OPTIMA
Intelligent Highways Solutions

Pit Lane, Wombwell
Proposed Residential Development
Transport Assessment

June 2025 (Rev 1)

Prepared on behalf of

Crest Nicholson Operations Ltd

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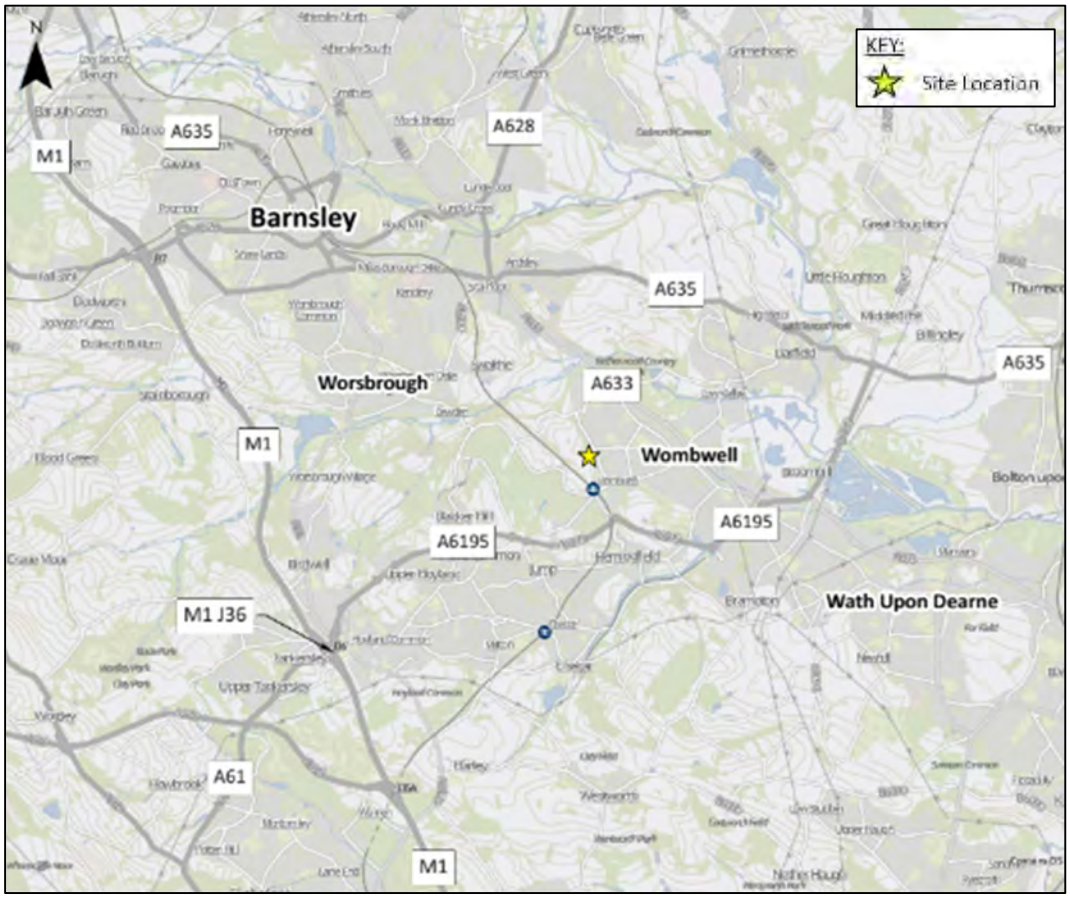
1. Introduction

1.1 BACKGROUND

1.1.1 This Transport Assessment ("TA") has been prepared by Optima Highways & Transportation Ltd ("Optima") to consider the potential highways and transportation matters raised by a proposed residential development on land to the south of Pit Lane, Wombwell, Barnsley ("the Site").

1.1.2 The location of the Site is identified on Figure 1 and Image 1.1.

Image 1.1 Site Location Plan



1.2 SCHEME PROPOSAL AND SCOPE OF REPORT

1.2.1 This TA has been prepared to accompany an outline planning application on behalf of Crest Nicholson Operations Ltd (the applicant) for the construction of 230 dwellings with a mix of house types, including access, landscaping and areas of public open space. The development proposals are shown on the STEN Proposed Development Framework contained at Appendix A.

1.2.2 The Site lies within the administrative area of Barnsley Metropolitan Borough Council (BMBC) which, as a unitary authority, holds responsibility for both Planning and Highway matters.

1.2.3 This TA has been prepared in accordance with the Ministry of Housing, Communities & Local Government 'Travel Plans, Transport Assessment and Statements' document published on the 6th March 2014, which supersedes the Department for Transport 'Guidance on Transport Assessment' document published in March 2007.

1.2.4 Cognisance has also been taken of the prevailing National Planning Policy Framework updated in December 2024, which states that all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed (para. 118).

1.2.5 This TA sets out the transport impacts relating to the proposed development and identifies what measures may be required to accommodate these impacts. It also considers the sustainability and accessibility of the Site, reviewing the provision and quality of facilities and connections to and from the surrounding areas.

1.3 SITE ALLOCATION

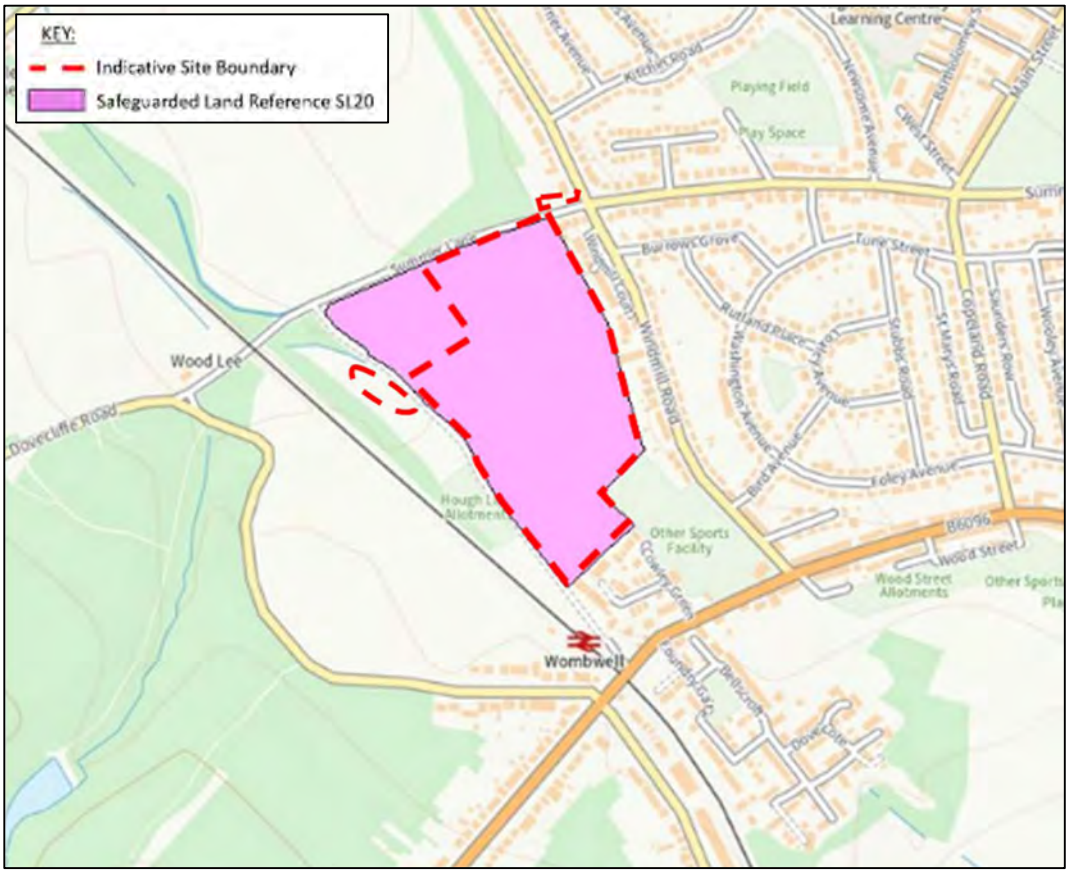
1.3.1 BMBC adopted the Barnsley Local Plan in January 2019, which succeeds the Core Strategy, (adopted in 2011) and parts of the Unitary Development Plan (adopted in 2000).

1.3.2 The Barnsley Local Plan provides a framework for guiding planning applications and identifies where new houses, jobs and services will be located up to 2033.

1.3.3 The Site occupies the majority of land safeguarded for development under site reference SL20 – 'Land between Summer Lane & Hough Lane' within the Barnsley Local Plan.

1.3.4 The indicative Site boundary and SL20 safeguarded boundary is shown within Image 1.2.

Image 1.2 Safeguarded Land Reference SL20 and Site Boundary



1.3.5 The remainder of safeguarded land reference SL20 is not currently subject to a live planning application at the time of writing (February 2025), however it is expected to come forward before the end of the plan period and an allowance will be made as part of this TA.

1.4 PRE-APPLICATION DISCUSSIONS

1.4.1 A TA Scoping Note was issued to BMBC as part of a formal pre-application enquiry under reference 2024/ENQ/00121, which set out the key methodologies to be adopted within this report including details of the proposed access strategy, personal injury collision analysis, traffic surveys and capacity assessment.

1.4.2 BMBC provided a formal pre-application consultation response on 22/05/2024. Further discussions have taken place with BMBC officers during which scope of the TA and in particular the scope of the traffic surveys and capacity assessments were refined, and agreed.

1.5 RELEVANT PLANNING HISTORY

1.5.1 The Site has not been subject to any recent planning applications for residential purposes.

1.6 REPORT STRUCTURE

1.6.1 This report 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 arrangements;
- Chapter 4 - describes the accessibility of the Site by non-car modes;
- Chapter 5 - provides an Active Travel Assessment, assessing the suitability of key routes within the vicinity of the Site;
- Chapter 6 - describes the methodology applied 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 - explains the junction assessments undertaken to determine the impact of the development trips on the local highway network; and
- Chapter 8 - summarises and highlights the conclusions of the TA.

2. Existing Site and Highway Network

2.1 INTRODUCTION

2.1.1 This chapter describes the Site and considers the existing conditions of the surrounding highway network for a range of transport modes. It also summarises the traffic surveys undertaken and includes a review of personal injury collision data.

2.2 EXISTING SITE

2.2.1 The Site has an approximate area of 7.85 hectares (19.4 acres) and is located to the west of Wombwell, approximately 5.5km south-east of Barnsley town centre. As set out within Chapter 1, the Site occupies the majority of land safeguarded for residential development under site reference SL20.

2.2.2 The Site in relation to the strategic and local transport networks is shown on Figures 1 and 2 respectively. Image 2.1 illustrates the indicative Site boundary.

Image 2.1 Indicative Site Boundary

2.2.3 The Site is of irregular shape and formed of open agricultural land bound by Pit Lane to the north, existing residential development served by Windmill Crescent to the east, Wombwell Main Cricket Club and further residential development served via Pashley Croft to the south and an existing track running between Pit Lane and Wombwell Station car park to the west.

2.2.4 The application Site also incorporates land to the west to accommodate a SUBDS basin and a small parcel of land along the boundary of the Barley Sheaf Public House in order to accommodate the proposed road widening.

2.2.5 The Site is provided with an agricultural access to the north-west onto Pit Lane.

2.3 HIGHWAY LINKS

Introduction

2.3.1 The local highway network surrounding the Site includes a number of key links and junctions, which are identified on Figure 3 and described below.

Pit Lane

2.3.2 Pit Lane runs along the Sites northern boundary and is an adopted highway, which is maintained at public expense. Leading west from the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane crossroads, Pit Lane is rural in nature and formed of a c. 4-5m wide single carriageway with verges to both sides. The initial c. 110m of Pit Lane is subject to a 30mph speed limit, which increases to national speed limit (60mph) further west, approximately midway along the Site frontage.

2.3.3 Typical weekday peak hour two-way flows, Annual Average Daily Traffic (AADT), Annual Average Weekday Traffic (AAWT) and vehicle speeds along Pit Lane are summarised in Table 2.1.

Table 2.1 Pit Lane - Traffic Summary

Two-way Weekday AM Peak Hour (vehicles)	Two-way Weekday PM Peak Hour (vehicles)	Two-way AADT (7 day)	Two-way AAWT (5 day)	Mean Speed (mph)	85th percentile Speed (mph)
86	101	764	824	27.3	32.2

2.3.4 Pit Lane extends over a distance of c. 600m between Windmill Road/Aldham House Lane and Dovecliffe Road and is subject to a low bridge restriction (3.3m) as the route passes beneath the Penistone railway line. Pit Lane provides access to further agricultural land and a wedding venue at the south-eastern extent.

Aldham House Lane/Windmill Road

2.3.1 Aldham House Lane and Windmill Road form the major arm of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane crossroads to the east of the Site and are formed of a c. 7.6m wide carriageway with 2-2.5m wide footways to both sides. Aldham Lane and Windmill Lane are subject to a 30mph speed limit.

2.3.2 Typical weekday peak hour two-way flows, AADT, AAWT and vehicle speeds along Aldham House Lane and Windmill Road are summarised in Table 2.2.

Table 2.2 Aldham House Lane/ Windmill Road - Traffic Summary

Two-way Weekday AM Peak Hour (vehicles)	Two-way Weekday PM Peak Hour (vehicles)	Two-way AADT (7 day)	Two-way AAWT (5 day)	Mean Speed (mph)	85th percentile Speed (mph)
Aldham House Lane					
410	466	4,682	5,059	26.9	31.0
Windmill Road					
382	437	4,589	4,921	29.6	34.3

2.3.3 Adham House Lane and Windmill Road form part of a bus route serving the surrounding residential estate, running roughly on a north-south alignment between B6096 Hough Lane and the A633 Barnsley Road via Roy Kilner Road.

B6096 Hough Lane/Wood Walk

2.3.4 The B6095 Hough Lane runs roughly on am east-west alignment over a distance of c. 1.25km between the B6096 Hough Lane/Church Street/Summer Lane/Kings Road signalised crossroads junction and the B6096 Hough Lane/Wood Walk/Dovecliffe Road/Hemingfield Road crossroads before continuing east as the B6096 Wood Walk, providing access to the A1695 Dearne Valley Parkway.

2.3.5 The B6096 Hough Lane/Wood Walk form part of the main east-west route within Wombwell, providing access to the surrounding area via lower order streets as well as serving Wombwell railway station. In the vicinity of the B6096 Hough Lane/Windmill Road junction, the B6069 Hough Lane is formed of a c. 8.3m wide single carriageway with lit footways to both sides and is subject to a 30mph speed limit.

Hemingfield Road

2.3.6 Hemingfield Road leads south of the B6096 Hough Lane/Wood Walk/Dovecliffe Road/Hemingfield Road crossroads over a distance of c. 450m and provides access to residential properties and businesses and the A6195 Dearne Valley Parkway via the Hemingfield Road Roundabout.

2.3.7 Hemingfield Road also forms the southern arm of the Hemingfield Road Roundabout and provides access to the village of Hemingfield.

2.3.8 In the vicinity of the B6096 Hough Lane/Wood Walk/Dovecliffe Road/Hemingfield Road crossroads junction Hemingfield Road is subject to a 30mph speed limit and is formed of a c. 9m wide single carriageway with on-street parking bays and footways to both sides.

A6195 Dearne Valley Parkway

2.3.9 The A6195 Dearne Valley Parkway is a dual carriageway, which extends east of the M1 J36 'Tankersley Roundabout' and the 'Wath Road Roundabout' over a distance of c. 7.5km and provides a local strategic route, serving a number of industrial estates and surrounding residential areas.

2.4 JUNCTIONS

J1 Aldham House Lane/Windmill Road/Summer Lane/Pit Lane

2.4.1 The Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction is located some 75m north-east of the Site and formed of a simple priority crossroads junction.

2.4.2 In the vicinity of the junction, Aldham House Lane and Windmill Road run roughly on a north to south alignment and are formed of a lit, approximate 7.6m wide single carriageway with footways to both sides. Aldham House Lane and Windmill Road are subject to a 30-mph speed limit and form part of a bus route, with the nearest north and southbound directional bus stops located some 350m north of the Site.

2.4.3 Summer Lane forms the eastern arm of the junction and includes a c. 8m wide single carriageway with lit footways to both sides. Summer Lane is a residential distributor road, which links Aldham House Lane and Windmill Road with the B6096 Hough Lane and serves the surrounding residential estate via a number of lower order streets.

2.4.4 Pit Lane leads west of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction to form the Sites northern frontage and is rural in nature with verges to both sides. Pit Lane is subject to the national speed limit some 110m west of Aldham House Lane/Windmill Road.

J2 B6096 Hough Lane/Windmill Road

2.4.5 The B6096 Hough Lane/Windmill Road junction is located some 550m to the south-east of the Site and is formed of a simple priority T Junction.

2.4.6 The B6096 Hough Lane forms the main arm of the junction running roughly on an east-west alignment and is formed of a c. 8.3m wide single carriageway with footways to both sides, which is subject to a 30-mph speed limit.

