9. Traffic and Transportation

9.1 This Environmental Statement (ES) chapter assesses the effect of the Proposed Development on Transportation and Access. In particular it considers the potential effects of transport both in the immediate vicinity of the site and also on the wider network, and incorporates a summary of the Transport Assessment (TA) which is included as **Volume 3**.

9.2 The chapter describes: the assessment methodology; the baseline conditions at the Application Site and surroundings; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This chapter has been prepared by Motion.

9.3 Traffic and transport is a key consideration in the delivery of any development. In this regard, consideration is given to the trips that will be made to and from the site, during both construction and operational phases. The likely origins/destinations of the forecast trips are considered, as well as the modes of travel (walk, cycle, bus and car) that will be used.

9.4 The data and analysis discussed in this chapter is consistent with the formal scoping process described in Chapter 2, EIA Methodology, and takes into account discussions that were had with the Highway Authority, which in this instance is Staffordshire County Council (SCC), and the Highways Agency on behalf of the Secretary of State for Transport during the course of pre-application discussions.

9.5 This ES chapter (and its associated figures and appendices) is not intended to be read as a stand-alone assessment and reference should be made to Chapters 1 - 6 and 8 of this ES, as well as the TA (see **Volume 3**) that has been prepared in support of the application. In addition to this, it should be noted that the traffic flows provided in this Chapter have informed the Air Quality and Noise and Vibration assessments that are summarised at Chapters 12 and 13 respectively.

Policy Context

National Planning Policy

National Planning Policy Framework (2012)

9.6 The National Planning Policy Framework (NPPF) was published on 27th March 2012 (Ref 9.1), and replaces the previous national planning policies that were set out in the various Planning Policy Guidance Notes / Statements. With regard to transport, the NPPF replaces policy contained within PPG13 - Transport (Ref 9.2).

9.7 The NPPF sets out a presumption in favour of sustainable development that recognises the importance of transport policies in facilitating sustainable development, and that planning decisions should have regard to local circumstances. In this regard, paragraph 29 of the NPPF states:

"The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."

9.8 Similarly, paragraph 30 states that:

"In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport."

9.9 Furthermore, with respect to new developments paragraph 32 states that:

"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- *The opportunities for sustainable transport modes have been taken up depending on the nature and location of the Site, to reduce the need for major transport infrastructure;*
- *Safe and suitable access to the Site can be achieved for all people; and,*
- *Improvements can be undertaken within the transport network that cost effectively limit the impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

Local Planning Policy

Staffordshire Moorlands Core Strategy (March 2014)

9.10 Local Policy is provided in the Staffordshire Moorlands Core Strategy (Ref: 9.3). The Core Strategy (SMCS) was formally adopted on 26th March 2014 and sets out the statutory planning policy for the District of Staffordshire Moorlands (excluding the Peak District National Park).

9.11 A summary of the policies that are relevant to the proposals are listed below. A summary of the transportation policies that are relevant to the proposals are as follows:

- SMCS Policy SO11 – Spatial Objective – Transport: to reduce the need to travel or make it safer and easier to travel by more sustainable forms of transport;
- SMCS Policy T1 – Development and Sustainable Transport: New developments should minimise the need to travel, be appropriate in scale to the local transport infrastructure and benefit from adequate, safe access arrangements. Where there are deficiencies the Council will seek funding for contributions that deliver improvements to local infrastructure, including highway capacity and safety and/or public transport accessibility and capacity. Developers are also required to operate Travel Plans to encourage less reliance upon the private car for developments that generate significant demand for travel.

- SMCS Policy T2 – Other Sustainable Transport Measures: The Council will support measures that promote better accessibility, create safer roads, reduce the impact of traffic and facilitate highway improvements.

Other Local Planning Policy Documents

9.12 In addition to the above, there are further supplementary planning documents relevant to the proposals. The SMBC Developer/Landowner Contributions SPG (Ref: 9.4) outlines the basis for securing developer contributions through the planning system, whilst the Staffordshire Residential Design Guide SPD (Ref: 9.5) provides guidance with respect to the design of residential streets and neighbourhoods. A key aspect of the Residential Design Guide SPD is parking provision, which SCC has advised should be identified having regard to the standards that were contained within Appendix Four of the Staffordshire Moorlands Local Plan.

Assessment Methodology and Significance Criteria

Guidance

9.13 In this assessment reference has been made to the Department for Transport (DfT) publications entitled 'Guidance on Transport Assessment' March 2007 (Ref 9.6). In addition to this, TA79/99, which forms part of the Design Manual for Roads and Bridges (DMRB) (Ref 9.7) and TA46/97 (Ref 9.8), have been consulted as they provide guidance with respect to the link capacity of roads within urban and rural areas, whilst Volume 11 Section 3 Part 8 of the DMRB has been used when establishing the likelihood of pedestrian severance (Ref 9.9). The Institute of Environmental Assessment (IEA) publication entitled 'Guidelines for the Environmental Assessment of Road Traffic' 1993 has been referred to to establish appropriate significance criteria (Ref 9.10), with reference being made to the Institute of Highways and Transportation (IHT) publications entitled 'Providing for Journeys on Foot' (Ref 9.11), 'Cycle Friendly Infrastructure' (Ref 9.12) and 'Planning for Public Transport in Development' (Ref 9.13) when assessing the local sustainable transport networks. When designing the Site access, reference has been made to Manual for Streets (Ref 9.14) and Manual for Streets 2 (Ref 9.15).

9.14 Having regard to the above, this Chapter explains the methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria is also discussed. Although there is no nationally recognised standard for defining traffic effect and therefore each site should be assessed on its own merits, transport planners tend to assess the traffic effect of a development when the percentage increase on the adjacent highway network exceeds defined criteria. Whilst the DfT guidance does not set specific criteria that defines traffic effect with respect to Transport Assessments, it is noteworthy that guidance prepared by the IEA suggests the following provides a useful screening process when considering the potential environmental effects of traffic:

- Rule 1 - include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 - include any other specifically sensitive areas where traffic flows have increased by 10% or more.

9.15 Having regard to the guidance outlined above, the criteria set out in **Tables 9.1 to 9.3** have been used when assessing the magnitude of the effects associated with the Proposed Development and receptor sensitivity respectively. It should be noted that the indirect effects of Air Quality and Noise are assessed independently at Chapters 12 and 13.

Table 9.1: Matrix for Determining the Significance of Changes in Traffic

Change in Traffic Flow	Magnitude of Effect
Change in total traffic or HGV flows over 90%	Major
Change in total traffic or HGV flows of 60 – 90%	Moderate
Change in total traffic or HGV flows of 30 – 60%	Low
Change in total traffic or HGV flows of less than 30%	Negligible

Table 9.2: Matrix for Determining Receptor Sensitivity

Receptor Sensitivity	Magnitude of Effect
Major	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident black spots, retirement homes, urban/residential roads without footways that are used by pedestrians.
Moderate	Traffic flow sensitive receptors including: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, un-segregated cycleways, community centres, parks, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.

