



**RWE Renewables UK Dogger Bank  
South (West) Limited**

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South (East) Limited**

# **Dogger Bank South Offshore Wind Farms**

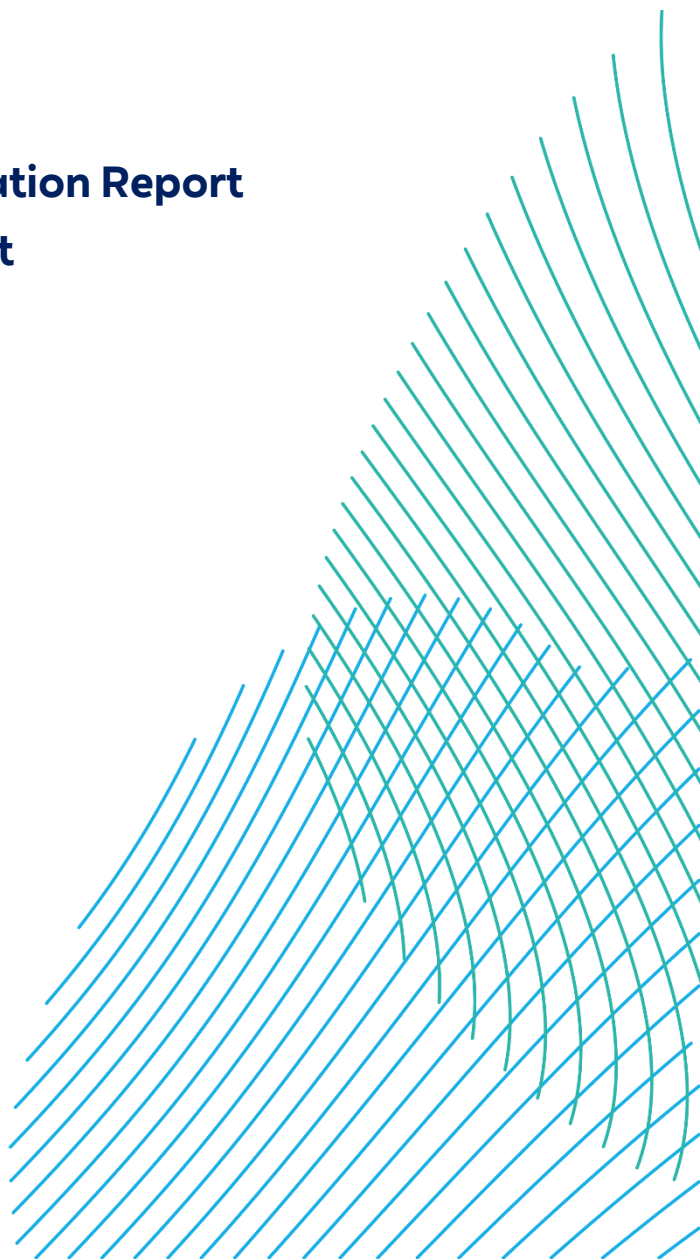
**Preliminary Environmental Information Report  
Chapter 24 – Traffic and Transport**

**25/04/2023**

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## Glossary

| Term                                        | Definition                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dogger Bank South (DBS) offshore wind farms | The collective name for the two Projects, DBS East and DBS West.                                                                                                                                                                                                                                                                     |
| Evidence Plan Process (EPP)                 | A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA) for certain topics.                                                                                                             |
| Heavy Goods Vehicle (HGV)                   | HGV is the term for any vehicle with a Gross Weight over 3.5 tonnes. This is also used as a proxy for HGVs and buses / coaches recognising the similar size and environmental characteristics of the respective vehicle types.                                                                                                       |
| Light Vehicle (LV)                          | The term 'light vehicle' is used to describe the range of vehicles that would be used by construction employees, i.e. cars, vans, pick-ups, minibuses, etc.                                                                                                                                                                          |
| Movement                                    | A single trip (i.e. the arrival or departure from site) for the transfer of employees or delivery of goods.                                                                                                                                                                                                                          |
| Onshore Export Cables                       | Onshore export cables take the electricity from the Transition Joint Bay to the onshore substations.                                                                                                                                                                                                                                 |
| Onshore Substation Zone                     | Parcels of land within the Onshore Development Area where the onshore substation infrastructure (including the haul roads, temporary construction compounds and associated cable routeing) may be located.                                                                                                                           |
| Onshore Export Cable Corridor               | This is the area which includes cable trenches, haul roads, spoil storage areas, and limits of deviation for micro-siting. For assessment purposes, the cable corridor does not include the onshore substations, Transition Joint Bays or temporary access routes; but includes construction compounds (purely for the cable route). |

| Term                                    | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relevant Highway Authorities            | The term relevant highway authorities for the Projects includes all highway authorities within the traffic and transport study area, namely, East Riding of Yorkshire Council, Hull City Council and National Highways.                                                                                                                                                                                                                                                  |
| Serious Collision                       | A collision resulting in serious injury for which a person is detained in hospital as an 'in-patient', or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.                                                                 |
| Slight Collision                        | A collision resulting in a slight injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.                                                                                                                                                                                       |
| The Applicant                           | RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited as the owners of DBS West and DBS East respectively are the named undertakers that will have the benefit of the Development Consent Order. References in this document to obligations on, or commitments by, 'the Applicant' are given on behalf of RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited. |
| The Projects                            | DBS East and DBS West (collectively referred to as the Dogger Bank South offshore wind farms).                                                                                                                                                                                                                                                                                                                                                                           |
| Traffic and Transport Study Area (TTSA) | Area where potential impacts from the Projects could occur, as defined for the traffic and transport EIA topic.                                                                                                                                                                                                                                                                                                                                                          |
| Vehicle (HGV, Traffic) trips            | A vehicle movement (i.e. the arrival or departure from site) for the transfer of employees or delivery of goods.                                                                                                                                                                                                                                                                                                                                                         |

## Acronyms

| Term  | Definition                                                  |
|-------|-------------------------------------------------------------|
| AIL   | Abnormal Indivisible Load                                   |
| CTMP  | Construction Traffic Management Plan                        |
| DBS   | Dogger Bank South                                           |
| DCO   | Development Consent Order                                   |
| DMRB  | Design Manual for Roads and Bridges                         |
| EPP   | Evidence Plan Process                                       |
| ESDAL | Electronic Service Delivery for Abnormal Loads              |
| ETG   | Expert Topic Group                                          |
| GEART | Guidelines for the Environmental Assessment of Road Traffic |
| HGV   | Heavy Goods Vehicle                                         |
| HVAC  | High Voltage Alternating Current                            |
| HVDC  | High Voltage Direct Current                                 |
| IPMP  | In-Principal Monitoring Plan                                |
| km    | Kilometre                                                   |
| LCV   | Light Commercial Vehicle                                    |
| LV    | Light Vehicle                                               |
| NCR   | National Cycle Route                                        |
| NPS   | National Policy Statement                                   |
| NRSA  | New Roads and Street Works Act 1991                         |
| OCTMP | Outline Construction Traffic Management Plan                |

| Term | Definition                       |
|------|----------------------------------|
| PPG  | Planning Practice Guidance       |
| PRoW | Public Rights of Way             |
| PTMP | Port Traffic Management Plan     |
| RTRA | Road Traffic Regulation Act 1984 |
| TA   | Transport Assessment             |
| TMA  | Traffic Management Act 2004      |
| TS   | Transport Statement              |
| TTSA | Traffic and Transport Study Area |

## 24 Traffic and Transport

### 24.1 Introduction

1. This chapter of the Preliminary Environmental Information Report (PEIR) considers the likely significant effects of the Projects on traffic and transport. The chapter provides an overview of the existing environment for the proposed Onshore Development Area, followed by an assessment of likely significant effects for the construction, operation, and decommissioning phases of the Projects.
2. The assessment should be read in conjunction with the following linked chapters:
  - **Chapter 25 Noise;**
  - **Chapter 26 Air Quality;**
  - **Chapter 27 Human Health;**
  - **Chapter 28 Socio Economics; and**
  - **Chapter 29 Tourism and Recreation.**
3. Additional information to accompany the traffic and transport assessment include:
  - **Appendix 24-1 Transport Assessment (TA);**
  - **Appendix 24-2 Abnormal Indivisible Load Access Report; and**
  - **Appendix 24-3 Interaction Between Impacts.**

## 24.2 Consultation

4. Consultation with regard to traffic and transport has been undertaken in line with the general process described in **Chapter 6 EIA Methodology**. The key elements of consultation to date have included scoping and the ongoing Evidence Plan Process (EPP) via the traffic and transport Expert Topic Group (ETG). The feedback received has been considered in preparing the PEIR. **Table 24-1** provides a summary of how the consultation responses received to date have influenced the approach that has been taken.
5. This chapter will be updated following consultation on PEIR in order to produce the final assessment that will be submitted with the Development Consent Order (DCO) application. Full details of the consultation process will also be presented in the Consultation Report alongside the DCO application.

Table 24-1 Consultation Responses

| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Project Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Planning Inspectorate / 02/09/2022 / Scoping Opinion</p> <p>The Scoping Report states that “to ensure that potential impacts associated with the Projects’ offshore construction and operational phases (including cumulative impacts) are assessed and mitigated, RWE will consider a Requirement to produce a Port Traffic Management Plan once the final location of the preferred base port (or ports) is known”. On this basis, the Applicant is seeking to scope out the onshore impacts of the traffic and transport associated with offshore construction activities.</p> <p>The location of the base port is not currently known and is not expected to be known until after consent (Paragraph 805), and therefore the potential impacts are not fully understood. The Scoping Report also only refers to ‘consideration’ of the production of a Port Traffic Management Plan.</p> <p>The Inspectorate does not agree to scope this matter from the assessment. Accordingly, the ES should include an assessment of these matters, or the information referred to above to support a justification of why there will be no significant effects.</p> | <p>It is proposed to scope out of the assessment the onshore effects of the traffic and transport associated with offshore construction, operation and decommissioning activities. This approach has been agreed with the relevant highway authorities National Highways and Hull City Council (at an ETG meeting on the 21/11/2022) and East Riding of Yorkshire Council (at an ETG meeting on the 23/11/2022).</p> <p>The preferred base port (or ports) for the offshore construction of the Projects is not known and any decision would not be expected until post consent. Such facilities would typically be provided or brought into operation by means of one or more planning applications or as port operations with permitted development rights.</p> <p>To ensure that any potential effects associated with the Projects’ offshore construction and operational phases (including cumulative effects) are assessed and mitigated, the Applicant propose a DCO Requirement to produce construction and operational phase Port Traffic Management Plans (PTMPs) once the final location of the preferred base port (or ports) is known.</p> <p>The approach to scoping out of the onshore effects of the traffic and transport associated with offshore construction, operation and decommissioning activities has been accepted by the Planning Inspectorate for other recently consented nationally significant offshore wind farm projects, e.g. Norfolk Vanguard, East Anglia TWO and THREE, and Hornsea Three.</p> |
| <p>The Scoping Report seeks to scope out a separate assessment of hazardous loads and instead seeks to use a road safety assessment to investigate the types of vehicles involved in collisions and location of collisions. Paragraph 810 of the Scoping Report states, “it is not envisaged that there would be a significant number of movements of hazardous loads”.</p> <p>The Inspectorate agrees that a separate Hazardous Load Assessment does not to be prepared, however the ES should provide clarification regarding the potential number of hazardous loads and where there is potential for hazardous loads that could give rise to significant effects, an assessment should be undertaken and presented in the ES. Additionally, the Road Safety Assessment should provide information on how the routes of hazardous loads may be amended in light of findings regarding collision sites.</p>                                                                                                                                                                                                                                                    | <p>With the exception of potential fuel deliveries (for temporary generators) no hazardous loads are anticipated for the Projects. Section 24.6.1.4 provides a detailed assessment of the road safety baseline and identifies no significant issues in relation to the movement of HGVs. Noting this and that the transportation of fuel is strictly controlled by existing legislation (Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (Department for Transport, 2009)) no further assessment of hazardous loads is presented.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>The Scoping Report seeks to scope out traffic impacts relating to maintenance of the onshore substations during operation on the basis that maintenance checks will be infrequent and subject to low vehicle demand.</p> <p>With the exception of hazardous loads (please see point above), the Inspectorate agrees that significant effects are unlikely and is content to scope these matters out of the ES. The description of the Proposed Development in the ES should explain the likely number and nature of vehicle movements to provide confidence for excluding these matters from more detailed assessment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>In support of the proposed approach to scope operational effects out of the assessment, <b>Table 24-2</b> provides a summary of the likely number and nature of vehicle movements associated with the Projects operational phase.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Project Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Scoping Report does not state whether new baseline traffic flow surveys will be undertaken. The ES should provide information regarding the times, dates, and location of any new traffic flow surveys (as the Scoping Report currently presents data from 2019) and how the locations of surveys are appropriate to represent effects resulting from traffic movements required for the Proposed Development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Section 24.4.2.1 and the accompanying TA ( <b>Appendix 24.1</b> ) includes details of the proposed approach to data collection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The Scoping Report states that the assessment will be undertaken with reference to the Guidance for Environmental Assessment of Road Traffic (GEART). No reference is made within the Scoping Report about potential effects to pedestrians from fear and intimidation; which are identified in GEART. The ES should include an assessment of these matters where significant effects are likely or otherwise provide evidence and reasoning as to why significant effects are not expected. The Inspectorate advises the Applicant to consult with relevant stakeholders on the criteria and methodology applied to the assessment, including the determination of the affected road network and the requirement for junction capacity assessments.                                                                                                                                                                                                                                                                                                                                                                                                  | Section 24.4.3.3.2 outlines that the definition for amenity includes pedestrian fear and intimidation and can be considered to be a broad category considering the overall relationship between pedestrians and traffic. <b>Table 24-1</b> details the Applicant's engagement with relevant stakeholders to agree the impacts to be assessed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| The ES should assess potential impacts to rail infrastructure from the Proposed Development, including in relation to operational rail safety and use throughout construction and operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Section 24.6 contains an assessment of the potential effects on the transport network associated with Projects. No effects upon the rail services or infrastructure are anticipated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| National Highways / 24/01/2022 / Scoping Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| National Highways provided a brief response to the Scoping Report to confirm that whilst they were 'onboard' with the Projects, at the scoping stage they were unable to comment further until the specific locations of the Projects were known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The Applicant has hosted two ETG meetings with National Highways to discuss the scope of the traffic and transport assessment. The output of these meetings is outlined below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| National Highways / 19/07/2021/ ETG Meeting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>An initial ETG meeting was held prior to the submission of the Scoping Report. At this stage, the onshore grid connection point was unknown and three sites were being considered (including Creyke Beck). The purpose of the meeting was to introduce the Projects and present the approach to:</p> <ul style="list-style-type: none"> <li>• Data collection;</li> <li>• Derivation of construction traffic data; and</li> <li>• Impact assessment.</li> </ul> <p>Agreements were reached with National Highways with regard to:</p> <ol style="list-style-type: none"> <li>1. Data collected post September 2021 would be considered to be representative of baseline conditions, i.e. no factors would need to be applied to account for Covid-19 impacts on traffic flows;</li> <li>2. Neutral traffic flows should be used for the Strategic Road Network;</li> <li>3. Approach to collecting the latest five years of collision data, i.e. inclusive of periods where Covid-19 may have impacted traffic flows;</li> <li>4. Impacts to be assessed (comprising severance, amenity, road safety, driver delay and abnormal loads);</li> </ol> | <ol style="list-style-type: none"> <li>1 – 3. Section 24.4.2 includes details of the approach to data collection in compliance with National Highways' direction.</li> <li>4. Section 24.6 presents an assessment of the effects of the Projects upon severance, amenity, road safety and driver delay. Details of the approach to the assessment of abnormal loads is outlined within section 24.4.3.2.</li> <li>5. <b>Table 24-2</b> provides details of the likely levels of operational traffic in support of the approach to scoping out operational traffic impacts.</li> <li>6. <b>Table 24-1</b> (in response to the Planning Inspectorates Scoping Comments) provides further clarification in relation to the rationale for scoping out onshore impacts associated with the Projects offshore construction and operation.</li> <li>7. A TA is provided in association with the PEIR Chapter as <b>Appendix 24-1</b>. An Outline Construction Traffic Management Plan (OCTMP) is also be presented as part of the statutory consultation.</li> </ol> |

| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Project Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <p>5. Scoping out the assessment of operational impacts;</p> <p>6. Scoping out onshore traffic and transport impacts associated with the Projects offshore construction, operation and decommissioning; and</p> <p>7. The DCO documents that would be required, including a separate Transport Assessment (TA) and Construction Traffic Management Plan (CTMP).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| National Highways and Hull City Council / 21/11/2022 / ETG Meeting 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>A second ETG meeting was held with National Highways and Hull City Council following the submission of the Scoping Report and prior to the submission of the PEIR. The purpose of the meeting was to introduce the Projects and present the approach to:</p> <ul style="list-style-type: none"> <li>Defining the extent of the Traffic and Transport Study Area (TTSA);</li> <li>Impact assessment;</li> <li>Data collection; and</li> <li>DCO documents.</li> </ul> <p>Agreements were reached with National Highways and Hull City Council with regard to:</p> <ol style="list-style-type: none"> <li>The extent of the TTSA;</li> <li>Impacts to be assessed (comprising severance, amenity, road safety, driver delay and abnormal loads);</li> <li>The approach to consideration of driver delay effects at PEIR;</li> <li>The approach to defining the road safety baseline;</li> <li>Scoping out the assessment of operational impacts, on the proviso that details of likely traffic numbers should be presented in support of this;</li> <li>The approach to scoping out onshore traffic and transport impacts associated with the Projects offshore construction, operation and decommissioning (subject to agreeing a suitably worded DCO Requirement to produce a PTMP);</li> <li>The DCO documents that would be required, including a separate TA and CTMP. It was agreed that a separate Travel Plan would not be required and that this could be included within the CTMP; and</li> <li>The Projects transformers should not travel from the M62 direction or over the Humber Bridge.</li> </ol> | <ol style="list-style-type: none"> <li>Section 24.3.1 includes details of the approach to defining the extents of the TTSA.</li> <li>Section 24.6 presents an assessment of the effects of the Projects upon severance, amenity, road safety and driver delay. Details of the approach to the assessment of abnormal loads is outlined within section 24.4.3.2.</li> <li><b>Table 24-29</b> provides details of the changes in peak hour traffic flows.</li> <li>Section 24.4.3 (and the accompanying TA, <b>Appendix 24-1</b>) presents an assessment of the baseline road safety conditions to identify links with higher than average collision rates (compared to National averages) and links where there are clusters of collisions. Section 24.6 presents an assessment of the effects of Projects upon road safety.</li> <li><b>Table 24-2</b> provides details of the likely levels of operational traffic in support of the approach to scoping out operational traffic effects.</li> <li><b>Table 24-1</b> (in response to the Planning Inspectorates Scoping Comments) provides further clarification in relation to the rationale for scoping out onshore impacts associated with the Projects offshore construction and operation.</li> <li>A TA is provided in association with the PEIR Chapter as <b>Appendix 24-1</b>. An OCTMP will also be presented as part of the statutory consultation. In accordance with stakeholder's requests, the OCTMP includes 'Travel Plan' measures.</li> <li>Details of the approach to the assessment of abnormal loads is outlined within section 24.4.3.2. It is not proposed that the Projects transformers will travel via the M62 and section 24.4.3.2 confirms that National Highways have provided agreement in principle to the proposed route.</li> </ol> |
| East Riding of Yorkshire Council / 23/11/2022 / ETG Meeting 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>An ETG meeting was held with East Riding of Yorkshire Council following the submission of the Scoping Report and prior to the submission of the PEIR. The purpose of the meeting was to introduce the Projects and present the approach to:</p> <ul style="list-style-type: none"> <li>Accessing the Projects;</li> <li>Defining the extent of the TTSA;</li> <li>Impact assessment;</li> <li>Data collection; and</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ol style="list-style-type: none"> <li>The accompanying TA (<b>Appendix 24-1</b>) includes details of the proposed access strategy to the onshore substations.</li> <li>The accompanying TA (<b>Appendix 24-1</b>) includes details of the proposed access strategy to the onshore export cable corridor. The location of the proposed access from Ings Road is shown in <b>Figure 24-2</b>, the access has been located north of the proposed access to the proposed Household waste centre. An assessment of the suitability of Dunnington Lane is presented in section 24.6.1.7.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Project Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <ul style="list-style-type: none"> <li>• DCO Documents.</li> </ul> <p>Agreements were reached with East Riding of Yorkshire Council with regard to:</p> <ol style="list-style-type: none"> <li>1. The construction and operational access strategy to the onshore substations;</li> <li>2. The proposed construction access strategy, subject to: <ul style="list-style-type: none"> <li>o ensuring access from Ings Lane considers potential impacts upon a proposed Household waste centre; and</li> <li>o An assessment of the suitability of Dunnington Lane to accommodate an increase in HGV traffic, noting the existing use by HGVs to serve an animal feed processing plant.</li> </ul> </li> <li>3. The extent of the TTSA;</li> <li>4. The approach to consideration of driver delay effects at PEIR;</li> <li>5. Scoping out the assessment of operational impacts, on the proviso that details of likely traffic numbers should be presented in support of this;</li> <li>6. The approach to scoping out onshore traffic and transport impacts associated with the Projects offshore construction, operation and decommissioning (subject to agreeing a suitably worded DCO Requirement to produce a PTMP);</li> <li>7. The approach to defining the road safety baseline;</li> <li>8. The DCO documents that would be required, including a separate TA and CTMP. It was agreed that a separate Travel Plan would not be required and that this could be included within the CTMP.</li> </ol> | <ol style="list-style-type: none"> <li>3. Section 24.3.1 includes details of the approach to defining the extents of the TTSA.</li> <li>4. <b>Table 24-29</b> provides details of the changes in peak hour traffic flows.</li> <li>5. <b>Table 24-2</b> provides details of the likely levels of operational traffic in support of the approach to scoping out operational traffic effects.</li> <li>6. <b>Table 24-1</b> (in response to the Planning Inspectorates Scoping Comments) provides further clarification in relation to the rationale for scoping out onshore impacts associated with the Projects offshore construction and operation.</li> <li>7. Section 24.4.3 (and the accompanying TA, <b>Appendix 24-1</b>) presents an assessment of the baseline road safety conditions to identify links with higher than average collision rates (compared to National averages) and links where there are clusters of collisions. Section 24.6 presents an assessment of the effects of Projects upon road safety.</li> <li>8. A TA is provided in association the PEIR Chapter as <b>Appendix 24-1</b>. An OCTMP will be presented as part of the statutory consultation. In accordance with stakeholder's requests, the OCTMP also includes 'Travel Plan' measures.</li> </ol> |

## 24.3 Scope

### 24.3.1 Study Area

6. The Traffic and Transport Study Area (TTSA) has been established through determining the most probable routes for traffic, for both the transportation of materials and employees and has been agreed with the relevant highway authorities (**Table 24-1** refers).
7. The extent of the TTSA is shown in **Figure 24-1**. The TTSA is divided into 66 separate highway sections known as links, which are sections of road with similar characteristics and traffic flows. In total, the TTSA comprises of approximately 150km of highway network. The 66 links are notated 1 to 75, noting that some links have been omitted during the development of the Projects.
8. Routes that extend outside of the TTSA are where construction traffic has dissipated and therefore, significant effects upon users of the highway network are unlikely.

### 24.3.2 Realistic Worst Case Scenario

#### 24.3.2.1 General Approach

9. The realistic worst case design parameters for likely significant effects scoped into the EIA for the traffic and transport assessment are summarised in **Table 24-2**. These are based on the Project parameters described in **Chapter 5 Project Description**, which provides further details regarding specific activities and their durations.
10. In addition to the design parameters set out in **Table 24-2**, consideration is also given to the different development scenarios still under consideration and the possible phasing of the construction as set out in sections 24.3.2.2 to 24.3.2.5.
11. The Projects parameters described in **Chapter 5 Project Description** have been reviewed by construction consultants Wardell Armstrong and the Applicant's engineering team. Wardell Armstrong and the Applicant's engineering team have applied their experience gained through the construction of previous wind farm projects in the UK to determine the worst-case scenario for traffic and transport.
12. Traffic demand has been forecast by applying a 'first principles' approach. The first principles approach generates traffic volumes from an understanding of material quantities and employee numbers required for Projects and converts these metrics into vehicle trips.

## 24.3.2.2 Development Scenarios

13. There are currently two possible electrical solutions being considered for DBS West, HVAC or HVDC. Due to the distance of the array area offshore DBS East will be an HVDC Project. Therefore, there are two possible electrical solutions for the Projects:
  - One HVDC Project and one HVAC Project; or
  - Two HVDC Projects.
14. There are different parameters required for the onshore substations depending on which electrical solution is selected. Therefore, there are four possible development scenarios within the onshore substation zones that could be taken forward:
  - Two HVDC substations in Substation Zone 4;
  - One HVDC substation in Substation Zone 1 and one HVAC substation in Substation Zone 4;
  - One HVDC substation in Substation Zone 4 and one HVAC substation in Substation Zone 1; or
  - One HVDC substation in Substation Zone 1 and one HVDC substation in Substation Zone 4.
15. In order to ensure that a robust assessment has been undertaken, all development scenarios and options have been considered to ensure the realistic worst-case scenario for each topic has been assessed. Further details of the worst case scenarios adopted for traffic and transport are provided in **Table 24-2**.

