



# Humber Low Carbon Pipelines

Preliminary Environmental Information Report  
Volume II Chapter 15 Traffic and Transport  
October 2022

nationalgrid

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# 15. Traffic and Transport

## 15.1 Introduction

- 15.1.1 This Chapter reports the results of the preliminary assessment of the potential impacts and effects of the Project on traffic and transport and describes:
- Relevant, legislation, policy and guidance;
  - Engagement undertaken to date;
  - The proposed assessment methodology and associated significance criteria;
  - Preliminary baseline conditions;
  - Potential impacts of construction, operation, and decommissioning;
  - Potential design, mitigation, and enhancement measures;
  - Summary of preliminary assessment of potential significant effects; and
  - Next steps.
- 15.1.2 This assessment considers the simultaneous construction of a dual pipeline system (one for carbon dioxide and one for hydrogen), as well as the associated Above Ground Installations (AGIs). The majority of the carbon dioxide pipeline will be up to 600 mm (24") nominal diameter and the hydrogen pipeline will be up to 900 mm (36") nominal diameter. This is referred to as the Base Case in this Preliminary Environmental Information Report (PEIR). Also under consideration is the possibility of deploying a larger carbon dioxide pipeline, with a diameter up to 750 mm (30") (with the hydrogen pipeline remaining the same diameter as within the Base Case). This is referred to in this PEIR as Sensitivity 1. Further details regarding the Base Case and Sensitivity 1, as well as the diameter and capacity of the pipelines are provided in Sections 2.3 and 2.4 of Chapter 2: Project Description (Volume II). This chapter assesses the impacts and effects associated with the Base Case. It is anticipated that the types of potential impacts for the Base Case and Sensitivity 1 will be the same, although the magnitude of impacts may differ. A full assessment of Sensitivity 1 will be undertaken and recorded within the Environmental Statement (ES) if the larger carbon dioxide pipeline diameter is taken forward into the Development Control Order (DCO) application.
- 15.1.3 This Chapter (and its associated figures and appendices) is intended to be read as part of the wider PEIR.
- 15.1.4 A number of proposed construction routes were initially identified for construction of the Project (the Preliminary Construction Routes) and these have formed the basis for the assessment presented in all relevant chapters of the PEIR.
- 15.1.5 It should be noted that the Preliminary Construction Routes were recently discussed with National Highways and all affected highway authorities. In view of feedback received (see Table 15.2), a number of new or alternative proposed construction routes

have recently been identified (the Emerging Construction Routes). The feasibility of the Emerging Construction Routes is being considered by the design team.

- 15.1.6 Following the statutory consultation, all feedback received – from affected highway authorities and others – will be taken into account alongside the feasibility assessment of the Emerging Construction Routes. Thereafter a decision will be taken as to the preferred construction routes for delivery of the Project, having regard to all available information. The preferred construction routes will be fully assessed and the results of that assessment will be reported in the ES which will accompany the DCO application.
- 15.1.7 The Preliminary Construction Routes, and associated construction site access points are shown on Figure 15.1 (Volume IV). The Emerging Construction Routes are shown on Figure 15.2 (Volume IV).

## 15.2 Legislation, policy, and guidance

- 15.2.1 A summary of the international, national, and local legislation, planning policy and guidance relevant to the traffic and transport assessment for the Project is set out below.

### Legislation

- 15.2.1 This section identifies the legislation in the context of traffic and transport, which includes the Transport Act 2000 (Ref 15.1), the Highways Act 1980 (Ref 15.2), the Infrastructure Act 2015 (Ref 15.3), the Planning Act 2008 (Ref 15.4), and Pipe-Line Act 1962 (Ref 15.5).

#### Transport Act 2000 (Ref 15.1)

- 15.2.2 The Transport Act 2000 includes '*measures to create a more integrated transport system*' with the aim of improving local passenger transport services, alongside reducing congestion and pollution. This is exemplified by the requirement for local authorities to prepare, publish and review a local transport plan to achieve the outlined aims of this legislation. These plans have been taken into consideration in the assessment of traffic and transport.

#### Highways Act 1980 (Ref 15.2)

- 15.2.3 The Highways Act 1980 outlines the duties of the highway authorities, and the management and operation of the highway network. The legislation most relevant to this traffic and transport chapter, include '*Improvement to Highway*', which is covered in Part V, and '*Environmental Impact Assessment*', which is covered in Part VA.

#### Infrastructure Act 2015 (Ref 15.3)

- 15.2.4 The Infrastructure Act 2015 outlines the role of Highways England (now known as National Highways) as responsible for ensuring that improvements are undertaken to the UK's Strategic Road Network.

#### Planning Act, 2008 (Ref 15.4)

- 15.2.5 Due to the nature, scale and elements of the Project, it has been classified as a Nationally Significant Infrastructure Project (NSIP) within the Part 3 '*Energy*' chapter, under section 20 of the Planning Act 2008. The Planning Act 2008 outlines the



thresholds for NSIPs in the energy sector, empowering the Planning Inspectorate (PINS) to examine applications and make recommendations to the Secretary of State (SoS). The Applicant is therefore required to make an application to the Secretary of State for a DCO to authorise the Project.

- 15.2.6 The procedure that must be followed regarding DCO applications and the supplementary regulations, are covered within the Planning Act 2008 within Part 4 '*Requirement for Development Consent*'. The Secretary of State (SoS) is the decision-making authority for NSIP projects.

## Policy

### National Policy Context

#### Overarching National Policy Statement for Energy (EN-1), July 2011 (Ref 15.6)

- 15.2.7 The Overarching National Policy Statement for Energy (EN-1) is part of a suite of NPS issued by the Secretary of State for Energy and Climate Change.
- 15.2.8 The National Policy Statement (NPS) outlines national policy for the energy infrastructure, and it has effect on the decisions by the Infrastructure Planning Commission (IPC) on applications for energy developments that fall within the scope of the NPS. Under the 2008 Act, the IPC must also have regard to any local impact report submitted by a relevant local authority, any relevant matters prescribed in regulations, the Marine Policy Statement (MPS) and any applicable Marine Plan, and any other matters which it thinks are both important and relevant to its decision.
- 15.2.9 As outlined in Section 4.2, all proposals for projects that are subject to the European Environmental Impact Assessment (EIA) Directive an Environmental Statement must also be submitted, describing the aspects of the environment likely to be significantly affected by the project.
- 15.2.10 Within section 5.13, the document sets out information relating to traffic and transport impacts and the policy in respect of these impacts. This section acknowledges that the transportation of materials, goods and personnel to and from the development can impact the surrounding transport infrastructure, and in some instances the connecting transport networks. If the Project is likely to significantly impact transport, the Applicant's ES should include a transport assessment using the NATA/WebTAG methodology. The Applicant should consult National Highways (formerly known as the Highways Agency) and Highway Authorities as appropriate on the assessment and mitigation.
- 15.2.11 Section 5.13.16 notes that a new energy NSIP may result in substantial impacts on the surrounding transport infrastructure. The Applicant must therefore ensure these impacts are mitigated (this includes during the construction phase).
- 15.2.12 Additionally, IPC should consider cost-effectiveness of measures in comparison to implement new transport infrastructure, in addition to the aim of securing more sustainable patterns of transport development.
- 15.2.13 If substantial Heavy Goods Vehicle (HGV) traffic is likely, the following requirements may be attached:
- Control numbers of HGV movements both to and from site;

- Make sufficient provision for HGV parking to avoid ‘overspill’ parking on public roads and prolonged queues; and
- Ensure the satisfactory arrangements for foreseeable abnormal disruptions, in consultation with network providers and the responsible police force.

### **Draft Overarching National Policy Statement for Energy (EN-1), September 2021 (Ref 15.7)**

- 15.2.14 This policy statement is a draft update for energy-related national policy statement which were initially introduced in 2011.
- 15.2.15 The UK Government’s wider objectives for energy infrastructure includes contributing to sustainable development and ensuring that energy infrastructure is safe.
- 15.2.16 Section 5.14, which outlines the traffic and transport impacts and the policy in respect of these impacts has been updated. Within draft EN-1, the Secretary of State is responsible for decision making, whereas in EN-1 the IPC has this role. The Secretary of State should ensure that any likely significant impacts have been identified, alongside the proposition of mitigation to address these impacts. These sought mitigations also include the construction phase of the development.

### **National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4), July 2011 (Ref 15.8)**

- 15.2.17 This NPS, taken together with EN-1, provides the primary basis for decisions by the IPC on applications regarding gas supply infrastructure and gas and oil pipelines. This NPS should be read in conjunction with EN-1.
- 15.2.18 The Applicant should ensure that any applications and the accompanying documents, comply with the instructions and guidance given to applicants in this NPS, EN-1 alongside any other relevant NPSs.

### **Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines, 2021 (EN-4) (Ref 15.9)**

- 15.2.19 This Draft NPS, taken together with the ‘draft EN-1, provides the primary policy for decisions by the Secretary of State on applications regarding gas supply infrastructure and gas and oil pipelines.
- 15.2.20 The Applicant should ensure that any applications and the accompanying documents, comply with the instructions and guidance given to applicants in this NPS, EN-1 alongside any other relevant NPSs.

### **National Planning Policy Framework (July 2021) (Ref 15.10)**

- 15.2.21 The National Planning Policy Framework (NPPF) sets out the Government’s economic, environmental, and social planning policies for England. Taken together, these policies articulate the Government’s vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.
- 15.2.22 The NPPF first came into force on 27 March 2012, with an updated version published in 2018 and the most recent revised version in July 2021. The NPPF replaced all the previous Planning Policy Statements (PPSs) and Planning Policy Guidance (PPGs).

- 15.2.23 Para 111 of the NPPF indicates that a refusal of planning permission on transport grounds will only be defensible if there are severe impacts arising from the development. The NPPF states that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people.
- 15.2.24 Considering development proposals, it should be ensured that:
- Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
  - Safe and suitable access to the site can be achieved for all users; and
  - Any significant impacts of the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

## Local Policy Context

### North Yorkshire

#### Local transport plan (LPT4) 2016-2045 (Ref 15.11)

- 15.2.25 North Yorkshire Local transport plan (LPT4) sets out how the transport services and infrastructure provided by North Yorkshire County Council (NYCC) and partners aim to contribute towards the shared Vision and NYCC Council Plan priorities. The plan includes specific objectives and commitments, relevant to these assessments objectives and commitments are as follows:
- 15.2.26 Objective 3d – Network Management includes commitments by NYCC to:
- Ensure that planned and unplanned activities on the highway network are managed to minimise congestion and disruption of traffic flows; and
  - Keep traffic moving by aiming to minimise congestion and disruption on the highway network

#### Abnormal loads and weight limits (Ref 15.12)

- 15.2.27 The advice with regard to Abnormal loads and weight limits includes advice on transporting abnormal loads on North Yorkshire roads and the steps that should be followed to notify the council.
- 15.2.28 Hauliers and crane operators must give a minimum of two days' notice to the highway authority and bridge owners before moving an abnormal load.
- 15.2.29 If any vehicle or vehicle combination has a gross weight greater than 80 tonnes, hauliers must give a minimum of five days' notice.
- 15.2.30 Annually, the haulier should provide a form of indemnity which indemnifies the Council in respect of any damage that is caused during any journey for which the Council have been notified. The haulier may then go ahead with the proposed movement unless contacted by the abnormal loads officer, who will suggest that an alternative route be taken and will be able to supply specific information about bridge height and weight restrictions.



## Lincolnshire

### Lincolnshire Local Transport Plan (LTP4) 2013/14-2022/23 (April 2013) (Ref 15.13)

- 15.2.31 The Local Transport Plan (LTP) (Ref 15.17) covers the 10-year period 2013/14 to 2022/23. The Plan details policies and programmes for transport in Lincolnshire, including targets against which to monitor progress.
- 15.2.32 Relevant Local Transport Plan Objectives include:
- To make travel for all modes safer and, in particular, reduce the number and severity of road casualties;
  - To protect and enhance the built and natural environment of the county by reducing the adverse impacts of traffic, including HGVs; and
  - To minimise carbon emissions from transport across the county.
- 15.2.33 With regard to transport and environment, the plan has a goal of reducing the impact of traffic on communities and focuses on initiatives such as:
- Reducing vehicle speeds through traffic calming and improved signing as appropriate;
  - The use of temporary and permanent reactive speed signs to encourage drivers to slow down; and
  - Routeing HGVs away from communities (where a suitable alternative exists) through appropriate weight restrictions.

### Lincolnshire Local Transport Plan (LTP5) Consultation Draft (Ref 15.14)

- 15.2.34 The plan is designed to cover the short- medium- and longer-term time horizons for transport and highways for the county.
- 15.2.35 The Plan's Freight Implementation Plans includes the following relevant policies:
- Encourage modal shift for freight from road to more sustainable modes such as rail and water freight by supporting new and improved infrastructure to address capacity issues; and
  - Encourage initiatives which support collaboration in the freight sector, enhancing efficiencies and reducing negative impacts.
- 15.2.36 The Project is in accordance with the existing Lincolnshire LTP4 and emerging LPT5. The Project construction control measures are outlined in Section 15.8. A Construction Traffic Management Plan (CTMP) will be developed to ensure that potential adverse impacts of construction traffic, including HGVs, is minimised. The proposed construction routes use main roads and divert construction HGVs away from local communities where possible.

### Lincolnshire County Council Network Management Plan (NMP) (April 2018) (Ref 15.15)

- 15.2.37 The key aim of the NMP is to deliver against the UK Government's priorities for transport: *'tackling congestion and disruption on the highway network enabling the expeditious movement of traffic, delivering accessibility; offering improved transport choices and reliable journey times; better air quality and improved alternative transport'*.

- 15.2.38 The NMP specifies that an abnormal load can potentially use any road provided the haulier complies with the law including weight limits. Some roads are more suitable and used more often such as A Class Roads. Before a haulier can move an abnormal load, they must notify the highway authority and dependant on the type of load (e.g. weight, length or width) they must also notify the Police. In addition, if the gross weight or axle weights exceed those specified on the C&U regulations, they must inform the Highway Authority and all bridge owners along the proposed route.
- 15.2.39 The plan states that Lincolnshire County Council works closely with freight and other organisations to ensure the safe and expedient passage of abnormal loads within the County, as the need arises.
- 15.2.40 The Network Management Plan (NMP) (Ref 15.15) is Lincolnshire County Council's plan for managing the highway network and related highway services. It outlines the standards used to manage the highway network and sets out the County Council's proposals for managing and improving the operation of the highway network over future years.
- 15.2.41 The Project would require abnormal load deliveries to the site. The Main Works Contractor will work with Lincolnshire County Council to ensure adherence to the NMP and to develop relevant construction control measures with regard to Abnormal Indivisible Loads (AILs).

### **Central Lincolnshire Local Plan (Adopted 2017) (Ref 15.16)**

- 15.2.42 Central Lincolnshire Local Plan contains planning policies and allocations for the growth and regeneration of Central Lincolnshire over the next 20 years. It has been prepared and adopted by the Central Lincolnshire Joint Strategic Planning Committee (CLJSPC). The policies relevant to this assessment are as follows:
- 15.2.43 Policy LP13: Accessibility and Transport states that "*All development proposals should, where necessary, contribute to the delivery of the following transport objectives, either directly where appropriate (such as the provision of infrastructure or through the contribution of land to enable a scheme to occur) or indirectly*"
- 15.2.44 For Strategic Transport Infrastructure:
- Improve and manage the strategic highway infrastructure to allow for a range of users and increased capacity where appropriate and viable; and
  - Explore opportunities to utilise waterways for transport, particularly freight.
- 15.2.45 For Walking and Cycling Infrastructure:
- Deliver schemes that complement the aims of the Public Rights of Way Improvement Plan and the Green Infrastructure Study for Central Lincolnshire, where possible enhance linkages between settlements and to areas of natural greenspace and to the surrounding countryside.

## **East Riding of Yorkshire**

### **Local Transport Plan (2015-2029) (Ref 15.17)**

- 15.2.46 The Local Transport Plan has been developed to help deliver the Council's vision for a safe, integrated, reliable and resilient transport network across the East Riding. The

current LTP covers the period 2015 to 2029 and includes broad strategies covering the following topics: road safety, cycling, bus, rail and community transport.

15.2.47 The six strategic objectives for this LTP are as follows:

- Improve the maintenance and management of the existing transport network;
- Support sustainable economic growth and regeneration;
- Reduce carbon emissions;
- Improve road safety;
- Support and encourage healthy lifestyles; and
- Improve access to key services.

15.2.48 With regard to HGV route network, the LTP Strategy Network Management Plan states that:

*“The Council has a responsibility to direct HGV drivers along the most appropriate routes and reduce the risk of HGVs using unsuitable roads, which can result in safety, noise and vibration concerns for local residents. The Council has developed a preferred HGV route network which is clearly signed and is included on a freight Map of the East Riding”.*

15.2.49 With regard to Abnormal Loads, the LTP Strategy Network Management Plan states that:

*“The Council has an established process in place to manage the movement of abnormal loads on the highway network. This is advertised through a dedicated page on the Council’s website. Hauliers are asked to contact the Council at least six weeks in advance of the proposed move with the details of their journey to allow officers to plan the most appropriate route and arrange for the movement of street furniture if required”.*

### **East Riding Local Plan (adopted April 2016) (Ref 15.18)**

15.2.50 The East Riding Local Plan is the name for the suite of planning documents that together provide the long-term development plan for the East Riding. The plan sets out a long-term strategy that will help to guide new development across the East Riding over the period to 2029. This includes the allocation of sites that will provide new housing and employment opportunities, alongside the delivery of supporting infrastructure. It will also be used to make decisions on planning applications.

15.2.51 East Riding Local Plan Strategy Document sets the overall strategic direction for the Local Plan, providing strategic policies to guide decisions on planning applications. Policies relevant to this assessment include:

15.2.52 Policy EC4: Enhancing sustainable transport specifies that development proposals should:

- Produce and agree a transport assessment and travel plan, where a significant transport impact is likely; and
- Bring forward other necessary transport infrastructure to accommodate expected movement to and from the development.

15.2.53 Policy EC4 also states that:

*“Developments generating significant freight movement located along the East-West Multi-Modal Transport Corridor should capitalise on the opportunities for transferring and transporting freight by means other than road”.*

- 15.2.54 Policy EC5: Supporting the energy sector stipulates that proposals for the development of the energy sector, including Carbon Capture and Storage (CCS), will be supported where any significant adverse impacts are addressed satisfactorily and the residual harm is outweighed by the wider benefits of the proposal. The policy indicates that developments and their associated infrastructure should be acceptable in terms of the effect of development on traffic transport, including the opportunity to use waterways and rail for transportation of materials and fuel, and the capacity of the road network to accommodate development.
- 15.2.55 Supplementary Planning Document (SPD) Sustainable transport provides guidance for satisfying the Local Plan’s requirements for Travel Planning and includes guidance on parking provision and design. The guidance specifies appropriate thresholds for requiring Transport Statements, Transport Assessments, and where required Travel Plans.

### **East Riding HGV Freight Route Map (Ref 15.19)**

- 15.2.56 The East Riding HGV Freight Route Map identifies recommended routes for HGVs in East riding of Yorkshire. The map is presented in Appendix 15.1 (Volume III).

## **North Lincolnshire**

### **North Lincolnshire’s Third Local Transport Plan (Ref 15.20)**

- 15.2.57 A Local Transport Plan (LTP) outlines the strategic approach to transport in North Lincolnshire over the next 15 years.
- 15.2.58 The long-term vision for transport in North Lincolnshire is:
- “A well maintained transport system that supports sustainable communities within a safe and prosperous environment and which contributes to the wider environmental, economic and social wellbeing of the people who live and work in North Lincolnshire”.*
- 15.2.59 Relevant to this assessment Local Transport Goals for North Lincolnshire include:
- Reduce transport related carbon dioxide emissions and protect and enhance the natural and built environment through sustainable transport solutions;
  - Improve transport safety and security relating to death or injury from transport, in order to contribute towards safer and stronger communities; and
  - Provide equal opportunities through improvements in accessibility to key local hubs and services by sustainable modes of transport.

### **Emerging North Lincolnshire Local Plan (2017-2036) (Ref 15.21)**

- 15.2.60 North Lincolnshire Council is preparing a new single Local Plan for North Lincolnshire. Once agreed (formally adopted) it would replace the current North Lincolnshire Local Plan Adopted 2003, the Core Strategy and Housing and Employment Land Allocations Development Plan Documents (DPD), and the Lincolnshire Lakes Area Action Plan (AAP).

