	0	0	0	0	0	3
16:00	3	1	0	0	0	0	0	4
16:15	4	1	0	0	0	0	0	5
16:30	5	1	0	0	0	0	0	6
16:45	5	0	0	0	0	0	0	5
17:00	3	1	0	0	0	0	0	4
17:15	2	1	0	0	0	0	0	3
17:30	1	1	0	0	0	0	0	2
17:45	2	1	0	0	0	1	0	4
18:00	3	0	0	0	0	0	0	3
18:15	5	0	0	0	0	0	0	5
Total	**62**	**12**	**1**	**0**	**0**	**1**	**0**	**76**

Summary

Site 2: Hay Green Lane/Herons Way

Day: Wednesday

Date: 23 September 2020

Weather: Overcast & Rain

A: Hay Green Lane (West)

B: Herons Way

C: Hay Green Lane (East)

From A

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	3	1	0	0	0	0	0	4
14:45	3	1	0	0	0	0	0	4
15:00	7	2	0	0	0	0	0	9
15:15	9	2	0	0	0	0	0	11
15:30	15	0	0	0	0	0	0	15
15:45	6	0	0	0	0	0	0	6
16:00	5	1	0	0	0	0	0	6
16:15	4	0	0	0	1	0	0	5
16:30	5	2	0	0	0	0	0	7
16:45	3	0	0	0	0	0	0	3
17:00	6	1	0	0	1	0	0	8
17:15	5	0	0	0	0	0	0	5
17:30	1	1	0	0	0	0	0	2
17:45	5	1	0	0	0	1	0	7
18:00	5	1	1	0	0	0	0	7
18:15	3	0	0	0	1	1	0	5
Total	**85**	**13**	**1**	**0**	**3**	**2**	**0**	**104**

From B

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	2	0	0	0	0	0	0	2
14:45	1	2	0	0	0	0	0	3
15:00	3	2	0	0	0	0	0	5
15:15	3	0	0	0	0	0	0	3
15:30	2	0	0	0	0	0	0	2
15:45	4	1	0	0	0	0	0	5
16:00	3	0	0	0	0	0	0	3
16:15	4	0	0	0	0	0	0	4
16:30	1	0	0	0	0	0	0	1
16:45	3	0	0	0	0	0	0	3
17:00	6	0	0	0	0	0	0	6
17:15	4	1	0	0	0	0	0	5
17:30	3	0	0	0	0	0	0	3
17:45	2	0	0	0	0	0	0	2
18:00	4	1	0	0	1	0	0	6
18:15	2	1	0	0	0	0	0	3
Total	**49**	**7**	**0**	**0**	**1**	**2**	**0**	**59**

From C

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	0	0	0	0	0	0	0	0
14:45	1	0	0	0	0	0	0	1
15:00	0	0	0	0	0	0	0	0
15:15	1	0	0	0	0	0	0	1
15:30	1	0	0	0	0	0	0	1
15:45	0	1	0	0	0	0	0	1
16:00	2	0	0	0	0	0	0	2
16:15	1	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0
16:45	3	0	0	0	0	0	0	3
17:00	1	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0
18:00	3	0	0	0	0	0	0	3
18:15	1	0	0	0	0	0	0	1
Total	**15**	**1**	**0**	**0**	**0**	**0**	**0**	**16**

To A

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	2	0	0	0	0	0	0	2
14:45	2	2	0	0	0	0	0	4
15:00	3	1	0	0	0	0	0	4
15:15	4	0	0	0	0	0	0	4
15:30	3	0	0	0	0	0	0	3
15:45	3	1	0	0	0	0	0	4
16:00	4	0	0	0	0	0	0	4
16:15	4	0	0	0	0	0	0	4
16:30	1	0	0	0	0	0	0	1
16:45	4	0	0	0	0	0	0	4
17:00	6	0	0	0	0	0	0	6
17:15	3	1	0	0	0	1	0	5
17:30	3	0	0	0	0	0	0	3
17:45	1	0	0	0	0	1	0	2
18:00	4	1	0	0	1	0	0	6
18:15	2	1	0	0	0	0	0	3
Total	**49**	**7**	**0**	**0**	**1**	**2**	**0**	**59**

To B

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	3	1	0	0	0	0	0	4
14:45	2	1	0	0	0	0	0	3
15:00	6	2	0	0	0	0	0	8
15:15	7	2	0	0	0	0	0	9
15:30	14	0	0	0	0	0	0	14
15:45	5	1	0	0	0	0	0	6
16:00	4	1	0	0	0	0	0	5
16:15	4	0	0	0	1	0	0	5
16:30	3	2	0	0	0	0	0	5
16:45	4	0	0	0	0	0	0	4
17:00	4	1	0	0	1	0	0	6
17:15	5	0	0	0	0	0	0	5
17:30	0	1	0	0	0	0	0	1
17:45	4	1	0	0	0	1	0	6
18:00	3	0	0	0	0	0	0	3
18:15	2	0	0	0	0	1	0	3
Total	**70**	**13**	**0**	**0**	**2**	**2**	**0**	**87**

To C

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	0	0	0	0	0	0	0	0
14:45	1	0	0	0	0	0	0	1
15:00	1	1	0	0	0	0	0	2
15:15	2	0	0	0	0	0	0	2
15:30	1	0	0	0	0	0	0	1
15:45	2	0	0	0	0	0	0	2
16:00	2	0	0	0	0	0	0	2
16:15	1	0	0	0	0	0	0	1
16:30	2	0	0	0	0	0	0	2
16:45	1	0	0	0	0	0	0	1
17:00	3	0	0	0	0	0	0	3
17:15	1	0	0	0	0	0	0	1
17:30	2	0	0	0	0	0	0	2
17:45	2	0	0	0	0	0	0	2
18:00	2	1	1	0	0	0	0	4
18:15	2	0	0	0	1	0	0	3
Total	**25**	**2**	**1**	**0**	**1**	**0**	**0**	**29**

Site 3:	**A61 Sheffield Rd/Hay Green Ln/Birdwell Ven.**	**A:**	**A61 Barnsley**
Day:	**Tuesday**	**B:**	**Hay Green Lane**
Date:	**22 September 2020**	**C:**	**A61 Sheffield**
Weather:	**Fine & Sunny until 16:40 then Fine & Cloudy**	**D:**	**Birdwell Venue**

From A / **From B**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	109	27	3	4	0	1	2	146	5	0	0	0	0	0	0	5
14:45	122	17	5	4	0	0	2	150	5	1	0	0	0	1	0	7
15:00	117	13	4	3	0	0	2	139	7	0	0	0	0	0	0	7
15:15	146	24	2	1	1	0	4	178	5	0	1	0	0	0	0	6
15:30	136	23	3	2	1	0	2	167	9	1	0	0	0	0	0	10
15:45	116	30	4	2	0	0	1	153	3	3	0	0	0	0	0	6
16:00	135	33	2	1	3	0	3	177	3	1	0	0	1	0	0	5
16:15	127	21	5	3	1	2	4	163	10	1	0	0	0	0	0	11
16:30	129	19	2	1	1	1	2	155	3	1	0	0	0	0	0	4
16:45	153	22	1	1	0	3	2	182	2	0	0	0	0	0	0	2
17:00	126	29	2	2	0	2	3	164	7	0	0	0	0	0	0	7
17:15	176	21	3	0	1	1	3	205	5	0	0	0	0	0	0	5
17:30	130	15	0	0	2	3	2	152	5	1	0	0	0	0	0	6
17:45	116	17	0	2	0	1	2	138	8	1	0	0	0	0	0	9
18:00	115	9	1	1	0	0	1	127	12	1	0	0	0	0	0	13
18:15	106	14	1	0	0	0	2	123	5	2	0	0	0	0	0	7
Total	**2059**	**334**	**38**	**27**	**10**	**14**	**37**	**2519**	**94**	**13**	**1**	**0**	**1**	**1**	**0**	**110**

From C / **From D**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	117	27	4	4	0	2	1	155	0	0	0	0	0	0	0	0
14:45	140	29	6	3	1	3	2	184	1	0	0	0	0	0	0	1
15:00	142	33	5	1	0	0	2	183	1	0	0	0	0	0	0	1
15:15	152	30	4	1	0	4	3	194	1	0	0	0	0	0	0	1
15:30	149	28	6	4	2	1	3	193	4	0	0	0	0	0	0	4
15:45	159	40	2	3	1	2	3	210	0	0	0	0	0	0	0	0
16:00	167	40	7	3	1	1	2	221	1	0	0	0	0	0	0	1
16:15	187	49	2	3	0	2	2	245	1	0	0	0	0	0	0	1
16:30	173	53	2	0	3	1	2	234	0	0	0	0	0	0	0	0
16:45	169	43	4	1	1	1	3	222	0	0	0	0	0	0	0	0
17:00	202	37	4	2	1	2	1	249	0	0	0	0	0	0	0	0
17:15	201	37	2	1	0	2	3	246	1	0	0	0	0	0	0	1
17:30	176	37	2	1	1	1	1	219	0	0	0	0	0	0	0	0
17:45	190	32	0	1	0	2	3	228	0	0	0	0	0	0	0	0
18:00	134	21	2	0	0	1	1	159	0	0	0	0	0	0	0	0
18:15	149	22	0	2	0	1	3	177	2	0	0	0	0	0	0	2
Total	**2607**	**558**	**52**	**30**	**11**	**26**	**35**	**3319**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**12**

To A / **To B**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	112	27	4	4	0	2	1	150	7	1	0	0	0	0	0	8
14:45	132	27	6	3	1	4	2	175	12	3	0	0	0	0	0	15
15:00	129	32	5	1	0	0	2	169	13	0	0	0	0	0	0	13
15:15	147	30	4	1	0	4	3	189	8	0	0	0	0	0	0	8
15:30	149	28	6	4	2	1	3	193	5	0	0	0	0	0	0	5
15:45	150	41	2	3	1	2	3	202	11	1	0	0	0	0	0	12
16:00	161	39	7	3	1	0	2	213	10	1	1	0	0	1	0	13
16:15	181	47	2	3	0	2	2	237	7	2	0	0	0	0	0	9
16:30	161	52	2	0	3	1	2	221	12	0	0	0	0	0	0	12
16:45	165	43	4	1	1	1	3	218	6	0	0	0	0	0	0	6
17:00	199	36	4	2	1	2	1	245	5	2	0	0	0	0	0	7
17:15	192	36	2	1	0	2	3	236	13	2	0	0	1	0	0	16
17:30	176	38	1	1	0	1	1	218	2	0	1	0	1	0	0	4
17:45	184	31	0	1	0	2	3	221	11	2	0	0	0	0	0	13
18:00	135	21	2	0	0	1	1	160	4	0	0	0	0	0	0	4
18:15	144	23	0	2	0	1	3	173	7	0	0	0	0	0	0	7
Total	**2517**	**551**	**51**	**30**	**10**	**26**	**35**	**3220**	**133**	**14**	**2**	**0**	**2**	**1**	**0**	**152**

To C / **To D**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	111	26	3	4	0	1	2	147	1	0	0	0	0	0	0	1
14:45	122	17	5	4	0	0	2	150	2	0	0	0	0	0	0	2
15:00	116	13	3	3	0	0	2	137	9	1	1	0	0	0	0	11
15:15	143	24	3	1	1	0	4	176	6	0	0	0	0	0	0	6
15:30	143	22	3	2	1	0	2	173	1	2	0	0	0	0	0	3
15:45	113	31	4	2	0	0	1	151	4	0	0	0	0	0	0	4
16:00	135	34	1	1	4	0	2	177	0	0	0	0	0	0	1	1
16:15	134	21	5	3	1	2	4	170	3	1	0	0	0	0	0	4
16:30	130	20	2	1	1	1	2	157	2	1	0	0	0	0	0	3
16:45	153	22	1	1	0	3	2	182	0	0	0	0	0	0	0	0
17:00	130	28	2	2	0	2	3	167	1	0	0	0	0	0	0	1
17:15	178	20	3	0	0	1	3	205	0	0	0	0	0	0	0	0
17:30	133	15	0	0	2	3	2	155	0	0	0	0	0	0	0	0
17:45	119	17	0	2	0	1	2	141	0	0	0	0	0	0	0	0
18:00	122	10	1	1	0	0	1	135	0	0	0	0	0	0	0	0
18:15	110	15	1	0	0	0	2	128	1	0	0	0	0	0	0	1
Total	**2092**	**335**	**37**	**27**	**10**	**14**	**36**	**2551**	**30**	**5**	**1**	**0**	**0**	**0**	**1**	**37**

Site 4:	**A61 Sheffield Road/Worsbrough Road**	**A:**	**A61 Barnsley**
Day:	**Tuesday**	**B:**	**Worsbrough Road**
Date:	**22 September 2020**	**C:**	**A61 Sheffield**
Weather:	**Fine & Sunny until 16:40 then Fine & Cloudy**	**D:**	**Un-named Access Road**

From A | **From B**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	101	26	2	5	0	1	1	136	18	1	1	0	0	0	1	21
14:45	116	15	5	3	0	0	2	141	22	3	2	0	0	0	0	27
15:00	109	11	4	3	0	0	1	128	18	1	0	0	0	0	1	20
15:15	121	21	2	1	1	0	3	149	21	4	0	0	0	0	2	27
15:30	122	25	2	1	1	0	1	152	18	2	1	1	0	0	0	22
15:45	97	24	4	2	0	0	1	128	12	3	0	0	0	0	0	15
16:00	127	28	1	1	1	0	2	160	18	5	0	0	2	0	1	26
16:15	109	20	5	3	0	2	1	140	20	4	0	0	1	0	3	28
16:30	109	17	3	1	1	1	2	134	19	0	0	0	0	0	0	19
16:45	114	23	0	1	0	2	1	141	14	0	0	0	0	1	2	17
17:00	134	23	4	2	1	0	2	166	15	5	0	0	0	2	0	22
17:15	149	18	1	0	0	2	1	171	16	1	0	0	0	0	2	19
17:30	103	12	0	0	1	2	2	120	21	2	0	0	1	0	1	25
17:45	106	16	0	2	0	1	1	126	7	4	0	0	0	0	0	11
18:00	101	8	1	1	0	0	1	112	26	0	0	0	0	0	0	26
18:15	86	12	1	0	0	0	1	100	18	5	0	0	0	0	2	25
Total	**1804**	**299**	**35**	**26**	**6**	**11**	**23**	**2204**	**283**	**40**	**4**	**1**	**4**	**3**	**15**	**350**

From C | **From D**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	110	23	4	4	0	2	1	144	0	1	0	0	0	0	0	1
14:45	128	26	6	3	2	4	2	171	0	0	0	0	0	0	0	0
15:00	114	31	4	1	0	0	1	151	0	0	0	0	0	0	0	0
15:15	147	34	6	1	0	4	4	196	0	0	0	0	0	0	0	0
15:30	159	28	5	4	2	1	3	202	1	0	0	0	0	0	0	1
15:45	144	44	2	3	1	2	3	199	0	0	0	0	0	0	0	0
16:00	156	41	7	3	3	0	1	211	1	0	0	0	0	0	0	1
16:15	182	51	2	3	4	2	3	247	2	0	0	0	0	0	0	2
16:30	154	54	2	0	1	1	2	214	0	0	0	0	0	0	0	0
16:45	162	41	4	1	1	1	3	213	1	0	0	0	0	0	0	1
17:00	199	34	4	2	1	2	1	243	1	0	0	0	0	0	0	1
17:15	190	33	2	1	0	2	3	231	2	0	0	0	0	0	0	2
17:30	180	37	1	1	0	1	1	221	2	0	0	0	0	0	0	2
17:45	192	30	0	1	0	2	3	228	0	0	0	0	0	0	0	0
18:00	141	22	2	0	0	1	1	167	1	0	0	0	0	0	0	1
18:15	144	23	0	2	0	1	3	173	1	0	0	0	0	0	0	1
Total	**2502**	**552**	**51**	**30**	**15**	**26**	**35**	**3211**	**12**	**1**	**0**	**0**	**0**	**0**	**0**	**13**

