Rockingham Phase 1, Barnsley
Proposed Commercial Development
Transport Assessment and Travel Plan
Harworth Estates

September 2014

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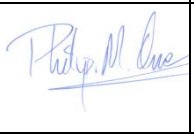
Signature				

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1 Introduction

1.1.1 This Transport Assessment (TA) and Travel Plan (TP) has been undertaken by Optima Highways and Transportation Consultancy Ltd on behalf of Harworth Estates to consider the highways and transportation issues raised by a proposed B1bc/B8 commercial development with associated ancillary uses on land located to the east of M1 Junction 36.

1.1.2 The location of the development Site in relation to the strategic and local highway network is shown on Figures 1 and 2 respectively.

1.1.3 This TA has been prepared in accordance with the DfT's March 2007 "Guidance on Transport Assessment" document and the overall scope of this report has been discussed and broadly agreed with the local highway authority Barnsley Council. Following the initial scoping meeting further on-going consultations have been held in relation to the content and methodologies adopted within this TA.

1.1.4 This report sets out the transport issues relating to the proposed development Site and identifies what measures will be provided to accommodate the anticipated transport impacts of the scheme. The TA considers the sustainability of the Site, reviewing the provision for, and quality of, facilities and connections to and from the surrounding areas. It covers a variety of topics which are set out in the following chapters:

- Chapter 2 - describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals including the access strategies/arrangements;
- Chapter 4 – describes the accessibility of the Site by non-car modes;
- Chapter 5 – Sets out the Framework Travel Plan
- Chapter 6 – describes the methodology employed to arrive at the baseline trips generated by the development as well as the distribution/assignment of these trips on the highway network;
- Chapter 7 – this chapter explains the junction capacity assessments undertaken to determine the impact of the residual development trips on the local highway network. Appropriate mitigation measures are also discussed; and
- Chapter 8 – summarises and highlights the conclusions of the TA.

2 Existing Site and Conditions

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

2.2 EXISTING SITE

2.2.1 The development Site is located approximately 5km south of Barnsley and some 14km north of Sheffield City Centre. It lies immediately to the east of Junction 36 of the M1 and the Site in relation to the strategic and local highway network is shown on Figures 1 and 2 respectively.

2.2.2 The A6195 Dearne Valley Parkway runs along the southern fringe of the development site. The Site is then bound to the west mainly by a residential estate made up of a number of smaller streets accessed via the A61 Sheffield Road, an existing industrial estate (Shortwood Business Park) to the east and an area of undeveloped land borders the northern fringe of the Site.

2.3 EXISTING LOCAL HIGHWAY NETWORK

2.3.1 The proposed development site connects with the external local highway network via a roundabout to the A6195 Dearne Valley Parkway. Throughout the report this roundabout will be referred to as Rockingham roundabout. This roundabout currently has only two operational arms connecting to it which are those of the A6195. Two stub arms are currently provided to facilitate future development. The stub arm to the north will provide access to the proposed development.

2.3.2 To the east of Rockingham roundabout the A6195 is a dual carriageway that is subject to the national speed limit. The eastbound and westbound carriageways have two running lanes each measuring 3.7m.

2.3.3 South of Rockingham roundabout connection is again provided to the national speed limit A6195 dual carriageway. This section of the A6195 is approximately 340m in length before it meets the Birdwell roundabout that connects to the A61 to the west and A6135 to the east(both known as Sheffield Road). This roundabout will be referred to as Birdwell roundabout throughout this report.

2.3.4 The A61 Sheffield Road is subject to a 30mph speed limit and has a typical carriageway width of 7.3m (beyond roundabout entry flaring) and provides footways on both sides starting at around 100m from the roundabout junction.

2.3.5 The A61 to the north west of the roundabout provides a corridor for bus services operating in close proximity to the site. The A61 then continues north some 6km through Birdwell and Worsbrough Bridge into Barnsley town centre.

2.3.6 To the east of the roundabout, the A6135 Sheffield Road has a carriageway width of some 7.4m and is subject to a 30mph speed limit. An off road parking area can be found to the north of the carriageway approximately 80 metres from the roundabout exit. This parking area provides a satisfactory pedestrian route. To the south of the carriageway a pedestrian footway is provided along its length.

2.3.7 The A61 continues south from the Birdwell junction onto Junction 36 of the M1 which provides connection to the strategic road network.

2.4 EXISTING PEDESTRIAN AND CYCLE FACILITIES

2.4.1 The A61 Sheffield Road provides footways on either side of the carriageway within close proximity to the site. The road is subject to a 30mph speed limit and is well lit along the extent of the

highway acting as a safe area for pedestrians. A number of central refuge islands are provided along the A61 Sheffield Road at regular intervals providing convenient and safe crossing opportunities.

2.4.2 There is an existing footpath that runs through the centre of the proposed development, which is shown on the public rights of way plan attached at Appendix A. Later sections of the TA describe how it is intended to divert this footpath should planning permission be granted. The footpath crosses the north east corner of the site before continuing northbound to connect with Hay Green Lane to the north of the development. Hay Green Lane is lit with footways provided on both sides of the carriageway, the road continues west where it meets with the A61 Sheffield Road.

2.4.3 Footways are provided that connect the proposed development along the A6195 to the Birdwell roundabout. Between the A6195 and A61 Sheffield Road the pedestrian provision deviates from the edge of carriageway to route behind a small wooded area (street lights are provided) before connecting back to the kerb edge on the A61 Sheffield Road.

2.4.4 On the western side of the Dearne Valley Parkway pedestrian connection is provided to Sheffield Road A6135 around the kerb edge at the Birdwell Roundabout.

2.4.5 Sheffield Road (both A61 and A6135) benefits from footways on both sides of the carriageway. Both the A61 and A6135 are subject to 30mph speed limits which results in a more pedestrian friendly environment.

2.5 BUS SERVICES

2.5.1 There are numerous bus services operating within the vicinity of the Site, with the nearest stops being located west of the Site on the A61 Sheffield Road. Bus stops are provided with a pole and plate detailing the bus service numbers at regular points along the length of the A61 corridor, these locations are shown on Figure 3. Further services are also available from bus stops located south of the Site on the B6096 Hoyland Road/Hawshaw Lane.

2.5.2 A summary of the bus services on the A61 Sheffield Road is provided in Table 2.1 with Table 2.2 detailing the services on the B6096.

Table 2.1 – A61 Sheffield Road Bus Service Summary

Service	Route	Service Frequency (One Way)	Days of Operation
A61 SHEFFIELD ROAD			
66	Barnsley – Hoyland	6 per hour (06:45-00:15)	Weekday
		6 per hour (06:58-00:15)	Saturday
		2 per hour (09:26-00:17)	Sunday
67	Barnsley – Hoyland - Brampton	1 per hour (05:19-22:38)	Weekday
		1 per hour (05:19-22:38)	Saturday
		Every 2 Hours (10:48–22:38)	Sunday
227	Barnsley – Hoyland - Rotherham	1 per hour (06:45-16:55)	Weekday
		1 per hour (06:55-16:55)	Saturday
		No Service	Sunday
265	Barnsley - Sheffield	2 per hour (06:43-23:09)	Weekday
		2 per hour (07:23-23:09)	Saturday
		No Service	Sunday
411 (School Bus)	Barnsley – Pilley – Thurgoland – Penistone School	1 per day (07:28)	Weekday
		No Service	Saturday
		No Service	Sunday
N66 (Night Bus)	Barnsley Interchange – Elsecar Circular	No Service	Weekday
		1 per hour (01:08-04:08)	Saturday
		No Service	Sunday
X10	Barnsley - Meadowhall	1 per hour (09:15-17:25)	Weekday
		1 per hour (09:15-17:25)	Saturday
		No Service	Sunday

2.5.3 During the week between Monday and Friday the services above combine to provide an overall hourly frequency of 12 buses in each direction i.e. 24 bus services per hour two-way in the vicinity of the proposed development along Sheffield Road. These services operate for the vast majority of the day commencing between 05:19 to 09:15 and running through until 16:55 to 00:15.

2.5.4 On a Saturday services run at similar frequencies to that of a weekday with the addition of the N66 night bus.

2.5.5 On a Sunday the services combine to provide an overall hourly frequency of 2/3 buses in each direction i.e. approximately 4/6 bus services per hour two-way.

2.5.6 The bus stops provided on Sheffield Road A61 are an approximate 10 minute walk distance from the centre of the proposed development.

Table 2.2 – B6096 Hoyland Road Bus Service Summary

Service	Route	Service Frequency (One Way)	Days of Operation
B6096 HOYLAND ROAD/HAWSHAW LANE			
7A	Birdwell – Hoyland - Barnsley	1 per 2 Hours (07:14-18:34)	Weekday
		1 per 2 hours (07:14-18:34)	Saturday
		No Service	Sunday
66	Barnsley – Hoyland	6 per hour (06:19-23:50)	Weekday
		6 per hour (06:34-23:50)	Saturday
		2 per hour (08:57-23:51)	Sunday
72/72A	Chapeltown – Hoyland - Manvers	1 per hour (06:23-17:32)	Weekday
		1 per hour (06:23-17:22)	Saturday
		No Service	Sunday
227	Barnsley – Hoyland - Rotherham	1 per hour (06:51-17:01)	Weekday
		1 per hour (06:58-17:01)	Saturday
		No Service	Sunday
N66	Barnsley Interchange – Elsecar Circular	No Service	Weekday
		1 per hour (00:46-03:46)	Saturday
		No Service	Sunday
X10	Barnsley - Meadowhall	1 per hour (09:20-17:30)	Weekday
		1 per hour (09:20-17:30)	Saturday
		No Service	Sunday

2.5.7 Along the B6096 Hoyland Road between Monday to Friday there are a total number of around 10 services per hour in each direction (20 bus services two way). A number of the services provided along the B6096 can also be found on the A61 Sheffield Road with timetable information varying slightly as seen in the tables provided.

2.5.8 The addition of the N66 is the only change to services on a Saturday whilst on a Sunday the only bus provided along Hoyland Road is the 66, which runs at 2 services per hour (4 per hour 2 way).

2.5.9 The bus stops on Hoyland Road are accessible within an approximate walk time of 15 – 20 minutes.

2.5.10 The existing bus services provide regular connections to Sheffield, Hoyland and Rotherham. Further connections to the rest of the region and beyond are available from these destinations.

2.6 RAIL SERVICES

2.6.1 Barnsley train station is located 6.6km to the north of the site. It provides connections to Leeds and Sheffield, both principal destinations. A summary of the rail services are shown in Table 2.3.

Table 2.3– Barnsley Train Station Service Summary

Route	Typical Service Frequency
Leeds	3 per hour
Sheffield	3 per hour
Nottingham	1 per hour
Huddersfield	1 per hour

2.6.2 Table 2.3 shows a 20 minute service to Leeds which can be reached within circa 40 minutes, in the opposite direction a service to Sheffield runs every 20 minutes which can be reached in 30 to 40 minutes depending on the service chosen.

2.6.3 Barnsley station is on the Leeds to Sheffield line and therefore benefits from links to other destinations including Castleford and Wakefield.