- 15.2.61 Policy T3p: New Development and Transport specifies that new development proposals among other things should:
- Produce and agree a transport assessment and travel plan, where requested by the Council;
  - Support, encourage and promote sustainable travel options;
  - Bring forward other necessary transport infrastructure to accommodate expected movement to and from the development;
  - Be provided with a satisfactory access which must ensure the safe operation of the highway; and
  - Not have an adverse impact on the network's functioning and safety. Proposals that have significant transport implications will be expected to deliver necessary and cost effective mitigation measures. Such measures shall be secured through conditions and/or legal agreements.
- 15.2.62 Policy ID1p: Delivering Infrastructure states that North Lincolnshire County Council will require all developments to meet the on and off-site infrastructure requirements needed to support the development and mitigate the impact of the development on the existing community and environment to make it acceptable in planning terms.
- 15.2.63 Each development will be expected to meet site related infrastructure needs. Where the provision of new, or the improvement or extension of existing, off- site infrastructure is needed to support a new development or mitigate its impacts, and it is not anticipated that the infrastructure will be provided through The Community Infrastructure Levy (CIL), the development will be required to contribute proportionately through a Section 106 Agreement commuted sum, or other mechanism as agreed with North Lincolnshire County Council.

### **Road safety measures in North Lincolnshire (Ref 15.22)**

- 15.2.64 With regard to freight routes and HGV signing the policy indicates that:
- To reduce the number of heavy goods vehicles (HGVs) travelling along residential and other unsuitable roads, freight routes have been created in North Lincolnshire;
  - Roads unsuitable for HGVs are signed with the restrictions. The council will put restrictions on roads that they consider to be unsuitable for HGVs; and
  - Any load over 40 tonnes is classed as abnormal and the haulier must inform the police and receive permission to move it on the roads.

## **Selby District Council**

### **Selby District Council Local Plan, Preferred Options (2021) (Ref 15.23)**

- 15.2.65 The Local Plan sets out the strategic planning framework for Selby District Council and is a vital part of achieving its overall corporate objectives. It will identify where new development will take place and set out the policies against which planning applications will be determined. The Preferred Approaches relevant to the Project are as follows:
- 15.2.66 Preferred Approach IC5 – Sustainable Transport states that where new developments are considered to have an adverse impact on the highway network contributions will be



expected for both on and off-site mitigation as necessary; this may include requirements to provide sustainable Travel Plans

- 15.2.67 Preferred Approach IC7 – Public Rights of Way stipulates that development which may have an impact on a public right of way network will only be supported where it can be demonstrated that:
- Satisfactory and alternative routes are provided, with adequate signage and the new access is of the same or better standard; and
  - Opportunities for enhancement through the addition of new links to the existing network and the provision of improved facilities to make them more attractive to users and facilitate sustainable access modes.

## Guidance

### **Transport Evidence Bases in Plan Making and Decision Taking, 2015 (Ref 15.24)**

- 15.2.68 This guidance is to help local planning authorities assess and reflect strategic transport needs in Local Plan making. The transport evidence base should identify the opportunities to encourage a modal shift towards sustainable transport usage. This will also enable transport impacts of developments to be assessed and in turn inform sustainable approaches. This guidance highlights the information required and what information needs to be considered when undertaking a transport assessment.

### **Travel Plans, Transport Assessments and Statements, 2014 (Ref 15.25)**

- 15.2.69 This guidance provides support regarding Travel Plans, Transport Assessments, and Transport Statements relating to decision-making. This guidance outlines when these documents are required, in addition to what each of these should contain.
- 15.2.70 Travel Plans, Transport Assessments and Statements assess and mitigate the transportation impacts arising from development projects, and they promote sustainable development. They are all required for development which produce substantial traffic movements.
- 15.2.71 Assessments should be based on normal traffic flow and usage conditions, although it may be required to consider the implications of peak traffic flows. Any projections should use local traffic forecasts. The timeframe of the assessments should be agreed with the relevant local planning authorities in consultation with the relevant transport network operators and service providers.

### **Water preferred policy: guidelines for the movement of abnormal indivisible loads (2019) (Ref 15.26)**

- 15.2.72 This guidance outlined when to move abnormal load by water, and when it is permitted for it to be moved via road. The documents highlights that where it is practical, economic, and environmentally suitable to do so, abnormal loads should be moved by inland and/or coastal water to reduce the impact which would arise via load movement by roads. The Secretary of State for Transport authorises the movement by road for the following: over 150 tonnes gross vehicle weight; over 30 metres rigid length; or over 5 metres wide as these would cause significant traffic congestion and disruption, and in turn would require greater safety mitigation.

## **The Design manual for Roads and Bridges (DMRB) LA 104 Environmental Assessment and Monitoring (2020) (Ref 15.27)**

- 15.2.73 This document outlines the requirements for environmental assessments of projects, which includes the reporting and monitoring of significant environmental effects. The assessment of environmental effects, reporting of assessments and monitoring of environmental effects, aligns with the requirements of the Directive 2011/92/EU as amended by 2014/52/EU 2014/52/EU.
- 15.2.74 The document covers environmental assessment methodology, including assigning value to receptors, magnitude of impact and significance of effect.

## **Guidelines for the Environmental Assessment of Road Traffic, (Institute of Environmental Management and Assessment (IEMA), 1993) ('IEMA Guidelines') (Ref 15.28)**

- 15.2.75 The outlined guidelines are for the assessment of the environmental impact of road traffic associated with major new development. The objective is to provide the basis for a systematic, consistent and comprehensive coverage for the assessment of traffic impacts arising from development projects. This will enable potential problems and possible solutions to be identified at an early stage.
- 15.2.76 The environmental assessment process should run throughout the planning and design stages of the projects. A checklist of the environmental effects which includes traffic noise, disruptions, pedestrian and cyclist impacts, and accidents and safety are contained in Section 2.
- 15.2.77 Within Section 3, traffic issues have been covered. This includes the impact of traffic relating to volume, traffic speeds and operational factors, and traffic compositions, but also the perception of changes in traffic by humans and the impact on ecological systems. The assessment of the environmental impacts due to the associated traffic requires the following:
- Determination of the existing and forecasted traffic levels, including the characteristics;
  - Determination of the time period suitable for assessment;
  - Determining the assessment year; and
  - Identifying the geographical boundaries required for assessment.
- 15.2.78 Where possible, the ES should outline alternative sites considered, including the impacts and the reason for selecting the preferred site.

## **15.3 EIA Scoping Opinion and engagement**

- 15.3.1 A summary of the EIA Scoping Opinion from the Planning Inspectorate (PINS) and responses to this EIA Scoping Opinion are outlined below. Furthermore, all relevant engagement undertaken to date is outlined in this Section.

### **Response to the EIA Scoping Opinion**

- 15.3.2 An EIA Scoping Opinion (Appendix 1.2: EIA Scoping Opinion (Volume III)) was received by the Applicant from PINS on 20 May 2022. Table 1 lists the comments that PINS and consultation bodies made in relation to Traffic and Transport and shows how the Applicant is responding to these.

**Table 15.1: Summary of EIA Scoping Opinion in relation to Traffic and Transport**

Section reference	Applicant's proposed matter	Inspectorate's / consultation bodies comments	Response
3.11.1	Assessment of operational impacts	<p><i>The Scoping Report states that operational traffic movements are not anticipated to have a material effect on the transport network and receptors, with no significant effects likely to occur.</i></p> <p><i>Having considered the nature and characteristics of the Proposed Development, the Inspectorate agrees that, subject to confirmation of the number and type of operational vehicle movements in the ES description of development, operational traffic movements are not likely to result in significant effects and that an assessment of this matter can be scoped out of the ES.</i></p>	Agreement noted. This matter will not be assessed further within in the ES. The number and type of operational vehicle movements will be included in the Project Description within the ES.
3.11.2	Assessment decommissioning impacts	<p><i>The Scoping Report states that decommissioning of the Proposed Development is not predicted to result in a significant increase in traffic flows and significant effects, as it is anticipated that the pipelines will be left in situ.</i></p> <p><i>The Inspectorate considers that traffic movements associated with decommissioning of the buried pipelines are unlikely to result in</i></p>	Agreement noted. The issue highlighted regarding the lack of information in terms of location of AGIs and the nature of the defects during the decommissioning phase has been noted. Therefore, impacts from traffic movements during decommissioning of the AGIs will form part of the assessment in the ES where significant effects are likely.

Section reference	Applicant's proposed matter	Inspectorate's / consultation bodies comments	Response
		<i>significant effects and that an assessment of this matter can be scoped out of the ES. However, insufficient information has been provided regarding the location of AGIs to understand the scale and nature of effects during the decommissioning phase. Impacts from traffic movements during decommissioning of the AGIs should be assessed in the ES where significant effects are likely.</i>	
3.11.3	Construction traffic	<p><i>The Inspectorate notes the potential for construction traffic to pass through residential areas. The Applicant should demonstrate that the route for construction traffic has considered the suitability of roads for HGVs, particularly those transporting AILs and that construction routes have been developed to avoid impacts on the local community where possible. Any mitigation measures required to facilitate the delivery of AILs should be detailed in the ES and any resultant likely significant effects assessed.</i></p> <p><i>The Applicant's attention is drawn to consultation responses from</i></p>	<p>Site surveys will be undertaken to allow for a visual inspection of the potential construction vehicle routes, confirming findings of background data and identifying any unknown constraints or opportunities.</p> <p>If AILs are required for the Project, details of any existing carriageway width, height and weight restrictions for the movement of such vehicles will be discussed and agreed with National Highways and the local highway authorities.</p> <p>The EIA will demonstrate the suitability of roads for construction traffic, and that construction routes have been developed to avoid impacts on the local community where possible. Any significant</p>

Section reference	Applicant's proposed matter	Inspectorate's / consultation bodies comments	Response
		<i>Ulceby Parish Council and Hull City Council in this regard.</i>	<p>impacts in addition to the mitigation will be detailed within the ES</p> <p>A Construction Traffic Management Plan (CTMP) which would consider HGV movements will be prepared. The CTMP will be implemented by the Main Works Contractor to ensure that all traffic movements associated with the Project's construction works operate in a safe and compliant manner. A separate AIL Access Study would also be prepared. The study will consider delivery of AILs and associated delivery routes.</p> <p>A meeting with Hull City Council officers was undertaken on 31 August 2022. A summary of raised issues and our responses is presented in Table 15.2.</p>
3.11.4	Scope of assessment – traffic flows	<i>Whilst the Inspectorate notes references within the Scoping Report to Annual Average Daily Traffic (AADT) and 12-hour traffic flows, upon the assumption that some junction capacity assessments will be required, peak hour traffic flows survey information will also be required to support any traffic modelling to be undertaken in order to assess the impact of the Proposed</i>	The potential effects on receptors will be included in the assessment of construction traffic where the flows generated by the Project increase baseline traffic and HGV flows by 30% or 10% in specifically sensitive areas. Following discussions with relevant local highway authorities, where judged necessary, junction capacity assessments would be undertaken.



Section reference	Applicant's proposed matter	Inspectorate's / consultation bodies comments	Response
		<i>Development. The applicant's attention is drawn to the consultation response from Hull City Council in this regard.</i>	A meeting with Hull City Council officers was undertaken on 31 August 2022. A summary of raised issues and our responses is presented in Table 15.2.

## Engagement undertaken to date

15.3.3 Table 15.2 provides a summary of the engagement undertaken to inform the assessment to date.

**Table 15.2: Summary of engagement undertaken**

Consultee	Date and method of engagement	Summary of issues raised	Response
National Highways	Meeting held 18 November 2021 (Scoping note issued)	Proposed IEMA methodology was accepted for the assessment of Traffic and Transport impacts.	Agreement noted.
		Requested that a Transport Assessment (TA) is undertaken to fully assess the impact of traffic on the surrounding highway network. This should include junction modelling if deemed required following further discussions on proposed construction routes and predicted flows.	A TA will be produced to support the EIA and ES. The TA will include construction traffic impact assessment and will set out appropriate mitigation measures.
		It is expected that a Travel Plan will be prepared.	A Staff Travel Plan (STP) will be secured through a requirement in the DCO and the register of commitments.
		A follow up meeting should be arranged once the construction routes to/from the Project have been confirmed.	A follow up meeting was held on 18 August 2022. Potential construction routes and construction traffic numbers were discussed with National Highways. A summary of raised issues and the design team responses are summarised below.
		The standard procedure for Abnormal Indivisible Loads (AILs) should be followed.	If AILs are required for the Project, details of any existing carriageway width, height and weight restrictions for the movement of such vehicles will be discussed and agreed with National Highways and the local highway authorities. A Traffic

			Management Plan (TMP) which would consider AIL and HGV movements will be prepared.
North Yorkshire County Council	25 February 2022 (letter setting out our proposed scoping approach, issued via email).	Agreed that the operation of the Project can be scoped out of the assessment as traffic generated by the Project will be notably low judging from other local projects of this nature.	Agreement noted.
		Highlighted that careful management of vehicles will be required.	A CTMP which would consider AIL and HGV movements will be prepared. The CTMP will be implemented by the Main Works Contractor to ensure that all traffic movements associated with the Project's construction works operate in a safe and compliant manner.
East Riding Council	25 February 2022 (letter setting out our proposed scoping approach, issued via email).	Confirmed that the proposed approach is acceptable in principle	Agreement noted.
Lincolnshire County Council	25 February 2022 (letter setting out our proposed scoping approach, issued via email).	No comments provided.	No response required.
North Lincolnshire Council	25 February 2022 (letter setting out our proposed scoping approach, issued via email).	Confirmed that the proposed approach would appear to be acceptable in principle. Enquired if a Transport Statement (TA) will be prepared.	Agreement noted. A TA will be produced to support the EIA and ES. The TA will include construction traffic impact assessment and will set out appropriate mitigation measures.
	10 August 2022	Potential routes for construction traffic discussed. Highlighted that Goxhill area may	As part of the wider engagement for the project it is intended that Parish Councils will be offered a

North Lincolnshire Council	(Microsoft Team Meeting)	be sensitive to construction traffic issues due to issues raised from previous projects in this area.	<p>briefing. This could include discussion around traffic issues. Appropriate control and mitigation measures designed to minimise adverse effect from traffic and transport associated with the Project will be identified in the CTMP.</p> <p>A construction route avoiding Goxhill is being considered as part of the Emerging Construction Routes. The route is via Access A45 and a haul road along the pipelines, thus eliminating the need for Access A46. The Emerging Construction Route is shown on Figure 15.2 (Volume IV).</p>
		Noted the potential problem with routeing construction vehicles through South Killingholme and Thornton Abbey as there is a weak bridge (38t weight limit) at this location.	<p>Noted. Following a discussion with the design team, an alternative route for HGVs with gross weight exceeding the weight limit for the bridge along the primary route has been identified as part of the Emerging Construction Routes. The alternative route is as follows:</p> <p>M180J5 – A15 – B1206 – College Road</p> <p>This route is shown on Figure 15.2 (Volume IV).</p>
		Officers noted that proposed construction routes to the AGI location west of Ealand could be a problem in relation to construction access, especially Outgate.	This will be taken into consideration. If required, appropriate control and mitigation measures will be identified and agreed with the Council.
		Overlapping construction projects in area.	Cumulative impacts taking into account other projects in the area will be considered and assessed as part of the EIA.

Lincolnshire Council	17 August 2022 (Microsoft Team Meeting)	Potential routes for construction traffic discussed. Noted that Bigby has a 7.5 tonne weight restriction near the boundary to Lincolnshire.	A construction route avoiding Bigby is being considered as part of the Emerging Construction Routes. The route is via the relocated A33 and a haul road along the pipelines. The Emerging Construction Route is shown on Figure 15.2 (Volume IV).
		Highlighted section near Brocklesby (Brocklesby Estate on B1210) which is an old estate where there are two pillars near the carriageway, which could potentially be problematic for two HGVs passing alongside each other.	Noted. This location will be highlighted in the Driver's Pack which will be prepared as part of the CTMP.
North Yorkshire	18 August 2022 (Microsoft Team Meeting)	Potential routes for construction traffic discussed. Concerns on access point A02 through Drax village in terms of wide loads going through the village due to the bends in the village and on-carriageway parking. Preference for route via A645/New Lane.	A construction route to A02 avoiding Drax Village is being considered as part of the Emerging Construction Routes. The route is shown on Figure 15.2 (Volume IV).
		Overlapping committed developments – construction of a solar panel farm near Camblesforth.	The development will be considered as part of the cumulative impact assessment.
National Highways	18 August 2022 (Microsoft Team Meeting)	Potential routes for construction traffic discussed. The main concern is the network through Hull City and M62 J36. Highlighted that the increased vehicle flows need to be controlled rather than mitigated to not worsen the existing traffic issues. Recommended for this to be addressed as part of the CTMP.	Potential effects associated with the increase in traffic flows will be addressed as part of the CTMP. Specific control options will be developed by the Main Works Contractor and agreed with National Highways.
		National Highways requested details of operational traffic justifying why an	Operational traffic potential impacts and why they are scoped out from the assessment are covered in



		assessment on its effects is proposed to be scoped out.	this document and will be further elaborated on in the ES.
East Riding	23 August 2022 (Microsoft Team Meeting)	Potential routes for construction traffic discussed. Concerns over monitoring the damage/impacts caused and the need for these to be rectified. Recommended a survey/inspection regime to be attached as a pre-commencement condition. Advised for this to be worded so that regular surveys form part of the condition to ensure any construction damage can be rectified.	Monitoring schedule and response period to any complaints and/or identified damage will be agreed with East Riding and will form a part of the CTMP. Agreed to provide several options on measures which will be included as part of the Construction Management Plan.
		Rawcliffe Village is likely to be very sensitive to HGV traffic owing to the presence of commercial activities already taking place there resulting in noise and vibration issues along Station Road.	Alternative construction routes avoiding Station Road are being considered as part of the Emerging Construction Routes. The routes are shown on Figure 15.2 (Volume IV).
		Highlighted that a Swept Path Analysis (SPA) might be required for problematic junctions such as the A614/Mill Lane junction.	A SPA will be undertaken for access junction designs when they will be available.  Any additional junction that might require SPA will be identified and agreed with East Riding
		Note the new developments, the associated improvements, changes to existing junctions and implementation of new junctions.	Relevant new developments, associated improvements, changes to existing junctions and implementation of new junctions will be taken into consideration.
		The proposed construction routes to Access A52 and A53 through Hedon are not suitable.	Construction routes for Access A52 and A53 that would avoid Hedon are being considered as part of the Emerging Construction Routes. These routes are shown on Figure 15.2 (Volume IV).
		Potential impact associated with construction traffic to/from Access A55 and A56 as the	Alternative options avoiding Patrington High Street have been identified and are being considered as

		route goes through Patrington via the narrow high street.	part of the Emerging Construction Routes. These route options are shown on Figure 15.2 (Volume IV).  Both options will be consulted on with Patrington Parish Council and East Riding Council.
		Access point A47 accessed via Dark Lane and Hooks Lane could be a problem due to Dark Lane having continuous problems with damage.	An alternative construction route to Access A47 has been identified and is being considered as part of the Emerging Construction Routes. The route is shown on Figure 15.2 (Volume IV).  .
Hull City Council	31 August 2022 (Microsoft Team Meeting)	Consideration of air quality issues should not be limited to the AQMA. Expect to see an assessment of the impact of the scheme on the wider area based on a comparison of anticipated flows against the background situation.	The comment was passed to the Air Quality team and will be address in the ES as part of the air quality assessment.
		Would prefer to see traffic on the SRN than using the local road network	Both the Preliminary (Figure 15.1 (Volume IV)) and Emerging (Figure 15.2 (Volume IV)) Construction Routes through Hull use the Strategic Route Network (SRN).
		Control measures designed to manage the peak hour construction traffic may lead to traffic increases during the day.	A sensitivity test of potential impacts outside peak hours will be assessed in the Environmental Statement.
		Cumulative impacts would need to consider the worst case scenario of all NSIPs utilising Port for materials at same time.	Cumulative impacts would be assessed in the Environmental Statement and consider the worst case scenario.

## 15.4 Assessment methodology and significance criteria

### Study Area

- 15.4.1 The Study Area for traffic and transport includes all roads included within the Preliminary Construction Traffic Routes to and from the Project, up to the SRN. The Study Area comprises the area within a 150 m radius from those roads to ensure all receptors are considered.
- 15.4.2 A number of construction site access points were initially identified. These, alongside the Preliminary Construction Traffic Routes are presented within Figure 15.1 (Volume IV). Additional details about these access points and the Preliminary Construction Routes are presented in Section 15.6.
- 15.4.3 The Emerging Construction routes and associated access points are shown on Figure 15.2 (Volume IV).