To A | **To B**

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	94	21	2	4	0	2	1	124	17	4	2	0	0	0	0	23
14:45	105	25	6	3	2	3	2	146	23	4	1	0	0	1	0	29
15:00	105	26	4	1	0	0	1	137	13	5	1	0	0	0	0	19
15:15	120	33	6	1	0	3	2	165	34	1	0	0	0	1	2	38
15:30	126	25	5	4	2	1	2	165	36	3	0	0	0	0	1	40
15:45	126	41	2	3	1	2	3	178	18	3	0	0	0	0	0	21
16:00	134	37	7	3	3	0	0	184	25	5	0	0	0	0	1	31
16:15	153	47	2	3	4	2	2	213	33	4	0	0	0	0	1	38
16:30	137	49	2	0	0	1	1	190	22	5	0	0	1	0	1	29
16:45	145	39	3	1	1	1	2	192	22	2	1	0	0	0	1	26
17:00	177	31	4	2	0	2	1	217	23	3	0	0	1	0	0	27
17:15	160	30	2	1	0	2	2	197	34	3	0	0	0	0	1	38
17:30	154	32	1	1	0	1	0	189	28	5	0	0	0	0	1	34
17:45	169	30	0	1	0	1	3	204	23	3	0	0	0	1	0	27
18:00	122	20	2	0	0	1	1	146	24	2	0	0	0	0	0	26
18:15	130	19	0	2	0	1	2	154	19	4	0	0	0	0	1	24
Total	**2157**	**505**	**48**	**30**	**13**	**23**	**25**	**2801**	**394**	**56**	**5**	**0**	**2**	**3**	**10**	**470**

To C | **To D**

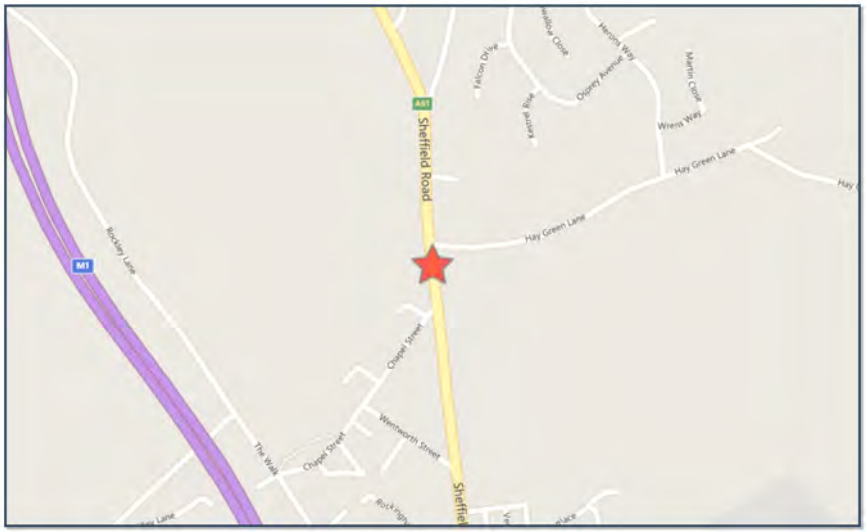
Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
14:30	117	26	3	5	0	1	2	154	1	0	0	0	0	0	0	1
14:45	138	15	6	3	0	0	2	164	0	0	0	0	0	0	0	0
15:00	123	12	3	3	0	0	2	143	0	0	0	0	0	0	0	0
15:15	135	25	2	1	1	0	5	169	0	0	0	0	0	0	0	0
15:30	138	27	3	2	1	0	1	172	0	0	0	0	0	0	0	0
15:45	109	27	4	2	0	0	1	143	0	0	0	0	0	0	0	0
16:00	142	32	1	1	3	0	3	182	1	0	0	0	0	0	0	1
16:15	127	24	5	3	1	2	4	166	0	0	0	0	0	0	0	0
16:30	123	17	3	1	1	1	2	148	0	0	0	0	0	0	0	0
16:45	122	23	0	1	0	3	3	152	2	0	0	0	0	0	0	2
17:00	146	28	4	2	1	2	2	185	3	0	0	0	0	0	0	3
17:15	163	19	1	0	0	2	3	188	0	0	0	0	0	0	0	0
17:30	124	14	0	0	2	2	3	145	0	0	0	0	0	0	0	0
17:45	112	17	0	2	0	1	1	133	1	0	0	0	0	0	0	1
18:00	123	8	1	1	0	0	1	134	0	0	0	0	0	0	0	0
18:15	100	17	1	0	0	0	3	121	0	0	0	0	0	0	0	0
Total	**2042**	**331**	**37**	**27**	**10**	**14**	**38**	**2499**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**8**

Appendix C Accident Data

crashmap.co.uk

Crash Date:	Saturday, July 07, 2018	**Time of Crash:**	2:28:00 PM	**Crash Reference:**	**2018140311489**

Highest Injury Severity:	Serious	**Road Number:**	A61	**Number of Casualties:**	1
Highway Authority:	Barnsley			**Number of Vehicles:**	3
Local Authority:	Barnsley Metropolitan Borough			**OS Grid Reference:**	434555 401363
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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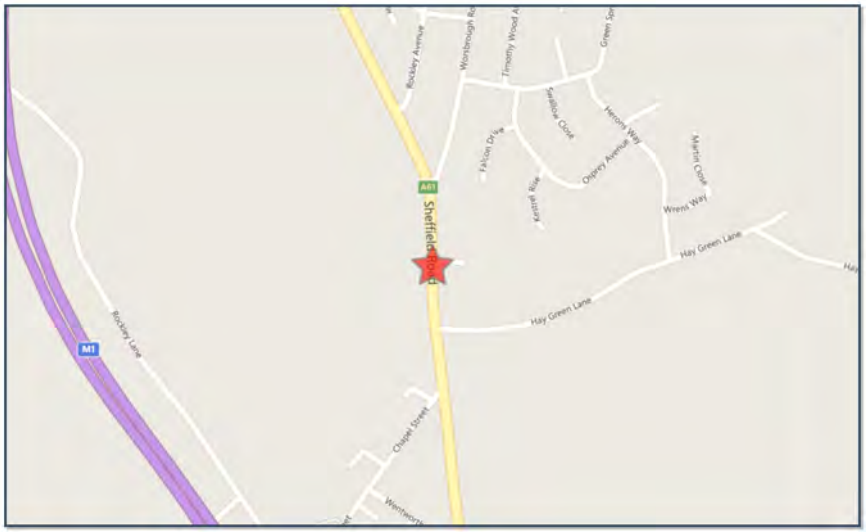
Crash Date:	Thursday, November 26, 2015	**Time of Crash:**	7:30:00 PM	**Crash Reference:**	**201514B108615**

Highest Injury Severity:	Slight	**Road Number:**	A61	**Number of Casualties:**	1
Highway Authority:	Barnsley			**Number of Vehicles:**	2
Local Authority:	Barnsley			**OS Grid Reference:**	434546 401488
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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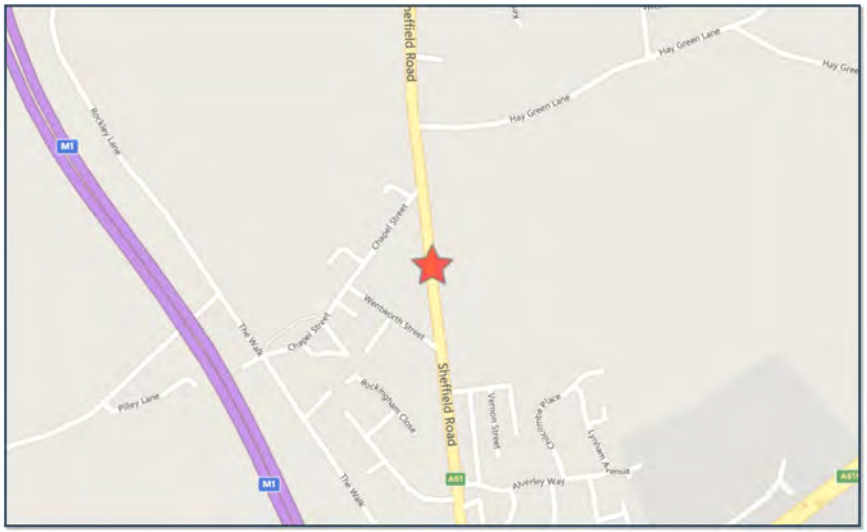
Crash Date:	Monday, November 16, 2015	**Time of Crash:**	12:10:00 PM	**Crash Reference:**	**201514B105615**

Highest Injury Severity:	Slight	**Road Number:**	A61	**Number of Casualties:**	1
Highway Authority:	Barnsley			**Number of Vehicles:**	2
Local Authority:	Barnsley			**OS Grid Reference:**	434580 401174
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	Dislodged vehicle load in carriageway				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	Pelican, puffin, toucan or similar non-junction pedestrian light crossing				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
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Appendix D Visibility Splay at Access

Notes:

1. This drawing is subject to copyright and is not to be reproduced in part or whole without approval.
2. Do not scale this drawing - check all dimensions on site.

KEY

2.4m x 43.0m Visibility Splay

Rev:	Date:	Status/Amendments:	By:
-	09.10.20	INITIAL ISSUE	RAM

mosodi
mobility solutions through design and innovation

Manchester 0161 413 5168
Leeds 0113 323 0854

Client:
HARWORTH

Project:
HAY GREEN LANE

Drawing Title:
VISIBILITY SPLAYS

Drawn By:	Checked By:	Approved By:
RAM	KG	RAM
Scale: 1:500	*Paper Size:* A3	*Date Created:* 09.10.20
Drawing Number: 18039.IN.10		*Drawing Revision:* -

Appendix E Swept Paths

Notes:

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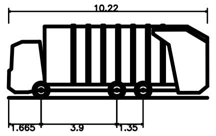

Phoenix 2–17N (with Elite 2 6x2 RS chassis)	
Overall Length	10.220m
Overall Width	2.250m
Overall Body Height	3.707m
Min Body Ground Clearance	0.260m
Track Width	2.250m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.900m

Rev:	Date:	Status/Amendments:	By:
-	20.05.20	INITIAL ISSUE	RAM

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0161 413 5168

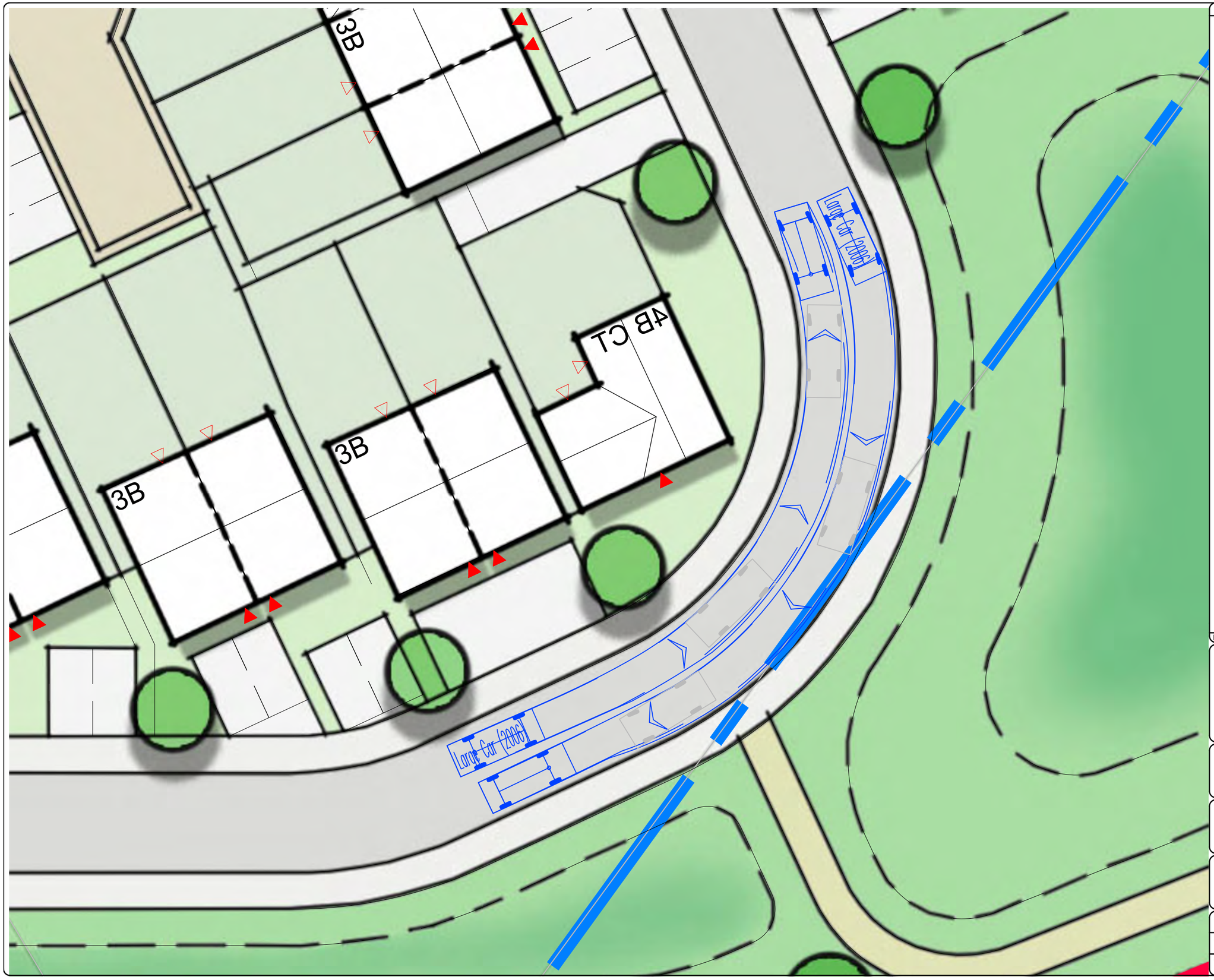
Leeds
0113 323 0854

Client:
HARWORTH

Project:
HAY GREEN LANE, BIRDWELL

Drawing Title:
SWEPT PATH ANALYSIS

Drawn By: KG	*Checked By:* RAM	*Approved By:* RAM
Scale: 1:500	*Paper Size:* A3	*Date Created:* 20.05.2020
Drawing Number: 18039.ATR.01		*Drawing Revision:* -



Notes:

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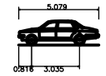
2. Do not scale this drawing - check all dimensions on site.



Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m

Rev:	Date:	Status/Amendments:	By:
-	20.05.20	INITIAL ISSUE	RAM

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Leeds 0113 323 0854

Client:
HARWORTH

Project:
HAY GREEN LANE, BIRDWELL

Drawing Title:
SWEPT PATH ANALYSIS
LARGE CAR

Drawn By:	*Checked By:*	*Approved By:*
KG	RAM	RAM
Scale: 1:200	*Paper Size:* A3	*Date Created:* 20.05.2020
Drawing Number: 18039.ATR.02		*Drawing Revision:* -

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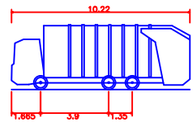

Phoenix 2-17N (with Elite 2 6x2 RS chassis)	
Overall Length	10.220m
Overall Width	2.250m
Overall Body Height	3.707m
Min Body Ground Clearance	0.260m
Track Width	2.250m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.900m

Rev:	Date:	Status/Amendments:	By:
-	09.10.20	INITIAL ISSUE	RM

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Client:
HARWORTH

Project:
HAY GREEN LANE

Drawing Title:
SWEPT PATH ANALYSIS - SITE ACCESS

Drawn By:	Checked By:	Approved By:
RM	KG	RM
Scale: 1:500	**Paper Size:** A3	**Date Created:** 09.10.20
Drawing Number: 18039.ATR.03		**Drawing Revision:** -

Appendix F Mitigation Proposals

Notes:

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KEY

2.4m x 43.0m Visibility Splay

RATIONALISED PARKING – MARKED OUT

DISCUSSION WITH CLUB OWNER REGARDING THIS AREA. IT WAS STATED THAT SCHOOL DROP OFFS PARK IN THIS AREA PREVENTING HIM TAKE DELIVERIES. A SYSTEM WITH COLLAPSIBLE BOLLARDS COULD BE INVESTIGATED

DOUBLE YELLOW LINES TO BE PROVIDED AROUND JUNCTIONS RADII

POTENTIAL FOR BOLLARDS TO PREVENT PAVEMENT PARKING

DOUBLE YELLOW LINES TO BE PROVIDED AROUND JUNCTIONS RADII AND CONTINUE TO PEDESTRIAN REFUGE

POTENTIAL FOR BOLLARDS TO PREVENT PAVEMENT PARKING

Allotment Gardens

Track

SHEFFIELD ROAD

Methodist Church

Club

El Sub Sta

PH

Shelter

CHAPEL COURT

Parker's Terrace

128.6m

131.2m

122.1m

133.6m

Rev:	Date:	Status/Amendments:	By:
C	11.10.20	VISI SPLAY ADDED. CROSSING REMOVED	RAM
B	18.05.20	AMENDED PARKING	RAM
A	04.05.20	AMENDED PARKING	RAM
-	24.03.20	INITIAL ISSUE	RAM

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Manchester 0161 413 5168

Leeds 0113 323 0854

Client: HARWORTH

Project: HAY GREEN LANE, BIRDWELL

Drawing Title: POTENTIAL SCHOOL DROP OFF STRATEGY

Drawn By:	Checked By:	Approved By:
RAM	-	-
Scale: 1:1000	*Paper Size:* A3	*Date Created:* 24.03.2020
Drawing Number: 18039.IN.08		*Drawing Revision:* C

Appendix G Census

WF01BEW

place of work : 2011 super output area - lower layer	currently residing in E01007398 : Barnsley 028C	Percentage	M1 N	M1 S	A61 (W)	Chapel St	A6195	A6135	Hoyland Rd	Tankersley Ln	Sheffield Rd N	B6100	Local
E01005687 : Salford 009A	1	0.19%	0.19%										
E01007325 : Barnsley 007C	1	0.19%									0.19%		
E01007329 : Barnsley 003A	1	0.19%									0.19%		
E01007331 : Barnsley 003B	1	0.19%										0.19%	
E01007332 : Barnsley 006C	1	0.19%										0.19%	
E01007335 : Barnsley 009B	1	0.19%									0.19%		
E01007338 : Barnsley 017A	1	0.19%									0.19%		
E01007344 : Barnsley 011A	1	0.19%										0.19%	
E01007347 : Barnsley 008D	1	0.19%										0.19%	
E01007353 : Barnsley 020F	1	0.19%					0.19%						
E01007359 : Barnsley 005C	1	0.19%	0.19%										
E01007361 : Barnsley 004C	1	0.19%									0.19%		
E01007364 : Barnsley 025A	1	0.19%					0.19%						
E01007366 : Barnsley 025C	1	0.19%					0.19%						
E01007372 : Barnsley 014A	1	0.19%					0.19%						
E01007374 : Barnsley 014C	1	0.19%					0.19%						
E01007375 : Barnsley 014D	1	0.19%					0.19%						
E01007378 : Barnsley 014F	1	0.19%					0.19%						
E01007393 : Barnsley 029B	1	0.19%					0.19%						
E01007402 : Barnsley 011B	1	0.19%										0.19%	
E01007403 : Barnsley 011C	1	0.19%										0.19%	
E01007408 : Barnsley 010C	1	0.19%									0.19%		
E01007411 : Barnsley 007F	1	0.19%									0.19%		
E01007417 : Barnsley 013D	1	0.19%									0.19%		
E01007418 : Barnsley 016A	1	0.19%	0.19%										
E01007420 : Barnsley 016C	1	0.19%				0.19%							
E01007428 : Barnsley 024B	1	0.19%				0.19%							
E01007429 : Barnsley 024C	1	0.19%				0.19%							
E01007441 : Barnsley 013E	1	0.19%									0.19%		
E01007458 : Barnsley 021A	1	0.19%										0.19%	
E01007459 : Barnsley 021B	1	0.19%									0.19%		
E01007461 : Barnsley 021D	1	0.19%									0.19%		
E01007462 : Barnsley 021E	1	0.19%										0.19%	
E01007546 : Doncaster 033A	1	0.19%		0.19%									
E01007572 : Doncaster 031B	1	0.19%					0.19%						
E01007645 : Doncaster 022E	1	0.19%		0.19%									
E01007656 : Doncaster 015F	1	0.19%					0.19%						
E01007665 : Rotherham 027A	1	0.19%		0.19%									
E01007666 : Rotherham 026A	1	0.19%		0.19%									
E01007674 : Rotherham 031B	1	0.19%		0.19%									
E01007679 : Rotherham 023C	1	0.19%		0.19%									
E01007693 : Rotherham 001A	1	0.19%					0.19%						
E01007695 : Rotherham 001C	1	0.19%						0.19%					
E01007696 : Rotherham 007A	1	0.19%						0.19%					
E01007699 : Rotherham 027B	1	0.19%		0.19%									
E01007705 : Rotherham 025E	1	0.19%		0.19%									
E01007716 : Rotherham 016B	1	0.19%		0.19%									
E01007761 : Rotherham 018E	1	0.19%		0.19%									
E01007764 : Rotherham 020F	1	0.19%		0.19%									
E01007768 : Rotherham 014D	1	0.19%		0.19%									
E01007781 : Rotherham 005D	1	0.19%						0.19%					
E01007790 : Rotherham 029E	1	0.19%		0.19%									
E01007817 : Rotherham 002B	1	0.19%					0.19%						
E01007851 : Sheffield 013B	1	0.19%		0.19%									
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E01007907 : Sheffield 032A	1	0.19%		0.19%									
E01007911 : Sheffield 032D	1	0.19%		0.19%									
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E01008017 : Sheffield 039E	1	0.19%		0.19%									
E01008021 : Sheffield 072A	1	0.19%		0.19%									
E01008049 : Sheffield 050D	1	0.19%		0.19%									
E01008068 : Sheffield 026B	1	0.19%		0.19%									
E01008087 : Sheffield 012A	1	0.19%			0.19%								
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E01008161 : Sheffield 026E	1	0.19%			0.19%								
E01010746 : Bradford 060A	1	0.19%	0.19%										
E01011014 : Kirklees 007B	1	0.19%	0.19%										
E01011026 : Kirklees 016B	1	0.19%	0.19%										
E01011050 : Kirklees 002C	1	0.19%	0.19%										
E01011107 : Kirklees 029D	1	0.19%	0.19%										
E01011110 : Kirklees 057A	1	0.19%	0.19%										
E01011215 : Kirklees 026D	1	0.19%	0.19%										
E01011229 : Kirklees 042D	1	0.19%	0.19%										
E01011353 : Leeds 034D	1	0.19%	0.19%										
E01011374 : Leeds 085D	1	0.19%	0.19%										
E01011411 : Leeds 073A	1	0.19%	0.19%										
E01011468 : Leeds 112B	1	0.19%	0.19%										
E01011522 : Leeds 095B	1	0.19%	0.19%										
E01011538 : Leeds 107B	1	0.19%	0.19%										
E01011540 : Leeds 102B	1	0.19%	0.19%										
E01011546 : Leeds 106C	1	0.19%	0.19%										
E01011621 : Leeds 070D	1	0.19%	0.19%										
E01011667 : Leeds 050D	1	0.19%	0.19%										
E01011734 : Leeds 083A	1	0.19%	0.19%										
E01011774 : Wakefield 032D	1	0.19%	0.19%										
E01011775 : Wakefield 024A	1	0.19%	0.19%										

E01011800 : Wakefield 029F	1	0.19%	0.19%									
E01011828 : Wakefield 021F	1	0.19%	0.19%									
E01011855 : Wakefield 041B	1	0.19%					0.19%					
E01011860 : Wakefield 044A	1	0.19%					0.19%					
E01011883 : Wakefield 009D	1	0.19%	0.19%									
E01011885 : Wakefield 014A	1	0.19%	0.19%									
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E01011940 : Wakefield 037C	1	0.19%	0.19%									
E01011941 : Wakefield 038B	1	0.19%									0.19%	
E01012061 : Middlesbrough 002D	1	0.19%	0.19%									
E01012882 : Kingston upon Hull 033A	1	0.19%		0.19%								
E01013302 : North Lincolnshire 007C	1	0.19%		0.19%								
E01013647 : Leicester 040B	1	0.19%		0.19%								
E01019200 : Carlisle 002A	1	0.19%	0.19%									
E01019239 : Carlisle 007C	1	0.19%	0.19%									
E01019453 : Amber Valley 017D	1	0.19%		0.19%								
E01019614 : Derbyshire Dales 001B	1	0.19%			0.19%							
E01022099 : Uttlesford 004D	1	0.19%		0.19%								
E01022175 : Cotswold 005A	1	0.19%		0.19%								
E01025303 : Preston 004E	1	0.19%	0.19%									
E01027202 : Northampton 028D	1	0.19%		0.19%								
E01027665 : Harrogate 008C	1	0.19%		0.19%								
E01027923 : Selby 010C	1	0.19%					0.19%					
E01028062 : Bassetlaw 013C	1	0.19%		0.19%								
E01028063 : Bassetlaw 014D	1	0.19%		0.19%								
E01028533 : Oxford 013C	1	0.19%		0.19%								
E01032925 : Barnsley 026G	1	0.19%					0.19%					
E01033008 : Leeds 111A	1	0.19%	0.19%									
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W01001931 : Wrexham 012G	1	0.19%			0.19%							
E01000375 : Bexley 019B	2	0.38%		0.38%								
E01007317 : Barnsley 018A	2	0.38%										0.38%
E01007318 : Barnsley 018B	2	0.38%										0.38%
E01007328 : Barnsley 006A	2	0.38%					0.38%					
E01007334 : Barnsley 009A	2	0.38%										0.38%
E01007370 : Barnsley 022B	2	0.38%					0.38%					
E01007373 : Barnsley 014B	2	0.38%					0.38%					
E01007381 : Barnsley 012C	2	0.38%	0.38%									
E01007387 : Barnsley 012D	2	0.38%				0.38%						
E01007421 : Barnsley 027A	2	0.38%			0.19%	0.19%						
E01007445 : Barnsley 013G	2	0.38%	0.38%									
E01007448 : Barnsley 023B	2	0.38%					0.38%					
E01007457 : Barnsley 029E	2	0.38%					0.38%					
E01007527 : Doncaster 027B	2	0.38%		0.38%								
E01007534 : Doncaster 028D	2	0.38%		0.38%								
E01007677 : Rotherham 017A	2	0.38%					0.38%					
E01007728 : Rotherham 009A	2	0.38%		0.19%				0.19%				
E01007784 : Rotherham 008D	2	0.38%		0.19%				0.19%				
E01007816 : Rotherham 002A	2	0.38%					0.38%					
E01007854 : Sheffield 014E	2	0.38%		0.38%								
E01007855 : Sheffield 014F	2	0.38%		0.38%								
E01007885 : Sheffield 075E	2	0.38%		0.38%								
E01007897 : Sheffield 005A	2	0.38%			0.38%							
E01007902 : Sheffield 027B	2	0.38%		0.38%								
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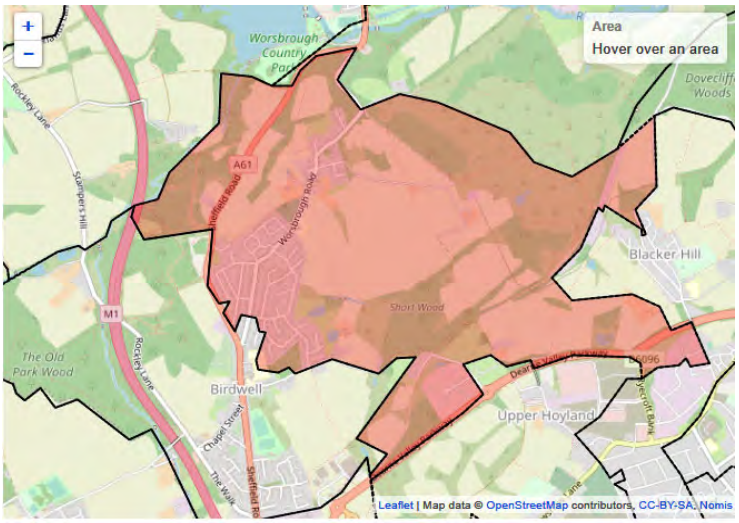
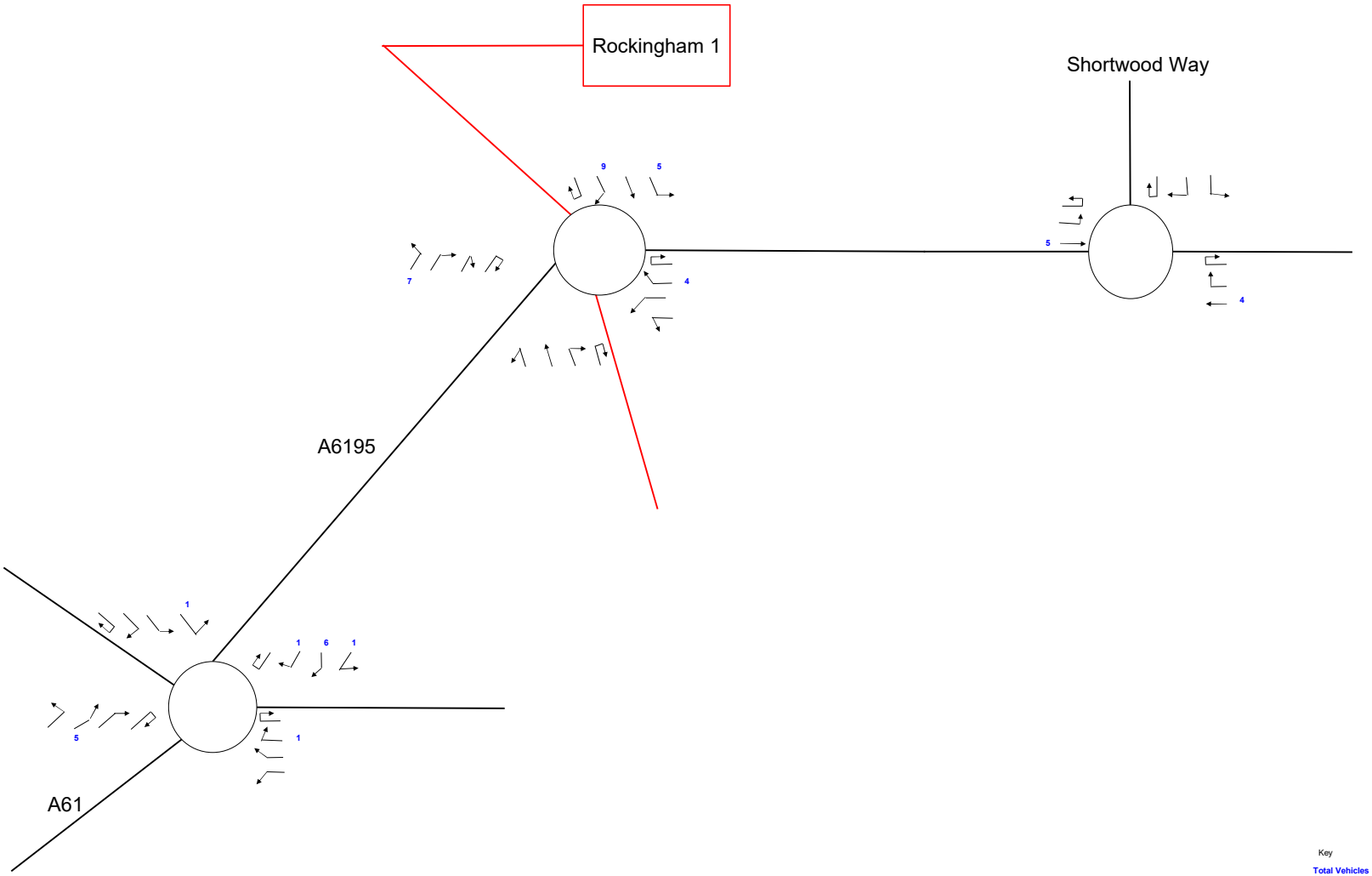
E01007904 : Sheffield 018B	2	0.38%		0.38%								
E01007929 : Sheffield 055C	2	0.38%		0.19%	0.19%							
E01008096 : Sheffield 043B	2	0.38%		0.38%								
E01008099 : Sheffield 051E	2	0.38%		0.38%								
E01008104 : Sheffield 036E	2	0.38%		0.19%	0.19%							
E01008124 : Sheffield 012F	2	0.38%			0.38%							
E01008138 : Sheffield 006D	2	0.38%			0.19%			0.19%				
E01008143 : Sheffield 002B	2	0.38%		0.38%								
E01011257 : Kirklees 024A	2	0.38%	0.38%									
E01011363 : Leeds 071E	2	0.38%	0.38%									
E01011677 : Leeds 064D	2	0.38%	0.38%									
E01011749 : Wakefield 005B	2	0.38%	0.38%									
E01011758 : Wakefield 013A	2	0.38%	0.38%									
E01011819 : Wakefield 016E	2	0.38%	0.38%									
E01011871 : Wakefield 043D	2	0.38%					0.38%					
E01011935 : Wakefield 038A	2	0.38%									0.38%	
E01013790 : Rutland 001C	2	0.38%		0.38%								
E01027904 : Selby 002E	2	0.38%	0.38%									
E01032550 : Barnsley 010G	2	0.38%										0.38%
E01033010 : Leeds 111B	2	0.38%	0.38%									
E01033013 : Leeds 082E	2	0.38%	0.38%									
E01007345 : Barnsley 008B	3	0.57%										0.57%
E01007376 : Barnsley 022D	3	0.57%					0.57%					
E01007384 : Barnsley 019C	3	0.57%				0.57%						
E01007395 : Barnsley 030E	3	0.57%					0.57%					
E01007405 : Barnsley 011D	3	0.57%										0.57%
E01007430 : Barnsley 024D	3	0.57%				0.57%						
E01007443 : Barnsley 013F	3	0.57%									0.57%	
E01007715 : Rotherham 016A	3	0.57%		0.57%								

