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Revised ES chapter
8 - Traffic and
Transport

Chapter 8: Traffic and Transport (The Project)
Land West of White Post Road, Banbury
ENVIRONMENTAL STATEMENT
January 2016

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8.1 INTRODUCTION

- 8.1.1 This chapter describes the impacts on transport and movement that are predicted from the proposed residential development on land west of White Post Road (henceforth referred to as the Project).
- 8.1.2 A Transport Assessment (TA) and Travel Plan (TP) have been prepared by Ashley Helme Associates (AHA) and accompany the planning application submitted to Cherwell District Council (CDC). The TA and TP will be reviewed by officer at Oxfordshire County Council (OCC), which is the highway authority. The TA and TP are appended in ES Volume 2, Appendix A8.
- 8.1.3 The Project will generate additional travel demands by all modes of transport. The TA (ES Vol 2, Appendix 8) assesses the ability of the existing transport infrastructure to accommodate these additional travel demands. The starting point for assessment is to establish baseline conditions, i.e. the conditions that will prevail if the Project does not proceed. The transport impact of the Project is established by comparison of the baseline conditions with those predicted when the Project becomes operational.
- 8.1.4 This chapter (and the TA) concentrates largely on peak hour conditions when transport networks generally experience the greatest traffic demands.

8.2 METHODOLOGY

Significance Criteria

- 8.2.1 The nature of each residual transportation impact has been established, the significance of each impact is assessed as:
- Beneficial - Meaning that they produce environmental benefits in transportation terms, i.e. where overall traffic flows or percentage HGV decrease, where the performance of the local highway network is predicted to improve or there are improved facilities for pedestrians, cyclists or public transport users.
 - Negligible - Meaning that changes are too small to meaningfully measure.
 - Adverse - Meaning that they produce environmental dis-benefits in transportation terms, i.e. where overall traffic flows or percentage HGV increase, where the performance of the local highway network is predicted to decline or there are reductions in facilities for pedestrians, cyclists or public transport users.
- 8.2.2 Beneficial and adverse effects are further characterised as:
- Slight - Slight very short or highly localised changes of no significance.
 - Moderate - Limited change by extent, duration or magnitude which may be considered significant.
 - Substantial - Considerable change by extent, duration or magnitude of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

8.2.3 The effects are either long or short term, typically with the effects of construction traffic deemed short term and those associated with the operational stages of the proposed development as long term.

Assessment Scenarios

8.2.4 2013 & 2015 are adopted as the baseline year for this assessment. The AHA TA (ES Vol 2, Appendix 8.1) includes assessment of the impact of the Project generated traffic on the study network of junctions for a future year of 2025. OCC highways officers have also requested that testing be undertaken for the situation in which there is a link road connection between White Post Road and Bloxham Road and all of the Banbury 17 allocation sites come forward. This test is referred to herein as the OCC Sensitivity Test and further details of this are provided later in this chapter.

8.2.5 The computer programme ARCADY has been used to analyse and predict the performance of the roundabout study junctions. PICADY has been used to analyse priority controlled junctions and LINSIG has been used for traffic signal analysis.

Baseline Data Collection

8.2.6 The starting point of the assessment is to establish baseline transport conditions for all modes of travel. This requires the collection/gathering of a range data set out herein.

Data Sources

8.2.7 Traffic surveys were undertaken by AHA in 2013 & 2015 to establish the AM & PM peak hour traffic flows on the local study network.

8.2.8 Accident data for the study network, covering the period 1 January 2012 to 31 April 2015 and 1 January 2012 to 30 September 2015, were purchased from OCC.

8.2.9 Digital plan data were obtained from Ordnance Survey.

8.2.10 Neighbourhood statistics were derived from an interrogation of 2011 Census data.

8.2.11 Estimates of the Project generated traffic were derived from an interrogation of the TRICS database.

Highway Audit

8.2.12 AHA has undertaken an audit of the existing highway arrangements for the study network. A summary of the audit is presented in AHA TA (ES Vol 2, Appendix 6) and includes the following information:

- Road markings,
- Waiting restrictions,
- Traffic sign audit,
- Geometry for study junctions.

Pedestrian Accessibility Audit

- 8.2.13 Figure 4 of the AHA TA (ES Vol 2, Appendix 6) presents the existing Public Rights of Way (PROW) near to the Project. This shows that there is a restricted byway along the northern boundary of the Project, and a bridleway close to the western Project site boundary. There is an existing footpath connecting the restricted byway to the residential area to the north of the Project.
- 8.2.14 There is an existing footpath within the Project Site between the restricted byway and Wykham Lane. This will be maintained and improved as part of the proposed development. Improvements may include, for example, a sealed surface, street lighting etc. The on-site layout will be subject of a reserved matters application.
- 8.2.15 Figure 4 the AHA TA (ES Vol 2, Appendix 8.1) shows that there is an extensive network of PROW in the vicinity of the Project providing convenient pedestrian routes to a range of local amenities.

Cycle Accessibility Audit

- 8.2.16 Figure 6 of the AHA TA (ES Vol 2, Appendix 8.1) indicates formally identified cycle routes in the locale of the Project Site. These include:
- National Cycle Network Route 5 (NCN 5): Reading to Holyhead via Oxford,
 - A local signed on-road route linking the Project and NCN 5 to Banbury Rail Station.