### Temporal Scope

- 15.4.4 The appraisal examines a robust case in terms of traffic and transport effects. The appraisal of construction phase effects was undertaken for 2026 as this is the year when the highest predicted levels of construction traffic are expected to occur.
- 15.4.5 The assessment of construction traffic will take account of:
- Engineering estimates of the quantity of plant, equipment and materials to be brought on to site and excavated material removed from the Project;
  - The assumed method of construction; and
  - Expected construction programme.
- 15.4.6 Operational traffic would be limited to infrequent maintenance visits and is not anticipated to materially exceed current levels therefore will be scoped out of the assessment.
- 15.4.7 The appraisal of decommissioning phase effects will be undertaken for traffic movements associated with dismantling of the AGIs. The pipelines are expected to be left in situ. The AGIs will be dismantled, with all equipment removed, and the land returned to agricultural or other appropriate uses.

### Impact assessment methodology

- 15.4.8 This section sets out the scope and detailed assessment methodology that would be used to assess the Traffic and Transport impacts during the construction phase of the Project. The following methodology and assessment criteria have been developed using The DMRB LA 104 Environmental Assessment and Monitoring (Ref 15.27) and Guidelines for the Environmental Assessment of Road Traffic (IEMA) (Ref 15.28) guidelines and take into account relevant policies and legislation.
- 15.4.9 The proposed methodology is broadly based on assessment criteria developed for similar major infrastructure projects.
- 15.4.10 The assessment will examine a robust case in terms of Traffic and Transport impacts and effects, i.e. the peak period when the highest levels of construction traffic are expected to occur. It would be informed by a desk-based study, and discussions with

the design team, particularly around anticipated construction traffic movements and proposed mitigation measures.

- 15.4.11 For road users, the following rules taken from the IEMA Guidelines (Ref 15.28) are used to define the scale and extent of the assessment:
- Rule 1: Include highway links where the total traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
  - Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.
- 15.4.12 Increases below 10% are generally considered insignificant given that daily variations in background traffic flow would usually fluctuate by this amount. Therefore, changes in traffic flow below this level are assumed to result in no discernible environmental impact.
- 15.4.13 Where Rule 1 and Rule 2 would apply, the following potential environmental impacts on 'existing road users' would be considered and likely would need to be addressed:
- Severance (reduced ability for pedestrians, cyclists and where relevant horse-riders to cross road links);
  - Vulnerable users delay (changed journey times and distances for pedestrians, cyclists and where relevant horse-riders);
  - Public transport users and driver delay (changed journey times and distances for private and commercial vehicle occupants and for public transport users);
  - Pedestrian, cycle and horse-rider amenity (loss of amenity for vulnerable road users);
  - Fear and intimidation (fear and intimidation issues for pedestrians, cyclists and horse-riders due to increased traffic flows and change in composition);
  - Accidents and safety (reduction in road safety for all road users);
  - Hazardous loads; and
  - Air Pollution including dust and dirt.

## Severance

- 15.4.14 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery and is used to describe the factors that separate people from other people and places. For example, severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself. It can also relate to minor traffic flows if they impede pedestrian access to essential facilities.
- 15.4.15 The IEMA Guidelines suggest that changes of traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. However, there are no predictive formulae, which give simple relationships between traffic factors and levels of severance.
- 15.4.16 The IEMA Guidelines state that marginal changes in traffic flow are unlikely to create or remove severance. The guidelines also state that when determining whether severance is likely to be an important issue, consideration should be given to factors such as road

width, traffic flow and composition, traffic speeds, availability of crossing facilities and the number of movements that are likely to cross the affected route. Consideration should also be given to different groups such as the elderly and young children.

### **Pedestrian, Cyclist and Equestrian Delay**

- 15.4.17 Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. Therefore, increases in traffic levels are likely to lead to greater delays. Delays would also depend upon the general level of activity, visibility and the general physical conditions of the crossing.
- 15.4.18 Given the range of local factors and conditions that can influence pedestrian delay, the IEMA Guidelines do not recommend that thresholds be used as a means to establish the significance of pedestrian delay but recommend that reasoned judgements be made instead. However, the IEMA Guidelines note that, when existing traffic flows are low, increases in traffic of around 30% can double the delay experienced by pedestrians attempting to cross a road. Cyclist and equestrian delay thresholds are assumed to be the same.

### **Driver and Public Transport User Delay**

- 15.4.19 Delays for drivers and public transport users can occur at different points on the local highway network as a result of the additional traffic that would be generated by a development. The IEMA Guidelines state that delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system.
- 15.4.20 The Project is anticipated to have an impact on junctions around the Proposed Order Limits and, if relevant, construction traffic assessments will be undertaken within the TA to ascertain the likely change in operation as a result of the Project generated traffic.

### **Pedestrian, Cyclist and Equestrian Amenity**

- 15.4.21 Pedestrian, cyclist and equestrian amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic.
- 15.4.22 The IEMA Guidelines note that changes in pedestrian amenity may be appraised as significant where the traffic flow is halved or doubled (or its HGV component), with the former leading to a beneficial effect and the latter an adverse effect. Cyclist, and where applicable equestrian, amenity thresholds are assumed to be the same.

### **Fear and Intimidation**

- 15.4.23 The scale of fear and intimidation experienced by pedestrians, cyclists and equestrians is dependent on the volume of traffic, its HGV composition, its proximity to people or the lack of protection caused by factors such as narrow pavement widths, together with factors such as the speed and size of vehicles.
- 15.4.24 There are no commonly agreed thresholds by which to determine the significance of fear and intimidation effects. However, the IEMA Guidelines note previous assessments that have been undertaken which put forward thresholds that define the degree of fear and intimidation to pedestrians and cyclists based on factors which include the average traffic flow, HGV flow and average speed (mph) over an 18 hour/day.



- 15.4.25 For traffic flow for all types of vehicles, increases of 600-1,200 per day are considered Minor, 1,200 to 1,800 per day Moderate and more than 1,800 per day Major. For average speed, increases between 10 and 15 mph are considered Minor, increases between 15 and 20 mph are considered Moderate and increases more than 20 mph are considered Major.
- 15.4.26 The IEMA Guidelines also note that special consideration should be given to areas where there are likely to be particular problems, such as high-speed sections of road, locations of turning points and accesses. Consideration should also be given to areas frequented by school children, the elderly and other vulnerable groups. The appraisal has taken account of these considerations.

## **Accidents and Safety**

- 15.4.27 Due to the numerous local causation factors involved in personal injury accidents, the IEMA Guidelines do not recommend the use of thresholds to determine significance. Instead, professional judgement should be applied to the appraisal. If a particular accident cluster is identified, then this may also justify further analysis and the implementation of measures to mitigate effects.

## **Hazardous Loads**

- 15.4.28 The Project is not anticipated to generate any hazardous / abnormal loads. These loads have therefore not been considered further within this assessment.

## **Air Pollution including Dust and Dirt**

- 15.4.29 The effects on air quality are considered in Chapter 6: Air Quality (Volume II). Appropriate measures to control dirt and dust on the public highway will be included in the CTMP.

## **Significance criteria**

- 15.4.30 Resources are the assets and facilities which may be affected by the Project such as the highway network. Receptors are the users or beneficiaries of those resources such as pedestrians, cyclists, horse-riders, public transport users and drivers who travel within the Study Area. This would include the areas along the highway routes that could be sensitive to changes in traffic volumes. Sensitive areas are defined by the presence of sensitive receptors and inadequate facilities, such as community centres, schools, equestrian facilities, narrow well-used footways along busy roads or accident black spots.
- 15.4.31 The significance of an environmental effect is a function of the value (sensitivity) of the receptor and the magnitude or scale of the impact (change). The DMRB LA 104 (Ref 15.27) provided advice on typical descriptors of environmental value, magnitude of change and significance of effects, and this has been used to develop appropriate sensitivity criteria.
- 15.4.32 The proposed sensitivity criteria developed using the DMRB LA 104 (Ref 15.27) and IEMA guidance (Ref 15.28) is set out in Table 15.3. The sensitivity of a receptor is based on the relative importance of the receptor.

**Table 15.3 Sensitivity of Receptors Categories**

Sensitivity	Description
High	Receptors of greatest sensitivity to traffic flows: hospitals, schools, colleges, nurseries, playgrounds, accident blackspots, retirement homes and urban/residential roads without footways that are used by pedestrians.
Medium	Traffic flow sensitive receptors, including congested junctions, shopping areas with roadside frontage, roads with narrow footways, un-segregated cycle ways, community centres, townhalls, parks and recreation facilities.
Low	Receptors with some sensitivity to traffic flows: 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.

15.4.33 The methodology proposed for determining the magnitude of impact broadly follows guidance set out by the DMRB LA 104 (Ref 15.27). The order of magnitude criteria is shown in Table 15.4 .

**Table 15.4 Magnitude of Impact Categories**

Magnitude of Change	Change from Baseline
Major	Total loss or major alteration to key elements or features of the baseline conditions to the extent that post-scenario character or composition of baseline conditions will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements or features of the baseline conditions to the extent that post-scenario character or composition of the baseline conditions will be materially changed.
Minor	Minor shift away from baseline conditions. Changes arising will be detectable but not material; the underlying character or composition of the baseline conditions will be similar to the pre-scenario situation.
Negligible	Very little change from baseline conditions. Change is barely distinguishable, approximating to a 'no change' situation.

15.4.34 The following parameters will also be considered when assessing the order of magnitude of change:

- Extent (the area over which the effect occurs);
- Duration (the time for which the effect is expected to last prior to recovery or replacement of the resource or feature);
- Reversibility (permanent or temporary);

- Timing and frequency; and
- Proposed control and mitigation measures.

15.4.35 The significance of traffic and transport effects would be determined by considering the identified impact magnitudes on the receptors affected by those impacts (taking account of their sensitivity) to determine the significance of effects. Moderate and major adverse/beneficial effects are assumed to represent significant effects.

15.4.36 Table 15.5, provides a matrix of magnitude of impact against sensitivity of receptors to identify where significant effects are anticipated to occur.

**Table 15.5: Significance of Effect Matrix**

Sensitivity of Receptor	Magnitude of Impact			
	Major	Moderate	Minor	Negligible
High	Large	Large or Moderate	Slight or moderate	Slight
Medium	Large or Moderate	Moderate	Slight	Neutral or slight
Low	Slight or moderate	Slight	Slight	Neutral or slight
Negligible	Slight	Neutral or slight	Neutral or slight	Neutral

## Assumptions and limitations

15.4.37 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- Construction traffic forecasts are based on an initial high-level estimate of construction materials and programme and are considered to provide a reasonable worst-case scenario. It is considered that these limitations do not affect the robustness of the assessment;
- At this stage, the construction programme for the section of pipeline between the Pump Facility and MLWS is not known. To ensure that the worst case scenario is assessed, it is assumed that construction activities associated with these works would overlap with construction activities for the Pump Facility at Easington.
- Traffic flows for year 2019 have been obtained from DfT's static traffic counters and used to establish the future 2026 baseline. While the latest year for which traffic flows are available on the DfT website is 2020, as the result of the Covid-19 situation in 2020, this data represents atypical travel patterns and flows. As such, using the 2019 traffic flow data to assess the potential impact from traffic associated with the Project is more robust;
- An assessment has been undertaken to identify the likely percentage increase in HGV and in total traffic due to construction on the local road network using 2026 baseline traffic flow data. The predicted increase has been assessed against 12-hour weekday flows (07:00-19:00 hrs);

- Based on infrastructure projects of similar size and complexity, it is anticipated that construction activities on Saturday would be a fraction of weekday activities. As such the assessment of predicted impacts from construction traffic against 12-hour weekday flows (07:00-19:00 hrs) represent the worst case scenario;
- It is anticipated that all construction HGV traffic would access Proposed Order Limits from the SRN;
- Activities associated with 24-hour working such as testing and working associated with offshore interfaces are not anticipated to generate traffic numbers requiring an assessment; and
- Spoils from tunnelling activities would be removed during standard 07:00-19:00 hrs working hours.

## 15.5 Baseline conditions

### Data Sources

- 15.5.1 Baseline conditions of the Project presented in this report were established during a desk study using the following sources:
- Department for Transport (DfT) counts from 2019 along the Preliminary Construction Routes to obtain reference Average Annual Daily Traffic (AADT) flows;
  - Information about height and width restrictions across the Preliminary Construction Routes using desktop assessment and on site observations;
  - Information about pedestrian and cycle facilities along the Preliminary Construction Routes using desktop assessment and on site observations;
  - Public transport information obtained from East Riding of Yorkshire Council, North Lincolnshire Council, North Yorkshire County Council and Lincolnshire County Council websites;
  - Road collision data for the latest 36-month Collision Data for all roads on the Preliminary Construction Routes and connecting junctions using Crashmap;
  - Public Right of Way (PRoW) maps obtained from East Riding of Yorkshire Council, North Lincolnshire Council, North Yorkshire County Council and Lincolnshire County Council websites;
  - Aerial mapping; and
  - National Cycle Routes from the Sustrans website.
- 15.5.2 Site surveys will be undertaken to allow for a visual inspection of the potential construction vehicle routes, confirming findings of background data and identifying any unknown constraints or opportunities.
- 15.5.3 Following engagement with National Highways and local highway authorities, the EIA assessment could also consider additional data and data sources, including:
- Automatic Traffic Count (ATCs) and Manual Classified Count (MCC) surveys commissioned to establish existing baseline traffic flows along road links that do not have DfT counts, where required;

- Committed development schemes in the affected local authorities to capture potential traffic growth along the preferred construction routes, obtained from relevant planning authorities; and
- Committed and planned transport schemes along and in the vicinity of the preferred construction routes.

## Existing baseline

### Construction Traffic Route Roads and Junctions

15.5.4 It is anticipated that all construction HGV traffic would access the Project sites from the SRN. Table 15.6 identifies SRN junctions and access points that would be used by construction traffic. These access points are also shown on Figure 15.1 (Volume IV). The Emerging Construction Routes and associated access points are shown on Figure 15.2 (Volume IV).

**Table 15.6 Construction Traffic Route - SRN**

SRN Junction	Access Points
M62 J36	A01 – A12
M180 J2	A13 – A19
A181 Frodingham Grange Roundabout	A20 – A22
M180 J4 Broughton Interchange	A23 – A30
M180 J5 Barnetby Interchange	A31 – A41
A180/A160 Brocklesby Interchange	A42 – A46
A160 Habrough Roundabout	A42 – A46
A160 Manby Roundabout	A45
A1033 Salt End Roundabout	A47 – A58

- 15.5.5 Both the Preliminary and Emerging Construction Routes between the SRN and construction access points were developed using the following considerations where possible:
- Avoid existing highways constraints such as weight restricted bridges or low bridges;
  - Avoid settlements and sensitive receptors to minimise potential impact on other road users;
  - Use the shortest available route between the Proposed Order Limits and SRN;
  - Avoid single carriageway roads unless these provide direct access to a construction site; and

- As far as possible, use A roads as a priority, then B roads, then C roads and then unclassified roads.

15.5.6 The Preliminary Construction Routes are described in Table 15.7 and shown on Figure 15.1 (Volume IV). The Emerging Construction Routes are shown on Figure 15.2 (Volume IV).

**Table 15.7 Preliminary Construction Routes - Local Road Network**

Access Point ID	Preliminary Construction Routes
<b>AP#01</b>	M62 J36 - A614 Rawcliffe Road - A645 - New Road (Access Road to Drax plant) - AP#01
<b>AP#02</b>	M62 J36 - A614 Rawcliffe Road - A645 - Main Road - Church Dike Lane/Brier Lane - AP#02
<b>AP#03</b>	M62 J36 - A614 Rawcliffe Road - A645 - AP#03
<b>AP#04</b>	M62 J36 - A614 Rawcliffe Road - AP#04
<b>AP#05</b>	M62 J36 - A614 Rawcliffe Road - AP#05
<b>AP#06</b>	M62 J36 - A614 Rawcliffe Road - Station Road – Dobella Lane - AP#06
<b>AP#07</b>	M62 J36 - A614 Rawcliffe Road - AP#07
<b>AP#08</b>	M62 J36 - A614 Rawcliffe Road - AP#08
<b>AP#09</b>	M62 J36 - A16 - AP#09
<b>AP#10a</b>	M62 J36 - A614 Rawcliffe Road - Station Road - Bridge Lane - Johnny Moor Long Lane - AP#10a
<b>AP#10b</b>	M62 J36 - A614 Rawcliffe Road - Station Road - Bridge Lane - Johnny Moor Long Lane - AP#10b
<b>AP#11</b>	M62 J36 - A161/Swinefleet Road - AP#11
<b>AP#12</b>	M62 J36 - A161/Swinefleet Road/Goole Road/Low Street/King's Causeway – Old Lane/Old Lane Gate - AP#12
<b>AP#13</b>	M180 J2 - A161 - AP#13
<b>AP#14</b>	M180 J2 - A161 - AP#14
<b>AP#15a</b>	M180 J2 - A161/Wharf Road – Outgate – Access Road - AP#15a
<b>AP#15b</b>	M180 J2 - A161/Wharf Road – New Trent Street – Bonnyhale Road – Chapel Lane - AP#15b



Access Point ID	Preliminary Construction Routes
<b>AP#15c</b>	M180 J2 - A161/Wharf Road – New Trent Street – Bonnyhale Road - AP#15c
<b>AP#16</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 - AP#16
<b>AP#17a</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 – Crowle Bank Road – Derrythorpe Road - AP#17a
<b>AP#17b</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 - AP#17b
<b>AP#18</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 – King Edward Street/Bracon/Belton Road – Clouds Lane - AP#18
<b>AP#19a</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 – King Edward Street/Bracon/Belton Road – Clouds Lane - AP#19a
<b>AP#19b</b>	M180 J2 - A161/Wharf Road/Crowle Bridge – A18 – King Edward Street/Bracon/Belton Road – Clouds Lane/West Street – South Street - AP#19b
<b>AP#20a</b>	A18 Frodingham Grange Roundabout - A18 – Scotter Road – Scotter Road South – North Moor Lane – Butterwick Road - AP#20a
<b>AP#20b</b>	A18 Frodingham Grange Roundabout - A18 – Scotter Road – Scotter Road South – North Moor Lane – Butterwick Road/Messingham Road – High Street - AP#20b
<b>AP#21</b>	A18 Frodingham Grange Roundabout - A18 – Scotter Road – Scotter Road South – North Moor Lane – Butterwick Road - AP#21
<b>AP#22</b>	A18 Frodingham Grange Roundabout - A18 – Scotter Road – Scotter Road South – North Moor Lane – AP#22
<b>AP#23</b>	M180 J4 Broughton Interchange - A15 – A18 Mortal Ash Hill – B1398 Kirton Road – Holme Lane – A159 Northfield Road - AP#23
<b>AP#24</b>	A18 Frodingham Grange Roundabout - A15 – A18 Mortal Ash Hill – B1398 Kirton Road – Holme Lane – A159 Northfield Road - AP#24
<b>AP#25</b>	M180 J4 Broughton Interchange - A15 – A18 Mortal Ash Hill – B1398 Kirton Road – Holme Lane - AP#24
<b>AP#26</b>	M180 J4 Broughton Interchange - A15 - AP#26
<b>AP#27</b>	M180 J4 Broughton Interchange - A15 - AP#27

Access Point ID	Preliminary Construction Routes
<b>AP#28</b>	M180 J4 Broughton Interchange - A15 – A18 – B1206 Scawby Road - AP#27
<b>AP#29</b>	M180 J4 Broughton Interchange - A15 – A18 – B1206 Scawby Road – AP#29
<b>AP#30</b>	M180 J4 Broughton Interchange - A15 – A18 – B1206 Scawby Road – Access Road (Northern Powergrid) - AP#30
<b>AP#31</b>	M180 J5 Barnetby Interchange - A18 – Main Street – A1084 - AP#31
<b>AP#32</b>	M180 J4 Broughton Interchange - A18 – Main Street – A1084 - AP#32
<b>AP#33</b>	M180 J5 Barnetby Interchange - A18 – Main Street – A1084 - AP#33
<b>AP#34</b>	M180 J5 Barnetby Interchange - A18 – Main Street – A1084 - AP#34
<b>AP#35</b>	M180 J5 Barnetby Interchange - A18 - AP#35
<b>AP#36</b>	M180 J5 Barnetby Interchange - A18 - AP#36
<b>AP#37a</b>	M180 J5 Barnetby Interchange - A18 – Limber Road – Habrough Lane - AP#37a
<b>AP#37b</b>	M180 J5 Barnetby Interchange - A18 – Limber Road – Habrough Lane - AP#37b
<b>AP#38</b>	M180 J5 Barnetby Interchange - A18 – B1210 Brocklesby Road - B1211 Brocklesby Road - AP#38
<b>AP#39</b>	M180 J5 Barnetby Interchange - A18 – B1210 Brocklesby Road - B1211 Brocklesby Road - AP#36a
<b>AP#40</b>	M180 J5 Barnetby Interchange - A18 – B1211 Chalkhill Road/West End Road – A1077 Wootton Road - AP#40
<b>AP#41a</b>	M180 J5 Barnetby Interchange - A18 – B1211 Chalkhill Road/West End Road – A1077 Wootton Road - AP#41
<b>AP#42</b>	M180 J5 Barnetby Interchange - A18 –East Halton Road/Townside – College Road - AP#42
<b>AP#43</b>	M180 J5 Barnetby Interchange - A18 –East Halton Road/Townside – College Road - AP#43