## 24.3.2.3 Construction Scenarios

16. The following principles set out the framework for how the Projects may be constructed (relating to both onshore and offshore works):
  - DBS East and DBS West may be constructed at the same time, or at different times;
  - If built concurrently, both Projects could be constructed in five years;
  - If built non-concurrently, either Project could be built first;
  - If built non-concurrently, each Project would require a five year period of construction;
  - If built non-concurrently, it is anticipated that there would be up to a two year lag between the start of construction for the first Project and the start of construction for the second Project; and
  - Assuming a maximum construction period per Project of five years, and taking the above into account, the maximum construction period over which the construction of both Projects could take place is seven years.
17. All possible construction scenarios allow for the flexibility to build out the Projects using a phased approach. This will allow the Projects to adapt to the National Grid Electricity Transmission Operator's development plans for onshore grid connection points. Under a phased approach the maximum timescales for individual elements of construction have been assessed.
18. In order to determine which construction scenario presents the realistic worst case for each receptor and impact, the assessment considers the maximum peak effects and where relevant the maximum duration effects, in addition to each Project being developed in isolation, drawing out any differences between each of the two Projects.
19. In order to ensure that a robust assessment has been undertaken, all construction scenarios have been considered to ensure the realistic worst-case scenario for each topic has been assessed. Further details of the worst case construction scenarios adopted for traffic and transport are provided in **Table 24-2**.

## 24.3.2.4 Operation Scenarios

20. Operation scenarios are described in detail in **Chapter 5 Project Description**. The assessment considers the following scenarios:
- Only DBS East in operation;
  - Only DBS West in operation; and
  - The two Projects operating concurrently, with or without a lag of up to two years between each Project commencing operation.
21. If the Projects are built out using a phased approach, there would also be a phased approach to starting the operational stage. The worst case scenario for the operational phase for the Projects have been assessed. See section 5.1.1 of **Chapter 5 Project Description** for further information on phasing scenarios for the Projects.
22. The operations lifetime of each Project is expected to be 30 years.

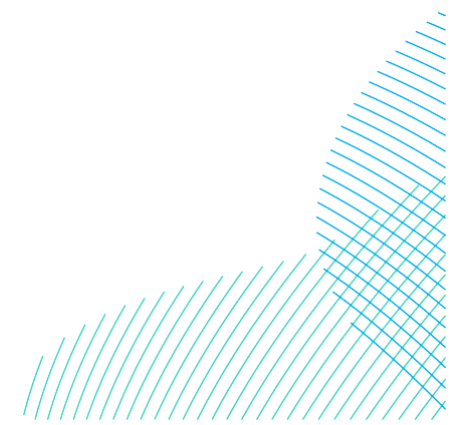
## 24.3.2.5 Decommissioning Scenarios

23. Decommissioning scenarios are described in **Chapter 5 Project Description**. Decommissioning arrangements will be agreed through the submission of a Decommissioning Programme prior to construction, however for the purpose of this assessment it is assumed that decommissioning of the Projects could be conducted separately, or at the same time.

Table 24-2 Realistic Worst Case Design Parameters

|                                                   | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                                   | DBS East or DBS West in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DBS East and DBS West Concurrently                                                                                                                                                                                                                                                                                                                                                                                                                                         | DBS East and DBS West Sequentially | Notes and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Construction                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| General                                           | <p>The onshore parameters described in <b>Chapter 5 Project Description</b> have been reviewed by construction consultants Wardell Armstrong and the Applicant’s engineering team. Wardell Armstrong and the Applicant’s engineering team have applied their experience gained through the construction of previous wind farm projects in the UK to determine the worst-case scenario for traffic and transport.</p> <p>Traffic demand has been forecasted by applying a ‘first principles’ approach. The first principles approach generates traffic volumes from an understanding of material quantities and employee numbers required for the Projects and converts these metrics into vehicle trips. The following worst-case assumptions (described in detail in TA (<b>Appendix 24-1</b>)) have been applied to all scenarios:</p> <ul style="list-style-type: none"><li>• HGV numbers assume all materials are delivered direct to the work area by road, i.e. no use of rail or water transport;</li><li>• HGV numbers assume no back-hauling, i.e. no reduction has been applied to take account of the potential that vehicles making deliveries could be used to export materials;</li><li>• A contingency (reflecting the uncertainties in the design) has been applied to all material quantities and associated HGV movements;</li><li>• Employee movements have been based upon one employee to one vehicle, i.e. no reduction has been applied to account for the potential that construction employees may car-share, or travel in contractor provided minibuses;</li><li>• No reduction in traffic movements has been applied to account for the reassignment of traffic. For example, many HGVs would have a local supply chain origin on the local network serving existing customers and would naturally reassign to serve the Projects.</li><li>• In order to determine which construction scenario and electrical solution combination presents the realistic worst-case, a detailed review of construction activity for each scenario/electrical solution has been undertaken. Full details of the traffic derivation is contained in the TA (<b>Appendix 24-1</b>) and key findings are summarised as follows.</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    | <p>The assessment of severance, amenity and road safety is informed through a consideration of the magnitude of change in daily traffic flows. In order to consider a worst-case scenario, the assessment utilises the peak daily traffic flows that could occur during the construction phase.</p> <p>The assessment of driver delay is informed through a consideration of changes in hourly traffic flows. In order to consider a worst-case scenario, the assessment utilises the peak daily traffic flows that could occur during the construction phase. Hourly flows are then calculated from peak daily traffic flows.</p> |
| Construction Scenarios                            | Analysis in the TA ( <b>Appendix 24-1</b> ) highlights that the construction of the Projects in isolation generates lower overall traffic flows than the construction of the Projects concurrently. The concurrent scenario is therefore considered to represent the worst case for the assessment of traffic and transport effects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Development Scenario (Onshore Export Cable Route) | The TA ( <b>Appendix 24-1</b> ) identifies that HVAC generates higher overall traffic flows than HVDC. A worst case has therefore been adopted that utilises the HVAC traffic metrics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>If the Projects are delivered concurrently or sequentially there are two possible electrical solutions:</p> <ul style="list-style-type: none"><li>• One HVDC Project and one HVAC Project; or</li><li>• Two HVDC Projects.</li></ul> <p>The TA (<b>Appendix 24-1</b>) identifies that HVAC generates higher overall traffic flows than HVDC, therefore a worst case has been adopted that utilises the HVAC traffic metrics for one Project and HVDC for the other.</p> |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Onshore Substations                               | The TA ( <b>Appendix 24-1</b> ) identifies that HVAC generates higher overall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | If DBS East and DBS West are delivered concurrently or sequentially, it is identified that there would be two onshore substations and that these could either both be                                                                                                                                                                                                                                                                                                      |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Parameter                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DBS East or DBS West in Isolation                                                                                                                                                                                                                                                                                                                                                        | DBS East and DBS West Concurrently                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DBS East and DBS West Sequentially | Notes and Rationale |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>traffic flows than HVDC. A worst case has therefore been adopted that utilises the HVAC onshore Substation metrics. Noting that the onshore substation could be located in either Substation Zone 1 or 4, the assessment adopts a worst case approach which assigns 100% of the onshore substation traffic to each, i.e. 100% to Substation Zone 1 and 100% to Substation Zone 4.</p> | <p>located in Zone 4 (but only as HVDC substations) or split between Zone 1 and Zone 4, with one substation being provided as HVAC and the second as HVDC or both being provided as HVDC.</p> <p>The TA (<b>Appendix 24-1</b>) identifies that a HVAC onshore substation generates higher overall traffic flows than a HVDC onshore substation.</p> <p>With regard to Zone 4 the worst case scenario therefore assumes two HVDC onshore substations are provided as this represents a worst case for this zone (two HVDC onshore substations generates more traffic than a single HVAC substation).</p> <p>With regard to Zone 1, only one substation could be provided within this zone. The assessment therefore utilises the worst case HVAC metrics.</p> <p>Noting that the two onshore substations could be located in Substation Zone 4 or split between Substation Zones 1 and 4 the assessment adopts a worst case approach which assigns 100% of the possible trips to each zone.</p> |                                    |                     |
| <b>Operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                     |
| <p>It is expected that the onshore substations will not be permanently manned; however, staff will periodically visit to carry out routine checks and maintenance. It is estimated that on average there would be one visit per week by two personnel (equivalent to up to four vehicle trips). Most annual maintenance will be short, however, if necessary, some campaigns may be longer. Any inspections / maintenance of the onshore export cable route will be infrequent and subject to very low vehicle demand. Considering the activities listed, no significant traffic and transport effects are anticipated during the operational phase and as agreed with the relevant highway authorities (detailed in <b>Table 24-1</b>), no operational scenarios will be assessed within this traffic and transport impact assessment.</p> |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                     |
| <b>Decommissioning</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                     |
| <p>No final decision regarding the final decommissioning policy for the onshore Projects infrastructure including landfall, onshore cable route and onshore substation has yet been made. It is also recognised that legislation and industry best practice change over time. However, it is likely that the onshore Projects equipment, including the cable, will be removed, reused or recycled wherever possible and the transition bays and cable ducts being left in place. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and will be agreed with the regulator. It is anticipated that for the worst case scenario, the impacts will be no greater than those identified for the construction phase.</p>                               |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                     |



## 24.3.3 Mitigation Embedded in the Design

24. This section outlines the embedded mitigation relevant to the traffic and transport assessment, which has been incorporated into the design of the Projects (**Table 24-3**). Where other mitigation measures are proposed, these are detailed in the impact assessment (section 24.6).

Table 24-3 Embedded Mitigation Measures

| Parameter                            | Mitigation Measures Embedded into the Project Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction Traffic Management Plan | <p>An outline Construction Traffic Management Plan (OCTMP) will be presented as part of the statutory consultation. The OCTMP contains details of measures to control, monitor and enforce HGV movements and provides details of the mechanisms for managing design of accesses and offsite highway works.</p> <p>The OCTMP also includes 'Travel Plan' measures to manage the number of single occupancy car trips.</p>                                                                                                                                                                                             |
| Strategy for Access                  | <p>An access strategy has been developed that seeks to reduce the impact of HGV traffic upon the most sensitive communities and to minimise travelling via narrow roads. The access strategy would be facilitated by:</p> <ul style="list-style-type: none"> <li>• The construction of a temporary haul road along the onshore cable route;</li> <li>• The creation of vehicle crossovers; and</li> <li>• Controls on vehicle routing.</li> </ul> <p>These embedded mitigation parameters are outlined further below, with the proposed location of accesses and vehicle crossovers shown in <b>Figure 24-2</b>.</p> |
|                                      | <p><b>Haul Road</b></p> <p>A temporary haul road would be used to provide safe access for construction vehicles along the onshore export cable corridor, thus reducing the requirement for vehicles to travel via the public highway.</p>                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter | Mitigation Measures Embedded into the Project Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <p><b>Vehicle Crossovers</b></p> <p>To avoid vehicle access via unsuitable locations, where the onshore export cable corridor and haul roads cross certain sensitive roads, no direct access would be provided, and vehicles would only be permitted to cross the highway. The proposed access strategy is described in detail within the TA (<b>Appendix 24-1</b>) and shown in <b>Figure 24-2</b>. In summary, it includes:</p> <ul style="list-style-type: none"> <li>• Bewholme Road and Dunnington Lane. To avoid construction traffic access via these narrow roads, HGV traffic would access via accesses (notated AC) AC2a or AC2b from the east and travel west along the temporary haul road crossing at crossing point (notated CR) CR1. The traffic would also access using access AC3 from the west and travel east along the temporary haul road crossing at CR2.</li> <li>• Billings Lane. To avoid construction traffic accessing via this narrow road, all HGV traffic would access via AC5 and travel north along the temporary haul road crossing at CR3.</li> <li>• Harsell Lane. To avoid construction traffic accessing via this narrow road, HGV traffic would access via AC6 and travel south along the temporary haul road crossing at CR4.</li> <li>• Catwick Heads Lane, Rise Lane. To avoid routeing HGV construction traffic via the villages of Catwick and accessing via narrow roads. Vehicles would access via AC9 and travel south along the temporary haul road crossing at CR5 and CR6.</li> <li>• Riston Road. To avoid routeing HGV construction traffic via Long Riston and Catwick, as well as being routed via narrow roads, vehicles will access via AC10 and travel northeast along the temporary haul road crossing at CR7.</li> <li>• Meaux Lane. To avoid routeing HGV construction traffic via this narrow road vehicles will access via AC13 and travel southeast along the temporary haul road crossing at CR8.</li> </ul> <p>These measures are captured in the OCTMP.</p> <p><b>Landfall AC1 and AC2 (a or b), vehicle routeing strategy</b></p> <p>To avoid the necessity for HGVs to travel through Atwick and Hornsea on the B1242 towards the landfall access, the vehicles would be routed via the B1242 or B1249 from the main A165.</p> |

| Parameter            | Mitigation Measures Embedded into the Project Design                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <p><b>Onshore cable export corridor, AC3, AC4, AC5, AC6, AC7, AC8, and AC9, vehicle routeing strategy</b></p> <p>To avoid the necessity for HGVs to travel via Hornsea and Atwick towards these accesses, the HGVs would be routed from the main A165 east towards the accesses.</p>                                                                                                                                                                                  |
|                      | <p><b>Onshore cable export corridor, accesses AC10, AC11, AC13, AC14, AC17a, AC17b, AC21 and AC22, vehicle routeing strategy</b></p> <p>To avoid HGV construction traffic using narrow roads within the local road network, these accesses will be served directly from main A-roads, namely the A1035 and A165.</p>                                                                                                                                                  |
|                      | <p><b>Onshore cable export corridor, accesses AC15, AC16, AC18, AC19 and AC20, vehicle routeing strategy</b></p> <p>To avoid HGV construction traffic being routed from the north, vehicle accessing these accesses would travel via the A1035 and travel from the south.</p>                                                                                                                                                                                         |
|                      | <p><b>Onshore substation accesses AC44 and/or AC42 vehicle routeing strategy</b></p> <p>To avoid HGV construction traffic using narrow roads within the local road network and impacting upon sensitive communities, access to the onshore substation(s) will be served directly from main A-roads, namely the A1079 and / or A164.</p>                                                                                                                               |
| Trenchless Crossings | <p>To avoid disruption to transport users whilst the Project's onshore export cables are installed under road and rail infrastructure, trenchless crossing techniques will be used at the following locations and shown in <b>Figure 24-3</b>:</p> <ul style="list-style-type: none"> <li>• The railway line between Hull and Bridlington (to the north of Beverley);</li> <li>• All A and B roads;</li> <li>• Dunnington Lane; and</li> <li>• Meaux Lane.</li> </ul> |
| B1230 Crossing       | <p>To avoid disruption to transport users whilst the Project's onshore export cables are installed under the B1230, temporary traffic signals will be utilised to allow shuttle working, i.e. one lane will remain open to traffic.</p>                                                                                                                                                                                                                               |

| Parameter                      | Mitigation Measures Embedded into the Project Design                                                                                                                                                                                                                                                         |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Park Lane Crossing             | To avoid disruption to transport users whilst the Projects' onshore export cables are installed under Park Lane, access would be maintained via either temporary road diversions/road widening within the DCO order limits.                                                                                  |
| Crossing Private Access Tracks | To avoid disruption to transport users whilst the Projects' onshore export cables are installed under private access tracks, temporary road diversions would be established. This would be via agreed diversion routes, via existing private tracks or a temporary access track within the DCO order limits. |

## 24.4 Assessment Methodology

### 24.4.1 Policy, Legislation and Guidance

#### 24.4.1.1 National Policy Statements

25. The assessment of potential impacts upon traffic and transport has been made with specific reference to the relevant National Policy Statements (NPS) (Department of Energy and Climate Change, 2011). The specific assessment requirements for traffic and transport, as detailed in the NPS, are summarised in **Table 24-4** together with an indication of the section of this chapter where each is addressed.
26. It is noted that the NPS for Energy (EN-1) is in the process of being revised and a draft version was published for consultation in September 2021 (Department for Business Energy and Industrial Strategy, 2021). **Table 24-4** therefore also includes consideration of any additional requirements.
27. Following the consultation in 2021 on the draft energy NPS, a new consultation opened on the 30th March 2023 on revised drafts of the energy NPSs, including EN1, EN3 and EN5. Due to the timing of this consultation, and finalisation of this PEIR we have been unable to review and take these revised draft NPS into account within these documents. However, these will be reviewed and incorporated into the final ES where relevant.

Table 24-4 NPS Assessment Requirements

| NPS Requirement                                                                                                                                                                                                                                                                                                                                                 | NPS Reference  | PEIR Section Reference                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EN-1 NPS for Energy</b>                                                                                                                                                                                                                                                                                                                                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| If a project is likely to have significant transport implications, the applicant's ES should include a Transport Assessment, using the New Approach To Appraisal / Transport Analysis Guidance methodology stipulated in Department for Transport guidance, or any successor to such methodology.                                                               | Section 5.13.3 | This chapter and the accompanying TA ( <b>Appendix 24-1</b> ) have been produced in accordance with current transport guidance (referenced later within section 24.4.1.2.2).                                                                                                                                                                                                                                                                         |
| Where appropriate, the applicant should prepare a Travel Plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for car parking associated with the proposal and to mitigate transport impacts. | Section 5.13.4 | <p>Section 24.6 contains an assessment of the potential effects on the transport network associated with the Projects and further outlines the mitigation measures for construction.</p> <p>An OCTMP will be presented as part of the statutory consultation. The OCTMP includes outline travel plan measures, which would be developed further in consultation with the relevant highway authorities prior to the commencement of the Projects.</p> |
| <b>Draft Overarching NPS for Energy (EN-1)</b>                                                                                                                                                                                                                                                                                                                  |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>The draft NPS, includes for an additional sentence at the end of section 5.13.4 of the NPS. This states that:</p> <p><i>The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports).</i></p>                                                                                                | Section 5.14.4 | Section 24.6 contains an assessment of the potential effects on the transport network associated with the Projects. No effects upon other transport services or infrastructure are anticipated.                                                                                                                                                                                                                                                      |

## 24.4.1.2 Other Legislation, Policy and Guidance

28. In addition to the NPS, there a number of pieces of legislation, policy and guidance applicable to the assessment of traffic and transport. Further detail is provided in **Chapter 3 Policy and Legislative Context**.

### 24.4.1.2.1 Local Planning Policy

29. EN-1 states that the Planning Inspectorate will also consider Development Plan documents or other documents in the Local Development Framework to be relevant to its decision making.
30. The TTSA falls under the jurisdiction of East Riding of Yorkshire Council and Hull City Council as the local highway authorities and East Riding of Yorkshire Council as the local authority.
31. **Table 24-5** provides details of the local planning policy documents and the policies contained within these which are relevant to traffic and transport. These policies have been considered within the development of this PEIR.

Table 24-5 Relevant Local Planning Policies

| Document                                                                  | Policy                                      | Policy / Guidance Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PEIR Section Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| East Riding Local Plan 2012 - 2029 Strategy Document - Adopted April 2016 | Policy EC4: Enhancing Sustainable Transport | <p><i>"In order to increase overall accessibility, minimise congestion and improve safety, new development will be supported where it is accessible, or can be made accessible, by sustainable modes of transport and addresses its likely transport impact.</i></p> <p><i>Development proposals should</i></p> <ul style="list-style-type: none"> <li><i>Produce and agree a transport assessment and travel plan, where a significant transport impact is likely..."</i></li> </ul> | <p>The scope of this traffic and transport assessment and accompanying TA (<b>Appendix 24-1</b>) has been discussed and agreed with East Riding of Yorkshire Council as outlined in <b>Table 24-1</b>.</p> <p>It has been agreed with East Riding of Yorkshire Council that an OCTMP will be submitted with the DCO application and that the OCTMP will include outline travel plan measures. A draft of the OCTMP will be provided as part of the statutory consultation.</p> <p>Section 24.6.1 contains an assessment of the Projects effects on traffic and transport receptors and outlines associated mitigation measures (as appropriate).</p> |
| Hull Local Plan 2016 - 2032 - Adopted                                     | Policy 25: Sustainable Travel               | In summary, Policy 25 sets out that developments should promote the use of                                                                                                                                                                                                                                                                                                                                                                                                            | Section 24.6.1 contains an assessment of the Projects construction traffic effects upon traffic and transport receptors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Document      | Policy                          | Policy / Guidance Purpose                                                                                                                                                                                                                                                                               | PEIR Section Reference                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| November 2017 |                                 | sustainable transport and have minimal impact on the environment and public health.                                                                                                                                                                                                                     | The traffic and transport metrics established in this chapter have also been used to inform the consideration of effects upon air quality and human health (detailed in <b>Chapter 26: Air Quality</b> ; and <b>Chapter 27: Human Health</b> ).                                                                                                                                                                                                   |
|               | Policy 27: Transport Appraisals | In summary, Policy 27 sets out that development should demonstrate an understanding of the travel requirements and resultant impacts by providing a transport appraisal (e.g. Transport Statement (TS)/ Transport Assessment (TA)/ Travel Plan (TP)) and Construction Management Plan where applicable. | <p>The scope of this traffic and transport assessment and accompanying TA (<b>Appendix 24-1</b>) has been discussed and agreed with Hull City Council as outlined in <b>Table 24-1</b>.</p> <p>It has been agreed with Hull City Council that an OCTMP will be submitted with the DCO application and that the OCTMP will include outline travel plan measures. An draft of the OCTMP will be provided as part of the statutory consultation.</p> |

## 24.4.1.2.2 Further Policy and Guidance

### 24.4.1.2.2.1 The Strategic Road Network and the Delivery of Sustainable Development

32. The Department for Transport policy paper Circular 01/2022 entitled 'The Strategic Road Network and the Delivery of Sustainable Development' (Department for Transport, 2022) sets out the ways in which National Highways will engage with the 'development industry', public bodies and communities to assist in the delivery of sustainable development.
33. Under the heading of General principles 01/2022, paragraphs 43 and 44 respectively note that:

*"The company [National Highways] expects development promoters to enable a reduction in the need to travel by private car and prioritise sustainable transport opportunities ahead of capacity enhancements and new connections on the SRN [Strategic Road Network] ..."*

*"Travel plans are an effective means of incentivising the use of sustainable modes of transport. Where these are required, development promoters must put forward clear targets and commitments to manage down the traffic impact of development and maximise the accessibility of and within sites by walking, wheeling, cycling, public transport and shared travel ..."*
34. Under the heading of Environmental Assessment 01/2022, paragraph 55 notes that:

*"... Environmental assessments must be comprehensive enough to establish the likely impacts on air quality, light pollution and noise arising from traffic generated by a development, along with the impacts from any proposed works to the SRN [Strategic Road Network] and identify measures to mitigate these impacts. Requirements and advice for undertaking environmental assessments in respect of transport impacts can be found in the DMRB"*
35. Circular 01/2022 requirements have been discussed with National Highways and are addressed within this PEIR and accompanying TA (**Appendix 24-1**).

### 24.4.1.2.2.2 Traffic Management Act 2004

36. The Traffic Management Act, 2004 (TMA) was introduced to address congestion and disruption on the road network. The TMA places a duty on Local Traffic Authorities to ensure the expeditious movement of traffic on their road network and those networks of surrounding local authorities.

37. The TMA directs effective communication between local highway authorities and parties interested in carrying out street works. The TMA encourages a disciplined approach and advance communication to plan the street works.
38. The TMA also contains extra powers for local traffic authorities to manage and direct street works beyond those contained in the New Roads and Street Works Act 1991.

#### 24.4.1.2.2.3 New Roads and Street Works Act 1991

39. The New Roads and Street Works Act, 1991(NRSA) was introduced to enable new roads to be provided, to make new provision with respect to street works and provides a legislative framework for street works by undertakers.
40. The aim of the NRWSA is to balance the statutory rights of highway authorities (street authorities) and undertakers (such as utility companies) to carry out works with the right of road users to expect the minimum disruption from works.

#### 24.4.1.2.2.4 Road Traffic Regulation Act 1984

41. The Road Traffic Regulation Act, 1984 (RTRA) was introduced to regulate or restrict traffic on the road network in the interests of safety.
42. The RTRA enables highway authorities to lawfully restrict and manage traffic. In particular, it sets out (in Part I) how Traffic Regulation Orders (or Traffic Management Orders) can be employed to limit or prevent the use of the road by a particular form of traffic.

#### 24.4.1.2.2.5 Highways Act 1980

43. The Highways Act, 1980 legislates the management and operation of the road network in England and Wales and places statutory duties/powers upon the highway authority. The Act provides for the creation, improvement, and maintenance of roads and for acquisition of land.
44. Section 62 and 278 of the Act provides for private developers to either fund or complete works to public highways outside or beyond the development site itself, such as traffic calming and capacity improvements.

#### 24.4.1.2.2.6 The Guidelines for the Environmental Assessment of Road Traffic

45. The Guidelines for the Environmental Assessment of Road Traffic (GEART) (Institute of Environmental Assessment, 1993) are guidelines for the assessment of the environmental impacts of road traffic associated with new developments, irrespective of whether the developments are subject to formal EIAs.