E01007852 : Sheffield 014C	3	0.57%		0.57%									
E01008093 : Sheffield 017D	3	0.57%			0.57%								
E01032924 : Barnsley 026F	3	0.57%					0.57%						
E01007327 : Barnsley 007E	4	0.76%									0.76%		
E01007382 : Barnsley 019A	4	0.76%				0.76%							
E01007396 : Barnsley 028A	4	0.76%						0.76%					
E01007463 : Barnsley 021F	4	0.76%										0.76%	
E01007866 : Sheffield 030A	4	0.76%			0.76%								
E01007913 : Sheffield 018C	4	0.76%		0.76%									
E01007914 : Sheffield 018D	4	0.76%		0.76%									
E01028828 : Shropshire 034A	4	0.76%		0.76%									
E01007319 : Barnsley 015A	5	0.95%										0.95%	
E01007449 : Barnsley 023C	5	0.95%										0.95%	
E01007676 : Rotherham 025A	5	0.95%	0.95%										
E01007694 : Rotherham 001B	5	0.95%					0.95%						
E01007322 : Barnsley 015C	6	1.14%										1.14%	
E01007391 : Barnsley 030C	6	1.14%						1.14%					
E01007714 : Rotherham 017B	6	1.14%		1.14%									
E01008135 : Sheffield 005C	6	1.14%						1.14%					
E01007380 : Barnsley 012B	7	1.33%									1.33%		
E01007397 : Barnsley 028B	7	1.33%					1.33%						
E01007437 : Barnsley 002C	7	1.33%									1.33%		
E01033264 : Sheffield 073D	7	1.33%		1.33%									
E01007820 : Rotherham 002D	8	1.52%					1.52%						
E01007894 : Sheffield 004E	8	1.52%						1.52%					
E01033269 : Sheffield 022G	8	1.52%		1.52%									
E01007460 : Barnsley 021C	9	1.70%									1.70%		
E01007446 : Barnsley 012G	10	1.89%									1.89%		
E01007889 : Sheffield 004B	10	1.89%						1.89%					
E01007337 : Barnsley 015D	11	2.08%									2.08%		
E01007398 : Barnsley 028C	13	2.46%											2.46%
E01007336 : Barnsley 013A	19	3.60%									3.60%		
E01007424 : Barnsley 028E	28	5.30%				5.30%							
E01007340 : Barnsley 013B	35	6.63%									6.63%		
E01007399 : Barnsley 028D	10	1.89%											1.89%
TOTAL	**528**	**100.00%**	**13.07%**	**20.27%**	**4.07%**	**8.43%**	**11.55%**	**7.77%**	**0.00%**	**0.00%**	**22.54%**	**7.95%**	**4.36%**



Appendix H Committed Development Traffic



Key

Total Vehicles

Total OGV (inc in Total Vehicles)

Total PCU Value for Movement Equals Total Vehicles Plus Total OGV

OPTIMA Intelligent Highways Solutions

Project: Rockingham

Rockingham 1 Hotel Dev Trips AM

Figure

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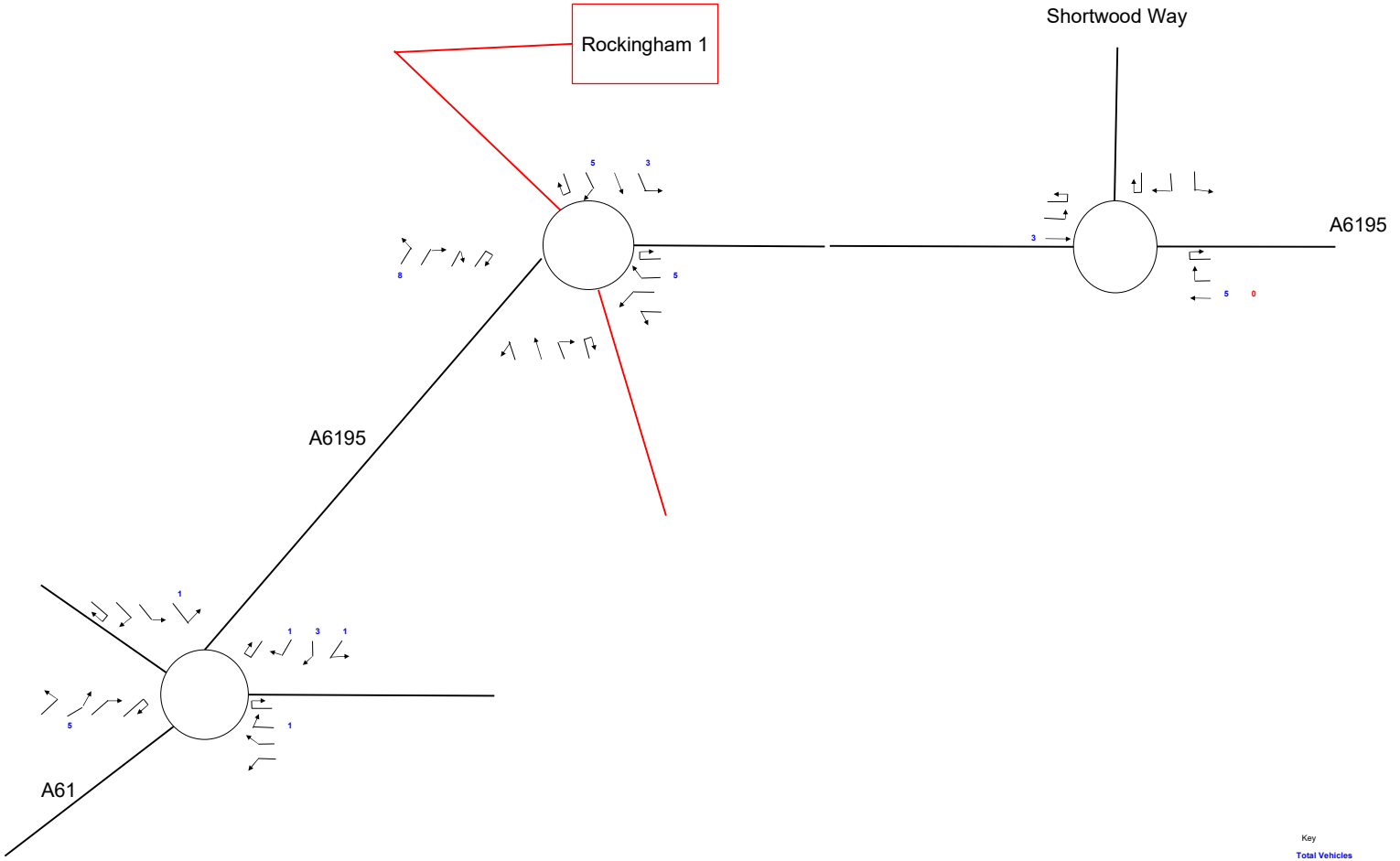

Key

Total Vehicles

Total OGV (inc in Total Vehicles)

Total PCU Value for Movement Equals Total Vehicles Plus Total OGV

OPTIMA Intelligent Highways Solutions

Project: Rockingham

Rockingham 1 Hotel Dev Trips PM

Figure

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C:\Users\kathryn.griffiths\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\FMHK9ZM4\170706 Rock Sensitivity for T Love

Appendix I Modelling Outputs

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Hay Green Lane, Sheffield Road.j9
Path: L:\Hay Green Lane, Birdwell - 18039\ANALYSIS\CAPACITY\Priority Junctions
Report generation date: 09/10/2020 09:24:40

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2019 Count									
Stream B-AC	D1	0.2	13.38	0.13	B	D2	0.1	10.60	0.08	B
Stream C-AB		0.1	9.10	0.10	A		0.1	8.93	0.08	A
	2019 Base Scenario									
Stream B-AC	D3	0.2	13.40	0.13	B	D4	0.1	10.61	0.08	B
Stream C-AB		0.1	9.11	0.10	A		0.1	8.94	0.08	A
	2025 Base Scenario									
Stream B-AC	D5	0.2	14.29	0.15	B	D6	0.1	11.07	0.09	B
Stream C-AB		0.1	9.43	0.11	A		0.1	9.24	0.09	A
	2025 Design Scenario									
Stream B-AC	D7	0.5	19.91	0.34	C	D8	0.2	14.36	0.17	B
Stream C-AB		0.1	9.43	0.11	A		0.2	10.10	0.16	B
	2025 Design Sensitivity Scenario									
Stream B-AC	D9	0.5	21.18	0.36	C	D10	0.2	14.74	0.18	B
Stream C-AB		0.1	9.59	0.11	A		0.2	10.22	0.16	B
	2033 Base Scenario									
Stream B-AC	D11	0.2	16.25	0.18	C	D12	0.1	11.70	0.10	B
Stream C-AB		0.1	9.84	0.12	A		0.1	9.63	0.09	A
	2033 Design Scenario									
Stream B-AC	D13	0.6	23.58	0.39	C	D14	0.2	15.78	0.19	C
Stream C-AB		0.1	9.84	0.12	A		0.2	10.56	0.17	B
	2033 Design Sensitivity Scenario									
Stream B-AC	D15	0.7	25.52	0.41	D	D16	0.2	16.28	0.20	C
Stream C-AB		0.1	10.02	0.13	B		0.2	10.70	0.17	B

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	Hay Green Lane / Sheffield Road Junction
Location	
Site number	
Date	22/04/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ZERUM\kathryn.griffiths
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	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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	2019 Count	AM	ONE HOUR	08:30	10:00	15	✓
D2	2019 Count	PM	ONE HOUR	16:30	18:00	15	✓
D3	2019 Base Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D4	2019 Base Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D5	2025 Base Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D6	2025 Base Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D7	2025 Design Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D8	2025 Design Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D9	2025 Design Sensitivity Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D10	2025 Design Sensitivity Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D11	2033 Base Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D12	2033 Base Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D13	2033 Design Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D14	2033 Design Scenario	PM	ONE HOUR	16:30	18:00	15	✓
D15	2033 Design Sensitivity Scenario	AM	ONE HOUR	08:30	10:00	15	✓
D16	2033 Design Sensitivity Scenario	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

2019 Count, AM

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	untitled	T-Junction	Two-way		0.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A61 Sheffuekd Road (N)		Major
B	Hay Green Lane		Minor
C	Sheffield Road (S)		Major

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)
C	7.90		✓	2.30	90.0	✓	6.20

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.34	18	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	458	0.077	0.193	0.122	0.276
B-C	591	0.083	0.210	-	-
C-B	633	0.225	0.225	-	-

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)	Run automatically
D1	2019 Count	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	772	100.000
B		ONE HOUR	✓	38	100.000
C		ONE HOUR	✓	953	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	14	758
	B	8	0	30
	C	911	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	13.38	0.2	B	35	52
C-AB	0.10	9.10	0.1	A	39	58
C-A					836	1254
A-B					13	19
A-C					696	1043

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	399	0.072	28	0.0	0.1	9.699	A
C-AB	32	8	502	0.063	31	0.0	0.1	7.643	A
C-A	686	171			686				
A-B	11	3			11				
A-C	571	143			571				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	364	0.094	34	0.1	0.1	10.898	B
C-AB	38	9	477	0.079	38	0.1	0.1	8.198	A
C-A	819	205			819				
A-B	13	3			13				
A-C	681	170			681				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	10	311	0.135	42	0.1	0.2	13.360	B
C-AB	46	12	442	0.105	46	0.1	0.1	9.097	A
C-A	1003	251			1003				
A-B	15	4			15				
A-C	835	209			835				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	10	311	0.135	42	0.2	0.2	13.379	B
C-AB	46	12	442	0.105	46	0.1	0.1	9.103	A
C-A	1003	251			1003				
A-B	15	4			15				
A-C	835	209			835				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	364	0.094	34	0.2	0.1	10.921	B
C-AB	38	9	477	0.079	38	0.1	0.1	8.205	A
C-A	819	205			819				
A-B	13	3			13				
A-C	681	170			681				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	399	0.072	29	0.1	0.1	9.721	A
C-AB	32	8	502	0.063	32	0.1	0.1	7.652	A
C-A	686	171			686				
A-B	11	3			11				
A-C	571	143			571				

2019 Count, PM

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	untitled	T-Junction	Two-way		0.33	A

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)	Run automatically
D2	2019 Count	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 (%)
A		ONE HOUR	✓	790	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	894	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	8	782
	B	2	0	25
	C	863	31	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	10.60	0.1	B	25	37
C-AB	0.08	8.93	0.1	A	28	43
C-A					792	1188
A-B					7	11
A-C					718	1076

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	441	0.046	20	0.0	0.0	8.559	A
C-AB	23	6	499	0.047	23	0.0	0.0	7.559	A
C-A	650	162			650				
A-B	6	2			6				
A-C	589	147			589				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	412	0.059	24	0.0	0.1	9.288	A
C-AB	28	7	473	0.059	28	0.0	0.1	8.083	A
C-A	776	194			776				
A-B	7	2			7				
A-C	703	176			703				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	369	0.081	30	0.1	0.1	10.596	B
C-AB	34	9	437	0.078	34	0.1	0.1	8.926	A
C-A	950	238			950				
A-B	9	2			9				
A-C	861	215			861				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	369	0.081	30	0.1	0.1	10.602	B
C-AB	34	9	437	0.078	34	0.1	0.1	8.930	A
C-A	950	238			950				
A-B	9	2			9				
A-C	861	215			861				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	412	0.059	24	0.1	0.1	9.295	A
C-AB	28	7	473	0.059	28	0.1	0.1	8.089	A
C-A	776	194			776				
A-B	7	2			7				
A-C	703	176			703				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	441	0.046	20	0.1	0.0	8.569	A
C-AB	23	6	499	0.047	23	0.1	0.0	7.567	A
C-A	650	162			650				
A-B	6	2			6				
A-C	589	147			589				