Access Point ID	Preliminary Construction Routes
<b>AP#44a</b>	M180 J5 Barnetby Interchange - A18 – East Halton Road/Townside – College Road – Soff Lane - AP#44a
<b>AP#44b</b>	M180 J5 Barnetby Interchange - A18 – East Halton Road/Townside – College Road – Soff Lane - AP#44b
<b>AP#44c</b>	M180 J5 Barnetby Interchange - A18 – East Halton Road/Townside – College Road – Soff Lane - AP#44c
<b>AP#45a</b>	A180/A160 Brocklesby Interchange - Rosper Road – Chase Hill Road - AP#45a
<b>AP#45b</b>	A180/A160 Brocklesby Interchange - Rosper Road – Haven Road – Clough Lane - AP#45b
<b>AP#46</b>	A180/A160 Brocklesby Interchange - East Halton Road/Townside – College Road – Soff Lane – Chapel Field Road - AP#46
<b>AP#47</b>	A180/A160 Brocklesby Interchange - A1033 Hull Road/Main Road – Hooks Lane/Dark Lane - AP#47
<b>AP#48</b>	A160 Manby Roundabout - Paull Road – Main Street/Farbridge Lane - AP#48
<b>AP#49a</b>	A180/A160 Brocklesby Interchange - Paull Road - AP#49a
<b>AP#49b</b>	A180/A160 Brocklesby Interchange - Paull Road - AP#49b
<b>AP#49c</b>	A180/A160 Brocklesby Interchange - Paull Road - AP#49c
<b>AP#49d</b>	A180/A160 Brocklesby Interchange – A1033 - AP#49d
<b>AP#50</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road – B1240 - AP#50
<b>AP#51</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road – B1240 - AP#51
<b>AP#52</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road/Patrington Road/Station Road – B1445 High Street/Eastgate/Welwick Road/Skeffling Road/Weeton Road/Main Road/Easington Road/Hull Road – Dimlington Road - AP#52
<b>AP#53</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road – Station Road/North End Road/Dalton Lane – B1362 North Road/Causeway Ings Lane - AP#53

Access Point ID	Preliminary Construction Routes
<b>AP#54</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road – Station Road/North End Road - AP#54
<b>AP#55</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road/Patrington Road/Station Road/Northside - AP#55
<b>AP#56</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road/Patrington Road/Station Road/Northside - AP#56
<b>AP#57</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road/ Station Road/North End Road – B1445 Welwick Road/Weeton Road – Dimlington Road/Warmer Lane - AP#57
<b>AP#58</b>	A1033 Salt End Roundabout - A1033 Hull Road/Main Road/Ottringham Road/New Road/ Station Road/North End Road – B1445 Welwick Road/Weeton Road – Dimlington Road/Warmer Lane - AP#58

## Highway Network, including Pedestrian and Cycle Provision

15.5.7 The extent of the highway covered in this section includes roads and road links that would be used by construction traffic to access the Project sites. In order to facilitate the assessment of potential impacts on receptors and road users along the Preliminary Construction Routes, where roads share similar characteristics, they were combined into one link for the purpose of the EIA assessment. The identified road links are summarised in Table 15.8.

**Table 15.8 Preliminary Construction Routes - Local Road Network**

Road Link ID	Roads Forming Link
<b>Link 1</b>	A465
<b>Link 2</b>	Main Road / Church Dike Lane / Brie Lane
<b>Link 3a</b>	A614 Rawcliffe Road
<b>Link 3b</b>	A614 Rawcliffe Road
<b>Link 3c</b>	Station Road
<b>Link 4</b>	Dobella Lane
<b>Link 5a</b>	A161 (Goole)

Road Link ID	Roads Forming Link
Link 5b	A161 (Swinefleet)
Link 6a	A161 (south of M180)
Link 6b	A161 (M180 to A18)
Link 6c	A161 (Wharf Road)
Link 6d	A161 (Crowle)
Link 7	Outgate
Link 8	New Trent Street / Bonnyhale Road
Link 9	A18
Link 10	Belton Road
Link 11a	A18
Link 11b	N Moor Lane / Scotter Road S
Link 11c	Butterwick Road
Link 12a	Holme Lane / B1398
Link 12b	A159
Link 13	A18 Mortal Ash Hill
Link 14	A15 / A18
Link 15	B1206 Scawby Road
Link 16	A15
Link 17	A1084
Link 18	Main Street
Link 19	A18 (Melton Ross / Kirmington)
Link 20	Limber Road / Habrough Lane
Link 21	B1210
Link 22	B1211 Brocklesby Road
Link 23	B1211 W End Road

Road Link ID	Roads Forming Link
Link 24a	E Halton Road
Link 24b	College Road
Link 24c	Soff Lane / Chapel Field Road
Link 25	Rosper Road / Haven Road
Link 26	Dark Lane / Hooks Lane
Link 27a	Paull Road
Link 27b	Back Road
Link 28a	A1033 Main Road
Link 28b	A1033 Hull Road / Patrington Road / Station Road
Link 29a	Station Road
Link 29b	N End Road / Causeway Ings Lane
Link 30	B1445
Link 31	B1240

15.5.8 Table 15.9 below provides a description of road links along the Preliminary Construction Routes. These roads are illustrated on Figure 15.1 (Volume IV). The Emerging Construction Routes are shown on Figure 15.2 (Volume IV).

**Table 15.9 Summary of road links forming Preliminary Construction Routes**

A645 (Link 1)	
<b>Description</b>	The assessed section of the A645 routes from the A614/A645 roundabout to the A645/New Road/Main Road Roundabout. It is a single carriageway road with one lane in each direction.
<b>Width</b>	7.3 m - 8 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	No
<b>Bus Route</b>	No
<b>Character</b>	The road is predominantly fronted by fields and wooded areas. No receptors.



A645 (Link 1)	
<b>On-carriageway parking</b>	While parking along the edge is not forbidden along the entire length of the assessed section, absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking.
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

Main Road/Church Dike Lane/Brier Lane (Link 2)	
<b>Description</b>	The assessed section is from the A645/New Road/Main Road roundabout and goes through Drax Village and continues towards Newland Road. It is a single carriageway road with one lane in each direction along Main Road. Church Dike Lane and Brier Lane is also a single carriageway, however, there are no lane markings to differentiate the two traffic movements.
<b>Width</b>	5.1 m - 5.4 m
<b>Speed Limit</b>	There is a 30 mph speed limit along Main Road which goes through Drax Village. The national speed limit of 60 mph applies to Church Dike Lane and Brier Lane.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	641
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
<b>On-carriageway parking</b>	Both sides of the carriageway in Drax are used for parking, including on the footway.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. Within Drax along Main Road, footway is present predominantly along the eastbound side of the carriageway with footways being present on both side of the carriageway from the east of the junction with Mill Lane.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

A614 Rawcliffe Road (Link 3a)	
<b>Description</b>	The assessed section of the A614 routes from the A614/M62 interchange roundabout to the A614/A645 Roundabout and connects to M62 Junction 36 in the east to the A645 in the west. The road is a single carriageway with one lane in each direction.
<b>Width</b>	Approximately 7.3 m wide along most of the length, with some localised widening to accommodate bus stops, parking bays and acceleration and deceleration lanes.
<b>Speed Limit</b>	There is a 60 mph between A614/A645 Roundabout and a location approximately 100 m west of the A614/Rawcliffe Road/Airmyn Road Roundabout. 40 mph speed limit between approximately 100 m west of the A614/Rawcliffe Road/Airmyn Road Roundabout and the A614/M62 interchange roundabout.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	3, 88, 400, 401, and 488
<b>Character</b>	The road is predominantly fronted by fields and farms. Woodside café popular with lorry drivers is accessed directly from the A614. A lorry driver rest area and services are located south of the A614/Rawcliffe Road/Airmyn Road Roundabout and accessed from it. Given the high volume of HGV traffic using the road to access industrial locations and parks in the area, the road character is of a busy connector road.
<b>On-carriageway parking</b>	Approximately 130 m long parking bay outside a small (10-15 houses) cluster of residential dwelling on the northern side of the A614, east of Woodside Café.
<b>Walking Infrastructure</b>	Very narrow (less than 1 m wide) footway on the northern side of the road between A614/A645 Roundabout and A614/Rawcliffe Road/Airmyn Road Roundabout. Shared use path on the southern side of the carriageway between the A614/Rawcliffe Road/Airmyn Road Roundabout and the A614/M62 interchange roundabout, and for approximately 100 m on the northern side of the carriageway west of the between the A614/Rawcliffe Road/Airmyn Road Roundabout.
<b>Cycling Infrastructure</b>	Shared use path on the southern side of the carriageway between the A614/Rawcliffe Road/Airmyn Road Roundabout and the A614/M62 interchange roundabout, and for approximately 100 m on the northern side of the carriageway west of the between the A614/Rawcliffe Road/Airmyn Road Roundabout.

### A614 Rawcliffe Road (Link 3b)

<b>Description</b>	The assessed section of the A614 routes from the A614/A645 roundabout and extends south towards Rawcliffe, connecting to the A614/The Green junction. The road is a single carriageway with one lane in each direction.
<b>Width</b>	6.4 m – 8.2 m with some localised widening to accommodate acceleration and deceleration lanes.
<b>Speed Limit</b>	A 60 mph speed limit for most of the route, reducing to 30 mph when entering Rawcliffe settlement.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	3, 88, 400, 401 and 488
<b>Character</b>	The character of the road is predominantly rural in nature with agricultural fields and farms fronting the road. Where the route enters Rawcliffe, the route is more urban (when it passes through settlements).
<b>On-carriageway parking</b>	No on-carriageway parking present.
<b>Walking Infrastructure</b>	Footway present along the whole of this route. It is predominantly located on the northbound side of the carriageway with a grass verge separating the footway and the carriageway. In some instances, the footway alternates between the southbound and northbound side of the carriageway. Additionally, along some sections there is a footway on both sides of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### A614 Station Road/Bridge Lane/Johnny Moor Long Lane (Link 3c)

<b>Description</b>	The assessed section of the A614 routes from the A614/The Green junction and extends southeast connecting to Johnny Moor Long Lane. Upon entering The Green via the A614/The Green junction, there is a 7.5 T restriction. The road is a single carriageway with one lane in each direction.
<b>Width</b>	4.7 m – 6.7 m with some localised widening to accommodate acceleration and deceleration lanes. Narrowest section is at the A614/The Green junction. Narrows to 3.85 m on Bridge Lane where the road goes over Dutch River.
<b>Speed Limit</b>	A 20 mph speed limit along The Green south of the A614/The Green junction and increases to 30 mph for the remaining section of the route going through Rawcliffe. This increases to 40 mph along the southern section of the route, upon exiting Rawcliffe. This reduces to 30 mph through Rawcliffe Bridge settlement. Johnny moor Lane is 60 mph.

A614 Station Road/Bridge Lane/Johnny Moor Long Lane (Link 3c)	
Street Lighting	Yes
Bus Route	3 and 88
Character	The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). There are receptors along this route, with schools and playgrounds present).
On-carriageway parking	Parking present on The Green at the A614/The Green junction. This parking is on the western side of the carriageway and narrows the carriageway to restrict two-way flows.
Walking Infrastructure	Footway present along the whole of this route. It alternates between the northbound and southbound side of the carriageway, as well as in some instances there being footways on both sides of the carriageway. Shared use path to the south of the M62 overbridge up until junction with Stocks Drive.  No designated walking infrastructure along Johnny Moor Long Lane.
Cycling Infrastructure	On-carriageway cycle lane along both side of the carriageway between the A614/The Green junction and Station Road/Ridding Lane junction. Cycle lane continues south, however, there is no lane markings on the carriageway just cycle markings. Shared use path to the south of the M62 overbridge up until junction with Stocks Drive, continuing as an on-carriageway cycle lane for the remainder of Bridge Lane

Dobella Lane (Link 4)	
Description	The assessed route connects to the A614 Station Road providing a connection to the M62. It is a single carriageway, in which vehicles can travel in both directions, even though there are no lane markings distinguishing lanes for the two traffic movements.
Width	4.2 m and 5.5 m
Speed Limit	40mph
Street Lighting	No street lighting present
Bus Route	N/A
Character	Character of the assessed route is rural.
On-carriageway parking	No on-carriageway parking present

#### Dobella Lane (Link 4)

<b>Walking Infrastructure</b>	No designated pedestrian infrastructure for most of the assessed route. However, there are footways on both sides of the carriageway on the M26 overbridge section even though there is no footways leading to/from them.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

#### A161 Goole (Link 5a)

<b>Description</b>	The assessed section of the A161 routes from the M62 J36 to Swinefleet Road/Park View junction. The section between the M62 J36 and A161/Tom Pudding Way roundabout is a dual carriageway, with two lanes in each direction. The remainder of the assessed route is a single carriageway road with one lane in each direction.
<b>Width</b>	6.4 m – 7 m, although the carriageway narrows to approximately 5 m through Old Goole settlement.
<b>Speed Limit</b>	A speed limit of 30 mph between A161/Anderson Road junction and M62 J36.  A speed limit of 40 mph between A161/Anderson Road junction and junction with A161 Bridge Street. Speed limit then reduces to 30 mph between the junction with A161 Bridge Street, through Old Goole settlement, and then increasing to 60 mph through the remaining rural sections of the assessed route.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	360, 361, G1, G4 and G5
<b>Character</b>	The character of the route is predominantly urban in nature with industrial estates fronting the carriageway along some sections and properties through the sections going through the settlement. Additionally, some sections of the route are rural in nature, fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Designated parking bays are available through sections of Old Goole.
<b>Walking Infrastructure</b>	Footway present along the southbound side of the dual carriageway and continues alongside the single carriageway up to the junction with the A161 Goole Bridge. This then becomes a shared use path along the A161 Goole Bridge on both sides of the carriageway, ending at junction with Cottingham Street, as path becomes a footway.  Footway present along the northern side of the A61 carriageway between the A161/Tom Pudding Way roundabout to approximately 210 m south of Motordepot Preparation Centre.

## A161 Goole (Link 5a)

	Footway present along both sides of the carriageway along the A161 Swinefleet Road for the assessed route going through Old Goole settlement. The footway then continues south on the southbound side of the carriageway for the remaining section of the assessed route.
<b>Cycling Infrastructure</b>	<p>Segregated cycle path present along the southbound side of the dual carriageway and continues alongside the single carriageway until the junction with Andersen Road.</p> <p>Segregated cycle path present between the A161 (Motordepot Preparation Centre) for approximately 210 m to the east.</p> <p>On-carriageway cycle lane on both sides of the carriageway along A161 Goole Bridge from junction with Cottingham Street and extends south to the ends of Old Goole settlements.</p> <p>ASL on A61 Goole Bridge on the junction with A61 Bridge Street/Normandy Way.</p>

## A161 Swinefleet (Link 5b)

<b>Description</b>	<p>The assessed section of the A161 routes from the A161 Swinefleet Road/Park View junction to approximately 330 m south of Oldlane Gate/Crossmoor Bank junction. It is a single carriageway road with one lane in each direction.</p> <p>Old Lane/Oldlane Gate is significantly narrow, therefore, even though the road can be used for two-directional flows, it is a single track road, thus vehicles would need to use the grass verge to pass side by side.</p>
<b>Width</b>	6.2 m – 6.8 m wide, although the carriageway narrows to approximately 5 m through Old Goole settlement. The section of the assessed route via Old Lane/Old Lane Gate are significantly narrower, measuring 3 m – 3.3 m in width.
<b>Speed Limit</b>	There is a 60 mph speed limit between the A161 Swinefleet Road/Park View and A161/Goole Road/Quay Lane junction as this section is rural in nature. The route is 40 mph along Goole between A161/Goole Road/Quay Lane junction and upon entering Swinefleet settlement, as the route reduces to 30 mph. This increase to 60 mph for the rural section of the route to the southeast of Swinefleet.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).



### A161 Swinefleet (Link 5b)

<b>On-carriageway parking</b>	Parking is present along the section of the route through Swinefleet. Along Goole Road/Low Street there is parking on the pavement on the westbound side of the carriageway and continues along the route stopping at the King's Causeway/Church Lane junction.
<b>Walking Infrastructure</b>	<p>A narrow footway is present along the southbound side of the carriageway from the A161 Swinefleet Road/Park View junction, through Swinefleet settlement.</p> <p>Within Swinefleet, there is a footway present on both side of the carriageway for most of the settlement. However, along King's Causeway, the footway is only present on the northbound side of the carriageway ending at junction with Reading Gate.</p>
<b>Cycling Infrastructure</b>	No designated pedestrian infrastructure.

### A161 south of the M180 (Link 6a)

<b>Description</b>	The assessed section of the A161 routes from the M180 to the A161/King Edward Street/Westgate Road roundabout. It is a single carriageway road with one lane in each direction.
<b>Width</b>	5.5 m – 6.5 m
<b>Speed Limit</b>	50 mph speed limit to the south of the M180, reducing to 40 mph upon entering Belton, reducing further to 30 mph for approximately 190 m of the route connecting to A161/King Edward Street/Westgate Road roundabout.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	361 and 90
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). There are receptors along this route, with schools present and warning signs (horse-riders, elderly people, schools, cattle).
<b>On-carriageway parking</b>	Parking bays present on both sides of the carriageway approximately 410 m south of the M180.
<b>Walking Infrastructure</b>	<p>No designated pedestrian infrastructure along rural sections of the road.</p> <p>Footway present on the northbound side of the carriageway at the bus stop north of junction with Woodhouse Lane. To the south of Woodhouse Lane, a footway is present on the southbound side of the carriageway.</p>

### A161 south of the M180 (Link 6a)

<b>Cycling Infrastructure</b>	No designated cycling infrastructure.
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### A161 M180 to A18 (Link 6b)

<b>Description</b>	The assessed section of the A161 routes from the A161/A18 junction to the M180. It is a single carriageway road with one lane in each direction.
<b>Width</b>	6.5 m – 7 m
<b>Speed Limit</b>	40 mph speed limit at the A161/A18 junction and 50 mph for the remainder of the assessed route.  50 mph speed limit to the south of the M180, reducing to 40 mph upon entering Belton, reducing further to 30 mph for approximately 190 m of the route connecting to A161/King Edward Street/Westgate Road roundabout.
<b>Street Lighting</b>	Yes, at the A161/A18 junction.
<b>Bus Route</b>	361 and 90
<b>Character</b>	The character of the road is rural in nature as it is fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Parking bays present on both sides of the carriageway approximately 305 m north of the M180.
<b>Walking Infrastructure</b>	Footway present for approximately 410 m of the route (sections north of the M180).  No designated pedestrian infrastructure along the remainder of the route.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure

### A161 Crowle (Link 6c)

<b>Description</b>	The assessed section of the A161 routes from the Crowle Road (south of Eastoft) to the A161/A18 junction. It is a single carriageway road with one lane in each direction.
<b>Width</b>	5.9 m - 6.8 m along rural sections of the route. Narrows to 4.9 m – 5.5 m through settlements.
<b>Speed Limit</b>	50 mph speed limit along the A161 between Crowle Road (south of Eastoft) and Crowle settlement. This reduces to 30 mph and 20 mph (school safety

### A161 Crowle (Link 6c)

	zone) through Crowle, 30 mph and 20 mph through Belton. 40 mph speed limit between settlements, and for the remaining sections to the south of Belton.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	361 and 90
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). There are receptors along this route, with schools present and warning signs (horse-riders, elderly people, schools, cattle).
<b>On-carriageway parking</b>	<p>Within Crowle parking bays on Eastoft Road southbound, outside Northfield Place prior to the bus stop. To the south of the bus stop there are also vehicles parked on both sides of the carriageway on Eastoft Road. Vehicles parked on both sides of Woodland Avenue following the A161/Mill Road/Fieldside double mini roundabout in the carriageway before double yellow lines and southbound where there are no longer any double yellow lines following this.</p> <p>Parking available on both side of the carriageway (approximately 47 m on either side) to the north of Hagg Lane, and further parking approximately 260 m north of Woodhouse Lane.</p>
<b>Walking Infrastructure</b>	<p>No designated pedestrian infrastructure along rural sections of the road.</p> <p>Within Crowle, initially there is only a footway on the northbound side of the carriageway (northern section of the settlement), although through the main sections of the settlement, there are footways on both sides of the carriageway. However, they are very narrow along High Street, to the south of Cross Street side road to Market Place side road.</p>
<b>Cycling Infrastructure</b>	Cycle lane measuring approximately 70 m on the A161 northbound through A161 High Street/Fieldside/Wharf Road roundabout.