46. The purpose of the guidelines is to provide the basis for systematic, consistent and comprehensive coverage for the appraisal of traffic impacts arising from development projects. Impacts that may arise include pedestrian severance and amenity, driver delay, accidents and safety and noise, vibration and air quality.
47. GEART is the principal guidance that informs this assessment and section 24.4.3 of this chapter contains full details of how the guidance has been applied.

#### 24.4.1.2.2.7 Planning Practice Guidance – Travel Plans, Transport Assessment and Statements

48. Department for Transport, Transport Assessment guidance referred to in NPS EN-1, was withdrawn in October 2014 and was replaced with Planning Practice Guidance (PPG). For the purpose of assessing the effect of the Projects, the relevant PPG is 'Travel Plans, Transport Assessment and Statements' (henceforth referred to as the Transport PPG).
49. The Transport PPG (Department for Levelling Up, Housing and Communities, 2014) sets out the key principles to be adopted when developing a Transport Assessment as follows:
  - Proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
  - Established at the earliest practicable possible stage of a development proposal;
  - Be tailored to particular local circumstances (other locally determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally); and
  - Be bought forward through collaborative ongoing working between the local authority / transport authority, transport operators, rail network operators, Highways Agency (now National Highways) where there may be implications for the strategic road network and other relevant bodies.
50. The Transport PPG key principles have shaped the development of this PEIR and accompanying TA (**Appendix 24-1**) and can be seen throughout this chapter.

## 24.4.1.2.3 Further Technical Transport Guidance

51. Further supplementary technical transport guidance has been utilised in developing the EIA, these documents are outlined in **Table 24-6**.

Table 24-6 Supplementary Technical Transport Guidance

| Document                                                                                                                                                     | Purpose/Application                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design Manual for Roads and Bridges (DMRB) CD 123 – Geometric design of at-grade priority and signal-controlled junctions (National Highways, November 2021) | The DMRB has been prepared for trunk roads and motorways and has been adopted as best practice within this assessment for the design of all accesses.      |
| DMRB GG 119 – Road Safety Audit (Highways England, January 2020a)                                                                                            | Provides the requirements for road safety audit for highway schemes.                                                                                       |
| DMRB LA 112 – Population and Human Health (Highways England, January 2020b)                                                                                  | Sets out rights of way sensitivity thresholds for walkers, cyclist and horse-riders when crossing roads.                                                   |
| Manual for Streets (Chartered Institute of Highways and Transportation, 2007)                                                                                | Guidance to inform the visibility requirements for junctions where measured speeds are below 40mph.                                                        |
| Manual for Streets 2 (Chartered Institute of Highways and Transportation, 2010)                                                                              |                                                                                                                                                            |
| Traffic Signs Manual Chapter 8 Traffic Safety Measures and Signs for Road Works and Temporary Situations Part 1: Design (Department for Transport, 2009)     | Provides guidance upon temporary traffic management that will be used to inform the assessment of driver delay impacts related to temporary road closures. |

## 24.4.2 Data and Information Sources

### 24.4.2.1 Site Specific Surveys

52. In order to provide site specific and up to date information on which to base the impact assessment, traffic surveys were undertaken to inform data gaps identified in the TTSA. A summary of the surveys is outlined in **Table 24-7**, full details are presented within the TA (**Appendix 24-1**).

Table 24-7 Key Sources of TTSA Data

| Data Set                 | Spatial Coverage             | Date                                                                     | Notes                                                                                                                                                                                 |
|--------------------------|------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Automatic Traffic Counts | 20 locations within the TTSA | Traffic flows were obtained for a period of seven days in November 2022. | Traffic counts commissioned by the Applicant which provide classified hourly and daily count and speed data.<br><br>Full details are provided within the TA ( <b>Appendix 24-1</b> ). |

### 24.4.2.2 Other Available Sources

53. Other sources that have been used to inform the assessment are listed in **Table 24-8**.

Table 24-8 Other Available Data and Information Sources

| Data Set              | Spatial Coverage             | Year                                                                                                                                                                                                                               | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Traffic Flows         | 31 locations within the TTSA | Annual average daily traffic flows were obtained for 2019. Whilst more recent 2020 data is provided, these data include periods where traffic flows were impacted due to the Covid-19 pandemic and have therefore been discounted. | National road traffic statistics provides a summary of traffic flows and vehicle composition (e.g. HGV, car, motorcycle) for a range of motorways, 'A' road and minor roads across the UK.<br><br>Data was acquired for 31 of the 66 links within the TTSA. Full details of the data and application in the TTSA is presented in the TA ( <b>Appendix 24-1</b> ).                                                                                                                                                                             |
| Collision data        | All links within the TTSA.   | Data was acquired for the latest five-year period available at the time of drafting (01/01/2017 to 31/12/2021 for East Riding of Yorkshire Council and 31/10/2017 to 30/10/2022 for Hull City Council).                            | Collisions on the public highway that are reported to the police, and which involve injury or death are recorded by the police on a form known as STATS19 and collated by the relevant local highway authorities (East Riding of Yorkshire Council and Hull City Council).<br><br>The personal injury collision data includes a wide variety of information about the collision (such as time, date, location, road conditions).<br><br>Full details of the data and application in the TTSA is presented in the TA ( <b>Appendix 24-1</b> ). |
| Public Rights of Way  | The extent of the TTSA.      | n/a                                                                                                                                                                                                                                | Geographic Information System layer showing the location of Public Rights of Way (ProW).                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| National Cycle Routes | The extent of the TTSA.      | n/a                                                                                                                                                                                                                                | Map of the national cycle routes (NCR) from Sustrans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

54. The desk-based assessment of data sources was also supported by site visits to provide information to validate the existing baseline highway environment, clarifying characteristics and sensitive receptors.

### 24.4.3 Impact Assessment Methodology

55. **Chapter 6 EIA Methodology** provides a summary of the general impact assessment methodology applied. The following sections describe the methods used to assess the likely significant effects on traffic and transport. These principles have been augmented by traffic and transport specific methodologies (as prescribed in GEART) to inform a significance evaluation.
56. The methodology within the Scoping Report was presented to the traffic and transport ETG as part of the Evidence Plan Process (detailed in **Table 24-1**).
57. It was agreed during traffic and transport ETG meetings with East Riding of Yorkshire Council (on 23/11/2022) and National Highways and Hull City Council (on the 21/11/2022), that the potential traffic and transport impacts to be assessed are:
- Severance;
  - Amenity;
  - Road Safety;
  - Driver Delay; and
  - Abnormal Loads.
58. Traffic borne noise and vibration, air quality, and health effects have been informed by the traffic data outlined in this chapter. These effects are assessed in **Chapter 25 Noise**, **Chapter 26 Air Quality** and **Chapter 27 Human Health** respectively.

#### 24.4.3.1 Definitions

59. For each potential impact, the assessment identifies receptors sensitive to that impact and implements a systematic approach to understanding the impact pathways and the level of impacts (i.e. magnitude) on given receptors. The definitions of sensitivity and magnitude for the purpose of the traffic and transport assessment are provided in **Table 24-10** and **Table 24-11**.

## 24.4.3.2 Sensitivity

60. GEART identifies that it is necessary to identify particular user groups ('receptors') and associated locations, which may be sensitive to changes in the traffic and transport network conditions.
61. **Table 24-9** provides a summary of the potential impacts and an indication of the receptors affected and potential locations that will be considered within the assessment.

Table 24-9 Potential Impacts and Receptors

| Potential Impacts               | Receptors                             | Location                                                                                                                 |
|---------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Severance                       | Pedestrians, cyclists and equestrians | Local communities adjoining the TTSA, designated routes, e.g. Public Rights of Way (ProW), National Cycle Routes (NCRs). |
| Amenity                         |                                       |                                                                                                                          |
| Road Safety                     | All road users                        | The TTSA                                                                                                                 |
| Driver Delay (Capacity)         | Drivers and passengers in vehicles    | Highway links and junctions                                                                                              |
| Driver Delay (Highway Geometry) |                                       |                                                                                                                          |
| Driver Delay (Road Closures)    |                                       |                                                                                                                          |
| Abnormal Loads                  | All road users                        |                                                                                                                          |

### 24.4.3.2.1 Severance and Amenity

62. For the impacts of severance and amenity an evaluation of the TTSA has been undertaken to identify potential locations with a concentration of receptors which may be sensitive to changes in traffic conditions.
63. Definitions of the different sensitivity levels for highway traffic receptors are given in **Table 24-10**.

Table 24-10 Definition of Sensitivity for Receptors

| Sensitivity | Definition                                                                                                                                                                                                                                                                                                  |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High        | Concentrations of sensitive receptors (e.g. hospitals, schools, residential dwellings, areas with high footfall) and limited separation from traffic provided by the highway environment; or a low concentration of sensitive receptors and no separation from traffic provided by the highway environment. |
| Medium      | A low concentration of sensitive receptors (e.g. residential dwellings, pedestrian desire lines) and some separation from traffic provided by the highway environment.                                                                                                                                      |
| Low         | Few sensitive receptors.                                                                                                                                                                                                                                                                                    |
| Negligible  | Links that fall below GEART Rule 1 and 2 screening thresholds (see below) and major 'A' roads with no pedestrian, cycle or equestrian environment; or highway environment that can accommodate changes in volumes of traffic.                                                                               |

64. The definitions of the sensitivity levels based on the highway traffic receptors defined in **Table 24-10** have been applied to all links in the TTSA and is detailed in section 24.5.3.

#### 24.4.3.2.2 Road Safety

65. To assess the effects on road safety, the TA (**Appendix 24-1**) includes an examination of the existing collisions occurring within the TTSA to identify any areas of the highway with concentrations of collisions with similar patterns (termed collision clusters), or roads with collision rates that are higher than national averages.
66. These sites (summarised in **Table 24-15**) are considered to be sensitive to changes in traffic flows (sensitive receptors) and therefore a more detailed analysis of significance has been undertaken in the context of the proposals.

### 24.4.3.2.3 Driver Delay (Capacity)

67. Junctions and links that are operating at or above their theoretical capacity could be considered to be of high sensitivity, whilst junctions operating with spare capacity would be of negligible to medium sensitivity.
68. Recognising the extent of the TTSA (approximately 150km of highway network), a proportionate approach to the assessment of driver delay (capacity) effects has been discussed with the relevant highway authorities.
69. It was agreed (refer to **Table 24-1** for agreements) with the relevant highway authorities that for the PEIR, the assessment of driver delay (capacity) should present details of the peak hour increases in traffic flows via all 'A' roads within the TTSA.
70. The relevant highway authorities have confirmed that they would then review these changes in traffic flows and apply their local knowledge to advise of those junctions/links where they consider that the Projects could impact upon capacity.
71. These junctions/links would be considered to be sensitive to changes in traffic and will be assessed further within the ES. The remaining roads and junctions within the TTSA would therefore not be assessed further.

### 24.4.3.2.4 Driver Delay (Highway Geometry)

72. A review of all the links within the TTSA has been undertaken to identify those links of constrained width to prevent two vehicles from passing (therefore leading to potential delays associated with waiting and manoeuvring). A review of all links has been undertaken to identify these links, defined as roads less than 5.5m wide.
73. Within the TTSA there are five links (out of a total of 66 links) that are of constrained width, these are:
  - Link 7: Dunnington Lane;
  - Link 11: An unnamed road north of the A1035 (Link 10);
  - Link 58: Ings Road;
  - Link 73: Eske Lane; and
  - Jillywood Farm Access Road.
74. These five links are considered to be sensitive to increases in traffic and will be assessed further for driver delay. The remaining 62 links are not considered further.

#### 24.4.3.2.5 Driver Delay (Road Closures)

- 75. A review of all the links within the TTSA has been undertaken to identify links where open cut trenching may be used to install the Projects onshore export cables under the public highway.
- 76. The onshore cable corridor would cross approximately 26 public roads; of these, it is proposed that onshore export cables for the Projects would be installed under 15 roads using trenchless technologies (allowing the roads to remain open at all times).
- 77. **Figure 24-3** highlights those roads where trenchless technologies would be used and those where it is proposed that the onshore export cables may be installed using open cut techniques.
- 78. The 11 roads proposed to be potentially crossed by open cut techniques are considered to be sensitive to driver delay (road closure) impacts and are assessed further within this chapter. It is proposed that access for pedestrians and cyclists at these locations would be maintained at all times. Hence, only drivers may be subject to effects.

#### 24.4.3.2.6 Abnormal Loads

- 79. Abnormal load is a generic term applied when a vehicle or load exceeds the maximum standard parameters set out in The Road Vehicles Construction and Use Regulations, 1986 for height, width and weight. This term covers a broad range of vehicles, ranging from limited load projections permitted for standard vehicles to Special Order Vehicles designed specifically for the purpose of moving loads well in excess of standard vehicle parameters.
- 80. Legislation requires hauliers to notify the movement of most abnormal loads and abnormal vehicles to the police before moving them by road.
- 81. Loads that require Special Type Vehicles are defined as Abnormal Indivisible Loads (AILs) in The Road Vehicles (Authorisation of Special Types) (General) Order 2003. The Road Vehicles (Authorisation of Special Types) (General) Order limits gross weight of an AIL to 150 tonnes, axle weight to 16,500kg, length to 30m and/or width to 6.1m, above which a Special Order is required from National Highways (who manage approval on behalf of the Secretary of State for Transport).
- 82. The transformers for the Projects onshore substations will require Special Order AILs. In addition, there may also be a requirement for non-Special Order abnormal loads associated with large items of plant, cable drums, etc.

83. The Applicant has commissioned Wynns Ltd (consulting engineers specialising in the transportation of AILs) to undertake an AIL study assessing the effects of transporting the transformers to inform the management measures required for the transportation of AILs for the Projects. The AIL study is provided as **Appendix 24-2**. The AIL study considered three potential access options for accessing the onshore substations, however following completion, one of the options (to access Substation Zone 4 from the A164/A1079 junction) has been discounted.
84. The AIL study has identified that the load could come from the Port of Hull (Albert Docks) and travel to the onshore substation(s) via a preferred route of the A63, A1034 and A1079.
85. This route was utilised in 2022 for trailers carrying 256 tonne nett transformers for the Dogger Bank A and B substation currently under construction.
86. The AIL study highlights that the route is considered negotiable with local accommodation works along the route, including, overrunning of kerbs, removal of signs, traffic signals, bollards and pruning of trees, etc.
87. National Highways (responsible for the A63) have provided agreement in principle to this proposed route and confirmed the route as being structurally acceptable (outlined in **Appendix 24-2**).
88. No formal clarification has been obtained from East Riding of Yorkshire Council (responsible for the A1034 and A1079) at this stage. Engagement with East Riding of Yorkshire Council will continue post PEIR to confirm the suitability of the A1034 and A1079 and an update will be submitted in support of the DCO application.
89. The total forecast HGV movements (assessed within this chapter) include for the transportation of cable drums and plant, and these include non-Special Order abnormal loads. Further details regarding the derivation of traffic movements are contained within the TA (**Appendix 24-1**).
90. To ensure that potential impacts associated with the transportation of all AILs are managed and coordinated, a OCTMP will be submitted with the DCO application that would include a commitment that, prior to the movement of any AILs, the contractor would be required to submit notifications to the relevant authorities (police, highway authorities and bridge/ structure owners) through the Electronic Service Delivery for Abnormal Loads (EDSAL). The EDSAL process would detail which proposed routes would be used and ensure the timings would be co-ordinated and potential effects would not be significant.

## 24.4.3.3 Magnitude

91. Having identified the TTSA, GEART suggests application of the following rules to define the extent and scale of the assessment required:
  - Rule 1: Include highway links where 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 specifically sensitive areas where traffic flows are predicted to increase by 10% or more (or where the number of HGVs is predicted to increase by 10% or more).
92. In justifying these rules GEART examines the science of traffic forecasting and states:

*"It is generally accepted that accuracies greater than 10% are not achievable. It should also be noted that the day to day variation of traffic on a road is frequently at least some + or -10%. At a basic level, it should therefore be assumed that projected changes in traffic of less than 10% create no discernible environmental impact.*

*...a 30% change in traffic flow represents a reasonable threshold for including a highway link within the assessment."*
93. Therefore, changes in traffic flows below the GEART Rules (thresholds) are assumed to result in no discernible or negligible environmental effects and have therefore not been assessed further as part of the assessment.
94. The exception to the GEART Rule 1 and 2 is the consideration of the impacts of road safety and driver delay. These impacts can be potentially significant for lower changes in traffic flow when high baseline traffic flows are evident. Full details of the methodology adopted for these effects are set out later in this section.
95. Following initial screening, GEART, sets out considerations and, in some cases, thresholds in respect of changes in the volume and composition of traffic to facilitate a subjective judgement of traffic effect and significance.
96. It was agreed during the traffic and transport ETGs with the relevant highway authorities the potential traffic and transport impacts to be assessed (**Table 24-1** refers). The following sub-sections provide detail of the adopted methodology for assessing each of these impacts.

### 24.4.3.3.1 Severance

97. Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people. 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 relatively minor traffic flows if they impede pedestrian access to essential facilities. Severance impacts could equally be applied to residents, cyclists, or pedestrians (this includes users of PRow).
98. GEART suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate, and substantial respectively. These are transposed into the EIA magnitude of impact matrix (**Table 24-12**) as less than 30% as negligible, 30 – 60% as low, 60 – 90% as medium and greater than 90% as high respectively. However, GEART notes that these figures should be used cautiously, and the assessment should pay full regard to specific local conditions.
99. It is identified that the addition of traffic flow to low baseline traffic could present an exaggerated magnitude of change and overestimate the severance effects likely to occur on such links.

### 24.4.3.3.2 Amenity

100. Amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition, and separation from traffic. It can affect a range of non-motorised users such as pedestrians, cyclists, and equestrians (this includes users of PRow).
101. This definition also includes pedestrian fear and intimidation and can be considered to be a much broader category considering the overall relationship between pedestrians and traffic.
102. GEART suggests that a tentative threshold of a doubling of total traffic flow or the HGV component may lead to a negative effect upon amenity.
103. GEART recognises there will be a need for judgement to be exercised (especially in determining the degree of fear and intimidation) and special consideration should be given to areas where there are likely to be particular areas with higher than average levels of vulnerable groups.

### 24.4.3.3.3 Road Safety

104. The salient GEART guidance on road safety is as follows:
- “Where a development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to assess the implications of local circumstances, or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts.”*
105. In this context, a review of the existing collisions occurring within the TTSA was undertaken to identify any areas of the highway with concentrations of collisions (clusters) with similar patterns and links with collision rates higher than the national average (for comparable roads). These sites are considered to be sensitive to changes in traffic flows (sensitive receptors) and therefore a more detailed analysis of significance has been undertaken in the context of the proposals.
106. In addition to considering existing patterns of collisions, the TA (**Appendix 24-1**) outlines how any new risks associated with the formation of new points of access to the Projects would be managed and mitigated.

### 24.4.3.3.4 Driver Delay

107. GEART recommends the use of proprietary software packages to model vehicle delays. However, it is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to capacity.
108. During the traffic and transport ETGs with the relevant highway authorities the potential traffic and transport impacts to be assessed (**Table 24-1** refers) it was agreed that the assessment of driver delay should consider not only the impact of increases in traffic upon junction capacity but also delays related to highway geometry (e.g. routes where highway width is constrained) and roadworks.
109. The driver delay assessment applies to all vehicle users of the highway network including:
- Cars and light commercial vehicles (LCVs);
  - Motorcyclists;
  - Public transport;
  - Private transport (e.g. taxis)
  - HGVs; and
  - Emergency services.

#### *24.4.3.3.5 Driver Delay (Capacity)*

110. Paragraphs 67 to 71 present details of the proposed approach to the assessment of driver delay (capacity) at PEIR.

#### *24.4.3.3.6 Driver Delay (Highway Geometry)*

111. Road users can also experience delays where the existing width of the highway prevents two vehicles from passing and drivers are required to give-way to each other.
112. A review of the TTSA has been undertaken to identify all links where two vehicles would not be able to pass each other (section 24.4.3.2). An assessment of the potential changes in traffic flows and opportunities for vehicles to pass along these links (e.g. frequency of passing places) has been undertaken to inform a judgement regarding magnitude of impact.

#### *24.4.3.3.7 Driver Delay (Road Closures)*

113. Road users are likely to experience delays where road or lane closures may be required. It is anticipated that temporary road or lane closures may be required during construction where open cut techniques are used to install the Projects onshore export cables across the public highway. These locations are identified in section 24.6.1.7.2.
114. To assess the potential effects of temporary road closures, the assessment considers an initial worst case where a full road closure is required (i.e. access is not maintained via a single lane closure).
115. To inform a judgement regarding the magnitude of impact, the assessment considers the required length and duration of the detour that may be required to close the road.
116. The exception to this assessment approach is the B1230 and Park Lane where **Table 24-3** outlines embedded mitigation measures to ensure access is maintained through shuttle working (the use of traffic signals to alternate flows on a one-way section of road).
117. Chapter 8 of the Traffic Signs Manual (Department for Transport, 2009) provides guidance upon when various forms of road works are likely to introduce significant delays.
118. The assessment framework derived from Chapter 8 identifies a duty to inform of possible future delays where works will take longer than a week and introduce delays of over two minutes, or where moderate to severe delays of over 10 minutes are forecast (regardless of duration). On this basis delays of less than two minutes are considered to result in impacts of negligible magnitude.

## 24.4.3.3.8 Magnitude of Impact (Summary)

119. **Table 24-11** details the assessment framework for magnitude thresholds adapted from GEART. These thresholds are guidance only and provide a starting point by which transport data will inform a local analysis augmented by professional judgement of the magnitude of impact.

Table 24-11 Definition of Magnitude of Impacts

| Impacts                         | Magnitude of Impact                                                                                           |                                            |                                                                                                                                                    |                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                 | Negligible                                                                                                    | Low                                        | Medium                                                                                                                                             | High                                      |
| Severance                       | Change in total traffic flow of less than 30%                                                                 | Change in total traffic flows of 30 to 60% | Change in total traffic flows of 60 to 90%                                                                                                         | Change in total traffic flows of over 90% |
| Amenity                         | Change in traffic flow (or HGV composition) of less than 100%                                                 |                                            | Greater than 100% increase in traffic (or HGV composition) and a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall. |                                           |
| Road Safety                     | Informed by a review of existing collision records from within the TTSA and the forecast increase in traffic. |                                            |                                                                                                                                                    |                                           |
| Driver Delay (Capacity)         | Informed by a review of the potential increase in peak hour traffic through sensitive junctions and links.    |                                            |                                                                                                                                                    |                                           |
| Driver Delay (Highway Geometry) | Informed by a review of the potential increase in peak hour traffic through sensitive junctions and links.    |                                            |                                                                                                                                                    |                                           |
| Higher Delay (Road Closures)    | No or single lane road closure required, or delays of less than two minutes.                                  | Delays of two to 10 minutes.               | Delays over 10 minutes and a review based upon the quantum of vehicles and scheduled buses.                                                        |                                           |

## 24.4.3.4 Significance of Effect

120. The assessment of significance of an effect is informed by the sensitivity of the receptor and the magnitude of the impact. The determination of significance is guided by the use of an impact significance matrix presented in **Chapter 6 EIA Methodology**. Definitions of each level of significance are provided in **Table 24-13**. For the purposes of this assessment, any effect that is of major or moderate significance is considered to be significant in EIA terms, whether this be adverse or beneficial. Any effect that has a significance of minor or negligible is not significant.
121. The assessment of significance of an effect is informed by the sensitivity of the receptor (outlined in section 24.4.3.2) and the magnitude of the impact (section 24.4.3.3). The determination of significance is guided by the use of a traffic and transport significance of effect matrix, as shown in **Table 24-12**. Definitions of each level of significance are provided in **Table 24-13**. For the purposes of this assessment, any effect that is of major or moderate significance is considered to be significant in EIA terms, whether this be adverse or beneficial. Any effect that has a significance of minor or negligible is not significant.

Table 24-12 Traffic and Transport Significance of Effect Matrix

|             |            | Adverse Magnitude |            |            |            | Beneficial Magnitude |            |            |          |
|-------------|------------|-------------------|------------|------------|------------|----------------------|------------|------------|----------|
|             |            | High              | Medium     | Low        | Negligible | Negligible           | Low        | Medium     | High     |
| Sensitivity | High       | Major             | Major      | Moderate   | Minor      | Minor                | Moderate   | Major      | Major    |
|             | Medium     | Major             | Moderate   | Minor      | Minor      | Minor                | Minor      | Moderate   | Major    |
|             | Low        | Moderate          | Minor      | Minor      | Negligible | Negligible           | Minor      | Minor      | Moderate |
|             | Negligible | Minor             | Negligible | Negligible | Negligible | Negligible           | Negligible | Negligible | Minor    |

Table 24-13 Definition of Effect Significance

| Significance | Definition                                                                                                                                                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Major        | Very large or large change in receptor condition, which is likely to be important considerations at a regional or district level because they contribute to achieving national, regional or local objectives, or could result in exceedance of statutory objectives and / or breaches of legislation. |
| Moderate     | Intermediate change in receptor condition, which is likely to be important considerations at a local level.                                                                                                                                                                                           |
| Minor        | Small change in receptor condition, which may be raised as local issues but are unlikely to be important in the decision making process.                                                                                                                                                              |
| Negligible   | No discernible change in receptor condition.                                                                                                                                                                                                                                                          |
| No change    | No impact, therefore, no change in receptor condition.                                                                                                                                                                                                                                                |

## 24.4.4 Cumulative Effect Assessment Methodology

122. The cumulative effect assessment (CEA) considers other plans and projects that may result in cumulation of effect with the Projects. **Chapter 6 EIA Methodology** provides details of the general framework and approach to the CEA that will be undertaken for the Projects.
123. The final assessment of cumulative effects will be undertaken during the later stages of the EIA, once further information is available on a number of projects such as Jocks Lodge, Hornsea Project Four and various solar farm applications. However, for the purposes of the PEIR, it is possible to identify a number of projects and plans which are likely to feature in that assessment and consider the extent to which cumulative effects might arise. Section 24.4.4 presents the following preliminary information regarding cumulative effects:
  - Screening for cumulative effects; and
  - A preliminary short list of plans and projects considered for CEA, including a brief description as to how projects have been screened in and the initial tier level they have been assigned.