Public Transport

- 8.2.17 Public transport travel to/from the Project is available by bus and rail. Baseline public transport accessibility has been established with reference to the following documents produced by the Chartered Institution of Highways & Transportation:
- Planning for Public Transport in Development, and
 - Providing for Journeys on Foot.

Bus

- 8.2.18 An audit of all bus stops within a 5 and 10 minute walk of the Project has been undertaken. A review of services calling at these stops has been undertaken to establish routes and frequency of service.

Rail

- 8.2.19 The Project site lies circa 2.5km from Banbury Rail Station. An audit of timetable information has been undertaken to establish service frequency, route and stations on-route.

8.3 PLANNING POLICY CONTEXT

8.3.1 A general thrust of current national and local policies is to promote and deliver sustainable transport objectives. This Chapter, in considering transportation effects, has paid due regard to the range of policy documents and considerations, including:

National Planning Policy Framework (NPPF), March 2012;

Planning Practice Guidance (PPG), March 2014;

The Cherwell Local Plan, Proposed Submission, 2012;

Cherwell Local Plan, 1996;

Oxfordshire Local Transport Plan 4 (2015-2031)

8.3.2 A detailed review of these documents is undertaken in Chapter 2 of the AHA TA (ES Volume 2, Appendix A8.1) and in Chapter 4 of this ES.

8.4 BASELINE CONDITIONS

Local Highway Network

8.4.1 The identified TA study network of junctions is agreed with the highway authority and comprises:

SJ1	Site Access/White Post Road	
SJ2	Bankside/ Oxford Rd N'bound Slips/White Post Rd/Sycamore Drive	roundabout
SJ2A	Oxford Road/Northbound Slips	priority
SJ3	Oxford Road On & Off Slips/Bankside	priority/r'bout
SJ3A	Oxford Road/Southbound Slips	priority
SJ4	Broad Gap/Oxford Road/Canal Road	priority
SJ5	Weeping Cross/Oxford Road	traffic signals
SJ6	Broad Gap/High Street	priority
SJ7	Wykham Lane/White Post Road/High Street	priority
SJ8	Hightown Road/Oxford Road/Horton View	traffic signals
SJ9	Upper Windsor Street/Oxford Road	traffic signals
SJ10	Bloxham Road/South Bar Street/Oxford Road	traffic signals
SJ11	High Street/South Bar Street/ West Bar Street/Horse Fair	roundabout
SJ12	Castle Street/North Bar Street/Warwick Road/Southam Road	traffic signals
SJ13	Swan Close Road/Upper Windsor Street	traffic signals
SJ14	Bridge Street/Windsor Street/Cherwell Street	traffic signals
SJ15	Cherwell Street/Hennef Way	roundabout
SJ16	Farmfield Road/Oxford Road	traffic signals
SJ17	Swan Close/Bankside/Lamb's Crescent	priority/signals

SJ18 Concorde Avenue/Cherwell Drive roundabout.

8.4.2 A detailed description of the local highway network is set out in Chapter 3 of the AHA TA (ES Vol 2, Appendix 8.1).

Traffic Counts

8.4.3 The traffic count surveys were undertaken at the TA Study Junctions as follows:

- SJ 2 - 3: 11 September 2013,
- SJ4-8 & SJ13-15: 21 May 2015,
- SJ9 – SJ12 11 July 2013,
- SJ16 2014,
- SJ17 -18 5 December 2015.

8.4.4 The identified peak hours for the study network of junctions are:

- AM 0800-0900,
- PM 1645-1745.

Traffic Flows

8.4.5 Table C8.1 presents the estimates of Annual Average Daily Traffic (AADT) flows for the count years (2013 & 2015) on the study network of roads.

Link		2-Way AADT Traffic Flow (Vehicles)
Name	Location	
Site Access	SJ1	-
White Post Road	SJ1 (North arm)	7497
White Post Road	SJ1 (South arm)	7497
Sycamore Drive	SJ2 (North arm)	4732
Bankside	SJ2 (East arm)	9377
Northbound slips	SJ2 (South arm)	3785
Bankside	SJ2 (West arm)	7497
Southbound slips	SJ3 (North arm)	4609
Bankside	SJ3 (East arm)	10496
College Fields Dev	SJ3 (South arm)	-
Bankside	SJ3 (West arm)	9525