2.6.4 The station provides a total of 24 cycle parking spaces with CCTV coverage.

2.6.5 Elsecar train station is located 4.4km to the south east of the site. It provides connections to Leeds and Sheffield, both principal destinations. A summary of the rail services are shown in Table 2.4.

Table 2.4– Elsecar Train Station Service Summary

Route	Typical Service Frequency
Leeds	1 per hour
Sheffield	1 per hour

2.6.6 Table 2.4 shows an hourly service to Leeds which can be reached within 63 minutes, whilst in the opposite direction a service to Sheffield operates hourly and can be reached within 21 minutes.

2.6.7 Elsecar station is on the Leeds to Sheffield line and therefore benefits from direct links to other destinations including Castleford, Barnsley and Wakefield.

2.6.8 The station provides a total of 18 sheltered cycle parking spaces with CCTV coverage.

2.7 EXISTING TRAFFIC COUNTS

2.7.1 Traffic surveys were undertaken in July 2014 on the local highway network as summarised in Table 2.5.

Table 2.5 – Summary of Traffic Surveys

Location	Type	Date Undertaken	Assessment Periods
A6195 Dearne Valley Parkway/A6135/A61	Fully Classified Manual Turning Count	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00
A6195 Dearne Valley Parkway/un-named Roads	Fully Classified Manual Turning Count	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00
A6195 Dearne Valley Parkway/Shortwood Way	Fully Classified Manual Turning Count	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00
A6195 Dearne Valley Parkway/A6135/A61	Queue Lengths	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00
A6195 Dearne Valley Parkway/un-named Roads	Queue Lengths	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00
A6195 Dearne Valley Parkway/Shortwood Way	Queue Lengths	Tuesday 10th July 2014	07:00-10:00 & 16:00-19:00

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

- Weekday AM Peak – 07:45 to 08:45; and
- Weekday PM Peak – 16:30 to 17:30.

2.7.3 The count flows associated with each junction are shown on Figures 101 and 102 for the AM and PM peak hour periods respectively.

2.8 PERSONAL INJURY DATA ANALYSIS

2.8.1 Personal Injury Accident data has been obtained for the highway network in the vicinity of the Site for the most recently validated five year period between the 1st January 2009 and December 2013. The study area includes stretches along the A6195 to include Shortwood Way roundabout, Rockingham roundabout and Birdwell roundabout. All of the approach arms to these junctions are considered.

2.8.2 For the five year period, there have been a total of 19 accidents, all of which were classified as being slight.

2.8.3 The location of the accidents have been classified as; Shortwood roundabout - 3 No. , Rockingham roundabout – 2 No., A6195 link between Rockingham roundabout and Birdwell roundabout – 2 No. and Birdwell Roundabout – 12 No.

Table 2.6 – Personal Injury Accident Analysis – Shortwood Way roundabout

Year/Severity	2009		2010		2011		2012		2013		Total
	SL	SE	SL	SE	SL	SE	SL	SE	SL	SE	
Rear Shunt	0	0	0	0	1	0	0	0	0	0	1
Loss of control	0	0	0	0	0	0	1	0	0	0	1
Right of Way	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	1	0	2	0	0	0	**3**

Table 2.7 – Personal Injury Accident Analysis – Rockingham rounbabout

Year/Severity	2009		2010		2011		2012		2013		Total
	SL	SE	SL	SE	SL	SE	SL	SE	SL	SE	
Right of Way	0	0	0	0	1	0	0	0	0	0	1
Loss of Control	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	**2**

Table 2.8– Personal Injury Accident Analysis – A6195

Year/Severity	2009		2010		2011		2012		2013		Total
	SL	SE	SL	SE	SL	SE	SL	SE	SL	SE	
Rear Shunt	0	0	0	0	0	0	0	0	2	0	2
Total	0	0	0	0	0	0	0	0	0	0	**2**

Table 2.9– Personal Injury Accident Analysis – Birdwell Roundabout

Year/Severity	2009		2010		2011		2012		2013		Total
	SL	SE	SL	SE	SL	SE	SL	SE	SL	SE	
Rear Shunt	1	0	2	0	1	0	0	0	1	0	5
Right of Way	1	0	0	0	2	0	2	0	0	0	**5**
Loss of control	0	0	0	0	2	0	0	0	0	0	**2**
Total	2	0	2	0	5	0	2	0	1	0	**12**

2.8.4 A number of rear shunt accidents were recorded either at or on the approaches to the roundabouts, this type of accident is common at roundabout junctions as the second vehicle in the queue moves off expecting the first vehicle at the give way line to move off but remain stationary i.e. this is not a design issue. There are also repeated instances of right of way accidents as drivers do not heed the road markings and lane allocations. Again this is as a result of driver error rather than a design flaw.

2.8.5 The comparatively low incidence of accidents along the corridor over a relatively large study area, over a five year period, combined with a number of causal factors and a variety of locations, lead to the conclusion that there is generally no specific cause for concern relating to existing highway safety in the vicinity of the Site

3 Development Proposals and Access Strategy

3.1.1 This section of the report provides details of the proposed development scheme including the uses on the Site and the proposed access arrangements for all modes of transport.

3.1.2 This TA supports a hybrid application for the overall masterplan development (see schedule below) and for full approval of the main access road. The subsequent sections in this chapter that detail the development proposals will first look at the overall development and the access strategy to the scheme.

3.1.3 This chapter also provides overview of the access arrangements in to the initial plots as shown on the JPG drawing attached at Appendix C.

3.2 DEVELOPMENT PROPOSALS

3.2.1 Due to fluctuating market conditions the developer is seeking to ensure that any outline planning approval granted has sufficient flexibility to enable the development to accommodate occupiers that become available.

3.2.2 The principle of have a flexible planning approval with maximums of each land use class has been discussed with planning officers at Barnsley Metropolitan Borough Council (BC). The planning application seeks approvals for the following maximum floor areas of development:

- B1bc (inc ancillary office space of up to 5%) 6,000 sqm;
- B8 (inc ancillary office space of up to 5%) 9,000 sqm;
- Complimentary A1/A3/A5 uses 1,000 sqm;
- Public House/Restaurant 900 sqm;
- 60 Bedroom Budget Hotel 2,700 sqm
- Car Showroom 2,000 sqm
- **Total** **21,600 sqm**

3.2.3 Although the application seeks approval for the maximums listed above it should be recognised that the Site constraints prevent a maximum floor space of 16,000 sqm of development being exceeded. It is therefore proposed that the planning permission limits the floor space to 16,000sqm. The Planning Statement prepared by DTZ provides greater detail on the structure of the planning application and as such this TA should be read in conjunction with that report.

3.2.4 In order to allow this flexibility BC must be comfortable that the local road network can accommodate the worst case development scenario in terms of traffic generation. Therefore this TA assesses the most robust development scenario that can feasibly be constructed.

3.2.5 It is proposed that to develop the Site for the following land uses and floor areas would generate the greatest number of trips within the parameters set out above and within the site constraints:

- B1bc (inc ancillary office space of up to 5%) 5,400 sqm;
- B8 (inc ancillary office space of up to 5%) 6,000 sqm;
- Complimentary A1/A3/A5 uses 1,000 sqm;
- Public House/Restaurant 900 sqm;
- 60 Bedroom Budget Hotel 2,700 sqm
- **Total** **16,000 sqm**

Development Masterplan

3.2.6 It should be recognised from the outset that the masterplan attached at Appendix B is an indicative layout produced to demonstrate what could be delivered in the future. The plot sizes, building footprint locations and the land uses classifications of the various plots will be subject to on-going reserved matters applications that will be determined by BC independently.

3.2.7 However, as stated, in earlier sections of this report planning approval is sought for the access arrangements, the following section provides a commentary on the access.

3.2.8 The schedule of accommodation that is included on the masterplan attached at Appendix B is less, than the GFA that has been tested set out in paragraph 3.2.5 and is as follows:

- B1bc (inc ancillary office space of up to 5%) 4,413 sqm;
- B8 (inc ancillary office space of up to 5%) 6,503 sqm;
- Complimentary A1/A3/A5 uses 999 sqm;
- Public House/Restaurant 871 sqm;
- Car Showroom 1,858 sqm
- **Total** **14,644 sqm**

Vehicular Access Strategy

3.2.9 The proposed internal spine road is shown on the JPG drawing attached at Appendix C. Optima have advised JPG over the spine road proposals following consultation with highway officers of Barnsley Council. Consultation between Barnsley Council and Optima resulted in an agreement in principle that the road alignment was sufficient to facilitate access the proposed development.

3.2.10 Through this application it is also necessary to demonstrate that the proposed access arrangements will not, in the future, prejudice development of the adjacent land parcels to the north and south as shown on the drawing attached at Appendix D. It should be noted that this roundabout does not require any assessment to enable determination of the planning application that this TA support. Nonetheless, Optima have undertaken a detailed assessment in Chapter 7 to provide comfort that the proposed Rockingham Phase 1 development for which planning permission is sought does not prejudice the future development of adjacent land.

3.2.11 The proposed spine road has been designed so that it connects with the existing kerb lines on the northern most spur of the Dearne Valley Parkway roundabout.

3.2.12 As can be seen on the JPG drawing the southern section narrows north of flaring at the roundabout entry before it reaches the right hand bend. The JPG drawing demonstrates that sufficient bend widening and appropriate forward visibility (43.0m) have been provided.

3.2.13 The 43.0m stopping sight distance accords with a design speed of 30mph. The design speed of 30mph is considered robust given that the centre line radius is 17.5m which is likely to limit vehicle speeds to approximately 20mph.

3.2.14 The proposed access has been designed such that it can comfortably accommodate the two way operation of max legal 16.5m articulated HGV's as shown on the swept path analysis in Appendix G.

3.2.15 Immediately before the right hand bend there is a priority junction that facilitates connection to Plot 9 of the proposed development. This priority junction has radii on the bell mouth of 12m.

3.2.16 The spine road includes for the provision of pedestrians in the form of 2 No. 2.0m footways facilitating access on both sides of the carriageway. To the western and northern flank of the access road the footway abuts the carriageway. On the eastern side of the road the footway separates from the carriageway to ensure that pedestrians are afforded the most direct route in to the development before connecting with the southern flank of the access road.

3.2.17 In addition to the pedestrian routes along the spine road it is also proposed to retain connection to the adjacent residential development to the west of the site as shown on the drawings attached at Appendix E.

3.2.18 With respect to the aforementioned potential roundabout the JPG drawing enclosed at Appendix F shows that the proposed internal roundabout at the northern end of the spine road has a 40m ICD.

3.2.19 The scale and form of the roundabout has been designed to accommodate use by all vehicle types. The operation of the roundabout has been checked using the AutoTrack software. The drawings attached in Appendix G show that if the roundabout is delivered in the future it can comfortably accommodate the swept paths of the max legal 16.5m HGV.

3.2.20 Detailed capacity assessments of the potential future roundabout are contained in Chapter 7.

Pedestrian/Cycle Access

3.2.21 Pedestrian and cycle access to the development Site will take place from the proposed vehicular access junction onto the Barnsley Road, shown on the drawing contained in Appendix C.