## 24.4.5 Assumptions and Limitations

124. This preliminary assessment is considered to be an interim stage in the EIA process. The results presented in the following sections are based on early design assumptions and initial assessments which will be refined and presented in the final ES to be submitted as part of the DCO application.
125. No further overarching assumptions or limitations have been identified that apply to the assessment for traffic and transport. Where routine assumptions have been made in the course of undertaking the assessment, these are noted in sections 24.5 to 24.10 and the accompanying TA (**Appendix 24-1**).

## 24.5 Existing Environment

126. As set out in section 24.4.2, characterisation of the existing environment in relation to traffic and transport has been informed through a number of sources, including:
- Desktop studies and site visits;
  - Personal injury collision data sourced from East Riding of Yorkshire Council and Hull City Council;
  - Traffic count information sourced from the Department for Transport; and
  - Traffic surveys commissioned for the Projects.
127. Details of link characteristics for all 66 links within the TTSA are detailed in the following sections:
- The existing background traffic flows and estimated future traffic flows (Table 24-16 and Table 24-17);
  - An audit of the sensitive receptors in the TTSA (section 24.5.3);
  - A detailed review of the baseline road safety conditions (section 24.5.4); and
  - An audit of the TTSA based on the highway geometry (section 24.5.5).

## 24.5.1 Existing Highway Network

- 128. This section provides a broad overview of the baseline characteristics of the 66 links forming the TTSA. These links are illustrated in **Figure 24-1**.
- 129. The Principal (A) road network in the TTSA includes the A1033, A1165 and A165 managed by Hull City Council, the A1035, A1079, A1174, A164 and A165 managed by East Riding of Yorkshire Council.
- 130. The A63 and the A15 (within the TTSA) form part of the Strategic Road Network managed by National Highways.

### 24.5.1.1 Strategic Road Network

- 131. The A63 provides a key strategic connection in East Yorkshire between Leeds and Hull. The A63 has key intersections with the A15 to the south and the A164 and A1033 to the north.
- 132. Within the TTSA, the A63 comprises of a dual carriageway throughout with both at-grade and grade separated junctions.
- 133. National Highways are currently constructing improvements to the A63 known as the 'A63 Castle Street improvements'. The improvements are scheduled to be open in 2024/2025 and are proposed to relieve congestion and provide better access to the Port of Hull by improving the A63 Castle Street.

### 24.5.1.2 A-roads (East Riding of Yorkshire Council and Hull City Council Areas)

- 134. The A1035 is a predominantly single-lane single carriageway road that heads west from a roundabout with the A165 to the east of the village of Leven, passing to the north of Beverley, and linking up with the A1079 to the east of Bishop Burton. A short section of the A1035 to the east of Leven is provided as dual carriageway. The traffic-free NCR 1 is parallel to the A1035 Constitution Hill, north-west of Beverley. Footways are also present along the A1035 within proximity of existing developments.
- 135. The A1079 is a primary route that connects York and Hull. Within the TTSA, the A1079 is a single-lane single carriageway road (except for a short stretch at the junction with the A164) that routes from Hull to the south of Beverley before linking up with the A1035 close to Bishop Burton.

136. The A164 is a cross-country road in East Yorkshire, which travels north from Hessle to Driffield, bypassing the City of Hull to the west of the city. Within the TTSA, the A164 links the A63 (to the south of Hull) with the A1035 (to the east of Beverley). The A164 is predominantly a single lane single carriageway road except for its extent between the Castle Road roundabout and the B1232 roundabout. There are footways present along the A164 within proximity of existing developments.
137. East Riding of Yorkshire Council are planning improvements to the junction of the A1079 and A164, known as the 'Jocks Lodge junction improvement scheme'. The improvements are proposed to be complete by 2026 and are designed to improve safety and capacity at the junction.
138. The A165 is a designated primary route in East Yorkshire that links Scarborough and Hull. Within the TTSA, the A165 routes south from Carnaby through Lissett, Beeford, Brandesburton and Leven to the roundabout between it and the A1035. After which, the A165 continues south into Hull, until its junction with the A1033. The A165 is predominantly a single-lane carriageway road with footways present within proximity of developed areas. Between the Brandesburton roundabout and the White Cross roundabout, the A165 is a four-lane dual carriageway.
139. The A1174 is a single carriageway A-road that provides a link between the A1079 (to the north of Hull) and the A1035 (to the east of Beverley). Within the TTSA, a continuous footway / cycleway is provided alongside the A1174.
140. The A1033 provides a north westerly link between the A63 and A165 in Hull and the A1079 to the southwest of Beverly. An off-road footway/cycleway is provided alongside the majority of the route.

### 24.5.1.3 B-roads and Other Local Roads

141. From the main A road network, in order to access many of the proposed construction access points for the Projects, construction vehicles would need to utilise the local road network for a short part of their journey.
142. **Figure 24-2** depicts the proposed access locations, whilst the TA (**Appendix 24.1**) provides a description of the proposed routes that construction traffic would use to access each of the accesses from the main A road network.

## 24.5.2 Traffic Flow Data

143. Traffic flow data for 65 out of 66 links within the TTSA have been informed by traffic counts. The TA (**Appendix 24-1**) contains full details of these counts and a summary of the baseline traffic flows for all links within the TTSA.
144. Traffic flows on Link 58 have been estimated as the link provides an access to a car park and one property only.
145. Current Transport Analysis Guidance from the Department for Transport (Department for Transport, May 2020) directs that assessment of traffic impacts should be based on normal ('neutral') conditions (i.e. not during school holidays). Neutral months are defined as March to July and September to November. This approach is also in keeping with highway network management practice across the UK.
146. In accordance with current guidance, background traffic flows (contained in section 24.5.2) are therefore representative of neutral traffic conditions. The adoption of neutral conditions represent a robust baseline as it provides a better indicator of the magnitude of impact of the Project's traffic, whereas an elevated baseline, would inadvertently reduce the magnitude of impact based on the percentage increase in traffic.
147. This approach was agreed with the relevant highway authorities during the traffic and transport ETGs with (**Table 24-1** refers), however East Riding of Yorkshire Council has identified that traffic flows within their administration area are subject to seasonal fluctuations.

## 24.5.3 Link Based Sensitive Receptors

148. The sensitivity of a road (link) can be defined by the type of user groups who may use it. A sensitive area may for example be a village environment or where pedestrian or cyclist activity may be high, for example near a school. **Table 24-10** provides broad definitions of the different sensitivity levels (derived from GEART) which have been applied to the assessment.
149. A desktop exercise augmented by site visits has been undertaken to identify the sensitive receptors in the TTSA. **Table 24-14** provides broad definitions of the different sensitivity levels (derived from GEART) which have been applied to the assessment of severance and amenity. All 66 links within the TTSA have been assessed and assigned a sensitivity. **Figure 24-4** illustrates these routes graphically.

Table 24-14 Link Based Sensitive Receptors

| Link ID. | Link sensitivity | Rationale for applied link sensitivity                                                                                                                                                                                                                             |
|----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Low              | A main A-road with sporadic frontage development.                                                                                                                                                                                                                  |
| 2        | Medium           | A main A-road with a low number of receptors for the majority of the link with a larger number of diverse receptors as the link heads into Beeford village.                                                                                                        |
| 3        | Low              | A main A-road with sporadic frontage development.                                                                                                                                                                                                                  |
| 4        | High             | A B-road which passes through villages with frontage developments, including residential and commercial properties. The link is also crossed by PRow.                                                                                                              |
| 5        | High             | A B-road with receptors at both ends of the link at Beeford village where there are residential frontage developments and Skipsea village where there are residential and commercial frontages. The link is also crossed by PRow.                                  |
| 6        | High             | A B-road with a high number of sensitive receptors as the link passes through the centre of Skipsea village including a primary school and residential and commercial frontages.                                                                                   |
| 7        | Low              | An unclassified road with no identified receptors along the link.                                                                                                                                                                                                  |
| 8        | Low              | An unclassified road with sporadic frontage development including residential properties and accesses to industrial development.                                                                                                                                   |
| 9        | Negligible       | A main A-road with no receptors along the link.                                                                                                                                                                                                                    |
| 10       | Medium           | The link is a main A-road with a few receptors except within the village of Catwick where there is frontage residential development. Within Catwick village there is limited separation between the carriageway and the footway. The link is also crossed by PRow. |
| 11       | Low              | An unclassified road with limited sensitive receptors along the link.                                                                                                                                                                                              |
| 12       | Negligible       | A main A-road with no receptors along the link.                                                                                                                                                                                                                    |

| Link ID. | Link sensitivity | Rationale for applied link sensitivity                                                                                                                                                                                                                                                     |
|----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13       | Low              | A main A-road which bypasses the village of Long Riston. There is sporadic frontage development adjacent to the link.                                                                                                                                                                      |
| 14       | High             | A main A-road which passes through the village of Skirlaugh. Within the village of Skirlaugh there are residential and commercial frontage development along the roads as well as a public house. There is limited separation between the carriageway and the footway through the village. |
| 15       | Low              | A main A-road with a sporadic frontage development. The link is crossed by NCR 68 and a bridleway.                                                                                                                                                                                         |
| 16       | High             | A main A-road that passes residential developments with limited separation between the footway and carriageway.                                                                                                                                                                            |
| 17       | Low              | A main A-road which has limited frontage development and separation between the carriageway and footway.                                                                                                                                                                                   |
| 18       | High             | A main A-road passing through an area of dense residential and commercial development, including public houses, doctor's surgery and supermarkets, with limited separation between the footway and carriageway with on-road cycleways.                                                     |
| 19       | Low              | A main A-road with sporadic frontage development, primarily consisting of commercial properties. A footway / cycleway is provided alongside the road linked by controlled crossings.                                                                                                       |
| 20       | Medium           | An A-road which passes several commercial, residential and industrial developments as well as a prison and a public house. A footway / cycleway is provided alongside the main carriageway linked by controlled crossings.                                                                 |
| 21       | Low              | An A-road with sporadic frontage development and a wide footway / cycleway alongside the main carriageway linked by controlled crossings.                                                                                                                                                  |
| 22       | Low              | A main A-road with a low number of sensitive receptors and a footway / cycleway alongside the main carriageway linked by a controlled crossing.                                                                                                                                            |
| 23       | Negligible       | A main A-road with no receptors along the link.                                                                                                                                                                                                                                            |

| Link ID.  | Link sensitivity | Rationale for applied link sensitivity                                                                                                                                                                                                                      |
|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 24 and 25 | Low              | A main A-road with a low number of sensitive receptors along the link. A footway is provided alongside part of the to allow pedestrians and cyclists to cross the carriageway safely via bridges, underpasses and signalised crossings.                     |
| 26 and 27 | Negligible       | A main A-road with no sensitive receptors along the link.                                                                                                                                                                                                   |
| 28        | Low              | A main A-road with few sensitive receptors along the link and a wide footway / cycleway alongside the main carriageway linked by controlled crossings.                                                                                                      |
| 29        | Low              | A main A-road across the Humber Bridge, with parallel footway separated from the traffic.                                                                                                                                                                   |
| 30 and 31 | Negligible       | A main A-road with no sensitive receptors along the link.                                                                                                                                                                                                   |
| 32        | Low              | A main A-road with limited frontage development.                                                                                                                                                                                                            |
| 33        | Low              | A main A-road with no frontage development. A footway is provided alongside the link for a short distance.                                                                                                                                                  |
| 34 and 35 | Low              | A main A-road with limited frontage development. A footway is provided alongside the link. The link is crossed by a PROW.                                                                                                                                   |
| 36 and 37 | Low              | An unclassified road with no footway or frontage development. The link is crossed by a PROW.                                                                                                                                                                |
| 38        | Low              | A main A-road with limited frontage development and a footway is provided alongside the link.                                                                                                                                                               |
| 39        | Low              | A B-road with no frontage development.                                                                                                                                                                                                                      |
| 40        | Low              | A main A-road with limited frontage development, the link however provides access to a leisure centre. A footway / cycleway is provided alongside the road which is set back from the edge of the road and linked by controlled and uncontrolled crossings. |
| 45        | Low              | Main A-roads with limited sensitive receptors. A footway / cycleway is provided alongside the road.                                                                                                                                                         |

| Link ID.      | Link sensitivity | Rationale for applied link sensitivity                                                                                                                                                                                                    |
|---------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 46 and 49     | High             | An A-road with a high number of sensitive receptors, including residential properties, commercial development and primary schools. A footway/cycleway is provided alongside the link.                                                     |
| 50, 51 and 52 | Low              | A main A-road with limited frontage development. A footway/cycleway is provided alongside the link.                                                                                                                                       |
| 53            | High             | A main A-road with a high number of sensitive receptors, including a hospital, residential properties, commercial and industrial development. A footway / cycleway is provided alongside the link. The cycle route forms part of NCR 164. |
| 54 and 55     | Low              | A main A-road with sporadic frontage development. A footway / cycleway is provided alongside the link. The cycle route forms part of NCR 164.                                                                                             |
| 56            | Medium           | A main A-road with some frontage development including residential properties and commercial development. A footway / cycleway is provided alongside the link. The cycle route forms part of NCR 164.                                     |
| 57            | Low              | A main A-road with sporadic frontage development. A footway / cycleway is provided alongside the link. This link is crossed by the Minster PRow.                                                                                          |
| 58            | Low              | An unclassified road leading to a farm and a car park, the road is narrow and has no footway or cycleway.                                                                                                                                 |
| 59            | Low              | A main A-road which provides access to the Beverley Ambulance Station. A footway is provided alongside the link.                                                                                                                          |
| 60            | Low              | A main A-road with sporadic frontage development. A footway / cycleway is provided alongside the link. The cycle route forms part of NCR 1.                                                                                               |
| 61            | Low              | A main A-road with sporadic frontage development.                                                                                                                                                                                         |
| 62            | Low              | A main A-road with sporadic frontage development. A footway is provided alongside the link.                                                                                                                                               |
| 63            | Negligible       | A main A-road with no sensitive receptors along the link.                                                                                                                                                                                 |
| 64            | Low              | An unclassified road with sporadic frontage development.                                                                                                                                                                                  |

| Link ID.  | Link sensitivity | Rationale for applied link sensitivity                                                                                                                                                                                                                     |
|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 65        | High             | A main A-road with a concentration of frontage development including residential properties and a public house as the link enters Bishop Burton. No footway is present until Bishop Burton, within Bishop Burton a footway is provided alongside the road. |
| 66        | Negligible       | A main A-road with no frontage development.                                                                                                                                                                                                                |
| 68        | Low              | An unclassified road with sporadic frontage development.                                                                                                                                                                                                   |
| 69        | High             | A B-road with a concentration of frontage development within Walkington village, including residential properties, public houses and shop. An offroad footway/cycleway is provide along the majority of the link. The cycle way forms part of NCR 164.     |
| 71        | Medium           | A B-road with a concentration of residential frontage development. An offroad footway/cycleway is provide along the majority of the link. The cycle way forms part of NCR 164.                                                                             |
| 73        | Low              | An unclassified road with limited sensitive receptors.                                                                                                                                                                                                     |
| 74 and 75 | Low              | Main A-roads with limited sensitive receptors. A footway / cycleway is provided alongside the road.                                                                                                                                                        |

## 24.5.4 Road Safety

150. To assess whether the Projects would have an adverse effect upon road safety it is necessary to establish a baseline and identify any inherent road safety issues within the TTSA.
151. It was agreed during the traffic and transport ETGs with the relevant highway authorities (**Table 24-1** refers) that the road safety review should examine the baseline collision data to identify those areas that are potentially sensitive to changes in traffic and that this review should include:
  - Examining the rate of collisions per length of road in miles ('collision rates') and comparing this to a national average for comparable roads; and
  - Reviewing the types of collisions at defined clusters of four or more collisions within three years (or three in a single year), ('collision clusters') to understand any patterns or trends, especially those involving HGVs and vulnerable road users (namely cyclists, pedestrians and motorcyclists).
152. The TA (**Appendix 24-1**) details an audit of the TTSA and provides a road safety baseline including collision rates and cluster locations.
153. A summary of the identified collision clusters by link and whether the link has a collision rate below or above the national average for comparable roads is presented in **Table 24-15**. Where the link has collision clusters and/or a collision rate above the national average, **Table 24-15** outlines the link will be subject to further assessment (detailed in section 24.6.1.4).

Table 24-15 Road Safety Summary

| Link ID. | Collision Clusters                                                    | Collision Rate         | Further Assessment |
|----------|-----------------------------------------------------------------------|------------------------|--------------------|
| 1        | Collision cluster 1, at the junction of Link 1 and Manor Farm         | Below national average | Yes                |
| 2        | Collision cluster 2, at the junction between Link 2 and Main Street   | Below national average | Yes                |
| 3        | No collision clusters present                                         | Below national average | No                 |
| 4        | No collision clusters present                                         | Above national average | Yes                |
| 5        | No collision clusters present                                         | Above national average | Yes                |
| 6        | No collision clusters present                                         | Above national average | Yes                |
| 7        | No collision clusters present                                         | Below national average | No                 |
| 8        | No collision clusters present                                         | Above national average | Yes                |
| 9        | Collision cluster 3, at the roundabout junction of links 9, 10 and 12 | Above national average | Yes                |
| 10       | Collision cluster 3, at the roundabout junction of Links 9, 10 and 12 | Above national average | Yes                |
|          | Collision cluster 4, at the junction of Link 10 and Catwick Lane      |                        |                    |
| 11       | No collision clusters present                                         | Below national average | No                 |
| 12       | Collision cluster 3, at the roundabout junction of Links 9, 10 and 12 | Below national average | Yes                |
|          | Collision cluster 5, at roundabout junction of Links 13 and 54        |                        |                    |
| 13       | Collision cluster 5, at roundabout junction of Links 12 and 54        | Below national average | Yes                |
| 14       | No collision clusters present                                         | Below national average | No                 |

| Link ID. | Collision Clusters                                                    | Collision Rate         | Further Assessment |
|----------|-----------------------------------------------------------------------|------------------------|--------------------|
| 15       | No collision clusters present                                         | Above national average | Yes                |
| 16       | Collision cluster 6, at roundabout junction with Link 17              | Above national average | Yes                |
| 17       | Collision cluster 6, at roundabout junction with Link 16              | Below national average | Yes                |
|          |                                                                       |                        |                    |
| 18       | Collision cluster 7, at junction between Link 18 and Bellfield Avenue | Above national average | Yes                |
|          | Collision cluster 8, at junction between Link 18 and Marfleet Lane    |                        |                    |
|          | Collision cluster 9, at junction between Link 19 and 74               |                        |                    |
| 19       | Collision cluster 9, at junction between Link 18 and 74               | Above national average | Yes                |
|          | Collision cluster 10, at roundabout junction with Link 20             |                        |                    |
| 20       | Collision cluster 10, at roundabout junction with Link 19             | Above national average | Yes                |
|          | Collision cluster 11, at roundabout between Links 21 and 23           |                        |                    |
| 21       | Collision cluster 11, at roundabout between Links 20 and 23           | Below national average | Yes                |
| 22       | No collision clusters present                                         | Below national average | No                 |
| 23       | Collision cluster 11, at roundabout between Links 20 and 21           | Below national average | Yes                |

| Link ID. | Collision Clusters                                                               | Collision Rate         | Further Assessment |
|----------|----------------------------------------------------------------------------------|------------------------|--------------------|
| 24       | Collision cluster 12, at roundabout junction between A1165 and Link 24           | Below national average | Yes                |
|          | Collision cluster 13, at junction between Link 24, Market place and Queen Street |                        |                    |
|          | Collision cluster 14, on Link 24 250m west from collision cluster 21             |                        |                    |
|          | Collision cluster 15, at junction with Link 25                                   |                        |                    |
| 25       | Collision cluster 15, at junction with Link 24                                   | Below national average | Yes                |
| 26       | Collision cluster 16, on Link 26 2km east of junction with A15                   | Below national average | Yes                |
| 27       | No collision clusters present                                                    | Below national average | No                 |
| 28       | Collision cluster 17, at roundabout junction of Links 29 and 30                  | Above national average | Yes                |
| 29       | Collision cluster 18, at toll booths on the bridge                               | Above national average | Yes                |
|          | Collision cluster 17, at roundabout junction of Links 28 and 30                  |                        |                    |
| 30       | Collision cluster 17, at roundabout junction of Links 28 and 29                  | Above national average | Yes                |
| 31       | No collision clusters present                                                    | Below national average | No                 |
| 32       | Collision cluster 19, at Willerby Hill roundabout                                | Above national average | Yes                |

| Link ID. | Collision Clusters                                                                              | Collision Rate         | Further Assessment |
|----------|-------------------------------------------------------------------------------------------------|------------------------|--------------------|
|          | Collision cluster 20, at roundabout junction of Link 33                                         |                        |                    |
| 33       | Collision cluster 20, at roundabout junction of Link 32                                         | Below national average | Yes                |
| 34       | No collision cluster present                                                                    | Below national average | No                 |
| 35       | Collision cluster 21, at junction between Link 35 and entry/exit to the A1079 (Links 63 and 66) | Above national average | Yes                |
| 36       | No collision cluster present                                                                    | Above national average | Yes                |
| 37       | No collision cluster present                                                                    | Above national average | Yes                |
| 38       | Collision cluster 22, at junction with 51                                                       | Above national average | Yes                |
| 39       | No collision cluster present                                                                    | Below national average | No                 |
| 40       | Collision cluster 23, at roundabout junction with Link 75                                       | Below national average | Yes                |
|          | Collision cluster 24, at roundabout junction with Link 45                                       |                        |                    |
| 45       | Collision cluster 24, at roundabout junction with Link 40                                       | Above national average | Yes                |
|          | Collision cluster 25, at roundabout junction between Link 46 and 66                             |                        |                    |
| 46       | Collision cluster 25, at roundabout junction between Link 45 and 66                             | Above national average | Yes                |
| 49       | No collision cluster present                                                                    | Above national average | Yes                |
| 50       | No collision cluster present                                                                    | Below national average | No                 |

| Link ID. | Collision Clusters                                                            | Collision Rate         | Further Assessment |
|----------|-------------------------------------------------------------------------------|------------------------|--------------------|
| 51       | Collision cluster 22, at roundabout junction with Link 38                     | Above national average | Yes                |
| 52       | No collision cluster present                                                  | Below national average | No                 |
| 53       | No collision cluster present                                                  | Below national average | No                 |
| 54       | Collision cluster 5, at roundabout junction of Links 12 and 13                | Below national average | Yes                |
| 55       | No collision cluster present                                                  | Above national average | Yes                |
| 56       | No collision cluster present                                                  | Below national average | No                 |
| 57       | Collision cluster 26, at roundabout junction between Links 59 and 60          | Below national average | Yes                |
| 58       | No collision cluster present                                                  | Below national average | No                 |
| 59       | Collision cluster 26, at roundabout junction between Links 57 and 60          | Above national average | Yes                |
| 60       | No collision cluster present                                                  | Above national average | Yes                |
| 61       | Collision cluster 27, 600m south of Dog Kennel Lane roundabout                | Above national average | Yes                |
|          | Collision cluster 28, at roundabout junction between Links 62, 63, 64 and 65. |                        |                    |
| 62       | Collision cluster 28, at roundabout junction between Links 62, 63, 64 and 65. | Above national average | Yes                |
| 63       | Collision cluster 28, at roundabout junction between Links 61 62, 64 and 65.  | Below national average | Yes                |

| Link ID. | Collision Clusters                                                            | Collision Rate         | Further Assessment |
|----------|-------------------------------------------------------------------------------|------------------------|--------------------|
| 64       | Collision cluster 28, at roundabout junction between Links 61, 62, 63 and 65. | Below national average | Yes                |
| 65       | Collision cluster 28, at roundabout junction between Links 61, 62, 63 and 64. | Above national average | Yes                |
| 66       | No collision cluster present                                                  | Below national average | No                 |
| 68       | No collision cluster present                                                  | Below national average | No                 |
| 69       | No collision cluster present                                                  | Below national average | No                 |
| 71       | No collision cluster present                                                  | Below national average | No                 |
| 73       | No collision cluster present                                                  | Below national average | No                 |
| 74       | Collision cluster 10, with junction between Links 18 and 19                   | Below national average | Yes                |
|          | Collision cluster 24, at junction with Link 40                                |                        |                    |
|          | Collision cluster 29, at roundabout junction with A1165                       |                        |                    |
|          | Collision cluster 30, at roundabout junction with B1237                       |                        |                    |
|          | Collision cluster 31, at roundabout junction with Link 75                     |                        |                    |
| 75       | Collision cluster 23, at roundabout junction with Link 40                     | Above national average | Yes                |
|          | Collision cluster 31, at roundabout junction with Link 74                     |                        |                    |

## 24.5.5 Future Trends

154. In the event that the Projects are not developed, an assessment of future conditions for traffic and transport has been carried out and is described within this section.