Link		2-Way AADT Traffic Flow (Vehicles)
Name	Location	
Oxford Road	SJ4 (North arm)	21864
Canal Lane	SJ4 (East arm)	147
Oxford Road	SJ4 (South arm)	22442
Broad Gap	SJ4 (West arm)	2237
Oxford Road	SJ5 (North arm)	21962
College Fields Dev	SJ5 (East arm)	-
Oxford Road	SJ5 (South arm)	21667
Weeping Cross	SJ5 (West arm)	2630
High Street	SJ6(North arm)	4117
Broad Gap	SJ6(East arm)	1880
High Street	SJ6 (South arm)	2605
White Post Road	SJ7 (North arm)	4596
High Street	SJ7 (South arm)	4117
Wykham Lane	SJ7 (West arm)	4560
Oxford Road	SJ8 (North arm)	19799
Hightown Road	SJ8 (East arm)	6907
Oxford Road	SJ8 (South arm)	21888
Horton View	SJ8 (West arm)	6415
Oxford Road	SJ9 (North arm)	16850
Upper Windsor Street	SJ9 (East arm)	9279
Oxford Road	SJ9 (South arm)	19222
Oxford Road	SJ10 (North arm)	17206
Oxford Road	SJ10 (South arm)	16383
Bloxham Road	SJ10 (West arm)	12007
Horse Fair	SJ11 (North arm)	19148
High Street	SJ11 (East arm)	8972
South Bar Street	SJ11 (South arm)	15817
West Bar Street	SJ11(West arm)	9279
Southam Road	SJ12 (North arm)	11835
Castle Street	SJ12 (East arm)	8984
North Bar Street	SJ12 (South arm)	19934
Warwick Road	SJ12(West arm)	11086

Link		2-Way AADT Traffic Flow (Vehicles)
Name	Location	
Cherwell Street	SJ13 (east Arm)	21815
Swan Close Road	SJ13 (South arm)	14306
Upper Windsor Street	SJ13 (west arm)	10115
Concord Avenue	SJ14 (North arm)	25403
Bridge Street	SJ14 (East arm)	3183
Cherwell Street	SJ14 (South arm)	19811
Bridge Street	SJ14(West arm)	15805
Unnamed Road	SJ15 (North arm)	1549
Hennef Way	SJ15 (East arm)	52724
Concord Avenue	SJ15 (South arm)	22650
Hennef Way	SJ15(West arm)	40323
Oxford Road	SJ16 (North arm)	21434
Farmfield Road	SJ16 (East arm)	5678
Oxford Road	SJ16 (South arm)	20524
Farmfield Road	SJ16 (West arm)	2605
Swan Close	SJ17 (North arm)	11688
Bankside	SJ17 (East arm)	7767
Swan Close	SJ17 (South arm)	5666
Lamb's Crescent	SJ17 (West arm)	123
Concorde Avenue	SJ18 (North arm)	23204
Concorde Avenue	SJ18 (South arm)	19283
Cherwell Drive	SJ18 (West arm)	11319

Table C8.1: Baseline Traffic, 2013 & 2015, AADT

Highway Safety

8.4.6 The AHA TA (ES Vol 2, Appendix 8.1) includes a review of accidents occurring in the vicinity of the Project in the period covering 01 January 2012 to 31 April 2015 and 01 January 2012 to 30 September 2015 . The data cover over 3 years and was provided to AHA by OCC in this format. There are a total of 50 recorded accidents on the study network, as follows:

- White Post Road (near Project): 1 accident,
- SJ2: 1 accident,
- SJ2A: 0 accidents,
- SJ3: 0 accidents,

• SJ3A:	0 accidents,
• SJ4:	1 accident,
• SJ5:	2 accidents,
• SJ6:	0 accidents,
• SJ7:	0 accidents,
• SJ8:	3 accidents,
• SJ9:	2 accidents,
• SJ10:	4 accidents,
• SJ11:	7 accidents,
• SJ12:	1 accident,
• SJ13:	1 accident,
• SJ14:	6 accidents,
• SJ15:	12 accidents,
• SJ16:	4 accidents,
• SJ17:	3 accidents,
• SJ18:	2 accidents.

Pedestrians

8.4.7 The AHA TA (ES Vol 2, Appendix 8.1) establishes the 800m and 2km walk isochrones for the Project Site, reflecting typically 10 and 25 minute journeys. Review of Figure 3 in the TA highlights that there are a number of local facilities accessible to residents of the proposed development within 800m of the Project Site. These include:

- Nursery,
- Primary school,
- Convenience store,
- Community centre,
- Playgrounds/public open space,
- Cricket club,
- Salons,
- Public house,
- Church,
- Employment (Cherwell District Council),
- Allotments,
- Bus stops.

8.4.8 Within about 1200m (typically a 15 minute walk) there are a number of additional facilities, including:

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- Secondary school/sixth form,
 - Convenience Store,
 - Supermarket,
 - Post Office,
 - Bank/ATM,
 - Dentist, Pharmacy & Optician,
 - Restaurants/takeaways.

8.4.9 Figure 3 in the TA demonstrates that there is a substantial range of amenities within 2000m of the Project Site. The edge of Banbury town centre is within 2000m of the Project and Horton Hospital provides a substantial employment destination within 2000m of the Project.

8.4.10 It is proposed that the Project takes access onto White Post Road. There is footway on both sides of White Post Road and the proposed access includes provision for a continuation of the footway into the Project Site. The northern side of the Site access makes provision for a 3.0m wide shared footway/cycleway.

8.4.11 Pedestrian accesses are proposed to/from Salt Way and Wykham Lane.

Cycle

8.4.12 The AHA TA (ES Vol 2, Appendix 8.1) establishes the 2km and 5km cycle isochrones for the Project Site, reflecting typically 10 and 25 minute journeys. Review of Figure 5 in the TA highlights that all of the built-up area of Banbury is within 5km of the Project. Additionally, all of Twyford, Adderbury, Broughton, North Newington, and most of Bloxham are accessible to Project Site residents by cycle.