3.2.22 In addition to the primary access, to ensure that pedestrians and cyclists are afforded the most direct and convenient routes to/from the Site additional pedestrian and/or cycle facilities will be provided as follows:

- A pedestrian link to Alverley Way to the west of the proposed development;
- A new footway running around the around the western and northern perimeter of the proposed development providing connection with the defined footpath that connects Hay Green Lane and the surrounding residential areas to the north;
- All internal access roads to have footways to either flank to ensure all desire lines are catered for;
- Cycle parking will be provided at an appropriate level and standard to encourage the use of bicycles as a means to access the site; and

- Measures are proposed through the Framework Travel Plan that will further encourage the use of sustainable modes to access the site.

4 Site Accessibility

4.1.1 This chapter describes the accessibility of the Site by non-car modes and sets out how the measures proposed in Chapter 3 and the Framework Travel Plan (FTP) will further enhance accessibility and minimise trips by car.

4.1.2 The measures proposed accord with specific policy objectives contained within the following national and local documentation:

- National Planning Policy Framework (NPPF);
- Manual for Streets (MfS); and
- South Yorkshire LTP3 (LTP).

Pedestrian Accessibility

4.1.3 It is generally considered that an acceptable walking distance from home to a place of work is 2km. The IHT document Guideline for Providing for Journeys on Foot recommends various thresholds for desired, acceptable and preferred maximum distances to various services as shown in Table 4.1.

Table 4.1 – Accessibility by Foot

	Town Centre's (m)	School/Work (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

Notes - Source Table 3.2 in 'Guidelines for Providing for Journeys on Foot' published by IHT

4.1.4 Using GIS Network Analyst software typical walk times (up to 25 mins) from the proposed Site centre are shown on Figure 3. This figure demonstrates that:

- The Site is within the preferred maximum walk distance to the residential areas of Birdwell, Upper Hoyland, Hoyland Common, Tankersley and Pilley Green. Several amenities which staff could use are located in these settlements.

4.1.5 It is therefore concluded that the Site is accessible from the local residential areas on foot.

4.1.6 It is also likely that the more active employees will choose to walk further than this guideline distance. Travel Plan measures such as walkit, walkbudi, provision of showers and the promotion of health and financial benefits will seek to increase the average walk distance to work.

4.1.7 The drawing attached at Appendix E shows how it is intended that the footpath will be diverted around the edge of the Site but within the Site boundary.

4.1.8 Also, as part of the outline application there is the scope for the implementation of ancillary use occupants including small scale shops, coffee shops and restaurants within the A1/A3/A5 use class. These uses will help reduce trips out of the Site and encourage walking trips, particularly those at lunch/break times.

Accessibility by Cycle

4.1.9 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 km as referred to in Local Transport Note 2/08 (published by the Department for Transport (DfT)). However, the same guidance also refers to commuting cycle trips up to 8km. Using GIS Network Analyst software typical cycle times (with 20 mins approximating to just over a 5km distance) from the Site are shown on Figure 4. This figure shows that:

- The Site is accessible from the residential areas of Birdwell and Hoyland Common are within a 5 minute cycle ride;
- The residential areas of Pilley Green, Tankersley and Worsborough are within a 15 minute cycle time;
- The further residential areas of Dodworth, Barnsley, Darfield and Brampton (among others) are within a 30 minute cycle time of the site;
- Barnsley Town Centre with numerous facilities is accessible within a 25 - 30 minute cycle of the Site;
- The nearest rail station at Elsecar is accessible within a 15 minute cycle ride of the Site. Barnsley station is accessible within a 25 minute cycle time;
- It is also considered that the more active employees will choose to cycle further than this guideline distance; and
- Several cycle measures will be provided internally within the Site and these are discussed in the Framework Travel Plan.

Accessibility by Bus

4.1.10 As detailed in Chapter 2 the there are numerous bus services that operate along Sheffield Road in the vicinity of the development. The existing routes and service times are shown on timetable information provided in Chapter 2. The nearest stops provided on Sheffield Road are an approximate 10 minute walk distance from the centre of the proposed development.

4.1.11 These stops are services by the services set out in Chapter 2 that have the following journey times to local destinations:

- Barnsley – 15 - 16 minute journey time;
- Hoyland – 13 minute journey time on average;
- Rotherham – 35 minute journey time on average;
- Sheffield – 40 minute journey time on average; and
- Meadowhall Interchange – 40 minute journey time on average.

4.1.12 It is therefore concluded that the proposed Site is accessible by bus from the surrounding residential areas.

Accessibility by Rail

4.1.13 The nearest rail station to the Site is located at Elsecar which is located approximately 4.4km from the Site centre. This station provides good connection to Leeds and Sheffield.

4.1.14 Barnsley station is also accessible via bus and cycle; this station provides frequent connections to Leeds, Sheffield, Nottingham, Huddersfield and Wakefield amongst other destinations.

5 Framework Travel Plan

5.1.1 Due to the speculative nature of the application occupants of the proposed development are unknown at this stage. Therefore it is appropriate that a Framework Travel Plan (FTP) supports the planning application. It is anticipated that that the requirement for a full bespoke Travel Plan will be secured by condition applying the principles of this FTP as part of a reserved matter application.

5.1.2 This chapter sets out details of the FTP that will be employed in association with the development to encourage sustainable travel choices for journeys to the development. The following elements are contained herein:

- Objectives and scope of the Plan;
- Travel Plan targets;
- Description of roles and responsibilities;
- Potential additional measures to encourage, promote and increase the use of public transport, cycling and walking and reduce the level of single occupancy car trips; and
- A communication strategy.

5.2 OBJECTIVES AND SCOPE OF THE PLAN

5.2.1 The TP that will be implemented will need to be finalised pre-occupation of the first units should the development be granted consent, each individual tenant will be required to finalise their own bespoke travel plan to the satisfaction of the highway authorities.

5.2.2 For the first three years post occupation the developer will be required to appoint a Travel Plan Coordinator (TPC) that will liaise between the occupants and the highway authorities, following this three year period it will be the responsibility of the tenants to elect a TPC on an on-going basis – this will usually be an existing member of staff that has had the scope of their role broadened.

5.2.3 The TP will, by containing appropriate measures, assist in improving the environment by reducing the number of trips made to and from the development by private car. Employees and visitors shall be made aware of the measures included within the FTP in order that positive benefits can be delivered and the number of trips undertaken by public transport, walking or cycling can be increased.

5.2.4 In order to ensure that the measures contained within the FTP are capable of delivering a sustainable travel demand pattern for the development it is important to identify some key objectives. The overall travel management objectives for the proposed development are:

- Promoting walking, cycling and public transport as the primary mode of travel; and
- To deliver mode shift from single occupancy car journeys to alternative modes including multi-occupancy vehicle trips.

5.3 TARGETS

5.3.1 The FTP will aim to promote travel choice for the occupiers and users of the development, and hence to increase the use of sustainable transport modes.

5.3.2 Mode split targets will be set that will seek to reflect or improve on the baseline traffic generation figures set out in Chapter 6 of this report. It is the baseline traffic flows that have been modelled in the capacity assessments to ensure robustness.

5.4 ROLES AND RESPONSIBILITIES

5.4.1 An important aspect of a successful Travel Plan (TP) is the allocation of sufficient resources to enable it to happen. This can in part be achieved by the recognition from the outset of the roles and responsibilities of those who will be involved. This will ensure the appropriate allocation of time and resources to those charged with managing the process.

5.4.2 The duties of the Travel Plan Co-ordinator will include:

- Acting as a single point of contact for all transport, access and travel related issues for the development;
- Obtaining and providing site occupants with up to date details of information relating to access to the site via sustainable modes;
- Liaison with Barnsley Council, the Highways Agency and other key stakeholders (including bus operators); and
- Ensure that the TP evolves over time and does not stagnate. Without continual input the TP will lose focus and become less effective.

5.5 TRAVEL PLAN MEASURES

5.5.1 In addition to the internal proposed Site infrastructure as described in Chapter 4, the following measures will be included in the TP:

Walking and Cycling

- A plan showing the key pedestrian routes to the site including any crossing facilities;
- A plan showing the key cycling routes to the site including any crossing facilities and details/locations of cycle parking (this information may be combined with the pedestrian plan);
- Details of nearby cycle shops including location, contact information and those that may offer discounts on cycles and repairs/maintenance;
- Provide details of third party walking and cycling organisations such as ‘bikebudi’ (www.bikebudi.com), ‘walkbudi’ (www.walkbudi.com) and ‘walkit’ (www.walkit.com);
- Provide details of cycling events throughout the year;
- Promote and encourage walking and cycling to work, through events such as ‘Bike to Work Day’ and ‘Bike Week’ (www.bikeweek.org), to heighten awareness; and
- Provide details of the DfT Cycle to Work scheme available at http://www.dft.gov.uk/pgr/sustainable/cycling/cycletoworkschemeimplementat5732.

Public Transport

- Provision of up to date information relating to bus services, routes, destinations, times/frequencies;
- Details of bus stop locations close to the site;
- Details of any AccessBus scheme for disabled users;
- Details of personalised public transport journey planner information;
- Any bus promotional offers including details of concessionary travel; and

- Contact details of taxi operators.

Car Sharing

- Promote the use of southyorkshire.liftshare.com; and
- Tenant TPC responsible for ensuring that car share information is visible in communal areas.

Reducing the Need to Travel/ Other Measures

5.5.2 Consider provision of the following measures that reduce the need to travel:

- Where possible tenant TPC's should explore the opportunities for reducing HGV trips both operational and servicing examples as follows (list not exhaustive and to be embellished as part of tenant TP's);
    - The lead TPC to coordinate with tenants with respect to waste collection to seek to ensure waste and recycling collection trips can be minimised;
    - Where possible try and coordinate suppliers for each tenant e.g. can the same stationary supplier provide office equipment for the tenants;
    - Ensure that the logistics operators where possible minimise the time vehicles are running with no load.
- Where appropriate consideration should be given to configuring core hours/shift patterns to reduce need to travel in peak times;
- Provision of video and telephone conferencing facilities;
- Provision of a personalised journey plan for new starters and existing staff;
- Pool bikes which can be used by staff to access ancillary and local facilities;
- Provision of an area within the car park specifically for provision of motorcycle parking;
- Seek to minimise number of servicing maintenance trips; and
- Advise drivers about eco driving techniques.

Communication

- The public transport authority (South Yorkshire Public Transport Executive) should be contacted regarding the provision of leaflets, timetable and promotions/offers;
- All employees will be made aware of the implementation of the Travel Plan at the Site and the sustainable travel options available potentially via a marketing website;
- The TPC should consider membership of any local authority Travel Plan Network which may be established during the lifetime of the Travel Plan; and
- It should be noted that the travel planning guidance provided in this section is not exhaustive and that a TP is a live document that should continually evolve.

6 Baseline Trip Assessment and Distributions

6.1.1 As outlined in the preceding chapters it is proposed to develop the Site for a mixture of commercial uses, primarily B1BC/B8 employment uses with some complimentary uses located on the parts of the site that front Dearne Valley Parkway.