2.4.7 Windmill Road leads north of Hough Lane and is formed of c. 6.5m wide carriageway with footways to both sides in the vicinity of the junction.

J3 B6096 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road

2.4.8 The B6096 Hough Lane/Hemingfield Road/Dovecliffe Road junction is located some 500m south-west of the Site and formed of a priority crossroads junction.

2.4.9 The B6096 forms the north-eastern and south-western arms of the junction, which are known as the B6096 Hough Lane and A644 Wood Walk respectively, both of which are formed of a c. 8.0m wide single carriageway with lit footways to both sides. A dropped crossing with central refuge island and tactile paving is provided along the B6096 Wood Walk arm of the junction.

2.4.10 Dovecliffe Road occupies the northern arm of the junction and also formed of a 7.5m single carriageway on-street parking to the north and lit footways to both sides. An in-line dropped crossing with tactile paving is also provided on the Dovecliffe Road approach.

2.4.11 Hemingfield Road occupies the southern arm of the junction and is formed of a c. 9m wide carriageway with on-street parking to the east and lit footways to both sides. An inset dropped crossing with central refuge island and tactile paving is provided on the Hemingfield Road approach.

2.4.12 The junction is subject to a 30mph speed limit, increasing to 40mph c. 30m south-west along B6096 Wood Walk.

J4 A6195 Dearne Valley Parkway/Hemingfield Road 'Hemingfield Road Roundabout'

2.4.13 The Dearne Valley Parkway/Hemingfield Road junction is known as the 'Hemingfield Road roundabout' and is located some 900m south of the Site.

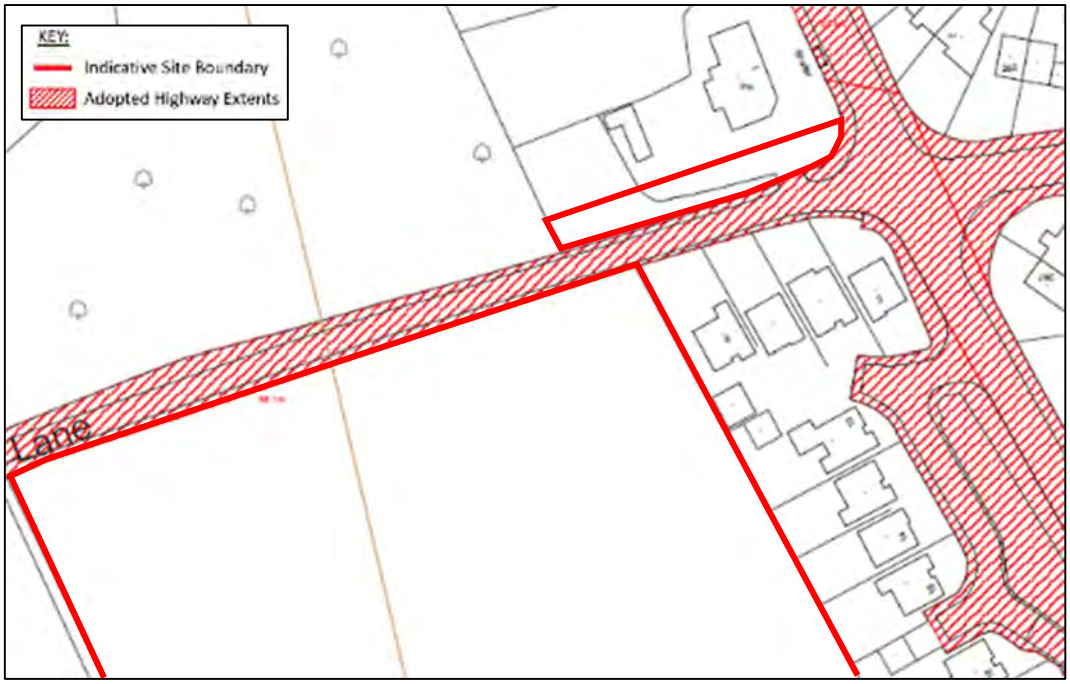
2.4.14 The Hemingfield Road roundabout is a 4-arm 'normal' roundabout with and Inscribed Circle Diameter (ICD) of 78m and forms part of the A6195 Dearne Valley Parkway.

2.4.15 Hemingfield Road forms the northern and southern arms of the roundabout, both of which are single lane approaches and subject to a 30mph speed limit. The A6195 Dearne Valley Parkway forms the eastern and western arms and both are dual carriageways separated by traffic islands with vehicle restraint. The A6195 Dearne Valley Parkway is subject to the national (70mph) speed limit in the vicinity of the junction.

2.5 HIGHWAY ADOPTION RECORDS

2.5.1 The limit of adopted highway maintained at public expense in the vicinity of the Site has been obtained from BMBC and is shown on the plans contained at Appendix B. An extract of plans along Pit Lane is provided within Image 2.2.

Image 2.2 Highway Adoption Records



Source – Barnsley Metropolitan Borough Council

2.6 TRAFFIC SURVEYS

Manual Classified Counts

2.6.1 Manual Classified Counts (MCCs), which have been agreed with BMBC, have been undertaken in the vicinity of the Site in order to inform this assessment.

2.6.2 The surveys were undertaken during neutral traffic conditions in November 2024 in accordance with the Department for Transport TAG M1.2 'Data Sources and Surveys' (May 2024) guidance which states that:

> *"In many cases, surveys can be carried out anytime of the year on any given day of the week that travel patterns are considered to be representative of the neutral condition being modelled, provided that:*
>
> - *weather conditions are unlikely to influence travel demand being surveyed;*
> - *there are no special events that are likely to influence travel demand being surveyed;*
> - *adequate lighting is available, where the survey method may have safety considerations, or visibility affects data quality; and*
> - *the weeks before/after Easter and Christmas holidays, the Thursday and/or Friday before and all of the week of a bank holiday, and the school holidays are avoided as demand is likely to be different than neutral conditions."*

2.6.3 Full details of the surveys are contained at Appendix C and a summary is provided in Table 2.3.

Table 2.3 Summary of Traffic Surveys

Ref	Location	Type	Date	Time Period
1	Aldham House Lane/Windmill Road/Summer Lane/Pit Lane	MCC	Wednesday 13th November 2024	07:00-10:00 & 15:00-19:00
2	B6096 Hough Lane/Windmill Road	MCC	Wednesday 13th November 2024	07:00-10:00 & 15:00-19:00
3	B6096 Hough Lane/Hemingfield Road/Dovecliffe Road	MCC	Wednesday 13th November 2024	07:00-10:00 & 15:00-19:00
4	A6195 Dearne Valley Parkway/Hemingfield Road 'Hemingfield Road Roundabout'	MCC	Wednesday 13th November 2024	07:00-10:00 & 15:00-19:00

2.6.4 The location of the junctions surveyed above are identified on Figure 3 and the total junction flows recorded during the AM and PM peak periods are summarised within Table 2.4.

Table 2.4 2024 Survey Flows - AM and PM Peak Periods

Time Period	J1	J2	J3	J4	Network Total
AM Peak Period (07:00 – 10:00) – Total Vehicles					
07:00 – 08:00	351	889	1,031	2,144	4,415
07:15 – 08:15	419	992	1,134	2,300	4,845
07:30 – 08:30	471	1,088	1,241	2,397	5,197
07:45 – 08:45	**510**	**1,133**	**1,276**	**2,422**	**5,341**
08:00 – 09:00	544	1,125	1,272	2,321	5,262
08:15 – 09:15	509	1,086	1,227	2,212	5,034
08:30 – 09:30	480	987	1,109	2,038	4,614
08:45 – 09:45	439	920	1,045	1,880	4,284
09:00 – 10:00	369	804	902	1,800	3,875
PM Peak Period (15:00 – 19:00) – Total Vehicles					
15:00 – 16:00	612	1,174	1,291	2,343	5,420
15:15 – 16:15	601	1,228	1,353	2,475	5,657
15:30 – 15:30	578	1,267	1,423	2,575	5,843
15:45 – 15:45	581	1,273	1,425	2,700	5,979
16:00 – 17:00	565	1,272	1,435	2,751	6,023
16:15 – 17:15	**606**	**1,348**	**1,503**	**2,791**	**6,248**
16:30 – 17:30	596	1,328	1,464	2,728	6,116
16:45 – 17:45	569	1,315	1,452	2,582	5,918
17:00 – 18:00	559	1,313	1,443	2,525	5,840
17:15 – 18:15	513	1,220	1,374	2,375	5,482
17:30 – 18:30	460	1,121	1,291	2,203	5,075
17:45 – 18:45	427	1,005	1,162	2,066	4,660
18:00 - 19:00	381	882	1,018	1,791	4,072

2.6.5 As shown above, the MCCs identified the existing weekday morning and evening network peak hours as follows:

- Weekday AM Peak - 07:45 - 08:45; and
- Weekday PM Peak - 16:15 - 17:15.

2.6.6 The 2024 traffic flows are shown on Figures 100 and 101 for the AM and PM peak hours respectively.

Automatic Traffic Counts

2.6.7 In addition to the above, three Automatic Traffic Counts (ATCs) have also been conducted to record traffic volumes and speeds along the Site frontage onto Pit Lane, as well as along Aldham House Lane and Windmill Road.

2.6.8 Full details of the surveys are contained at Appendix D and a summary is provided in Table 2.5.

Table 2.5 Summary of Automatic Traffic Counts

Location	Type	Date	Time Period
Pit Lane	1 x ATC	11/11/2024 - 17/11/2024	24hours, 7 days
Aldham House Lane	1 x ATC	11/11/2024 - 17/11/2024	24hours, 7 days
Windmill Road	1 x ATC	11/11/2024 - 17/11/2024	24hours, 7 days

Pit Lane

2.6.9 The ATC was located along the Pit Lane Site frontage approximately 115m west of Windmill Road, in the vicinity of the 30mph/national (60mph) speed limit change, recording speeds and traffic volumes by direction and vehicle classification over the 7-day period between 11/09/2024 – 17/11/2024.

2.6.10 A summary of the recorded traffic volumes and speeds along Pit Lane can be found with Tables 2.6 and 2.7 respectively.

Table 2.6 Pit Lane ATC Summary – Traffic Volumes

Pit Lane	Total Vehicles		
	Eastbound	Westbound	Two-way
Weekday Average AM Peak Hour	40	46	86
Weekday Average PM Peak Hour	57	43	100
AADT	395	369	764
AAWT	434	390	824

Table 2.7 Pit Lane ATC Summary – Traffic Speeds

Pit Lane (60mph)	Eastbound Speeds (MPH)	Westbound Speeds (MPH)
	7-day, 24hr	7-day, 24hr
Mean Speed	29.3	25.3
85th Percentile Speed	34.4	30.0

Aldham House Lane

2.6.11 An ATC was located along Aldham House Lane approximately 55m north of Summer Lane, recording speeds and traffic volumes by direction and vehicle classification over the 7-day period between 11/09/2024 – 17/11/2024.

2.6.12 Full details of the ATCs are provided within Appendix D and a summary of the recorded traffic volumes and speeds can be found with Tables 2.8 and 2.9 respectively.

Table 2.8 Aldham House Lane ATC Summary – Traffic Volumes

Aldham House Lane	Aldham House Lane (North)		
	Northbound	Southbound	Two-way
Weekday Average AM Peak Hour	184	226	410
Weekday Average PM Peak Hour	237	230	467
AADT	2,342	2,340	4,682
AAWT	2,532	2,527	5,059

Table 2.9 Aldham House Lane ATC Summary – Traffic Speeds

Aldham House Lane (30mph Speed Limit)	Northbound Speeds (MPH)	Southbound Speeds (MPH)
	7-day, 24hr	7-day, 24hr
Mean Speed	28.0	25.7
85th Percentile Speed	32.1	29.8

Windmill Road

2.6.13 An ATC was located along Windmill Road approximately 20m south of Windmill Court, recording speeds and traffic volumes by direction and vehicle classification over the 7-day period between 11/09/2024 – 17/11/2024.

2.6.14 Full details of the ATCs are provided within Appendix D and a summary of the recorded traffic volumes and speeds can be found with Tables 2.10 and 2.11 respectively.

Table 2.10 Windmill Road ATC Summary – Traffic Volumes

Windmill Road	Windmill Road (North)		
	Northbound	Southbound	Two-way
Weekday Average AM Peak Hour	176	206	382
Weekday Average PM Peak Hour	226	211	437
AADT	2,345	2,244	4,589
AAWT	2,524	2,397	4,921

Table 2.11 Windmill Road ATC Summary – Traffic Speeds

Windmill Road (30mph Speed Limit)	Northbound Speeds (MPH)	Southbound Speeds (MPH)
	7-day, 24hr	7-day, 24hr
Mean Speed	30.5	28.6
85th Percentile Speed	35.1	33.5

2.7 PERSONAL INJURY COLLISION ANALYSIS

2.7.1 Personal injury collision data has been obtained for the highway network in the vicinity of the Site for the most recent 5-year 9-month period between 1st January 2019 and 27th September 2024 (69 months).

2.7.2 The study area, which was set out within the TA Scoping Study issued to BMBC covers the Site frontage onto Pit Lane, Windmill Road, B6096 Hough Lane/Wood Walk up to and including the Roebuck Hill Roundabout and Hemingfield Road, up to and including the Hemingfield Road Roundabout.

2.7.3 Collisions are classified by severity using the following:

- **Slight –** A collision where at least one person is slightly injured but no person is killed or seriously injured;
- **Serious –** A collision in which at least one person is seriously injured (detained in hospital as an in-patient) but no person is killed; or
- **Fatal –** A collision in which at least one person is killed.

2.7.4 For the five-year period, a total of 17 collisions were recorded, of which 13 were classified as being slight in severity and 4 were serious. No fatal collisions have been recorded.

2.7.5 Full collision details can be found within Appendix E and a summary is provided within Tables 2.12 to 2.15.

Table 2.12 Personal Injury Collision Analysis – Severity

Severity	No of collisions	Percentage
Slight	13	76%
Serious	4	24%
Fatal	0	0%
Total	**17**	**100%**

Table 2.13 Personal Injury Collision Analysis – Severity by Year

Severity	2019	2020	2021	2022	2023	2024	Total
Slight	3	4	0	1	3	2	13
Serious	0	1	1	1	1	0	4
Fatal	0	0	0	0	0	0	0
Total	**3**	**5**	**1**	**2**	**4**	**2**	**17**

Table 2.14 Personal Injury Collision Analysis – Lighting Conditions

Lighting	No of collisions	Percentage
Dark	12	71%
Light	5	29%

Table 2.15 Personal Injury Collision Analysis – Road Surface

Surface	No of collisions	Percentage
Dry	13	76%
Wet	4	24%

2.7.6 The collisions recorded within the study area are summarised by location and severity within Table 2.16.

Table 2.16 Personal Injury Collision Analysis – Severity by Location

Location	Form	PIC	Severity		
		Total	Fatal	Serious	Slight
Highway Link					
Pit Lane	c. 380m	0	0	0	0
Windmill Road	c. 570m	0	0	0	0
B6096 Hough Lane/Wood Walk	c. 1.6km	6	0	2	4
Hemingfield Road	c. 450m	0	0	0	0
Junctions					
Aldham House Lane/Windmill Road/Summer Lane/Pit Lane	Priority Crossroads Junction	1	0	0	1
B6096 Hough Lane/Windmill Road	Priority 'T' Junction	0	0	0	0
B6096 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road	Priority Crossroads Junction	3	0	0	3
Roebuck Hill Roundabout	4-arm roundabout Junction	3	0	1	2
Hemingfield Road Roundabout	4-arm roundabout Junction	4	0	1	3
	Total	**17**	**0**	**4**	**13**

2.7.7 The recorded collisions can be summarised as follows:

- Total of 25 collisions over 5 years and 9 months;
- Average of 4.2 collisions per year; and
- 13 slight collisions (76%), 4 serious collision (24%) and 0 fatal collisions (0%).

2.7.8 Given the extent of the study area, the 5-year time period, the variety of causation factors and locations no specific road safety concerns have been identified and there is no reason to suggest that the increase in traffic associated with the proposed development would result in any additional safety concerns.

2.7.9 A full highway safety assessment of junctions where a material traffic impact has been identified has been conducted within Chapter 8.

2.8 EXISTING PEDESTRIAN AND CYCLE FACILITIES

2.8.1 Pit Lane is flanked by footways to both sides in the vicinity of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane crossroads junction, before terminating beyond the corner radii. Thereafter, the route is flanked by verges to both sides.

2.8.2 Aldham House Lane/Windmill Road is flanked by lit footways to both sides of varying, but generally c. 2-3m width. Summer Lane, which leads east of Aldham House Lane/Windmill Road and provides access to the nearest convenience store is flanked by a 2.3-3.0m wide footway to the north and a 1.6-1.8m wide footway to the south, both of which benefit from street lighting.

2.8.3 To the south of the Site, Hough Lane also includes lit c. 2-3m wide footways to both sides and provides access via Windmill Road to Wombwell Railway Station.