8.4.13 Figure 6 of the AHA TA (ES Vol 2, Appendix 8.1) indicates formally identified cycle routes in the locale of the Project Site. These include:

- National Cycle Network Route 5 (NCN 5): Reading to Holyhead via Oxford,
- A local signed on-road route linking the Project and NCN 5 to Banbury Rail Station.

8.4.14 It is proposed that the Project takes access onto White Post Road. There is footway on both sides of White Post Road and the proposed access includes provision for a continuation of the footway into the Project. The northern side of the Project access makes provision for a 3.0m wide shared footway/cycleway.

8.4.15 Pedestrian/cycle accesses are proposed to/from Salt Way and Wykham Lane.

Public Transport

8.4.16 The practical options for public transport travel to/from the Project are by bus and rail.

Buses

- 8.4.17 An audit of bus stops within a 5 and 10 minute walk of the Project has been undertaken and this is reported in the AHA TA (ES Vol 2, Appendix 8.1). The closest bus stop to the Project are on Sycamore Drive, within 400m. There are additional bus stops on White Post Road that are circa 500m from the centre of the Project. The bus stop on the southern side of Sycamore Drive closest to SJ2 has a shelter. All other bus stops on Sycamore Drive and White Post Road comprise a 'flag and pole'.
- 8.4.18 An audit of the existing network of bus routes for services that call at bus stops near to the Project has been undertaken and is reported in the AHA TA (ES Vol 2, Appendix 8.1). The B1 service calls within 400m of the Project. The B1 operates at a 30 minute frequency, Monday – Saturday. The journey time between Sycamore Drive and Banbury bus station is 12-13 minutes. The earliest weekday departure from Sycamore Drive is 0702, and the latest weekday arrival at Sycamore Drive is at 1822.
- 8.4.19 The B2 service calls on White Post Road, circa 500m from the Project, and operates on the same frequency as the B1 service. There are additional services calling on A4260 within 800m of the Project. In a typical weekday situation there are circa 8 buses per hour calling within 800m of the Project, taking into account buses travelling in both directions along the road. Destinations include, among others, Banbury town centre, Bodicote, Easington, Oxford, Kings Sutton, Aynho, Evenly, Croughton, and Brackley.
- 8.4.20 All services calling within 800m of the Project also call at Banbury bus station, which is within 400m of Banbury Rail station. This provides opportunity for onward journeys by public transport to an extensive range of destinations.

Rail

- 8.4.21 Banbury Rail Station is circa 2.5km from the Project. This provides opportunity for residents to travel by rail, with the journey between the rail station and the Project by cycle or bus. Cycle storage is provided at the station, and all bus services calling close to the Project call within 400m of the rail station. Additionally, there are 795 car park spaces provided at the station. There are mobility impaired spaces available free of charge for blue badge holders.
- 8.4.22 The main services calling at Banbury Rail Station comprise:

OPERATOR	PRINCIPAL ROUTE	TYPICAL WEEKDAY FREQUENCY (mins)
Chiltern Railways	London – Birmingham	30
Cross Country	Manchester - Bournemouth	60
Cross Country	Newcastle – Reading	60

- 8.4.23 Additionally, there are a number of less frequent services calling at Banbury, operated by Chiltern Railways and First Great Western. Typically, there are circa 10-11 services per hour calling at Banbury Station.

8.4.24 Services calling at Banbury provide frequent direct trains to a wide range of destinations including, among others, London, Birmingham, Manchester, Leeds, Sheffield, Newcastle, Southampton, Bournemouth, Coventry, Stoke-on-Trent, Derby, Doncaster and York.

8.4.25 Banbury rail station provides opportunity for residents undertake regular journeys (eg for work) to a wide range of destinations. Journey times between Banbury and key destinations that may be suitable for daily commuting are:

DESTINATION	APPROXIMATE JOURNEY TIME (mins)
Bicester	14
Leamington Spa	17
Oxford	21
Warwick	22
High Wycombe	32
Reading	45
Birmingham	53
London Marylebone	54 – 64

8.4.26 It is demonstrated that there is excellent opportunity for residents of the Project to undertake journeys by rail to an extensive range of destinations.

8.5 POTENTIAL EFFECTS

8.5.1 The potential transport-related impacts from the Project are:

- Effects of traffic movements generated by the proposed development on the local road network (long term),
- Effects of new infrastructure provision for the Site access,
- Effects of traffic movements on highway safety,
- Provisions for sustainable travel,
- Effects of traffic movements generated on the local highway network during construction (short term).

8.6 ASSESSMENT OF EFFECTS

Construction Effects

8.6.1 The overall construction period is expected to last up to circa 5 years and during this period the Project will generate traffic movements associated with construction. The main vehicle movements will be associated with:

- Workers, consultants, supervising staff and inspectors (likely to be by car), and
- Plant delivery/removal, materials delivery and waste removal (likely to be by HGV)

8.6.2 During the construction period, it is estimated there will be an average of circa 130 FTE workers per annum on Site. The amount of construction workers on site at any given time may fluctuate depending on the stage of construction and also the number of developers present on Site. On the basis that two-thirds of the workers drive to the Site then this may generate circa 86 vehicle arrivals and circa 86 vehicle departures. It is predicted that Site operations may generate circa 15-25 movements per day during the busiest period of construction. Thus, the total estimated daily 2-way traffic, during the construction period, is 197 vehicles. The daily two-way traffic on White Post Road is 7,497 vehicles. Thus, construction traffic is likely to increase traffic flows on the surrounding network by circa 2.6%, a slight adverse effect.