6.1.2 The quantum of development that is being assessed in this Transport Assessment is as follows:

- B1bc (inc ancillary office space of up to 5%) 5,400 sqm;
- B8 (inc ancillary office space of up to 5%) 6,000 sqm;
- Complimentary A1/A3/A5 uses 1,000 sqm;
- Public House/Restaurant 900 sqm;
- 60 Bedroom Budget Hotel 2,700 sqm
- **Total** **16,000 sqm**

6.1.3 This chapter will set out the methodologies proposed to predict the trip generations and distributions for the uses set out above.

6.1.4 The following peak hours have been established from fully classified turning counts undertaken at the following junctions on Tuesday 10th July 2014. This survey is deemed to represent neutral conditions as it recorded the traffic data outside of the school holiday period:

- AM Peak – 07:45 to 08:45; and
- PM Peak – 16:30 to 17:30.

6.1.5 The trip generations in the AM and PM peaks have been calculated for different peaks to ensure that the predicted design traffic is reflective of the worst case scenario. The actual highway peaks are stated above, however in some cases TRICS data is not available for these periods and therefore compounded worst case flow scenarios are utilised in the capacity assessments.

6.1.6 The nature of the proposed development results in a large proportion of the trips to the complimentary uses being “pass by” and “diverted” trips. These are trips that are already using the highway network and simply deviate from their route to visit the development e.g. stopping on the way to work to get a coffee/breakfast from the drive thru restaurant. This element of the development traffic flow calculations will be addressed in the latter sections of this chapter.

6.1.7 Committed development traffic and growth assumptions are discussed in Chapter 7.

6.2 EMPLOYEE DISTRIBUTION

6.2.1 The proposed development traffic distribution has been assessed based on local travel to work patterns contained within the Journey to Work (Daytime Population) 2001 census data. This is considered to be an appropriate basis for determining the peak hour distribution on the basis that the vast majority of morning and evening peak hour trips will be journeys to and from work.

6.2.2 The site is located within the Hoyland West ward boundary an illustration of which is included in Appendix H.

6.2.3 The travel from work data for all of the daytime residents working within the ward has been obtained from the Office for National Statistics. The enclosed Spreadsheet SD1 (Appendix H) shows the compiled geographical spread of travel to work data.

6.3 EMPLOYEE JOURNEY ASSIGNMENT

6.3.1 Having established the geographic distribution of all employee trips from the selected census output areas it is then necessary to assign the 'Car Driver' only distributions to the highway network. This has been completed by associating the destination to a route from the proposed Site.

6.3.2 The routes that the car drivers would be most likely to take between their home and the proposed development have then been predicted using a simple journey time exercise with the quickest route being deemed the most likely. If there is more than one route option with similar journey times to the same destination this is reflected in the assignment.

6.3.3 These area specific distributions have then been assigned to one of the routes to/from the Site listed below:

- M1(N);
- M1(S);
- A61;
- Sheffield Road (N);
- Ryecroft Bank;
- A6195; or
- Sheffield Road (S).

6.3.4 The assignment process is detailed on the attached spreadsheet SD1 and produces the proposed vehicular distributions summarise in Table 6.1.

Table 6.1 – Proposed vehicular Distribution - Route Assignment Summary

M1(N)	M1(S)	A61	Sheffield Road (N)	Ryecroft Bank	A6195	Sheffield Road (S)	Total
23.55%	15.82%	4.75%	8.74%	14.54%	22.72%	9.89%	100%

6.3.5 The proposed vehicle distribution compiled in Spreadsheet SD1 and shown in Table 5.1 has been illustrated on the highway network surrounding the proposed development on the following figures for each of the corresponding land uses:

- Figure 103 B1bc Distribution;
- Figure 104 B8 Distribution;
- Figure 105 A1/A3/A5 Distribution;
- Figure 106 Public House/Restaurant; and
- Figure 107 60 Bedroom Budget Hotel

6.4 TRIP GENERATION PREDICTIONS

6.4.1 The proposed total quantum of commercial development proposed across the Site is summarised in Table 6.2.

Table 6.2 – Proposed Commercial Floorspace

	B1bc	B8	Budget Hotel	A1/A3/ A5	Public House
GFA sqm*	**5,400**	**6,000**	**60 rooms**	**1,000**	**900**

*Unless stated

6.5 B1BC EMPLOYEE TRIP GENERATIONS

6.5.1 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average B1bc vehicular trip rates during the weekday morning (08:00 – 09:00) and evening (16:30 -17:30) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the surveys. Survey sites within the database have been selected using the following parameters;

- Land use Employment selected;
- Category Industrial Estate selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town Centre, Edge of Town, Neighbourhood Centre and Free Standing selected.

6.5.2 This selection process yielded 15 representative survey sites for B1BC industrial use. The resulting average baseline trip rates and generations for the B1BC use are set out in Table 6.3. The TRICS outputs are attached at Appendix I

Table 6.3 – B1bc Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100sqm) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0.465	0.266	0.731
PM Peak (16:30 to 17:30)	0.179	0.45	0.629
	Vehicular Trip Generations (5,400sqm)		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	25	14	39
PM Peak (16:30 to 17:30)	10	24	34

- Figure 108 – AM B1bc LGV (Staff) Development Traffic; and
- Figure 109 – PM B1bc LGV (Staff) Development Traffic.

6.6 B8 LGV/HGV TRIP GENERATIONS

6.6.1 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average B8 vehicular trip rates during the weekday morning (08:00 - 09:00) and evening (16:30 -17:30) peak hour periods. These peak hour periods have been selected as they result in a worst case trip generation ensuring a more robust assessment. Survey sites within the database have been selected using the following parameters;

- Land use Employment selected;
- Category Commercial Warehousing selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of town and out of centre locations selected.

6.6.2 This selection process yielded 3 representative survey sites for B8 use. The resulting average baseline trip rates and generations for the B8 use are set out in Table 6.4. Due to the increased proportion of B8 trips that are HGV's it is deemed appropriate to separate these trips out from all vehicles. This also enables the separate distributions for the HGV's from the proposed B8 development identified in previous sections of this report to be applied. The TRICS outputs are attached at Appendix I.

Table 6.4 – B8 Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100m2) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0.121	0.033	0.154
PM Peak (16:30 to 17:30)	0.087	0.141	0.228
	HGV Trip Rates (per 100m2) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0.007	0.007	0.014
PM Peak (16:30 to 17:30)	0.041	0.027	0.068
	Light Trip Rates (per 100m2) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0.114	0.026	0.140
PM Peak (16:30 to 17:30)	0.046	0.114	0.160

6.6.3 By applying the LGV and HGV trip rates set out in Table 6.4 results in the proposed baseline trip generations for the B8 elements of the development as set out in Table 6.5.

Table 6.5 – B8 Vehicular Trip Gens

	HGV Trip Generation (6,000sqm) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0	0	1*
PM Peak (16:30 to 17:30)	4	2	6
	LGV Trip Rates (6,000sqm) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	7	2	8
PM Peak (16:30 to 17:30)	3	7	10

*discrepancy due to rounding

6.6.4 The distributions as set out on Figures 103 the B8 land uses has been applied to the development trips generations set out in the tables above to give the B8 development traffic flows shown on the following figures:

- Figure 110 – AM B8 LGV (Staff) Development Traffic ;
- Figure 111 – PM B8 LGV (Staff) Development Traffic;
- Figure 112 – AM B8 HGV (Heavy) Development Traffic; and
- Figure 113 – PM B8 HGV (Heavy) Development Traffic.

6.7 FAST FOOD RESTAURANT WITH DRIVE THRU TRIP GENERATIONS

6.7.1 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average Fast Food vehicular trip rates during the morning (08:00 to 09:00) and evening (17:00 - 18:00) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the survey;

- Land use Hotel, Food & Drink selected;
- Category Fast Food, Drive Thru selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town.

6.7.2 This selection process yielded 5 representative survey sites. The resulting average baseline trip rates and generations for the Drive thru use are set out in Table 6.6. The TRICS outputs are attached.

Table 6.6 – Drive thru Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100 sqm) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	13.796	12.5	26.296
PM Peak (17:00 to 18:00)	10.748	11.025	21.773
	Vehicular Trip Generations (1,000 sqm)		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	138	125	263
PM Peak (17:00 to 18:00)	107	110	218

6.7.3 Having established the total number of trips that will arrive and depart proposed drive thru it is necessary to then establish the proportion of these trips that are completely new to the network and those trips which will simply divert in to the site on route to their final destination e.g. stopping for a coffee on their way to work in the AM peak period.

6.7.4 As the trip that diverts into the proposed development the traffic flows that are modelled in the capacity assessments must reflect this. If they are not adjusted there is the possibility that mitigation may be provided that increases the capacity of the local highway network over and above that which is required to mitigate the impact of the development. This would be contrary to overarching national guidance in the form of the Department for Transport Guidance on Transport Assessment.

6.7.5 These trips are already on the local highway network and therefore the predicted development traffic flows must reflect this.

6.7.6 In order to calculate the effect on pass by traffic reference has been made to a recently granted planning application for a McDonald's Drive Thru restaurant in the Handsworth area Sheffield.

6.7.7 The extract of the supporting Transport Assessment for the McDonald's in Handsworth, Sheffield is attached at Appendix J.

6.7.8 It can be seen from the surveys that 11% of the total car trips arriving at the drive thru restaurant are solely visiting the drive thru i.e. a new trip to the network

6.7.9 Because of the pass by nature of the arrivals at this use it is not appropriate to distribute the generated traffic using the census information. It is therefore more appropriate to use the traffic surveys and use the proportion of traffic passing the site in the morning and evening peaks. Therefore each peak has a different distribution as shown on Figures 105a (AM) and 105b (PM).

6.7.10 Therefore a discount of 89% has been applied to the total number of trips that are predicted to visit the restaurant. This calculation is shown on Figures 114 (AM) and 115 (PM).

6.8 HOTEL TRIP GENERATIONS

6.8.1 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average Hotel vehicular trip rates during the morning (07:00 to 08:00) and (evening (17:00 - 18:00) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the survey. Survey sites within the database have been selected using the following parameters;

- Land use Hotel, Food & Drink selected;
- Category Hotels selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town Centre, Edge of Town and Neighbourhood Centre.

6.8.2 This selection process yielded 8 representative survey sites. The resulting average baseline trip rates and generations for the Hotel use are set out in Table 6.7. The TRICS outputs are attached.

6.8.3 The traffic flows shown in the table below have then been distributed on to the local highway network as shown on Figures 116 (AM) and 117(PM).

Table 6.7 – Hotel Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per bedroom) GFA		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0.192	0.230	0.422
PM Peak (17:00 to 18:00)	0.205	0.125	0.330
	Vehicular Trip Generations (60 bedroom)		
	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	12	14	25
PM Peak (17:00 to 18:00)	12	8	20

PUBLIC HOUSE TRIP GENERATIONS

6.8.4 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average Public House vehicular trip rates during the evening (17:00 - 18:00) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the survey. Survey sites within the database have been selected using the following parameters;

- Land use Hotel, Food & Drink selected;
- Category Pub/Restaurant selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town and Neighbourhood Centre.

6.8.5 This selection process yielded 3 representative survey sites. The resulting average baseline trip rates and generations for the Public House use are set out in Table 6.8. The TRICS outputs are attached.