Table 9.3: Matrix for Determining Effect

Sensitivity	Magnitude of Effect		
	High	Medium	Low
Major	Major Adverse/Beneficial	Moderate Adverse/Beneficial	Moderate-Minor Adverse/Beneficial
Moderate	Major-Moderate Adverse/Beneficial	Moderate-Minor Adverse/Beneficial	Minor Adverse/Beneficial
Low	Moderate-Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor-negligible
Negligible	Negligible	Negligible	Negligible

Scope of the Assessment

9.16 The assessment of transportation and access considers the effect of all modes of transport both in the immediate vicinity of the site and also on the wider network. The scope of this chapter was included in the EIA Scoping Report, which was commented upon by SMDC. In addition to this, it is noteworthy that the scope of this chapter was also the subject of discussions with SCC and the HA. On the basis of these discussions it was agreed that this chapter would consider the following;

- The implications for the local highway network;
- The cumulative effects of traffic associated with the Indesit Works site;
- The adjacent transport infrastructure, as well as the broader network; and
- The means by which such infrastructure can be provided to enhance the opportunities for travel by modes other than car within the broader network.

9.17 The EIA Scoping Report included the following information to be assessed:

Table 9.4: Matrix for Determining Effect

Location	Impacts
Local Roads	Net change in traffic patterns; peak hour junction capacity; peak hour link capacity; traffic speed; and capacity; effect on personal injury accidents.
Public Transport	Net change in public transport patronage; public transport capacity; duration and frequency of bus services; provision of a potential new bus route.
Pedestrians and Cyclists	Net change in pedestrian and cycle journeys; local footway and capacity; on-street cycle facilities; effect on personal injury accidents
Local Roads	Net change in traffic patterns; peak hour junction capacity; peak hour link capacity; traffic speed; and capacity; effect on personal injury accidents.

9.18 For the purposes of this assessment, the effects of the Proposed Development have been considered having regard to a checklist of potential effects identified by the IEA. These include:

- Driver delay;
- Severance;
- Pedestrian delay and amenity;
- Accidents and safety; and
- Dust and Dirt.

9.19 As agreed with SCC and the HA, the analyses presented within this Chapter considers the effects of the Proposed Development within a study area that comprises:

- Sandon Road (North and South of Blythe Business Park);
- Uttoxeter Road (East of Sandon Road);
- Uttoxeter Road (West of Sandon Road);
- Uttoxeter Road (South of Cheadle Road);
- Uttoxeter Road (North of Cheadle Road);
- Cheadle Road;
- Stallington Road;
- A50 (West of the A50/A521 roundabout); and
- A50 (South of the A50/A521 roundabout).

9.20 In addition to the above, it should be noted that the TA (see **Volume 3**) that has been prepared in support of the Planning Application has considered the impact of the Proposed Development upon the following junctions:

- Sandon Road/Uttoxeter Road;
- A521/Uttoxeter Road/Woodlands Lane;
- A50/A521 roundabout; and
- Uttoxeter Road/Stallington Road/Cheadle Road.

9.21 The location of the Site in relation to the study area is shown at **Figure 9.1**.

Method of Baseline Data Collection

9.22 Data for use in this assessment have been gathered from a number of sources. These include traffic surveys undertaken in April 2013 and January 2014 and Census data. Reference has also been made to the industry standard TRICS (Trip Rate Information Computer System) and TEMPRO (Trip End Model Presentation Programme) databases. Further details regarding the traffic surveys, Census material and data extracted from the TRICS and TEMPRO databases are provided later in this Chapter. Site visits have also been carried out on 7th September 2012 and 9th January 2014 to examine the local area and gain a greater understanding of local transport patterns.

Assessment Modelling

9.23 In carrying out the traffic assessment, and as suggested by the DfT guidance, reference has been made to the traffic surveys outlined above, the TRICS database and the computer software program TEMPRO. Trip rates have been derived having regard to the surveys undertaken at the existing Blythe Bridge Access and the Sandon Close residential area, together with data extracted from TRICS for the Proposed

Development. When assessing the transportation impacts of the Proposed Development, TEMPRO has been used to estimate traffic growth up to the year of anticipated full occupation (2019) and a future year of 2024, which reflects a period of 10 years after the registration of the planning application in accordance with the DfT guidance. It should be noted that the traffic data presented below has formed the basis of the Air Quality and Noise assessments presented at Chapters 12 and 13.

Significance Criteria

9.24 The assessment of likely significant effects resulting from the Proposed Development has taken into account both the construction and operational phases. When considering the operational phase reference has been made to the traffic attracting potential of the extant consent associated with the site. The significance level attributed to each effect has been assessed based on the magnitude of change due to the Proposed Development, and the sensitivity of the affected receptor/receiving environment to change as outlined above in **Tables 9.1 to 9.3**.

Limitations and Assumptions

9.25 The following assumptions have been made in this assessment:

- An anticipated year of full occupation of the residential element of the scheme in 2019;
- Baseline traffic growth will be in line with the growth figures contained within TEMPRO, which take into account the current version of the National Transport Model (NTM); and
- Development traffic will be distributed in accordance with those associated with the existing Blythe Bridge Business Park tenants and residents of Cresswell.

Baseline Conditions

Site Context

9.26 The site, which covers a total area of circa 15.58 hectares, is located to the east of Cresswell Road approximately 3 kilometres to the south-east of Blythe Bridge town centre within the administrative boundaries of SMDC and SCC. The site is adjacent to Blythe Business Park, which has a combined floor area of circa 31,500 square metres and typically employs up to 300 people at any one time. In this regard, the site benefits from an existing vehicular access on Sandon Road.

9.27 Despite the semi-rural location of the site it benefits from a choice of transport modes that have the potential to reduce reliance upon the private car. For example, the existing footways provided on either side of Cresswell Road link the site to nearby bus stops, from where it is possible to make onward connections to the Stone town centre, as well as Longton transport interchange, Stallington and Hilderstone. The site is also well located with respect to an extensive network of preferred cycle routes identified by SCC. As a result the site benefits from relatively good levels of accessibility to the commercial centre of Blythe Bridge, and a range of other community facilities including schools, a leisure centre, health centres and various local employment centres located to the north of the site. The existing conditions for each transport mode are described in the following paragraphs.

Local Highway Network

9.28 As noted above, vehicular access to the site is currently achieved from Sandon Road, which broadly follows a north–south alignment. Sandon Road is a single carriageway road that is subject to a 40 miles per hour speed limit and is generally 6.7 metres wide in the immediate vicinity of the site. However, there are locations to the north of the site where the width of Sandon Road reduced to circa 5.2 metres; namely, opposite the Izaak Walton Public House.

9.29 As well as providing a connection to Fulford, Hilderstone and Stone to the south, Sandon Road also connects the site with the C109 (Uttoxeter Road) to the north. Uttoxeter Road provides onward connections to Blythe Bridge, and Stoke via the A50, which forms part of the Strategic Road Network.

Sustainable Transport Accessibility

9.30 It is generally accepted that walking and cycling provide important alternatives to the private car, and should also be encouraged to form part of longer journeys via public transport. Indeed, they have the potential to reduce the impact of the Proposed Development upon the local highway network. The following text considers the relationship of the site to the existing pedestrian, cycle and public transport networks.

9.31 The TA (see **Volume 3** of this ES) that has been produced to accompany the application demonstrates the site benefits from access to the existing footways provided alongside Cresswell Road and an extensive Public Rights of Way (PROW) network, which can be used to access local amenities to the north and for recreation purposes. However, it is accepted that footways are not provided on each side of Cresswell Road and there are locations where there are no footways provided, most notably opposite the Izaak Walton Public House. Indeed, it should be noted that the lack of a footway in this location was identified as being a local concern at the public exhibition that was held on 9th January 2014. .