2.8.4 An existing shared surface track also extends between Pit Lane and Wombwell Railway Station car park along the Sites western boundary and is regularly utilised by pedestrians. BMBC have confirmed that the track is under the ownership of the Council.

2.8.5 The vast majority of roads within the surrounding estate are also flanked by lit footways to both sides.

2.8.6 In addition to the above, National Cycle Network (NCN) Route 62 which forms part of the TransPennine Trail runs to the north and east of Wombwell. In the vicinity of the Site, NCN Route 62 is an off-carriageway route which provides access Doncaster and Barnsley via NCN Route 67. Within a wider context, NCN Route 62 connects Fleetwood on the Fylde region of Lancashire with Selby in North Yorkshire. It forms the west and central sections of The Trans Pennine Trail which is a long-distance path running from coast to coast across northern England.

2.8.7 Image 2.3 contains an extract of the Barnsley cycle map in the vicinity of the Site.

Image 2.3 Extract of Cycle Map

Source: www.barnsley.gov.uk

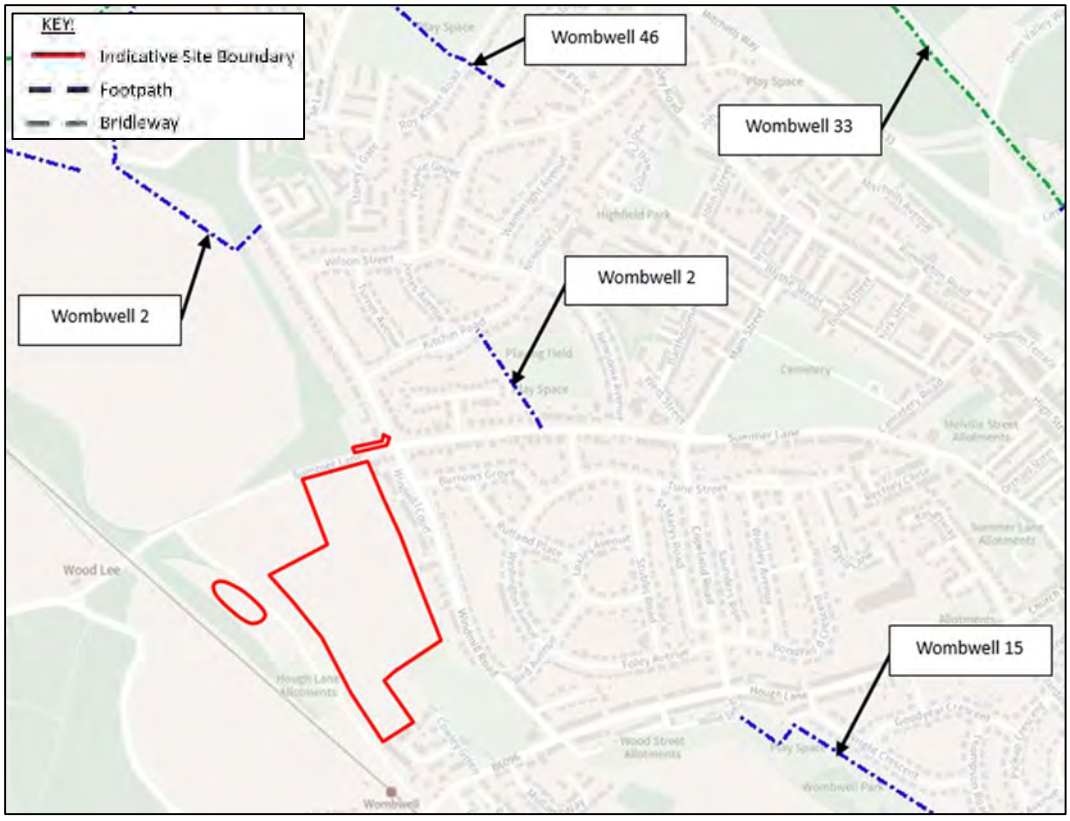
Public Rights of Way

2.8.8 There are a series of existing public rights of way surrounding the Site, details of which are summarised within Table 2.17, with locations identified in Image 2.4.

Table 2.17 PRoW Summary

Route Name	Type	Route	Approx. Length (m)	Approx. width (m)	Surface
Wombwell 2	Footpath	Includes a short, tarmacked c. 200m connection between Kitchen Road and Summer Lane with street lighting.	200m	c. 2-3m	Tarmac
		Includes a link between Aldham House Lane and the A633 Barnsley Road which extends across arable farmland and areas of woodland.	1.3km	n/a	Open grass
Wombwell 15	Footpath	Provides a link between B6096 Hough Lane and Beech house Road in Hemingfield via Wombwell Park and a pedestrian foot bridge crossing of the A6195 Dearne Valley Parkway.	1.5km	c. 2m	Mainly Tarmac
Wombwell 33	Bridleway	Extends between Bradbery Balk Lane and Dove Valley Way and combines with Bridleways 32 and 51 in the vicinity of the Site to form part of the TransPennine Trail.	560m	c. 2m	Tarmac
Wombwell 46	Footpath	Connects Rose Grove with Aldham House Lane via an area of public open space.	300m	c. 2m	Tarmac

Image 2.4 PRoW Extract



Source: www.barnsley.gov.uk

2.9 BUS SERVICES

2.9.1 The nearest bus stops to the Site are located along Aldham House Lane within 630m of the Sites notional centre point. Both the north and southbound stops are marked by the southbound flag and pole bus stop. The proposals will ensure the northbound bus stop is accessible via a continuous footway and also include the provision of a dropped crossing with tactile paving along Aldham House Lane to ensure safe passage for pedestrians accessing the southbound bus stop.

2.9.2 A northbound bus stop is located along Aldham House Lane, adjacent to the Bearley Sheaf Public House, just north of the Aldham House Lane/ Summer Lane/Pit Lane junction, however the stop is marked as no longer in use. Similarly, a southbound bus stop is located along Aldham House Lane just north of the Aldham House Lane/Kitchen Road junction which is also not currently in use, with all timetable information removed and the stop itself not identified on any current online timetable information. Both stops are assumed to now be redundant as a result of the existing services being re-routed.

2.9.3 Additional bus stops are also available along Newsome Avenue some 685m east of the Sites notional centre point and re accessible via Summer Lane and form part of the same bus route.

2.9.4 The location of the nearest bus stops is shown on Figure 4.

2.9.5 A summary of the bus stop provision at the nearest stops within the vicinity of the Site is provided within Table 2.18.

Table 2.18 Bus Stop Provision

Bus Stop Reference	Location	Approx. Distance from Site (centre)	Direction	Facilities	Buses towards	Services
Aldham House Lane						
37055632	Aldham House Lane/Wilson Street	625m	Northbound	Bus stop flag & pole.	Wombwell	67/67a/67c
37050565	Aldham House Lane/Wilson Street	630m	Southbound	Marked by northbound stop.	Barnsley	67/67a/67c
Newsome Avenue						
37055630	Newsome Avenue/Summer Lane	680m	Northbound	Marked by southbound stop	Wombwell	67/67a/67c
37050547	Newsome Avenue/Summer Lane	685m	Southbound	Bus shelter and timetable information	Barnsley	67/67a/67c

2.9.6 A summary of the bus services operating within the vicinity of the Site is provided in Table 2.19.

Table 2.19 Bus Service Summary

Service	Route	Operator	Days of Operation	Approximate Frequency Each Direction
Aldham House Lane & Newsome Avenue				
67	Barnsley – Wombwell	Stagecoach Yorkshire	Monday – Friday	1 every 2 hours
			Saturday	1 every 2 hours
			Sunday	No service
67a	Barnsley – Wombwell	Stagecoach Yorkshire	Monday – Friday	1 every 2 hours
			Saturday	1 every 2 hours
			Sunday	4 per day
67c	Barnsley – Wombwell	Stagecoach Yorkshire	Monday – Friday	1 per day
			Saturday	1 per day
			Sunday	4 per day

2.9.7 The bus services summarised within Table 2.19 combine to offer 1 service per hour between Barnsley and the surrounding area, including Wombwell Railway Station.

2.10 RAIL SERVICES

2.10.1 Wombwell Railway Station (WOM) is located approximately 900m south of the Site off the B6096 Hough Lane and can be accessed in approximately 4-minutes on foot and 2 mins by bicycle.

2.10.2 Wombwell Railway Station is located on the Hallam and Penistone Lines and provides regular services between Barnsley, Sheffield, Huddersfield and Leeds. Wombwell is provided with 6 car parking and 12 cycle storage spaces, which are sheltered and covered by CCTV.

3. Development Proposals and Access Strategy

3.1 DEVELOPMENT PROPOSALS

3.1.1 The development proposals are shown on the STEN Proposed Development Framework contained at Appendix A and can be summarised as follows:

- Provision of 230 residential dwellings;
- Vehicular access via the realignment and upgrading of Pit Lane, with access retained to the remainder of Pit Lane via the provision of a priority junction onto the proposed spine road;
- Upgrading of the Pit Lane/Aldham House Lane/Windmill Road/Summer Lane junction; and
- Associated parking, landscaping and infrastructure.

3.1.2 The planning application is made in outline and therefore is provided for indicative purposes only.

3.2 VEHICULAR ACCESS

3.2.1 The proposed access arrangements, which are shown on Optima drawing 23081/GA/01/REV/C contained within Appendix F, have been designed in accordance with the requirements of the South Yorkshire Residential Design Guide and can be summarised as follows:

- Upgrade of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction to provide 10m corner radii and tactile paving;
- Realignment and upgrading of Pit Lane to include:
  - 5.5m wide single carriageway (including 6m bend widening);
  - 2m footways to both sides connecting with existing provision at the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction;
  - Min. 35m centreline radius; and
  - 43m forward visibility splay.
- Provision of a simple priority T junction connecting the remainder of Pit Lane with the proposed spine road compromising of:
  - 6m corner radii;
  - 5.5m wide single carriageway;
  - 1m verges to both sides;
  - Min 100m centreline radius tie in to Pit Lane; and
  - 2.4m x 43m junction visibility splays.
- Retained access to the Public House north of Pit Lane (Barley Sheaf); and
- Relocation of existing 60mph/30mph speed limit to incorporate the full extent of new works along Pit Lane and provision of 'Slow' road markings, red blister surfacing and dragons teeth on approach to the relocated speed limit change.

Image 3.1 Proposed Access Arrangements

3.2.2 Junction visibility splays have been provided from Pit Lane onto Aldham House Lane/Windmill Road in accordance with the 85th percentile vehicle speeds recorded from the associated ATCs, as shown within Table 3.1.

Table 3.1 Aldham House Lane/Windmill Road - Visibility Splays

Aldham House Lane/ Windmill Road	Windmill Road Northbound Speed	Aldham House Lane Southbound Speed
85th percentile speed	35.1 mph	29.8 mph
MfS SSD (inc 2.4m bonnet length)	53.8m	40.7m

3.3 PEDESTRIAN/CYCLE ACCESS

3.3.1 As shown on the drawing contained within Appendix F, the proposals include the provision of 2m footways to both sides of Pit Lane, connecting the Site with existing provision along Aldham House Lane/Windmill Road. The proposals also include the provision of a dropped crossing with tactile paving on the Pit Lane arm of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction.

3.3.2 Further dropped crossings with tactile paving will also be provided across Aldham House Lane and Windmill Road providing access to Summer Lane.

3.3.3 The proposed internal spine road will be flanked by 3m verges and 2m footways to both sides, with the re-aligned section of Pit Lane then flanked by 1m verges to both sides.

3.3.4 It is also proposed to provide a boundary connection with the existing shared surface track which runs along the western boundary of the Site which can be utilised to provide convenient access to Wombwell Railway Station in under a 5-minute walk.

3.3.5 Cycle access to/from, and within the proposed development, will be accommodated on-carriageway in accordance with LTN 1/20, Figure 4.1 which states that cyclists can mix with traffic on 20mph speed limits for daily traffic volumes around 2,000-3,000. As set out within Table 6.2, the

development is predicted to generate circa 939 trips per day, which is well below the lower limit for potentially requiring dedicated cycle infrastructure.

3.4 INTERNAL LAYOUT

3.4.1 The proposed spine road shall be formed of the following cross section:

- 5.5m wide single carriageway;
- 3m verge; and
- 2m footways to both sides.

3.4.2 The remainder of the development will be served by lower order streets with a min. 2m footways to both sides, shared surface carriageway, or private driveways.

The indicative internal layout facilitates access to the remainder of the SL20 safeguarded land, so as not to sterilise its future development.

3.5 CONSTRUCTION

3.5.1 Construction is anticipated to take place over an approximate 6-year period based on a build out rate of 40 dwellings per year.

3.5.2 A Construction Method Statement (CMS) will be produced to ensure that the Site operates efficiently and safely during the construction phase. The CMS will set out construction hours of operation, treatment of delivery vehicles (wheel washing requirements etc.), site contractor parking, dust & vibration controls, compound location and access routes to/from the Site.

4. Site Accessibility

4.1 ACCESSIBILITY ON FOOT

4.1.1 The measures proposed which will positively influence trips by foot, both for existing users and proposed residents alike, include:

- Upgrading of Pit Lane to provide 2m footways to both sides of the carriageway between the Site and existing footways along Aldham House Lane/Windmill Road;
- Provision of a dropped crossing with tactile paving along Pit Lane at the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction;
- Provision of a dropped crossing with tactile paving along Aldham House Lane and Windmill Road serving desire lines to the nearest convenience store, southbound bus stops, Primary School and GP Surgery;
- Provision of a dropped crossing with tactile paving along Newsome Avenue serving desire lines to the nearest Primary School;
- Provision of a boundary connection to an existing ped/cycle route running along the western boundary of the Site, creating a direct desire line to/from Wombwell Railway Station; and
- Travel Plan initiatives.

4.1.2 Paragraph 4.4.1 of 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…".

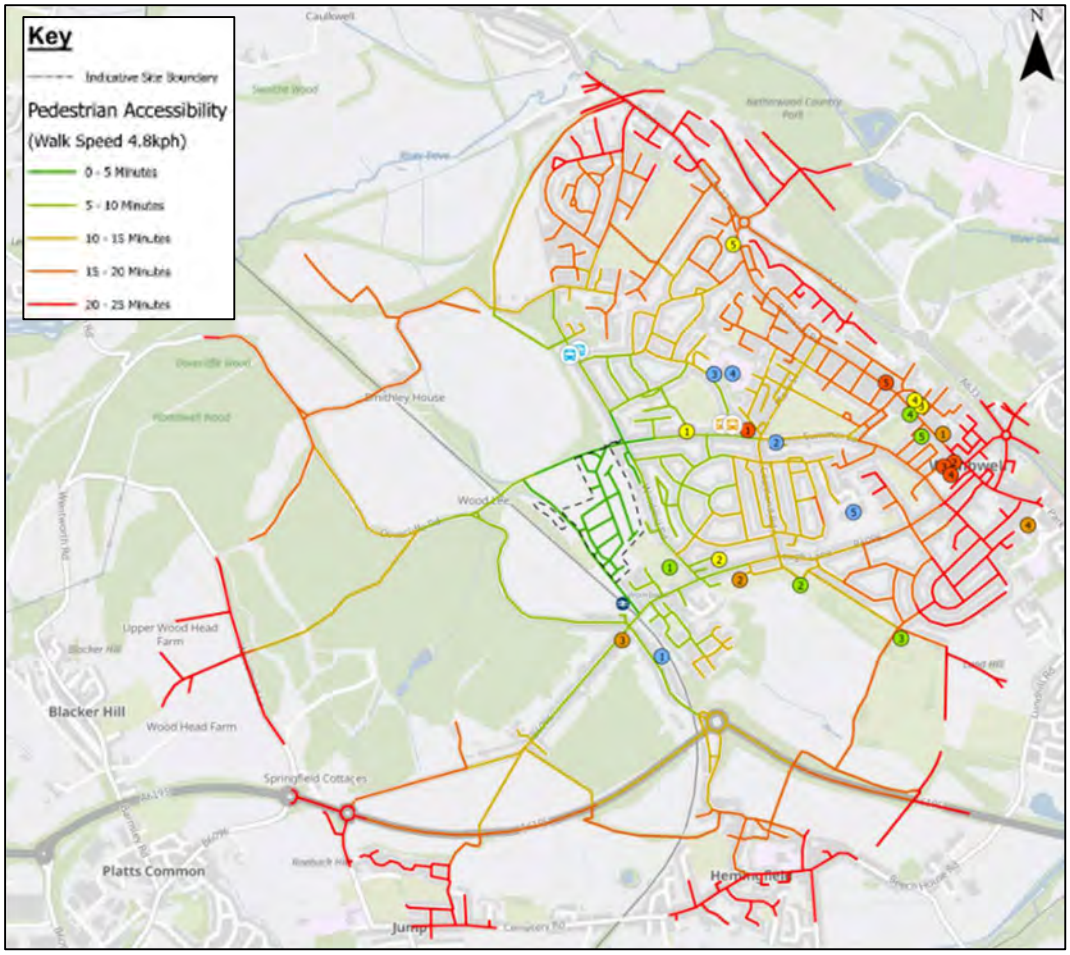
4.1.3 However, this is not regarded as an upper limit in MfS and reference is also made to walking offering:

"the greatest potential to replace short car trips, particularly those under 2km".