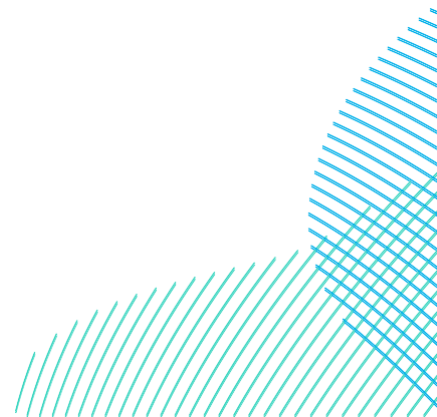
### 24.5.5.1 Future Year Traffic Flows

155. The earliest date that the main construction works would be likely to start would be 2026.
156. In order to consider a worst-case scenario, a reference year for background traffic of 2026 has been derived. The rationale for this is later years would result in higher background traffic flows and therefore a lesser magnitude of impact.
157. To take account of changes in travel patterns and sub-regional growth in housing and employment, a proportionate approach to forecasting future traffic growth for the 2026 reference year has been agreed during the traffic and transport ETG with the relevant highway authorities (**Table 24-1** refers).
158. Forecast 2026 future year baseline traffic flows are presented in **Table 24-16** and **Table 24-17**. The TA (**Appendix 24-1**) includes details of the approach to forecasting these flows using growth factors from the Department for Transport Trip End Model Presentation Programme software (known as TEMPro).

### 24.5.5.2 Climate Change and Natural Trends

159. Decarbonising Transport: A Better Greener Britain (Department for Transport, 2021) identifies that transport is the largest contributor to UK domestic greenhouse gas (GHG) emissions, and that emissions from transport have been broadly flat for the last 30 years.
160. The UK Government has enshrined in law the commitment to 'net zero' by 2050, and notably, has banned the sale of new full petrol and diesel cars and vans from 2030.
161. To meet the commitments to net-zero, '*Decarbonising Transport*' outlines broad approaches to how transport will be 'decarbonised'. These can be categorised as:
- Accelerating modal shift, e.g. increasing the number of journeys made by walking or cycling as opposed to road transport, and supporting the shift from road freight to rail or water, etc.; and
  - Decarbonising emissions from all transport modes, e.g. through adoption of electric vehicles.

162. Given the rate of technological advancement in the decarbonisation of transport, and legal commitments to net-zero, it is anticipated that GHG emissions will be reduced from current baseline levels. These predictions for forecast changes in vehicle emissions are reflected in the assessment of air quality (**Chapter 26 Air Quality**).
163. The contribution of decarbonisation from modal shift is harder to forecast, especially given the significant ongoing travel choice changes related to the Covid-19 pandemic. *Decarbonising Transport* notes:  
*“Last year, we commissioned research (see Part 2) to understand the impact of COVID-19 on current and future travel choices. It now seems likely some of the necessary short-term changes brought about by the pandemic, including the rise of home working, could remain for the longer-term and could become permanent shift in travel habits. This has created additional uncertainty for projecting forward transport usage and potential carbon emissions. It seems highly unlikely that the demand, patterns, timings, and modal choices of transport users across all forms of transport will simply return to those of 2019”*
164. The forecast for future traffic growth within the TTSA (outlined in section 24.5.5.1) has a basis in pre-COVID-19 travel patterns and is considered to be an upper bound for total traffic flows and a cautious application of modal shift. The forecast for future traffic growth presented in this chapter are therefore considered to be representative of a worst-case scenario in terms of total traffic on the highway network.



## 24.6 Assessment of Significance

- 165. This section assesses the potential effects of the Projects on sensitive receptors within the TTSA.
- 166. The identification of the traffic and transport environmental effects is based on an assessment of the volume of traffic demand associated with the Projects. The TA (**Appendix 24-1**) contains the derivation of the Projects construction traffic flows and background (baseline) traffic flows that have informed this assessment.
- 167. Unless otherwise specified, the Project's vehicle trips quoted herein are inclusive of two-way movements, i.e. quoted HGV trips represent the laden trip from source and the unladen trip back to source; and employee vehicle trips represent the inbound and outbound journeys. For example, 20 HGV trips comprise 10 laden trips from source and 10 outbound unladen trips back to source.

### 24.6.1 Potential Effects During Construction

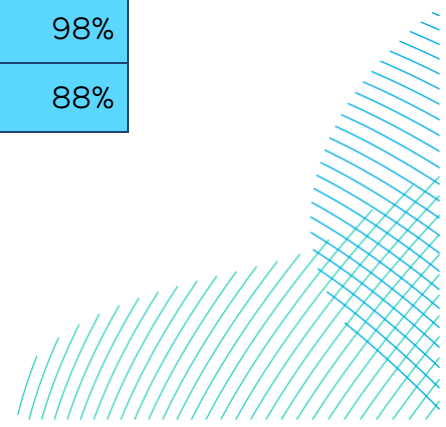
#### 24.6.1.1 Construction Traffic Impact Screening

- 168. With reference to GEART (Rule 1 and Rule 2), a screening process has been undertaken for the TTSA to identify routes that are likely to have significant changes in traffic flows and therefore require further impact assessment.
- 169. **Table 24-16** and **Table 24-17** summarise the assigned daily peak vehicle trips generated by all materials, personnel and plant associated with the construction of DBS East or DBS West in isolation and DBS East and DBS West concurrently, respectively.
- 170. **Table 24-16** and **Table 24-17** also provide a comparison of the peak daily construction flows with the forecast background daily traffic flows in 2026 and identifies the links exceeding the GEART screening thresholds.

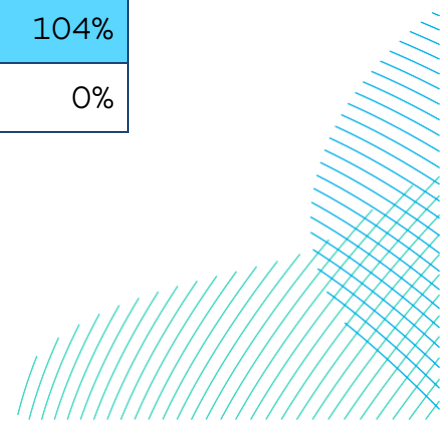
Table 24-16 Link Screening DBS East or DBS West in Isolation

| Link ID | Link Description                      | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |      | Percentage Increase |      |
|---------|---------------------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|------|---------------------|------|
|         |                                       |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs | All Vehicles        | HGVs |
| 1       | A165 Carnaby to Lissett               | Low              | 11,670                                             | 577   | 21                                             | 0    | 0%                  | 0%   |
| 2       | A165 Lissett to Beeford               | Medium           | 11,670                                             | 577   | 98                                             | 77   | 1%                  | 13%  |
| 3       | A165 Beeford to Brandesburton         | Low              | 9,099                                              | 585   | 383                                            | 152  | 4%                  | 26%  |
| 4       | B1242 Lissett to Skipsea              | High             | 3,121                                              | 51    | 78                                             | 77   | 3%                  | 152% |
| 5       | Beeford Road                          | High             | 1,440                                              | 20    | 147                                            | 77   | 10%                 | 382% |
| 6       | B1242 Skipsea to End                  | High             | 3,291                                              | 53    | 183                                            | 77   | 6%                  | 146% |
| 7       | Dunnington Lane                       | Low              | 147                                                | 28    | 182                                            | 74   | 124%                | 261% |
| 8       | Catfoss Road                          | Low              | 1,064                                              | 17    | 183                                            | 72   | 17%                 | 422% |
| 9       | A165 Brandesburton to Leven           | Negligible       | 11,670                                             | 577   | 562                                            | 224  | 5%                  | 39%  |
| 10      | A1035 Leven to Catwick                | Medium           | 9,053                                              | 246   | 228                                            | 118  | 3%                  | 48%  |
| 11      | Unnamed road north of A1035           | Low              | 235                                                | 4     | 130                                            | 37   | 55%                 | 883% |
| 12      | A1035 Leven to A165                   | Negligible       | 18,448                                             | 1,132 | 785                                            | 341  | 4%                  | 30%  |
| 13      | A165 from A1035 to Skirlaugh          | Low              | 10,366                                             | 648   | 668                                            | 429  | 6%                  | 66%  |
| 14      | A165 through Skirlaugh                | High             | 10,366                                             | 648   | 461                                            | 429  | 4%                  | 66%  |
| 15      | A165 from Skirlaugh to Coniston       | Low              | 10,366                                             | 648   | 457                                            | 429  | 4%                  | 66%  |
| 16      | A165 from Coniston to Holderness Road | High             | 10,446                                             | 654   | 457                                            | 429  | 4%                  | 66%  |
| 17      | A165/Holderness Road                  | Low              | 27,899                                             | 721   | 457                                            | 429  | 2%                  | 60%  |
| 18      | A165/Holderness Road                  | High             | 16,178                                             | 1,190 | 457                                            | 429  | 3%                  | 36%  |
| 19      | Mount Pleasant/A1033                  | Low              | 20,238                                             | 1,393 | 916                                            | 849  | 5%                  | 61%  |
| 20      | A1033 Slip Road                       | Low              | 12,127                                             | 1,132 | 878                                            | 849  | 7%                  | 75%  |

| Link ID | Link Description          | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |      | Percentage Increase |      |
|---------|---------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|------|---------------------|------|
|         |                           |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs | All Vehicles        | HGVs |
| 21      | A1033/Hedon Road          | Low              | 42,847                                             | 4,787 | 880                                            | 849  | 2%                  | 18%  |
| 22      | A1033/Hedon Road          | Low              | 12,127                                             | 1,132 | 880                                            | 849  | 7%                  | 75%  |
| 23      | A1033/Hedon Road          | Negligible       | 31,627                                             | 3,358 | 849                                            | 849  | 3%                  | 25%  |
| 24      | A63                       | Low              | 46,267                                             | 5,147 | 892                                            | 849  | 2%                  | 16%  |
| 25      | A63                       | Low              | 55,660                                             | 6,181 | 892                                            | 849  | 2%                  | 14%  |
| 26      | A63                       | Negligible       | 68,096                                             | 6,734 | 849                                            | 849  | 1%                  | 13%  |
| 27      | A63                       | Negligible       | 57,648                                             | 6,932 | 1,265                                          | 849  | 2%                  | 12%  |
| 28      | A15/Boothferry Road       | Low              | 35,878                                             | 3,191 | 1,265                                          | 849  | 4%                  | 27%  |
| 29      | Humberbridge              | Low              | 24,989                                             | 1,848 | 319                                            | 0    | 1%                  | 0%   |
| 30      | A164                      | Negligible       | 21,855                                             | 1,396 | 1,622                                          | 849  | 7%                  | 61%  |
| 31      | A164                      | Negligible       | 21,855                                             | 1,396 | 1,633                                          | 849  | 7%                  | 61%  |
| 32      | A164                      | Low              | 21,855                                             | 1,396 | 1,860                                          | 849  | 9%                  | 61%  |
| 33      | A164                      | Low              | 35,962                                             | 1,536 | 1,860                                          | 849  | 5%                  | 55%  |
| 34      | A164                      | Low              | 35,962                                             | 1,536 | 2,077                                          | 849  | 6%                  | 55%  |
| 35      | A164                      | Low              | 35,962                                             | 1,536 | 2,279                                          | 849  | 6%                  | 55%  |
| 36      | Dunflat Road off A164     | Low              | 2,317                                              | 19    | 283                                            | 123  | 12%                 | 649% |
| 37      | Coppleflat Lane           | Low              | 2,676                                              | 68    | 283                                            | 123  | 11%                 | 181% |
| 38      | A164                      | Low              | 24,095                                             | 1,029 | 1,849                                          | 849  | 8%                  | 83%  |
| 39      | B1248                     | Low              | 5,054                                              | 12    | 65                                             | 0    | 1%                  | 0%   |
| 40      | A1033/Thomas Clarkson Way | Low              | 20,974                                             | 867   | 980                                            | 849  | 5%                  | 98%  |
| 45      | A1033                     | Low              | 23,282                                             | 962   | 1019                                           | 849  | 4%                  | 88%  |



| Link ID | Link Description          | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |      | Percentage Increase |        |
|---------|---------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|------|---------------------|--------|
|         |                           |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs | All Vehicles        | HGVs   |
| 46      | A1174                     | High             | 16,900                                             | 248   | 63                                             | 0    | 0%                  | 0%     |
| 49      | A1174                     | High             | 16,900                                             | 248   | 63                                             | 0    | 0%                  | 0%     |
| 50      | A164/ Woodmansey          | Low              | 10,490                                             | 509   | 1,327                                          | 678  | 13%                 | 133%   |
| 51      | A164/Woodmansey           | Low              | 10,490                                             | 509   | 1,799                                          | 849  | 17%                 | 167%   |
| 52      | A1174/A164                | Low              | 17,170                                             | 880   | 1,362                                          | 678  | 8%                  | 77%    |
| 53      | A1174/A164/Swinemoor Lane | High             | 17,170                                             | 880   | 1,362                                          | 678  | 8%                  | 77%    |
| 54      | A1035                     | Low              | 21,244                                             | 1,083 | 1,071                                          | 429  | 5%                  | 40%    |
| 55      | A1035                     | Low              | 21,244                                             | 1,083 | 1,275                                          | 525  | 6%                  | 48%    |
| 56      | A1035                     | Medium           | 21,244                                             | 1,083 | 1,563                                          | 678  | 7%                  | 63%    |
| 57      | A1035/A164                | Low              | 14,578                                             | 848   | 397                                            | 113  | 3%                  | 13%    |
| 58      | Ings Road                 | Low              | 105                                                | 5     | 161                                            | 75   | 153%                | 1,425% |
| 59      | Driffield Road            | Low              | 11,602                                             | 173   | 99                                             | 38   | 1%                  | 22%    |
| 60      | A1035                     | Low              | 11,021                                             | 1,046 | 435                                            | 150  | 4%                  | 14%    |
| 61      | A1035/Dog Kennel Lane     | Low              | 16,075                                             | 1,058 | 431                                            | 150  | 3%                  | 14%    |
| 62      | A1174                     | Low              | 6,803                                              | 77    | 181                                            | 97   | 3%                  | 126%   |
| 63      | A1079                     | Negligible       | 21,383                                             | 1,257 | 1,339                                          | 637  | 6%                  | 51%    |
| 64      | Killingwoldgraves Lane    | Low              | 7,492                                              | 119   | 168                                            | 123  | 2%                  | 104%   |
| 65      | A1079/Bishop Burton       | High             | 13,413                                             | 372   | 169                                            | 0    | 1%                  | 0%     |
| 66      | A1079                     | Negligible       | 22,374                                             | 1,126 | 1,1233                                         | 849  | 6%                  | 75%    |
| 68      | Coppleflat Lane           | Low              | 7,492                                              | 119   | 168                                            | 123  | 2%                  | 104%   |
| 69      | B1230                     | High             | 4,852                                              | 77    | 0                                              | 0    | 1%                  | 0%     |



| Link ID | Link Description                               | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |      | Percentage Increase |        |
|---------|------------------------------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|------|---------------------|--------|
|         |                                                |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs | All Vehicles        | HGVs   |
| 71      | Broadgate/B1230                                | Medium           | 7,399                                              | 61    | 227                                            | 123  | 3%                  | 203%   |
| 73      | Eske Lane                                      | Low              | 56                                                 | 1     | 162                                            | 71   | 290%                | 5,904% |
| 74      | Mount Pleasant/A1033 and Stoneferry Road/A1165 | Low              | 26,658                                             | 2,018 | 935                                            | 849  | 4%                  | 42%    |
| 75      | Sutton Road/A1033                              | Low              | 20,974                                             | 867   | 966                                            | 849  | 5%                  | 98%    |
| %       | Exceeds GEART screening thresholds             |                  |                                                    |       |                                                |      |                     |        |

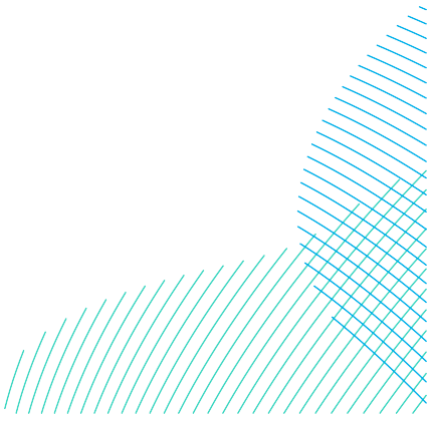
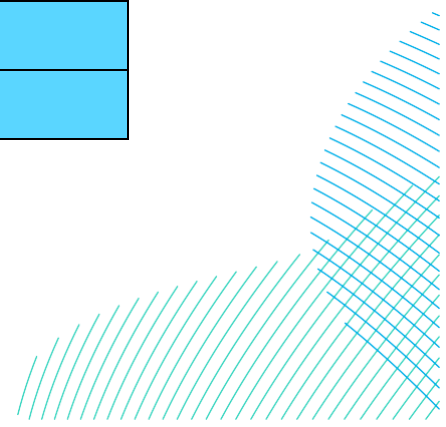
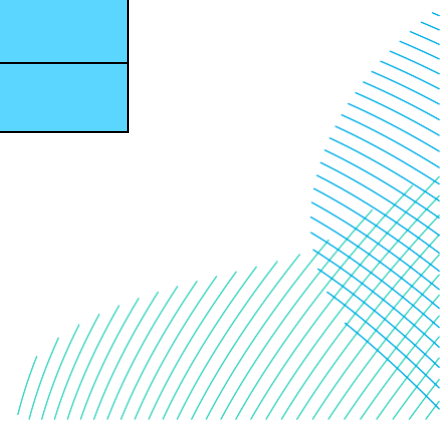


Table 24-17 Link Screening DBS East and DBS West Concurrently

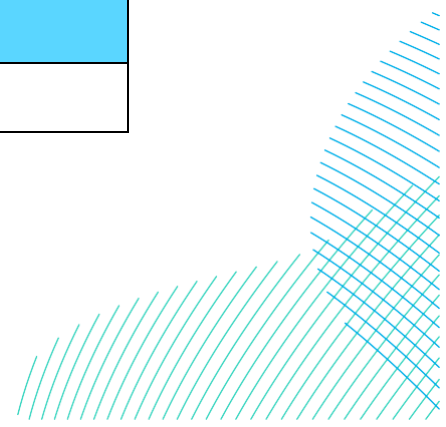
| Link ID | Link Description                      | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |       | Percentage Increase |        |
|---------|---------------------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|-------|---------------------|--------|
|         |                                       |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs  | All Vehicles        | HGVs   |
| 1       | A165 Carnaby to Lissett               | Low              | 11,670                                             | 577   | 35                                             | 0     | 0%                  | 0%     |
| 2       | A165 Lissett to Beeford               | Medium           | 11,670                                             | 577   | 165                                            | 131   | 1%                  | 23%    |
| 3       | A165 Beeford to Brandesburton         | Low              | 9,099                                              | 585   | 692                                            | 260   | 8%                  | 44%    |
| 4       | B1242 Lissett to Skipsea              | High             | 3,121                                              | 51    | 133                                            | 131   | 4%                  | 258%   |
| 5       | Beeford Road                          | High             | 1,440                                              | 20    | 259                                            | 131   | 18%                 | 650%   |
| 6       | B1242 Skipsea to End                  | High             | 3,291                                              | 53    | 327                                            | 131   | 10%                 | 248%   |
| 7       | Dunnington Lane                       | Low              | 147                                                | 28    | 337                                            | 129   | 229%                | 453%   |
| 8       | Catfoss Road                          | Low              | 1,064                                              | 17    | 343                                            | 122   | 32%                 | 712%   |
| 9       | A165 Brandesburton to Leven           | Negligible       | 11,670                                             | 577   | 1,029                                          | 382   | 9%                  | 66%    |
| 10      | A1035 Level to Catwick                | Medium           | 9,053                                              | 246   | 406                                            | 191   | 4%                  | 78%    |
| 11      | Unnamed road north of A1035           | Low              | 235                                                | 4     | 245                                            | 59    | 104%                | 1,415% |
| 12      | A1035 Leven to A165                   | Negligible       | 18,448                                             | 1,132 | 1,425                                          | 572   | 8%                  | 51%    |
| 13      | A165 from A1035 to Skirlaugh          | Low              | 10,366                                             | 648   | 1,181                                          | 712   | 11%                 | 110%   |
| 14      | A165 through Skirlaugh                | High             | 10,366                                             | 648   | 774                                            | 712   | 7%                  | 110%   |
| 15      | A165 from Skirlaugh to Coniston       | Low              | 10,366                                             | 648   | 766                                            | 712   | 7%                  | 110%   |
| 16      | A165 from Coniston to Holderness Road | High             | 10,446                                             | 654   | 766                                            | 712   | 7%                  | 109%   |
| 17      | A165/Holderness Road                  | Low              | 27,899                                             | 721   | 766                                            | 712   | 3%                  | 99%    |
| 18      | A165/Holderness Road                  | High             | 16,178                                             | 1,190 | 766                                            | 712   | 5%                  | 60%    |
| 19      | Mount Pleasant/A1033                  | Low              | 20,238                                             | 1,393 | 1,369                                          | 1,257 | 7%                  | 90%    |
| 20      | A1033 Slip Road                       | Low              | 12,127                                             | 1,132 | 1,309                                          | 1,257 | 11%                 | 111%   |