9.32 Whilst the local area does not currently benefit from any infrastructure specifically for cyclists, it is noteworthy that Cresswell Road forms part of an extensive network of 'advisory cycle routes' that have been identified by SCC (see **Appendix 9.1**). It is therefore considered that there is potential for residents to undertake local trips by cycling. This is particularly evident given that Blythe railway station, which is located three kilometres to the north-east of the site, includes cycle parking facilities.

9.33 There are two bus stops located within approximately 450 metres from the entrance of the site. These stops are served by bus route 249 which operates between Longton, Stallington, Hilderstone and Stone. The stop on the west of Sandon Road benefits from a shelter. Southbound, services along bus route 249 are provided at 0946, 1134 and 1427, Monday to Saturday with no service on a Sunday. Northbound, services along route 249 are provided at 0844, 1043, 1326 and 1458, Monday to Saturday with no service on a Sunday.

9.34 The nearest railway station is Blythe Bridge, which is located some 3 kilometres from the site. Hourly services in both directions operated by East Midlands Rail provide access to local and regional destinations including Crewe, Stoke-on-Trent and Derby.

Local Travel Behaviour

9.35 In order to assess the relative attractiveness of the above modes, the 2011 Census Data results associated with the existing residential area that surrounds the site has been interrogated. Details of the data extracted from the 2011 Census are provided within the TA at **Volume 3** and summarised in Tables **9.5** and **9.6**.

Table 9.5: Travel to Work Data (2011 Census – Resident Population)

Mode of Transport	Cresswell Area	Checkley Ward
Public Transport	1.8%	2.9%
• Rail	0.9%	0.5%
• Bus	0.9%	2.5%
Car/van driver	92.7%	85%
Car/van passenger	2.7%	5.8%
Taxi	0%	0%
Motorcycle	0.9%	0.6%
Pedal Cycle	0%	1.1%
On foot	1.8%	9.9%
Other	0%	0.5%
TOTAL	100%	100%

9.36 **Table 9.5** indicates the predominant mode of transport for current residents of Cresswell travelling to work is the private car. Whilst this is consistent with the Checkley ward, it is accepted that the proportion of residents that use sustainable transport is comparably low. This is as to be expected given the semi-rural location of the site.

Table 9.6: Travel to Work Data (2011 Census – Workplace Population)

Mode of Transport	Cresswell Area	Staffordshire Moorlands District
Public Transport	2.2%	4.4%
• Rail	0.2%	0.3%
• Bus	2%	4.1%
Car/van driver	79.7%	71.1%
Car/van passenger	7.7%	7.4%
Taxi	0.3%	0.2%
Motorcycle	0.9%	0.7%
Pedal Cycle	0.3%	1.4%
On foot	6.6%	14.6%
Other	0.3%	0.2%
TOTAL	100%	100%

9.37 As with the resident population, the information presented at **Table 9.6** indicates that the main mode of transport that people use when travelling to work in the local area is the private car. However, it is noteworthy that the sustainable modes of transport outlined above are more widely used for trips into the area for work based trips than has been established for people leaving Cresswell. Indeed, **Table 9.6** indicates that travel behaviour of people travelling to Cresswell for work purposes is broadly consistent with the wider Staffordshire Moorlands area, albeit is accepted the proportion of trips made by public transport and on foot are somewhat lower. This is as to be expected, and reflects the semi-rural location of the site that is relatively remote from the existing built up areas from where the existing workplace population will be drawn from, the relatively infrequent bus services and the absence of footways to the north of the site.

9.38 Whilst the above demonstrates there is a reliance upon the private car when travelling to and from Cresswell for work purposes, it is important to note that paragraph 29 of the NPPF states, "*opportunities to maximise sustainable transport solutions will vary from urban to rural areas*", whilst a report published by The Department for Communities and Local Government in 2008 (Living Working Countryside) considers local authorities should recognise how rural communities can be enhanced as a result of development proposals. Indeed, it is noted that when assessing a development proposal local authorities should establish whether it will, "*add to or diminish the sustainability of this community*" (DCLG, 2008, page 9). In this respect, it should be noted that the Applicant has identified a package of measures that will enhance the existing pedestrian infrastructure, which will improve the current linkages Cresswell has with the amenities located to the north of the site in Blythe Bridge. The Applicant is also willing to provide a financial contribution towards increasing the frequencies of the bus services that operate in Cresswell, as has been requested by SCC. Further details of the improvements that will be delivered are provided below.

Road Safety

9.39 Guidance prepared by the DfT recommends that a Transport Assessment should include an analysis of the injury accident records that the local highway authority holds to establish whether the public highway is identified as having an abnormally high accident rate. In this regard, a road safety assessment has been undertaken having regard to Personal Injury Accident (PIA) data obtained from Staffordshire County Council for the most recent five-year period available (up to September 2013). On the basis of this assessment, which is set out in the supporting TA (see **Volume 3**), it has been concluded that the number and severity of the accidents in the study area is not in excess of that for an area of highway in a location of this type over the study period that has been assessed. For completeness a plan provided by Staffordshire County Council showing the location and severity of accidents is provided at **Appendix 9.2**.

9.40 Notwithstanding this, it is accepted that the Highways Agency's A50/A500 Route Management Strategy, which was published in August 2005 (Ref: **9.16**), states at paragraph 6.7.2 that:

"The [A50/A521] roundabout is subject to over-turning by HGVs who fail to navigate the tight radius of the roundabout. There are warning signs on the approach to the roundabout warning of overturning lorries."

9.41 Whilst it is accepted that the accident data provided at **Appendix 9.2** reports incidences of HGVs overturning, it should be noted that there were just 3 occurrences of this in the assessment period all of which were classified as resulting in slight injuries. It is also noteworthy that the last recorded incident appears to have taken place in 2008. In this respect it is considered reasonable to assume that the advisory signs provided on the approaches to the roundabout are proving to be effective in reducing the number of HGVs that overturn at this roundabout. Regard should also be had to the fact that the average accident rate at this location is equivalent to just 2 accidents per year, which given the volume of traffic that passes through his junction on a daily basis is not considered to be consistent with a junction that is subject to an abnormally high accident rate.

Existing Traffic Conditions

9.42 In order to establish the existing traffic flow volumes in the vicinity of the site, traffic surveys have been undertaken at the locations outlined in **Table 9.7**, which are consistent with the scope of the study areas agreed with SCC and the HA.

Table 9.7: Summary of Traffic Surveys

Survey Type	Location	Dates
Automatic Traffic Count (ATC)	Sandon Road (At Izaak Walton Public House)	21st to 27th January 2014
Manual Classified Turning Counts (MCTC)	A521/A50	16th April 2013
	A521/Uttoxeter Road	
	Uttoxeter Road/ Sandon Road	
	Sandon Road/Blythe Bridge Business Park	
	Sandon Road/Sandon Close	
	Sandon Road/Rookery Crescent	
	Uttoxeter Road/Stallington Road/Cheadle Road	22nd January 2014

9.43 The results of the ATC surveys indicate the weekday peak hours for traffic flow on Sandon Road to be 08:00 to 09:00 hours and 17:00 to 18:00 hours. Having regard to this, peak hour and daily traffic movements on the adjoining highway network are summarised at **Table 9.8**. It should be noted that the traffic flows in this chapter are presented as 'Link Flows' in a manner that is consistent with the information used in other chapters, such as Chapter 12 (Air Quality) and Chapter 13 (Noise and Vibration). Further details on traffic flow information, particularly with regard to turning counts at junctions within the study network at peak times, as recorded by the MCTC surveys, are provided in the TA (see **Volume 3**).