4.1.4 The Department for Education (DfE) statutory guidance document, 'Home to School Travel and Transport', July 2014, defines an even greater maximum walking distance to schools of 2 miles (3.2km) and 3 miles (4.8km) for children under and over 8 years respectively.

4.1.5 Using ArcGIS Pro Network Analyst software, typical walk times (up to 25 mins) from the centre of the Site are shown on Figure 4. An extract of Figure 4 is provided within Image 4.1.

Image 4.1 Pedestrian Accessibility



4.1.6 Table 4.1 summarises the key amenities and facilities available within 2km of the Site, as illustrated on Figure 4.

Table 4.1 Local Facilities and Amenities within 2km

Local Facilities and Amenities	
Retail	• Go Local Extra Convenience Store • Hough Lane Stores • Heron Foods • Tesco Express • Premier Stores
Education	• Little Ducklings Day Nursery • Forward Steps Nursery • Kids World Wombwell Day Nursery • High View Primary Learning Centre • Kings Oak Primary Learning Centre
Leisure	• Wombwell Main Cricket Club • Wombwell Skate Park • Hillies Pavilion • Fight Team Boxing • Better Bodies Gym
Health	• Summer Lane Practice • MyDentist Wombwell • Rowlands Pharmacy • Wombwell Medical Centre • F & P Dental Practice
Services	• Wombwell Post Office • St George Arms Post Box • 1 Wood Walk Post Box • Shipcroft Community Centre

4.1.7 It is therefore concluded that the proposed residential development will be provided with good accessibility on foot to a range of services and facilities in accordance with national MfS and DfE guidance.

4.2 ACCESSIBILITY BY CYCLE

4.2.1 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.

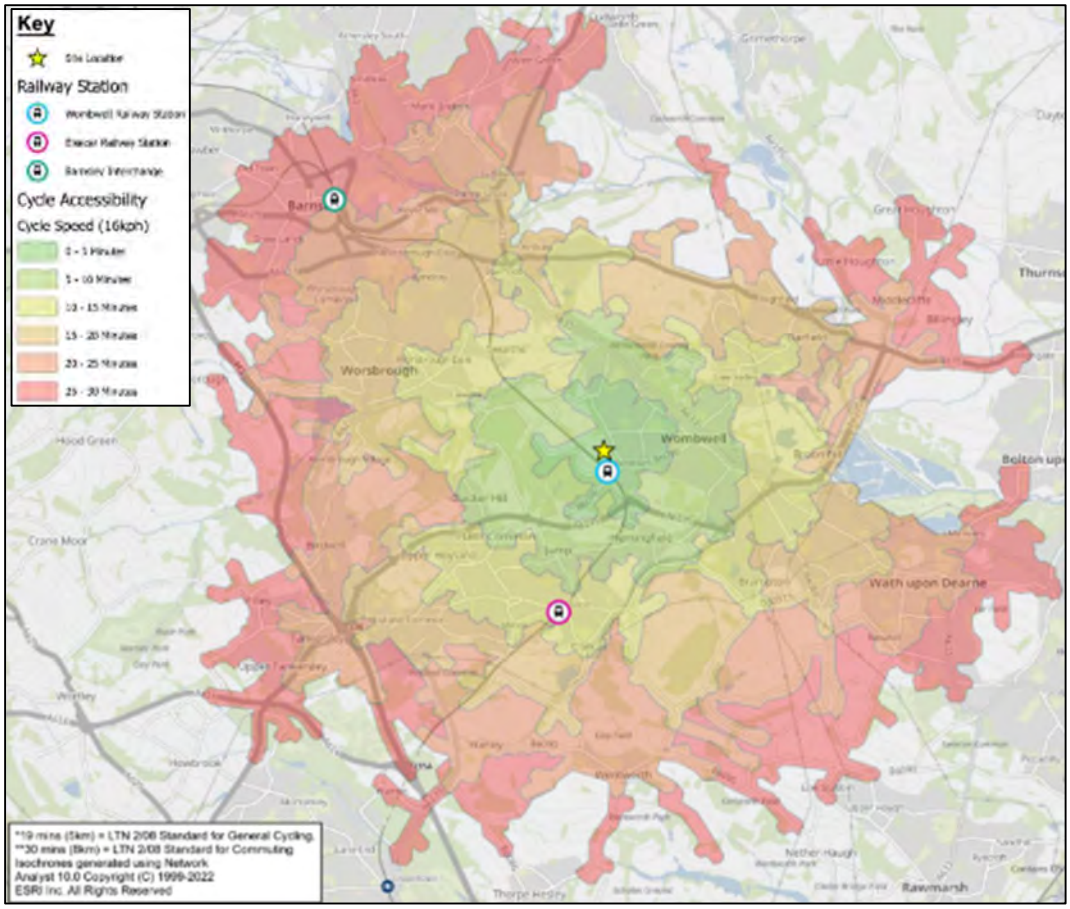
4.2.2 Whilst LTN 1/20, Cycle Infrastructure Design, July 2020, has replaced LTN 2/08 and has resulted in it being withdrawn, LTN 1/20 does not contain definitive recommended maximum cycling distances and therefore there is no reason to suggest that these distances are not still applicable.

4.2.3 Furthermore 'Integrating Cycling into Development Proposals' published in 2008 by Cycling England states that:

> *"Most cycle journeys for non-work purposes and those to rail stations are between 0.5 miles [0.8km] and 2 miles [3.2km], but many cyclists are willing to cycle much further. For work, a distance of 5 miles [8 km] should be assumed".*

4.2.4 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 5 an extract of which is provided within Image 4.2.

Image 4.2 Cycle Accessibility



4.2.5 Table 4.3 summarises the key amenities and facilities available within 5km of the Site, as illustrated on Figure 5.

Table 4.2 Local Facilities and Amenities within 5km Cycle Distance

Local Facilities and Amenities			
Retail	• Stairfoot Retail Park Barnsley • Wombwell Town Centre	• Cortonwood Shopping Park	• Wath Plaza
Employment	• Stairfoot Business Park	• Wombwell Town Centre	Shortwood Business Park
Education	• High View Primary Learning Centre • Kings Oak Primary Learning Centre • Netherwood Academy • Wombwell Park Street Primary School • Barnsley Academy	• The Ellis C of E Primary School • Jump Primary School • St Micharl and All Angels Catholic Primary • Outwood Primary Academy • Greenfield Primary School	• Uperwood Academy • Hunningley Primary Academy • Elsecar Holy Trintiy Primary • Brampton Cortonwood Infants • Oakhill Primary Academy
Leisure	• Netherwood Country Park • Hillies Pavillion • Hoyland Leisure Centre	• Total Workout Gym • Worsbrough Mill Country Park • Broomhill Park – Old Moor	• Unique Leisure • Elsecar Heritage Centre
Health	• Kendray Hospital • Barnsley Hospital • Wombwell Medical Centre • The Market Surgery • Garland House Surgery • Hoyland Medical Practice • Woodgrove Surgery	• The Dove Valley Practice • Ashville Medical Practice • B H F Lundwood Practice • The Kakoty Practice • Burleigh Medical Centre • The Grove Medical Practice • The Magna Group Practice	• Huddersfield Road Surgery • Victoria Medical Centre • Rotherham Road Medical Centre • Monk Bretton Health Centre • Walderslade Surgery • Chapelfield Medical Centre
Services	• Wombwell Post Office • Hoyland Post Office • Wombwell Road Drop & Collect Post Office • Jump Post Office • Bank End Post Office	• Elsecar Parish Hall • Milton Hall • Kirk View Community Centre • Worsborough Bridge Post Office & Shop • Shipcroft Community Centre	• Darfield Church Hall • Darfield Community Centre • Brampton Bierlow Parish Hall • Cortonwood Comeback Centre • Dartfield Post Office

4.3 ACCESSIBILITY BY BUS

4.3.1 In accordance with pre-application comments provided by BMDC, the development will be required to a contribution towards sustainable transport and active travel measures, as set out within the Appendix C of the adopted Barnsley Sustainable Travel SPD (2022).

4.3.2 As set out within Chapter 3, the existing bus stops along Aldham House Lane, which provide an hourly service frequency between Wombwell and Barnsley are situated some 630m from the centre of the development. Further bus stops are available from Newsome Road within a 685m.

4.3.3 Some local authorities quote a desire for developments to be no more than 5 minutes walking time i.e. 400m from a bus stop. Whilst the precise source of the 400m requirement is not clear it is likely that it has been obtained from the document entitled 'Guidelines for Planning for Public Transport in Developments' published in 1999 by The Institution of Highways and Transportation (IHT) where at paragraph 6.20 it states that "*the maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m*." However, it should be noted that the document also makes it clear that these walk distances are not fixed, stating that:

> *"These distances are quoted for guidance, and should not be followed slavishly if that would lead to complex or indirect bus routes" (paragraph 6.20);*
>
> *"If bus stops can be located at local centres, the network of footpaths and cycle routes can serve both the stop and the centre ……" (paragraph 6.20); and*

"Bus stops should, ideally, be located to minimise walking distances, yet maximise the potential catchment areas" (paragraph 6.26).

4.3.4 Furthermore, there appears to be no reference to any research or empirical evidence within 'Planning for Public Transport in Developments' to back up the suggestion that the maximum walk distance to a bus stop should be 400m.

4.3.5 By contrast, the IHT document, 'Guidelines for Providing for Journeys on Foot', does provide some empirical evidence stating that on average people are prepared to walk 1.0km (paragraph 3.30) and that this figure differs little by age or sex, remaining constant since 1975. In the same section of the document Table 3.2 goes on to suggest that the same 1.0km distance is an acceptable walking distance for commuters.

4.3.6 The two IHT documents do not appear to 'marry up'. The more recent document suggests 1km, not 400m. In comparing the two, the 400m maximum walking distance in 'Planning for Public Transport in Developments' is introduced with no apparent research/evidence and in any event the document describes that it "*should not be followed slavishly*". In contrast 'Providing for Journeys on Foot' does provide evidence to suggest that people, on average, are prepared to walk much further than 400m, indeed up to 1,000m. Additionally by providing a range of distances in Table 3.2, this IHT document implies that people are prepared to walk greater distances to different land uses and their associated 'attractiveness'.

4.3.7 This is further evidenced by an interrogation of data obtained from the National Travel Survey (NTS) and as described in the WYG report titled 'Accessibility – How far do People Walk and Cycle'. The report shows that from an analysis of the NTS data, for the UK as a whole (excluding London):

- The 85th percentile walk distance for all journey purposes is 1.93km, which is very similar to the 2.0km figure referenced in the IHT document 'Guidelines for Providing for Journeys on Foot';
- The 85th percentile walk distance specifically for commuting was found to be greater at 2.4km; and
- The 85th percentile walk distance to a bus stop is 970m and the average is 640m.

4.3.8 The report concludes from the NTS data that:

- more than 50% of people are prepared to walk 640m to a bus stop which is 240m greater than the 400m figure referred to in 'Planning for Public Transport in Developments';
- 85% of people are prepared to walk 970m to a bus stop which is 570m greater (more than double) than the 400m figure referred to in 'Planning for Public Transport in Developments'; and
- The average walk distance i.e. 640m should be used as the desirable walk distance to public transport and the 85th percentile walk distance i.e. 970m as the limit of accessibility.

4.3.9 In conclusion, based on distance alone, it is evident that it is acceptable for people to walk up to 1km to a bus stop – as referenced by the surveyed figures provided in IHT guidance as well the recorded NTS values.

4.3.10 Notwithstanding this, the attractiveness of using public transport is not just a factor of distance to bus stops. It is also a factor of destination, journey time and having a regular service that

operates throughout the day and week - all of which will in turn influence the walking distance to bus stops deemed acceptable.

4.3.11 A summary of the main destinations served, and indicative journey times can be found in Table 4.4.

Table 4.3 Main Destinations served by Public Transport

Destination	Bus Service	Indicative Journey Time	Average Weekday Frequency
Wombwell Railway Station	67/67a/67c	6 mins	Hourly
Corton Wood Shopping Park	67/67a/67c	11 mins	Hourly
Hemingfield	67/67a/67c	14 mins	Hourly
Barnsley	67/67a/67c	25 mins	Hourly

4.3.12 In light of the above, it is concluded that the Site will be provided with appropriate accessibility by public transport to key local destinations, which offer a wide range of services, facilities and employment opportunities, many of which are within a very short journey via public transport.

4.4 ACCESSIBILITY BY RAIL

4.4.1 The nearest railway station is Wombwell, which is located circa 900m to the south of the Site. Indicative journey times to Wombwell railway station are summarised within Table 4.5.

Table 4.4 Wombwell Railway Station – Indicative Journey Times

Mode of Transport	Indicative Journey Time
On Foot	4 minutes
Cycle	2 minutes
Bus (Service 67/67a/67c)	6 minutes *(Plus minutes 8 walk time – 2 mins to Aldham House Lane bus stops and 2 mins from Hemingfield Road bus stops)*

4.4.2 Wombwell Railway Station is located on the Hallam and Penistone Lines and provides regular services between Barnsley, Sheffield, Huddersfield and Leeds. Wombwell is provided with 6 car parking and 12 cycle storage spaces, which are sheltered and covered by CCTV.

4.4.3 Approximate journey times are as follows:

- Barnsley – 6 minutes;
- Sheffield – 24 minutes;
- Huddersfield – 55 minutes; and
- Leeds – 1hr 1 minute.

4.5 TRAVEL PLAN MEASURES

4.5.1 In line with both local and national guidance a Travel Plan (TP) has been produced by Travel Plan Services, which includes a package of measures tailored to the needs of the Site aimed at promoting greener, cleaner travel choices and reducing the reliance on the car. The plan involves the development of a set of mechanisms, initiatives and targets that together can enable a development to reduce the impact of travel and transport on the environment, whilst also achieving a number of other benefits for residents i.e. health and financial.

4.5.2 The TP provides a means of managing the travel behaviour of the users and occupiers of a development. The plan will adopt a package of measures that aim to achieve target reductions in the level of car trips generated by the developments, by facilitating access to other forms of transport and by reducing the need to travel in the first instance.

4.5.3 A summary of the key measures included in the Travel Plan are as follows:

- Appointment of a Travel Plan Coordinator;
- Target to reduce single occupancy vehicle trips;
- Review and monitoring mechanism;
- Personalised travel planning for residents;
- Encouraging use of electric vehicles;
- Provision of electric vehicle charging points;
- Provision of cycle storage and
- Provision of residents' travel information leaflets.

4.6 ACCESSIBILITY SUMMARY

4.6.1 It is concluded that the development is provided with appropriate accessibility by foot, cycle and public transport to a range of local services, facilities and employment opportunities.

4.6.2 The Site location complies with paragraphs 115 and 117 of the NPPF, which requires that:

> *"Sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location" and "safe and suitable access to the site can be achieved for all users"*
>
> and development should:
>
> *"give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus and other public transport services. And appropriate facilities that encourage public transport use."*

5. Active Travel Assessment

5.1.1 Active Travel England (ATE) is a statutory consultee on all planning applications for residential developments of 150 or more dwellings.

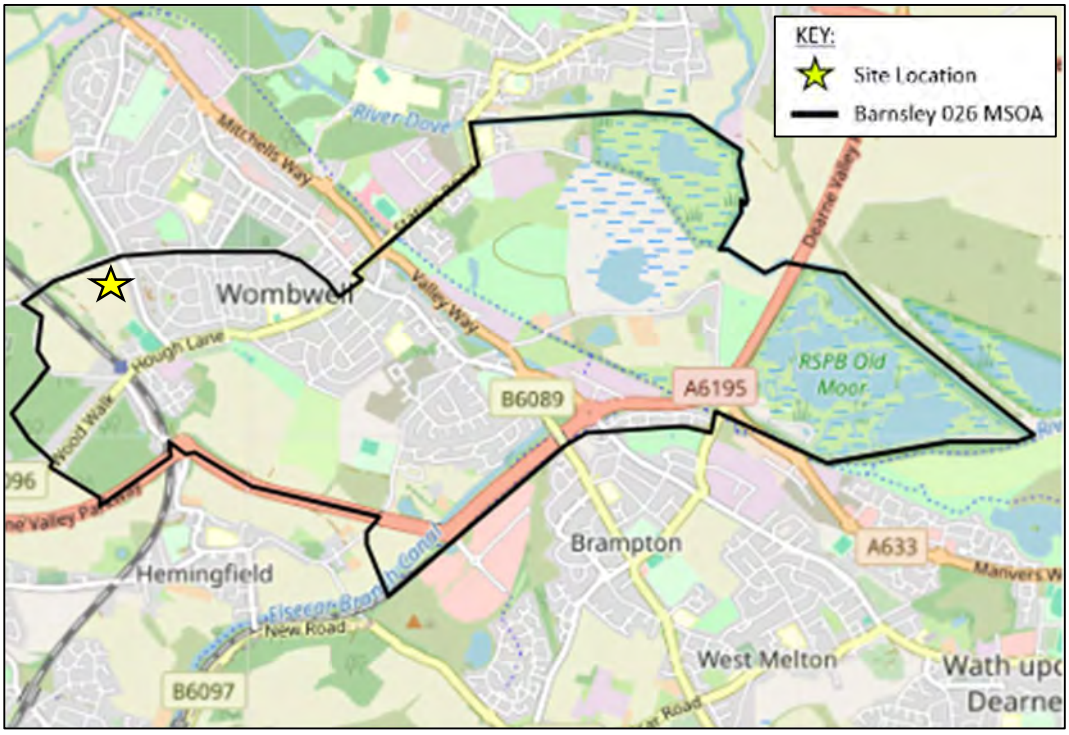
5.1.2 The chapter includes an Active Travel Assessment (ATA), which provides a qualitative assessment of the existing pedestrian and cycle infrastructure surrounding the proposed development and includes a review of likely desire lines to key local destinations.