### Outgate (Link 7)

<b>Description</b>	The assessed route connects to the A161 Wharf Road. It is a single carriageway, in which vehicles can travel in both directions, even though there are no lane markings distinguishing lanes for the two traffic movements.
<b>Width</b>	3 m - 4.3 m. Road width narrows further towards the east as the stretch of the assessed route becomes more rural.
<b>Speed Limit</b>	30 mph speed limit through settlement and 60 mph through rural sections.

Outgate (Link 7)	
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	90 and 361
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
<b>On-carriageway parking</b>	Parking on both sides of the carriageway through the settlement, however, number of parking seems to be low.
<b>Walking Infrastructure</b>	<p>No designated pedestrian infrastructure along rural sections of the road.</p> <p>Narrow footways present through the settlement. Footway is present along most of the eastbound side of the carriageway. Where there is no pavement along the eastbound side of the carriageway, there is a footway on the westbound side of the carriageway.</p> <p>Along some sections of the assessed route, there are footways present on both side of the carriageway.</p>
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

New Trent Street / Bonnyhale Road / Chapel Lane (Link 8)	
<b>Description</b>	The assessed route commences at the A161/New Trent Street junction and continues eastwards towards Keadby Power Station. New Trent Street through Ealand is a single carriageway with one lane in each direction. The rural sections of the route which does not go through any settlements is a single carriageway, in which vehicles can travel in both directions, even though there are no lane markings distinguishing lanes for the two traffic movements.
<b>Width</b>	4.2 m – 6.3 m Roads narrow along the rural sections of the assessed route.
<b>Speed Limit</b>	30 mph speed limit through settlement and 60 mph through rural sections.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	90 and 361
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).

### New Trent Street / Bonnyhale Road / Chapel Lane (Link 8)

<b>On-carriageway parking</b>	Parking is present along both side of New Trent Street which is through the settlement. This mostly occurs on the northbound side of the carriageway. Along the rural section of the route, parking on the carriageway does not typically occur.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. There are footways on both sides of the carriageway along New Trent Street.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure

### A18 (Link 9)

<b>Description</b>	The assessed section of the A18 is located between A161 Crowle Bridge/A18 junction to Crowle Bank Road. It is a single carriageway road with one lane in each direction.
<b>Width</b>	6.5 m -7.5 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	No
<b>Bus Route</b>	90 and 361
<b>Character</b>	The character of the road changing in nature (fronted by agricultural fields and farms).
<b>On-carriageway parking</b>	Approximately 190 m of parking space available along A18 (1.56km to the east of the A161 Crowle Bridge/A18 junction Parking is available eastbound).
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### Belton Road/Clouds Lane (Link 10)

<b>Description</b>	The assessed section of Belton Road to the east of the A161/King Edward Street/Westgate Road junction. It is a single carriageway road with one lane in each direction.
<b>Width</b>	5 m - 6.3 m

Belton Road/Clouds Lane (Link 10)	
<b>Speed Limit</b>	60 mph speed limit through rural sections and between settlements, and 30 mph through Belton and Beltoft.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	399
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
<b>On-carriageway parking</b>	Both sides of the carriageway in Belton are used for parking, although the number of parked vehicles is low.
<b>Walking Infrastructure</b>	<p>No designated pedestrian infrastructure along rural sections of the road.</p> <p>Within Belton, there are footways on the southbound side of the carriageway. To the east of Bracon the footway is only present on the northbound side of the carriageway.</p> <p>Within Beltoft, footways are only present on the eastbound and southbound carriageway.</p>
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

A18 Doncaster Road (Link 11a)	
<b>Description</b>	<p>The assessed section of the A18 is located between Frodingham Grange and Berkeley Roundabout. It is a dual carriageway with two lanes in each direction and additional lanes in some areas for right/left turning traffic.</p> <p>The A18 to the west of Berkeley Roundabout, has one lane westbound until A18 Doncaster Road/Jack Brownsword Way Roundabout where it become two lanes in each direction.</p>
<b>Width</b>	9.3 m -17 m (widest width is across the four lanes) - The narrowest section is to the west of Berkeley Roundabout, where there is only one lane westbound.
<b>Speed Limit</b>	40 mph
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	35, 90, 360, 361, and 399
<b>Character</b>	The road is predominantly fronted by urban settlements consisting of commercial and residential property.



## A18 Doncaster Road (Link 11a)

<b>On-carriageway parking</b>	HGV parking located on the westbound approach to Frodingham Grange, approximately 65 m in length.
<b>Walking Infrastructure</b>	Segregated shared pedestrian and cycle pathways on either side of the carriageway.
<b>Cycling Infrastructure</b>	Segregated shared pedestrian and cycle pathways on either side of the carriageway.

## Scotter Road / N Moor Lane (Link 11b)

<b>Description</b>	The assessed route is Scotter Road, to the south of Berkely Roundabout up to Butterwick Road junction. The route is a single carriageway road with one lane in each direction.
<b>Width</b>	6.6 m – 7.1 m
<b>Speed Limit</b>	40 mph speed limit along Scotter Road until junction with South Park Road (side road). The route south of the junction with South Park Road has a speed limit of 50 mph.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	1, 1A, and 601
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and a village road (when it passes through settlements). To the west of the carriageway, it is predominantly agricultural fields. School children/family warning signs present.
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking.
<b>Walking Infrastructure</b>	<p>Segregated shared pedestrian and cycle pathways on either side of the carriageway. No pathway on the northbound side of the carriageway south of Crosby settlement, with the shared pedestrian pathway/cycleway leading of Scotter Road and continuing along Bristol Road connecting back to Scotter Road (southbound).</p> <p>The shared pedestrian and cycle pathway ends at Scotter Road/Burringham Road roundabout. There is a narrow pathway to the south of this roundabout.</p>
<b>Cycling Infrastructure</b>	Segregated shared pedestrian and cycle pathways on either side of the carriageway.

### Scotter Road / N Moor Lane (Link 11b)

	The shared pedestrian and cycle pathway ends at Scotter Road/Burringham Road roundabout. No cycle infrastructure present for the remainder of Scotter Road, to the south of the roundabout.
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### Scotter Road / N Moor Lane (Link 11)

<b>Description</b>	The assessed route is Scotter Road, to the south of Berkely Roundabout up to Butterwick Road junction. The route is a single carriageway road with one lane in each direction.
<b>Width</b>	6.6 m – 7.1 m
<b>Speed Limit</b>	30 mph speed limit through Crosby and 40 mph along Scotter Road (south of Crosby) until South Park Road (side Road). South of South Park Road (side Road) speed limit is 50 mph.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	1, 1A, and 601
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and a village road (when it passes through settlements). To the west of the carriageway, it is predominantly agricultural fields. School children/family warning signs are present.
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking.
<b>Walking Infrastructure</b>	Between Berkely Roundabout and Scotter Road/Burringham Road roundabout, there is a shared pedestrian and cycle pathway. No walking infrastructure present for the remainder of Scotter Road/N Moor Lane, to the south of Scotter Road/Burringham Road roundabout.
<b>Cycling Infrastructure</b>	Between Berkely Roundabout and Scotter Road/Burringham Road roundabout, there is a shared pedestrian and cycle pathway. No cycle infrastructure present for the remainder of Scotter Road/N Moor Lane, to the south of Scotter Road/Burringham Road roundabout.

### Messingham Road / Butterwick Road (Link 11c)

<b>Description</b>	The assessed route is Messingham Road/Butterwick Road, located in East Butterwick, to the east of High Street/ Messingham Road junction connecting to N Moor Lane/Butterwick Road junction. The route is a single carriageway, in which vehicles can travel in both directions, even though
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### Messingham Road / Butterwick Road (Link 11c)

	there are no lane markings distinguishing lanes for the two traffic movements.
<b>Width</b>	3.9 m – 4.8 m
<b>Speed Limit</b>	60 mph speed limit for most of the assessed route and 40 mph for the section approaching the junction with N Moor Lane.
<b>Street Lighting</b>	Not present for the majority of the route. There is some lighting for the section approaching the junction with N Moor Lane.
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road is predominantly rural in nature as it is fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. Footway present for a small section on the approach to the junction with N Moor Lane.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A18 Doncaster Road (Link 12)

<b>Description</b>	<p>The assessed section of the A18 is located between Frodingham Grange and Berkeley Roundabout. It is a dual carriageway with two lanes in each direction and additional lanes in some areas for right/left turning traffic.</p> <p>The A18 to the west of Berkeley Roundabout, has one lane westbound until A18 Doncaster Road/Jack Brownsword Way Roundabout where it become two lanes in each direction.</p>
<b>Width</b>	9.3 m -17 m (widest width is across the four lanes) - The narrowest section is to the west of Berkeley Roundabout, where there is only one lane westbound.
<b>Speed Limit</b>	40 mph
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	35, 90, 360, 361, and 399
<b>Character</b>	The road is predominantly fronted by urban settlements consisting of commercial and residential property.

## A18 Doncaster Road (Link 12)

<b>On-carriageway parking</b>	Parking located on the westbound approach to Frodingham Grange, approximately 65 m in length.
<b>Walking Infrastructure</b>	Segregated shared pedestrian and cycle pathways on either side of the carriageway.
<b>Cycling Infrastructure</b>	Segregated shared pedestrian and cycle pathways on either side of the carriageway.

## Holme Lane / B1398 (Link 12a)

<b>Description</b>	The assessed route covering Holme Lane and the B1398, is from the junction with the A159 Northfield Road to the A18 Mortal Ash Hill. The route is a single carriageway road with one lane in each direction.
<b>Width</b>	5.1 m – 6.8 m
<b>Speed Limit</b>	30 mph speed limit along Holme Lane through the edge of the Messingham settlement. 60 mph speed limit along the rural section of the route. 40 mph speed limit through Holme. The B1398 has a 50 mph speed limit which increase to 60 mph on approach to the junction with the A18.
<b>Street Lighting</b>	Present though the settlement
<b>Bus Route</b>	X4 (on the B1398)
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and a village road (when it passes through settlements). To the west of the carriageway, it is predominantly agricultural fields. School children/family warning signs are present.
<b>On-carriageway parking</b>	In some places along the assessed route in the rural sections, there is some parking on the grass verges. Number of this occurrence is very low.
<b>Walking Infrastructure</b>	No walking infrastructure provision
<b>Cycling Infrastructure</b>	No designated cycling infrastructure. However, along Holme Lane there is a cyclist walking sign upon exiting Holme settlement.

### A159 Northfield Road (Link 12b)

<b>Description</b>	The assessed section of the A159 Northfield Road covers 590 m north of the junction with Holme Lane. The route is a single carriageway road with one lane in each direction.
<b>Width</b>	6.5 m - 6.8 m
<b>Speed Limit</b>	The A159 Northfield Road section has a 50 mph speed limit, which reduces to 30 mph on the approach to the junction with Holme Lane on the edge of the settlements.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and a village road (when it passes through settlements).
<b>On-carriageway parking</b>	No parking present along the assessed route.
<b>Walking Infrastructure</b>	The A159 Northfield Road section has a footway along the southbound side of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A18 Mortal Marsh Hill (Link 13)

<b>Description</b>	The assessed A18 route is between Briggate Lodge Roundabout and the A18/B1206 roundabout
<b>Width</b>	6.7 m - 7.6 m
<b>Speed Limit</b>	50 mph speed limit between Briggate Lodge Roundabout for approximately 1 km to the east. 60 mph following this until Castlethorpe where the speed limit is 40 and 30 mph.
<b>Street Lighting</b>	Yes – present at junctions and Castlethorpe.
<b>Bus Route</b>	No
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).

### A18 Mortal Marsh Hill (Link 13)

<b>On-carriageway parking</b>	There is a section segregated from the carriageway dedicated to parking (located to the west the A18 bridge over the M180).
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure for the majority of the route. There is a pathway on the A18 leading to the A18/B1206 roundabout.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A15 (Link 14)

<b>Description</b>	The assessed A15 route is between Briggate Lodge Roundabout and Broughton Interchange. The is a dual carriageway with two lanes per direction.
<b>Width</b>	7.1 m – 7.8 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	No
<b>Character</b>	The character of the road being rural in nature is fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	There is a section for parking on the northbound side of the carriageway.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure

### A18 Bridge Street/Barnard Avenue (Link 14)

<b>Description</b>	The assessed A18 route is from A18/B1206 Scawby Road roundabout to Monument Roundabout. This is a single carriageway with one lane in each direction.
<b>Width</b>	7 m - 9 m
<b>Speed Limit</b>	30 mph through Brigg



### A18 Bridge Street/Barnard Avenue (Link 14)

<b>Street Lighting</b>	Yes
<b>Bus Route</b>	4/X4, and 161
<b>Character</b>	The character of the road is more urban in nature with residential and commercial property fronting the carriageway.
<b>On-carriageway parking</b>	Parking westbound to the east of A18 Bridge Street/West Terrace junction outside of the newsagents. Parking eastbound to the west of Monument Roundabout.
<b>Walking Infrastructure</b>	Shared pedestrian pathway and cycleway on both sides of the carriageway from A18/B1206 Scawby Road roundabout. There are pathways throughout the route on both sides of the carriageway, for the remainder of the route to the east of A18/B1206 Scawby Road roundabout.
<b>Cycling Infrastructure</b>	Shared pedestrian pathway and cycleway on both sides of the carriageway from A18/B1206 Scawby Road roundabout. There is a cycle lane on both sides of the carriageway to the East of Scawby Road for 390 m. Cycle lane is present on both directions between Island Carr Road/A18 Bridge Street Roundabout and A18 Bridge Street/West Terrace junction.

### B1206 Scawby Road (Link 15)

<b>Description</b>	The assessed B1206 route is from B1207 Scawby Road/A18 roundabout to B1206 Station Road access to Techrete UK.
<b>Width</b>	6 m – 9 m, the narrowest point is in the section to the south of Scawby settlement. Through Scawby the carriageway is at its widest.
<b>Speed Limit</b>	60 mph speed limit through rural sections between settlements, 30 mph through Scawby.
<b>Street Lighting</b>	Yes – through settlement.
<b>Bus Route</b>	X4
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Receptors present through Scawby, there is a school safety zone.
<b>On-carriageway parking</b>	Parking is present on both sides of the road through Scawby, especially where the post office is located, but also outside properties.

### B1206 Scawby Road (Link 15)

<b>Walking Infrastructure</b>	Narrow footway on the southbound side of the carriageway. Footway on both sides of the carriageway through the settlement south of Messingham Lane side road. Upon exiting the settlement, footway is only present on the SB side of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A15 (Link 16)

<b>Description</b>	The assessed section of the A15 is to the south of Broughton Interchange (2.7 km). The route is a single carriageway with one lane in each direction.
<b>Width</b>	7.2 m - 7.9 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	No
<b>Bus Route</b>	No
<b>Character</b>	The road is predominantly fronted by agricultural fields and farms. Farm vehicles warning sign is present.
<b>On-carriageway parking</b>	<p>Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking.</p> <p>There is a parking lane/bay on the northbound carriageway, measuring approximately 210 m between Messingham Lane and Sturton Lane side roads.</p>
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A1084 (Link 17)

<b>Description</b>	The assessed A18 route is from Bigby. This is a single carriageway with one lane in each direction.
<b>Width</b>	5.8 m – 7 m
<b>Speed Limit</b>	60 mph speed limit through rural sections between settlements, 30 mph through Brigg.

A1084 (Link 17)	
Street Lighting	Yes
Bus Route	92
Character	The character of the road is rural in nature. The is fronted by agricultural fields and farms.
On-carriageway parking	No
Walking Infrastructure	No designated walking infrastructure.
Cycling Infrastructure	No designated cycle infrastructure.

Main Street (Link 18)	
Description	The assessed route is between the A1084 Bigby Hill/Main Street junction and the A18/Main Street junction. The route is a single carriageway with one lane in each direction. Signage warning drivers of 'oncoming vehicles in middle of road' is present.
Width	4.5 m – 5.4 m
Speed Limit	30 mph speed limit through Bigby and 60 mph through the rural sections of the assessed routes.
Street Lighting	Yes – through settlement.
Bus Route	4
Character	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
On-carriageway parking	Some parking present on both sides of the carriageway through Bigby, however, the number of occurrences is low.
Walking Infrastructure	<p>No designated walking infrastructure along the rural sections of the assessed route.</p> <p>Narrow footways located on both sides of the carriageway through Bigby, however these change to only being on the northbound side of the carriageway north of the junction with Bigby Green. There is a footway for</p>

### Main Street (Link 18)

	approximately 85 m south of the junction with the A18 on the southbound side of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A18 (Melton Ross/Kirmington) (Link 19)

<b>Description</b>	The route assessed it from Barnetby Interchange to the B1211/A18 junction. This is a single carriageway, with one lane in each direction.
<b>Width</b>	6.8 m - 7.5 m
<b>Speed Limit</b>	40 mph speed limit between Barnetby Interchange and A18/Kings Road and increasing to 60 mph to the east. 30 mph through Melton Ross.
<b>Street Lighting</b>	Yes – at junction.
<b>Bus Route</b>	X4
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Horse-Riding warning signs present through Melton Ross.
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking. No observed on carriageway parking.
<b>Walking Infrastructure</b>	<p>Narrow footway predominantly on the eastbound side of the carriageway between A18/Kings Road roundabout and to the west of entering Melton Ross settlement.</p> <p>Footway on the westbound side of the carriageway when entering Melton Ross. This is present for the majority of the assessed route.</p> <p>Shared pedestrian footway and cycleway eastbound to the east of Westhome Lane junction, 90 m in length, and becomes only a footway for the remainder of the assessed route.</p>
<b>Cycling Infrastructure</b>	Shared pedestrian footway and cycleway eastbound to the east of Westhome Lane junction, 90 m in length.

### Limber Road / Habrough Lane (Link 20)

<b>Description</b>	The assessed route connects to the A18 and extends to the northeast for approximately 1.3 km. This is a single carriageway, with one lane in each direction.
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Limber Road / Habrough Lane (Link 20)	
Width	3.5 m – 4.2 m
Speed Limit	30 mph
Street Lighting	No
Bus Route	N/A
Character	The character of the road is rural in nature fronted by agricultural fields and farms.
On-carriageway parking	Due to the character of the road does not seem to occur.
Walking Infrastructure	No designated walking infrastructure.
Cycling Infrastructure	No designated cycling infrastructure.

B1210 (Link 21)	
Description	The route assessed is from A18/B1210 junction to the junction with B1211 Brocklesby Road. This is a single carriageway, with one lane in each direction.
Width	5.2 m – 5.5 m
Speed Limit	60 mph
Street Lighting	No
Bus Route	N/A
Character	The character of the road is rural in nature fronted by agricultural fields and farms.
On-carriageway parking	Due to the character of the road does not seem to occur
Walking Infrastructure	No designated walking infrastructure.
Cycling Infrastructure	No designated cycling infrastructure.