Table 9.8: Baseline Traffic Survey Results

Location	AADT Flows
Sandon Road – North of Blythe Business Park	3709
Sandon Road – South of Blythe Business Park	3709
Uttoxeter Road East – East of Cresswell Road	13066
Uttoxeter Road West – West of Cresswell Road	13207
Uttoxeter Road South – South of Cheadle Road	3904
Uttoxeter Road North – North of Cheadle Road	11639
Cheadle Road	8926
Stallington Road	2960
A50 West	50896
A50 South	40521

9.44 When considering the above, it is important to note that guidance within TA79/99 (Ref. 9.7) and TA46/97 (Ref: **9.8**) suggests that the theoretical capacity of the roads that comprise the study area are shown at **Table 9.9**. It should be noted that the AADT flows associated with Sandon Road, Uttoxeter Road (East and West) and the A50 have been established having regard to the Congestion Reference Flow of these links, which indicates the maximum level of AADT flow on a link that could be accommodated without congestion occurring. Copies of the calculations are provided at **Appendix 9.3**.

Table 9.9: DMRB Link Capacities

Location	DMRB Section	AADT Flows
Sandon Road North and South	TA46/97	70,870
A50 West		68,787
A50 South		12,377
Uttoxeter Road East and West		23319
Uttoxeter Road South	TA79/99	28182
Uttoxeter Road North		36,000
Cheadle Road		36,000
Stallington Road		30,000

9.45 As the traffic flows presented at **Table 9.9** are comfortably within the thresholds outlined in the DMRB, it is considered that the highway network in the vicinity of the site operates within capacity. This is as to be expected given that queue length surveys undertaken at the same time as the MCTC surveys indicate that the study area is not generally subject to excessive queuing. Moreover, detailed junction modelling of the junctions

that comprise the agreed study area have shown that they operate within accepted thresholds (see the TA at **Volume 3** for details).

9.46 On the basis of the above it is considered that the links and junctions that comprise the local highway network do not currently operate in excess of their respective design capacities.

Future Baseline Traffic Conditions

9.47 As agreed with SCC and the HA, the traffic flows identified for 2013 have been projected to 2019 (potential year of opening) and 2024 (10 years after the registration of the application) using growth rates obtained from the current version of the TEMPRO database. The growth rates for Staffordshire Moorlands, which are provided at **Appendix 9.4**, show that background traffic levels can be expected to increase by circa 3% by 2017 and 20% by 2028; the baseline traffic flows for 2019 and 2024 are summarised at Tables **9.10 and 9.11**.

Table 9.10: 2019 Baseline Traffic Flows

Location	AADT Flows
Sandon Road – North of Blythe Business Park	3897
Sandon Road – South of Blythe Business Park	3897
Uttoxeter Road East – East of Cresswell Road	13727
Uttoxeter Road West – West of Cresswell Road	13876
Uttoxeter Road South – South of Cheadle Road	4102
Uttoxeter Road North – North of Cheadle Road	12228
Cheadle Road	9378
Stallington Road	3109
A50 West	53471
A50 South	42572

Table 9.11: 2024 Baseline Traffic Flows

Location	AADT Flows
Sandon Road – North of Blythe Business Park	4377
Sandon Road – South of Blythe Business Park	4377
Uttoxeter Road East – East of Cresswell Road	15420
Uttoxeter Road West – West of Cresswell Road	15586
Uttoxeter Road South – South of Cheadle Road	4608
Uttoxeter Road North – North of Cheadle Road	13736
Cheadle Road	10534
Stallington Road	3493
A50 West	60064

A50 South	47821

9.48 When considering the above it is important to acknowledge that the TEMPRO database assumes that there will be an increase of 1,395 houses between 2013 and 2024 in the Staffordshire Moorlands area, whilst job numbers are also expected to increase by 428 in the same period. Given that the proposals will deliver a significant proportion of these increases, the planning assumptions contained within the TEMPRO database for the Rural Staffordshire Moorlands study area have been revised. Details of the changes made are provided at **Appendix 9.4** together with the relevant output files.

9.49 It is important to note that the approach taken with respect to growth rates has been agreed with the HA and SCC as being appropriate in this instance. In reaching this conclusion, reference has been made to data held by the Department for Transport, which indicates traffic flows in the local area have remained relatively flat for a number of years despite vehicular activity associated with new developments in the wider region being added to the highway network.

9.50 The above tables indicate that the local highway network will continue to operate within the design capacities set out at **Table 9.9**.

Predicted Significant Effects

Construction

9.51 The construction programme and phasing will depend on a number of factors including safety, environmental considerations, economics, access and practicalities. In this regard the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage. Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period. On this basis, it is not possible to provide a definitive breakdown of the numbers of vehicles that are likely to be attracted to the site during the construction phase at this stage.

9.52 However, based upon past experience at similar sized residential developments to that which is proposed, it is considered that the peak demand for HGVs is likely to be in the order of 20 two-way movements per day (i.e. 10 arrivals and 10 departures). Similarly, it is expected that the construction phase associated with the commercial uses is likely to attract up to 26 two-way movements (i.e. 13 arrivals and 13 departures). As there will be a degree of overlap between the construction phase of the residential dwellings and commercial floor space, it is evident that the maximum number of HGVs attracted to the site in the construction phase could be in the order of 46 two-way movements per day, or circa 4 HGVs per hour assuming a typical construction day of between 07:00-19:00.

9.53 It is noteworthy that this level of activity is comfortably within the 100 HGVs per day that were expected to be generated during the construction phase of a proposed Power Plant to the south-east of the site. As it is understood that this level of activity was acceptable to SCC and the HA, it is expected that construction traffic generated by this development will also be acceptable. This is particularly evident given that the anticipated increases in HGV activity are not consistent with the thresholds that have been identified by the IEA as resulting in a significant effect upon pedestrian amenity

(i.e. a doubling of HGV activity). Similarly, the increases in HGVs will not have a detrimental effect upon road capacity or highways safety as they are consistent with an average increase of just 1 additional HGV movement every 15 minutes on average between 07:00 and 19:00, . It is therefore considered that this level of activity will be insignificant and is considered likely to result in a temporary effect upon the local transport networks of negligible significance.

9.54 The construction process will also attract an increase in the number of cars and vans within the study area during the construction process. It is envisaged that vehicular activity associated with construction workers will originate from a variety of areas. It is also expected that site personnel will be required to park on-site as part of a Construction Environmental Management Plan (CEMP) that will be secured via a planning condition. Given the scale of the Proposed Development, it is expected that there will be a need to provide on-site parking for 75 car/van parking spaces to meet the anticipated demand associated with contractors employed to construct the residential uses and a further 100 space car park to meet the anticipated demand associated with the construction of the commercial floor space. Assuming a worst case scenario of all contractors arriving at the site between 08:00 and 09:00 and departing between 17:00 and 18:00 there is the potential for traffic flows to increase by circa 2 vehicles per minute on average in the morning and peak travel periods.