5.2 MULTI MODAL TRIP GENERATION

5.2.1 In order to establish the trip generation by mode for the development Census data (2011) has been obtained from www.nomisweb.co.uk.

5.2.2 The proposed development is located within the boundary of super output area (mid layer) 'Barnsley 026', illustrated in Image 5.1.

Image 5.1 Barnsley 026 Middle Super Output Area



Source – www.nomisweb.co.uk

5.2.3 The output area is considered to represent similar characteristics to the Site in terms of accessibility by all modes. As such the mode share of the selected output area is the most appropriate way to predict the proposed mode split. The Method of Travel to Work data from the 2011 Census is contained at Appendix G with the mode share for Barnsley 026 MSOA is summarised in Table 5.1.

Table 5.1 Summary of Census Mode Splits – Barnsley 026

Mode	Trips
Driving a car or van	71%
Passenger	8%
Taxi	0%
Cycle	1%
Walk	10%
Bus	7%
Rail	3%
Motorcycle	1%
Work from home	0%
Other	0%
Total	**100.0%**

5.2.4 Having established the proposed vehicular trip generation (see Chapter 6), it is possible to calculate the number of daily trips by other modes by factoring the vehicular arrivals and departures by the baseline modal split values shown in Table 5.1. The resulting predicted numbers of development trips by mode are shown in Table 5.2.

Table 5.2 Proposed Multi Modal Trip Generation

	Daily Trip Generation by Mode		
Trip Type	**Arrivals**	**Departures**	**Total**
Driving a car or van*	468	471	939
Passenger	51	51	102
Taxi	3	3	6
Cycle	5	5	9
Walk	64	65	129
Bus	46	46	92
Rail	20	21	41
Motorcycle	5	5	10
Work from home	0	0	0
Other	1	1	2
Total	**663**	**668**	**1,331**

*Refer to Table 6.2

5.2.5 As can be seen from Table 5.2, the development is predicted to generate 129 trips on foot and 9 trips by bicycle across a typical weekday.

5.3 INTERNAL SITE LAYOUT

5.3.1 As set out within Section 3.4, the internal layout will be formed of a 5.5m wide single carriageway which is flanked by 3m wide verges and 2m footways to both sides.

5.3.2 At the request of BMBC, the proposals also include the provision of a boundary connection to an existing pedestrian/cycle route along the western frontage of the Site, creating a direct route to Wombwell Railway Station.

5.3.3 Pit Lane will also be upgraded between the Site and the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane crossroads junction to include 2m footways to both sides connecting the Site with existing footways within the adjacent residential estate.

5.4 STUDY AREA AND KEY ROUTES

5.4.1 The Site is situated to the west of the established residential area of Wombwell. The existing residential estates are provided with good permeability, meaning that residents from the Site will be provided with a number of potential routes to/from a wealth of amenities and public transport facilities to the south and east of the Site.

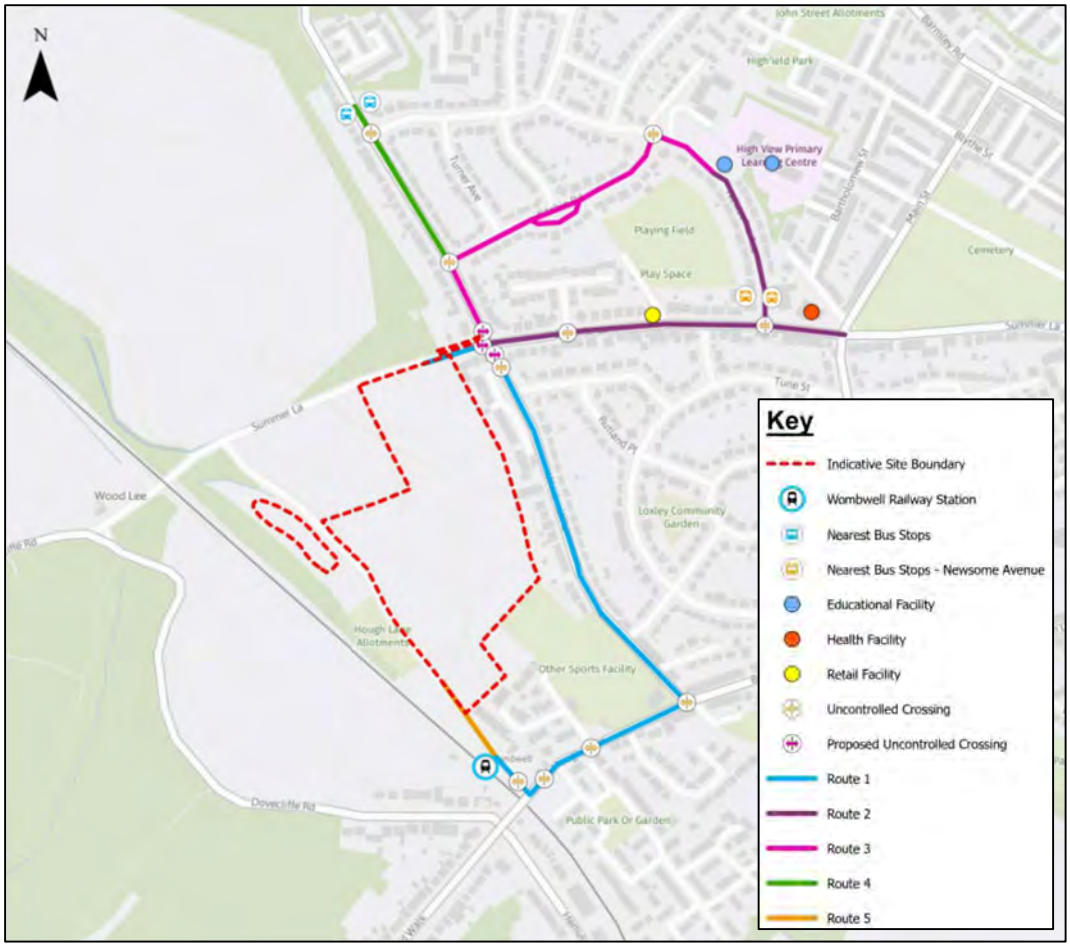
5.4.2 Potential routes to key local facilities within the vicinity of the Site are identified within Table 5.3.

Table 5.3 Potential Routes and Facilities

Route Reference	Description	Facilities
Route 1	South via Windmill Road/B6096 Hough Lane	• Wombwell Railway Station • Little Unicorns Day Nursery • Wombwell Cricket Club • Café • Hair Salon
Route 2	East via Summer Lane/Newsome Avenue/ PRoW Wombwell 2	• Summer Lane Convenience Store • Public Open Space/Park • Alternative bus stops • Summer Lane Practice • High View Primary School
Route 3	East via Aldham House Lane/Kitchen Road/Newsom Avenue	• High View Primary School • Kids World Wombwell Day Nursery
Route 4	North via Aldham House Lane	• Nearest bus stops
Route 5	South via proposed boundary connection and existing ped/cycle route	• Wombwell Railway Station

5.4.3 Routes identified above are also illustrated on Figure 6, an extract of which is contained within Image 5.2.

Image 5.2 Active Travel Assessment Extract



5.5 SITE VISIT

5.5.1 A site visit was undertaken on Wednesday 22nd January 2025 between 10:00 and 12:00 during daylight hours. The weather during the site visit was dry and fine.

5.5.2 Each route was walked within the extents of the study area. The level of use and condition/suitability of the route were recorded, and potential improvements, repairs and connections were noted. A 'point of view' photograph was taken regularly along each route and the findings are summarised below.

5.5.3 The following observations were made during the Site visit:

- Pedestrians were observed to use the footways within the study area;
- No cyclists were observed during the Site visit;
- No horse-riders were observed during the Site visit; and
- The footways within the study area were generally recorded to be in an appropriate state of repair, with some minor cracking in places.

5.6 ROUTE ASSESSMENT

Route 1

5.6.1 Route 1 covers the realigned section of Pit Lane, Windmill Road and B6096 Hough Lane and provides access to Wombwell Railway Station, Wombwell Cricket Club, a Day Nursery, Café and Hair Salon.

5.6.2 Within the Site, pedestrians will route via 2m wide footways along the main spine road and the realigned Section of Pit Lane which provide a continuous connection with existing footways along Windmill Road. Windmill Road leads south from Aldham House Lane and is flanked by a footway of varying but generally 2.6-3m along the western flank and 2.3-2.5m along the eastern flank, both of which benefit from street lighting.

5.6.3 The desire line for Route 1 would be on the western flank of Windmill Road, which provides a continuous link between the Site and B6096 Hough Lane. An inset dropped crossing with tactile paving is provided across the Windmill Road/Windmill Court junction. It was noted during the site visit that the available western footway width drops to 1.4m over a distance c. 150m leading north of the B6096 Hough Lane/Windmill Road junction due to the presence of vehicles wholly parking on the footway.

5.6.4 Route 1 then continues west along B6096 Hough Lane along a lit c. 2.1-3m wide footway on the northern flank, which again provides continuous access to Wombwell Railway Station and the identified amenities. In-line dropped crossings with tactile paving is provided across the B6096 Hough Lane/Cowley Green junction and Wombwell Railway Station access, which also includes step free access. The B6096 Hough Lane is also flanked by a 1.6-1.8m wide footway to the south along Route 1.

5.6.5 As the existing section of Pit Lane will be substantially upgraded as part of the development proposals, no further issues have been identified along Route 1.

Route 2

5.6.6 Route 2 covers Summer Lane, Newsome Avenue and PRoW Wombwell 2 between Pit Lane, the nearest convenience store, the closest public open space/park, High View Primary School, Kids World Wombwell Day Nursery and Summer Lane Practice.

5.6.7 It was noted during the Site visit that the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction does not currently include an east-west crossing facility in order to accommodate safe passage between Pit Lane and Summer Lane As such a new crossing has been incorporated within the improvements to the junction, as shown on drawing 23081/GA/01 rev B contained at Appendix F.

5.6.8 Route 2 then continues east along the northern flank of Summer Lane in the form of a lit, c. 2.4-3.0m wide footway, which provides access to Summer Lane Convenience Store, PRoW Wombwell 2 and Newsome Avenue. A dropped crossing is provided across the Summer Lane/South Place junction. The southern flank of Summer Lane includes a 1.6-1.8m wide footway between Aldham House Lane/Windmill Road and Newsome Avenue and also benefits from street lighting.

5.6.9 PRoW Wombwell 2 leads north of Summer Lane in the form of a lit 3.1m wide shared surface street which provides access to the nearest Public Open Space and Park.

5.6.10 Newsome Avenue leads north of Summer Lane and is provided with 3.0m wide lit footways to both sides. Access to the eastern footway from Summer Lane is facilitated by an existing dropped crossing at the Summer Lane/Newsome Avenue junction, which would represent the desire line for pedestrians wishing to access High View Primary School and Kids World Wombwell Day Nursery, as well as alternative bus stops.

5.6.11 Route 2 can also be utilised to access Summer Lane Practice which is the closest GP Surgery, via a lit 3m footway along the northern flank of Summer Lane, east of Newsome Lane.

Route 3

5.6.12 Route 3 leads north along Aldham House Lane, with pedestrians utilising the proposed dropped crossing with tactile identified within Route 2 to access a lit, 2.3m wide footway along the eastern flank of Aldham House Lane. Pedestrians would then divert east via a continuous footway along the southern flank of Kitchen Road which is 1.8m in width and provided with street lighting. Kitchen Road is also flanked by a lit 1.8m wide footway to the north.

5.6.13 Route 3 then continues along Kitchen Road before meeting Newsome Avenue at a priority T junction, which is flanked by lit 3.0-3.2m wide footways to both sides and provides access to High View Primary Learning Centre and Kids World Day Nursery.

5.6.14 No issues have been identified within Route 3.

Route 4

5.6.15 Route 4 covers Aldham House Lane between Kitchen Road and the nearest north and southbound bus stops. The proposals ensure that a continuous minimum 2m wide footway is provided between the Site and the nearest northbound bus stop, via the realigned section of Pit Lane and existing 2.1-2.3m wide footways along the western flank of Aldham House Lane.

5.6.16 The nearest southbound stop is also accessible via a lit 2.3-2.4m wide footway along the eastern flank of Aldham House Lane, with pedestrians utilising the proposed dropped crossing with tactile identified within Improvement 1 (Table 5.4) at the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction.

5.6.17 Pedestrians wishing to access the nearest southbound stop will then continue along the existing, lit 2.3-2.4m wide footway along the eastern flank of Aldham House Lane. Dropped crossings are provided along the Aldham House Lane/Kitchen Road and Aldham House Lane/Wilson Street junctions along the desire line.

5.6.18 No issues were identified along Route 4.

Route 5

5.6.19 Route 5 covers a proposed boundary connection to the south of the Site with an existing pedestrian/cycle route which can be utilised to access Wombwell Railway Station.

5.6.20 It was noted during the site visit that the existing 3m wide pedestrian/cycle route was surfaced but in a poor state of repair. See Table 5.2 (Potential Improvement 1).

Table 5.4 Potential Improvement 1

Location	Existing Pedestrian/Cycle Track
Summary	Poor surfacing.
	
Potential Improvement	
Re-surface existing route between proposed southern boundary connections and Wombwell Railway Station car park.	

6. Traffic Generation and Distribution

6.1 INTRODUCTION

6.1.1 This chapter sets out the trip generation and distribution methodologies associated with the proposed development.

6.2 VEHICULAR TRIP GENERATION

6.2.1 In accordance with the TA scope agreed with BMBC, the TRICS 7.10.4 online database has been utilised to calculate representative and appropriate trip rates for the proposed housing during the typical network peak hours.

6.2.2 Survey sites within the database have been chosen using the parameters summarised within Table 6.1.

Table 6.1 TRICS Selection Criteria

Parameter	Selection
Land Use	03 - Residential, Category: A Houses Privately Owned
Calculation options	Vehicular trip rates
Regions	Greater London, Scotland, Wales, Northern Ireland and Ireland sites excluded
Trip Rate Parameter	Number of dwellings
Parameter Range	50 to 1,000 units selected (average 190)
Date Range	31/12/21 to 04/07/23 – post COVID-19 pandemic surveys selected only
Days Included	Monday to Friday
Location	Edge of Town & Neighbourhood Centre

6.2.3 The full TRICS output is contained at Appendix H and the weekday AM and PM peak hour trip rates shown within Table 6.2.

Table 6.2 TRICS Trip Rates and Trip Generation

Time Period	Vehicular Trip Rates (per dwelling)			Traffic Generation (230 Dwellings)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak Period						
07:00-08:00	0.073	0.271	0.344	17	62	79
08:00-09:00	**0.138**	**0.350**	**0.488**	**32**	**81**	**112**
09:00-10:00	0.122	0.154	0.276	28	35	63
PM Peak Period						
15:00-16:00	0.238	0.144	0.382	55	33	88
16:00-17:00	0.234	0.146	0.380	54	34	87
17:00-18:00	**0.314**	**0.15**	**0.464**	**72**	**35**	**107**
Daily						
07:00-19:00	**2.036**	**2.048**	**4.084**	**468**	**471**	**939**

6.2.4 As shown above, the development is predicted the generate 112 two-way vehicular trips during the AM peak hour of 08:00-09:00 and 107 two way vehicular trips during the PM peak hour of 17:00-18:00.

6.2.5 It should be noted that the worst case development trip generation of 17:00-18:00 has been applied to the slightly earlier network peak of 16:15-17:15 as a worst case scenario.

6.3 TRAFFIC DISTRIBUTION

6.3.1 Having established the developments traffic generation, a distribution exercise has been conducted to predict the assignment of these trips onto the key local highway network junctions. The proposed traffic distribution was presented to, and agreed by BMBC, as part of the TA scoping study undertaken during formal pre-application discussions. Details of the agreed traffic distribution are set out below.