8.6.3 The traffic generated by the Project when operational as a residential development is estimated to be higher than the construction stage.

Operational Effects

The AHA TA (ES Vol 2, Appendix 8.1) sets out the methodology for estimating the traffic generated by the Project. Table C8.2 summarises the estimates of development generated traffic for the AM & PM peak hours and the daily flows based on the TA trip rates.

Time Period	ARR	DEP	2-WAY
AM Peak Hour	44	123	167
PM Peak Hour	115	69	184
Daily	946	980	1926

Table C8.2: Project Generated Traffic, AM & PM Peak Hours and Daily

Assessment Traffic Flows

- 8.6.4 The traffic flows that are adopted for assessment are the Base and With Project flows.
- 8.6.5 The 'Base' situation represents the traffic flows on the TA study network with the full implementation (and occupation) of all of the committed developments (refer 9.6.7). This provides the proper context in which to assess the traffic impact of the Project.
- 8.6.6 The 'With Project' situation represents the 'Base' traffic flows and the addition of the traffic generated by the Project.
- 8.6.7 The Project forms part of wider area that is allocated for residential development in the Council's Submission Local Plan. The Project, together with other sites to the west, are known collectively as the Banbury 17 Allocation sites. There are 3no sites within the Banbury 17 allocation that are centred on Bloxham Road. These are:
- Wykham Park Farm,
 - Land to the east of Bloxham Road, and
 - Land to the west of Bloxham Road.
- 8.6.8 In the event that the internal road network within the proposed scheme is linked with the road network within the Wykham Park Farm scheme then this would form a road connection between Bloxham Road and White Post Road. In such a situation, traffic generated by the Banbury 17 sites to the west of the application scheme with origins/destinations to the east, may elect to use the Site Access/White Post Road junction.
- 8.6.9 OCC highways officers have requested that testing be undertaken for the situation in which there is a link road connection between White Post Road and Bloxham Road and all of the Banbury 17 Allocation sites come forward. This test is referred to as the OCC Sensitivity Test.
- 8.6.10 Table C8.3 presents the estimated 2025 Base, With Project and With Project + OCC Sensitivity Test AADT traffic flows for the study network of roads.

8.6.11

Link		Annual Average Daily Traffic (AADT)		
Name	Location	Base	With Project	With Project + OCC Sensitivity
Site Access	SJ1	0	1926	7678
White Post Road	SJ1 (North arm)	7079	8754	11188
White Post Road	SJ1 (South arm)	7079	8754	8607
Sycamore Drive	SJ2 (North arm)	5850	5997	5997
Bankside	SJ2 (East arm)	10115	11162	12870
Northbound slips	SJ2 (South arm)	5813	6295	7020
Bankside	SJ2 (West arm)	6956	8631	11065
Southbound slips	SJ3 (North arm)	6993	7674	9382
Bankside	SJ3 (East arm)	12143	12509	12509
College Fields Dev	SJ3 (South arm)	3159	5535	5535
Bankside	SJ3 (West arm)	10545	11592	13300
Oxford Road	SJ4 (North arm)	30037	30225	30582
Canal Lane	SJ4 (East arm)	209	209	209
Oxford Road	SJ4 (South arm)	30160	30348	30705
Broad Gap	SJ4 (West arm)	1635	1635	1635
Oxford Road	SJ5 (North arm)	30356	30545	30901
College Fields Dev	SJ5 (East arm)	2974	5592	5592
Oxford Road	SJ5 (South arm)	28464	28841	29295
Weeping Cross	SJ5 (West arm)	3146	3335	3433
High Street	SJ6(North arm)	4166	4355	4687
Broad Gap	SJ6(East arm)	1450	1450	1450
High Street	SJ6 (South arm)	3159	3347	3679
White Post Road	SJ7 (North arm)	4572	4823	4676
High Street	SJ7 (South arm)	4166	4355	4687
Wykham Lane	SJ7 (West arm)	3060	3102	0
Oxford Road	SJ8 (North arm)	23978	24857	N/A
Hightown Road	SJ8 (East arm)	7927	8021	N/A
Oxford Road	SJ8 (South arm)	28230	29204	N/A
Horton View	SJ8 (West arm)	6452	6452	N/A
Oxford Road	SJ9 (North arm)	21962	22475	N/A