6.8.6 Because of the pass by nature of the arrivals at this use it is not appropriate to distribute the generated traffic using the census information. It is therefore more appropriate to use the traffic surveys and use the proportion of traffic passing the site in the morning and evening peaks. Therefore each peak has a different distribution as shown on Figures 107.

Table 6.8 – Public House Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100sqm) GFA		
	Arrivals	**Departures**	**Total**
PM Peak (17:00 to 18:00)	2.489	2.400	4.889
	Vehicular Trip Generations (900sqm)		
	Arrivals	**Departures**	**Total**
PM Peak (17:00 to 18:00)	22	22	44

6.8.7 By combining the trip generations for all uses commercial uses it is possible to calculate the predicted baseline development traffic generations summarised in Table 6.9.

Table 6.9 – Total Baseline Vehicular Trip Generations*

	LGV Trip Generations		
	Arrivals	**Departures**	**Total**
AM Peak	182	155	337
PM Peak	158	173	331
	HGV Trip Generations		
	Arrivals	**Departures**	**Total**
AM Peak	0	0	1
PM Peak	4	2	6

*discrepancy due to rounding **Pass-by effect not included

6.8.8 Total development flows are shown on Figures 120 (AM) and 121 (PM) including the effect of pass by traffic.

7 Identification of Impacts and Mitigation

7.1 INTRODUCTION

7.1.1 This section of the report considers the impact of the development traffic generations on the local highway network where the impact is considered material. Having completed the trip generation and distribution exercise as discussed in Chapter 6 it is concluded that the following off-site junctions require assessment:

- Existing Rockingham Roundabout (Site Access/A6195 Roundabout);
- Existing Birdwell Roundabout (A61/A6195 Roundabout); and
- Existing Shortwood Roundabout (A6195/Shortwood Way Roundabout)

7.1.2 Operational assessments have been carried out for the junctions within the above study network for the following different scenarios:

- 2014 Surveyed Traffic Count Flows;
- 2019 Base Flows (Growthed Count Flows); and
- 2019 Design Flows (Base Count Flows + Development Flows).

7.1.3 Where the addition of development traffic has a material effect on the operation of the junction consideration has been given to appropriate mitigation measures. Each junction is covered in turn for ease of comparison of the operation of each junction in each flow scenario.

7.2 PEAK HOUR TRAFFIC FLOW DERIVATION

7.2.1 This section explains how the peak hour design flows have been derived. The starting point for this exercise is the junction count flows undertaken in 2014 which are shown on Figures 101 and 102 for the weekday AM and weekday PM peak periods respectively.

7.3 CONSENTED TRAFFIC FLOWS

7.3.1 As described in Chapter 5 pre-application discussions have taken place with Highways officers from Barnsley Council. Through these discussions it was requested of Optima consider the following consented development Sites within this TA:

- Aldi, Sheffield Road, Birdwell;
- Tesco, Hoyland; and
- Cortonwood Retail Park.

7.3.2 It can be seen from the traffic flows diagrams completed by other highway consultants that the extent of the highway networks assessed do not overlap with the local highway network that is to be assessed in this chapter. As there is no overlap in the networks assessed it would be inappropriate for Optima to route the consented flows onto the network assessed here. Consented development will be accounted for through the application of background traffic growth.

7.4 TRAFFIC GROWTH

7.4.1 In accordance with the DfT guidelines on the preparation of Transport Assessments it is necessary to test the capacity of the highway network for 'a minimum of 5 years post registration of the application'.

7.4.2 Background traffic growth rates, between 2014 and 2019, have therefore been obtained from TEMPRO v6.2 and these values are as follows:

- AM peak hour growth rates of 1.0740%; and
- PM peak hour growth rates of 1.0771%.

7.4.3 It should be noted that no discount has been applied to the TEMPRO growth rate calculation to allow for the proposed development Site. This is despite the Site being allocated in Barnsley's current Local Development Framework (LDF) proposals and therefore an element of double counting will take place as the growth rate already takes account of jobs which could be associated with the Rockingham Phase 1 development. The modelling of the development flows is therefore considered to be highly robust.

7.4.4 Applying the growth rates identified above produces the following growthed traffic flows;

- 2019 growthed traffic flows shown on Figures 122 and 123 for the morning and evening peak hours respectively.

7.4.5 It should be noted that these growthed traffic flows are considered to be extremely robust due to the effect of double counting of the proposed development Site and national travel pattern trends. These national travel patterns including peak spreading and negative growth in vehicle kilometres indicate a reduction in peak hour traffic in the future as opposed to a growth of over 7% in five years years that has been applied here. These trends are occurring nationally due to the introduction of travel plans, flexible working hours, home working, investments in public transport infrastructure as well as increases in fuel prices.

7.5 DESIGN TRAFFIC FLOWS

7.5.1 Design traffic flows are then obtained by adding the appropriate level of development trips with the base traffic flows. The resulting total design traffic flows are shown on the following figures:

- Figures 124 (AM) and 125 (PM) for the 2019 Design Traffic;

7.5.2 It is considered by Optima that the base and design traffic flows are robust for the following reasons:

- Traffic growth estimates do not discount for the effect of the proposed development thereby introducing an element of double counting;
- No reduction has been made to account for the effect of peak spreading and other national trends in traffic growth;
- No discount has been applied to the development trip generations to allow for the effect of the proposed Framework Travel Plan; and
- No discount has been applied to allow for the effect of the proposed measures to influence travel behaviour outlined in previous chapters.

7.5.3 Notwithstanding the reasons listed above, the operational assessments in this chapter have been completed in accordance with the approach discussed with Barnsley at the scoping meeting in February 2014 and the guidelines set out by the Department for Transport in their Guidance on Transport Assessment.

7.6 OPERATIONAL ASSESSMENTS OF HIGHWAY NETWORK

7.6.1 This section describes the junction capacity assessments which have been undertaken. Full software output data can be found at Appendix K. Queue length observations were undertaken at the same time as the traffic survey information and the recorded queue lengths will be used to validate the junction models. The queue length information along with all raw survey data recorded can be found at Appendix L.

Rockingham Roundabout

7.6.2 Access into the development Site is proposed to be taken from the existing 4 arm Rockingham roundabout junction. The existing layout of the roundabout is shown on Figure 5.

7.6.3 The existing roundabout operates as a through route as the northern and southern arms are currently stubs. As part of the proposed development scheme the northern arms will provide direct access to the proposed development as shown on the JPG drawing attached at Appendix C

7.6.4 The junction has been modelled using the ARCADY 8 software. The model has been validated against the 2014 surveyed traffic flows and corresponding queue lengths. The results are summarised in Table 7.1.

Table 7.1 Rockingham Roundabout 2014 Count Flows

Rockingham Roundabout						
Movement	AM			PM		
	RFC	Mean Q	Observed Queue	RFC	Mean Q	Observed Queue
A6195 South	0.51	1	0	0.54	1	0
Site Access	0.00	0	0	0.00	0	0
A6195 East	0.49	1	0	0.45	1	0
Unnamed Road	0.00	0	0	0.00	0	0

7.6.5 The results in Table 7.1 demonstrate that the Rockingham roundabout operates within capacity in both the AM and PM peak scenarios. It can also be seen that the ARCADY model broadly replicates the operation of the junction as observed with minimal queuing. It is therefore concluded that the software will accurately predict the operation of the junction in future year scenarios.

7.6.6 The junction has then been modelled using the AM and PM 2019 Base scenario, the results are summarised in Table 7.2.

Table 7.2 Rockingham Roundabout 2019 Base Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
A6195 South	0.55	1	0.59	1
Site Access	0.00	0	0.00	0
A6195 East	0.53	1	0.48	1
Unnamed Road	0.00	0	0.00	0

7.6.7 The results in Table 7.2 show that in the 2019 count scenario that Rockingham roundabout will continue to operate efficiently with all arms under capacity and minimal queuing.

7.6.8 The junction has then been modelled using the AM and PM 2019 Design traffic flows, and the results are summarised in Table 7.3.

Table 7.3 Rockingham Roundabout 2019 Design Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
A6195 South	0.58	1	0.62	2
Site Access	0.12	0	0.14	0
A6195 East	0.55	1	0.49	1
Unnamed Road	0.00	0	0.00	0

7.6.9 The results in Table 7.3 demonstrate that the Site access junction is predicted to operate within capacity in both the AM and PM peak periods in the design year scenario. All movements operate comfortably within the desired capacity of 0.85 RFC with minimal queuing. The Site access as shown on the drawing in Appendix C is therefore appropriate for the proposed scheme and therefore no mitigation is put forward.

Birdwell Roundabout

7.6.10 To the south of Rockingham roundabout is the existing Birdwell roundabout as shown on Figure 6.

7.6.11 The junction has been modelled using the ARCADY 8 software. The model has been validated against the 2014 surveyed traffic flows and corresponding queue lengths. The results are summarised in Table 7.4.

Table 7.4 Birdwell Roundabout 2014 Count Flows

Birdwell Roundabout						
Movement	AM			PM		
	RFC	Mean Q	Observed Queue	RFC	Mean Q	Observed Queue
Dearne Valley Parkway	0.70	2	6	0.64	2	13
Sheffield Road (E)	0.79	4	11	0.64	2	5
A61 (S)	0.57	1	2	0.80	3	3
A61/Sheffield Road (W)	1.04	37	24	1.06	39	8

7.6.12 The results in Table 7.4 show that the Birdwell roundabout operates over capacity in both the AM and PM peak scenarios. It can also be seen that the ARCADY model validates in the AM peak period. For the PM peak period it can be seen from the results in Table 6.4 that the software underestimates the capacity of the roundabout when compared against the surveyed queues. This therefore shows that the model is robust and that any mitigation measures proposed will exceed the mitigation requirements of the proposed development.

7.6.13 The junction has then been modelled using the AM and PM 2019 Base scenario, the results are summarised in Table 7.5.

Table 7.5 Birdwell Roundabout 2019 Base Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Dearne Valley Parkway	0.75	3	0.69	2
Sheffield Road (E)	0.89	7	0.70	2
A61 (S)	0.61	2	0.87	6
A61/Sheffield Road (W)	1.18	102	1.24	106

7.6.14 The results in Table 7.5 show that in the 2019 count scenario that Birdwell roundabout is predicted to be over capacity with the junction's existing limitations being exacerbated by the background growth that is applied to the 2014 count traffic.

7.6.15 The junction has then been modelled using the AM and PM 2019 Design traffic flows, and the results are summarised in Table 7.6.

Table 7.6 Birdwell Roundabout 2019 Design Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Dearne Valley Parkway	0.76	3	0.71	2
Sheffield Road (E)	0.91	8	0.72	2
A61 (S)	0.63	2	0.88	7
A61/Sheffield Road (W)	1.21	112	1.27	119

7.6.16 The results in Table 7.6 demonstrate that the Birdwell roundabout is predicted to operate with increased queuing and RFC values due to the addition of the development traffic when compared to the 2019 Base traffic.