2019 Base Scenario, AM

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	untitled	T-Junction	Two-way		0.51	A

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)	Run automatically
D3	2019 Base Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	773	100.000
B		ONE HOUR	✓	38	100.000
C		ONE HOUR	✓	954	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	14	759
	B	8	0	30
	C	912	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	13.40	0.2	B	35	52
C-AB	0.10	9.11	0.1	A	39	58
C-A					837	1255
A-B					13	19
A-C					696	1045

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	399	0.072	28	0.0	0.1	9.704	A
C-AB	32	8	502	0.063	31	0.0	0.1	7.646	A
C-A	687	172			687				
A-B	11	3			11				
A-C	571	143			571				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	364	0.094	34	0.1	0.1	10.907	B
C-AB	38	9	477	0.079	38	0.1	0.1	8.201	A
C-A	820	205			820				
A-B	13	3			13				
A-C	682	171			682				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	10	311	0.135	42	0.1	0.2	13.378	B
C-AB	46	12	441	0.105	46	0.1	0.1	9.103	A
C-A	1004	251			1004				
A-B	15	4			15				
A-C	836	209			836				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	10	311	0.135	42	0.2	0.2	13.398	B
C-AB	46	12	441	0.105	46	0.1	0.1	9.108	A
C-A	1004	251			1004				
A-B	15	4			15				
A-C	836	209			836				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	364	0.094	34	0.2	0.1	10.930	B
C-AB	38	9	477	0.079	38	0.1	0.1	8.209	A
C-A	820	205			820				
A-B	13	3			13				
A-C	682	171			682				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	399	0.072	29	0.1	0.1	9.728	A
C-AB	32	8	502	0.063	32	0.1	0.1	7.655	A
C-A	687	172			687				
A-B	11	3			11				
A-C	571	143			571				

2019 Base Scenario, PM

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	untitled	T-Junction	Two-way		0.33	A

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)	Run automatically
D4	2019 Base Scenario	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 (%)
A		ONE HOUR	✓	791	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	895	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	8	783
	B	2	0	25
	C	864	31	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	10.61	0.1	B	25	37
C-AB	0.08	8.94	0.1	A	28	43
C-A					793	1189
A-B					7	11
A-C					718	1078

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	440	0.046	20	0.0	0.0	8.563	A
C-AB	23	6	499	0.047	23	0.0	0.0	7.562	A
C-A	650	163			650				
A-B	6	2			6				
A-C	589	147			589				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	412	0.059	24	0.0	0.1	9.294	A
C-AB	28	7	473	0.059	28	0.0	0.1	8.086	A
C-A	777	194			777				
A-B	7	2			7				
A-C	704	176			704				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	369	0.081	30	0.1	0.1	10.605	B
C-AB	34	9	437	0.078	34	0.1	0.1	8.932	A
C-A	951	238			951				
A-B	9	2			9				
A-C	862	216			862				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	369	0.081	30	0.1	0.1	10.612	B
C-AB	34	9	437	0.078	34	0.1	0.1	8.935	A
C-A	951	238			951				
A-B	9	2			9				
A-C	862	216			862				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	412	0.059	24	0.1	0.1	9.300	A
C-AB	28	7	473	0.059	28	0.1	0.1	8.092	A
C-A	777	194			777				
A-B	7	2			7				
A-C	704	176			704				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	440	0.046	20	0.1	0.0	8.574	A
C-AB	23	6	499	0.047	23	0.1	0.0	7.573	A
C-A	650	163			650				
A-B	6	2			6				
A-C	589	147			589				

2025 Base Scenario, AM

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	untitled	T-Junction	Two-way		0.53	A

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)	Run automatically
D5	2025 Base Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	818	100.000
B		ONE HOUR	✓	40	100.000
C		ONE HOUR	✓	1009	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	803
	B	8	0	32
	C	965	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.15	14.29	0.2	B	37	55
C-AB	0.11	9.43	0.1	A	40	61
C-A					886	1328
A-B					14	21
A-C					737	1105

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	392	0.077	30	0.0	0.1	9.931	A
C-AB	33	8	494	0.067	33	0.0	0.1	7.795	A
C-A	727	182			727				
A-B	11	3			11				
A-C	605	151			605				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	354	0.101	36	0.1	0.1	11.295	B
C-AB	40	10	467	0.085	39	0.1	0.1	8.411	A
C-A	868	217			868				
A-B	13	3			13				
A-C	722	180			722				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	296	0.149	44	0.1	0.2	14.266	B
C-AB	48	12	430	0.113	48	0.1	0.1	9.421	A
C-A	1062	266			1062				
A-B	17	4			17				
A-C	884	221			884				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	296	0.149	44	0.2	0.2	14.292	B
C-AB	48	12	430	0.113	48	0.1	0.1	9.427	A
C-A	1062	266			1062				
A-B	17	4			17				
A-C	884	221			884				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	354	0.101	36	0.2	0.1	11.322	B
C-AB	40	10	467	0.085	40	0.1	0.1	8.419	A
C-A	868	217			868				
A-B	13	3			13				
A-C	722	180			722				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	392	0.077	30	0.1	0.1	9.958	A
C-AB	33	8	494	0.067	33	0.1	0.1	7.809	A
C-A	727	182			727				
A-B	11	3			11				
A-C	605	151			605				

2025 Base Scenario, PM

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	untitled	T-Junction	Two-way		0.34	A

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)	Run automatically
D6	2025 Base Scenario	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 (%)
A		ONE HOUR	✓	836	100.000
B		ONE HOUR	✓	28	100.000
C		ONE HOUR	✓	947	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	8	828
	B	2	0	26
	C	914	33	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.09	11.07	0.1	B	26	39
C-AB	0.09	9.24	0.1	A	30	45
C-A					839	1258
A-B					7	11
A-C					760	1140

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	433	0.049	21	0.0	0.1	8.734	A
C-AB	25	6	491	0.051	25	0.0	0.1	7.711	A
C-A	688	172			688				
A-B	6	2			6				
A-C	623	156			623				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	402	0.063	25	0.1	0.1	9.548	A
C-AB	30	7	464	0.064	30	0.1	0.1	8.289	A
C-A	822	205			822				
A-B	7	2			7				
A-C	744	186			744				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	356	0.087	31	0.1	0.1	11.065	B
C-AB	36	9	426	0.085	36	0.1	0.1	9.238	A
C-A	1006	252			1006				
A-B	9	2			9				
A-C	912	228			912				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	356	0.087	31	0.1	0.1	11.072	B
C-AB	36	9	426	0.085	36	0.1	0.1	9.241	A
C-A	1006	252			1006				
A-B	9	2			9				
A-C	912	228			912				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	402	0.063	25	0.1	0.1	9.555	A
C-AB	30	7	464	0.064	30	0.1	0.1	8.296	A
C-A	822	205			822				
A-B	7	2			7				
A-C	744	186			744				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	433	0.049	21	0.1	0.1	8.744	A
C-AB	25	6	491	0.051	25	0.1	0.1	7.720	A
C-A	688	172			688				
A-B	6	2			6				
A-C	623	156			623				

2025 Design Scenario, AM

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	untitled	T-Junction	Two-way		1.11	A

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)	Run automatically
D7	2025 Design Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	818	100.000
B		ONE HOUR	✓	86	100.000
C		ONE HOUR	✓	1009	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	803
	B	22	0	64
	C	965	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.34	19.91	0.5	C	79	118
C-AB	0.11	9.43	0.1	A	40	61
C-A					886	1328
A-B					14	21
A-C					737	1105

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	65	16	376	0.172	64	0.0	0.2	11.513	B
C-AB	33	8	494	0.067	33	0.0	0.1	7.795	A
C-A	727	182			727				
A-B	11	3			11				
A-C	605	151			605				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	77	19	337	0.230	77	0.2	0.3	13.850	B
C-AB	40	10	467	0.085	39	0.1	0.1	8.411	A
C-A	868	217			868				
A-B	13	3			13				
A-C	722	180			722				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	24	275	0.344	94	0.3	0.5	19.733	C
C-AB	48	12	430	0.113	48	0.1	0.1	9.421	A
C-A	1062	266			1062				
A-B	17	4			17				
A-C	884	221			884				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	24	275	0.344	95	0.5	0.5	19.914	C
C-AB	48	12	430	0.113	48	0.1	0.1	9.427	A
C-A	1062	266			1062				
A-B	17	4			17				
A-C	884	221			884				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	77	19	336	0.230	78	0.5	0.3	13.983	B
C-AB	40	10	467	0.085	40	0.1	0.1	8.419	A
C-A	868	217			868				
A-B	13	3			13				
A-C	722	180			722				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	65	16	376	0.172	65	0.3	0.2	11.604	B
C-AB	33	8	494	0.067	33	0.1	0.1	7.809	A
C-A	727	182			727				
A-B	11	3			11				
A-C	605	151			605				

2025 Design Scenario, PM

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	untitled	T-Junction	Two-way		0.69	A

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)	Run automatically
D8	2025 Design Scenario	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 (%)
A		ONE HOUR	✓	849	100.000
B		ONE HOUR	✓	48	100.000
C		ONE HOUR	✓	974	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	21	828
	B	8	0	40
	C	914	60	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.17	14.36	0.2	B	44	66
C-AB	0.16	10.10	0.2	B	55	83
C-A					839	1258
A-B					19	29
A-C					760	1140

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	398	0.091	36	0.0	0.1	9.919	A
C-AB	45	11	489	0.092	45	0.0	0.1	8.094	A
C-A	688	172			688				
A-B	16	4			16				
A-C	623	156			623				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	361	0.119	43	0.1	0.1	11.303	B
C-AB	54	13	461	0.117	54	0.1	0.1	8.833	A
C-A	822	205			822				
A-B	19	5			19				
A-C	744	186			744				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	53	13	304	0.174	53	0.1	0.2	14.319	B
C-AB	66	17	423	0.156	66	0.1	0.2	10.082	B
C-A	1006	252			1006				
A-B	23	6			23				
A-C	912	228			912				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	53	13	304	0.174	53	0.2	0.2	14.359	B
C-AB	66	17	423	0.156	66	0.2	0.2	10.095	B
C-A	1006	252			1006				
A-B	23	6			23				
A-C	912	228			912				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	361	0.119	43	0.2	0.1	11.336	B
C-AB	54	13	461	0.117	54	0.2	0.1	8.849	A
C-A	822	205			822				
A-B	19	5			19				
A-C	744	186			744				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	398	0.091	36	0.1	0.1	9.948	A
C-AB	45	11	489	0.092	45	0.1	0.1	8.114	A
C-A	688	172			688				
A-B	16	4			16				
A-C	623	156			623				

2025 Design Sensitivity Scenario, AM

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	untitled	T-Junction	Two-way		1.14	A

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)	Run automatically
D9	2025 Design Sensitivity Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	844	100.000
B		ONE HOUR	✓	86	100.000
C		ONE HOUR	✓	1035	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	829
	B	22	0	64
	C	991	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.36	21.18	0.5	C	79	118
C-AB	0.11	9.59	0.1	A	40	61
C-A					909	1364
A-B					14	21
A-C					761	1141

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	65	16	370	0.175	64	0.0	0.2	11.730	B
C-AB	33	8	490	0.068	33	0.0	0.1	7.870	A
C-A	746	187			746				
A-B	11	3			11				
A-C	624	156			624				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	77	19	329	0.235	77	0.2	0.3	14.260	B
C-AB	40	10	462	0.086	39	0.1	0.1	8.512	A
C-A	891	223			891				
A-B	13	3			13				
A-C	745	186			745				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	24	265	0.358	94	0.3	0.5	20.956	C
C-AB	48	12	424	0.114	48	0.1	0.1	9.583	A
C-A	1091	273			1091				
A-B	17	4			17				
A-C	913	228			913				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	24	265	0.358	95	0.5	0.5	21.177	C
C-AB	48	12	424	0.114	48	0.1	0.1	9.588	A
C-A	1091	273			1091				
A-B	17	4			17				
A-C	913	228			913				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	77	19	329	0.235	78	0.5	0.3	14.410	B
C-AB	40	10	462	0.086	40	0.1	0.1	8.524	A
C-A	891	223			891				
A-B	13	3			13				
A-C	745	186			745				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	65	16	370	0.175	65	0.3	0.2	11.827	B
C-AB	33	8	490	0.068	33	0.1	0.1	7.882	A
C-A	746	187			746				
A-B	11	3			11				
A-C	624	156			624				

2025 Design Sensitivity Scenario, PM

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	untitled	T-Junction	Two-way		0.69	A

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)	Run automatically
D10	2025 Design Sensitivity Scenario	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 (%)
A		ONE HOUR	✓	867	100.000
B		ONE HOUR	✓	48	100.000
C		ONE HOUR	✓	987	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	21	846
	B	8	0	40
	C	927	60	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.18	14.74	0.2	B	44	66
C-AB	0.16	10.22	0.2	B	55	83
C-A					851	1276
A-B					19	29
A-C					776	1164

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	395	0.092	36	0.0	0.1	10.015	B
C-AB	45	11	486	0.093	45	0.0	0.1	8.150	A
C-A	698	174			698				
A-B	16	4			16				
A-C	637	159			637				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	357	0.121	43	0.1	0.1	11.466	B
C-AB	54	13	458	0.118	54	0.1	0.1	8.913	A
C-A	833	208			833				
A-B	19	5			19				
A-C	761	190			761				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	53	13	297	0.178	53	0.1	0.2	14.705	B
C-AB	66	17	418	0.158	66	0.1	0.2	10.211	B
C-A	1021	255			1021				
A-B	23	6			23				
A-C	931	233			931				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	53	13	297	0.178	53	0.2	0.2	14.742	B
C-AB	66	17	418	0.158	66	0.2	0.2	10.223	B
C-A	1021	255			1021				
A-B	23	6			23				
A-C	931	233			931				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	357	0.121	43	0.2	0.1	11.499	B
C-AB	54	13	458	0.118	54	0.2	0.1	8.929	A
C-A	833	208			833				
A-B	19	5			19				
A-C	761	190			761				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	395	0.092	36	0.1	0.1	10.047	B
C-AB	45	11	486	0.093	45	0.1	0.1	8.171	A
C-A	698	174			698				
A-B	16	4			16				
A-C	637	159			637				

2033 Base Scenario, AM

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	untitled	T-Junction	Two-way		0.58	A

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)	Run automatically
D11	2033 Base Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	870	100.000
B		ONE HOUR	✓	43	100.000
C		ONE HOUR	✓	1073	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	854
	B	9	0	34
	C	1026	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.18	16.25	0.2	C	39	59
C-AB	0.12	9.84	0.1	A	43	65
C-A					941	1412
A-B					15	22
A-C					784	1175

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	377	0.086	32	0.0	0.1	10.421	B
C-AB	35	9	486	0.073	35	0.0	0.1	7.985	A
C-A	772	193			772				
A-B	12	3			12				
A-C	643	161			643				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	10	336	0.115	39	0.1	0.1	12.109	B
C-AB	42	11	457	0.092	42	0.1	0.1	8.677	A
C-A	922	231			922				
A-B	14	4			14				
A-C	768	192			768				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	47	12	269	0.176	47	0.1	0.2	16.201	C
C-AB	52	13	417	0.124	52	0.1	0.1	9.836	A
C-A	1130	282			1130				
A-B	18	4			18				
A-C	940	235			940				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	47	12	269	0.176	47	0.2	0.2	16.251	C
C-AB	52	13	417	0.124	52	0.1	0.1	9.844	A
C-A	1130	282			1130				
A-B	18	4			18				
A-C	940	235			940				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	39	10	336	0.115	39	0.2	0.1	12.149	B
C-AB	42	11	457	0.092	42	0.1	0.1	8.688	A
C-A	922	231			922				
A-B	14	4			14				
A-C	768	192			768				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	377	0.086	33	0.1	0.1	10.454	B
C-AB	35	9	486	0.073	35	0.1	0.1	7.999	A
C-A	772	193			772				
A-B	12	3			12				
A-C	643	161			643				