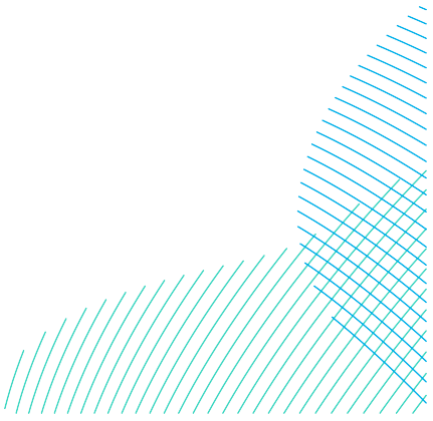
| Link ID | Link Description          | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |       | Percentage Increase |      |
|---------|---------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|-------|---------------------|------|
|         |                           |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs  | All Vehicles        | HGVs |
| 21      | A1033/Hedon Road          | Low              | 42,847                                             | 4,787 | 1,313                                          | 1,257 | 3%                  | 26%  |
| 22      | A1033/Hedon Road          | Low              | 12,127                                             | 1,132 | 1,313                                          | 1,257 | 11%                 | 111% |
| 23      | A1033/Hedon Road          | Negligible       | 31,627                                             | 3,358 | 1,257                                          | 1,257 | 4%                  | 37%  |
| 24      | A63                       | Low              | 46,267                                             | 5,147 | 1,322                                          | 1,257 | 3%                  | 24%  |
| 25      | A63                       | Low              | 55,660                                             | 6,181 | 1,322                                          | 1,257 | 2%                  | 20%  |
| 26      | A63                       | Negligible       | 68,096                                             | 6,734 | 1,257                                          | 1,257 | 2%                  | 19%  |
| 27      | A63                       | Negligible       | 57,648                                             | 6,932 | 1,964                                          | 1,257 | 3%                  | 18%  |
| 28      | A15/Boothferry Road       | Low              | 35,878                                             | 3,191 | 1,964                                          | 1,257 | 5%                  | 39%  |
| 29      | Humberbridge              | Low              | 24,989                                             | 1,848 | 536                                            | 0     | 2%                  | 0%   |
| 30      | A164                      | Negligible       | 21,855                                             | 1,396 | 2,565                                          | 1,257 | 12%                 | 90%  |
| 31      | A164                      | Negligible       | 21,855                                             | 1,396 | 2,584                                          | 1,257 | 12%                 | 90%  |
| 32      | A164                      | Low              | 21,855                                             | 1,396 | 2,958                                          | 1,257 | 14%                 | 90%  |
| 33      | A164                      | Low              | 35,962                                             | 1,536 | 2,958                                          | 1,257 | 8%                  | 82%  |
| 34      | A164                      | Low              | 35,962                                             | 1,536 | 3,325                                          | 1,257 | 9%                  | 82%  |
| 35      | A164                      | Low              | 35,962                                             | 1,536 | 3,555                                          | 1,257 | 10%                 | 82%  |
| 36      | Dunflat Road off A164     | Low              | 2,317                                              | 19    | 500                                            | 184   | 22%                 | 971% |
| 37      | Coppleflat Lane           | Low              | 2,676                                              | 68    | 500                                            | 184   | 19%                 | 271% |
| 38      | A164                      | Low              | 24,095                                             | 1,029 | 2,911                                          | 1,257 | 12%                 | 122% |
| 39      | B1248                     | Low              | 5,054                                              | 12    | 111                                            | 0     | 2%                  | 0%   |
| 40      | A1033/Thomas Clarkson Way | Low              | 20,974                                             | 867   | 1,457                                          | 1,257 | 7%                  | 145% |
| 45      | A1033                     | Low              | 23,282                                             | 962   | 1,514                                          | 1,257 | 7%                  | 131% |



| Link ID | Link Description          | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |       | Percentage Increase |       |
|---------|---------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|-------|---------------------|-------|
|         |                           |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs  | All Vehicles        | HGVs  |
| 46      | A1174                     | High             | 16,900                                             | 248   | 110                                            | 0     | 1%                  | 0%    |
| 49      | A1174                     | High             | 16,900                                             | 248   | 110                                            | 0     | 1%                  | 0%    |
| 50      | A164/ Woodmansey          | Low              | 10,490                                             | 509   | 2,377                                          | 1,135 | 23%                 | 223%  |
| 51      | A164/Woodmansey           | Low              | 10,490                                             | 509   | 2,799                                          | 1,257 | 27%                 | 247%  |
| 52      | A1174/A164                | Low              | 17,170                                             | 880   | 2,461                                          | 1,135 | 14%                 | 129%  |
| 53      | A1174/A164/Swinemoor Lane | High             | 17,170                                             | 880   | 2,461                                          | 1,135 | 14%                 | 129%  |
| 54      | A1035                     | Low              | 21,244                                             | 1,083 | 1,953                                          | 712   | 9%                  | 66%   |
| 55      | A1035                     | Low              | 21,244                                             | 1,083 | 2,318                                          | 871   | 11%                 | 80%   |
| 56      | A1035                     | Medium           | 21,244                                             | 1,083 | 2,853                                          | 1,135 | 13%                 | 105%  |
| 57      | A1035/A164                | Low              | 14,578                                             | 848   | 735                                            | 174   | 5%                  | 21%   |
| 58      | Ings Road                 | Low              | 105                                                | 5     | 280                                            | 110   | 266%                | 2091% |
| 59      | Driffield Road            | Low              | 11,602                                             | 173   | 187                                            | 64    | 2%                  | 37%   |
| 60      | A1035                     | Low              | 11,021                                             | 1,046 | 800                                            | 238   | 7%                  | 23%   |
| 61      | A1035/Dog Kennel Lane     | Low              | 16,075                                             | 1,058 | 743                                            | 238   | 5%                  | 22%   |
| 62      | A1174                     | Low              | 6,803                                              | 77    | 327                                            | 159   | 5%                  | 207%  |
| 63      | A1079                     | Negligible       | 21,383                                             | 1,257 | 1,978                                          | 937   | 9%                  | 75%   |
| 64      | Killingwoldgraves Lane    | Low              | 7,492                                              | 119   | 266                                            | 184   | 4%                  | 155%  |
| 65      | A1079/Bishop Burton       | High             | 13,413                                             | 372   | 291                                            | 0     | 2%                  | 0%    |
| 66      | A1079                     | Negligible       | 22,374                                             | 1,126 | 1,867                                          | 1,257 | 8%                  | 112%  |
| 68      | Coppleflat Lane           | Low              | 7,492                                              | 119   | 266                                            | 184   | 4%                  | 155%  |
| 69      | B1230                     | High             | 4,852                                              | 77    | 0                                              | 0     | 0%                  | 0%    |



| Link ID | Link Description                               | Link Sensitivity | Background 2026 Annual Average Daily Traffic Flows |       | Forecast Peak Daily Construction Vehicle Trips |       | Percentage Increase |        |
|---------|------------------------------------------------|------------------|----------------------------------------------------|-------|------------------------------------------------|-------|---------------------|--------|
|         |                                                |                  | All Vehicles                                       | HGVs  | All Vehicles                                   | HGVs  | All Vehicles        | HGVs   |
| 71      | Broadgate/B1230                                | Medium           | 7,399                                              | 61    | 392                                            | 184   | 5%                  | 304%   |
| 73      | Eske Lane                                      | Low              | 56                                                 | 1     | 301                                            | 119   | 540%                | 9,895% |
| 74      | Mount Pleasant/A1033 and Stoneferry Road/A1165 | Low              | 26,658                                             | 2,018 | 1,390                                          | 1,257 | 5%                  | 62%    |
| 75      | Sutton Road/A1033                              | Low              | 20,974                                             | 867   | 1,443                                          | 1,257 | 7%                  | 145%   |
| %       | Exceeds GEART screening thresholds             |                  |                                                    |       |                                                |       |                     |        |



171. In accordance with GEART, only those links that are showing greater than 10% increase in total traffic flows (or HGV component) for sensitive links, or greater than 30% increase in total traffic (or HGV component) for all other links, are considered when assessing the impacts of severance and amenity.
172. Disaggregating from **Table 24-16** and **Table 24-17**, 40 of the 66 links are above the GEART screening thresholds for DBS East or DBS West in isolation and 43 of the 66 links for DBS East or DBS West concurrently.
173. **Table 24-18** provides a summary of those links that will be taken forward for further assessment (for the impacts of severance and amenity) and those that are screened out.

Table 24-18 Link Screening Summary

| Construction Scenarios             | Links Requiring Further Assessment                                                                                                                                    | Links Requiring No Further Assessment                                                               |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| DBS East or DBS West in Isolation  | 4, 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 53, 54, 55, 56, 58, 62, 64, 68, 71, 73, 74, 75.            | 1, 2, 3, 9, 12, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 39, 46, 49, 57, 59, 60, 61, 63, 65, 66, 69. |
| DBS East and DBS West Concurrently | 3, 4, 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 28, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 53, 54, 55, 56, 58, 59, 62, 64, 68, 71, 73, 74, 75. | 1, 2, 9, 12, 21, 23, 24, 25, 26, 27, 29, 30, 31, 39, 46, 49, 57, 60, 61, 63, 65, 66, 69.            |

## 24.6.1.2 Impact 1: Severance

174. Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. Section 24.4.3 provides details of the adopted impact assessment methodology.

### 24.6.1.2.1 Magnitude of Impact – DBS East or DBS West in Isolation

175. **Table 24-19** provides a summary of the severance magnitude of impact for each of the screened links detailed in **Table 24-18**.

Table 24-19 Magnitude of Severance Impact – DBS East or DBS West in Isolation

| Links                                                                                                                                        | Magnitude of Impact | Rationale for Magnitude                              |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------|
| 4, 5, 6, 10, 13, 14, 15, 16, 17, 18, 19, 20, 22, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 53, 54, 55, 56, 62, 64, 68, 71, 73, 74, 75. | Negligible          | Change in total traffic flow is less than 30%        |
| 11                                                                                                                                           | Low                 | Change in total traffic flows is between 30% and 60% |
| 7, 58, 73                                                                                                                                    | High                | Change in total traffic flow is greater than 90%     |

### 24.6.1.2.2 Magnitude of Impact – DBS East and DBS West Concurrently

176. **Table 24-20** provides a summary of the severance magnitude of impact for each of the screened links detailed in **Table 24-18**.

Table 24-20 Magnitude of Severance Impact – DBS East or DBS West Concurrently

| Links                                                                                                                                               | Magnitude of Impact | Rationale for Magnitude                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------|
| 3, 4, 5, 6, 10, 13, 14, 15, 16, 17, 18, 19, 20, 22, 28, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 53, 54, 55, 56, 59, 62, 64, 68, 71, 74, 75. | Negligible          | Change in total traffic flow is less than 30%        |
| 8                                                                                                                                                   | Low                 | Change in total traffic flows is between 30% and 60% |
| 7, 11, 58, 73                                                                                                                                       | High                | Change in total traffic flow is greater than 90%     |

#### 24.6.1.2.3 Sensitivity of Receptor – All Scenarios

177. The sensitivity of each highway link is detailed in **Figure 24-4**.

#### 24.6.1.2.4 Significance of Effect – DBS East and DBS West in Isolation

178. **Table 24-21** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of the severance effect.

Table 24-21 Significance of Severance Effect – DBS East or DBS West in Isolation

| Links                                                                                             | Magnitude of Impact | Sensitivity | Significance of Effect  |
|---------------------------------------------------------------------------------------------------|---------------------|-------------|-------------------------|
| 4, 5, 6, 14, 16, 18, 53                                                                           | Negligible          | High        | <b>Minor</b> adverse    |
| 10, 20, 56, 71                                                                                    |                     | Medium      | <b>Minor</b> adverse    |
| 8, 13, 15, 17, 19, 22, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 54, 55, 62, 64, 68, 74, 75 |                     | Low         | Negligible              |
| 11                                                                                                | Low                 | Low         | <b>Minor</b> adverse    |
| 7, 58, 73                                                                                         | High                | Low         | <b>Moderate</b> adverse |

179. **Table 24-21** identifies that Links 7, 58 and 73 could potentially experience significant effects. Therefore, a more detailed assessment has been undertaken of the factors that may be influencing the magnitude of impact to determine whether additional mitigation measures are required.
180. To contextualise the potential effects, guidance provided in the DMRB Guidance for Population and Human Health (LA112) has been referenced. LA112 states that when considering severance for walkers, cyclists and horse-riders, roads with daily vehicle flows under 4,000 vehicles per day are considered to be of low sensitivity. The assessment adopts the LA112 threshold as a proxy for severance effects and considers any link that falls below the threshold to be subject to a low magnitude of impact.
181. **Table 24-16** summarises the forecast background daily traffic flows in 2026 in the TTSA and assigned daily peak vehicle trips associated with the construction of the Projects in isolation.
182. Links 7, 58 and 73 could experience maximum total traffic flows (i.e. Link 7, background plus the Projects) of up to 333 vehicles per day which is significantly less than the LA112 threshold and are therefore the magnitude of impact is revised to low. A low magnitude of impact on receptors of low sensitivity which would result in **minor** adverse effect, which is not significant in EIA terms.

### *24.6.1.2.5 Significance of Effect – DBS East and DBS West Concurrently*

183. **Table 24-22** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of the severance effect.

Table 24-22 Significance of Severance Effect – DBS East and DBS West Concurrently

| Links                                                                                                     | Magnitude of Impact | Sensitivity | Significance of Effect  |
|-----------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------------------|
| 4, 5, 6, 14, 16, 18, 53, 65                                                                               | Negligible          | High        | <b>Minor</b> adverse    |
| 10, 20, 56, 71                                                                                            |                     | Medium      | <b>Minor</b> adverse    |
| 3, 13, 15, 17, 19, 22, 28, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 54, 55, 59, 62, 64, 68, 74, 75 |                     | Low         | Negligible              |
| 8                                                                                                         | Low                 | Low         | <b>Minor</b> adverse    |
| 7, 11, 58, 73                                                                                             | High                | Low         | <b>Moderate</b> adverse |

184. **Table 24-22** identifies that Links 7, 11, 58 and 73 could potentially experience significant impacts and therefore a more detailed assessment has been undertaken of the factors that may be influencing the magnitude of impact, to determine whether additional mitigation measures are required.
185. To contextualise the potential effects, guidance provided in the DMRB Guidance for Population and Human Health (LA112) has been referenced. LA112 states that when considering severance for walkers, cyclists and horse-riders, roads with daily vehicle flows under 4,000 vehicles per day are considered to be of low sensitivity. This assessment adopts the LA112 threshold as a proxy for severance effects and considers any link that falls below the threshold to be subject to a low magnitude of effect.
186. **Table 24-17** summarises the forecast background daily traffic flows in 2026 in the TTSA and assigned daily peak vehicle trips associated with the construction of the Projects concurrently.

187. Links 7, 11, 58 and 73 could experience maximum total traffic flows (i.e. Link 11, background plus the Projects) of up to 460 vehicles per day which is significantly less than the LA112 threshold and therefore the magnitude of effect is revised to low. A low magnitude of effect on a receptor of low sensitivity would result in **minor** adverse effect, which is not significant in EIA terms and therefore additional mitigation is not required.

### 24.6.1.3 Impact 2: Amenity

188. 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 and separation from traffic. It can affect a range of non-motorised users such as pedestrians, cyclists and equestrians. Section 24.4.3 provides details on the adopted impact assessment methodology for amenity.

#### 24.6.1.3.1 Magnitude of Impact – All Scenarios

189. This section presents an assessment of the magnitude of amenity impact for each of the previously screened links (**Table 24-16**).
190. The amenity magnitude of impact assessment has been informed by the scale of forecast traffic increase in context with the function of the discreet highway link under consideration.
191. Peak hour vehicle trips have been calculated to assess amenity to aid a more detailed assessment of construction traffic characteristics within the daily demand. To develop a worst-case scenario, the peak demand hour flows include the assumption that employees (LVs) will arrive and depart within a single hour and that HGV movements would be one-tenth of the daily demand.
192. The assessed magnitude of impact is derived from the valuation of the baseline traffic flows, highway environment and the applied traffic demand. It therefore follows that same applied demand may have a different assessed magnitude of impact when these parameters are taken into consideration.
193. **Table 24-23** presents the resultant amenity magnitude of impact assessment for the Projects in isolation and concurrently.

Table 24-23 Amenity Magnitude of Impact Assessment for Projects in Isolation

| Link Description<br>(Designation)                               | Rationale for Magnitude of Impact                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                             | Assessed Magnitude of Impact |       |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                                                 | In Isolation                                                                                                                                                                                                                         | Concurrently                                                                                                                                                                                                                                                                                | In Isolation                 | Conc. |
| Link 3 - A165<br>Beeford to<br>Brandesburton<br>(Primary Route) | Link 3 is below GEART screening thresholds for the Projects in Isolation.                                                                                                                                                            | The link has a base flow of 9,099 vehicle trips (including 585 HGV trips) per day and would be subject to construction traffic of up to 260 HGV trips per day at its peak.<br><br>Peak construction traffic would result in an increase in traffic of 7% for all vehicles and 44% for HGVs. | Negligible                   | Low   |
| Link 4 - B1242<br>Lissett to<br>Skipsea<br>(Local road)         | The link has a base flow of 3,121 vehicle trips (including 51 HGV trips) per day and would be subject to construction traffic of up to 77 and 131 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                                                                             | Medium                       | High  |
|                                                                 | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 152% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately eight HGV trips per hour. | Peak daily construction traffic would result in an increase in traffic of 4% for all vehicles and 258% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 13 HGV trips per hour.                                                           |                              |       |

| Link Description<br>(Designation)             | Rationale for Magnitude of Impact                                                                                                                                                                                                     |                                                                                                                                                                                                                                    | Assessed Magnitude of Impact |       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                               | In Isolation                                                                                                                                                                                                                          | Concurrently                                                                                                                                                                                                                       | In Isolation                 | Conc. |
| Link 5 - Beeford Road<br>(Local road)         | The link has a base flow of 1,440 vehicle trips (including 20 HGV trips) per day and would be subject to construction traffic of up to 77 and 131 HGV trips per day at its peak for isolation and concurrent scenarios respectively.  |                                                                                                                                                                                                                                    | High                         | High  |
|                                               | Peak daily construction traffic would result in an increase in traffic of 10% for all vehicles and 383% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately eight HGV trips per hour. | Peak daily construction traffic would result in an increase in traffic of 18% for all vehicles and 650% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 13 HGV trips per hour. |                              |       |
| Link 6 - B1242 Skipsea to End<br>(Local road) | The link has a base flow of 3,291 vehicle trips (including 53 HGV trips) per day and would be subject to construction traffic of up to 77 and 131 HGV trips per day at its peak.                                                      |                                                                                                                                                                                                                                    | Medium                       | High  |
|                                               | Peak daily construction traffic would result in an increase in traffic of 6% for all vehicles and 146% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of                                          | Peak daily construction traffic would result in an increase in traffic of 10% for all vehicles and 248% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of                                      |                              |       |

| Link Description<br>(Designation)           | Rationale for Magnitude of Impact                                                                                                                                                                                                      |                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |       |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                             | In Isolation                                                                                                                                                                                                                           | Concurrently                                                                                                                                                                                                                        | In Isolation                 | Conc. |
|                                             | approximately eight HGV trips per hour.                                                                                                                                                                                                | approximately 13 HGV trips per hour.                                                                                                                                                                                                |                              |       |
| Link 7 -<br>Dunnington Lane<br>(Local road) | The link has a base flow of 147 vehicle trips (including 28 HGV trips) per day and would be subject to construction traffic of up to 74 and 129 HGV trips per day at its peak for isolation and concurrent scenarios respectively.     |                                                                                                                                                                                                                                     | Medium                       | High  |
|                                             | Peak daily construction traffic would result in an increase in traffic of 124% for all vehicles and 261% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately eight HGV trips per hour. | Peak daily construction traffic would result in an increase in traffic of 229% for all vehicles and 453% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 13 HGV trips per hour. |                              |       |
| Link 8 - Catfoss Road<br>(Local road)       | The link has a base flow of 1,064 vehicle trips (including 17 HGV trips) per day and would be subject to construction traffic of up to 72 and 122 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                                                                                                     | Medium                       | High  |
|                                             | Peak daily construction traffic would result in an increase in traffic of 17% for all vehicles and 422% for HGVs.                                                                                                                      | Peak daily construction traffic would result in an increase in traffic of 32% for all vehicles and 712% for HGVs.                                                                                                                   |                              |       |

| Link Description<br>(Designation)                 | Rationale for Magnitude of Impact                                                                                                                                                                                                      |                                                                                                                                                                   | Assessed Magnitude of Impact |        |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                                   | In Isolation                                                                                                                                                                                                                           | Concurrently                                                                                                                                                      | In Isolation                 | Conc.  |
|                                                   | Receptors along the link would experience a peak increase in flow of approximately seven HGV trips per hour.                                                                                                                           | Receptors along the link would experience a peak increase in flow of approximately 12 HGV trips per hour.                                                         |                              |        |
| Link 10 - A1035 Level to Catwick (Principal Road) | The link has a base flow of 9,053 vehicle trips (including 246 HGV trips) per day and would be subject to construction traffic of up to 118 and 191 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                   | Negligible                   | Low    |
|                                                   | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 48% for HGVs.                                                                                                                        | Peak daily construction traffic would result in an increase in traffic of 4% for all vehicles and 78% for HGVs.                                                   |                              |        |
| Link 11 - An unnamed north of Link 10             | The link has a base flow of 235 vehicle trips (including four HGV trips) per day and would be subject to construction traffic of up to 37 and 59 HGV trips per day at its peak for isolation and concurrent scenarios respectively.    |                                                                                                                                                                   | Medium                       | Medium |
|                                                   | Peak daily construction traffic would result in an increase in traffic of 55% for all vehicles and 883% for HGVs.<br>Receptors along the link would experience a peak increase in                                                      | Peak daily construction traffic would result in an increase in traffic of 104% for all vehicles and 1,415% for HGVs.<br>Receptors along the link would experience |                              |        |

| Link Description<br>(Designation)                             | Rationale for Magnitude of Impact                                                                                                                                                                                                       |                                                                                                                                                                                                                                    | Assessed Magnitude of Impact |        |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                                               | In Isolation                                                                                                                                                                                                                            | Concurrently                                                                                                                                                                                                                       | In Isolation                 | Conc.  |
|                                                               | flow of approximately four HGV trips per hour.                                                                                                                                                                                          | a peak increase in flow of approximately six HGV trips per hour.                                                                                                                                                                   |                              |        |
| Link 13 and 14 - A165 from A1035 to Skirlaugh (Primary Route) | The link has a base flow of 10,366 vehicle trips (including 648 HGV trips) per day and would be subject to construction traffic of up to 429 and 712 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                    | Low                          | Medium |
|                                                               | Peak daily construction traffic would result in an increase in traffic of 6% for all vehicles and 66% for HGVs.                                                                                                                         | Peak daily construction traffic would result in an increase in traffic of 11% for all vehicles and 110% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 71 HGV trips per hour. |                              |        |
| Link 15 and 16- A165 from Skirlaugh (Primary Route)           | The link has a base flow of 10,366 vehicle trips (including 648 HGV trips) per day and would be subject to construction traffic of up to 429 and 712 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                    | Low                          | Medium |
|                                                               | Peak daily construction traffic would result in an increase in traffic of                                                                                                                                                               | Peak daily construction traffic would result in an increase in traffic of                                                                                                                                                          |                              |        |

| Link Description<br>(Designation)              | Rationale for Magnitude of Impact                                                                                                                                                                                                         |                                                                                                                                                         | Assessed Magnitude of Impact |            |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------|
|                                                | In Isolation                                                                                                                                                                                                                              | Concurrently                                                                                                                                            | In Isolation                 | Conc.      |
|                                                | 4% for all vehicles and 66% for HGVs.                                                                                                                                                                                                     | 7% for all vehicles and 110% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 71 HGV trips per hour. |                              |            |
| Link 17 - A165 Holderness Road (Primary Route) | The link has a base flow of 27,899 vehicle trips (including 721 HGV trips) per day and would be subject to construction traffic of up to 429 and 712 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                         | Low                          | Low        |
|                                                | Peak daily construction traffic would result in an increase in traffic of 2% for all vehicles and 60% for HGVs.                                                                                                                           | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 99% for HGVs.                                         |                              |            |
| Link 18 - A165 Holderness Road (Primary Route) | The link has a base flow of 16,178 vehicle trips (including 1,190 HGV trips) per day and would be subject to construction traffic of up to 429 and 712 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                         | Negligible                   | Negligible |
|                                                | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 36% for HGVs.                                                                                                                           | Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 60% for HGVs.                                         |                              |            |

| Link Description<br>(Designation)             | Rationale for Magnitude of Impact                                                                                                                                                                                                             |                                                                                                                                                                                                                                      | Assessed Magnitude of Impact |            |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------|
|                                               | In Isolation                                                                                                                                                                                                                                  | Concurrently                                                                                                                                                                                                                         | In Isolation                 | Conc.      |
| Link 19 - A1033<br>Mount Pleasant<br>(A-road) | The link has a base flow of 20,238 vehicle trips (including 1,393 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                                                                                                      | Low                          | Low        |
|                                               | Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 61% for HGVs.                                                                                                                               | Peak daily construction traffic would result in an increase in traffic of 7% for all vehicles and 90% for HGVs.                                                                                                                      |                              |            |
| Link 20 and 22-<br>A1033<br>(A-road)          | The links have a base flow of 12,127 vehicle trips (including 1,132 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                      | Low                          | Medium     |
|                                               | Peak daily construction traffic would result in an increase in traffic of 7% for all vehicles and 75% for HGVs.                                                                                                                               | Peak daily construction traffic would result in an increase in traffic of 11% for all vehicles and 111% for HGVs.<br><br>Receptors along the links would experience a peak increase in flow of approximately 126 HGV trips per hour. |                              |            |
| Link 28 - A15<br>Boothferry Road              | Link 28 is below GEART screening                                                                                                                                                                                                              | The link has a base flow of 35,878                                                                                                                                                                                                   | Negligible                   | Negligible |

| Link Description<br>(Designation)            | Rationale for Magnitude of Impact                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |       |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                              | In Isolation                                                                                                                                                                                                                                  | Concurrently                                                                                                                                                                                                                                                        | In Isolation                 | Conc. |
| (Primary Route)                              | thresholds for the Projects in Isolation.                                                                                                                                                                                                     | vehicle trips (including 3,191 HGV trips) per day and would be subject to construction traffic of up to 1,257 HGV trips per day at its peak.<br><br>Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 39% for HGVs. |                              |       |
| Link 32 - A164<br>(Primary Route)            | The link has a base flow of 21,855 vehicle trips (including 1,396 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                                                                                                                                     | Low                          | Low   |
|                                              | Peak daily construction traffic would result in an increase in traffic of 9% for all vehicles and 61% for HGVs.                                                                                                                               | Peak daily construction traffic would result in an increase in traffic of 14% for all vehicles and 90% for HGVs.                                                                                                                                                    |                              |       |
| Link 33, 34 and 35 - A164<br>(Primary Route) | The links have a base flow of 35,962 vehicle trips (including 1,536 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                                                     | Low                          | Low   |

| Link Description<br>(Designation)               | Rationale for Magnitude of Impact                                                                                                                                                                                                     |                                                                                                                                                                                                                                    | Assessed Magnitude of Impact |       |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                                 | In Isolation                                                                                                                                                                                                                          | Concurrently                                                                                                                                                                                                                       | In Isolation                 | Conc. |
|                                                 | Peak daily construction traffic would result in an increase in traffic of 6% for all vehicles and 55% for HGVs.                                                                                                                       | Peak daily construction traffic would result in an increase in traffic of 10% for all vehicles and 82% for HGVs.                                                                                                                   |                              |       |
| Link 36 - Dunflat Road off A164<br>(Local Road) | The link has a base flow of 2,317 vehicle trips (including 19 HGV trips) per day and would be subject to construction traffic of up to 123 and 184 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                    | High                         | High  |
|                                                 | Peak daily construction traffic would result in an increase in traffic of 12% for all vehicles and 649% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 13 HGV trips per hour.    | Peak daily construction traffic would result in an increase in traffic of 22% for all vehicles and 971% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 19 HGV trips per hour. |                              |       |
| Link 37 - Coppleflat Lane<br>(Local Road)       | The link has a base flow of 2,676 vehicle trips (including 68 HGV trips) per day and would be subject to construction traffic of up to 123 and 184 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                    | High                         | High  |
|                                                 | Peak daily construction traffic                                                                                                                                                                                                       | Peak daily construction traffic                                                                                                                                                                                                    |                              |       |