6.3.2 The NOMIS website has been interrogated utilising data query WU03EW – 'Location of usual residence and place of work by method of travel to work (MSOA level)' to understand the places of work for all car drivers within Barnsley 026 based on 2011 census data.

6.3.3 The following cordon points have been identified within the local highway network:

- A - A647 High Gate Road (East);
- B - A647 Halifax Road (South-west);
- C - A644 Brighouse & Denholme Road (North-west);
- D - Cockin Lane (North);
- E - A644 Brighouse Road (South) (via Jackson Hill Lane);
- F - A644 Brighouse Road (South) (via Shaw Lane);
- G - A644 Brighouse Road - Bradford 058 Internal Trips; and
- H - A647 High Street - Bradford 058 Internal Trips.

6.3.4 The distribution of journeys to work from Barnsley 026 MSOA can be summarised as follows:

- Barnsley - 44% (including 6% internal trips to/from Barnsley 026);
- Rotherham - 20%;
- Sheffield - 13%;
- Doncaster - 6%;
- Leeds - 3%; and
- Other - 14%.

6.3.5 A journey time-based distribution exercise has been conducted to understand likely routing between the Site and identified destinations.

6.3.6 The resulting traffic distribution is summarised with Table 6.3 and a copy of the full distribution exercise can be found within Appendix I.

Table 6.3 Proposed Traffic Distribution

Cordon Point/Route	%
A - M1 J36 North via A6195 and B6096	10.4%
B - M1 J36 South via A6195 and B6096	15.2%
C - Sheffield Road/Olympus Way	1.8%
D - A633 via Aldham House Lane	13.3%
E - Pit Lane	15.8%
F - Hemingfield Road South	4.6%
G - Wath Road via A6195 Wath Roundabout (via Hemingfield Road)	8.4%
H - A6195 East of Broomhill Roundabout (via Hemingfield Road)	11.3%
I - A633 South via Broomhill Roundabout (via Hemingfield Road)	8.3%
Local MSOA Trips (Barnsley 026 and Barnsley 023) 10.8%	
J - Internal (B6096 East via Hough Lane)	5.4%
K - Internal (B6096 via Summer Lane)	5.4%
Total	**100.0%**

6.3.7 The proposed traffic distribution is illustrated on Figure 7 (based on Ordnance Survey Mapping) and Figure 102. The predicted trip generation is then shown distributed onto the highway network on based on the respective traffic distribution shown on Figures 103 and 104 for the AM and PM peak hours.

7. Identification of Impacts

7.1 INTRODUCTION

7.1.1 This chapter describes the impact of the development trips and identifies if any detailed junction capacity assessments are necessary.

7.2 SCOPE OF ASSESSMENT & MATERIALITY

7.2.1 The impact of the development has been considered at the following junctions:

- **Junction 1:** Aldham House Lane/Windmill Road/Summer Lane/Pit Lane;
- **Junction 2:** B6096 Hough Lane/Windmill Road;
- **Junction 3:** B6069 Hough Lane/Hemingfield Road/Dovecliffe Road;
- **Junction 4:** A6195 Dearne Valley Parkway/Hemingfield Road;
- **Junction 5:** Pit Lane/Dovecliffe Road;
- **Junction 6:** A633 Barnsley Road/Aldham House Lane;
- **Junction 7:** A6195 Dearne Valley Parkway/Corton Wood 'Corton Wood Roundabout';
- **Junction 8:** A6195 Dearne Valley Parkway/A633/Wath Road 'Wath Roundabout';
- **Junction 9:** A6195 Dearne Valley Parkway/A633 Manvers Way/Pontefract Road 'Broomhill Roundabout';
- **Junction 10:** A6195 Dearne Valley Parkway/B6096 Wood Walk/Roebuck Hill 'Roebuck Hill Roundabout';
- **Junction 11:** A6195 Dearne Valley Parkway/B6096 Wood Walk/Woodhead Lane 'Wombwell Roundabout';
- **Junction 12:** A6195/B6096 Ryecroft Bank 'Platts Common Roundabout';
- **Junction 13:** A6195 Dearne Valley Parkway/Shortwood Way/Newton Road 'Shortwood Roundabout';
- **Junction 14:** A6195 Dearne Valley Parkway/Kestral Way/Sheffield Road 'Rockingham Roundabout';
- **Junction 15:** A61/A6195 Dearne Valley Parkway/Sheffield Road 'Bridwell Roundabout'; and
- **Junction 16:** A61/M1 J36 'Tankersley Roundabout'.

7.2.2 In order to identify whether further analysis is required at the above junctions a materiality assessment has been conducted. Table 7.1 illustrates the AM and PM two-way trips predicted from the proposed development distributed onto the local highway network.

Table 7.1 Materiality Assessment (Total Vehicles)

Ref	Junction	AM Peak Hour				PM Peak Hour			
		2024 Survey	2031 Base	Development Trips	% Impact	2024 Survey	2031 Base	Development Trips	% Impact
1	**Aldham House Lane/Windmill Road/Summer Lane/Pit Lane**	**510**	**584**	**94**	**16%**	**606**	**686**	**90**	**13%**
2	**B6096 Hough Lane/Windmill Road**	**1,133**	**1,244**	**73**	**6%**	**1,348**	**1,475**	**70**	**5%**
3	**B6069 Hough Lane/Hemingfield Road/Dovecliffe Road**	**1,275**	**1,393**	**67**	**5%**	**1,503**	**1,639**	**64**	**4%**
4	**A6195 Dearne Valley Parkway/Hemingfield Road**	**2,422**	**2,611**	**37**	**1%**	**2,791**	**3,011**	**35**	**1%**
5	Pit Lane/Dovecliffe Road	-	-	18	-	-	-	17	-
6	A633 Barnsley Road/Aldham House Lane	-	-	15	-	-	-	14	-
7	A6195 Dearne Valley Parkway/Corton Wood 'Corton Wood Roundabout'	-	-	31	-	-	-	30	-
8	A6195 Dearne Valley Parkway/A633/Wath Road 'Wath Roundabout'	-	-	31	-	-	-	30	-
9	A6195 Dearne Valley Parkway/A633 Manvers Way/Pontefract Road 'Broomhill Roundabout'	-	-	22	-	-	-	21	-
10	A6195 Dearne Valley Parkway/B6096 Wood Walk/Roebuck Hill 'Roebuck Hill Roundabout'	-	-	31	-	-	-	29	-
11	A6195 Dearne Valley Parkway/B6096 Wood Walk/Woodhead Lane 'Wombwell Roundabout'	-	-	31	-	-	-	29	-
12	A6195/B6096 Ryecroft Bank 'Platts Common Roundabout'	-	-	31	-	-	-	29	-
13	A6195 Dearne Valley Parkway/Shortwood Way/Newton Road 'Shortwood Roundabout'	-	-	31	-	-	-	29	-
14	A6195 Dearne Valley Parkway/Kestral Way/Sheffield Road 'Rockingham Roundabout'	-	-	31	-	-	-	29	-
15	A61/A6195 Dearne Valley Parkway/Sheffield Road 'Bridwell Roundabout'	-	-	29	-	-	-	27	-
16	A61/M1 J36 'Tankersley Roundabout'	-	-	29	-	-	-	27	-

7.2.3 The predicted trip generation is shown distributed onto the wider highway network on Figure 8.

7.2.4 A trip generation threshold of 30 two-way trips per hour is referenced within the Department for Transport document 'Guidance on Transport Assessment' (GTA) published in March 2007. This document was withdrawn and replaced by the National Planning Practice Guidance 'Travel Plans, Transport Assessments and Statements' document. However, this document does not provide updated figures and places the onus on Local Planning Authorities to assess the suitability of the highway network. As such guidance contained within GTA is regularly quoted by Highway Professionals, Planning & Highway Authorities and Highways England.

7.2.5 Although there is no suggestion that 30 two-way peak hour vehicle trips would in themselves cause a detrimental impact (paragraph 2.11 of the GTA), any development generating 30 two-way trips or less is highly unlikely to result in any material or severe impact on the operation of the local highway network.

7.2.6 As can be seen from Table 8.1, the proposed development is predicted to generate 30 two-way trips or more at the following junctions during either the AM or PM peak hour:

- J1 - Aldham House Lane/Windmill Road/Summer Lane/Pit Lane;
- J2 - B6096 Hough Lane/Windmill Road;
- J3 - B6069 Hough Lane/Hemingfield Road/Dovecliffe Road;
- J4 - A6195 Dearne Valley Parkway/Hemingfield Road;
- J7 - A6195 Dearne Valley Parkway/Corton Wood 'Corton Wood Roundabout';
- J8 - A6195 Dearne Valley Parkway/A633/Wath Road 'Wath Roundabout';
- J10 - A6195 Dearne Valley Parkway/B6096 Wood Walk/Roebuck Hill 'Roebuck Hill Roundabout';
- J11 - A6195 Dearne Valley Parkway/B6096 Wood Walk/Woodhead Lane 'Wombwell Roundabout';
- J12 - A6195/B6096 Ryecroft Bank 'Platts Common Roundabout';
- J13 - A6195 Dearne Valley Parkway/Shortwood Way/Newton Road 'Shortwood Roundabout'; and
- J14 - A6195 Dearne Valley Parkway/Kestral Way/Sheffield Road 'Rockingham Roundabout'.

7.2.7 Whilst the development is predicted to generate between 29 and 31 trips at each of Junction 7, 8 and 10-14, it was agreed with BMBC as part of the scoping studies conducted during pre-application discussions that capacity assessment is not required, given that the 30 two-way trip threshold is only exceeded by a single trip during the AM peak hour, which is considered to represent a non-material impact.

7.2.8 Therefore, as agreed with BMBC capacity assessment will be conducted at the following junctions:

- Pit Lane/Internal Spine Road;
- J1 - Aldham House Lane/Windmill Road/Summer Lane/Pit Lane;

- J2 - B6096 Hough Lane/Windmill Road;
- J3 - B6069 Hough Lane/Hemingfield Road/Dovecliffe Road; and
- J4 - A6195 Dearne Valley Parkway/Hemingfield Road.

7.3 EXISTING TRAFFIC FLOW DATA

7.3.1 The 2024 surveys identified the following existing weekday network peak hours:

- Weekday AM Peak - 07:45 to 08:45; and
- Weekday PM Peak - 16:15 to 17:15.

7.3.2 The traffic survey flows for these periods are shown on Figures 100 and 101 for the morning and evening peak hours respectively.

7.4 FUTURE ASSESSMENT YEAR

7.4.1 As agreed during the TA scoping studies, a future design year of 2031 has been applied which represents a 5-6-year construction period based on approximately 40 dwellings per year.

7.4.2 The following assessment scenarios have been considered:

- 2024 – Count year;
- 2031 – Base year; and
- 2031 – Design year.

7.5 COMMITTED DEVELOPMENT

7.5.1 As agreed during the TA scoping discussions, an allowance has been made for the remainder of the land safeguarded for development under SL20.

7.5.2 A review of BMDCs planning portal has also been conducted to understand whether any developments within the vicinity of the study area have been granted planning permission within the past 5 years in order accurately model design year traffic levels.

7.5.3 The review concluded that there are no significant consented developments within the vicinity of the study area that would need to be considered in addition to TEMPro growth.

CDEV 1: SL20 Remainder of Safeguarded Land

7.5.4 The remainder of safeguarded land reference SL20 is not currently subject to a live planning application at the time of writing (February 2025). However, an assumed housing capacity of 91 dwellings has been calculated based on its site area (2.67 hectares), a 15% allowance for Public Open Space and a density of 40 dwellings per hectare.

7.5.5 The trip generation associated with the 91 dwellings within the remainder of SL20 is shown in Table 7.2, based on the agreed trip rates presented in Table 6.2.

Table 7.2 CDEV 1: SL20 Remainder of Safeguarded Land - TRICS Trip Rates and Trip Generation

Time Period	Vehicular Trip Rates (per dwelling)			Traffic Generation (91 Dwellings)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak Period						
08:00-09:00	0.138	0.350	0.488	0.314	0.150	0.464
PM Peak Period						
17:00-18:00	12	32	44	28	14	42

7.5.6 The trip generation predicted to be associated with the remainder of CDEV 1: SL20 has been distributed onto the local highway network in-line with the MSOA based proposed development traffic distribution shown on Figure 102. The resultant CDEV 1: SL20 trip generation is shown Figures 105 and 106 for the AM and PM peak hours respectively.

7.6 TRAFFIC GROWTH

7.6.1 Traffic growth between 2024 and 2031 has been applied based on TEMPro v8.1 software (Trip End Model Presentation Program), which enables users to access National Trip End Model (NTEM) datasets, for traffic forecasting purposes.

7.6.2 The NTEM model forecasts traffic growth taking into account national projections of:

- Population;
- Employment;
- Housing;
- Car ownership; and
- Trip Rates.

7.6.3 The Site is located within Middle Layer Super Output Areas (MSOA) Barnsley 026.

7.6.4 The calculated Barnsley MSOA 026 Core Scenario (All Roads) AM and PM peak hour growth rates are set out within Table 7.3.

Table 7.3 TEMPro V8.1 - 2024-2031 Growth Rates

Area (MSOA)	AM Peak Hour		PM Peak Hour	
	Growth Rate	Percentage	Growth Rate	Percentage
Barnsley 026	1.072	7.2%	1.074	7.4%

7.6.5 The above growth rates have been applied to the survey flows produce the Growth 2031 traffic flows shown on Figure 107 and 108 for the AM and PM peak hours respectively.

7.7 BASE TRAFFIC FLOWS

7.7.1 Adding the CDEV 1: SL20 flows described in Section 7.5 to the Growth 2031 flows produces the 2032 Base flows which are shown on Figures 109 and 110 for AM and PM peak hours respectively.

7.8 DESIGN TRAFFIC FLOWS

7.8.1 Adding the proposed development trips described in Chapter 7 to the Base 2034 traffic flows produces the Design 2034 and these are shown diagrammatically on Figures 111 and 112 for the AM and PM peak hours respectively.

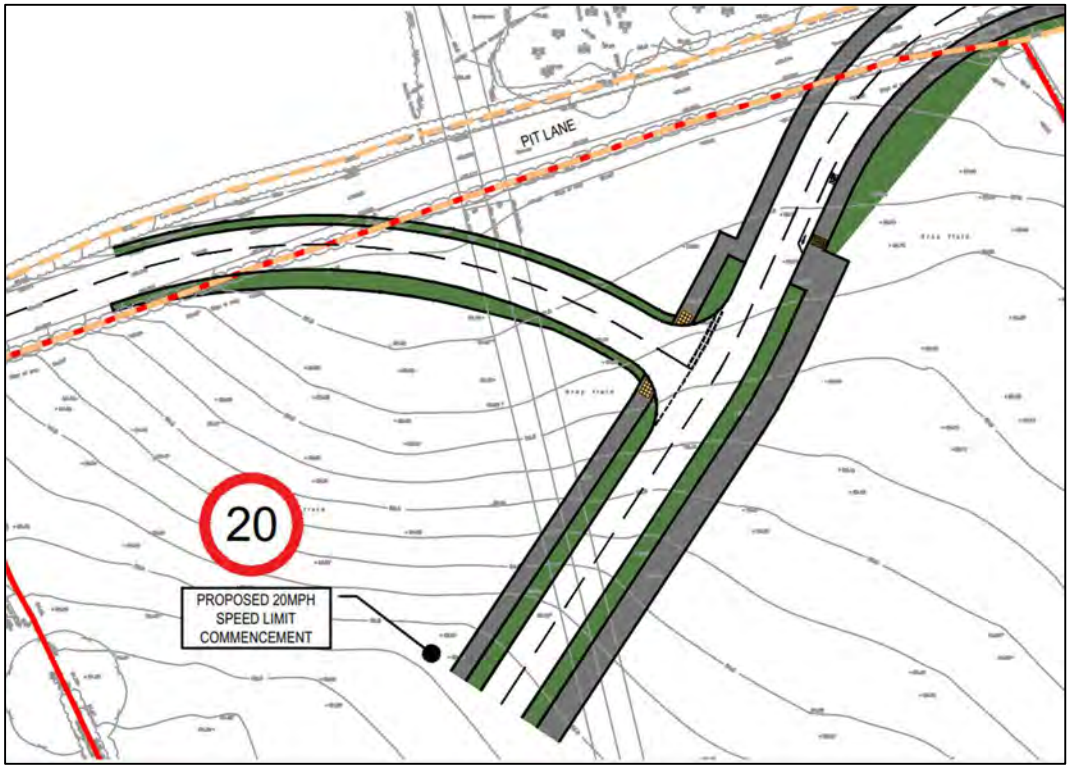
7.9 JUNCTION CAPACITY ASSESSMENT

7.9.1 This section describes the junction capacity assessments which have been undertaken. Full modelling software output data can be found at Appendix J.

Pit Lane Site Access

7.9.2 The proposed layout of the Pit Lane Site Access junction has been modelled using the PICADY function within the Junctions 9 software, based on the proposals shown on drawing 23081/GA/01 rev B contained within Appendix F, an extract of which is shown within Image 7.1.