### B1211 Brocklesby Road (Link 22)

<b>Description</b>	The assessed route connects to B1211/B1210 junction and extends northwards for approximately 3.8 km beyond the A180. This is a single carriageway, with one lane in each direction.
<b>Width</b>	5.5 m – 7.2 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	No
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road is rural in nature fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Due to the character of the road does not seem to occur.
<b>Walking Infrastructure</b>	No designated walking infrastructure for most of the route. There is a footway present on the assessed route to the south of the A180 predominantly on the southbound side, which changes at the A180 crossover and the section north of the A180 where there is a footway on both sides of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### B1211 W End Road (Link 23)

<b>Description</b>	The route assessed it from B1211/A18 junction to A1077 Wootton Road/B1211 West End Road junction. This is a single carriageway, with one lane in each direction.
<b>Width</b>	6 m - 7 m
<b>Speed Limit</b>	60 mph speed limit through rural sections between settlements, 30 mph through Croxton and Ulceby.
<b>Street Lighting</b>	Yes – through Croxton.
<b>Bus Route</b>	No
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Warning to slow down/take precaution as there is a heavy vehicle plant crossroad at the

### B1211 W End Road (Link 23)

	beginning of the assessed route. Cyclist warning on the bend northbound approach to Wootton access road.
<b>On-carriageway parking</b>	<p>Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking. No observed on carriageway parking.</p> <p>There are small sections between Wootton access road/A1211 junction and A1077 Wootton Road/B1211 West End Road junction where cars call pullover/park.</p>
<b>Walking Infrastructure</b>	Footpath on westbound side of the carriageway upon entering Croxton from the west until the junction.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### East Halton Road (Link 24a)

<b>Description</b>	The assessed route is East Halton to Habrough Roundabout. This is a single carriageway, with one lane in each direction.
<b>Width</b>	5.8 m – 7.5 m – widest section being between North Killingholme and South Killingholme.
<b>Speed Limit</b>	30 mph and 40 mph speed limit through East Halton and South Killingholme, 40mph through North Killingholme.
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	260
<b>Character</b>	<p>The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).</p> <p>School/cattle/horse-riding/cyclist warning sign, weak bridge warning sign 21/2 miles ahead – 38T this is northbound of Chase Hill Road.</p>
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking. Parked cars observed on both side of the carriageway through East Halton and South Killingholme outside homes.
<b>Walking Infrastructure</b>	<p>Footway on the eastbound side of the carriageway throughout the assessed route.</p> <p>Shared pedestrian footway and cycle way between East Halton and North Killingholme, which continues through North Killingholme/South Killingholme on the southbound side of the carriageway.</p>



### East Halton Road (Link 24a)

<b>Cycling Infrastructure</b>	Shared pedestrian footway and cycle way between East Halton and North Killingholme, which continues through North Killingholme/South Killingholme on the southbound side of the carriageway.
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### College Road (Link 24b)

<b>Description</b>	The assessed route is College Road from East Halton to junction with Soft Lane. This is a single carriageway, with one lane in each direction.
<b>Width</b>	5.6 m – 6.5 m
<b>Speed Limit</b>	60 mph speed limit through rural sections between settlements, reducing to 30 mph and 40 mph through East Halton.
<b>Street Lighting</b>	Yes – through settlements.
<b>Bus Route</b>	260
<b>Character</b>	<p>The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).</p> <p>On College Road upon entering East Halton there is a sign saying “19 casualties in 3 years” (image capture was from 2009).</p>
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking. Parked cars observed on both side of the carriageway through East Halton outside homes.
<b>Walking Infrastructure</b>	Footway on the eastbound side of the carriageway throughout the assessed route, and through East Halton.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### Soft Lane / Chapel Field Lane (Link 24b)

<b>Description</b>	The assessed route is Soft Lane/Chapel Field Lane from College Road to approximately 0.88 km south of the junction with W March Road. This is a single carriageway, with one lane in each direction.
<b>Width</b>	4.1 m – 6.2 m, with the narrowest sections being in the northern sections of the assessed routes.
<b>Speed Limit</b>	60 mph

Soft Lane / Chapel Field Lane (Link 24b)	
<b>Street Lighting</b>	Yes – through settlements.
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road is rural in nature as it is fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Due to the absence of trip generators, the character of the road, posted speed limit and existing traffic flows strongly discourage on-carriageway parking. No parking was observed along this route.
<b>Walking Infrastructure</b>	No designated walking provision.
<b>Cycling Infrastructure</b>	No designated cycling provision.

Humber Road / Rosper Road / Haven Road / Clough Lane (Link 25)	
<b>Description</b>	The assessed route connects to Manby Roundabout and extends northwards to Clough Lane. This is a single carriageway, with one lane in each direction.
<b>Width</b>	6.2 m – 7.7 m. The carriageway is notably wider towards Killingholme docks.
<b>Speed Limit</b>	Humber Road / Rosper Road is predominantly 60 mph, reducing to 40 mph on the approach to Haven Road / Chase Hill Road junction. 40 mph along Chase Hill Road and 60 mph along Haven Road.
<b>Street Lighting</b>	No
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road is both rural and urban in nature, as it is fronted by a mixture of fields and industrial units.
<b>On-carriageway parking</b>	On-carriageway parking does not seem to occur.
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### Dark Lane / Hooks Lane (Link 26)

<b>Description</b>	The assessed route commences at the A1033 Main Road/Hooks Lane junction and extends southwest for approximately 3.2 km. This is a single carriageway, with one lane in each direction.
<b>Width</b>	4.3 m – 5.5 m
<b>Speed Limit</b>	30 mph speed limit on the section which goes through the edge of the Thorngumbald settlement and 60 mph for the remainder of the rural section of the route.
<b>Street Lighting</b>	Yes – through settlement.
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Warning to slow down/take precaution as there is a heavy vehicle plant crossroad at the beginning of the assessed route. Cyclist warning on the bend northbound approach to Wootton access road.
<b>On-carriageway parking</b>	Some parking present in the section, which is on the edge of the Thorngumbald settlement, although number are low.
<b>Walking Infrastructure</b>	Footway on the southbound/westbound side of the carriageway through the edge of Thorngumbald settlement.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### Paull Road (Link 27a)

<b>Description</b>	The assessed route is located to the southeast of Salt End roundabout, connecting to the Paull Road / Back Road junction. This is a single carriageway, with one lane in each direction.
<b>Width</b>	7.3 m - 7.4 m
<b>Speed Limit</b>	60 mph speed limit for most of the route, with a 40 mph speed limit towards the Salt End roundabout for approximately 170 m.
<b>Street Lighting</b>	Present through the sections fronted by an industrial setting.
<b>Bus Route</b>	N/A

### Paull Road (Link 27a)

<b>Character</b>	The character of the road is both rural and urban in nature, as it is fronted by a mixture of fields and industrial units.
<b>On-carriageway parking</b>	Parking does not seem to occur.
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### Back Road (Link 27b)

<b>Description</b>	The assessed route is located to the south of Paull Road, leading to Paull settlement.
<b>Width</b>	4.8 m – 5.4 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	No
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road is rural in nature fronted by agricultural fields and farms. Along Haven Road and Clough Lane, the route is fronted by fields and an industrial setting.
<b>On-carriageway parking</b>	Parking does not seem to occur.
<b>Walking Infrastructure</b>	No designated walking infrastructure.
<b>Cycling Infrastructure</b>	No designated cycling infrastructure.

### A1033 Main Road (Link 28a)

<b>Description</b>	The assessed section of the A1033 (non-SRN section) routes from Salt End Roundabout to the A1033 Hull Road / Marsh Lane junction. The A1033 is a single carriageway road with one lane in each direction. The road connects to the SRN section of the A1033 and Hull City in the west
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### A1033 Main Road (Link 28a)

	and the B1445 and Patrington in the east. The road is identified as Other Principal Route in the East Yorkshire HGV Freight Route Map.
<b>Width</b>	6.4 m – 7.6 m, with sections of carriageway adjacent to junctions widened to up to 15 m to accommodate right-turn pockets and/or acceleration lanes.
<b>Speed Limit</b>	60 mph speed limit through rural sections and between settlements, 40 mph and 30 mph through Thorngumbald, 30 mph through Cameron, and 40 mph through Ryehill.
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	75, 75h and X7
<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements. Warning horse-riders signs are present.
<b>On-carriageway parking</b>	Section of the road through Thorngumbald has waiting and loading restrictions in the form of double yellow lines.  Laybys are present along rural sections of the road.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. Footways of various widths on one or both sides of the carriageway through settlements (Thorngumbald, Camerton, and Ryehill).  Controlled crossing facilities include Zebra crossings in Thorngumbald.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### A1033 Hull Road / Patrington Road (Link 28b)

<b>Description</b>	The assessed section of the A1033 routes from A1033 Hull Road / Marsh Lane junction to/through Patrington (A1022 Hollym Road. The A1033 is a single carriageway road with one lane in each direction. The road connects to the SRN section of the A1033 and Hull City in the west and the B1445 and Patrington in the east. The road is identified as Other Principal Route in the East Yorkshire HGV Freight Route Map.
<b>Width</b>	6.4 m – 6.9 m, with sections of carriageway adjacent to junction widened to up to 15 m to accommodate right-turn pockets and/or acceleration lanes.
<b>Speed Limit</b>	60 mph speed limit through rural sections and between settlements, 30 mph and 40 mph through Keyingham, Ottringham and Patrington
<b>Street Lighting</b>	Present through settlement.
<b>Bus Route</b>	75, 75h, 934, and X7

### A1033 Hull Road / Patrington Road (Link 28b)

<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements. Warning horse-riders signs are present.
<b>On-carriageway parking</b>	Section of the road through Thorngumbald has waiting and loading restrictions in the form of double yellow lines.  Laybys are present along rural sections of the road.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. Footways of various widths on one or both sides of the carriageway through settlements (Keyingham, Ottrigham, and Patrington).  Controlled crossing facilities include Zebra crossings in Keyingham, Ottrigham.  There is also a “school children crossing” warning signs along a section of the road through Keyingham but not controlled crossings present.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### Station Road/Dalton Lane (Link 29a)

<b>Description</b>	The assessed route connects to the A1033 New Road and extend northwards for approximately 1.4 km. This is a single carriageway, with one lane in each direction.
<b>Width</b>	4.1 m – 5.8 m
<b>Speed Limit</b>	30 mph
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
<b>On-carriageway parking</b>	Parking is present on the southbound side of the carriageway on the approach to the junction with the A1933 New Road.
<b>Walking Infrastructure</b>	Footway present predominantly on the northbound side of the carriageway in the section of the route and alternates to the southbound side of the carriageway towards the north of the route.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### Station Road/Dalton Lane (Link 29b)

<b>Description</b>	The assessed route connects to the A1033 New Road and extend northwards for approximately 1.4 km. This is a single carriageway, with one lane in each direction.
<b>Width</b>	4.1 m – 5.8 m
<b>Speed Limit</b>	60 mph speed limits from Station Road/North End Road bend to the junction with Southside Road, reducing to 30 mph through Halsham settlement, increasing to 40 mph upon exiting/to the north of Halsham and increasing to 60 mph.
<b>Street Lighting</b>	No
<b>Bus Route</b>	N/A
<b>Character</b>	The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).
<b>On-carriageway parking</b>	Parking bays present through Halsham settlement.
<b>Walking Infrastructure</b>	Footway present predominantly on the northbound side of the carriageway in the section of the route and alternates to the southbound side of the carriageway towards the north of the route.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

### B1445 (Link 30)

<b>Description</b>	The assessed section of the B1445 routes from Patrington to Easington and connects to the A1033 Patrington. The road is a single carriageway with one lane in each direction. The road is identified as “Other Preferred HGV Route” in the East Yorkshire HGV Freight Route Map.
<b>Width</b>	6 m along most of the length. Approximately 8 m through Patrington, however the effective width is affected by cars parked on one or both sides of the carriageway.
<b>Speed Limit</b>	60 mph speed limit through rural sections between settlements, 30 mph through Patrington, Welwick, Weeton, Skeffling and Easington.
<b>Street Lighting</b>	Mostly no, some intermittent lighting is present through Patrington.
<b>Bus Route</b>	71, 71a and 71b



**B1445 (Link 30)**

<b>Character</b>	The character of the road changing between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and a village road (when it passes through settlements).
<b>On-street parking</b>	Cars parked on one or both sides of the carriageway through Patrington.
<b>Walking Infrastructure</b>	No designated pedestrian infrastructure along rural sections of the road. Footways of various widths on one or both sides of the carriageway through settlements and villages (Patrington, Welwick, Skeffling and Easington).'
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

**B1240 (Link 31)**

<b>Description</b>	The assessed route connects to the A1033 and extends north for approximately 0.3 km. This is a single carriageway, with one lane in each direction.
<b>Width</b>	5.7 m - 6.7 m
<b>Speed Limit</b>	60 mph
<b>Street Lighting</b>	Yes
<b>Bus Route</b>	75, and X7
<b>Character</b>	The character of the road is rural in nature fronted by agricultural fields and farms.
<b>On-carriageway parking</b>	Parking does not seem to occur along the assessed route.
<b>Walking Infrastructure</b>	Footway present along the southbound side of the carriageway.
<b>Cycling Infrastructure</b>	No designated cycle infrastructure.

**Sensitive receptors**

- 15.5.9 Sensitive receptors within a 200 m radius have been identified for the Preliminary Construction Routes. These have been summarised in Table 15.10.

**Table 15.10 Sensitive receptors on local road links forming Preliminary Construction Routes**

Link Location	Sensitive Receptor	Sensitivity of Receptor
Link 1	• Playground (Drax Golf Club)	High
	• Drax Golf Club (YO8 8PJ)	Low
Link 2	N/A	N/A
Link 3a	N/A	N/A
Link 3b	• Creykes Lodge Care Home (DN14 8SE)	High
	• St James' Church: Rawcliffe (DN14 8QF)	Low
Link 3C	• Creykes Lodge Care Home (DN14 8SE) • Rawcliffe Primary School (DN14 8RG) • Rawcliffe Bridge Playpark (DN14 8NH) • Rawcliffe Bridge Primary School (DN14 8NH)	High
	• Rawcliffe Village Hall (DN14 8QR)	Medium
	• St James' Church: Rawcliffe (DN14 8QF)	Low
Link 4	N/A	N/A
Link 5a	• Marshlands Children Centre (DN14 5UE)	High
	• Oakhill Nature Reserve (DN14 6XL)	Low
Link 5b	• Goole Hall Residential Care Home (DN14 8AX) • Swinefleet Primary School (DN14 8BX)	High
	• Swinefleet Village Hall (DN14 8EE)	Medium
	• Saint Margaret's Church Swinefleet in the Marshlands Benefice (DN14 8FD)	Low
Link 6a	N/A	N/A
Link 6b	• The Lincolnshire Golf Course (DN17 4BU)	Low
Link 6c	• Ealand Playground (DN17 4JN) • I Learn Education Crowle (DN17 4JW) • Secret Garden Private Childcare (DN17 4JW)	High
Link 6d	• St Norbert's Catholic Primary School (DN17 4HL) • Crowle Primary School (DN17 4ET) • The Axholme Academy (DN17 4HU)	High
	• Crowle Community Hall (DN17 4LL)	Medium
	• Amcotts Parish Council (DN17 4LR)	Low
Link 7	• Roads used by pedestrians with narrow footways	Medium
Link 8	• Ealand Playground (DN17 4JN) • I Learn Education Crowle (DN17 4JW) • Secret Garden Private Childcare (DN17 4JW)	High
Link 9	N/A	N/A

Link Location	Sensitive Receptor	Sensitivity of Receptor
Link 10	<ul style="list-style-type: none"> <li>Belton All Saints Church of England Primary School (DN9 1LR)</li> <li>Belwood Pre-School (DN9 1LR)</li> <li>West Butterwick C Of E Primary School (DN17 3LB)</li> <li>West Butterwick Branch Surgery (DN17 3LB)</li> </ul>	High
	<ul style="list-style-type: none"> <li>West Butterwick Village Hall (DN17 3LD)</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>West Butterwick Methodist Church (DN17 3JR)</li> </ul>	Low
Link 11a	<ul style="list-style-type: none"> <li>Lodge Moors Playground (Scunthorpe, DN15 7EL)</li> </ul>	High
Link 11b	<ul style="list-style-type: none"> <li>Lodge Moors Playground (Scunthorpe, DN15 7EL)</li> <li>Oasis Academy Parkwood (Plymouth Rd, DN17 1SS)</li> <li>West Common Lane Medical Centre</li> </ul>	High
	<ul style="list-style-type: none"> <li>Silica County Park</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>Kingsway Local Nature Reserve (DN15 7HU)</li> </ul>	Low
Link 11c	<ul style="list-style-type: none"> <li>Messingham Zoo (DN17 3PN)</li> <li>The Lincolnshire Golf Academy</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>St Andrews Methodist Church (DN17 3AJ)</li> </ul>	Low
Link 12a	<ul style="list-style-type: none"> <li>Holme Hall Golf Club</li> </ul>	Low
Link 12b	N/A	N/A
Link 13	<ul style="list-style-type: none"> <li>Forest Pines Golf Club</li> </ul>	N/A
Link 14	N/A	N/A
Link 15	N/A	N/A
Link 16	N/A	N/A
Link 17	N/A	N/A
Link 18	N/A	N/A
Link 19	<ul style="list-style-type: none"> <li>Holy Ascension Church (DN38)</li> </ul>	Low
Link 20	N/A	N/A
Link 21	N/A	N/A
Link 22	N/A	N/A
Link 23	<ul style="list-style-type: none"> <li>St John the Evangelist, Croxton (DN39 6YD)</li> </ul>	Low
Link 24a	<ul style="list-style-type: none"> <li>East Halton Village Hall (DN40 3NL)</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>St Peter (DN40 3NX)</li> </ul>	Low
Link 24b	<ul style="list-style-type: none"> <li>East Halton Primary School (DN40 3PJ)</li> </ul>	High
	<ul style="list-style-type: none"> <li>Thornton Abbey and Gatehouse (DN39 6TU)</li> </ul>	Low
Link 24c	N/A	N/A
Link 25	N/A	N/A
Link 26	N/A	N/A
Link 27a	N/A	N/A
Link 27b	N/A	N/A

Link Location	Sensitive Receptor	Sensitivity of Receptor
Link 28a	<ul style="list-style-type: none"> <li>Thorn Hall Residential Care Home (HU12 9LY)</li> <li>Playground</li> </ul>	High
	<ul style="list-style-type: none"> <li>Thorngumbald Village Hall (HU12 9NE)</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>Saint Mary the Virgin Thorngumbald</li> <li>Peak Health &amp; Fitness (HU12 9NN)</li> </ul>	Low
Link 28b	<ul style="list-style-type: none"> <li>Keyingham Primary School (HU12 9RU)</li> <li>Holderness Home Care Ltd (HU12 0NB)</li> <li>St Patricks Surgery (HU12 0PH)</li> </ul>	High
	<ul style="list-style-type: none"> <li>Keyingham Village Hall (HU12 9TN)</li> </ul>	Medium
	<ul style="list-style-type: none"> <li>St Nicholas' Church, Keyingham (HU12 9SX)</li> <li>St Germain's Church, Winestead (HU12 0NH)</li> <li>Pattingham Parish Council (HU12 0NA)</li> </ul>	Low
Link 29a	N/A	N/A
Link 29b	<ul style="list-style-type: none"> <li>All Saints, Halsham (HU12 0DD)</li> </ul>	Low
Link 30	<ul style="list-style-type: none"> <li>Holderness Home Care Ltd (HU12 0NB)</li> <li>St Patricks Surgery (HU12 0PH)</li> <li>Pattingham Playing Field (HU12 0RP)</li> <li>Playground</li> </ul>	High
	<ul style="list-style-type: none"> <li>Pattingham Parish Council (HU12 0NA)</li> <li>St Patrick's Church, Pattingham (HU12 0RE)</li> <li>St Mary's Church, Welwick (HU12 0RX)</li> </ul>	Low
Link 31	N/A	N/A

## Public Rights of Way (PRoW)

- 15.5.10 There are a number of PRoWs crossing or linking the roads along the Preliminary Construction Routes. PRoWs in the vicinity of the Preliminary Construction Routes are shown on Figure 15.1 (Volume IV). PRoWs in the vicinity of the Preliminary Construction Routes are shown on Figure 15.2 (Volume IV)

## Collision Data

- 15.5.11 The latest available three-year personal injury collision data (2019-2021) was obtained from Crashmap.co.uk for the roads forming the Preliminary Construction Traffic Routes.
- 15.5.12 Table 15.11 provides a summary of all collisions by severity for road links and junctions on the Preliminary Construction Routes.
- 15.5.13 Table 15.12 provides a summary of collisions involving pedestrian and cyclist casualties. Plans showing identified collisions are contained within Appendix 15.2 (Volume III).