2033 Base Scenario, PM

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	untitled	T-Junction	Two-way		0.36	A

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)	Run automatically
D12	2033 Base Scenario	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 (%)
A		ONE HOUR	✓	891	100.000
B		ONE HOUR	✓	30	100.000
C		ONE HOUR	✓	1008	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	9	882
	B	2	0	28
	C	973	35	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	11.70	0.1	B	28	41
C-AB	0.09	9.63	0.1	A	32	48
C-A					893	1339
A-B					8	12
A-C					809	1214

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	424	0.053	22	0.0	0.1	8.948	A
C-AB	26	7	482	0.055	26	0.0	0.1	7.892	A
C-A	733	183			733				
A-B	7	2			7				
A-C	664	166			664				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	391	0.069	27	0.1	0.1	9.873	A
C-AB	31	8	453	0.070	31	0.1	0.1	8.543	A
C-A	875	219			875				
A-B	8	2			8				
A-C	793	198			793				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	341	0.097	33	0.1	0.1	11.693	B
C-AB	39	10	412	0.093	38	0.1	0.1	9.627	A
C-A	1071	268			1071				
A-B	10	2			10				
A-C	971	243			971				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	341	0.097	33	0.1	0.1	11.703	B
C-AB	39	10	412	0.093	39	0.1	0.1	9.633	A
C-A	1071	268			1071				
A-B	10	2			10				
A-C	971	243			971				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	391	0.069	27	0.1	0.1	9.885	A
C-AB	31	8	453	0.070	32	0.1	0.1	8.550	A
C-A	875	219			875				
A-B	8	2			8				
A-C	793	198			793				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	424	0.053	23	0.1	0.1	8.962	A
C-AB	26	7	482	0.055	26	0.1	0.1	7.904	A
C-A	733	183			733				
A-B	7	2			7				
A-C	664	166			664				

2033 Design Scenario, AM

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	untitled	T-Junction	Two-way		1.25	A

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)	Run automatically
D13	2033 Design Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	870	100.000
B		ONE HOUR	✓	88	100.000
C		ONE HOUR	✓	1073	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	854
	B	23	0	65
	C	1026	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.39	23.58	0.6	C	81	121
C-AB	0.12	9.84	0.1	A	43	65
C-A					941	1412
A-B					15	22
A-C					784	1175

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	362	0.183	65	0.0	0.2	12.115	B
C-AB	35	9	486	0.073	35	0.0	0.1	7.985	A
C-A	772	193			772				
A-B	12	3			12				
A-C	643	161			643				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	318	0.248	79	0.2	0.3	14.992	B
C-AB	42	11	457	0.092	42	0.1	0.1	8.677	A
C-A	922	231			922				
A-B	14	4			14				
A-C	768	192			768				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	24	249	0.389	96	0.3	0.6	23.247	C
C-AB	52	13	417	0.124	52	0.1	0.1	9.836	A
C-A	1130	282			1130				
A-B	18	4			18				
A-C	940	235			940				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	24	249	0.389	97	0.6	0.6	23.585	C
C-AB	52	13	417	0.124	52	0.1	0.1	9.844	A
C-A	1130	282			1130				
A-B	18	4			18				
A-C	940	235			940				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	318	0.248	80	0.6	0.3	15.189	C
C-AB	42	11	457	0.092	42	0.1	0.1	8.688	A
C-A	922	231			922				
A-B	14	4			14				
A-C	768	192			768				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	362	0.183	67	0.3	0.2	12.222	B
C-AB	35	9	486	0.073	35	0.1	0.1	7.999	A
C-A	772	193			772				
A-B	12	3			12				
A-C	643	161			643				

2033 Design Scenario, PM

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	untitled	T-Junction	Two-way		0.72	A

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)	Run automatically
D14	2033 Design Scenario	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 (%)
A		ONE HOUR	✓	903	100.000
B		ONE HOUR	✓	49	100.000
C		ONE HOUR	✓	1035	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	21	882
	B	8	0	41
	C	973	62	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.19	15.78	0.2	C	45	67
C-AB	0.17	10.56	0.2	B	57	85
C-A					893	1339
A-B					19	29
A-C					809	1214

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	388	0.095	36	0.0	0.1	10.242	B
C-AB	47	12	480	0.097	46	0.0	0.1	8.294	A
C-A	733	183			733				
A-B	16	4			16				
A-C	664	166			664				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	347	0.127	44	0.1	0.1	11.857	B
C-AB	56	14	450	0.124	56	0.1	0.1	9.118	A
C-A	875	219			875				
A-B	19	5			19				
A-C	793	198			793				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	282	0.191	54	0.1	0.2	15.749	C
C-AB	68	17	409	0.167	68	0.1	0.2	10.542	B
C-A	1071	268			1071				
A-B	23	6			23				
A-C	971	243			971				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	282	0.191	54	0.2	0.2	15.775	C
C-AB	68	17	409	0.167	68	0.2	0.2	10.556	B
C-A	1071	268			1071				
A-B	23	6			23				
A-C	971	243			971				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	347	0.127	44	0.2	0.1	11.898	B
C-AB	56	14	450	0.124	56	0.2	0.1	9.134	A
C-A	875	219			875				
A-B	19	5			19				
A-C	793	198			793				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	388	0.095	37	0.1	0.1	10.273	B
C-AB	47	12	480	0.097	47	0.1	0.1	8.313	A
C-A	733	183			733				
A-B	16	4			16				
A-C	664	166			664				

2033 Design Sensitivity Scenario , AM

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	untitled	T-Junction	Two-way		1.30	A

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)	Run automatically
D15	2033 Design Sensitivity Scenario	AM	ONE HOUR	08:30	10:00	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 (%)
A		ONE HOUR	✓	896	100.000
B		ONE HOUR	✓	88	100.000
C		ONE HOUR	✓	1099	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	880
	B	23	0	65
	C	1052	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.41	25.52	0.7	D	81	121
C-AB	0.13	10.02	0.1	B	43	65
C-A					965	1448
A-B					15	22
A-C					808	1211

Main Results for each time segment

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	356	0.186	65	0.0	0.2	12.359	B
C-AB	35	9	481	0.074	35	0.0	0.1	8.064	A
C-A	792	198			792				
A-B	12	3			12				
A-C	663	166			663				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	311	0.255	79	0.2	0.3	15.489	C
C-AB	42	11	452	0.094	42	0.1	0.1	8.788	A
C-A	946	236			946				
A-B	14	4			14				
A-C	791	198			791				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	24	238	0.408	96	0.3	0.7	25.111	D
C-AB	52	13	411	0.126	52	0.1	0.1	10.012	B
C-A	1158	290			1158				
A-B	18	4			18				
A-C	969	242			969				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	24	238	0.408	97	0.7	0.7	25.521	D
C-AB	52	13	411	0.126	52	0.1	0.1	10.020	B
C-A	1158	290			1158				
A-B	18	4			18				
A-C	969	242			969				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	311	0.255	80	0.7	0.3	15.724	C
C-AB	42	11	452	0.094	42	0.1	0.1	8.800	A
C-A	946	236			946				
A-B	14	4			14				
A-C	791	198			791				

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	356	0.186	67	0.3	0.2	12.480	B
C-AB	35	9	481	0.074	35	0.1	0.1	8.080	A
C-A	792	198			792				
A-B	12	3			12				
A-C	663	166			663				

2033 Design Sensitivity Scenario , PM

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	untitled	T-Junction	Two-way		0.72	A

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)	Run automatically
D16	2033 Design Sensitivity Scenario	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 (%)
A		ONE HOUR	✓	921	100.000
B		ONE HOUR	✓	49	100.000
C		ONE HOUR	✓	1048	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	21	900
	B	8	0	41
	C	986	62	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.20	16.28	0.2	C	45	67
C-AB	0.17	10.70	0.2	B	57	85
C-A					905	1357
A-B					19	29
A-C					826	1239

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	384	0.096	36	0.0	0.1	10.344	B
C-AB	47	12	477	0.098	46	0.0	0.1	8.349	A
C-A	742	186			742				
A-B	16	4			16				
A-C	678	169			678				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	343	0.129	44	0.1	0.1	12.042	B
C-AB	56	14	447	0.125	56	0.1	0.1	9.203	A
C-A	886	222			886				
A-B	19	5			19				
A-C	809	202			809				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	275	0.196	54	0.1	0.2	16.223	C
C-AB	68	17	405	0.169	68	0.1	0.2	10.681	B
C-A	1086	271			1086				
A-B	23	6			23				
A-C	991	248			991				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	275	0.196	54	0.2	0.2	16.281	C
C-AB	68	17	405	0.169	68	0.2	0.2	10.696	B
C-A	1086	271			1086				
A-B	23	6			23				
A-C	991	248			991				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	343	0.129	44	0.2	0.1	12.086	B
C-AB	56	14	447	0.125	56	0.2	0.1	9.221	A
C-A	886	222			886				
A-B	19	5			19				
A-C	809	202			809				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	384	0.096	37	0.1	0.1	10.380	B
C-AB	47	12	477	0.098	47	0.1	0.1	8.374	A
C-A	742	186			742				
A-B	16	4			16				
A-C	678	169			678				

Appendix J Scoping Note

BARNSLEY
Metropolitan Borough Council

Place Directorate
David Shepherd
Culture, Regeneration and Property
PO Box 634, Barnsley, S70 9FE
Development Management
Head of Service: Joe Jenkinson

Emma Winter
Carter Jonas LLP
9 Bond Court
Leeds
LS1 2JZ

My Ref: 2019/ENQ/00871

Date: 11/03/2020
Enquiries to: Richard Gilbert
Direct Dial: 01226 772108
E-Mail: richardgilbert@barnsley.gov.uk

Dear Ms Winter,

Proposal Description: **Residential development of approximately 130 dwellings and associated works.**

Location: **Land at Hay Green Lane, Birdwell, Barnsley, S70 5XE**

The following content constitutes the formal response to your pre-application enquiry following assessment of your proposal by the LPA, consultees and a meeting with yourselves on the 13th January 2020 at the council offices at Westgate Plaza One. The format of the response will first outline the details of the consultee responses and will then address the points of clarification requested within your covering letter (14th November 2019).

Planning Policy Context

Planning decisions should be made in accordance with the development plan unless material considerations indicate otherwise and the NPPF does not change the statutory status of the development plan as the starting point for decision making. The Local Plan is the Borough's statutory development plan which is supported by a series of adopted Supplementary Planning Documents and Supplementary Planning Guidance Notes, which are other material considerations.

Local Plan

The new Local Plan was adopted at the Full Council meeting held 3th January 2019 after it was found to be sound by the appointed Planning Inspector following the examination process. This means that it now takes on full weight for decision making process in planning law terms as the development plan for the Borough, superseding the remaining saved policies from the Unitary Development Plan (adopted in the year 2000) and the Core Strategy (adopted in 2011). Though not exclusively relevant to this proposal, the following policies are most relevant and the applicant should make themselves aware of their contents: GD1 – General Development, D1 – High Quality Design and Placemaking, H1 – The Number of New Homes to Be Built, H2 – The Distribution of New Homes, H3 – Uses on Allocated Housing Sites, H6 – Housing Mix and Efficient Use of Land and H7 – Affordable Housing.

Local Plan Site Policy – HS59

Indicative number of dwellings – 118

The development will be expected to:

- Produce a detailed ecology report in support of any development proposal;
- Respect the historic setting of the listed barn opposite Herons Way by retaining the existing mature field boundary with its existing hedge and trees to the east, and by the use of appropriate site layout, sympathetic design that reflects the setting, scaling, massing, details and materials; and
- Provide appropriate access and off site highway works.

Archaeological remains may be present on this site therefore proposals must be accompanied by an appropriate archaeological assessment (including a field evaluation if necessary) that must include the following:

- Information identifying the likely location and extent of the remains, and the nature of the
- remains;
- An assessment of the significance of the remains; and
- Consideration of how the remains would be affected by the proposed development.

Site Context

HS59 is a greenfield site on the eastern flank of Birdwell which is a part of Hoyland Principal Town. Hay Green Lane is a residential street that stretches directly east of the A61 trunk road that connects Junction 36 of the M1 to Worsbrough and the greater Urban Barnsley area. The development of Birdwell appears to have occurred in the late 19th Century and early 20th Century on Chapel Street with subsequent expansion along Sheffield Road in the following decades as a consequence of ribbon development. A major increase to the conurbation's size occurred in the 1950s/60s with the development of residential areas across Worsbrough Road and Heron's Way that now forms the majority of Birdwell's settlement layout. Hay Green Lane itself is constituted of a mix of terraced and detached houses with on-street parking being prominent where the former are located. A primary school is also located at the access onto Hay Green Lane from Sheffield Road with a Grade II listed barn further east upon Hay Green Lane.

The site itself is formed of arable land across its eastern section while its western flank is composed of allotments. A district level park, Birdwell Recreation Ground, sits at HS59's south western corner while a mix of residential curtilages and the highway of Hay Green Lane border the site to the north and west. The remainder of HS59 is contained by farmland across its eastern and southern boundaries which is designated as Safeguarded Land in the Local Plan Policies Map (SL4).

Several significant development schemes are evolving within Hoyland Principal Town, the closest being the Hoyland North and Hoyland West masterplan sites that will bring forward significant levels of commercial and residential development to the south of HS59.

Consultee Responses

Affordable Housing

- The site is in an area of the Borough that requires 10% of the units on the site to be affordable. The tenure split is 80% affordable homes for rent and 20% affordable home ownership. 13 units would be expected to be delivered on the basis of the current proposal though it is acceded that this is likely to be reduced in line with the yield of the allocation site for HS59 in the Local Plan (118 indicative units).

- An affordable housing statement will be required to be submitted, which requires the following:

    - Total number of residential units proposed
    - The percentage of affordable housing units proposed and how this relates to the requirement set out in Local Plan Policy H8 and Affordable Housing SPD
    - The mix of units (bedroom numbers and unit sizes (sqm)) and justification
    - Tenure of each unit and justification
    - Plot number(s) of affordable units

- A layout plan with the location of each affordable unit highlighted, with a key showing the unit type and justification for the proposed location(s)
- Details of design and proposed quality standards of build
- Car parking space(s) per affordable unit
- Details of any Registered Provider acting as a partner in the development
- Proposed ongoing housing management i.e. transfer to a Registered Provider on BMBC's Framework
- Anticipated OMV and transfer value of each affordable property (if applicable)
- Proposed phasing of delivery and occupation on sites to be delivered over more than one phase
- The arrangements to ensure that the provision is affordable for both first and future occupiers or if not possible for the subsidy to be recycled for alternative affordable housing provision
- **Viability Assessment:** if provision is proposed that is non-compliant with policy. Note that it is the Council's policy to ensure that viability assessments are reviewed independently prior to arriving at a conclusion on the findings. The Council shall recover the fees associated with this work from applicants.
- Developers should seek to engage with Registered Providers and the Council's Housing and Energy Team at an early stage.

- The design of the houses should meet the minimum space standards under the South Yorkshire Residential Design Guide. Be indistinguishable in their layout from the market housing on the site, be composed of the same materials and specifications internally and externally while being distributed evenly across the site in small clusters of no more than three dwellings. These characteristics will ensure transfer to a Registered Provider.

Air Quality

- The proposed development is adjacent to the A61 Sheffield Road. Whilst not an air quality management area (AQMA), this road is detailed within the Barnsley MBC Air Quality and Emissions Good Practice Planning Guidance (https://www.barnsley.gov.uk/media/9219/pdc-2018-sep-bmbc-aqande-technical-planning-guidance-v11.pdf), where mitigation of air quality impact is recommended. An assessment shall therefore be undertaken in accordance with the attached guidance and subsequent mitigation proposed.

- The proposed development would be classed as "medium" with reference to the Barnsley MBC Air Quality and Emissions Good Practice Planning Guidance.