9.55 As it has been shown traffic flows on the links that comprise the study area are comfortably within the design capacities identified in the DMRB, it is considered that the effect of the traffic associated with construction workers upon receiving environment/receptors (including pedestrian and cycle networks) will be temporary and of ***negligible*** significance. This is particularly evident given that it is unlikely all contractors will travel to and from the site in the peak hours, and that vehicular traffic associated with the construction phase is lower than the traffic that is expected be generated by the Proposed Development; details of which are provided below.

9.56 There is the potential that mud and debris will be deposited on the surrounding roads by construction vehicles transporting waste away from the site. It is generally accepted that there are no simple formulas to predict the level of dust and dirt which might arise from vehicle movements. However, given the scale of the proposals it is considered that the potential effects of the Proposed Development will be temporary and of ***negligible*** significance. Indeed, it should be noted that the CEMP that will be operated will include construction management measures such as the use of wheel washing facilities and keeping fine materials damp to minimise the amount of material that is deposited on Cresswell Road. Similarly, it is also envisaged that further remedial measures will include regularly clearing debris on the approaches to the site.

Operation

Trip Attraction

9.57 In order to quantify the levels of person trips that are likely to be attracted to the Proposed Development, reference has been made to trip rates identified for the existing commercial uses that operate from Blythe Business Park and the residential dwellings served off Sandon Close. Reference has also been made to the industry standard trip rate database (TRICS 7.1.1) and the Census data outlined above in Tables 9.5 and 9.6.

9.58 Based upon the information presented in **Table 9.12**, it is evident that the proposals have the potential to generate 2,619 person trips per day, with 2,216 of these being car based trips.

Table 9.12: Daily Person Trips

Mode of Transport	Person Trips
Public Transport	55
• Rail	13
• Bus	42
Car/van driver	2216
Car/van passenger	152
Taxi	5
Motorcycle	24
Pedal Cycle	36
On foot	126
Other	5
TOTAL	**2619**

9.59 It is important to note that the analyses undertaken when identifying the above are consistent with guidance produced by the DfT (Ref: 9.6) and have been accepted as providing an appropriate basis upon which to assess the Proposed Development by the HA and SCC (see the TA at **Volume 3**). However, it is accepted that these authorities have requested that sensitivity tests be undertaken having regard to trip rates that have been extracted from the TRICS database with respect to Industrial Estates (HA requirement) and locally identified residential trip rates (SCC requirement). Full details of the sensitivity tests are provided within the TA at **Volume 3**, with a summary of the resulting person trips provided below at **Table 9.13**.

Table 9.13: Daily Person Trips (Sensitivity Test)

Mode of Transport	Departures
Public Transport	73
• Rail	15
• Bus	58
Car/van driver	2870
Car/van passenger	210
Taxi	7
Motorcycle	30
Pedal Cycle	52
On foot	176
Other	8
TOTAL	**3426**

9.60 On the basis of this assessment, details of which are provided in the TA (see **Volume 3**), it is anticipated that the Proposed Development is likely to attract the following trips. It should be noted that the daily traffic flows relate to the period 07:00 to 19:00 as this is the extent of the data contained within the TRICS database.

9.61 Having regard to the trip rates identified by SCC and the HA, there is the potential that the Proposed Development will generate 3,426 person trips per day. Daily vehicle trips are likely to equate to circa 2,870 movements. To ensure that a robust assessment is taken, the following analyses are based upon the person trips that have been established for the sensitivity test requested by the HA and SCC.

Pedestrians – Additional Demand on the Receiving Environment

9.62 The Proposed Development will be located within walking distance of the bus stops on Sandon Road, as well as a variety of key local facilities that currently exist within the local area and towards Blythe Bridge town centre. It should also be noted that the Proposed Development incorporates a significant amount of new commercial floor space, which has the potential to increase the number of employment opportunities for existing and future residents of Cresswell. In this regard, it is expected that the main pedestrian desire lines will be along Sandon Road and Uttoxeter Road towards Blythe Bridge, as well as across Sandon Road when accessing the PROW network located to the west of the site.

9.63 At the Reserved Matters stage, the internal layout of the Proposed Development will be designed to accommodate and enhance these pedestrian desire lines by providing the most direct, safe and attractive pedestrian routes through the site and linking to the existing pedestrian network bordering the site. For example, internal footways will provide direct access to the existing and proposed pedestrian facilities provided on Sandon Road, including those that have been incorporated within the site access roundabout. A further pedestrian/cycle access will be provided at the existing site access, which will be closed for vehicular activity apart from emergency vehicles. In addition to this, it is noteworthy that the Applicant intends to respond to concerns raised locally with respect to the lack of continuous footways outside the Izaak Walton Public House by providing a new footway in this location. This new footway, the principle of which has been agreed with SCC, will enhance the connectivity of the site along the main pedestrian desire line between Cresswell and the north.

9.64 **Table 9.13** indicates that the Proposed Development will result in relatively modest increases in pedestrian activity that equate to approximately 7 additional movements per hour on average. These increases are considered to be imperceptible and will not lead to any footway capacity issues. This is particularly evident given that on-site observations have established that pedestrian activity in the local area is relatively low. On this basis the impact of the Proposed Development upon the existing pedestrian network will be ***negligible***. Moreover, it is considered the Proposed Development will therefore have a direct, permanent ***moderate-minor beneficial*** effect upon the receiving environment of medium significance given that the Proposed Development will incorporate improvements to the existing pedestrian infrastructure that enhances connectivity to the north of the site.

Cyclists – Additional Demand on the Receiving Environment

9.65 There are a range of destinations within reasonable cycling distance of the site, including several schools and employment areas for the future residents (i.e. Blythe Bridge, Cheadle and the Whittle Road Industrial area of Stoke-on-Trent) and residential areas from where potential employees will be drawn (i.e. Blythe Bridge, Cheadle, south east of Stoke-on-Trent and the villages/hamlets that surround Cresswell). As such it is considered that these areas are sufficiently close to the site for future residents of the proposed houses and employees of the proposed commercial uses to consider making trips by cycle. This is particularly evident given that Cresswell Road forms part of the extensive network of 'advisory cycle routes' identified by SCC (see **Appendix 9.1**), and that cycle parking will be provided on the site in accordance with the requirements of the planning and highway authorities.

9.66 It is considered that the increases outlined at **Table 9.13**, which equate to an average of 2 additional movements per hour, are imperceptible. As such, it is considered that the Proposed Development will have a direct, permanent ***negligible*** effect on local cycle facilities and the receiving environment of negligible significance.

Public Transport – Additional Demand on the Receiving Environment

9.67 As explained previously, the site is well located with respect to four bus stops that are located on Sandon Road. As the location of these stops are consistent with the maximum walk distances that are typically referred to when assessing the accessibility of a Proposed Development to public transport, it is considered that future residents will have the opportunity to travel by bus and rail to a range of key local destinations.

9.68 Notwithstanding this, it is accepted that the frequency of the services that currently operate from these stops is poor. In this regard, it is noteworthy that SCC has indicated during the course of pre-application discussions that it will require the Applicant to make a financial contribution towards improving the frequency of the existing bus routes that serve Cresswell.

9.69 It has been shown that the Proposed Development is likely to attract a relatively small increase in the number of trips by public transport (i.e. bus and rail). Indeed, Table 9.13 indicates that the Proposed Development will lead to an average increase in demand for just 3 public transport trips per hour. Given that these numbers do not represent a material change in public transport patronage level, it is considered that the effect of the Proposed Development on existing public transport facilities is ***negligible*** and that any increases will be absorbed within the existing network.