Link		Annual Average Daily Traffic (AADT)		
Name	Location	Base	With Project	With Project + OCC Sensitivity
Upper Windsor Street	SJ9 (East arm)	12524	12890	N/A
Oxford Road	SJ9 (South arm)	25907	26787	N/A
Oxford Road	SJ10 (North arm)	21704	22165	N/A
Oxford Road	SJ10 (South arm)	21065	21578	N/A
Bloxham Road	SJ10 (West arm)	15559	15611	N/A
Horse Fair	SJ11 (North arm)	24887	25170	N/A
High Street	SJ11 (East arm)	12204	12361	N/A
South Bar Street	SJ11 (South arm)	19172	19633	N/A
West Bar Street	SJ11 (West arm)	10225	10246	N/A
Southam Road	SJ12 (North arm)	14920	15150	N/A
Castle Street	SJ12 (East arm)	15817	15817	N/A
North Bar Street	SJ12 (South arm)	25489	25772	N/A
Warwick Road	SJ12 (West arm)	16505	16558	N/A
Cherwell Street	SJ13 (east Arm)	27431	28164	N/A
Swan Close Road	SJ13 (South arm)	18963	19330	N/A
Upper Windsor Street	SJ13 (west arm)	12892	13259	N/A
Concord Avenue	SJ14 (North arm)	30037	30602	N/A
Bridge Street	SJ14 (East arm)	7116	7283	N/A
Cherwell Street	SJ14 (South arm)	26903	27636	N/A
Bridge Street	SJ14 (West arm)	16297	16297	N/A
Unnamed Road	SJ15 (North arm)	787	787	N/A
Hennef Way	SJ15 (East arm)	62482	63048	N/A
Concord Avenue	SJ15 (South arm)	30578	31143	N/A
Hennef Way	SJ15 (West arm)	46604	46604	N/A
Oxford Road	SJ16 (North arm)	27394	28451	N/A
Farmfield Road	SJ16 (East arm)	6280	6280	N/A
Oxford Road	SJ16 (South arm)	26804	27861	N/A
Farmfield Road	SJ16 (West arm)	3306	3306	N/A
Swan Close	SJ17 (North arm)	14723	15104	N/A
Bankside	SJ17 (East arm)	9955	10336	N/A
Swan Close	SJ17 (South arm)	7153	7153	N/A

Link		Annual Average Daily Traffic (AADT)		
Name	Location	Base	With Project	With Project + OCC Sensitivity
Lamb's Crescent	SJ17 (West arm)	369	369	N/A
Concorde Avenue	SJ18 (North arm)	27493	28095	N/A
Concorde Avenue	SJ18 (South arm)	23167	23769	N/A
Cherwell Drive	SJ18 (West arm)	12511	12511	N/A

Table C8.3: Assessment Traffic, 2025, AADT

Effect on Road Users

- 8.6.12 Traffic flows are anticipated to increase on White Post Road in the vicinity of the Project as a result of the proposed development. Bishop Loveday CE Primary School takes access from White Post Road in the vicinity of the Project. A parking survey was undertaken on White Post Road to determine the existing on street parking demand in the vicinity of the proposed Site access. The results of the survey are presented in the AHA TA (ES Vol 2, Appendix 8.1). The parking survey data demonstrated that the section of White Post Road in the vicinity of the Project Site access, is heavily parked on both sides of the road.
- 8.6.13 Consequently, it is proposed that waiting restrictions are introduced in the vicinity of the proposed Site access to ensure that parked vehicles have no detrimental impact on the operation of the proposed Site access junction. It is also proposed that car parking is provided within the Project to accommodate parking displaced by the proposed waiting restrictions.
- 8.6.14 ASSESSMENT:- SUBSTANTIAL BENEFICIAL

Effect on Pedestrian and Cyclists

- 8.6.15 Traffic flows on White Post Road are anticipated to increase by circa 20-27% in the vicinity of the Project as a result of the proposed development in the AM & PM peak hours. Existing traffic flows are relatively low on White Post Road in the vicinity of the Project (circa 610 & 485 2-way, AM & PM peaks respectively). The generated traffic flows from the Project are considered to have a negligible to slight adverse impact on pedestrians and cyclists on White Post Road, in the context of severance, pedestrian delay/amenity and fear and intimidation.
- 8.6.16 ASSESSMENT:- NEGLIGIBLE TO SLIGHT ADVERSE

8.7 MITIGATION MEASURES

Construction

8.7.1 A range of good practice measures will be implemented in order to minimise the impact of additional traffic movements generated by construction workers and delivery vehicles. These measures will include:

- Implementation of a construction strategy which will minimise the amount of waste generated (eg by precision building, use of pre-fabrication, re-use of materials on Site)
- Implementation of a waste management strategy during demolition and construction works
- Local sourcing of materials, labour and disposal sites to reduce the distance travelled by construction traffic, where possible
- The controlled routing of heavy vehicles to and from the development with routes agreed with the highway authority prior to construction commencing.

8.7.2 Standard measures will also be implemented to minimise the impact of construction works on road users. These measures will include:

- Restricted speed limits, where necessary
- Use of warning signs in accordance with Chapter 8 of the Traffic Signs Manual
- Use of temporary traffic control, where necessary
- Deployment of road sweepers to reduce and remove dust/mud.

Operational

8.7.3 Development traffic will increase as the Project is developed. As set out previously, it is proposed that waiting restrictions are introduced in the vicinity of the proposed Site access to ensure that parked vehicles have no detrimental impact on the operation of the proposed Site access junction. It is also proposed that car parking is provided within the Project to accommodate parking displaced by the proposed waiting restrictions.

8.7.4 The Project also includes the implementation of a Travel Plan to encourage sustainable travel.

8.8 RESIDUAL EFFECTS

Construction Effects

8.8.1 Contractors would be required to implement strategies to minimise the potential effects of construction works on pedestrians and drivers. Notwithstanding this, there would be negligible to short term slight adverse residual effects on pedestrians and drivers due to construction activity.