7.6.17 It is therefore necessary to provide mitigation measures to ensure that the development does not result in a detrimental impact on the local highway network. In accordance with national guidance it is not the responsibility of the proposed development to mitigate the impact of background traffic, as such the developer must seek to achieve “nil detriment” i.e. improve the operational capacity of the Birdwell roundabout such that it operates to the level illustrated in Table 7.5 i.e. improvements necessary to mitigate the development impact.

7.6.18 Optima highways proposed the improvement scheme shown on the drawing attached at Appendix M. This improvement scheme includes the widening of the entry to the junction from the A61/Sheffield Road (West) approach to ease the flow of traffic from this arm into the roundabout.

7.6.19 The proposed improvement can be implemented through the removal of existing road markings to increase the entry width. By increasing the width of the entry to the junction it enables drivers to concentrate more on executing the entry into the roundabout and meaning it is done more smoothly. When an entrance is tight the driver has to focus on the road arrangement much more meaning they have to slow more (reducing capacity) to be able to safely assess the vehicles on the circulatory carriageway.

7.6.20 It should be noted that this improvement also increases the deflection to traffic entering the roundabout.

7.6.21 Table 7.7 shows the results of the 2019 design traffic flows being modelled in the ARCADY software with the entry width and flare length increased.

Table 7.7 Birdwell Proposed Improved Roundabout 2019 Design Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Dearne Valley Parkway	0.81	4	0.76	3
Sheffield Road (E)	0.98	14	0.77	3
A61 (S)	0.62	2	0.88	7
A61/Sheffield Road (W)	0.99	21	1.02	28

7.6.22 It can be seen from the results above that the proposed amendments to the layout provide improvements in the operational capacity significantly above the impact of the proposed development. It is therefore not proposed to provide additional mitigation over and above those shown on the drawing attached at Appendix M.

Shortwood Roundabout

7.6.23 The proposed development will generate trips that will route through Shortwood Way roundabout to the east of Rockingham Roundabout on the Dearne Valley Parkway. The existing layout of the roundabout is shown on Figure 7.

7.6.24 The junction has been modelled using the ARCADY 8 software. The model has been validated against the 2014 surveyed traffic flows and corresponding queue lengths. The results are summarised in Table 7.8.

Table 7.8 Shortwood Roundabout 2014 Count Flows

Rockingham Roundabout						
Movement	AM			PM		
	RFC	Mean Q	Observed Queue	RFC	Mean Q	Observed Queue
A6195 West	0.49	1	0	0.56	1	1
Shortwood Way	0.07	0	0	0.20	0	1
A6195 East	0.47	1	0	0.40	1	0

7.6.25 The results in Table 7.8 demonstrate that the Shortwood roundabout operates within capacity in both the AM and PM peak scenarios. It can also be seen that the ARCADY model broadly replicates the operation of the junction as observed with minimal queuing. It is therefore concluded that the software will accurately predict the operation of the junction in future year scenarios.

7.6.26 The junction has then been modelled using the AM and PM 2019 Base scenario, the results are summarised in Table 7.9.

Table 7.9 Shortwood Roundabout 2019 Base Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
A6195 West	0.52	1	0.60	1
Shortwood Way	0.08	0	0.23	0
A6195 East	0.51	1	0.43	1

7.6.27 The results in Table 7.9 show that in the 2019 Base scenario that Rockingham roundabout will continue to operate well within capacity in both the AM and PM peaks in the 2019 base scenario year. All movements operate with significant spare capacity with minimal queuing.

7.6.28 The junction has then been modelled using the AM and PM 2019 Design traffic flows, and the results are summarised in Table 7.10.

Table 7.10 Shortwood Roundabout 2019 Design Flows

Rockingham Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
A6195 West	0.53	1	0.61	2
Shortwood Way	0.08	0	0.23	0
A6195 East	0.52	1	0.44	1

7.6.29 The results in Table 7.10 demonstrate that the Site access junction is predicted to operate comfortably within capacity in both the AM and PM peak when the design traffic is added to the 2019 base flows.

7.6.30 All movements operate comfortably within the desired capacity of 0.85 RFC with minimal queuing. The layout as shown on Figure 7 is therefore appropriate for the proposed scheme and therefore no mitigation is put forward at this junction.

Sensitivity Testing for Potential Future Adjacent Third Party Development

7.6.31 As described in preceding sections of this report it is proposed that access is gained to the proposed development via a priority access road as shown on the drawing attached at Appendix C.

7.6.32 However, the developer is mindful that he does not want to prejudice the future development adjacent land and has therefore requested that the appointed design team review the options for access to these adjacent land parcels.

7.6.33 The parcels that are potentially reliant on the access provision through the Harworth Estates land are shown on the drawing attached at Appendix D. These areas are the following sizes:

- Northern Area 100,700 sqm total site area; and
- Southern Area 29,000 sqm total site area.

7.6.34 Through design development the appointed consultant team arrived at the view that in order to ensure that the access arrangements have sufficient capacity in the future, a roundabout junction would be the most appropriate junction solution.

7.6.35 It it considered that providing more additional capacity than may be required in the future was the best approach given the proximity to the A6195 and the need to ensure that there is no impact on this junction.

7.6.36 The proposed roundabout arrangement has been designed to DMRB standards by JPG and is attached at Appendix F.

7.6.37 It should be noted that the roundabout will not be delivered by Harworth Estates but the land required to deliver the roundabout will be dedicated as highway to enable the roundabouts delivery by third party developers in the future. The protected area is shown on the drawing in Appendix C as a dotted line to show how this can be delivered following the implementation of the masterplan if needed in the future.

7.6.38 To provide comfort to Barnsley Council that the roundabout is appropriate to facilitate access to the adjacent northern and southern areas in the future a capacity assessment has been undertaken using the ARCADY software.

7.6.39 Before the capacity assessments can be completed there is a need to predict the total volume of traffic that is likely to be generated by these parcels of land in the future.

7.6.40 To date there have not been planning applications in relation to either of these parcels of land nor has there been any strategic document produced that quotes an indicative quantum of development. Therefore in order to predict the level of traffic that could be generated Optima have calculated development GFA's that could feasibly be accommodated on these development parcels based on the ratio of B1bc and B8 GFA's to site area as set out in the following paragraphs. The assessment carried out in this section demonstrates that there is significant spare capacity at the roundabout and that a much larger quantum of development or land uses that generate greater levels of traffic could also be accommodated by the roundabout shown.

7.6.41 The proposed development as shown on the masterplan at Appendix B has a total site area of 3.3ha when the areas that accommodate the public house, drive thru restaurant and hotel have been removed. Please see the plan attached at Appendix D that shows the 3.3ha area.

7.6.42 Therefore the total ratios of B1bc and B8 GFA to site area are as follows:

- 33,000 sqm/5,400 sqm = 1 sqm of GFA per 6.11 sqm of total site area; and
- 33,000 sqm/6,000 sqm = 1 sqm of GFA per 5.5 sqm of total site area.

7.6.43 Having established the ratios between the land uses and the site area it is possible to apply this to the site areas of the adjacent potential development areas (as shown on the drawing attached at Appendix D).

- Northern Area
  - B1bc = 100,700/6.11 = **16,481 sqm of B1bc GFA**
  - B8 = 100,700/5.5 = **18,309 sqm of B8 GFA**
- Southern Area
  - B1bc = 29,000/6.11 = **4,746 sqm of B1bc GFA**
  - B8 = 29,000/5.5 = **5,272 sqm of B8 GFA**

7.6.44 Having estimated the commercial floor area it is possible to estimate the trip generation that could be associated with the adjacent potential development parcels. The trip rates applied are the same as those contained in Chapter 6 of this TA and are summarised in the tables below:

Table 7.11 – Northern Parcel Vehicular Trip Gens

	B1bc Total Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	77	44	120
PM Peak (16:30 to 17:30)	30	74	104
	B8 Light Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	21	5	29
PM Peak (16:30 to 17:30)	8	21	29
	B8 Heavy Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	1	1	2
PM Peak (16:30 to 17:30)	7	4	11

Table 7.12 – Southern Parcel Vehicular Trip Gens

	B1bc Total Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	22	13	35
PM Peak (16:30 to 17:30)	8	21	30
	B8 Light Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	6	1	7
PM Peak (16:30 to 17:30)	2	6	8
	B8 Heavy Vehicular Trip Gens		
	Arrivals	**Departures**	**Total**
AM Peak (08:00 to 09:00)	0	0	1
PM Peak (16:30 to 17:30)	2	1	4

7.6.45 The development flows on Figures 120 (AM) and 121 (PM) have then been added to the flows in Table 7.12 to give the sensitivity traffic flows shown on Figures 126 (AM) and 127(PM). These traffic flows have then been modelled for the 2019 design year with the ARCADY results summarised in the table below (full capacity outputs are contained in Appendix K).

7.6.46 It should be noted that there is no requirement to add background growth to the traffic flows in this scenario because they are all development generated trips that are constrained by the developments themselves, furthermore in the potential scenario that has been tested there will be no through trips.

Table 7.13 Protected Internal Roundabout 2019 Design Flows

Internal Roundabout				
Movement	AM		PM	
	RFC	Mean Q	RFC	Mean Q
Southern Arm	0.01	0.01	0.02	0.02
Western Arm	0.04	0.04	0.07	0.08
Northern Arm	0.12	0.14	0.15	0.17
Eastern Arm	0.21	0.27	0.16	0.19

7.6.47 It can be seen from the results contained in Table 7.13 that the roundabout that can be delivered within the protected area would have significant spare capacity in the future design scenario. The maximum RFC in either of the design scenarios is 0.21 in the AM peak hour. This is well below the desired capacity threshold of 0.85.

7.6.48 This should therefore provide Barnsley with the comfort that if the adjacent land parcels as shown on the plan enclosed at Appendix D are developed out there is sufficient land within the limits of adopted highway for the respective developers to identify and construct an appropriate access solution.

8 Summary and Conclusions

8.1.1 This Transport Assessment (TA) has been undertaken by Optima Highways and Transportation Consultancy Ltd on behalf of Harworth Estates and has considered the highways and transportation issues raised by a proposed B2/B8 distribution/business park led development on land located immediately to the north of the A6195 Dearne Valley Parkway.

8.1.2 This reports supports a flexible masterplan, the principle of which has been discussed with Barnsley Council. The flexibility has been introduced to ensure that the masterplan can be responsive to changing market conditions that will not require the submission of additional planning applications. The plot sizes, building footprint locations and the land uses classifications of the various plots will be subject to on-going reserved matters applications that will be determined by BC independently.

8.1.3 The application does however specify upper limits for each particular land use as follows:

- B1bc (inc ancillary office space of up to 5%) 6,000 sqm;
- B8 (inc ancillary office space of up to 5%) 9,000 sqm;
- Complimentary A1/A3/A5 uses 1,000 sqm;
- Public House/Restaurant 900 sqm;
- 60 Bedroom Budget Hotel 2,700 sqm
- Car Showroom 2,000 sqm
- **Total** **21,600 sqm**

8.1.4 This TA has assessed the most robust scenario in terms of traffic flows that could be accommodated within the parameters set out above. The schedule of accommodation that has been used to test the highway capacity is as follows. It should be noted that the schedule below results in greater traffic flows than the indicative masterplan schedule attached at Appendix B:

- B1bc (inc ancillary office space of up to 5%) 5,400 sqm;
- B8 (inc ancillary office space of up to 5%) 6,000 sqm;
- Complimentary A1/A3/A5 uses 1,000 sqm;
- Public House/Restaurant 900 sqm;
- 60 Bedroom Budget Hotel 2,700 sqm
- **Total** **16,000 sqm**

8.1.5 The TA has identified what measures will be undertaken to deal with the 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.