9.70 Notwithstanding this, it should be noted that the Applicant is willing to provide a financial contribution towards enhancing the existing bus services that operate in Cresswell in recognition of the fact they are currently relatively infrequent. It therefore has a direct, permanent moderate-minor beneficial effect on public transport facilities and the receiving environment of ***moderate-beneficial*** significance.

Private Vehicles – Additional Demand on the Receiving Environment

9.71 Access will be provided to the site from a new three arm roundabout, which will be constructed approximately 160 metres to the south of the bridge that crosses the River Blithe. This junction will connect the main spine road of the Proposed Development, which will be constructed to adoptable standards, with Cresswell Road. It is noteworthy

that SCC has confirmed that the principle of the proposed access is acceptable from a highways perspective during the course of pre-application discussions, subject to the outcome of a Stage 1 Road Safety Audit and detailed capacity assessments.

9.72 The site access will connect Sandon Road with the main spine road of the proposed residential development and extended Blythe Business Park. It is intended that the internal roads will be offered up for adoption to SCC, and as such they will accord with guidance set out in national (MfS) and local (Residential Design Guide SPD) guidance, the Staffordshire Residential Design Guide and have regard to the swept path of vehicles that are likely to access the site on a regular basis, including refuse and emergency vehicles. However, as this application is outline in nature it should be noted that the internal road layout will be subject to further design at the Reserved Matters stage.

9.73 **Table 9.13** indicates that the Proposed Development is likely to result in relatively large increases in demands when considered against the existing traffic flows associated with Sandon Road. For example, overall increases in traffic equate to circa 2 additional vehicles per minute on average, whereas existing flows equate to 3 vehicles per minute. This is as expected given the scale of the proposals in relation to the existing floor area of Blythe Business Park and the existing number of residential dwellings that are located within Cresswell. A detailed summary of the calculations undertaken when establishing vehicle trips is provided in the TA (see **Volume 3**).

9.74 In accordance with guidance prepared by the DfT, traffic flows associated with the Proposed Development have been assigned onto the local highway network having regard to the results of the MCTC surveys. Details of the calculations that have been undertaken are provided in the TA (see **Volume 3**).

9.75 As requested by SCC the effects of the Proposed Development upon the local highway network have been assessed in the year of opening (2019) and future year of 2024. The results of this assessment, which have regard to the higher development related traffic flows associated with the sensitivity tests requested by SCC and the HA, are shown below in **Tables 9.14 to 9.23**.

Table 9.14: Traffic Effect on Sandon Road – North of Blythe Business Park

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	3897	4377
Net Change	+2314	+2314
Post Development	6210	6691
% Change	+59.4%	+52.9%

Table 9.15: Traffic Effect on Sandon Road – South of Blythe Business Park

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	3897	4377
Net Change	+556	+556
Post Development	4453	4934
% Change	+14.2%	+12.7%

Table 9.16: Traffic Effect on Uttoxeter Road East – East of Cresswell Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	13727	15420
Net Change	+1147	+1147
Post Development	14874	16567
% Change	+8.4%	+7.4%

Table 9.17: Traffic Effect on Uttoxeter Road West – West of Cresswell Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	13876	15586
Net Change	+1167	+1167
Post Development	15042	16753
% Change	+8.4%	+7.5%

Table 9.18: Traffic Effect on Uttoxeter Road South – South of Cheadle Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	4102	4608
Net Change	+220	+220
Post Development	4322	4827
% Change	+5.4%	+4.8%

Table 9.19: Traffic Effect on Uttoxeter Road North – North of Cheadle Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	12228	13736
Net Change	+132	+132
Post Development	12360	13868
% Change	+1.1%	+1.0%

Table 9.20: Traffic Effect on Cheadle Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	9378	10534
Net Change	+49	+49
Post Development	9427	10583
% Change	+0.5%	+0.4%

Table 9.21: Traffic Effect on Stallington Road

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	3109	3493
Net Change	+39	+39
Post Development	3148	3532
% Change	+1.3%	+1.1%

Table 9.22: Traffic Effect on A50 West

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	53471	60064
Net Change	+859	+859
Post Development	54330	60923
% Change	+1.6%	+1.4%

Table 9.23: Traffic Effect on A50 South

Location	2019 AADT Flows	2024 AADT Flows
Pre-development	42572	47821
Net Change	+83	+83
Post Development	42655	47904
% Change	+0.2%	+0.2%

9.76 For the purposes of this assessment the suggested significance criteria contained within the IEA publication entitled 'Guidelines for the Environmental Assessment of Road Traffic' 1993 has been applied to the above results. This guidance advises that a material traffic effect would be a 30% increase in two-way traffic flows on the adjoining highway.

9.77 **Tables 9.14 to 9.23** demonstrate the Proposed Development is likely to result in traffic flows increasing by less than 30% on all links, with the exception of Sandon Road to the

north of Blythe Business Park. Indeed, it should be noted that the majority of links will experience increases in traffic that are lower than or comparable to the 10% threshold that the IEA considers representative of no discernible environmental effect, with the exception of Sandon Road to the south of Blythe Business Park. In this respect it is evident that the Proposed Development will not result in any adverse effects upon pedestrian/cyclist amenity or lead to severance issues that would discourage the use of these important modes of transport. This is particularly evident given that the Applicant will deliver a package of measures that enhance the current pedestrian infrastructure within Cresswell. Furthermore, the changes in vehicular activity on these roads will not lead to unacceptable increases in driver delay or reduce current road safety levels on Uttoxeter Road, Cheadle Road, Stallington Road or the A50. This is as to be expected given the outcome of detailed junction modelling provided in the TA at **Volume 3** which shows the junctions that have been subject to detailed capacity assessment operate within acceptable capacity thresholds.

9.78 However, it should be noted that the junction modelling presented in the TA indicates the Uttoxeter Road/Sandon Road junction will be operating at capacity in 2019 prior to any traffic associated with the Proposed Development being present on the local highway network. Therefore, without mitigation the proposed development would likely have a ***major-moderate*** adverse effect on this junction. In this respect, the Applicant has identified a mitigation strategy that comprises the introduction of a roundabout at this junction. As is shown in the TA at **Volume 3**, the introduction of a roundabout at this location will deliver significant capacity improvements that will ensure the Uttoxeter Road/Sandon Road junction operates more effectively than the existing layout does at present even with increases in background traffic and development related traffic taken into account. On this basis, it is considered that the anticipated changes in traffic flows on the local highway network are likely to have a direct, permanent ***negligible*** effect upon the highway network and receiving environment of low significance.

9.79 Notwithstanding this, it is accepted that Sandon Road to the south of Blythe Business Park is likely to experience increases of more than 10% in traffic flows in all of the assessment periods, with increases in traffic flows on Sandon Road to the north of Blythe Business Park anticipated to increase by more than 30%. In this regard, the effects of the Proposed Development upon these links have been explored in further detail having regard to the following topics identified by the IEA:

- Driver delay;
- Accidents and safety;
- Pedestrian delay and amenity; and
- Severance.

9.80 Whilst traffic using Sandon Road is anticipated to increase by between 9% and 60%, it is important to acknowledge that this road is currently lightly trafficked and thus any increases in traffic have the potential to represent a relatively large increase in percentage terms. Indeed, it is noteworthy that it has been established in the TA that increases in traffic travelling to and from the south of Cresswell equate to less than 1 additional vehicle movement per minute in the peak periods, which is not considered to

be representative of the severe impact referred to within the NPPF as being a legitimate reason to resist a planned development on highways and transportation grounds. Moreover, the daily traffic flows shown at Tables **9.14** and **9.15** are still comfortably within the theoretical design capacities of Sandon Road.