**Table 15.11 Summary of total collisions by severity on road links and junctions forming Preliminary Construction Routes**

Location	Severity			
	Slight	Serious	Fatal	Total
Link 1 – A465	2	0	0	2
Link 2 – Main Road / Church Dike Lane / Brie Lane	0	0	0	0
Link 3a – A614 Rawcliffe Road	2	1	0	3
Link 3b – A614 Rawcliffe Road	1	0	0	1
Link 3c – Station Road	1	0	0	1
Link 4 – Dobella Lane	0	0	0	0
Link 5a – A161 (Goole)	5	1	0	6
Link 5b – A161 (Swinefleet)	2	2	0	4
Link 6a – A161 (south of M180)	4	0	0	4
Link 6b – A161 (M180 to A18)	7	1	0	8
Link 6c – A161 (Wharf Road)	0	1	0	1
Link 6d – A161 (Crowle)	6	1	0	7
Link 7 – Outgate	0	0	0	0
Link 8 – New Trent Street / Bonnyhale Road	1	0	0	1
Link 9 – A18	2	0	1	3
Link 10 – Belton Road	0	0	0	0
Link 11a – A18	9	1	0	10
Link 11b – N Moor Lane / Scotter Road S	15	4	0	19
Link 11c – Butterwick Road	2	0	0	2
Link 12a – Holme Lane / B1398	4	1	0	5
Link 12b – A159	0	1	0	1
Link 13 – A18 Mortal Ash Hill	6	2	2	10
Link 14 – A15 / A18	4	2	1	7

Location	Severity			
	Slight	Serious	Fatal	Total
Link 15 – B1206 Scawby Road	1	0	0	1
Link 16 – A15	3	1	0	4
Link 17 – A1084	1	0	0	1
Link 18 – Main Street	0	0	0	0
Link 19 – A18 (Melton Ross / Kirmington)	5	3	0	8
Link 20 – Limber Road / Habrough Lane	0	0	0	0
Link 21 – B1210	1	0	0	1
Link 22 – B1211 Brocklesby Road	4	0	0	4
Link 23 – B1211 W End Road	2	0	0	2
Link 24a – E Halton Road	2	1	1	4
Link 24b – College Road	2	0	0	2
Link 24c – Soff Lane / Chapel Field Road	0	1	0	1
Link 25 – Rosper Road / Haven Road	3	1	0	4
Link 26 – Dark Lane / Hooks Lane	0	1	0	1
Link 27a – Paull Road	0	0	0	0
Link 27b – Back Road	0	0	0	0
Link 28a – A1033 Main Road	10	2	0	12
Link 28b – A1033 Hull Road / Patrington Road / Station Road	6	4	1	11
Link 29a – Station Road	0	0	0	0
Link 29b – N End Road / Causeway Ings Lane	2	1	0	3
Link 30 – B1445	0	0	0	0
Link 31 – B1240	1	0	0	1

**Table 15.12 Summary of collisions involving pedestrian and cyclist casualties by severity on routes forming the Preliminary Construction Routes**

Location	Cyclists				Pedestrian			
	Slight	Serious	Fatal	Total	Slight	Serious	Fatal	Total
Link 1 – A465	0	0	0	0	0	0	0	0
Link 2 – Main Road / Church Dike Lane / Brie Lane	0	0	0	0	0	0	0	0
Link 3a – A614 Rawcliffe Road	1	1	0	2	0	0	0	0
Link 3b – A614 Rawcliffe Road	0	0	0	0	0	0	0	0
Link 3c – Station Road	0	0	0	0	0	0	0	0
Link 4 – Dobella Lane	0	0	0	0	0	0	0	0
Link 5a – A161 (Goole)	1	1	0	2	0	0	0	0
Link 5b – A161 (Swinefleet)	0	0	0	0	0	0	0	0
Link 6a – A161 (south of M180)	1	0	0	1	0	0	0	0
Link 6b – A161 (M180 to A18)	0	0	0	0	0	0	0	0
Link 6c – A161 (Wharf Road)	0	0	0	0	0	0	0	0
Link 6d – A161 (Crowle)	2	0	0	2	1	0	0	1
Link 7 – Outgate	0	0	0	0	0	0	0	0
Link 8 – New Trent Street / Bonnyhale Road	0	0	0	0	1	0	0	1
Link 9 – A18	0	0	0	0	0	0	0	0
Link 10 – Belton Road	0	0	0	0	0	0	0	0
Link 11a – A18	3	0	0	3	0	1	0	1
Link 11b – Butterwick Road / N Moor Lane / Scotter Road S	0	0	0	0	0	2	0	2
Link 11c – Butterwick Road / N Moor Lane / Scotter Road S	0	0	0	0	0	0	0	0
Link 12a – Holme Lane / B1398	0	0	0	0	0	0	0	0
Link 12b – A159	0	0	0	0	0	0	0	0



Location	Cyclists				Pedestrian			
	Slight	Serious	Fatal	Total	Slight	Serious	Fatal	Total
Link 13 – A18 Mortal Ash Hill	0	0	0	0	0	0	0	0
Link 14 – A15 / A18	0	0	0	0	0	0	0	0
Link 15 – B1206 Scawby Road	0	0	0	0	0	0	0	0
Link 16 – A15	0	0	0	0	0	0	0	0
Link 17 – A1084	0	0	0	0	0	0	0	0
Link 18 – Main Street	0	0	0	0	0	0	0	0
Link 19 – A18 (Melton Ross / Kirmington)	0	0	0	0	0	0	0	0
Link 20 – Limber Road / Habrough Lane	0	0	0	0	0	0	0	0
Link 21 – B1210	0	0	0	0	0	0	0	0
Link 22 – B1211 Brocklesby Road	0	0	0	0	0	0	0	0
Link 23 – B1211 W End Road	0	0	0	0	0	0	0	0
Link 24a – E Halton Road	0	0	0	0	0	0	1	1
Link 24b – College Road	1	0	0	1	0	0	0	0
Link 24c – Soff Lane / Chapel Field Road	0	0	0	0	0	0	0	0
Link 25 – Rosper Road / Haven Road	0	0	0	0	0	0	0	0
Link 26 – Dark Lane / Hooks Lane	0	1	0	1	0	0	0	0
Link 27a – Paull Road	0	0	0	0	0	0	0	0
Link 27b – Back Road	0	0	0	0	0	0	0	0
Link 28a – A1033 Main Road	0	1	0	1	0	0	0	0
Link 28b – A1033 Hull Road / Patrington Road / Station Road	0	0	1	1	0	1	0	1
Link 29a – Station Road	0	0	0	0	0	0	0	0
Link 29b – N End Road / Causeway Ings Lane	0	0	0	0	0	0	0	0
Link 30 – B1445	0	0	0	0	0	0	0	0

Location	Cyclists				Pedestrian			
	Slight	Serious	Fatal	Total	Slight	Serious	Fatal	Total
Link 31 – B1240	0	0	0	0	0	0	0	0

15.5.14 The analysis of the collision data identified that no collision clusters have occurred on roads and at junctions along the Preliminary Construction Routes.

### Road Sensitivity

15.5.15 Road sensitivity as defined in the IEMA guidance has been assigned to all assessed road links. The assigned road sensitivity for each road link is shown in Table 15.13 and is based on identified receptors (summarised in Table 15.10 and shown on Figure 15.1 (Volume IV)), their proximity to the highway link, nature of roads forming the link and existing infrastructure provision (outlined in Table 15.9), and recorded road collisions (summarised in Table 15.11 and Table 15.12).

**Table 15.13 Road Sensitivity**

Road Link	Sensitivity
Link 1 – A465	Sensitive
Link 2 – Main Road / Church Dike Lane / Brie Lane	Not Sensitive
Link 3a – A614 Rawcliffe Road	Not Sensitive
Link 3b – A614 Rawcliffe Road	Sensitive
Link 3c – Station Road	Sensitive
Link 4 – Dobella Lane	Not Sensitive
Link 5a – A161 (Goole)	Sensitive
Link 5b – A161 (Swinefleet)	Sensitive
Link 6a – A161 (south of M180)	Sensitive
Link 6b – A161 (M180 to A18)	Not Sensitive
Link 6c – A161 (Wharf Road)	Sensitive
Link 6d – A161 (Crowle)	Sensitive
Link 7 – Outgate	Sensitive

Road Link	Sensitivity
Link 8 – New Trent Street / Bonnyhale Road	Sensitive
Link 9 – A18	Not Sensitive
Link 10 – Belton Road	Sensitive
Link 11a – A18	Sensitive
Link 11b – Butterwick Road / N Moor Lane / Scotter Road S	Sensitive
Link 11c – Butterwick Road / N Moor Lane / Scotter Road S	Sensitive
Link 12a – Holme Lane / B1398	Not Sensitive
Link 12b – A159	Not Sensitive
Link 13 – A18 Mortal Ash Hill	Not Sensitive
Link 14 – A15 / A18	Not Sensitive
Link 15 – B1206 Scawby Road	Not Sensitive
Link 16 – A15	Not Sensitive
Link 17 – A1084	Not Sensitive
Link 18 – Main Street	Not Sensitive
Link 19 – A18 (Melton Ross / Kirmington)	Not Sensitive
Link 20 – Limber Road / Habrough Lane	Not Sensitive
Link 21 – B1210	Not Sensitive
Link 22 – B1211 Brocklesby Road	Not Sensitive
Link 23 – B1211 W End Road	Not Sensitive
Link 24a – E Halton Road	Sensitive
Link 24b – College Road	Sensitive
Link 24c – Soff Lane / Chapel Field Road	Not Sensitive
Link 25 – Rosper Road / Haven Road	Not Sensitive

Road Link	Sensitivity
Link 26 – Dark Lane / Hooks Lane	Not Sensitive
Link 27a – Paull Road	Not Sensitive
Link 27b – Back Road	Not Sensitive
Link 28a – A1033 Main Road	Sensitive
Link 28b – A1033 Hull Road / Patrington Road / Station Road	Sensitive
Link 29a – Station Road	Not Sensitive
Link 29b – N End Road / Causeway Ings Lane	Not Sensitive
Link 30 – B1445	Sensitive
Link 31 – B1240	Not Sensitive

## Future baseline

### Traffic Flows

- 15.5.16 Where available, traffic flows for the year 2019 have been obtained from the DfT's static traffic counters for road links forming the Preliminary Construction Routes. The DfT static traffic counter sites are identified on Figure 15.1 and Figure 15.2 (Volume IV).
- 15.5.17 An appropriate growth factor derived from TEMPro (Ref 15.29) was applied to the 2019 traffic flows to account for growth in background traffic between the year the surveys were undertaken and future baseline year 2026.
- 15.5.18 The resulted 2026 AADT flows were converted into average weekday traffic flows and 12-hour flows (07:00-19:00 hrs) by applying an appropriate factor. This factor was derived from a standard daily traffic profile from the DfT's online road traffic statistics Table TRA0307 (Ref 15.30).
- 15.5.19 For links that do not have available or recent DfT traffic flows, indicative locations for ATC surveys have been identified.
- 15.5.20 Baseline traffic flows on road links forming the Preliminary Construction Routes and links that required surveys to be undertaken are shown in Table 15.14.

**Table 15.14 Future 2026 Baseline traffic flows on local road links forming Preliminary Construction Routes**

DfT and ATC Counter Ref.	Road Link ID	Total Traffic movements (weekday)		HGV movements (weekday)	
		12h (07:00-19:00)	24h (AADT)	12h (07:00-19:00)	24h (AADT)
73458	Link 1	7708	9427	586	716
ATC_001	Link 2				
60060	Link 3a	12682	15510	965	1180
47377	Link 3b	7043	8614	246	300
ATC_002	Link 3c				
ATC_003	Link 4				
77621	Link 5a	8314	10168	398	487
89090	Link 5b	1373	1680	96	118
38499	Link 6a	5335	6524	388	474
38499	Link 6b	5335	6524	388	474
ATC_004	Link 6c				
ATC_005	Link 7				
ATC_006	Link 8				
36233	Link 9	7607	9303	279	342
807696	Link 10	931	1139	39	48
7997	Link 11a	24007	29360	640	783
ATC_023	Link 11b				
ATC_007	Link 11c				
ATC_008	Link 12a				
77698	Link 12b	7224	8834	98	120
38790	Link 13	26028	31832	1927	2357
16219	Link 14	10787	13192	539	659
800112	Link 15	5551	6789	116	142
18654	Link 16	10693	13078	2039	2494
18143	Link 17	4045	4947	230	281
ATC_009	Link 18				
16220	Link 19	8907	10893	479	586
ATC_010	Link 20				

DfT and ATC Counter Ref.	Road Link ID	Total Traffic movements (weekday)		HGV movements (weekday)	
		12h (07:00-19:00)	24h (AADT)	12h (07:00-19:00)	24h (AADT)
16220	Link 21	8907	10893	479	586
800095	Link 22	1083	1325	27	33
ATC_011	Link 23				
800934	Link 24a	4940	6042	838	1025
ATC_012	Link 24b				
ATC_013	Link 24c				
ATC_014	Link 25				
ATC_015	Link 26				
949183	Link 27a	1662	2033	53	65
ATC_016	Link 27b				
57556	Link 28a	11818	14453	282	345
ATC_017	Link 28b				
ATC_018	Link 29a				
ATC_019	Link 29b				
ATC_021	Link 30				
ATC_022	Link 31				

## 15.6 Design development, impact avoidance and embedded mitigation

- 15.6.1 Environmental considerations have influenced the Project throughout the design development process, from early options assessment through to refinement of the Project design. An iterative process has facilitated design updates and improvements, informed by environmental assessment and input from the Project design teams, stakeholders and non-statutory public consultation.

### Site Access

- 15.6.2 The refinement of the Project's construction methodology and access strategy is ongoing. A number of proposed site access points were initially identified by the design team to ensure suitable access to all sections of the current pipeline route, AGIs and temporary compounds.
- 15.6.3 Following engagement feedback from affected local authorities, a number of alternative access points have recently been identified as part of the Emerging Construction Routes. The feasibility of the Emerging Construction Routes and associated access points is being considered by the design team.
- 15.6.4 The initially proposed access points are shown on Figure 15.1 (Volume IV). The emerging access points are shown on Figure 15.2 (Volume IV).
- 15.6.5 A construction access strategy is in the process of being finalised by the design team. When completed it will include description of construction activities and construction vehicles, key assumptions, and other relevant information.

### Construction Access Routes

- 15.6.6 The Preliminary Construction Routes were developed considering traffic related issues and constraints on the network including:
- Shortest available routes between Proposed Order Limits and the SRN;
  - Weight restrictions;
  - Road classification;
  - Road layout;
  - Traffic calming measures;
  - Sensitive receptors (such as schools, areas of high pedestrian movements);
  - Settlements;
  - Visibility constraints;
  - Restricted access;
  - Speed limits and traffic speeds;
  - Junctions at or near capacity during peak periods;
  - Gradients; and



- Public Rights of Way (PRoWs).

- 15.6.7 The Preliminary Construction Routes were recently discussed with National Highways and all affected highway authorities. In view of feedback received (see Table 15.2), a number of new or alternative proposed construction routes have recently been identified (the Emerging Construction Routes). The feasibility of the Emerging Construction Routes is being considered by the design team.
- 15.6.8 The Preliminary Construction Routes are shown on Figure 15.1 (Volume IV) and summarised in Table 15.7. The SRN junctions used to leave and enter the SRN are identified in Table 15..
- 15.6.9 The Emerging Construction Routes are shown on Figure 15.2 (Volume IV).

## Construction Traffic Movements

The total quantity of vehicle movements generated as a result of construction activities throughout the Project construction period were calculated by the respective design teams for the pipeline section between Drax and the pump station in Easington and the section between the pump station and MLWS.

- 15.6.10 Table 15.15 summarises predicted average weekday construction vehicle movements and identifies a month with peak construction traffic for each construction access.

**Table 15.15 Predicted Weekday Construction Vehicle Movements, per access**

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
1	114	94	137	345	Mar-27
2	77	19	31	127	Mar-27
3	25	11	16	52	Mar-27
4	28	15	12	55	Jun-27
5	34	12	17	63	Apr-27
6	59	16	24	99	Apr-27
7	5	3	3	11	Apr-27
8	5	3	3	11	Apr-27
9	5	3	3	11	Apr-27
10	60	16	25	101	Apr-27
11	97	18	25	140	May-27
12	6	19	22	47	Sep-27

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
13	126	30	53	209	May-27
14	38	18	21	77	May-27
15	36	28	78	141	Mar-26
16	50	15	21	86	Jun-27
17	88	19	27	134	Jun-27
18	54	15	27	97	Jun-27
19	32	14	14	60	Jun-27
20	34	13	20	68	Jul-27
21	64	18	27	109	Jul-27
22	0	0	0	0	N/A
23	79	20	32	131	Jul-27
24	28	11	16	56	Jul-27
25	70	23	35	127	Aug-27
26	66	21	31	118	Aug-27
27	57	16	24	97	Mar-26
28	50	14	19	83	Mar-26
29	0	0	0	0	N/A
30	57	17	28	103	Mar-26
31	0	0	0	0	N/A
32	28	12	16	56	Apr-26
33	120	27	47	194	Apr-26
34	64	16	30	109	Mar-26
35	66	16	30	112	Apr-26
36	33	13	18	64	May-26

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
37	65	21	30	116	May-26
38	42	16	21	78	May-26
39	44	19	24	87	May-26
40	25	13	17	54	May-26
41	38	11	16	66	Jun-26
42	51	17	27	95	Jun-26
43	32	13	16	61	Jun-26
44	103	25	43	171	Jun-26
45	54	85	119	258	Jul-26
46	69	19	28	116	Jun-27
47	117	12	4	133	May-27
48	44	101	145	290	May-26
49	43	39	81	163	Mar-27
50	65	18	29	112	Jul-26
51	119	28	52	199	Jul-26
52	0	0	0	0	N/A
53	0	0	0	0	N/A
54	135	33	63	231	Aug-26
55	98	23	42	162	Aug-26
56	159	34	66	260	Sep-26
57	8	19	21	48	Oct-26
58	34	9	21	64	Oct-26

15.6.11 The total quantity of vehicle movements on the assessed road links forming the Preliminary Construction Routes was calculated. This was done by adding up

construction traffic flows for access points that will be accessed using the same roads and where an overlap in construction activities is anticipated.

15.6.12 Table 15.16 summarises predicted average weekday construction vehicle movements and identifies a month with peak construction traffic for the assessed road links.

**Table 15.16 Predicted Weekday Construction Vehicle Movements, per Road Link**

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
Link 1	216	184	123	523	Mar-27
Link 2	77	31	19	127	Mar-27
Link 3a	249	208	158	614	Apr-27
Link 3b	165	72	50	288	Apr-27
Link 3c	118	49	32	200	Apr-27
Link 4	59	24	16	99	Apr-27
Link 5a	105	36	32	174	May-27
Link 5b	105	36	32	174	May-27
Link 6a	86	41	29	156	Jun-27
Link 6b	205	94	66	365	May-27
Link 6c	201	93	65	358	May-27
Link 6d	165	74	48	286	May-27
Link 7	36	78	28	141	Mar-26
Link 8	36	78	28	141	Mar-26
Link 9	138	48	34	220	Jun-27
Link 10	86	41	29	156	Jun-27
Link 11a	98	47	32	176	Jul-27
Link 11b	98	47	32	176	Jul-27
Link 11c	98	47	32	176	Jul-27
Link 12a	156	68	49	273	Jul-27

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
Link 12b	107	49	32	187	Jul-27
Link 13	156	68	49	273	Jul-27
Link 14	107	47	32	185	Mar-26
Link 15	107	47	32	185	Mar-26
Link 16	66	31	21	118	Aug-27
Link 17	149	63	39	250	Apr-26
Link 18	213	84	52	350	Apr-26
Link 19	249	111	81	441	May-26
Link 20	65	30	21	116	May-26
Link 21	151	74	56	282	May-26
Link 22	151	74	56	282	May-26
Link 23	60	33	24	117	May-26
Link 24a	231	94	67	392	Jun-26
Link 24b	231	94	67	392	Jun-26
Link 24c	147	51	37	235	Jun-26
Link 25	54	119	85	258	Jul-26
Link 26	117	4	12	133	May-27
Link 27a	54	155	115	324	May-26
Link 27b	44	145	101	290	May-26
Link 28a	298	118	68	485	Aug-26
Link 28b	273	111	73	458	Sep-26
Link 29a	135	63	33	231	Aug-26
Link 29b	0	0	0	0	N/A

Access	HGV Movements	LGV Movements	Car Movements	Total Traffic Movements	Construction Programme Peak Month
Link 30	42	42	27	111	Oct-26
Link 31	184	80	46	310	Jul-26

Note: Heavy Goods Vehicle (HGV) refer to vehicles that have a gross vehicle weight over 3.5 tonnes.

15.6.13 In addition, the total quantity of vehicle movements was calculated for the SRN junctions to be used to access and leave the SRN. Table 15.16 summarises predicted average weekday construction vehicle movements for the affected junctions and identifies a month with peak construction traffic.