Biodiversity

- Requirement for a phase one habitat survey to be submitted. (Though Joel Gandhi has indicated that one is being carried out in correspondence dated 13/01/2020).

- The survey should have regard to the Preliminary Ecological Appraisals conducted for SL4 surrounding the allocation to the south and east.

- I note that the revised illustrative masterplan received on 30th January 2020 (No. 17 5085 12) retains the ash and oak tree as well as the hedgerows on the site's boundaries.

- Any removal of hedgerows on the site is to be subject to assessment under the Hedgerow Regulations 1997 including heritage criteria

- 10% Biodiversity Net Gain required under a recognised metric (Warwickshire, Defra etc). There is the potential for this to be brought forward via the undevelopable area crossed by powerlines to the south east within the HS59 allocation boundary. The net gain will not be accepted on the Safeguarded Land area previously proposed.

Forestry

- The Tree Officer has assessed the submission of the Tree Survey Schedule and Plan conducted on the 22nd November 2019. As stated above, I expect the Ash tree (Grade C) on the eastern boundary of the allocation as well as the Oak (Grade B) in the western section to be retained. Irrespectively an AIA and method statement are required for the trees and hedges on site and further comments cannot be produced without a more detailed layout plan being submitted which shows the locations of specific dwellings as well as a revised road layout.

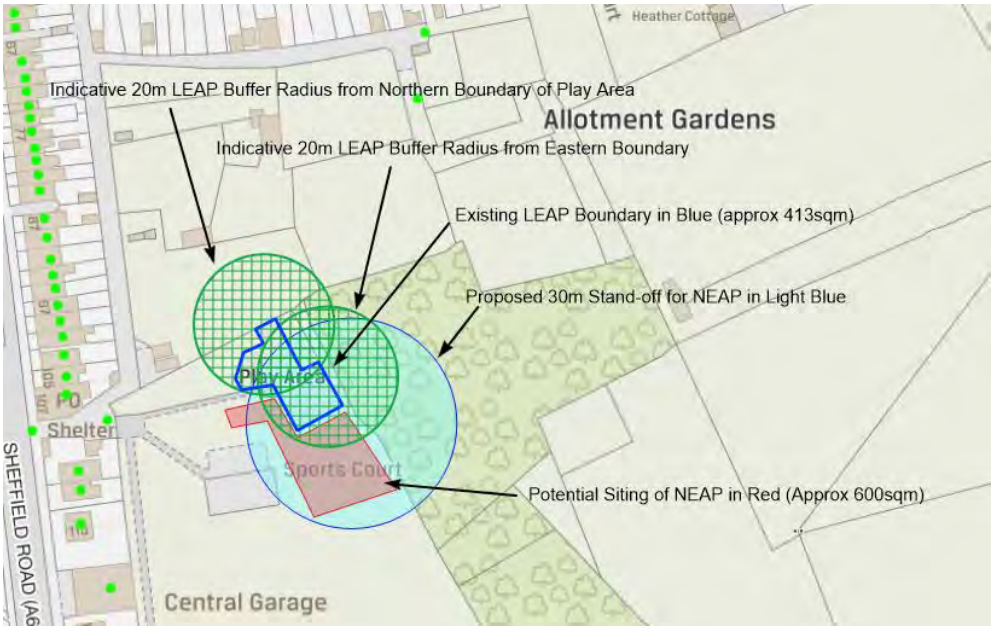
Parks

- The LPA's position in relation to the POS has been provided to yourself on the 30th January 2020. It stated the following:

The council's position on the site is that it is located next to a district level park and the allocation does not therefore require on-site open space provision of 15%. Instead the LPA wish for compliance with guidance in relation to the stand-off distances to the existing LEAP and proposed NEAP in Birdwell Recreation Ground. The areas adjacent to the play areas will form a part of the park and the council require a full off-site contribution towards facilities within the park, specifically upgrade of the play area to NEAP and new changing facilities for the playing pitches. This contribution is in lieu of meeting the 15% on-site public open space provision and parks have agreed to reduce the separation distance to the NEAP from 40m to 30m to allow a larger developable area. The bullet points and Figure 1 below provide a summary of the requirements:

- Adherence to separation distances between boundary of the play areas to boundaries of the proposed dwellings – LEAP 20m and NEAP 30m.
- Undevelopable land in south east corner to be used for SUDS and Biodiversity due to overhead powerlines.
- Full off-site contribution in lieu of full on-site provision of open space (15%).

Fig. 1



Please note that the NEAP standoff in Figure 1 is taken from the north eastern corner and is not reflective of the full stand-off required across the entire eastern boundary of the NEAP – this also relates to the LEAP isochrones indicated in green. Please ensure that the sketch plan is amended so that the NEAP and off-site contribution are referenced.

- The off-site POS calculation is dependent on the housing mix of the site, as this has not been provided yet, we are unable to make the contribution calculation.

Conservation Officer & South Yorkshire Architectural Service (SYAS)

- The development is adjacent to a Grade II listed Barn (ID 1315079). The north western section of SL4 provides a stand-off distance to the Barn and the proposal should maintain the field boundary nearest to the Barn. The dwellings near the Barn should be sympathetic to the scale, mass, detailing and materials of the listed building in line with the HS59's policy wording.

- A Heritage Statement will need to be produced in line with the SPD Heritage Impact Assessment.

- SYAS have reviewed the desk based archaeological assessment (DBA) conducted by Prospect Archaeology and received by the LPA on 13th January 2020. They have made the following comments:

The DBA is a thorough and well researched report and SYAS agree with its conclusions. The report found that for the last few hundred years, settlement has focussed around the farms at Hay Green. There may be some archaeological potential, in connection with this phase, where the application area fronts onto Hay Green Road to the north. Before this period, little information is available to assess the archaeological potential and the DBA recommends further work to evaluate the archaeological potential of the site. Again, SYAS agree with this and recommend that, in the first instance, a geophysical survey of the site is undertaken and the results submitted as supporting information with any future application. Based on the results of the geophysical survey, I will take a view on whether trial trenching is required pre- or post-determination. The survey will also help to confirm the extent of previous ground disturbance, such as open casting, which can then be excluded from further archaeological consideration. Early mining remains, such as bell pits and shaft mounds, remain of archaeological interest.

- On the basis of the above, a Geophysical Survey of the site will need to be carried out to determine if trial trenching is required.

- The DBA also recommends that the eastern boundary is improved with more natural screening, i.e. trees, hedges etc.

BMBC Highway Drainage & Yorkshire Water

- A Flood Risk Assessment, conceptual Drainage Plan and SUDS Design Statement will be required as a part of a submitted application.

- The Council have no records of any culverted or open watercourses crossing the site and are not aware of any flooding issues associated with the site, and would confirm that it is not affected by any flood plains from major watercourses in the area.

- There should be no increase in surface water runoff from the new development. NPPF recognizes that the management of flood risk is not simply restricted to flood plains and that a catchment-wide approach should be employed.

- The nearest combined sewer is in nearby Hay Green Lane. The developer should contact Yorkshire Water if they wish to discharge to this sewer to discuss allowable discharge rates.

- Any balancing facility should be designed to accommodate a 1 in 30 year flow from the site below ground and a 1 in 100 year flow retained within the site (including an allowance of 30% for climate change), without causing any flooding to buildings.

- There are alternatives to conventional storage for the control of surface water run-off that are favoured by the authority where ground conditions are suitable. Sustainable Urban Drainage techniques (SUD's) tackle surface water run-off problems at source using features such as soakaways, permeable pavements, grassed swales, infiltration trenches, ponds and wetlands to attenuate flood peak flows, produce water quality improvements and environmental enhancements.

- The authority seeks to promote the use of SUD's techniques to this site and the authority expects the developer of the site to submit detailed investigations such that the use of SUD's has been fully explored.

- The undevelopable area in the south east corner of the site could potentially incorporate the drainage attenuation with the biodiversity gain mentioned above. The revised illustrative masterplan (30th January 2020 No. 17 5085 12) makes reference to this aspect as well as the incorporation of a swale beside the road.

- With respect of Waste Water, YW provided the following comments:

It would be advisable for the agent/applicant to make an enquiry, as there is public sewerage infrastructure recorded running[1] through the site.

Information regarding drainage to public sewer would be deemed as a formal Pre Planning Enquiry request. The developer should note the following:

Our charges for this service are £164.00 + VAT for each site. If historic sewer flooding information is required, there will be an additional charge of £164.00 + VAT.

The developer should provide the following, if available:
· Ordnance Survey plan scale 1:1250 or 1:2500 with the site boundary is clearly marked
· type of development and number of units proposed
· anticipated rates of discharge in litres per second of foul and surface water
· high and low points of the site and watersheds
· general direction of fall
· preferred drainage outfall routes and proposed point of access
· a copy of any topographical survey (if available)

Our comments will be based on a desk top study. The study will be in respect of the public sewer network only. It will include comments on the availability of public sewers and a complimentary extract from the statutory sewer map. We will respond within 10 working days of receipt of payment.

- A foul drainage assessment will be required if the development is not connected to the public sewer and the YW new supplies team will need to be contacted in relation to the water supply connection.

Pollution Control

An Environmental Health Officer has conducted a visit to the site and has noted that the sound level emanating from the Dearne Valley Parkway has the potential to cause a nuisance to future residential dwellings. As such a Noise Assessment should be conducted by suitably qualified acoustician. It should outline the existing noise environment, the potential noise sources from the development, or the noise sources likely to affect the development, together with any mitigation measures.

It is important that the methodology and scope of such an assessment be discussed with Regulatory Services prior to commencement. Further guidance is included in the following:

[1] With respect of the underlined sections, a distinction is drawn between public sewerage infrastructure and culverted or open watercourses.

 BS 7445(2003) Description and measurement of environmental noise
 BS8233(2014) Sound insulation and noise reduction for buildings
 WHO Guidance on Community Noise
 BS5228(2009) Construction Noise and Vibration

Highways DC

Highways have made the following comments in respect of the application:

Existing Highway Network:

- Hay Green Lane – Limited width highway with demand for on street parking reducing the available carriageway to effectively a single lane. History of complaints from residents and records of payments for H markings to highlight private access and deter obstructive parking.
- Planning application 2015/0393 involves minor residential development (3 no. flats) and whilst not of concern in terms of highway capacity should be borne in mind in relation to the existing/proposed requirements for VAC around this section of A61 (it may need to amend the current dropped kerb location).

Scope of Work / Data Collection / Traffic Assessment

- Recommended that parking surveys are undertaken along Hay Green Lane, from A61 to the furthest development access. Surveys to 12 hour period and record length and purpose of stay (purpose being residential, school drop off, school (teacher). Include on highway and parking bay locations.
- Traffic survey data for A61/Hay Green Lane junction to include 2 no. private access points to Birdwell Venue (opposite school/within school keep clear markings). Also to record school crossing patrol demand / operation. An informal agreement currently permits parents to use the car park to the rear of The Birdwell Venue for drop off and collection. I believe SCP operating times are 08:25 until 08:55 in the morning & 15:15 until 15:45 in the afternoon.
- Additional traffic data recommended for the A61/Chapel Street junction, including pedestrian demand at the southern arm A61 zebra crossing and frequency/dwell time of bus stop at Travellers Inn. Whilst not of concern in terms of additional vehicle turning movements, any additional demand at the zebra crossing and any direct relationship between the two junctions may need to be considered at application stage.

Trip Generation and Distribution

Use of the Hoyland North Masterplan TAAR trip generations cannot be fully accepted at this time. HDC are working towards clarification of these figures due to recently identified issues. Use of existing Hay Green Lane junction turning proportions would require additional supporting information. A number of planned future developments at both Hoyland North and Hoyland West masterplan sites would bring a significant increase in employment opportunities to the south of the proposed site within the expected future assessment timescales. This could have an impact on existing turning movements at the A61 Sheffield Road/Hay Green Lane junction and as such evidence should be provided as to how this is considered in distributions to/from the proposed site.

Consented / Committed Development

Whilst there are no significant approved developments to note in terms of future highway capacity assessments, both the Hoyland North and Hoyland West masterplan sites to the south of the proposed development could have a realistic impact on through movements along the A61 within the proposed development assessment period. The potential impact should be considered as this may have a direct impact on the safe operation of the A61 Sheffield Road.

Layout and Access

HDC would not support any proposed ‘emergency access’. Either an all movements junction or a pedestrian/cycle link into the site would be required. Vehicular access restricted for emergency services vehicles only cannot be controlled or enforced with any reasonable degree of certainty.

The remaining comments summarise some key elements required to achieved a compliant design. This is not exhaustive.

The design of residential streets within the development shall follow the guiding principles and technical guidance contained within the South Yorkshire Residential Design Guide (SYRDG). This can be accessed at: https://www.barnsley.gov.uk/media/4657/eb131-south-yorkshire-residential-guide.pdf

Please note Section 4 – Technical Requirements – 4B Site and Parking Geometry particularly (but not exclusively)

B1.1 Street Types

B1.2.1 Design Speed – Residential Streets

B.1.3 Forward Visibility

B1.6.5/B1.6.6 Emergency Vehicle Access

B.2.1.5 Minimum carriageway / vehicle track space width

B.3.7 Turning Areas – Note Cul-de-sacs longer than 20m require a turning area suitable for the turning requirements of a refuse vehicle

B.4 Speed Restraint – Individual speed controlling features for following design speeds are required at these spacing's:

- Streets principally serving residential developments are to be designed to achieve vehicle speeds of no more than 20mph. Shared space streets should be designed to achieve vehicle speeds of around 10mph and always below 15mph. For streets with design speeds of 20mph, speed controlling measures should generally be provided at 70m intervals. Less than 20mph design speed will generally require speed reducing features at 40m intervals. Typical features utilised for speed controlling measures are identified in section 4B .4.1.3 of the SYRDG.

Swept Path Requirements:

- Refuse Vehicle – Dennis 10.3m rear steer (For information the refuse vehicles currently in use in Barnsley has a wheelie Bin Lifting facility and measures 10.3m x 2.5m.)
- Car – Large Car (2006)
- Track tests are to be carried out in accordance with the requirements contained within the South Yorkshire Residential Design Guide sections 4b.2.1.28-29 and 4B.3.3.9-4B.3.3.12.

Parking Requirements: The minimum level of parking should be in line with the parking standards contained within the Councils Parking SPD. These being:

- 1-2 bed units; 1 allocated spaces per dwelling,
- 3+ bed units; 2 allocated spaces per dwelling.
- Parking including Electric and cycle parking – to be provided in accordance standards contained in Barnsley's Parking SPD.
- For C3 dwellinghouses 1 visitor space per 4 dwellings subject to layout. Flexibility for visitor parking will be considered on a site by site basis.
- For garages to be classed as a parking space they must have internal measurements of 3m x 6m (single) or 6m x 6m (double).

The site layout should be designed to maximise and encourage safe, sustainable movement through walking and cycling, providing links to existing networks.

Any boundary, fence, hedge or building shall be set back a minimum of 2m at the end of cul-de-sacs to avoid damage resulting from the overhang of manoeuvring vehicles.

Layout including turning areas to be "tracked" using design vehicles identified above. Carriageway widening on curves may be required based on the following criteria:

- Two cars passing on the curve
- Refuse Vehicle using the entire carriageway

2m long ramps to provide transition between conventional street and shared space street types. Footway lead ins to be provided, extending 2m beyond the top of the ramp to ensure a smooth transition to and from the shared surface for pedestrians.

On streets with design speeds of 20mph and below, forward visibilities below those given in table 7.1 of MfS will be permissible but a minimum of 15m will always apply. Visibility curves may be required to demonstrate compliance with this.

The applicant should be mindful that a maximum of 5 properties can be served from a shared private drive and any private drive that exceeds 20m should include a turning head within the design.

- The development will require a sustainable transport contribution of £131,638 calculated in line with the requirements of the Sustainable Travel SPD (130 Dwellings x 10 Trips x £101.26). It is anticipated that this figure will be reduced in line with the quantum of units expected on the revised developable area.