8.1.6 The nature of land use at the proposed development is such that it does not lend itself to be centrally located. Therefore, when locating such a site consideration must be given to the nature of the operation of the development and the need to be located near to the strategic road network.

8.1.7 The proposed development benefits from being an excellent combination of proximity to the SRN but more importantly being location close to potential employees in the form of residential development and also within a short walk of a very high frequency bus corridor.

8.1.8 In the work undertaken in the preparation of this TA it has been demonstrated that the high frequency buses can be reached in a short walk of approximately 10 minutes offering an attractive method of travel to work for the development.

8.1.9 The Site is within the preferred maximum walk distance to the residential areas of Birdwell, Upper Hoyland, Hoyland Common, Tankersley and Pilley Green. Several amenities which staff could use are located in these settlements.

8.1.10 The Network Analyst has also demonstrated that the following areas are accessible to staff by pedal cycle.

- The Site is accessible from the residential areas of Birdwell and Hoyland Common are within a 5 minute cycle ride;
- The residential areas of Pilley Green, Tankersley and Worsborough are within a 15 minute cycle time;
- The further residential areas of Dodworth, Barnsley, Darfield and Brampton (among others) are within a 30 minute cycle time of the site;
- Barnsley Town Centre with numerous facilities is accessible within a 25 - 30 minute cycle of the Site;
- The nearest rail station at Elsecar is accessible within a 15 minute cycle ride of the Site. Barnsley station is accessible within a 25 minute cycle time;

8.1.11 The work undertaken demonstrates that the proposed development benefits from a good level of accessibility by sustainable modes. This level of accessibility will be further enhances by the measures set out in the framework Travel Plan.

8.1.12 Having assessed the accessibility of the development, it is then necessary to assess the ability of the local highway network to accommodate the proposed development traffic.

8.1.13 Traffic flows on which to base the capacity assessments have been calculated in accordance with industry standard methodology as set out by the Department of Transport in their Guidance on Transport Assessment.

8.1.14 These assessments demonstrate that the following junctions operate comfortably within capacity and therefore no mitigation is proposed:

- Rockingham Roundabout;
- Shortwood Roundabout

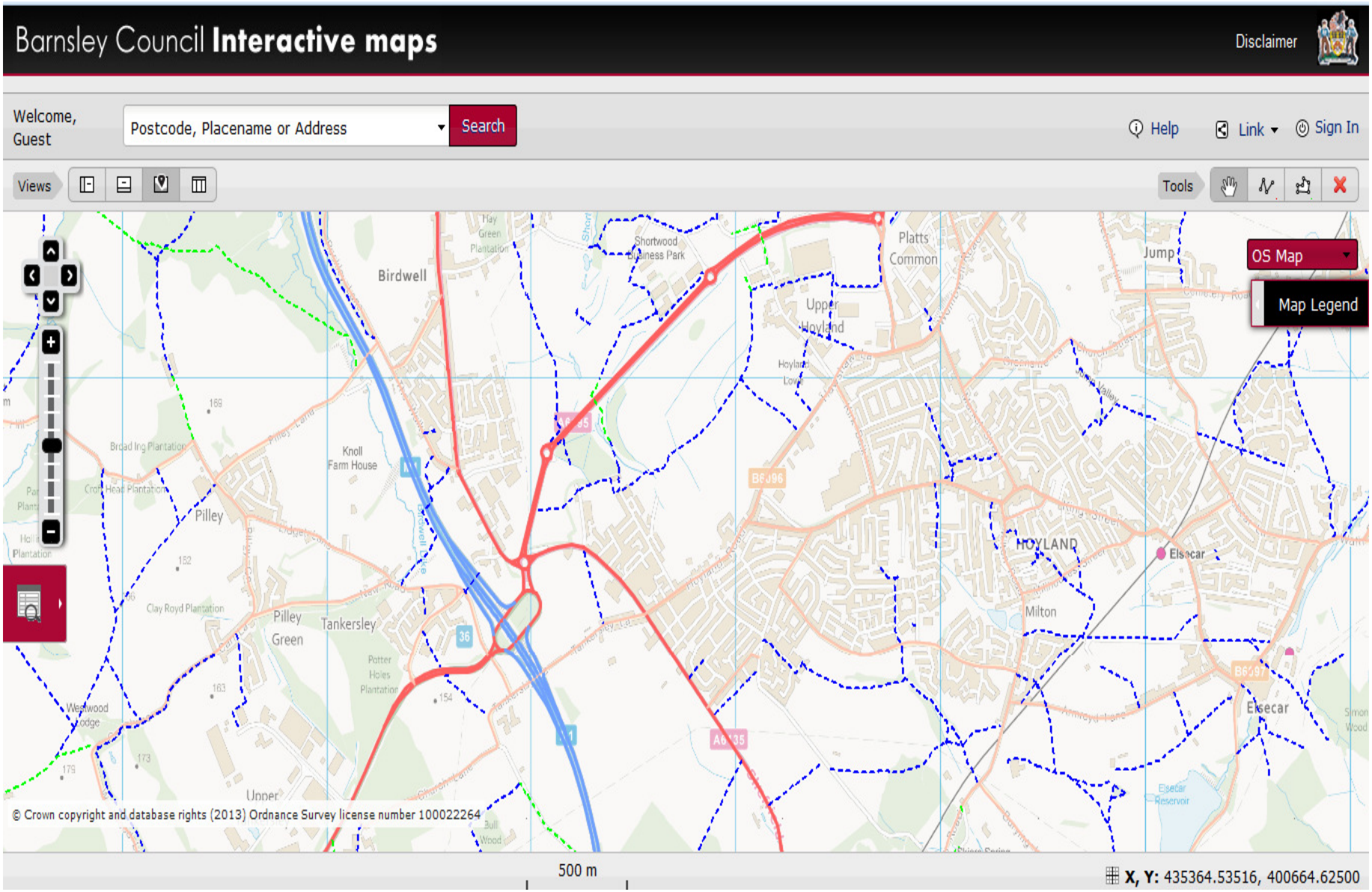
8.1.15 The assessments shoe that the Birdwell roundabout currently operates over capacity in the 2014 and 2019 count scenarios. The proposed development further reduces the efficiency of the operation. It is therefore necessary that the proposed development mitigates this impact.

8.1.16 To ensure that the Birdwell roundabout operates no worse off in the 2019 design year a minor improvement is proposed on the Sheffield Road (A61) approach to ease the entry into the roundabout. The mitigation proposal more than mitigates the impact of the development.

8.1.17 Based on the extensive work undertaken in the preparation of this Transport Assessment it is concluding that there are no highways or transportation reasons why this development should not be granted planning permission.

Appendices & Figures

Appendix A Barnsley Council Public Rights of Way Plan


Barnsley Council Interactive maps
Disclaimer
Welcome, Guest
Postcode, Placename or Address
Search
Help
Link
Sign In
Views
Tools
OS Map
Map Legend
Birdwell
Shortwood Business Park
Platts Common
Upper Hoyland
Jump
Pilley
Knoll Farm House
Broad Ing Plantation
Croft Head Plantation
Clay Royd Plantation
Pilley Green
Tankersley
Potter Holes Plantation
Westwood Lodge
Upper
HOYLAND
Milton
Elsecar
Elsecar Reservoir
A635
B6096
B6097
36
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500 m
X, Y: 435364.53516, 400664.62500

Appendix B Proposed Masterplan

PROPOSED DEVELOPMENT

Dearne Valley Parkway, Barnsley,(Junction 36 M1)

Schedule of accommodation

Unit 1 -Fast Food
348 m² 3,750 ft²
Unit 2 - Employment (Light industrial)
929 m² 10,000 ft²
Unit 3 - Employment (Light industrial)
1858 m² 20,000 ft²
Unit 4 - Employment (Warehouse)
2787 m² 30,000 ft²
Unit 5 - Employment (Warehouse)
3716 m² 40,000 ft²
Unit 6 - Employment (Light industrial)
1626 m² 17,500 ft²
Unit 7 - Car show room
1858 m² 20,000 ft²
Unit 8 - Public House
871 m² 9,375 ft²
Unit 9 - Sandwich, coffee, cafe use units
650 m² 7,000 ft²

TOTAL - 14644 m² 157,625 ft²

OVERALL SITE AREA (Edged in red)
20.65 acre (8.36 hectare)

Plot 1 -0.80 acre (0.33 hectare)
Plot 2 -1.09 acre (0.44 hectare)
Plot 3 -1.27 acre (0.51 hectare)
Plot 4 -1.47 acre (0.59 hectare)
Plot 5 -2.47 acre (1.00 hectare)
Plot 6 -1.30 acre (0.53 hectare)
Plot 7 -1.38 acre (0.56 hectare)
Plot 8 -1.27 acre (0.51 hectare)
Plot 9 -0.63 acre (0.26 hectare)

Total -11.67 acre (4.72 hectare)

Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25m
SCALE 1:500

Rev	Date	Description	Rev By	Ckd By
H.	04.09.14	Updated	NBB	JMR
G.	03.09.14	Updated	NBB	JMR
F.	02.09.14	Updated	NBB	JMR
E.	26.08.14	Boundary Updated	NBB	JMR
D.	21.08.14	Updated with Plot 9	NBB	JMR
C.	19.08.14	Updated with amended highways and Plot 8 requirements	NBB	JMR
B.	29.07.14	Updated to comments received	NBB	JMR
A.	15.07.14	Updated to comments received	NBB	JMR

Project Title	PROPOSED DEVELOPMENT ROCKINGHAM 1 Dearne Valley Parkway Barnsley
Client	Harworth Estates
Status	FOR PLANNING
Scale	1:500 — Drawing Size A0
Drawn By	NBB — Checked By JMR — Date 07/2014
Drawing Title	PROPOSED SITE PLAN
Job-Dwg No.	11462-110 — Rev H

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THE HARRIS PARTNERSHIP
ARCHITECTS
www.harrispartnership.com

CAD file reference J:_J1001-12000\11462\100 Drawings and Issue Sheets\100 Series - Planning

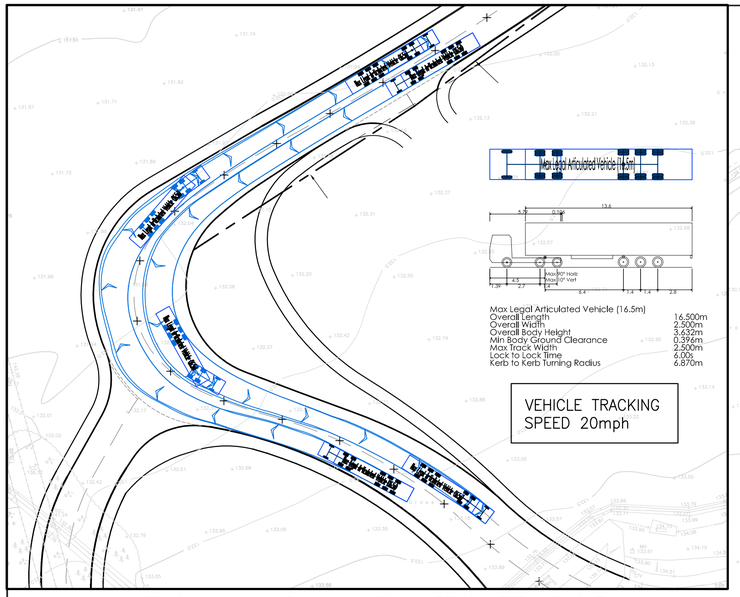
PROPOSED SITE PLAN (PHASE 1)