9.81 On this basis, it is considered that the Proposed Development will not lead to a material increase in driver delay on this section of Sandon Road. Indeed, the results of detailed junction modelling analyses in the TA at **Volume 3** indicate that the proposed access will operate within accepted design thresholds.

9.82 When considering the potential effects that the Proposed Development could have upon road safety, it is important to reiterate that Sandon Road is not currently subject to an abnormally high accident rate and that traffic speeds are consistent with the posted speed limit of 40 miles per hour. In this regard, the increases in traffic will not exacerbate an existing road safety problem. On the contrary, the introduction of a roundabout on Sandon Road will deliver traffic calming benefits as a result of vehicles having to slow down before entering the circulatory carriageway. In this regard, it is considered that the Proposed Development will deliver road safety improvements to the local area.

9.83 When evaluating the potential impact the Proposed Development could have to pedestrian amenity, it should be noted that the IEA suggests a doubling in traffic flows and/or its HGV component would be significant. In this respect, it is noteworthy that the overall increases in traffic shown at Tables 9.14 and 9.15 do not exceed this threshold as it demonstrates the Proposed Development will not have a negative effect upon pedestrian amenity. This is particularly evident given that the Proposed Development will deliver a package of measures that improve the current pedestrian infrastructure; namely, a new footway along the site frontage that connects to the existing footway provided across the bridge over the River Blithe, a new footway opposite the Izaak Walton Public House and dedicated pedestrian crossing facilities.

9.84 The proposed pedestrian infrastructure measures will also ensure that the Proposed Development does not lead to any severance/pedestrian delay issues. For example, the inclusion of pedestrian crossing facilities in the design of the proposed site access roundabout will provide a safe refuge for pedestrians, whilst the introduction of new footways will cater for the main desire line to and from Cresswell. They will also enhance links between the existing dwellings located to the west of Sandon Road and the community facilities that form part of the Proposed Development (i.e. community centre and local shop). In any case, it should be noted that the traffic flows presented at **Tables 9.14 and 9.15** are comfortably within the 8,000 vehicles that is considered to be representative of a hindrance to movement at Volume 11 Section 3 Part 8 of the DMRB (Ref 9.9). In this regard, the volume of traffic using Sandon Road when the Proposed Development is fully occupied is not of a level that would normally result in pedestrians encountering delays when crossing the road.

9.85 It is therefore considered that in conclusion the Proposed Development will lead to ***negligible*** effect upon the local highway network also applies to the Sandon Road North and Sandon Road South links. This is particularly evident given that the traffic flows presented at **Tables 9.14 and 9.15** consider the higher trip rates identified by the HA

and SCC and do not make any allowances for the fact that a Travel Plan will be in place. In this regard, the above results are robust and represent a worst case scenario that is unlikely to be replicated in practice.

Mitigation Measures

9.86 It has been shown that the Proposed Development will typically have only negligible effects on the receiving environment during the construction and operational phases. However, it is accepted that the location of the site with respect to sustainable transport options is limited and that as a result measures will be adopted to encourage less reliance upon the private car throughout the entire life cycle of the Proposed Development. In addition to this, potential improvements to the Uttoxeter Road/Sandon Road junction have been identified to overcome an existing capacity problem at this location.

Construction

9.87 With respect to the construction phase, it is envisaged that a Construction Transport Plan will be operated as part of a CEMP that will be secured by means of a condition to any grant of planning permission. It is likely that this will also include measures to reduce the number of site personnel that perform single occupancy vehicle trips to and from the site. At this stage it is envisaged that these may include highlighting the benefits of car sharing and highlighting the links that the site has to public transport facilities.

9.88 In addition to seeking to reduce the number of single occupancy trips undertaken by Site operatives, other measures included within the CEMP are likely to include:

- Provision of wheel washing facilities at the site entrance(s) together with a commitment to ensure all debris deposited by construction vehicles is removed from the immediate vicinity of the site.
- Identifying an approved Construction Traffic Route with the HA and SCC to minimise the effects associated with HGVs passing sensitive receptors.
- Controlling the hours of work to be undertaken outside of peak periods, including those associated with the start and end of school times.

Operation

9.89 Once the Proposed Development is operational, it should also be noted that a Residential and Workplace Travel Plan will be operated at the site with the intention of reducing reliance upon the private car. As is set out in the Framework Travel Plan that has been prepared to accompany the Planning Application (see the TA at **Volume 3**), these are likely to include:

- Information on safe walking routes to local facilities/services including maps showing approximate walk times within a Residents Welcome Pack;
- Cycle vouchers and/or discounts at local cycle retailers to encourage residents to undertake work, leisure and recreation trips by cycle; and
- Details related to public transport accessibility and discounted public transport tickets.

9.90 Due to existing capacity constraints at the Uttoxeter Road/Sandon Road, it is intended to create a roundabout at this location. As shown in the TA at **Volume 3**, the identified improvement comprises a compact roundabout that includes dedicated pedestrian crossing facilities and a service road that will serve numbers 235 to 287 Uttoxeter Road. It is important to note that the principle of converting the Uttoxeter Road/Sandon Road junction to a roundabout has been accepted by SCC at the pre-application stage subject to the outcome of capacity analysis and a Stage 1 Road Safety Audit. Given that detailed junction capacity assessments presented in the TA (see **Volume 3**) show the performance of the proposed mitigation strategy delivers significant capacity benefits, and a Stage 1 Road Safety Audit has made only minor observations with respect to its design, it is considered that the proposals represent an appropriate mitigation strategy.

Residual Effects

Construction

9.91 Due to the temporary nature of the effect of the construction traffic on the capacity of the local road network and receiving environment, the residual effect of the construction phase is anticipated to be negligible.

Operation

9.92 It is considered that the Proposed Development will have a direct, long-term effect of negligible significance upon the existing transport networks and receiving environment, with the exception of the Uttoxeter Road/Sandon Road junction where an existing capacity problem has been identified even before traffic associated with the Proposed Development is present on the local highway network. In this regard, the effects of the Proposed Development at this location without any mitigation would be severe. However, it should be noted that improvements will be implemented at this junction to overcome the existing capacity problems. Indeed, it is important to reiterate that converting this junction to a roundabout will result in this junction operating more effectively in 2024 with all the development traffic present on the local highway network than it does at present. In this regard, the Proposed Development will have a permanent moderate-minor beneficial effect upon this junction.

9.93 Furthermore, it should also be acknowledged that the Applicant proposes to enhance the current pedestrian infrastructure that serves the local area by delivering a new footway opposite the Izaak Walton Public House and providing contributions towards enhancing the existing public transport network. Not only will this ensure that the Proposed Development is well located with respect to sustainable modes of transport, it will secure long-term benefits to the existing residents of Cresswell by overcoming current shortcomings associated with the footways that serve the local area; namely; the absence of a footway opposite the Izaak Walton Public House. In this regard, the inclusion of sustainable transport links are considered to have a direct, long-term and permanent effect of major-moderate beneficial significance upon the sustainable transport network and receiving environment.