- Every dwelling is expected to be provisioned with an Electric Vehicle Charging Point (EVCP) as set out in the SPD Sustainable Travel. EVCP can act as a form of mitigation for air quality, however this should be discussed with the Council's Air Quality Officer

Public Rights of Way

- There is an aspiration for the PROW footpath (#40), that extends from Hay Green Lane in the north to the Dearne Valley Parkway further south, to be hard surfaced and increased in width to allow capacity for cyclists and equestrians. This is especially important given the volume of employment land coming forward adjacent to the Parkway as it will allow residents of Birdwell to utilise this transport link to gain access to workplaces in a sustainable manner and thereby reducing the need for vehicle journeys. It is intended that these works can be financed via the sustainable travel contribution.

- A connection is shown to footpath #40 across the undevelopable eastern corner of the estate – the status of this route and future maintenance responsibility should be made clear at an early stage. If it is to be a public right of way or under the responsibility of a landscape management company then an all-weather surface should be provided. The width of the footpath should also be discerned and should fit in with the biodiversity gain/drainage system.

- The western link to the recreation ground should also be clarified with the Council's Parks department so that the connection integrates with the proposal for the NEAP via the off-site POS contribution.

- The emergency access onto Hay Green Lane is likely to be used by pedestrians and the status of this link should also be clarified. The applicant may wish to take steps to prevent this connection acquiring PROW status, such as submitting a deposit under section 31(6) of the Highways Act 1980

Education

- The proposal would create, in line with the SPD Financial Contributions for Schools, the following school places and S106 contribution:

Primary – 27 pupils at £16,000 = £432,000
Secondary – 20 pupils at £16,000 = £320,000

TOTAL - £752,000

- It is expected that this contribution will decrease in value in line with the lower quantum of units proposed as a result of the alterations to the developable area calculation.

The Coal Authority (TCA) & South Yorkshire Mining Advisory Service (SYMAS) + Contaminated Land

- A CMRA has been reviewed by SYMAS who have agreed with the recommendations of the report in relation to intrusive site investigations. They have advised that such measures would be conditioned as a part of any future approval.

- In respect of the report's other recommendations, the Contaminated Land Officer has been consulted and I will provide his comments once received.

Sustainability/Energy

- An Energy/Sustainability Statement should demonstrate how the proposed development would minimise resource and energy consumption compared to the minimum required under current Building Regulations legislation and how it is located and designed to withstand the longer term impacts of climate change. It should also detail how the proposed development would incorporate decentralised, renewable or low carbon energy.

- The statement should include approaches to integrate modern methods of construction and/or higher specification materials to improve energy efficiency beyond current building regulations levels.

Design

- The Building for Life 12 Assessment should be incorporated into the Design and Access Statement. The 12 questions should be answered and accompanied by a justification in accordance with the advice produced by the Design Council CABE:https://www.designcouncil.org.uk/resources/guide/building-life-12-third-edition

- A planning application should provide a clear layout of each individual dwelling, its parking arrangement including the number of spaces, the road layout as well as the areas of soft landscaping. The arrangement of external spaces, external separation distances and internal spacing standards should conform to the requirements set out in the SPD Design of Housing Development as well as the South Yorkshire Residential Design Guide.

- A brief summary of the main requirements is as follows:

- High quality boundary treatments from public vantage points, i.e. brick walls beside highways.
- One tree per plot – mix of sizes from Rowan and Cherry up to Oak, Beech and Chestnut. Planting is most advantageous in open space and at the front of properties but can also be provided in rear gardens.
- Hedging or low-level walls to front boundaries.
- Parking to the front of properties should be broken up by soft landscaping to a ratio of 50/50 soft and hard landscaping as continuous strips of parking is not acceptable.
- Side of dwelling parking should not occur on corner plots.
- Street width to height ratios of 1:2 or 1:4 provide good levels of enclosure anything above 1:4 will require street trees.
- The character of new streets should not be uniform but should vary as part of a hierarchy, depending on their location in order to integrate development into the locality, to retain local distinctiveness and create vibrant, legible and memorable places. Longer streets with continuity of elements tend to have a stronger sense of integration whereas short blocks, arbitrary curves and the lack of a continuous building line create a greater sense of fragmentation and can be disorientating.

- All new streets should be defined by the fronts of plots with buildings orientated to face the public highway, space or private street space to create an active frontage. Blank side elevations facing onto streets should be avoided.
- Avoidance of cul-de-sacs where possible in favour of connected through streets.
- Where front elevations face a road the dwellings should be an appropriate distance apart. The Council will accept a minimum of 12m where the dwellings are of the same storey and it will achieve a streetscape that reflects local character.
- The minimum back-to-back dimension between facing habitable rooms, (ie any room used or intended to be used for sleeping, cooking, living or eating purposes),should be 21metres. Where housing abuts the edge of existing settlements, the back-to-back dimension towards existing housing should be greater than 21metres. Advice will be given on a case by case basis, based on the privacy and outlook of the existing dwelling.
- Where the proposed dwelling/s is/are more than two storeys in height (excluding rooms in the roofspace), the back-to-back separation distance/s should increase by 3 metres for every additional storey.
- Proposed habitable room windows at first floor level and above should be a minimum of 10m from the boundary of any private garden which they would face and habitable room windows in existing dwellings at first floor level and above should be a minimum of 10m from any proposed private garden which they would face. A reduced distance may be accepted for bungalows provided they meet garden size standards and ensure adequate levels of amenity for occupants in terms of outlook, privacy and daylight.
- Proposed walls without habitable room windows (usually side elevations) should be at least 12 metres from original habitable room windows. Where the proposed dwelling is more than two storeys in height (excluding rooms in the roofspace), the separation distance should increase by 2m for every additional storey.
- Rear gardens of proposed dwellings should be at least 50m2 in the case of two bedroom houses/bungalows and 60m2 for houses/bungalows with three or more bedrooms. Smaller gardens may be acceptable in corner plots if privacy and daylighting can be maintained.
- Internal spacing standards are set out in the table below:

Dwelling Size	Studio 1 Person	1 Bed 1 Person	1 Bed 2 Person	2 Bed 3 Person	3 Bed 4 Person	4 Bed 5 Person or more
Double Bedroom		12	12	12	12	12
Single Bedroom			7	7	7	7
Living Room (L)		13	13	13	15	15
Living/ Dining (DL)		16	16	17	18	19
Dining room (D)						
Kitchen (K)		13	9	11	13	13
Kitchen/ Dining (KD)		9	13	13	11	12
Open Plan/ combined (KDL)		24	24	27	30	
Bathroom/ WC combined	3.5	3.5	3.5	3.5	3.5	3.5
Storage	1.5	2.5	3.5	3.75	4.5	5.5
Overall floor area	**33**	**46**	**47**	**62**	**77**	**93**

K=cooking, D=eating, L=living

- The above list is not exhaustive and does not include every aspect of guidance set out in the SPD or the SYRDG.

Waste Management

- Long private drives are to be avoided due to the inability of the typical 26 tonne waste collection vehicle to manoeuvre appropriately. Waste Management have indicated that they can supply the tracking information of the vehicle upon request.
- Where private drives are indicated, a bin collection point will need to be installed near to the main highway.

Superfast South Yorkshire (SFSY)

- The development will be expected to provide for full-fibre gigabit capable internet into properties from multiple suppliers. More information in relation to this is provided from Superfast South Yorkshire below:

What is full-fibre? Full-fibre networks use fibre optic cables to connect the exchange directly to each premise. Full-fibre connections are capable of delivering speeds greater than 1 gigabit per second (Gbps; 1 Gpbs is equal to 1000 Mbps). Full-fibre networks are more reliable than copper-based networks and cheaper to maintain and operate. Full-fibre networks are also important for supporting high capacity mobile broadband networks, particularly future 5G networks. Full-fibre networks, also referred to as fibre-to-the-premises (FTTP) or fibre-to-the-home (FTTH), consist of fibre optic cables running from the local exchange directly to each premises. Fibre optic cables transmit data using light and can carry more data with faster speeds and significantly less signal loss with distance compared to copper cables.

Developers will be asked to consider installing multiple full fibre infrastructure suppliers in order to provide choice and competition to consumers. Occupiers should be able to access broadband ideally from a choice of at least two providers upon occupation of the premises. Developers should also consider their ability to upgrade the infrastructure in the future in order to minimise disruption to occupiers/users.

Developers should consider the following design principles: minimise and/or mitigate against the visual presence of infrastructure on the façade of buildings, minimise physical obstructions on footpaths and cycle ways, maximise the use of recessed infrastructure, carefully consider the location of cabinets to minimise visual clutter in the street scene.

Broadband Infrastructure Suppliers:

Openreach :

For sites with 30+ plots: https://www.openreach.com/newsites-registration-form--30--plots-1

For sites with 2 -29 plots: https://www.openreach.com/network-services/

General information: https://www.openreach.com/fibre-broadband/fibre-for-developers

Virgin Media:

https://www.virginmedia.com/lightning/network-expansion/property-developers

CityFibre:

https://www.cityfibre.com/property/

Hyperoptic

https://hyperoptic.com/

Gigaclear

http://www.gigaclear.com/

(This list in not exhaustive)

Other support:

The Superfast South Yorkshire Team is available to offer advice and discuss connectivity solutions to new sites with developers and can be emailed at hello@superfastsouthyorkshire.co.uk

For more information please visit: http://www.superfastsouthyorkshire.co.uk/sfsy/developments

Northern Powergrid

The following response was gained from Northern Powergrid in respect of the overhead lines which cross the south eastern corner of the site:

As mentioned in the case of Wayleave Agreements these are terminable specific to the landowner which protects our rights for our apparatus on third party land. In the case of Permanent Deeds these are legal documents and as the name suggests provide us with permanent legal rights for our apparatus to remain in place. Our Wayleave Team will better explain the position in respect of either document type.

For your information and setting out the position of the Company we are a Statutory Utility with obligations to maintain and ensure electrical supplies throughout both our north and southern areas are not compromised. The documentation we have to protect our rights on private land reflect this obligation. I can't emphasise enough how important it is that supplies are not affected and with any up and coming development in any area that can impact on our apparatus it is vital we are given the opportunity to consider the effects and open up lines of communication to ensure we minimise the impact.

The LPA's understanding of the consultee response is that if the overhead lines are subject to a Wayleave Agreement, the landowner who has entered into the agreement with Northern Powergrid can request for the lines to be placed underground. The liability for the financial cost of undertaking this work is unknown but may potentially be worth exploring with Northern Powergrid if the land is able to be made 'developable'. If deeds are held by Northern Powergrid for use of the land upon which the infrastructure resides, then it is unlikely that the infrastructure can be moved without the cost being borne by the developer.

Responses to Queries Raised in Cover Letter

Early release of Area B for residential development;

This is a matter for planning policy upon review of the Local Plan in 2024. Area B is currently within the Safeguarded allocation SL4 and the principle of development is not to be considered at the current time given that the Local Plan has been adopted only one year prior.

The Authority Monitoring Report and Five Year Deliverable Housing Supply Note are in the process of being reviewed. If the housing land supply proves to be insufficient, it is expected that a call for sites will be undertaken upon review of the plan in the years to come, at which point your client will be able to promote their site as a viable residential allocation.

In respect of the redline boundary, this should only reflect the boundary of HS59 as indicated on the Local Plan Policies Map. Any incursion of the red line into the surrounding safeguarded land allocation will not be acceptable.

There will be a requirement for the road layout to provide a viable access onto SL4 and the outline application should provide scope for this possibility in the submission of its layout.

The proposed access off Hay Green Lane; The proposed scope of the Transport Assessment and confirmation of any site-specific considerations; The illustrative masterplan including layout and key technical matters;

These points have been addressed in the consultation responses above. Any queries relating to the issues identified therein can be raised with the case officer.

Consultation requirements with local residents and the Parish Council;

A Planning Statement should set out the relevant National, Regional and Local planning policies and guidance and explain how the development relates to the various policies. It should include details of pre-application discussions and summarise the other technical documents submitted with the application (e.g. Flood Risk Assessment).

A Planning Statement should also include a summary of any Community Consultation that was carried out prior to submission of the application. There is, however, no obligation for community consultation to be carried out by the applicant. The LPA will not participate in consultations undertaken by the applicant or agent and will consult adjoining properties separately through neighbour notification letters, site notices and a press notice.

* At the time of writing, the LPA are aware that a consultation event is to be held by the applicant at Birdwell Primary School on Wednesday 12th February 2020 between 15.30-19.00.

Likely Section 106 contributions;

Education - £752,000
Sustainable Travel - £131,638
POS Off-site Contribution – Calculated from Housing Mix – The case officer can provide the GS contribution calculator upon request.
Affordable Housing – 13 Dwellings.

As stated above, these figures are indicative and subject to change dependent on the housing density and developable area forwarded by the applicant. It should be noted that the LPA expect the allocation yield, as indicated in the Local Plan, to be met in full. Any shortfall in developable area will require an increase to the site density to reach the yield.

In relation to the submission of a viability appraisal (VA) with an outline application, such information would not be based upon a concrete set of plans and would thus not present the level of detail required to accurately predict build costs given the length of time that typically occurs between outline and reserved matters permissions. Likewise the estimation of revenues stemming from development sites' have proven unreliable at early outline application stages and such forecasting is to be discouraged until submission of a reserved matters application. Consequently any VA would be afforded minimal weight through the outline assessment process and would likely result in the applicant's time being squandered in lieu of the timely processing of the outline permission. At this preliminary stage, the LPA wish to see the required provisions set out as formulas in an S106 Agreement.

Indeed the majority of policy requirements, such as education contributions, are non negotiable and require refusal of an application where school place shortages exist and where a full financial contribution is not forthcoming. Similarly it is acknowledged that affordable housing policy is capable of being subject to VAs, but given that the requirement in this part of the Borough is only 10% and

that the minimum provision set out in the NPPF requires large sites to also deliver a minimum of 10%, it would be against both local and national policy to deliver less. Both the aforementioned examples reinforce the surplus requirement for a VA should an outline application be submitted.

Validation requirements to support an application on the site;

- Affordable Housing Statement
- Air Quality Assessment
- Arboricultural Impact Assessment & Method Statement
- Phase One Habitat Survey
- Bat Survey of Ash Tree
- Heritage Impact Assessment
- Geophysical Archaeological Survey
- A Flood Risk Assessment, conceptual Drainage Plan and SUDS Design Statement
- Foul Drainage Assessment if not connecting foul water to public sewer.
- Noise Assessment
- Traffic Assessment and Travel Plan
- Energy/Sustainability Statement
- Design and Access Statement with Building for Life 12 incorporated.
- Planning Statement
- Coal Mining Risk Assessment/Report of Intrusive Site Investigations and Mitigation (awaiting Contaminated Land and SYMAS responses)
- S106 Draft Head of Terms
- National validation requirements

Please note that any survey or report submitted must be less than 2 years old unless they are accompanied with an addenda which has reviewed the original survey or report and updated findings and mitigation proposals to satisfy current requirements where appropriate. Any additional requirements as set out in the consultee comments should also be in your application.

You should note that the council reserves the right to request additional information should that be considered necessary or be identified through the consultation process. It may also be possible to look to combine some of the documents where appropriate. Validation would depend upon receipt of all relevant forms, fees, plans and documents.

These comments will be treated as a material consideration in relation to any planning application submitted in the next 2 years for a scheme that reflects the advice provided in this letter. However, please note that the views and opinions in this letter do not constitute a formal response or decision of the Council in relation to any future planning application

The timing of an application for residential development;

You provided an indication during our meeting on the 13th January 2020 that you intend to submit an outline application including access with all other matters reserved, in March 2020. The LPA do not have a preference as to when the application is to be submitted as long as the validation requirements are satisfied. However the LPA would request the applicant to be mindful of the six week Purdah period in advance of the Local Elections on the 7th May 2020.

If you require any further information on the above please do not hesitate to contact me.

Yours sincerely

Richard Gilbert

For and on behalf of
Development Management
Joe Jenkinson BA (Hons) MSc
Head of Planning and Building Control

www.barnsley.gov.uk/developmentmanagement