8.8.2 Upon occupation of the Project, there would be increased volumes of traffic on the local highway network with some increases in delays.

Operational Effects

8.8.3 Upon occupation of the Project, there would be increased volumes of traffic on the local highway. The mitigation measures proposed would ensure that the potential traffic impact associated with the Project can be satisfactorily accommodated.

8.8.4 OCC in their 1 April 2015 pre-application consultation response set out that:

"It's envisaged that a new bus route will be introduced along the new spine road, and this is currently conceived as a two-way loop from the Town centre to the Town Centre via Bloxham Road, the Spine Road, Bankside and a new link along Tramway Road to the Rail Station and thence to the Town Centre. It is possible that this route could be cross-linked with other bus services, to provide direct access to workplaces to the north or east of the Town Centre. This new bus service would be procured on a pump-priming basis, to ensure that it became fully commercially viable after a few years. Bus stop infrastructure will be required and it is recommended the location of the stops is identified at an early stage. It is imperative the spine road is provided in a manner able to accommodate the bus service efficiently. Therefore due consideration must be given to its width and alignment."

8.8.5 The internal road network within the proposed development and the adjoining Wykham Park Farm scheme is to be subject to reserved matters applications. However, it is proposed that the main access road serving the proposed development comprises a 6.75m wide carriageway. This would satisfy bus operator requirements. The access arrangements shown on Drg No 1361/22/C in the AHA TA (ES Vol 2, Appendix 8.1) both show Site access roads with a width of 6.75m.

8.8.6 Any future diversion of an existing bus route will provide additional patronage from residents and visitors of the Project and will have a moderate beneficial effect on public transport.

8.8.7 The adjacent Wykham Park Farm scheme includes a primary school and local centre. If there is a link road connection between the proposed development and the Wykham Park Farm scheme then the primary school and local centre will be within a convenient walk or cycle ride for residents of the proposed development.

8.8.8 The internal layout of the Project is subject to reserved matters approval but safe and convenient walking and cycle routes will be provided on Site and links to the existing PROW and cycle network will be introduced. The proposals will have a moderate beneficial effect on walking and cycling in the area.

8.8.9 The implementation of a Travel Plan provides good opportunity for residents and visitors of the Project to undertake sustainable non-car trips and will have a substantial beneficial effect.

8.9 CUMULATIVE EFFECTS

8.9.1 The cumulative impact of the Project and other developments on the TA study junctions is considered. The cumulative traffic flows take into account:

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- Traffic counts,
 - Forecast background growth for Banbury,
 - Traffic generated by committed developments,
 - Traffic generated by the project.

8.9.2 A full account of the committed developments is provided in the accompanying Committed Development Report produced by AHA and included as Appendix 8.3 to this ES.

8.9.3 Additional testing is undertaken which takes into account all of the above plus traffic generated by the Banbury 17 sites to the west of the Project site. This test is referred to as the OCC Sensitivity Test.

8.9.4 Junction modelling of the impact of development traffic on the highway network is undertaken. The results of the assessments are detailed in the AHA TA (ES Vol 2, Appendix 8.1). The junction assessments presented below do not consider the Banbury 17 Allocation Sites. This is considered later in this chapter as the OCC Sensitivity Test.

- **SJ1: Site Access/White Post Road**

Operates with a high level of spare capacity and negligible queues/delays in the 2025 AM & PM peak hour With Development situations

ASSESSMENT: NEGLIGIBLE

- **SJ2: Bankside/Oxford Road N'bound Slips/White Post Road/Sycamore Drive**

Operates with a high level of spare capacity and negligible queues/delays in the 2025 AM & PM peak hour Base situations and continues to do so if the proposed development is implemented.

ASSESSMENT: NEGLIGIBLE

- **SJ2A: Oxford Road/Northbound Slips**

Operates with spare capacity the 2025 AM & PM peak hour Base situations and continues to do so if the proposed development is implemented.

ASSESSMENT: NEGLIGIBLE

- **SJ3: College Fields Access/Oxford Road Southbound Slips/Bankside**

SJ3 is presently a 'triangle' of priority controlled junctions. SJ3 will be converted to a 4-arm roundabout junction to provide access to part of the College Fields development. The permitted roundabout junction is predicted to operate with spare capacity and negligible queues/delays in the 2025 AM & PM peak hour Base situations, and continues to do so if the proposed development is implemented.

ASSESSMENT: NEGLIGIBLE

- **SJ3A: Oxford Road/Southbound Slips**

Operates with spare capacity the 2025 AM & PM peak hour Base situations and continues to do so if the proposed development is implemented.

ASSESSMENT: NEGLIGIBLE

- **SJ8: Hightown Road/Oxford Road/Horton View**

Operates in an acceptable manner in both the 2025 AM & PM peak hour Base situations and continues to do so if the proposed development is implemented.

ASSESSMENT: SLIGHT ADVERSE

- **SJ9: Upper Windsor Street/Oxford Road**

Operates in an acceptable manner in both the 2025 AM & PM peak hour Base situations and continues to do so in the corresponding With Development situations.