Cumulative Effects

9.94 SCC has advised that the only committed development that should be taken into account when identifying the cumulative effects of the proposals relates to the proposed

redevelopment of the Indesit Works site at Grindley Lane (Stafford Borough Council application reference: 08/09751/COU), which is located circa 1.5 kilometres to the west of the A50/A521 roundabout.

9.95 Having considered the Transport Assessment that was submitted in support of this application it is evident that the proposals were shown to lead to an overall reduction in traffic movements when compared with the uses that currently occupy the site. As a result it is evident that these proposals will not result in any increases in vehicular activity through the study area. In this regard, it is evident that the combined effects of the Indesit Works site and these proposals will be negligible, and as such no allowances have been made for this development when considering the potential cumulative impact of the Proposed Development during the operational phase. However, the following text does consider the combined effects of the Proposed Development and consented development on the Indesit Works site during the construction phase.

Construction

9.96 When considering the cumulative impacts of the respective construction programmes, it should be noted that the Indesit Works site is located adjacent to the A50. It is therefore considered that the focus of vehicular activity associated with construction phase of its redevelopment will be upon the A50 as this will provide a direct route to the main building supply centres. In this respect it is noteworthy that it has been established that the A50 is subject to significant amounts of residual capacity even with the Proposed Development fully operational.

9.97 Furthermore, it is expected that there will be a need for the Proposed Development and Indesit Works site to operate a Construction Transport Plan as part of a CEMP. As this is likely to control the number of construction vehicles movements to and from the site and identify acceptable routes for HGVs, it is considered that the volume of construction traffic associated with these developments will be managed to levels that SCC and the HA will be comfortable with.

9.98 On this basis, the cumulative impacts of the construction phases upon the study area being considered as part of this application will be ***negligible*** from a traffic capacity and highway safety perspective. They will also have a ***negligible*** effect upon the sustainable transport opportunities that will be provided for future residents of the Proposed Development. Moreover, due to the temporary nature of the impact of the construction traffic on the capacity of the local road network and receiving environment, the residual impact is anticipated to be ***negligible***.

Summary

9.99 The effects of the Proposed Development on transportation and access have been considered. The baseline environment has been assessed through site visits and the undertaking of traffic surveys. The traffic surveys have provided information on the existing traffic flows in the vicinity of the site. In addition to this, data provided by SCC has been assessed when considering the current road safety record associated with the study area.

9.100 This assessment has not identified any effects resulting from the Proposed Development that are considered to have an adverse effect. Indeed, the assessment of

highway link capacity around the site shows that these links will continue to operate within capacity during the construction phase and following the completion of the Proposed Development. Notwithstanding this, measures to improve the operation of the Uttoxeter Road/Sandon Road junction have been identified to overcome an existing capacity problem at this location. Moreover, it is expected that a Construction Environmental Management Plan will be developed in conjunction with SCC and the HA to minimise the potential adverse effects associated with the construction phase. As is typically the case it is likely that this will be secured by a planning condition.

9.101 The Proposed Development will follow the principles of sustainable development set out in the NPPF. Car parking provision will be provided in accordance with the principles that are set out in the adopted standards, and a Travel Plan will be operated at the site to inform and influence travel choices for journeys to and from the Site.

9.102 The proposed development has the potential to generate between circa 2,620 and 3,430 person trips. Whilst long-term, the residual effects of these increases have all be found to be either ***negligible***, or ***moderate-beneficial*** in terms of their significance of effect when considered together with the commitments that the Applicant has made with respect to enhancing the connectivity of the site from a sustainable transport perspective. A summary of the effects of the Proposed Development on transportation and access is provided in **Table 9.25**.

References

Table 9.24: References

References	
9.1	National Planning Policy Framework, Communities and Local Government, March 2012.
9.2	Planning Policy Guidance 13: Transport (PPG 13), Communities and Local Government, April 2011.
9.3	Staffordshire Moorlands Core Strategy (SMCS), Staffordshire Moorlands District Council, March 2014.
9.4	Staffordshire Moorlands District Council Developer/Landowner Contributions SPG, Staffordshire Moorlands District Council, November 2004.
9.5	Staffordshire Residential Design Guide, Staffordshire County Council, 2000.
9.6	Guidance on Transport Assessment, Department for Transport, March 2007.
9.7	"TA 79/99 – Traffic Capacity of Urban Roads", in The Design Manual for Roads and Bridges (Vol. 5.5), Department for Transport, February 1999.
9.8	"TA 46/97 – Traffic Flow Ranges for use in the Assessment of New Rural Roads", in The Design Manual for Roads and Bridges (Vol. 5.1), Department for Transport, February 1997.

References	
9.9	“Pedestrians, Cyclists, Equestrians and Community Effects”, in The Design Manual for Roads and Bridges (Vol. 11.3.8), Department for Transport, June, 1993.
9.10	Guidelines for the Environmental Assessment of Road Traffic. The Institute of Environmental Assessment March 1993.
9.11	“Providing for Journeys on Foot”, Chartered Institute of Institute of Highways and Transportation, 2000.
9.12	“Cycle Friendly Infrastructure”, Chartered Institute of Institute of Highways and Transportation, 1996.
9.13	“Planning for Public Transport in Developments”, Chartered Institute of Institute of Highways and Transportation, 1999.
9.14	Manual for Streets, Department for Transport, March 2007.
9.15	Manual for Streets 2: Wider Application of the Principles, Chartered Institute of Highways and Transportation, September 2010.
9.16	A50/A500 Route Management Strategy, Highways Agency, August 2005

Table 9.25: Traffic Effect on A50 South

Potential Effect	Nature of Effect (Permanent/Temporary)	Significance (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	Mitigation /Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	D	L	
Construction											
Driver Delay	Temporary	Negligible	Construction Transport Plan							X	Negligible
Severance	Temporary	Negligible	N/A							X	Negligible
Pedestrian Delay and Amenity	Temporary	Negligible	N/A							X	Negligible
Accidents and Safety	Temporary	Negligible	N/A							X	Negligible
Dust and Dirt	Temporary	Negligible	Provision of wheel washing facilities. All construction debris to removed from adjacent roads							X	Negligible
Completed Development											
Driver Delay	Permanent	Major-Moderate adverse	Improvements to Uttoxeter Road/Cresswell Road junction. Operate a Residential Travel Plan						X		Minor-beneficial
Severance	Permanent	Negligible	N/A							X	Negligible

Potential Effect	Nature of Effect (Permanent/Temporary)	Significance (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	Mitigation /Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	D	L	
Pedestrian Delay and Amenity	Permanent	Moderate-minor beneficial	Pedestrian/cycle linkages provided to existing infrastructure Enhanced footways provided opposite Izaak Walton Public House							X	Moderate-minor beneficial
Accidents and Safety	Permanent	Negligible	N/A							X	Negligible
Public Transport Connectivity	Permanent	Moderate-minor beneficial	Applicant committed to providing contributions towards enhancing existing bus services							X	Moderate-minor beneficial
Cumulative Effects											
Driver Delay	Permanent	Negligible	N/A							X	Negligible
Severance	Permanent	Negligible	N/A							X	Negligible
Pedestrian Delay and Amenity	Permanent	Moderate-minor beneficial	N/A							X	Negligible
Accidents and Safety	Permanent	Negligible	N/A							X	Negligible
Public Transport Connectivity	Permanent	Moderate-minor beneficial	N/A							X	Negligible

* Geographical Level of Importance

I = International; UK = United Kingdom; E = England; R = Regional; C = County; D = District; L = Local