Image 7.1 Pit Lane Site Access – Proposed Layout



7.9.3 A one-hour traffic profile type has been utilised within the assessment, which provides a synthesised profile including 12.5% mid-peak 'surge' to robustly test the performance of the junction.

7.9.4 The junction model has been set up with the following arm references:

- Arm A – Internal Spine Road (North);

- Arm B – Pit Lane; and
- Arm C – Internal Spine Road (South).

Capacity Assessment

7.9.5 The junction has been modelled within the 2031 Design Scenario, the results of which are presented within Table 7.4.

Table 7.4 Pit Lane Site Access – Model Summary

Approach Arm	AM Peak (07:45-08:45)			PM Peak (16:15-17:15)		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2031 Design						
Stream B-AC	0.08	6.66	0.1	0.11	6.73	0.1
Stream C-AB	0.08	6.57	0.1	0.07	6.12	0.1

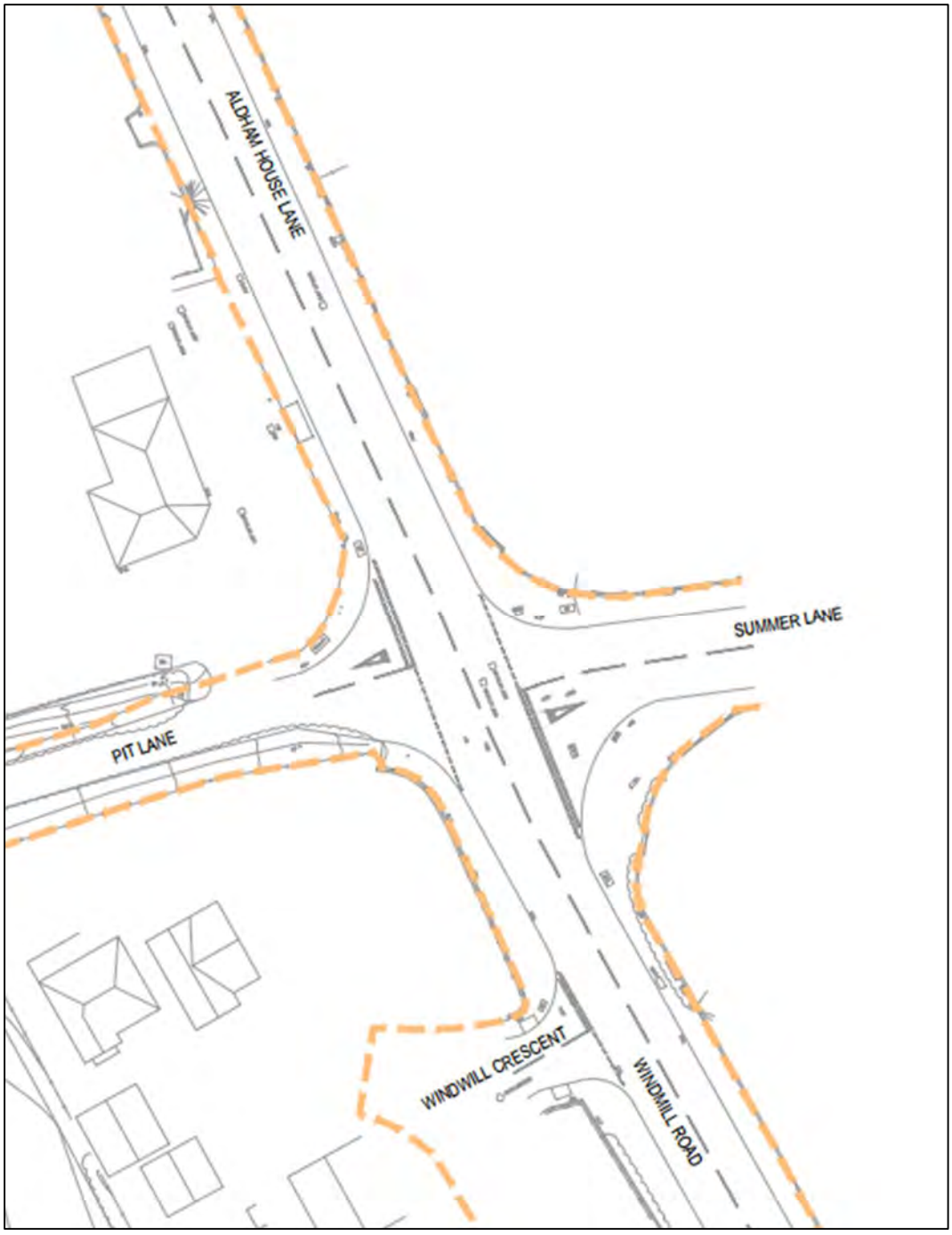
7.9.6 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a junction or arm operates within its desirable practical capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays will occur. An RFC value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

7.9.7 The results presented in Table 7.4 demonstrate that the proposed junction will operate comfortably within capacity during both the AM and PM peak hour periods in the 2031 Design scenario.

Junction 1: Aldham House Lane/Windmill Road/Summer Lane/Pit Lane

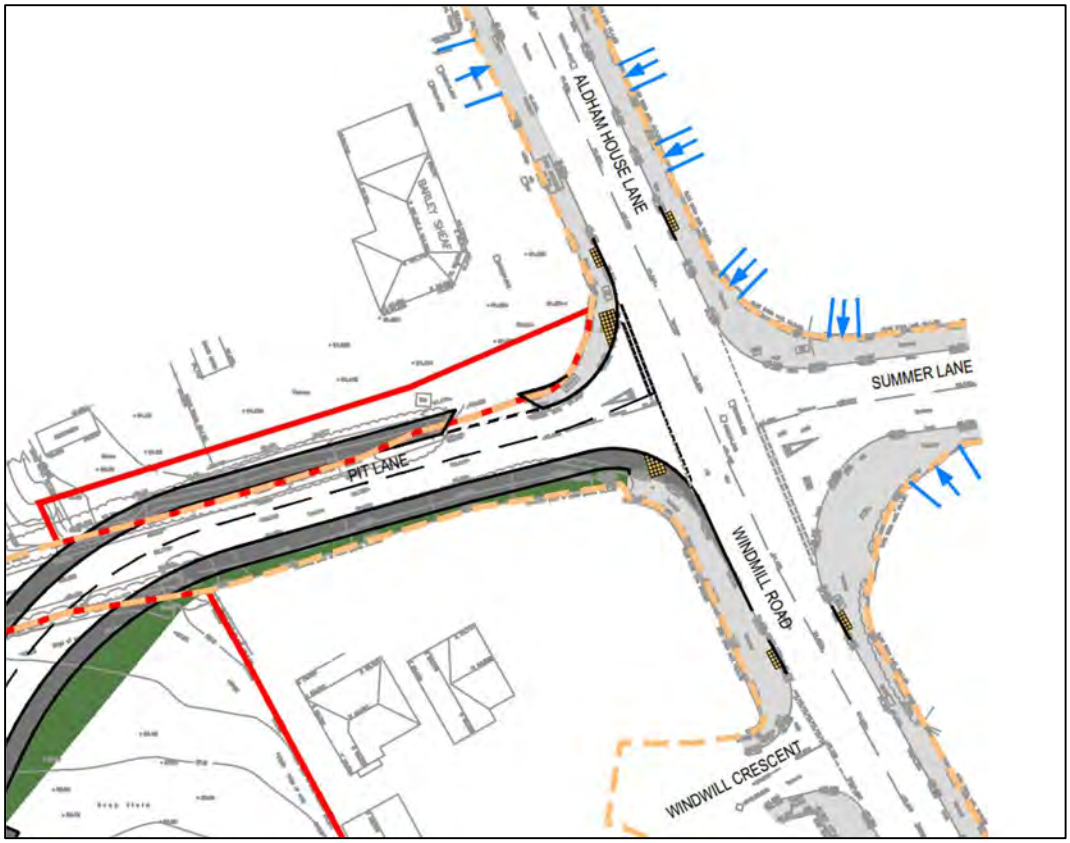
7.9.8 The Aldham House Lane/Windmill Road/Summer Lane/Pit Lane priority crossroads junction has been modelled using the PICADY function in JUNCTIONS 9 software. The junction has been modelled within the 2024 Survey and 2031 Base scenarios based on the existing layout and geometry shown on drawing 23081/IN/01 contained within Appendix K, an extract of which is shown within Image 7.2.

Image 7.2 Aldham House Lane/Windmill Road/Summer Lane/Pit Lane – Existing Layout



7.9.9 The junction has also been modelled in the 2031 Design scenario based on the proposed layout and geometry shown on drawing 23081/GA/01 rev B contained within Appendix F, an extract of which is shown within Image 7.3.

Image 7.3 Aldham House Lane/Windmill Road/Summer Lane/Pit Lane – Proposed Layout



7.9.10 A one-hour traffic profile type has been utilised within the assessment, which provides a synthesised profile including 12.5% mid-peak 'surge' to robustly test the performance of the junction.

7.9.11 The junction model has been set up with the following arm references:

- Arm A – Aldham House Lane;
- Arm B – Summer Lane;
- Arm C – Windmill Road; and
- Arm D – Pit Lane.

Capacity Assessment

7.9.12 The results of the capacity assessment for the 2024 Survey, 2031 Base and 2031 Design scenarios are summarised within Table 7.5.

Table 7.5 Aldham House Lane/Windmill Road/Summer Lane/Pit Lane – Model Summary

Approach Arm	AM Peak (07:45-08:45)			PM Peak (16:15-17:15)		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
Existing - 2024 Survey						
Stream B-ACD	0.14	7.62	0.2	0.17	8.26	0.2
Stream A-BCD	0.02	5.09	0.0	0.02	5.28	0.0
Stream D-ABC	0.08	8.54	0.1	0.11	8.74	0.1
Stream C-ABD	0.06	5.56	0.1	0.10	5.38	0.2
Existing - 2031 Base						
Stream B-ACD	0.15	7.86	0.2	0.20	8.68	0.2
Stream A-BCD	0.03	5.07	0.0	0.03	5.30	0.0
Stream D-ABC	0.16	9.41	0.2	0.15	9.45	0.2
Stream C-ABD	0.06	5.53	0.1	0.11	5.31	0.2
Proposed - 2031 Design						
Stream B-ACD	0.16	8.04	0.2	0.21	8.99	0.3
Stream A-BCD	0.04	5.13	0.1	0.05	5.44	0.1
Stream D-ABC	0.33	11.99	0.5	0.23	10.95	0.3
Stream C-ABD	0.06	5.46	0.1	0.12	5.16	0.2

7.9.13 Table 7.5 shows that the junction is operating well within desirable capacity of under 0.85 RFC across all arms during 2024 Survey scenario.

7.9.14 The junction remains within capacity during with the addition of background traffic growth to a base year of 2031, with maximum RFC values of 0.16 and 0.20 predicted during the AM and PM peak hours respectively.

7.9.15 The junction is also predicted to operate well within capacity with the addition of the proposed development traffic and associated improvements to the junction, with maximum RFC values of 0.33 and 0.23 predicted during the AM and PM peak hours respectively within the 2031 Design scenario.

Highway Safety Assessment

7.9.16 No collisions were recorded at or with 20m of the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction during the most recent 5-year 9-month assessment period.

Conclusion

7.9.17 The development impact at the Aldham House Lane/Windmill Road/Summer Lane/Pit Lane junction can be summarised as follows:

- The development would generate 94 additional vehicle movements in the AM and 90 in the PM, which equates to approximately 1-2 additional vehicle per minute. This volume of traffic would be imperceivable from day to day fluctuations at this junction;
- Additional development trips result in a 13-16% increase in overall peak hour traffic volumes;

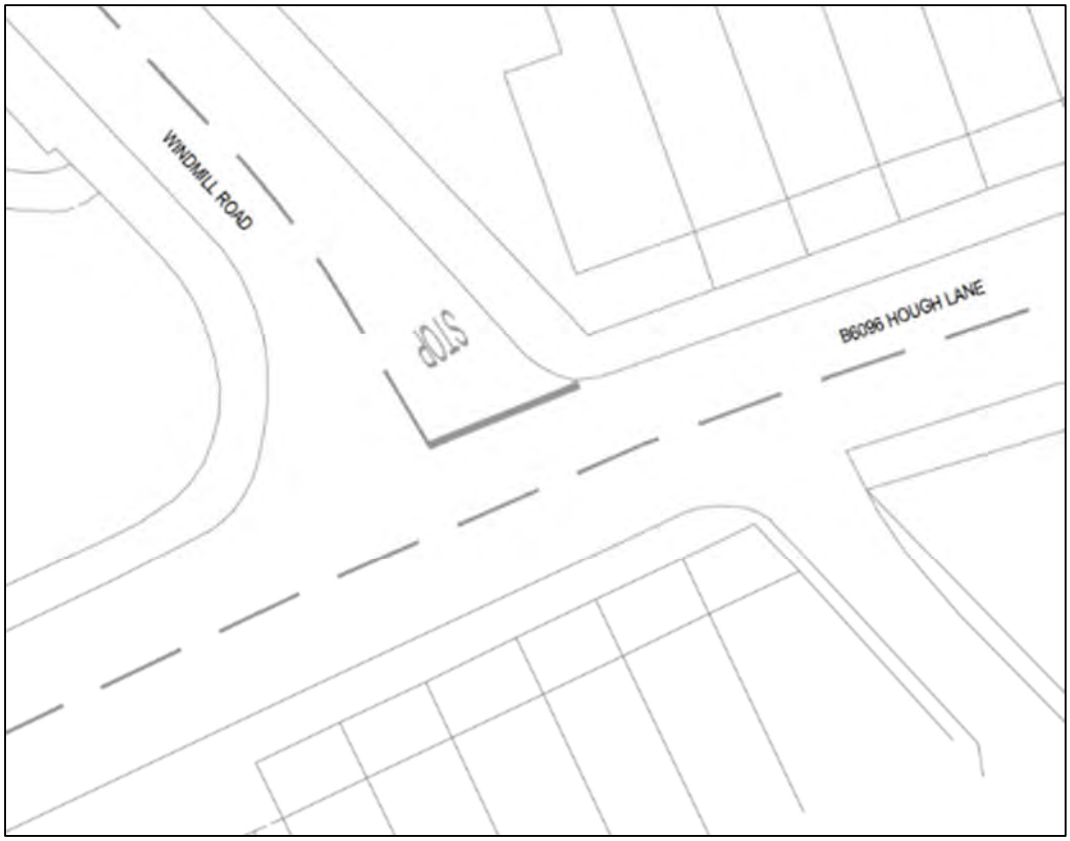
- The addition of the proposed development traffic will not result in any significant changes in overall junction performance, which will continue to operate well within capacity to a design year of 2031; and
- No road safety issues have been identified.

7.9.18 Following the above assessment, the impact of the development is not considered to result in a material or severe impact on the operation of the junction with the associated improvements in place.

Junction 2: B6096 Hough Lane/Windmill Road

7.9.20 The B6096 Hough Lane/Windmill Road priority T junction has been modelled using the PICADY function in JUNCTIONS 9 software. The existing junction layout and geometry are shown on drawing 23018/IN/02 contained with within Appendix L, an extract of which is shown with Image 7.4 below.

Image 7.4 B6096 Hough Lane/Windmill Road – Existing Layout



7.9.21 The junction model has been set up with the following arm references:

- Arm A – B6096 Hough Lane (W)
- Arm B – Windmill Road; and
- Arm C – B6096 Hough Lane (E).

7.9.22 Traffic flows have been input utilising the DIRECT traffic profile function based on the recorded AM and PM peak hour 15-minute traffic profile shown within Table 7.6.

Table 7.6 Hough Lane/Windmill Road – Traffic Profile (Total Vehicles)

Time Period		Total Vehicles	%
Hr Start	Hr End		
AM Peak Hour (07:45-08:45am)			
07:45	08:00	293	26%
08:00	08:15	283	25%
08:15	08:30	300	26%
08:30	08:45	257	23%
Period Total		**1,133**	**100%**
PM Peak Hour (16:15-17:15pm)			
16:15	16:30	348	26%
16:30	16:45	328	24%
16:45	17:00	307	23%
17:00	17:15	365	27%
Period Total		**1,348**	**100%**

Capacity Assessment

7.9.23 The results of the capacity assessment for the 2024 Survey, 2031 Base and 2031 Design scenarios are summarised within Table 7.7.