ASSESSMENT: SLIGHT ADVERSE

- **SJ13: Swan Close Road/Upper Windsor Street**

Operates in an acceptable manner in both the 2025 AM & PM peak hour Base situations and continues to do so in the corresponding With Development situations.

ASSESSMENT: SLIGHT ADVERSE

- **SJ16: Farmfield Road/Oxford Road**

Operates in an acceptable manner in both the 2025 AM & PM peak hour Base situations and continues to do so if the proposed development is implemented.

ASSESSMENT: SLIGHT ADVERSE

- **SJ17: Swan Close/Bankside/Lamb's Crescent**

Operates in an acceptable manner in both the 2025 AM & PM peak hour Base situations and continues to do so in the corresponding With Development situations.

ASSESSMENT: SLIGHT ADVERSE

8.9.5 The junction modelling results demonstrate the Project is expected to have a negligible to slight adverse impact on the local highway network.

OCC Sensitivity Test: Banbury 17 Allocation Sites

8.9.6 The OCC Sensitivity Test takes into account the traffic flows set out in para 8.9.1, including the committed developments outlined in the Committed Development Report produced by AHA and included as Appendix 8.3 to this ES. The traffic flows associated with the 3no Banbury allocations set out in para 8.6.8 are also included to form the OCC Sensitivity Test flows. The OCC Sensitivity Test is undertaken for the junctions in the immediate vicinity of the Project. The junction modelling results, including the OCC Sensitivity Test, demonstrate the Project is anticipated to have a negligible to slight adverse impact upon the local highway network.

- **SJ1: Site Access/White Post Road**

If the Project Site access road eventually forms a connection with the internal road network within the Wykham Park Farm scheme then this will have the effect of creating a 'link' road between White Post Road and Bloxham Road.

The proposed junction (Drg No 1361/22/C) modelling demonstrates that it is predicted to operate with spare capacity and small queues/delays in the 2025 AM & PM peak hour OCC Sensitivity Test situation.

ASSESSMENT: NEGLIGIBLE

- **SJ2: Bankside/Oxford Road N'bound Slips/White Post Road/Sycamore Drive**

Operates with a high degree of spare capacity and with small queues/delays in the 2025 AM & PM peak hour OCC Sensitivity Test situations.

ASSESSMENT: NEGLIGIBLE

- **SJ2A: Oxford Road/Northbound Slips**

Operates within capacity and with modest queues in the 2025 AM & PM peak hour OCC Sensitivity Test situations.

ASSESSMENT: SLIGHT ADVERSE

- **SJ3: College Fields Access/Oxford Road Southbound Slips/Bankside**

SJ3 is presently a 'triangle' of priority controlled junctions. SJ3 will be converted to a 4-arm roundabout junction to provide access to part of the College Fields development. The permitted roundabout junction is predicted to operate with a high degree of spare capacity and with small queues/delays in the 2025 AM & PM peak hour OCC Sensitivity Test situations.

ASSESSMENT: NEGLIGIBLE

- **SJ3A: Oxford Road/Southbound Slips**

Operates within capacity and with modest queues in the 2025 AM & PM peak hour OCC Sensitivity Test situations.

ASSESSMENT: SLIGHT ADVERSE

8.9.7 The junction modelling results demonstrate the OCC Sensitivity Test is expected to have a negligible to slight adverse impact on the local highway network.

8.10 STATEMENT OF EFFECTS

8.10.1 As a result of the proposed design measures, the effects of the Project on the surrounding local highway network will not result in any significant adverse effects.

8.10.2 All construction traffic to and from the Project will be controlled by a routing agreement. There will be a temporary negligible to short term slight adverse residual effect on pedestrians and drivers due to construction activity for both the With Development and OCC Sensitivity Test scenarios.

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- 8.10.3 The operational phase of the Project (upon completion and occupation) will result in an increase in traffic flows on local roads in the immediate vicinity of the Project. The traffic flows are assessed during the busiest periods of the local highway network, the AM & PM peak periods. The summary of junction modelling results demonstrates the Project and OCC Sensitivity Test scenarios will result in a negligible to slight adverse impact on the local highway network.
- 8.10.4 The site layout is subject to reserved matters approval. However, it is proposed that the main access road serving the proposed development comprises a 6.75m wide carriageway. This would satisfy bus operator requirements enabling bus penetration into the Project. This would have a moderate beneficial effect. The internal layout will provide safe and convenient walking and cycle routes and links to the existing PROW and cycle network will be introduced. The proposals will have a moderate beneficial effect on walking and cycling in the area.
- 8.10.5 The adjacent Wykham Park Farm scheme includes a primary school and local centre. If there is a link road connection between the proposed development and the Wykham Park Farm scheme then the primary school and local centre will be within a convenient walk or cycle ride for residents of the proposed development. This will provide a moderate beneficial effect.
- 8.10.6 The implementation of waiting restrictions on White Post Road and the proposed car park on the Project Site to accommodate parking displaced by the waiting restrictions will create a safer environment on White Post Road. This will have a substantial beneficial effect on the operation of White Post Road in the vicinity of the Project.
- 8.10.7 The implementation of a Travel Plan provides good opportunity for residents and visitors of the Project to undertake sustainable non-car trips and will have a substantial beneficial effect.