**Table 15.17 Predicted Weekday Construction Vehicle Movements, per SRN Junction**

<b>SRN Junction</b>	<b>HGV Movements</b>	<b>LGV Movements</b>	<b>Car Movements</b>	<b>Total Traffic Movements</b>	<b>Construction Programme Peak Month</b>
M62J36	329	250	191	770	Apr-27
M180J2	168	76	52	296	Aug-27
M181 Frodingham Grange Roundabout	98	47	32	176	Jul-27
M180J4 Broughton Interchange	168	76	52	296	Aug-27
M180J5 Barnetby Interchange	317	145	107	569	May-26
A180/A160 Brocklesby Interchange	248	120	92	461	Jun-26
A160 Habrough Roundabout	248	120	92	461	Jun-26
A160 Manby Roundabout	54	119	85	258	Jul-26
A1033 Salt End Roundabout	290	136	98	524	Jul-26



## Embedded Mitigation Measures

- 15.6.14 Impacts would be reduced by measures embedded into the design of the development, as well as by additional mitigation, and together these measures would act to avoid, reduce and mitigate effects. Embedded measures are described as measures that form part of the design. These are developed through the iterative design process and good practice standard approaches and actions commonly used on development projects to avoid or reduce environmental impacts, typically applicable across the whole Project.

### Construction

- 15.6.15 The design development of the Project is on-going and embedded mitigation measures has still to be fully developed and assessed. However, initial control and mitigation measures have been considered which look to minimise the negative impacts of the Project on the identified sensitive receptors; assets and facilities, such as highway network and walking and cycling infrastructure; and other road users using these assets and facilities.
- 15.6.16 The control and mitigation measures listed in this section would be applied during the construction phase of the Project. National Grid is committed to implementing the identified measures to reduce or avoid any potential effects that may occur during construction. The effectiveness of such measures will be assessed within the ES and appropriate mitigation will be secured by the DCO or other suitable mechanism.
- 15.6.17 The Main Works Contractor, through adopted control measures, would aim to minimise disruption to existing motorised and vulnerable road users, local residents, businesses and other users of the surrounding local road network. Traffic management would be planned and assessed for all construction vehicle movements.
- 15.6.18 As the scheme design progresses, consideration will be given to moving materials, spoil and AILs by waterways. If applicable, this will be assessed in the EIA. Reference will be made to National Highways water preferred policy (Ref 15.26).
- 15.6.19 Identified provisional control measures (subject to change following Statutory Consultation) proposed to be applied during the construction phase of the Project include:
- All contractor and sub-contractor vehicles arriving at site would comply with appropriate safety and environmental standards;
  - All construction HGVs would adhere to the designated construction routes to and from the site;
  - Emergency access protocols would be put in place and would be identified within the site Health and Safety Plan;
  - The Contractor(s) would ensure that debris deposits onto the public road as a result of construction traffic are minimised as much as possible and are cleared away if they occur;
  - Appropriate road signs warning motorists of the site access/egress and of construction HGVs turning in and out of the site would be provided and installed;
  - Provision of appropriate road markings and signs would be in place to warn the public of increased traffic movements to and from the site during construction;

- Site inductions would cover traffic safety, highlighting the need to pay special attention to vulnerable road users;
- Measures for highway reinstatement;
- A Driver Information Pack covering variety of topics and providing information on the requirements of working on the Project; and
- Staff Travel Plan would be prepared by the Main Works Contractor with the aim of proactively managing trips to and from the site, to minimise local impacts by reducing the number of single occupancy vehicle trips and encouraging the uptake of sustainable modes of travel.

- 15.6.20 The identified control measures will be included in a draft CTMP submitted with the DCO application.
- 15.6.21 The draft CTMP will provide details of the proposed traffic management of delivery vehicles and other traffic generated during the construction phase. It will also identify measures designed to avoid and reduce the impact wherever possible between construction site traffic and other road users. The CTMP will be implemented by the Main Works Contractor to ensure that all traffic movements associated with the Project's construction works operate in a safe and compliant manner.
- 15.6.22 The draft CTMP would form the basis of considerations of the Contractor(s) Traffic Management Approach and final CTMP.
- 15.6.23 The draft CTMP would provide a framework to manage all types of vehicle movement to and from the site. It will provide details of the proposed traffic management of delivery vehicles and other traffic generated during the construction phase and would identify measures designed to avoid and reduce the impact wherever possible between construction site traffic and other road users

### **Abnormal Indivisible Loads**

- 15.6.24 The Project would require AILs delivering equipment components. However, at this stage the location from where the AILs would be delivered and the exact specification of required AIL vehicles is not known. The Contractor(s) would ensure that an AIL delivery route and delivery vehicle specification considers existing carriageway and height, width and weight restrictions.
- 15.6.25 Depending on a type and size of the equipment component, the following measures for abnormal loads could be required:
- Marker boards;
  - Escort vehicles;
  - Police escort;
  - Appropriate notice;
  - Speed restriction; and
  - Additional lights.
- 15.6.26 AIL routes and associated measures would be discussed and agreed with National Highways, North Lincolnshire, Lincolnshire, North Yorkshire and East Riding Highways teams and police, if required.

## Staff Travel

As a worst-case estimate, the Project is likely to have an average of 474 workers and staff on site during the Project. Staff Travel Plan would be prepared by the Contractor with the aim of proactively managing trips to and from the site, to minimise local impacts by reducing the number of single occupancy vehicle trips and encouraging the uptake of sustainable modes of travel.

## Operation

- 15.6.27 Operational movements are not anticipated to have a material effect on the transport network and receptors or result in significant effects. The only traffic generated would be associated with infrequent (approximately once every six months) repair and routine maintenance and inspection activities at AGIs and the Pump Facility. As such no additional embedded mitigation measures for operational phase would be required.

## Decommissioning

- 15.6.28 When the pipelines reach the end of their life, they would be decommissioned safely under a separate consent. The pipelines are expected to be left in situ. The AGIs would be dismantled, with all equipment removed, and the land returned to agricultural or other appropriate uses.
- 15.6.29 Decommissioning would consider all the relevant environmental legislation and technology available at the time. Any necessary licences and permits would be acquired. No decommissioning works would be carried out until the relevant planning authority has approved the scheme. It is anticipated that controlled measures similar to the measures identified above for construction would be applied during the decommissioning phase.

## 15.7 Preliminary assessment of potential impacts

### Construction

- 15.7.1 The primary Traffic and Transportation impacts associated with the Project would be as a direct result of an increase in traffic flows on the surrounding roads used by construction vehicles. A preliminary appraisal has been undertaken to identify the likely percentage increase in HGV and in total traffic on the local road network using baseline traffic flow data, where available. The predicted increase has been appraised against 12-hour flows (07:00-19:00 hrs).
- 15.7.2 The predicted increase in 12-hour (07:00-19:00 hrs) traffic flows on local roads that form the Preliminary Construction Routes to the site has been established and appraised to determine if these roads need further environmental appraisal.
- 15.7.3 An assessment was undertaken to identify the likely percentage increase in HGV and in total traffic due to construction on the local road network using 2026 baseline traffic flow data. The predicted increase has been assessed against 12-hour weekday flows (07:00-19:00 hrs).
- 15.7.4 Table 15.18 sets out the predicted increase in traffic on the SRN roads, associated with predicted average daily construction traffic movements during the worst-case construction month.
- 15.7.5 Table 15.19 sets out the predicted increase in traffic on local road network roads. It should be noted that at this stage, the predicted increase could be calculated only for road links that have existing DfT traffic counts. The links that do not have DfT counts, traffic surveys would be commissioned, and the increase estimated as part of the EIA.

**Table 15.18 Predicted increase from average daily construction HGV traffic flows on roads forming the SRN**

DfT Counter Ref.	Road	Existing 12h flows (07:00 - 19:00) Car Movements		Construction traffic flows, per day Total traffic Movements		Baseline +Dev 12h flows (07:00 - 19:00)		% Increase in 12h flows (08:00 - 18:00)		Road Sensitivity	Assessment Required	Rule
		HGV	Total Vehicle	HGV	Total	HGV	Total Vehicle	HGV	Total			
46054	M62	9249	52946	329	770	9578	53715	3.6%	1.5%	Not Sensitive	no	Rule 1
36060	M180	8568	36641	168	296	8736	36937	2.0%	0.8%	Not Sensitive	no	Rule 1
36061	M181	3183	17015	98	176	3281	17192	3.1%	1.0%	Not Sensitive	no	Rule 1
46057	M180	8904	35123	168	296	9072	35419	1.9%	0.8%	Not Sensitive	no	Rule 1
26061	M180	8353	35819	317	569	8670	36388	3.8%	1.6%	Not Sensitive	no	Rule 1
17956	A180	9340	33234	248	461	9588	33695	2.7%	1.4%	Not Sensitive	no	Rule 1
57094	A160	4672	12729	248	461	4920	13190	5.3%	3.6%	Not Sensitive	no	Rule 1
38416	A160	5256	10897	54	258	5310	11155	1.0%	2.4%	Not Sensitive	no	Rule 1
73710	A1033	3239	30719	290	524	3529	31243	8.9%	1.7%	Not Sensitive	no	Rule 1

15.7.6 As can be seen from Table 15.18, the predicted increase for 12-hour HGV and total traffic flows (07:00-19:00 hrs) does not exceeds the 30% threshold for all assessed SRN roads. As such, no further appraisal of potential effects is required as they are unlikely to be significant.

**Table 15.19 Predicted increase from average daily construction HGV traffic flows on roads forming the local road network**

DfT Counter Ref.	Road link	Existing 12h flows (07:00 - 19:00) Car Movements		Construction traffic flows, per day Total traffic Movements		Baseline +Dev 12h flows (07:00 - 19:00)		% Increase in 12h flows (08:00 - 18:00)		Road Sensitivity	Assessment Required	Rule
		HGV	Total Vehicle	HGV	Total	HGV	Total Vehicle	HGV	Total			
73458	Link 1	586	7708	216	523	802	8232	36.9%	2.8%	Not Sensitive	Yes	Rule 1
ATC_001	Link 2	TBC	TBC	77	127	77	127	TBC	TBC	Not Sensitive	TBC	Rule 1
60060	Link 3a	965	12682	249	614	1214	13297	25.8%	2.0%	Not Sensitive	No	Rule 1
47377	Link 3b	246	7043	165	288	411	7331	67.3%	2.3%	Sensitive	Yes	Rule 2
ATC_002	Link 3c	TBC	TBC	118	200	118	200	TBC	TBC	Sensitive	TBC	Rule 2
ATC_003	Link 4	TBC	TBC	59	99	59	99	TBC	TBC	Not Sensitive	TBC	Rule 1
77621	Link 5a	398	8314	105	174	503	8488	26.4%	1.3%	Sensitive	Yes	Rule 2
89090	Link 5b	96	1373	105	174	201	1547	109.2%	7.7%	Sensitive	Yes	Rule 2
38499	Link 6a	388	5335	86	156	474	5491	22.2%	1.6%	Sensitive	Yes	Rule 2
38499	Link 6b	388	5335	205	365	593	5700	53.0%	3.9%	Not Sensitive	Yes	Rule 1

DfT Counter Ref.	Road link	Existing 12h flows (07:00 - 19:00) Car Movements		Construction traffic flows, per day Total traffic Movements		Baseline +Dev 12h flows (07:00 - 19:00)		% Increase in 12h flows (08:00 - 18:00)		Road Sensitivity	Assessment Required	Rule
		HGV	Total Vehicle	HGV	Total	HGV	Total Vehicle	HGV	Total			
ATC_004	Link 6c	TBC	TBC	201	358	201	358	TBC	TBC	Sensitive	TBC	Rule 2
ATC_024	Link 6d	TBC	TBC	165	286	165	286	TBC	TBC	Sensitive	TBC	Rule 2
ATC_005	Link 7	TBC	TBC	36	141	36	141	TBC	TBC	Sensitive	TBC	Rule 2
ATC_006	Link 8	TBC	TBC	36	141	36	141	TBC	TBC	Sensitive	TBC	Rule 2
36233	Link 9	279	7607	138	220	418	7827	49.6%	1.8%	Not Sensitive	Yes	Rule 1
807696	Link 10	39	931	86	156	125	1088	219.8%	9.3%	Sensitive	Yes	Rule 2
7997	Link 11a	640	24007	98	176	738	24184	15.3%	0.4%	Sensitive	Yes	Rule 2
ATC_023	Link 11b	TBC	TBC	98	176	98	176	TBC	TBC	Sensitive	TBC	Rule 2
ATC_007	Link 11c	TBC	TBC	98	176	98	176	TBC	TBC	Sensitive	TBC	Rule 2
ATC_008	Link 12a	TBC	TBC	156	273	156	273	TBC	TBC	Not Sensitive	TBC	Rule 1
77698	Link 12b	98	7224	107	187	205	7411	108.9%	1.5%	Not Sensitive	Yes	Rule 1
38790	Link 13	1927	26028	156	273	2083	26301	8.1%	0.6%	Not Sensitive	No	Rule 1
16219	Link 14	539	10787	107	185	646	10972	19.9%	1.0%	Not Sensitive	No	Rule 1



DfT Counter Ref.	Road link	Existing 12h flows (07:00 - 19:00) Car Movements		Construction traffic flows, per day Total traffic Movements		Baseline +Dev 12h flows (07:00 - 19:00)		% Increase in 12h flows (08:00 - 18:00)		Road Sensitivity	Assessment Required	Rule
		HGV	Total Vehicle	HGV	Total	HGV	Total Vehicle	HGV	Total			
800112	Link 15	116	5551	107	185	223	5737	92.4%	1.9%	Not Sensitive	Yes	Rule 1
18654	Link 16	2039	10693	66	118	2105	10811	3.2%	0.6%	Not Sensitive	No	Rule 1
18143	Link 17	230	4045	149	250	378	4295	64.7%	3.7%	Not Sensitive	Yes	Rule 1
ATC_009	Link 18	TBC	TBC	213	350	213	350	TBC	TBC	Not Sensitive	TBC	Rule 1
16220	Link 19	479	8907	249	441	728	9348	51.9%	2.8%	Not Sensitive	Yes	Rule 1
ATC_010	Link 20	TBC	TBC	65	116	65	116	TBC	TBC	Not Sensitive	TBC	Rule 1
16220	Link 21	479	8907	151	282	631	9189	31.6%	1.7%	Not Sensitive	Yes	Rule 1
800095	Link 22	27	1083	151	282	178	1365	560.5%	14.0%	Not Sensitive	Yes	Rule 1
ATC_011	Link 23	TBC	TBC	60	117	60	117	TBC	TBC	Not Sensitive	TBC	Rule 1
800934	Link 24a	838	4940	231	392	1069	5332	27.5%	4.7%	Sensitive	Yes	Rule 2
ATC_012	Link 24b	TBC	TBC	231	392	231	392	TBC	TBC	Sensitive	TBC	Rule 2
ATC_013	Link 24c	TBC	TBC	147	235	147	235	TBC	TBC	Not Sensitive	TBC	Rule 1
ATC_014	Link 25	TBC	TBC	54	258	54	258	TBC	TBC	Not Sensitive	TBC	Rule 1

DfT Counter Ref.	Road link	Existing 12h flows (07:00 - 19:00) Car Movements		Construction traffic flows, per day Total traffic Movements		Baseline +Dev 12h flows (07:00 - 19:00)		% Increase in 12h flows (08:00 - 18:00)		Road Sensitivity	Assessment Required	Rule
		HGV	Total Vehicle	HGV	Total	HGV	Total Vehicle	HGV	Total			
ATC_015	Link 26	TBC	TBC	117	133	117	133	TBC	TBC	Not Sensitive	TBC	Rule 1
949183	Link 27a	53	1662	54	324	107	1986	101.0%	3.2%	Not Sensitive	Yes	Rule 1
ATC_016	Link 27b	TBC	TBC	44	290	44	290	TBC	TBC	Not Sensitive	TBC	Rule 1
57556	Link 28a	282	11818	298	485	581	12303	105.8%	2.5%	Sensitive	Yes	Rule 2
ATC_017	Link 28b	TBC	TBC	273	458	273	458	TBC	TBC	Sensitive	TBC	Rule 2
ATC_018	Link 29a	TBC	TBC	135	231	135	231	TBC	TBC	Not Sensitive	TBC	Rule 1
ATC_019	Link 29b	TBC	TBC	0	0	0	0	TBC	TBC	Not Sensitive	TBC	Rule 1
ATC_021	Link 30	TBC	TBC	42	111	42	111	TBC	TBC	Sensitive	TBC	Rule 2
ATC_022	Link 31	TBC	TBC	184	310	184	310	TBC	TBC	Not Sensitive	TBC	Rule 1

- 15.7.7 As can be seen from Table 15.19, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 10% (for sensitive roads) and 30% threshold (for non-sensitive roads) on several of the assessed local road links. As such, further appraisal of potential effects would be required as part of the EIA.
- 15.7.8 The potential impacts for Traffic and Transport associated with the construction phase are provided in Table 15.20.

**Table 15.20 Construction phase –preliminary assessment of potential impacts**

Resource/receptor	Sensitivity of resource/receptor	Description of potential impact/change
Pedestrians	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition
Cyclists	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition
Horse-riders	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition
Bus passengers	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition
Car drivers and passengers	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition

## Operation

- 15.7.9 During the operational phase the Project is not predicted to result in any discernible traffic and transport impacts.

## Decommissioning

- 15.7.10 Decommissioning is not predicted to result in significant Traffic and Transport impacts.

## **15.8 Mitigation and enhancement measures**

- 15.8.1 No additional avoidance, mitigation and compensation measures, in addition to the measures identified in Section 15.6, are proposed at this stage.
- 15.8.2 The effectiveness of the proposed embedded control and mitigation measures will be assessed within the ES. If necessary additional mitigation and enhancement measures would be identified and assessed to ensure that adverse effects on receptors and other road users are minimised.

## 15.9 Summary of the preliminary assessment of potential significant effects

- 15.9.1 Table 15.21 below summarises the preliminary assessment of potential significant effects associated with the Project.



**Table 15.21 Summary of the preliminary assessment of potential significant effects**

Resource/ receptor	Stage	Sensitivity of resource/receptor	Description of potential impact/change	Mitigation	Potential significant effects
Pedestrians	Construction	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition	See Section 15.6	Reduced ability to cross the road. Changed journey times and distances. Loss of amenity. Potential issues due to increased traffic flows and change in composition. Reduction in road safety.
Cyclists	Construction	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition	See Section 15.6	Reduced ability to cross the road. Changed journey times and distances. Loss of amenity. Potential issues due to increased traffic flows and change in composition. Reduction in road safety
Horse-riders	Construction	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition	See Section 15.6	Reduced ability to cross the road. Changed journey times and distances. Loss of amenity. Potential issues due to increased traffic flows and change in composition. Reduction in road safety.
Bus passengers	Construction	Sensitivity is contingent on sensitivity of link specific receptors	Change in traffic flow and composition	See Section 15.6	Changed journey times and distances. Reduction in road safety.

Resource/ receptor	Stage	Sensitivity of resource/receptor	Description of potential impact/change	Mitigation	Potential significant effects
		identified in Table 15.10.			
Car drivers and passengers	Construction	Sensitivity is contingent on sensitivity of link specific receptors identified in Table 15.10.	Change in traffic flow and composition	See Section 15.6	Changed journey times and distances for private and commercial vehicle occupants. Reduction in road safety.

## 15.10 Next steps

### Engagement

- 15.10.1 Statutory Consultation will be undertaken to give local communities a chance to review, ask questions, and comment on the Project
- 15.10.2 Additional stakeholder engagement with local highway authorities, National Highways and other relevant parties will be undertaken if and as required. This engagement will be used to ensure that the impact from traffic and transport on sensitive receptors and other road users is minimised, and that appropriate mitigation measures are identified and adopted.

### Surveys

- 15.10.3 Once preferred construction routes are finalised and agreed with relevant local highway authorities, locations for additional traffic surveys will be identified and, if required, agreed with relevant local highway authorities. Where required, traffic surveys will be commissioned, and traffic flow data will be collected using ATCs and MCC surveys.
- 15.10.4 Site surveys will be undertaken to allow for a visual inspection of the potential construction vehicle routes, confirming findings of background data and identifying any unknown constraints or opportunities.

### Assessment

- 15.10.5 The assessment of construction traffic impacts will be undertaken to establish road links where the flows generated by the Project increase baseline traffic and HGV flows by 30% or 10% in specifically sensitive areas. On links where these thresholds are exceeded appraisal of traffic and transport effects identified in Section 15.4 on other road users will be carried out.
- 15.10.6 Potential cumulative effects on the local highway network from this Project and all other committed developments, including transport schemes, will be assessed, and taken into account of when generating the predicted future baseline vehicle flows. Relevant committed developments would be confirmed with local authorities and National Highways.

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