| Link Description<br>(Designation)      | Rationale for Magnitude of Impact                                                                                                                                                                                                           |                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |        |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                        | In Isolation                                                                                                                                                                                                                                | Concurrently                                                                                                                                                                                                                        | In Isolation                 | Conc.  |
|                                        | would result in an increase in traffic of 11% for all vehicles and 181% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 13 HGV trips per hour.                                          | would result in an increase in traffic of 19% for all vehicles and 271% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 19 HGV trips per hour.                                  |                              |        |
| Link 38 - A164<br>(Principal Route)    | The link has a base flow of 24,095 vehicle trips (including 1,029 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                     | Low                          | Medium |
|                                        | Peak daily construction traffic would result in an increase in traffic of 8% for all vehicles and 83% for HGVs.                                                                                                                             | Peak daily construction traffic would result in an increase in traffic of 12% for all vehicles and 122% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 126 HGV trips per hour. |                              |        |
| Link 40 - A1033<br>Thomas Clarkson Way | The link has a base flow of 20,974 vehicle trips (including 867 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its                                                             |                                                                                                                                                                                                                                     | Low                          | Medium |

| Link Description<br>(Designation)   | Rationale for Magnitude of Impact                                                                                                                                                                                                         |                                                                                                                                                                                                                                    | Assessed Magnitude of Impact |        |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                     | In Isolation                                                                                                                                                                                                                              | Concurrently                                                                                                                                                                                                                       | In Isolation                 | Conc.  |
| (Principal Road)                    | peak for isolation and concurrent scenarios respectively.                                                                                                                                                                                 |                                                                                                                                                                                                                                    |                              |        |
|                                     | Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 98% for HGVs.                                                                                                                           | Peak daily construction traffic would result in an increase in traffic of 7% for all vehicles and 145% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 126 HGV trips per hour. |                              |        |
| Link 45 - A1033<br>(Principal Road) | The link has a base flow of 23,282 vehicle trips (including 962 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                    | Low                          | Medium |
|                                     | Peak daily construction traffic would result in an increase in traffic of 4% for all vehicles and 88% for HGVs.                                                                                                                           | Peak daily construction traffic would result in an increase in traffic of 7% for all vehicles and 131% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 126 HGV trips per hour. |                              |        |

| Link Description<br>(Designation)           | Rationale for Magnitude of Impact                                                                                                                                                                                                         |                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |       |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                             | In Isolation                                                                                                                                                                                                                              | Concurrently                                                                                                                                                                                                                        | In Isolation                 | Conc. |
| Link 50 - A164 Woodmansey (Principal Route) | The link has a base flow of 10,490 vehicle trips (including 509 HGV trips) per day and would be subject to construction traffic of up to 678 and 1,135 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                     | Medium                       | High  |
|                                             | Peak daily construction traffic would result in an increase in traffic of 13% for all vehicles and 133% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 68 HGV trips per hour.        | Peak daily construction traffic would result in an increase in traffic of 23% for all vehicles and 223% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 114 HGV trips per hour. |                              |       |
| Link 51 - A164 Woodmansey (Principal Route) | The link has a base flow of 10,490 vehicle trips (including 509 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                     | Medium                       | High  |
|                                             | Peak daily construction traffic would result in an increase in traffic of 17% for all vehicles and 167% for HGVs.<br><br>Receptors along the link would experience a peak increase in                                                     | Peak daily construction traffic would result in an increase in traffic of 27% for all vehicles and 247% for HGVs.<br><br>Receptors along the link would experience a peak increase in                                               |                              |       |

| Link Description<br>(Designation)                  | Rationale for Magnitude of Impact                                                                                                                                                                                                           |                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |        |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                                    | In Isolation                                                                                                                                                                                                                                | Concurrently                                                                                                                                                                                                                        | In Isolation                 | Conc.  |
|                                                    | flow of approximately 85 HGV trips per hour.                                                                                                                                                                                                | flow of approximately 126 HGV trips per hour.                                                                                                                                                                                       |                              |        |
| Link 52 and 53 - A1174 / A164<br>(Principal Route) | The links have a base flow of 17,170 vehicle trips (including 880 HGV trips) per day and would be subject to construction traffic of up to 678 and 1,135 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                     | Low                          | Medium |
|                                                    | Peak daily construction traffic would result in an increase in traffic of 8% for all vehicles and 77% for HGVs.                                                                                                                             | Peak daily construction traffic would result in an increase in traffic of 14% for all vehicles and 129% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 114 HGV trips per hour. |                              |        |
| Link 54 - A1035<br>(Primary Road)                  | The link has a base flow of 21,244 vehicle trips (including 1,083 HGV trips) per day and would be subject to construction traffic of up to 429 and 712 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                                                                                                     | Negligible                   | Low    |
|                                                    | Peak daily construction traffic would result in an increase in traffic of                                                                                                                                                                   | Peak daily construction traffic would result in an increase in traffic of                                                                                                                                                           |                              |        |

| Link Description<br>(Designation) | Rationale for Magnitude of Impact                                                                                                                                                                                                           |                                                                                                                                                                                                                                     | Assessed Magnitude of Impact |        |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                   | In Isolation                                                                                                                                                                                                                                | Concurrently                                                                                                                                                                                                                        | In Isolation                 | Conc.  |
|                                   | 5% for all vehicles and 40% for HGVs.                                                                                                                                                                                                       | 9% for all vehicles and 66% for HGVs.                                                                                                                                                                                               |                              |        |
| Link 55 - A1035<br>(Primary Road) | The link has a base flow of 21,244 vehicle trips (including 1,083 HGV trips) per day and would be subject to construction traffic of up to 525 and 871 HGV trips per day at its peak for isolation and concurrent scenarios respectively.   |                                                                                                                                                                                                                                     | Negligible                   | Low    |
|                                   | Peak daily construction traffic would result in an increase in traffic of 6% for all vehicles and 48% for HGVs.                                                                                                                             | Peak daily construction traffic would result in an increase in traffic of 11% for all vehicles and 80% for HGVs.                                                                                                                    |                              |        |
| Link 56 - A1035<br>(Primary Road) | The link has a base flow of 21,244 vehicle trips (including 1,083 HGV trips) per day and would be subject to construction traffic of up to 678 and 1,135 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                     | Low                          | Medium |
|                                   | Peak daily construction traffic would result in an increase in traffic of 7% for all vehicles and 63% for HGVs.                                                                                                                             | Peak daily construction traffic would result in an increase in traffic of 13% for all vehicles and 105% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 114 HGV trips per hour. |                              |        |

| Link Description<br>(Designation)            | Rationale for Magnitude of Impact                                                                                                                                                                                                        |                                                                                                                                                                                                                                                             | Assessed Magnitude of Impact |            |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------|
|                                              | In Isolation                                                                                                                                                                                                                             | Concurrently                                                                                                                                                                                                                                                | In Isolation                 | Conc.      |
| Link 58 - Ings Road<br>(Local Road)          | The link has a base flow of 105 vehicle trips (including five HGV trips) per day and would be subject to construction traffic of up to 75 and 110 HGV trips per day at its peak for isolation and concurrent scenarios respectively.     |                                                                                                                                                                                                                                                             | High                         | High       |
|                                              | Peak daily construction traffic would result in an increase in traffic of 153% for all vehicles and 1,425% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately seven HGV trips per hour. | Peak daily construction traffic would result in an increase in traffic of 266% for all vehicles and 2,091% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 11 HGV trips per hour.                       |                              |            |
| Link 59 - Driffield Road<br>(Principal Road) | Link 59 is below GEART screening thresholds for the Projects in Isolation.                                                                                                                                                               | The link has a base flow of 11,602 vehicle trips (including 173 HGV trips) per day and would be subject to construction traffic of up to 64 HGV trips per day at its peak.<br><br>Peak daily construction traffic would result in an increase in traffic of | Negligible                   | Negligible |

| Link Description<br>(Designation)                                                 | Rationale for Magnitude of Impact                                                                                                                                                                                                        |                                                                                                                                                                                                                                   | Assessed Magnitude of Impact |        |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                                                                   | In Isolation                                                                                                                                                                                                                             | Concurrently                                                                                                                                                                                                                      | In Isolation                 | Conc.  |
|                                                                                   |                                                                                                                                                                                                                                          | 2% for all vehicles and 37% for HGVs.                                                                                                                                                                                             |                              |        |
| Link 62 - A1174<br>(Principal Road)                                               | The link has a base flow of 6,803 vehicle trips (including 77 HGV trips) per day and would be subject to construction traffic of up to 97 and 159 HGV trips per day at its peak for isolation and concurrent scenarios respectively.     |                                                                                                                                                                                                                                   | Medium                       | High   |
|                                                                                   | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 126% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately ten HGV trips per hour.       | Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 207% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 16 HGV trips per hour. |                              |        |
| Links 64 / 68<br>Killingwoldgrave<br>s Lane /<br>Coppelflat Lane<br>(Local Roads) | The links have a base flow of 7,492 vehicle trips (including 119 HGV trips) per day and would be subject to construction traffic of up to 123 and 184 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                   | Medium                       | Medium |
|                                                                                   | Peak daily construction traffic would result in an increase in traffic of 2% for all vehicles and 104% for HGVs.                                                                                                                         | Peak daily construction traffic would result in an increase in traffic of 4% for all vehicles and 155% for HGVs.                                                                                                                  |                              |        |

| Link Description<br>(Designation)         | Rationale for Magnitude of Impact                                                                                                                                                                                                     |                                                                                                                                                                                                                                   | Assessed Magnitude of Impact |       |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|
|                                           | In Isolation                                                                                                                                                                                                                          | Concurrently                                                                                                                                                                                                                      | In Isolation                 | Conc. |
|                                           | Receptors along the link would experience a peak increase in flow of approximately 12 HGV trips per hour.                                                                                                                             | Receptors along the link would experience a peak increase in flow of approximately 19 HGV trips per hour.                                                                                                                         |                              |       |
| Link 71 - B1230 Broadgate<br>(Local Road) | The link has a base flow of 7,399 vehicle trips (including 61 HGV trips) per day and would be subject to construction traffic of up to 123 and 184 HGV trips per day at its peak for isolation and concurrent scenarios respectively. |                                                                                                                                                                                                                                   | Medium                       | High  |
|                                           | Peak daily construction traffic would result in an increase in traffic of 3% for all vehicles and 203% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 12 HGV trips per hour.     | Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 304% for HGVs.<br><br>Receptors along the link would experience a peak increase in flow of approximately 19 HGV trips per hour. |                              |       |
| Link 73 - Eske Lane<br>(Local Road)       | The link has a base flow of 56 vehicle trips (including one HGV trip) per day and would be subject to construction traffic of up to 71 and 119 HGV trips per day at its peak for isolation and concurrent scenarios respectively.     |                                                                                                                                                                                                                                   | High                         | High  |
|                                           | Peak daily construction traffic would result in an                                                                                                                                                                                    | Peak daily construction traffic would result in an                                                                                                                                                                                |                              |       |

| Link Description<br>(Designation)                                          | Rationale for Magnitude of Impact                                                                                                                                                                                                                  |                                                                                                                                                                                           | Assessed Magnitude of Impact |        |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
|                                                                            | In Isolation                                                                                                                                                                                                                                       | Concurrently                                                                                                                                                                              | In Isolation                 | Conc.  |
|                                                                            | <p>increase in traffic of 290% for all vehicles and 5,904% for HGVs.</p> <p>Receptors along the link would experience a peak increase in flow of approximately seven HGV trips per hour.</p>                                                       | <p>increase in traffic of 540% for all vehicles and 9,895% for HGVs.</p> <p>Receptors along the link would experience a peak increase in flow of approximately 12 HGV trips per hour.</p> |                              |        |
| Link 74<br>A1033 Mount Pleasant and A1165 Stoneferry Rd<br>(Primary Route) | <p>The link has a base flow of 26,658 vehicle trips (including 2,018 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively.</p> |                                                                                                                                                                                           | Negligible                   | Low    |
|                                                                            | <p>Peak daily construction traffic would result in an increase in traffic of 4% for all vehicles and 42% for HGVs.</p>                                                                                                                             | <p>Peak daily construction traffic would result in an increase in traffic of 5% for all vehicles and 62% for HGVs.</p>                                                                    |                              |        |
| Link 75 - A1033 Sutton Road<br>(Primary Route)                             | <p>The link has a base flow of 20,974 vehicle trips (including 867 HGV trips) per day and would be subject to construction traffic of up to 849 and 1,257 HGV trips per day at its peak for isolation and concurrent scenarios respectively.</p>   |                                                                                                                                                                                           | Low                          | Medium |
|                                                                            | <p>Peak daily construction traffic would result in an increase in traffic of</p>                                                                                                                                                                   | <p>Peak daily construction traffic would result in an increase in traffic of</p>                                                                                                          |                              |        |

| Link Description<br>(Designation) | Rationale for Magnitude of Impact        |                                                                                                                                                                            | Assessed<br>Magnitude of<br>Impact |       |
|-----------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------|
|                                   | In Isolation                             | Concurrently                                                                                                                                                               | In<br>Isolation                    | Conc. |
|                                   | 5% for all vehicles<br>and 98% for HGVs. | 7% for all vehicles<br>and 145% for HGVs.<br><br>Receptors along the<br>link would experience<br>a peak increase in<br>flow of<br>approximately 126<br>HGV trips per hour. |                                    |       |

## 24.6.1.3.2 Sensitivity of Receptors – All Scenarios

194. The sensitivity of each highway link is detailed in **Figure 24-4**.

## 24.6.1.3.3 Significance of Effect – DBS East or DBS West in Isolation

195. **Table 24-24** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of amenity effect.

Table 24-24 Summary of Significance of Amenity Effects for Projects in Isolation

| Links                                                  | Magnitude of amenity effect | Link sensitivity | Significance of Effect  |
|--------------------------------------------------------|-----------------------------|------------------|-------------------------|
| 3, 28, 54, 55, 59, 74                                  | Negligible                  | Low              | Negligible              |
| 10                                                     |                             | Medium           | <b>Minor</b> adverse    |
| 18                                                     |                             | High             | <b>Minor</b> adverse    |
| 13, 15, 17, 19, 22, 32, 33, 34, 35, 38, 40, 45, 52, 75 | Low                         | Low              | <b>Minor</b> adverse    |
| 20, 56                                                 |                             | Medium           | <b>Minor</b> adverse    |
| 14, 16, 53                                             |                             | High             | <b>Moderate</b> adverse |
| 8, 11, 50, 51, 62, 64, 68                              | Medium                      | Low              | <b>Minor</b> adverse    |
| 71                                                     |                             | Medium           | <b>Moderate</b> adverse |
| 4, 6                                                   |                             | High             | <b>Major</b> adverse    |
| 36, 37, 58, 73                                         | High                        | Low              | <b>Moderate</b> adverse |
| 5                                                      |                             | High             | <b>Major</b> adverse    |

## 24.6.1.3.4 Significance of Effect – DBS East and DBS West Concurrently

196. **Table 24-25** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of amenity effect.

Table 24-25 Summary of of Significance of Amenity Effects for Projects Concurrently

| Links                                     | Magnitude of amenity effect | Link sensitivity | Significance of Effect  |
|-------------------------------------------|-----------------------------|------------------|-------------------------|
| 28, 59                                    | Negligible                  | Low              | Negligible              |
| 18                                        |                             | High             | <b>Minor</b> adverse    |
| 3, 15, 17, 19, 32, 33, 34, 35, 54, 55, 74 | Low                         | Low              | <b>Minor</b> adverse    |
| 10                                        |                             | Medium           | <b>Minor</b> adverse    |
| 16                                        |                             | High             | <b>Moderate</b> adverse |
| 11, 13, 22, 38, 40, 45, 52, 64, 68, 75    | Medium                      | Low              | <b>Minor</b> adverse    |
| 20, 56                                    |                             | Medium           | <b>Moderate</b> adverse |
| 14, 53                                    |                             | High             | <b>Major</b> adverse    |
| 8, 36, 37, 50, 51, 58, 62, 73             | High                        | Low              | <b>Moderate</b> adverse |
| 71                                        |                             | Medium           | <b>Major</b> adverse    |
| 4, 5, 6                                   |                             | High             | <b>Major</b> adverse    |

## 24.6.1.3.5 Mitigation and Residual Significance of Effect – All Scenarios

197. **Table 24-24** and **Table 24-25** identify that the Project's peak daily construction traffic could result in potentially significant amenity effects upon the users of Links 4, 5, 6, 14, 16, 36, 37, 53, 58, 71 and 73 associated with the forecast increases in HGV traffic for all scenarios.
198. Potentially significant amenity impacts are also identified upon the users of the Links 8, 20, 50, 51, 56 and 62 associated with an increase in peak daily HGV traffic during the construction of the Projects concurrently.
199. Noting that that temporary nature of the Projects construction phase, preferred measures to mitigate would focus upon managing the intensity of peak daily HGV movements (rather than intrusive highway interventions).
200. It is proposed that an acceptable level of HGV trips via these links will be agreed with the relevant highways authorities and outlined in the DCO submission. Measures to reduce peak daily HGV trips could include:
  - Stockpiling of materials to reduce peak daily HGV demand;
  - Backhauling, i.e. using laden vehicles to import stone and export excavated material;
  - Use of local supply chain, to reduce the number of new HGV trips entering the TTSA;
  - Optimising the size of HGVs to reduce the total number;
  - Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and
  - The reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.
201. These additional mitigation measures are outlined in the OCTMP and would be further secured by a DCO Requirement.
202. The DCO submission will apply appropriate measures to reduce HGV trips on sensitive links and therefore, mitigate the significant adverse effects forecast within **Table 24-24** and **Table 24-25**. It is therefore assessed that the residual effect on Impact 2: Amenity would be negligible and **minor** adverse.

## 24.6.1.4 Impact 3: Road Safety

179. In order to understand the potential effect of changes in traffic (associated with the Projects) on the existing road safety baseline, an examination of the recorded collisions occurring within the TTSA has been undertaken in context of the development proposals.

### 24.6.1.4.1 *Magnitude of Impact and Sensitivity of Receptors – All Scenarios*

203. The initial review of the existing road safety baseline has selected areas where there are concentrations of collisions (known as collision clusters) and links with collision rates higher than the national average which may be sensitive to changes in traffic flows. (section 24.4.3.2 provides full details on the methodology for identifying these 31 collision clusters and 31 links where collision rates are higher than the national average).
204. **Table 24-26** provides a review of the sensitivity of the selected links and the magnitude of impact of the Projects traffic in the context of the changes in forecast daily traffic flows in 2026. Details of the percentage changes in daily traffic flows have been summarised from **Table 24-16** and **Table 24-17** for a single Project and concurrent Projects respectively to facilitate a proportionate assessment of magnitude of impact.