Appendix C JPG Internal Spine Road

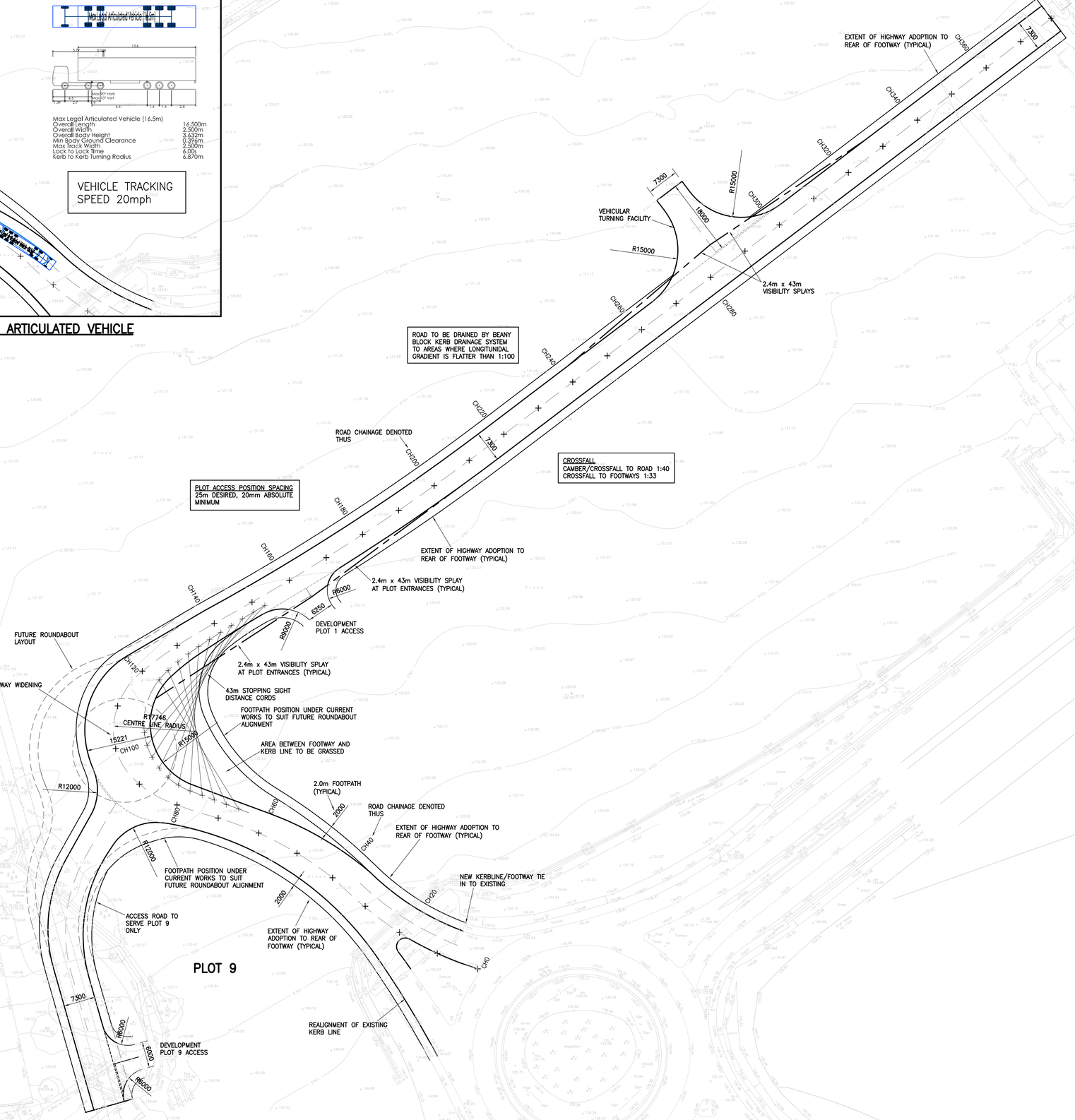
DO NOT SCALE

NOTES

1. THE HIGHWAY SHALL BE CONSTRUCTED TO ADOPTABLE STANDARDS FOR ADOPTION BY BARNSLEY MBC. CONSTRUCTION DETAILS/ SPECIFICATION SHALL TO BE IN ACCORDANCE THE FOLLOWING DOCUMENT AND ANY RELEVANT UPDATES;
'SOUTH YORKSHIRE PART 2 – SPECIFICATION OF CONSTRUCTION MATERIALS AND STANDARD CONSTRUCTION DETAILS'



TRACKING – 16.5m MAX LEGAL ARTICULATED VEHICLE



REV	DESCRIPTION	DATE	BY

Job Title
PROPOSED DEVELOPMENT
ROCKINGHAM 1
DEARNE VALLEY PARKWAY
BARNSLEY

Drawing Title
ACCESS ROAD
GENERAL ARRANGEMENT

PRELIMINARY

Architect
THE HARRIS PARTNERSHIP

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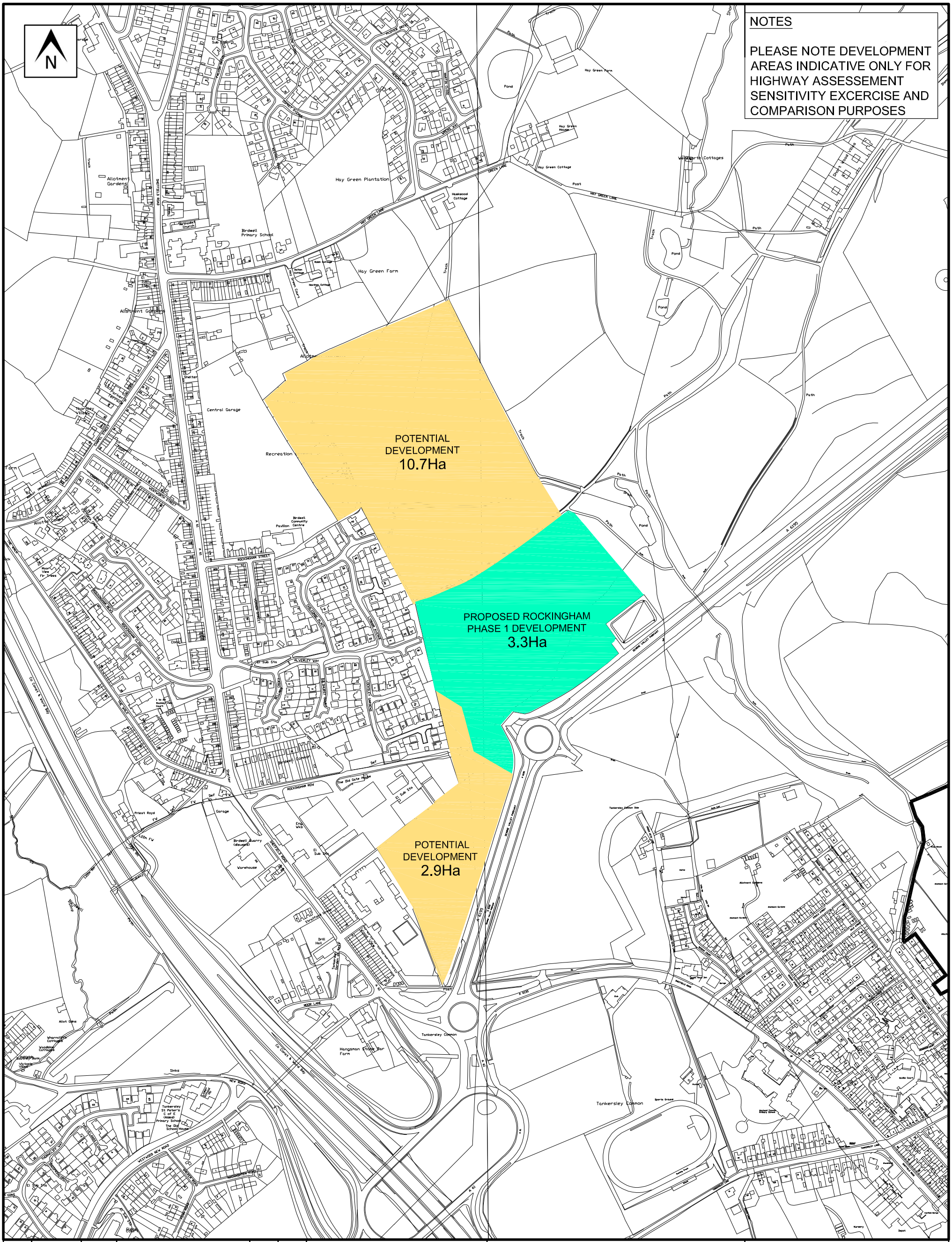
Checked	Date	Scale		Drawn
	13.08.14	1:500	A1	AMF

Drawing No 4652-R1

Appendix D Adjacent Development Parcels



REV	DATE	BY	DESCRIPTION	CHK	APP
A	01/09/14	TP	INITIAL ISSUE	RAM	RAM

PROJECT: ROCKINGHAM PHASE 1	CLIENT: HARWORTH ESTATES		
DRAWING TITLE: POTENTIAL ADJACENT DEVELOPMENT PARCELS	CHECKED: RAM	APPROVED: RAM	DRG No.: 14001/IN/01
STATUS: INFORMATION	DRAWN BY: TP	SCALE @ A3: 1:5000	DATE: 01/09/14 / REV.: A

OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
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Appendix E Pedestrian Connections

PROPOSED DEVELOPMENT

Dearne Valley Parkway, Barnsley,(Junction 36 M1)

Proposed Public footpath route

Proposed Public footpath route

Proposed Public footpath route

Drain

Drain

Drain

Drain

Drain

Drain

Pond

Path

DEARNE VALLEY PARKWAY

LYNHAM AVENUE

LOCKLEY CLOSE

Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 10 20 30 40 50m
SCALE 1:1000

Rev	Date	Description	Rev By	Chk'd By
A.	19.08.14	Updated site plan	NBB	JMR

Project Title	PROPOSED DEVELOPMENT ROCKINGHAM 1 Dearne Valley Parkway Barnsley
Client	Harworth Estates
Status	FOR PLANNING
Scale	1:1000
Drawing Size	A2
Drawn By	NBB
Checked By	JMR
Date	07/2014
Drawing Title	PROPOSED FOOTPATH DIVERSION
Job-Dwg No	114662-114
Rev	A

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PROPOSED SITE PLAN

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