Table 7.7 Hough Lane/Windmill Road – Modelling Summary

Approach Arm	AM Peak (07:45-08:45)			PM Peak (16:15-17:15)		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2024 Survey						
Stream B-C	0.07	12.16	0.1	0.05	13.45	0.1
Stream B-A	0.57	22.04	1.3	0.59	25.16	1.3
Stream C-AB	0.03	4.68	0.0	0.06	5.07	0.1
2031 Base						
Stream B-C	0.10	16.10	0.1	0.08	17.43	0.1
Stream B-A	0.69	30.98	2.1	0.69	34.22	2.0
Stream C-AB	0.04	4.63	0.1	0.07	5.07	0.1
2031 Design						
Stream B-C	0.21	33.47	0.3	0.11	23.78	0.1
Stream B-A	0.84	53.71	4.3	0.78	44.63	2.9
Stream C-AB	0.04	4.66	0.1	0.09	5.17	0.2

7.9.24 Table 7.8 shows that the junction is operating within desirable capacity of under 0.85 RFC across all arms during 2024 Survey scenario.

7.9.25 The addition of background traffic growth to a design year of 2034 causes the performance of the junction to worsen, with max RFC values of 0.69 predicted during both the AM and PM peak hours.

7.9.26 The junction is predicted to continue to operate within desired capacity with the addition of the proposed development traffic, with maximum RFC values of 0.84 and 0.78 predicted during the AM and PM peak hours respectively within the 2031 Design scenario.

Highway Safety Assessment

7.9.27 No collisions were recorded at or with 20m of the B6096 Hough Lane/Windmill Road junction during the most recent 5-year 9-month assessment period.

Conclusion

7.9.28 The development impact at the B6096 Hough Lane/Windmill Road junction can be summarised as follows:

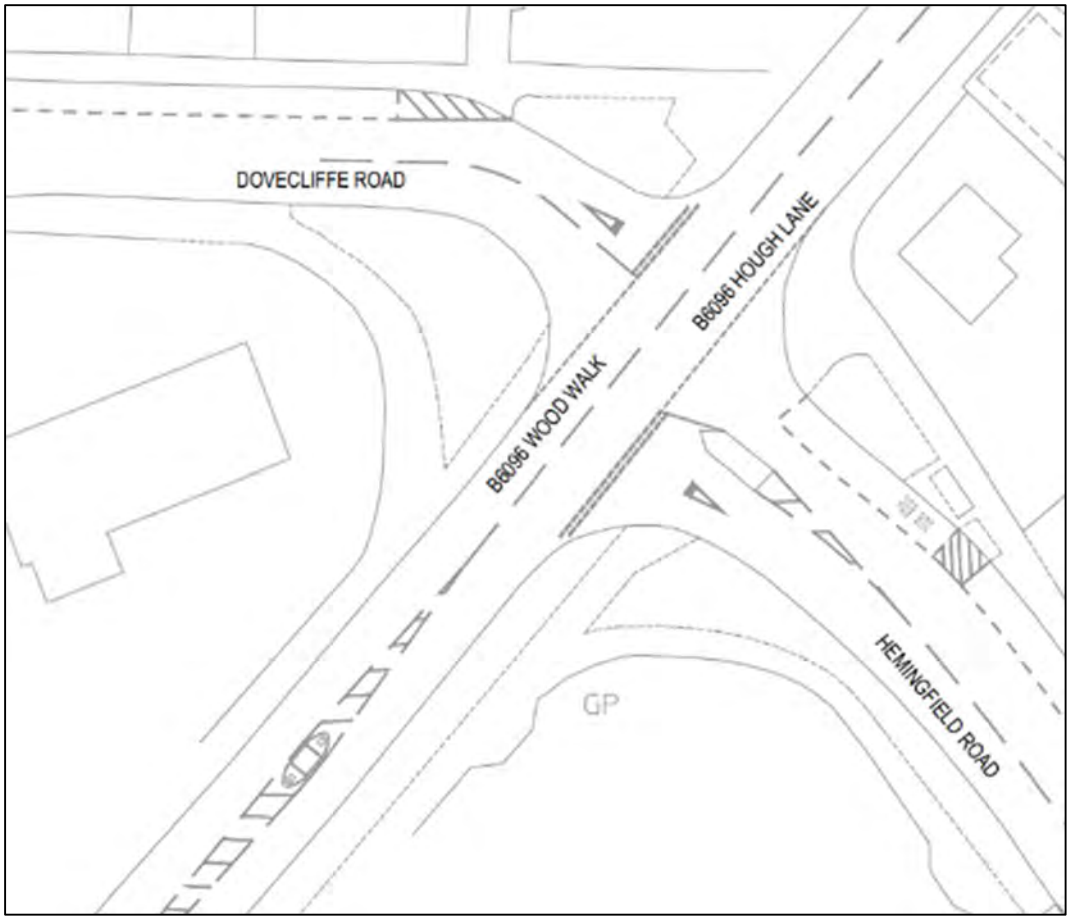
- The development would generate just 73 additional vehicle movements in the AM and 70 in the PM, which equates to just over 1 additional vehicle per minute. This volume of traffic would be imperceivable from day to day fluctuations at this junction;
- Additional development trips result in just a 5-6% increase in overall peak hour traffic volumes;
- The addition of the proposed development traffic will not result in any significant changes in overall junction performance, which will continue to operate well within capacity to a design year of 2031;
- The additional driver delay within the context of the wider commute (typically 28 minutes on average in the UK) is highly unlikely to be noticed by drivers and, would be indiscernible from day to day fluctuations; and
- No road safety issues have been identified.

7.9.29 Following the above assessment, the impact of the development is not considered to result in a material or severe impact on the operation of the junction and no mitigation is required to accommodate the development.

Junction 3: Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road

7.9.30 The B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road crossroads junction has been modelled using the PICADY function in JUNCTIONS 9 software. The existing junction layout and geometry are shown on drawing 23018/IN/03 contained with within Appendix M, an extract of which is shown with Image 7.5.

Image 7.5 B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road – Existing Layout



7.9.31 A one-hour traffic profile type has been utilised within the assessment, which provides a synthesised profile including 12.5% mid-peak 'surge' to robustly test the performance of the junction.

7.9.32 The junction model has been set up with the following arm references:

- Arm A – B6096 Hough Lane;
- Arm B – Hemingfield Road;
- Arm C – B6096 Wood Walk; and
- Arm D – Dovecliffe Road.

Capacity Assessment

7.9.33 The results of the capacity assessment for the 2024 Survey, 2031 Base and 2031 Design scenarios are summarised within Table 7.8.

Table 7.8 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road – Modelling Summary

Approach Arm	AM Peak (07:45-08:45)			PM Peak (16:15-17:15)		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2022 Survey						
Stream B-CD	0.16	14.25	0.2	0.22	17.85	0.3
Stream B-AD	0.40	18.05	0.7	0.60	27.41	1.4
Stream A-BCD	0.10	4.03	0.2	0.06	4.25	0.1
Stream D-AB	0.10	10.83	0.1	0.19	12.76	0.2
Stream D-BC	0.07	12.78	0.1	0.12	14.93	0.1
Stream C-ABD	0.06	5.14	0.1	0.07	4.31	0.1
2031 Base						
Stream B-CD	0.19	16.18	0.2	0.31	24.40	0.4
Stream B-AD	0.46	21.51	0.9	0.71	40.05	2.3
Stream A-BCD	0.12	3.94	0.3	0.07	4.18	0.1
Stream D-AB	0.11	11.06	0.1	0.21	14.04	0.3
Stream D-BC	0.08	13.69	0.1	0.14	16.45	0.2
Stream C-ABD	0.06	5.12	0.1	0.07	4.23	0.1
2031 Design						
Stream B-CD	0.21	17.61	0.3	0.42	36.42	0.7
Stream B-AD	0.51	23.98	1.0	0.80	57.21	3.5
Stream A-BCD	0.13	3.86	0.3	0.07	4.15	0.1
Stream D-AB	0.12	11.36	0.1	0.22	14.48	0.3
Stream D-BC	0.09	14.15	0.1	0.14	17.06	0.2
Stream C-ABD	0.07	5.14	0.1	0.08	4.20	0.1

7.9.34 Table 7.8 shows that the junction is operating within desirable capacity of under 0.85 RFC across all arms during 2024 Survey scenario.

7.9.35 The addition of background traffic growth to a design year of 2031 causes the performance of the junction to worsen, with max RFC values of 0.46 and 0.71 predicted during the AM and PM peak hours.

7.9.36 The junction is also predicted to operate within desired practical capacity with the addition of the proposed development traffic, with maximum RFC values of 0.51 and 0.80 predicted during the AM and PM peak hours respectively within the 2031 Design scenario.

Highway Safety Assessment

7.9.37 A total of three collisions have been recorded at or with 20m of the B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road junction during the most recent 5-year 9-month assessment period.

7.9.38 A full assessment of the circumstances behind each of the collisions recorded at the B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road junction has been conducted to

understand whether there are any underlying contributing factors relating to junction design / layout and assess the potential impact of additional development traffic.

7.9.39 The results of the assessment are contained in Table 7.9.

Table 7.9 B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road – PIC Analysis

Collision Ref	Date / Time	Severity	Details
20967621	22/07/2020 17:30	Slight	Inexperienced or learner driver pulls out of Hemingfield Road failing to look properly and collides with a vehicle traveling south westbound along B6096 Wood Walk.
20984744	27/09/2020 18:35	Slight	Driver turning right into B6906 Hough Lane collides with a motorcyclist overtaking on the nearside.
231317456	11/06/2023 22:10	Slight	Driver losses control when negotiating corner travelling westbound along Dovecliffe Road.

7.9.40 Following assessment of the collision records, no underlying pre-existing road safety issues, or trends have been identified.

Conclusion

7.9.41 The development impact at the B6069 Hough Lane/Wood Walk/Hemingfield Road/Dovecliffe Road junction can be summarised as follows:

- The development would generate just 67 additional vehicle movements in the AM and 64 in the PM, which equates to approximately 1 additional vehicle per minute. This volume of traffic would be imperceivable from day to day fluctuations at this junction;
- Additional development trips result in just a 4-5% increase in overall peak hour traffic volumes;
- The addition of the proposed development traffic will not result in any significant changes in overall junction performance, which will continue to operate well within capacity to a design year of 2031; and
- No road safety issues have been identified.

7.9.42 Following the above assessment, the impact of the development is not considered to result in a material or severe impact on the operation of the junction and no mitigation is required to accommodate the development.

Junction 4: A6195 Dearne Valley Parkway/Hemingfield Road 'Hemingfield Road Roundabout'

7.9.43 The A6195 Dearne Valley Parkway/Hemingfield Road 'Hemingfield Road roundabout' has been modelled using the ARCADY function in JUNCTIONS 9 software. The existing junction layout and geometry are shown on drawing 21030/IN/04 contained with within Appendix N, an extract of which is shown with Image 7.6 below.

Image 7.6 Hemingfield Road Roundabout – Existing Layout

7.9.44 A one-hour traffic profile type has been utilised within the assessment, which provides a synthesised profile including 12.5% mid-peak 'surge' to robustly test the performance of the junction.

7.9.45 The junction model has been set up with the following arm references:

- Arm 1 – Hemingfield Road (N);
- Arm 2 – A6195 Dearne Valley Parkway (E);
- Arm 3 – Hemingfield Road (S); and
- Arm 4 – A6195 Dearne Valley Parkway (W).

Capacity Assessment

7.9.46 The results of the capacity assessment for the 2024 Survey, 2031 Base and 2031 Design scenarios are summarised within Table 7.10.

Table 7.10 Hemingfield Road Roundabout – Modelling Summary

Approach Arm	AM Peak (07:45-08:45)			PM Peak (16:15-17:15)		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2024 Survey						
Arm 1 – Hemingfield Road (N)	0.26	5.89	0.4	0.33	6.84	0.5
Arm 2 – A6195 Dearne Valley Parkway (E)	0.59	4.50	1.5	0.70	5.89	2.3
Arm 3 – Hemingfield Road (S)	0.24	5.02	0.3	0.21	5.11	0.3
Arm 4 – A6195 Dearne Valley Parkway (W)	0.51	3.51	1.1	0.58	4.06	1.4
2031 Base						
Arm 1 – Hemingfield Road (N)	0.31	6.56	0.5	0.38	7.81	0.6
Arm 2 – A6195 Dearne Valley Parkway (E)	0.64	5.09	1.9	0.75	7.31	3.1
Arm 3 – Hemingfield Road (S)	0.27	5.44	0.4	0.24	5.61	0.3
Arm 4 – A6195 Dearne Valley Parkway (W)	0.55	3.83	1.3	0.63	4.63	1.7
2031 Design						
Arm 1 – Hemingfield Road (N)	0.35	6.93	0.5	0.39	8.02	0.6
Arm 2 – A6195 Dearne Valley Parkway (E)	0.64	5.18	1.9	0.77	7.67	3.3
Arm 3 – Hemingfield Road (S)	0.27	5.50	0.4	0.25	5.74	0.3
Arm 4 – A6195 Dearne Valley Parkway (W)	0.55	3.86	1.3	0.64	4.73	1.8

7.9.47 Table 7.10 shows that the junction is operating within desirable capacity of under 0.85 RFC across all arms during 2024 Survey scenario.

7.9.48 The junction remains within capacity during with the addition of background traffic growth to a base year of 2031, with maximum RFC values of 0.64 and 0.75 predicted during the AM and PM peak hours respectively.

7.9.49 The junction is also predicted to operate within capacity with the addition of the proposed development traffic, with maximum RFC values of 0.64 and 0.77 predicted during the AM and PM peak hours respectively within the 2031 Design scenario.

Highway Safety Assessment

7.9.50 A total of four collisions have been recorded at or with 20m of the Hemingfield Road roundabout during the most recent 5-year 9-month assessment period.

7.9.51 A full assessment of the circumstances behind each of the collisions recorded at the Hemingfield Road roundabout has been conducted to understand whether there are any underlying contributing factors relating to junction design / layout and assess the potential impact of additional development traffic.

7.9.52 The results of the assessment are contained in Table 7.11.

Table 7.11 Hemingfield Road Roundabout – PIC Analysis

Collision Ref	Date / Time	Severity	Details
19818240	24/02/2019 12:27	Slight	Rider of a motorcycle collides with a car when exiting the roundabout.
20987486	05/10/2020 09:52	Slight	Driver fails to see and collides with vehicle when moving into the right-hand lane.
221244476	20/11/2022 13:35	Slight	Driver losses control after having an epileptic fit whilst at the wheel.
231355496	23/09/2023 12:55	Serious	Driver fails to judge the speed of a motorcycle to the offside when entering the roundabout from Dearne Valley Parkway causing a serious collision.

7.9.53 Following assessment of the collision records, no underlying pre-existing road safety issues, or trends have been identified.

Conclusion

7.9.54 The development impact at the Hemingfield Road roundabout can be summarised as follows:

- The development would generate just 37 additional vehicle movements in the AM and 35 in the PM, which equates to less than approximately 1 additional vehicle every 2 minutes. This volume of traffic would be imperceivable from day to day fluctuations at this junction;
- The addition of the proposed development traffic will result in a maximum RFC increase of 0.03 and an additional maximum queue of 0.2 vehicles; and
- No road safety issues have been identified.

7.9.55 Following the above assessment, the impact of the development is not considered to result in a material or severe impact on the operation of the junction and no mitigation is required to accommodate the development.

8. Summary and Conclusions

8.1 SUMMARY

8.1.1 This TA has been undertaken by Optima to consider the highways and transportation matters raised by a proposed housing development on land to the south of Pit Lane, Wombwell, Barnsley. This TA supports an outline planning application made on behalf of Crest Nicholson Operations Ltd.

8.1.2 The Site occupies the majority of land identified as being safeguarded for development under site reference SL20 – 'Land between Summer Lane & Hough Lane' within the Barnsley Local Plan.

8.1.3 The development proposals can be summarised as follows:

- Provision of 230 residential dwellings;
- Vehicular access via the realignment and upgrading of Pit Lane, with access retained to the remainder of Pit Lane via the provision of a priority junction onto the proposed spine road;
- Upgrading of the Pit Lane/Aldham House Lane/Windmill Road/Summer Lane junction; and
- Associated parking, landscaping and infrastructure.

8.1.4 A review of personal injury collision data has been undertaken for the study area, which has shown that there are no specific safety concerns that the proposed development would exacerbate.

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

8.1.6 Vehicular access is proposed via the realignment of Pit Lane to serve the proposed development, with the remainder of Pit Lane then served via a simple priority junction onto the proposed spine road.

8.1.7 The internal layout will include an adoptable road up to the boundary of the remainder of the SL20 safeguarded land so as not to sterilise its development.

8.1.8 Junction capacity assessments have been undertaken across the local highway network using industry standard software for a development Design Year of 2031.

8.1.9 The capacity assessments undertaken demonstrate that proposed development will not result in either a material or severe residual cumulative impact on the safe and efficient operation of the local highway network.

8.2 CONCLUSIONS

8.2.1 This Transport Assessment has demonstrated that safe and suitable access to the proposed development can be achieved for all users and that there will be no unacceptable impacts from the development on the transport network or on highway safety during either construction or operational phases.

8.2.2 The proposed development will not result in either a material or severe residual cumulative impact on the safe and efficient operation of the local highway network and therefore the proposals comply with paragraph 116 of the NPPF.

8.2.3 Based on the findings of this TA there are no reasons on highways or transport grounds why the development proposals should not be granted planning permission.