Table 24-26 Magnitude of Road Safety Impact and Sensitivity of Receptors

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                             | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                          |
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| 1        | <p>Link 1 consists of the A165 between Wilsthorpe roundabout and Lissett. It is a rural A-road and is four miles in length. A cluster of collisions (cluster 1) is located at the junction between Link 1 and the Manor Farm access track.</p> <p>The collisions comprised of five rear-end shunt type collisions. An emerging pattern of rear-end shunt type collisions is identified at cluster 1. Noting the relatively low overall numbers of collisions, the link is therefore assessed as of medium sensitivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Link 1 is forecast to experience an increase in total traffic of less than 1%. No HGV traffic is forecast to travel via link 1.</p> <p>It is assessed that a change in total traffic of up to 1% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                                    | <p>Link 1 is forecast to experience an increase in total traffic of less than 1%. No HGV traffic is forecast to travel via link 1.</p> <p>It is assessed that a change in total traffic of up to 1% represents a negligible magnitude of impact.</p> |
| 2        | <p>Link 2 consists of the A165 between Lissett and Beeford. It is a rural A-road and is 2.9 miles in length. A cluster of collisions (cluster 2) is located at the junction between Link 2 and Main Street (south of Lissett).</p> <p>The collisions comprised of three rear-end shunt type collisions and two losses of control. There is an emerging pattern of rear-end shunt type collisions within collision cluster 2. Noting the relatively low overall numbers of collisions, the link is therefore assessed as of medium sensitivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                      | <p>A review of the types of existing collisions on Link 2 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 2 is forecast to experience an increase in total traffic of 0.8% and HGV traffic of up to 13%.</p> <p>It is assessed that a change in total traffic of up to 1.3% represents a negligible magnitude of impact.</p>  | <p>Link 2 is forecast to experience an increase in total traffic of 1.4% and HGV traffic of up to 23%.</p> <p>It is assessed that a change in total traffic of up to 1.4% represents a negligible magnitude of impact.</p>                           |
| 4        | <p>Link 4 consists of the B1242 between Skipsea and the A165 at Lissett. It is a rural local road and is 2.5 miles in length. During the five-year study period, there have been seven collisions recorded on the link, these comprise of two serious and five slight collisions, no fatalities were recorded. One of the collisions involved an HGV.</p> <p>The collisions comprised of four loss of control, one was of unknown origin, one failure to give way and one was a collision between a car and pedestrian. There is no identifiable pattern in the location of the collisions. Four of the collisions occurred during the hours of darkness with no street lighting present on the link. There is an emerging pattern of loss of control collisions and collisions occurring during the hours of darkness of Link 4. Noting the relatively low overall numbers of collisions, the link is therefore assessed as of medium sensitivity.</p> | <p>A review of the types of existing collisions on Link 4 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 4 is forecast to experience an increase in total traffic of 2.5% and HGV traffic of up to 152%.</p> <p>It is assessed that a change in total traffic of up to 2.5% represents a negligible magnitude of impact.</p> | <p>Link 4 is forecast to experience an increase in total traffic of 4.3% and HGV traffic of up to 258%.</p> <p>It is assessed that a change in total traffic of up to 4.3% represents a negligible magnitude of impact.</p>                          |
| 5        | <p>Link 5 consists of the B1249 between Beeford and Skipsea, from the A165 eastwards until it meets Link 6 in Skipsea. Link 5 is a rural B-road and runs roughly east-west and is approximately 2.5 miles in length. During the five-year study period, four collisions were recorded on this link, all four were slight collisions, no serious or fatal collisions were reported.</p> <p>The collisions comprised of three loss of control and the other was a failure to look properly. No identifiable pattern in the location of the collisions was identified along the link. It can be considered that there is no significant emerging pattern of collisions along on Link 5. The link is therefore assessed as of low sensitivity</p>                                                                                                                                                                                                           | <p>A review of the types of existing collisions on Link 5 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 5 is forecast to experience an increase in total traffic of up to 10.2% and HGV traffic of up to 380%. It is assessed that a change in total traffic of up to 10.2% represents a low magnitude of impact.</p>       | <p>Link 5 is forecast to experience an increase in total traffic of up to 18% and HGV traffic of up to 650%. It is assessed that a change in total traffic of up to 18% represents a low magnitude of impact.</p>                                    |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                 |
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| 6        | <p>Link 6 is a continuation of the B1242 through Skipsea village in the west and towards the coast to the east, it then turns south towards Hornsea. Link 6 is a rural B-road and is approximately one mile long. During the five-year study period three collisions were recorded on Link 6, these were all slight collisions, there were no fatal or serious collisions were reported.</p> <p>The collisions comprised of one loss of control, one failure to look properly, and one was a rear-end shunt type collision. None of the collisions involved HGVs. There is no identifiable pattern in the location of the collisions. It is considered that there is no emerging pattern of collisions on Link 6. The link is therefore assessed as of low sensitivity</p>                                                                                                                                                                                                                                             | <p>A review of the types of existing collisions on Link 6 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 6 is forecast to experience an increase in total traffic of 6% and HGV traffic of up to 146%.</p> <p>It is assessed that a change in total traffic of up to 6% represents a negligible magnitude of impact.</p>  | <p>Link 6 is forecast to experience an increase in total traffic of 9.9% and HGV traffic of up to 248%.</p> <p>It is assessed that a change in total traffic of up to 10% represents a negligible magnitude of impact.</p>  |
| 8        | <p>Link 8 comprises of Catfoss Road from the A165 (Link 3) eastwards to the end of the TTSA. Link 8 is a rural local road and is 1.8 miles long. During the five-year period there were five collisions recorded on Link 8, these comprised of four slight collisions and one serious collision, no fatal collisions were reported.</p> <p>The collisions comprised of two loss of control, two had unknown causes, and one was a failure to give way. Three of the five collisions occurred during the hours of darkness. There is no identifiable pattern in the location of the collisions on Link 8. It is considered that there is no significant emerging pattern of collisions on Link 8. The link is therefore assessed as of low sensitivity.</p>                                                                                                                                                                                                                                                             | <p>A review of the types of existing collisions on Link 8 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 8 is forecast to experience an increase in total traffic of up to 17% and HGV traffic of up to 422%.</p> <p>It is assessed that a change in total traffic of up to 17% represents a low magnitude of impact.</p> | <p>Link 8 is forecast to experience an increase in total traffic of up to 32% and HGV traffic of up to 712%.</p> <p>It is assessed that a change in total traffic of up to 32% represents a medium magnitude of impact.</p> |
| 9        | <p>Link 9 consists of the A165 from Brandesburton north/south to Leven. The link is a rural A-road and 1.3-miles long. During the five-year study period, there were a total of nine collisions recorded on Link 9, these comprise of six slight collisions, two serious collisions and one fatal collision. There is also a cluster of collisions (cluster 9) located at the Leven roundabout junction between Links 9, 10, 12 and the Hornsea Road. To summarise, there were nine collisions on Link 9, with five taking place on/near Leven Roundabout.</p> <p>The collisions comprised of four losses of control, two collisions caused by poor lane discipline at the roundabout, a failure to give way, a failure to look properly and a rear-end shunt collision. It is considered there is no overall emerging pattern in the collisions on Link 9, however an emerging pattern of loss of control collisions is identified at the Leven roundabout. The link is therefore assessed as of high sensitivity</p> | <p>A review of the types of existing collisions on Link 9 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 9 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 39%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p>   | <p>Link 9 is forecast to experience an increase in total traffic of 9% and HGV traffic of up to 66%.</p> <p>It is assessed that a change in total traffic of up to 9% represents a negligible magnitude of impact.</p>      |
| 10       | <p>Link 10 consists of the A1035 from the Leven Roundabout. Link 10 is a rural A-road and is 1.9 miles long. During the five-year study period seven collisions were recorded on Link 10, two were serious and five were slight collisions; no fatal collision were recorded. Two clusters of collisions are located on the link, cluster 3 is located at the Leven Roundabout (detailed in Link 9) and cluster 4 is located at the junction of Link 10 and Catwick Lane.</p> <p>To summarise on Link 10 there have been seven collisions recorded, these comprised of three rear-end shunt type collisions, two failures to give way, one loss of control and an overtaking</p>                                                                                                                                                                                                                                                                                                                                       | <p>A review of the types of existing collisions on Link 10 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 10 is forecast to experience an increase in total traffic of 3% and HGV traffic of up to 48%.</p>                                                                                                               | <p>Link 10 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 78%.</p>                                                                                                                   |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                              |
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|          | incident. It is considered that there is no identifiable pattern of collisions on Link 10, however at cluster 4 (on Link 10) there have been three rear-end shunt type collisions and one loss of control, this could indicate a slight emerging pattern of rear-end shunt type collisions at the location. Noting the relatively low overall numbers of collisions at cluster 4, the link is assessed as of medium sensitivity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | It is therefore assessed that a change in total traffic of up to 3% represents a negligible magnitude of impact.                                                                                                                                                                                                                                                                                                                                                                     | It is therefore assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.                                                                                                         |
| 12       | <p>Link 12 consists of the A165 between the Leven roundabout and the White Cross roundabout. It is a rural A-road and is four miles in length. There are also clusters of collisions (cluster 3 and 5) located on Link 12, cluster 3 is located at the Leven roundabout and cluster 5 is located at the White Cross Roundabout junction between Links 12, 13 and 14.</p> <p>To summarise on Link 12 there have been 17 collisions (attributed to collision clusters 3 and 5), these comprised of: seven losses of control, six rear-end shunts, three collisions caused by poor lane discipline and two failures to give way. A high proportion of collisions involved motorcyclists. It is considered that there is an emerging pattern of collisions occurring at collision cluster 5. The link is therefore assessed as of high sensitivity.</p>                                                                                                                                                         | <p>A review of the types of existing collisions on Link 12 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 12 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 30%.</p> <p>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.</p> | <p>Link 12 is forecast to experience an increase in total traffic of 8% and HGV traffic of up to 51%.</p> <p>It is assessed that a change in total traffic of up to 8% represents a negligible magnitude of impact.</p>  |
| 15       | <p>Link 15 consists of the A165 from the south of Skirlough to the north of Coniston. Link 15 is a rural A-road and is 2.6 miles long. During the five-year study period there have been 11 collisions recorded along Link 15, four were serious collisions and seven were slight collisions, no fatal collisions were recorded on this link.</p> <p>There have been 11 collisions during the study period, these comprised of seven losses of control, two collisions involving cyclists and two rear-end shunt type collisions. It can be considered that there is a pattern of emerging of loss of control collisions on this link. The link is therefore assessed as of high sensitivity</p>                                                                                                                                                                                                                                                                                                            | <p>A review of the types of existing collisions on Link 15 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 15 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 66%.</p> <p>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.</p> | <p>Link 15 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 110%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p> |
| 16       | <p>Link 16 consists of the A165 between Coniston and A165/Main Road/Shannon Road roundabout. Link 16 is a rural A-road and is two miles long. During the five-year study period there were a total of 11 collision recorded on Link 16. These 20 collisions comprised of one fatal collision, six serious collisions and 13 slight collisions. Link 16 also contains collision cluster 6, which is located at the roundabout junction with Link 17.</p> <p>To summarise, on Link 16 during the study period there have been 20 collisions (inclusive of the cluster), these comprised of: eight failures to give way, three rear-end shunt type collisions, three losses of control, one failure to look properly and one collision with a pedestrian.</p> <p>It can be considered that there is a pattern of emerging of failure to give-way collisions on this link. These collisions are located at side roads (with the A165) and cluster 6. The link is therefore assessed as of high sensitivity.</p> | <p>A review of the types of existing collisions on Link 16 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 16 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 66%.</p> <p>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.</p> | <p>Link 16 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 109%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p> |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                |
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| 18       | <p>Link 18 comprises of A165/Holderness Road between the Mount Pleasant/Holderness Road junction to the A165/B1237/Diadem Grove roundabout. Link 18 is an urban A-road and is 2.4 miles long. During the five-year study period there were 173 collisions recorded on Link 18. These consisted of two fatal, 40 serious and 131 slight collisions.</p> <p>The collisions reported on Link 18 comprise:</p> <ul style="list-style-type: none"> <li>87 failures to give way leading to collisions between vehicles at junctions;</li> <li>37 rear-end shunts;</li> <li>22 collisions between vehicles and pedestrians / cyclists not at crossings;</li> <li>16 collisions between vehicles and pedestrians / cyclists at crossings;</li> <li>10 collisions where bus passengers fell (when on the bus) due to the bus stopping abruptly;</li> <li>six losses of control collisions;</li> <li>four collisions caused by vehicles reversing onto/on the carriageway;</li> <li>two collisions which occurred for an unknown reason;</li> <li>two collisions caused by car doors being opened into the path of cyclists; and</li> <li>two collisions which occurred during overtakes.</li> </ul> <p>It can be considered that there is a pattern of collisions along this link involving collisions between cars and cyclists where cars have failed to give way to cyclists when entering the main road from side roads. The link is therefore assessed to be of high sensitivity.</p> | <p>The types of existing collisions on Link 18 involving cyclists could be disproportionately impacted by vehicle composition, therefore consideration is given to the change in HGV traffic as well as the change in total traffic.</p> <p>Link 18 is forecast to experience an increase in total traffic of 3% and HGV traffic of up to 36%.</p> <p>It is assessed that a change in total traffic of up to 3% and HGV traffic of 36% represents a low magnitude of impact.</p>     | <p>Link 18 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 60%.</p> <p>It is assessed that a change in total traffic of up to 5% and HGV traffic of 60% represents a medium magnitude of impact.</p> |
| 19       | <p>Link 19 consists of the A1033 between the Mount Pleasant North roundabout and the Holderness Road junction. Link 19 is an urban A-road and is 0.3 miles long. During the five-year study period a total of 33 collisions were recorded on Link 19 (including two collision clusters), of which, ten were serious and 23 were slight collisions; no fatal collisions were recorded. There is also two clusters of collisions, cluster 9 located at the junction between Links 18, 19 and 74 and cluster 10, which is located at the Mount Pleasant North Roundabout junction.</p> <p>To summarise, on Link 19 there were 33 collisions during the study period, these comprised of: 14 rear-end shunt type collisions, 14 failures to give way, seven collisions involving cars colliding with crossing cyclists and pedestrians, two collisions caused by poor lane discipline, one collision between a cyclist and an HGV on the carriageway, one loss of control and two collisions with reasons not given in the data. There is no significant emerging pattern in the location and type of collisions on this link.</p> <p>It can be considered that there is a pattern of emerging of failure to give-way and rear end shunt collisions on this link. The link is therefore assessed as of high sensitivity.</p>                                                                                                                                                          | <p>A review of the types of existing collisions on Link 19 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 19 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 61%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p> | <p>Link 19 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 90%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p>                    |
| 20       | <p>Link 20 consists of the A1033/Hedon Road which acts as a slip road for the A63. It is an urban A-road and is 0.6 miles long. During the five-year study period there have been a total of 27 collisions recorded on Link 20, ten were serious and 17 were slight collisions, no fatal collisions</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>A review of the types of existing collisions on Link 20 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p>                                                                                                                                                                                                                         |                                                                                                                                                                                                                                            |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnitude of Impact – Projects Concurrently                                                                                                                                                                         |
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|          | <p>were reported. There are also two clusters of collisions (clusters 10 and 11), cluster 10 is located at the junction with Link 20 (detailed in Link 19) and cluster 11 located at the Southcoates Roundabout junction between Links 20, 21 and 23.</p> <p>To summarise, during the study period on Link 20 (and collision cluster 11) there have been 27 collisions, these comprised of: eight rear-end shunt type collisions, six failures to give way, five losses of control, three failures to give way when changing lanes, one head-on collision, two collisions between a car and cyclist, one driver driving the wrong way down the road, leading to a collision and one collision with no cause given in the data.</p> <p>It can be considered that there is a pattern of rear-end shunts, failure to give way and loss of control collisions on this link. The link is therefore assessed as of high sensitivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Link 20 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 75%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                                                     | <p>Link 20 is forecast to experience an increase in total traffic of 11% and HGV traffic of up to 111%.</p> <p>It is assessed that a change in total traffic of up to 11% represents a low magnitude of impact.</p> |
| 24       | <p>Link 24 consists of the A63 between the middle of the Mount Pleasant roundabouts and the Mytongate roundabout. Link 24 is an urban A-road and is 1.5 miles in length. Link 24 also contains collision clusters 12, 13 and 14.</p> <p>Cluster 12 consists of the roundabout junction between Link 24 and A1165, cluster 13 comprises the priority junction between Link 24 and Market Place and cluster 14 comprises the priority junction between Link 24 and Dagger Lane and cluster 15 at the priority junction between Link 24 and Mytongate. During the five-year study period there have been 48 collisions recorded, these comprise of: 11 serious collisions, 37 slight collisions; no fatalities were recorded.</p> <p>To summarise there have been 48 collision recorded within the clusters on Link 24, these comprise of: 14 collisions with pedestrians / cyclists, ten rear-end shunt type collisions, seven collision caused by drivers not sighting red signals and stopping, five losses of control (two of which were by HGVs), four collisions which occurred when drivers did not look properly before changing lane, four failures to give way, two collisions which occurred for unknown reasons, and a collision on the roundabout with no cause given in the data.</p> <p>It is considered that there is a pattern of collisions between vehicles and pedestrians / cyclists, rear end shunts, failures to head traffic signals loss of control collisions on this link. The link is therefore assessed as of high sensitivity.</p> <p>National Highways are currently constructing improvements known as 'A 63 Castle Street improvements' due to be completed by 2025 (Prior the commencement of the Projects) (National Highways, 2017).</p> <p>One of stated aims of the A63 Castle Street improvements is to improve safety. Prior to the commencement of the Projects the link sensitivity would therefore be expected to be reduced to low.</p> | <p>The types of existing collisions on Link 24 involving pedestrians and cyclists could be disproportionately impacted by vehicle composition, therefore consideration is given to the change in HGV traffic as well as the change in total traffic.</p> <p>Link 24 is forecast to experience an increase in total traffic of 2% and HGV traffic of up to 17%.</p> <p>It is assessed that a change in in HGV traffic of up to 17% represents a low magnitude of impact.</p> | <p>Link 24 is forecast to experience an increase in total traffic of 3% and HGV traffic of up to 24%.</p> <p>It is assessed that a change in in HGV traffic of up to 24% represents a low magnitude of impact.</p>  |
| 26       | <p>Link 26 consists of the A63 between the St Andrew's Quay roundabout and the A15 junction. Link 26 is a A-road and is 6.7 miles long. Link 26 also contains collision cluster 16. During the five-year study period there have been a total of four collisions at cluster 16. Collision cluster</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>A review of the types of existing collisions on Link 26 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p>                                                                                                                                                                                                                |                                                                                                                                                                                                                     |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                               |
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|          | <p>16 is located, 2km east of the junction with the A15. There have been one fatal, one serious and two slight collisions.</p> <p>To summarise on Link 26, there were a total of four collisions at cluster 16, these comprise of: three rear-end shunt type collisions and a loss of control collision. It is considered that there is an emerging pattern of rear-end shunt type collisions in collision cluster 16. Noting the relatively low overall numbers of collisions, the link is therefore assessed as of medium sensitivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Link 26 is forecast to experience an increase in total traffic of 1.2% and HGV traffic of up to 17%.</p> <p>It is assessed that a change in total traffic of up to 2% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                                                            | <p>Link 26 is forecast to experience an increase in total traffic of 2% and HGV traffic of up to 19%.</p> <p>It is assessed that a change in total traffic of up to 2% represents a negligible magnitude of impact.</p>                                   |
| 28       | <p>Link 28 consists of the A15/Boothferry road from the exit / entry slips of the A63 to the Wingfield Farm Roundabout. Link 28 is a A-road and is approximately 0.9 miles long. During the five-year study period there were nine collisions recorded on this link, four serious and four slight collisions; no fatal collisions were recorded. There is also a cluster of collisions (cluster 18, detailed in Link 29) located at the roundabout junction between Links 28, 29 and 30.</p> <p>To summarise, on Link 28 there were 12 collisions during the study period, these comprised of: five rear-end shunt type collisions, four losses of control (including driving on the wrong side of the road), two incorrect uses of lanes on a roundabout and one failure to give way. It is considered that there is an emerging pattern of rear end shunt and loss of control collisions on the A15/Ferriby Road roundabout.</p> <p>The link is therefore assessed to be of high sensitivity</p> | <p>A review of the types of existing collisions on Link 28 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 28 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 27%.</p> <p>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.</p> | <p>Link 28 is forecast to experience an increase in total traffic of 6% and HGV traffic of up to 39%.</p> <p>It is assessed that a change in total traffic of up to 6% represents a negligible magnitude of impact.</p>                                   |
| 29       | <p>Link 29 consists of the A15/Humber Bridge from midway across the bridge north until the Wingfield roundabout. The link includes the toll booths for the Humber Bridge crossing. During the five-year study period there were 44 collisions (including clusters 17 and 18) recorded on Link 29, 19 were slight and two were serious collisions, with no fatal collisions were reported. There are also two clusters of collisions located on like 29, cluster 17 is located at the toll booths and cluster 18 is located at the roundabout junction between Links 28, 29 and 30.</p> <p>To summarise on Link 29 there were 21 collisions in the study period, these included: 17 rear-end shunt type collisions, two failures to look properly, one failure to give way and one collision with a failed toll barrier. It is considered that there is an emerging pattern of rear-end shunt type collisions on this link. The link is therefore assessed to be of high sensitivity</p>            | <p>Link 29 is forecast to experience an increase in total traffic of up to 1.3%. (no HGV traffic is proposed to utilise Link 29).</p> <p>It is assessed that a change in total and HGV traffic of up to 1.3% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                        | <p>Link 29 is forecast to experience an increase in total traffic of up to 3%. (no HGV traffic is proposed to utilise Link 29).</p> <p>It is assessed that a change in total and HGV traffic of up to 3% represents a negligible magnitude of impact.</p> |
| 30       | <p>Link 30 consists of the A164 northwards from the Wingfield Farm roundabout until the roundabout which connects to the B1231. Link 30 is a rural A-road and is one mile long.</p> <p>In the five-year study period there were a total of nine collisions recorded on this link, all nine have been slight collisions; no fatal or serious collisions were reported. Link 30 also contains collision cluster 17, reported under Link 29.</p> <p>To summarise, during the five-year study period on Link 30 there were nine collisions, these included: six rear-end shunt type collisions, two losses of control and one failure to give way. It is considered that there is an emerging pattern of rear-end shunt type collisions on this link. The link is therefore assessed to be of high sensitivity.</p>                                                                                                                                                                                    | <p>A review of the types of existing collisions on Link 30 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 30 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 61%.</p>                                                                                                               | <p>Link 30 is forecast to experience an increase in total traffic of 12% and HGV traffic of up to 90%.</p>                                                                                                                                                |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                               |
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|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.                                                                                                                                                                                                                                                                                                                                                                               | It is assessed that a change in total traffic of up to 12% represents a low magnitude of impact.                                                                                                                          |
| 32       | <p>Link 32 consists of the A164 between the A164/B1232/Albion Lane roundabout and the A164/Castle Road roundabout. Link 32 is a rural A-road and is 0.9 miles long. During the five-year study period there have been a total of 15 collisions reported, three have been serious collisions and 13 have been slight collisions; no fatal collisions were reported. Link 32 also contains collision clusters 19 and 20. There are also two clusters of collisions on Link 32, cluster 19 is located at the Willerby Hill Roundabout junction and cluster 20 is located on the roundabout junction between Link 32 and Castle Road.</p> <p>To summarise, there have been 15 collisions during the study period, these comprised: six losses of control, four rear-end shunt type collisions, two failures to give way, one collision caused by poor lane discipline, one collision with a cyclist and one collision with no cause given in the data.</p> <p>It is considered that there is a pattern of rear end shunts and loss of control collisions on this link. The link is therefore assessed as of high sensitivity.</p> | <p>A review of the types of existing collisions on Link 32 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 32 is forecast to experience an increase in total traffic of 9% and HGV traffic of up to 61%.</p> <p>It is assessed that a change in total traffic of up to 9% represents a negligible magnitude of impact.</p> | <p>Link 32 is forecast to experience an increase in total traffic of 14% and HGV traffic of up to 90%.</p> <p>It is assessed that a change in total traffic of up to 14% represents a low magnitude of impact.</p>        |
| 35       | <p>Link 35 consists of the A164 between Dunflat Road and midway over the A1079 bridge (where Link 35 becomes Link 38). Link 35 is a rural A-road and is one mile long. In the five-year study period there were 19 collisions reported on Link 35, seven were serious collisions and 12 were slight collisions; no fatal collisions were recorded. There is also a cluster of collisions (cluster 21) located at the priority junction between the A1079 and the A164 (northbound carriageway).</p> <p>To summarise there were 19 collisions on Link 35, these comprise: 14 rear-end shunt type collisions and five losses of control. It can be considered that there is an emerging pattern of rear-end shunt type collisions all along Link 35. The link is therefore assessed as of high sensitivity.</p>                                                                                                                                                                                                                                                                                                                 | <p>A review of the types of existing collisions on Link 35 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 35 is forecast to experience an increase in total traffic of 6% and HGV traffic of up to 55%.</p> <p>It is assessed that a change in total traffic of up to 6% represents a negligible magnitude of impact.</p> | <p>Link 35 is forecast to experience an increase in total traffic of 10% and HGV traffic of up to 82%.</p> <p>It is assessed that a change in total traffic of up to 10% represents a negligible magnitude of impact.</p> |
| 36       | <p>Link 36 consists of 0.5 miles of Dunflat Road from the A164 until Coppleflat Lane. There has been one collision on Link 36 within the five-year study period. The collision that took place on Link 36 was a slight collision and was a loss of control by a car driver who collided with the verge. The link is therefore assessed as of negligible sensitivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>A review of the types of existing collisions on Link 36 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 36 is forecast to experience an increase in total traffic of 12% and HGV traffic of up to 649%.</p> <p>It is assessed that a change in total traffic of up to 12% represents a low magnitude of impact.</p>     | <p>Link 36 is forecast to experience an increase in total traffic of 22% and HGV traffic of up to 971%.</p> <p>It is assessed that a change in total traffic of up to 22% represents a low magnitude of impact.</p>       |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects Concurrently                                                                                                                                                                              |
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| 37       | <p>Link 37 consists of Coppleflat Lane from Link 36 (Dunflat Road) until the junction with Links 68 (Coppleflat Lane), 69 (B1230) and 71 (Broadgate/B1230). Link 37 is a rural unclassified road and is 1.4 miles long. In the five-year study period there have been four collisions reported on Link 37, one was serious collisions and three were slight collisions, there were no fatal collisions reported.</p> <p>To summarise, there were four collisions during the study period, these comprised of: two collisions due to vehicles crossing the centreline on curves, one loss of control and one rear end shunt. There is no identifiable pattern in the location of the collisions along Link 37. The link is therefore assessed as of low sensitivity.</p>                                                                                                                                                                                                                                                                                                     | <p>A review of the types of existing collisions on Link 37 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 37 is forecast to experience an increase in total traffic of 11% and HGV traffic of up to 181%.</p> <p>It is assessed that a change in total traffic of up to 11% represents a low magnitude of impact.</p>     | <p>Link 37 is forecast to experience an increase in total traffic of 19% and HGV traffic of up to 271%.</p> <p>It is assessed that a change in total traffic of up to 19% represents a low magnitude of impact.</p>      |
| 38       | <p>Link 38 consists of the A164 between the centre of the A1079 junction bridge (north from Link 35) until the A164/Victoria Road/Wingfield Way roundabout. Link 38 is a A-road and is 0.4 miles long. During the five-year study period there have been a total of ten collisions recorded on Link 38, one serious collision and nine slight collisions; no fatal collisions were reported. There is also a cluster of collisions on Link 38 (cluster 22), which is located at the roundabout junction between the A164 and Link 51.</p> <p>To summarise, on Link 38 there were ten collisions during the study period, these comprised of: seven rear-end shunt type collisions, two losses of control and one collision involving a cyclist. It can be considered that there is a pattern of rear end shunts on this link. The link is therefore assessed as of high sensitivity</p>                                                                                                                                                                                     | <p>A review of the types of existing collisions on Link 38 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 38 is forecast to experience an increase in total traffic of 8% and HGV traffic of up to 83%.</p> <p>It is assessed that a change in total traffic of up to 8% represents a negligible magnitude of impact.</p> | <p>Link 38 is forecast to experience an increase in total traffic of 12% and HGV traffic of up to 122%.</p> <p>It is assessed that a change in total traffic of up to 12% represents a low magnitude of impact.</p>      |
| 40       | <p>Link 40 comprises the A1033 from the Ennerdale roundabout to the Roebank roundabout. Link 40 is an urban A-road and is 0.9 miles long. There is also two clusters of collisions on Link 40, cluster 23 which is located at the roundabout junction between Links 40 and 75 and collision cluster 24 which is located at the roundabout junction between Links 40 and 45. During the five-year study period there have been 19 collisions recorded, two have been serious collisions and 17 have been slight collisions; no fatalities were recorded within the collision clusters.</p> <p>To summarise, between the collision clusters on Link 40, there have been 19 collisions, these comprise: seven failures to give way, six rear-end shunt type collisions, four collisions between cars and cyclists and two collisions caused by poor lane discipline. It is considered that there is an emerging patter of failing to give way and of rear-end shunt type collisions within the clusters on Link 40. The link is therefore assessed as of high sensitivity.</p> | <p>A review of the types of existing collisions on Link 40 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 40 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 98%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p> | <p>Link 40 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 145%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p> |
| 45       | <p>Link 45 comprises the A1033 from the Roebank roundabout to the Dunswell Roundabout. Link 45 is an urban A-road and is 0.7 miles long. During the five-year study there were a total of 38 collisions recorded, three serious and 35 slight collisions. No fatal collisions were</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>A review of the types of existing collisions on Link 45 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p>                                                                                                                                                                                                                         |                                                                                                                                                                                                                          |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                              | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                |
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|          | <p>reported. There are also two clusters of collisions on Link 45, cluster 24 (reported under Link 40), located at the roundabout junction with Link 40 and cluster 25, which is located at the roundabout junction with Links 46 and 63.</p> <p>To summarise, there were 38 collisions on Link 45 during the study period, these comprised of: 21 rear-end shunt type collisions, seven failures to give way, four collisions with users of a pedestrian crossing, two collisions between cars and cyclists on the carriageway, two collisions caused by poor lane discipline and a loss of control. It can be considered that there is an emerging pattern of rear-end shunts at clusters on Link 45. The link is therefore assessed as of high sensitivity</p>                                                                                                                                                                                                                                                                                                  | <p>Link 45 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 88%.</p> <p>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.</p>                                                                                                                                                  | <p>Link 45 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 131%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p>   |
| 46       | <p>Link 46 comprises of the A1174 between the Dunswell roundabout north to the crossroads between the A1174 (north to south), Ferry Lane and Long Lane. Link 46 is a rural A-road and is 1.8 miles long. There is also a cluster of collisions on Link 46 (cluster 25, detailed in Link 45), which is located at the roundabout junction between Links 45, 46 and 63. During the five-year study period there have been a total of 11 collisions reported on the link, (excluding collision cluster 25). Two serious and 15 slight collisions were recorded; no fatal collisions were reported.</p> <p>To summarise, on Link 46 there have been 11 collisions, these comprised: three losses of control, two rear-end shunt type collisions, two failures to give way, two collisions between cars and cyclists, one collision between right turning cars and, one involving a pedestrian and a cyclist colliding. It is considered that there is no identifiable pattern of collisions at this location. The link is therefore assessed as of low sensitivity</p> | <p>Link 46 which is forecast to experience an increase in total and HGV traffic of less than 1%.</p> <p>It is assessed that a change in total and HGV traffic of up to 1% represents a negligible magnitude of impact.</p>                                                                                                                                               | <p>Link 46 which is forecast to experience an increase in total and HGV traffic of less than 1%.</p> <p>It is assessed that a change in total and HGV traffic of up to 1% represents a negligible magnitude of impact.</p> |
| 49       | <p>Link 49 consists of the A1174 from the northern end of Link 46 (crossroads with Ferry Lane and Long Lane) to the A1174/A164/Eastfields Road roundabout. Link 49 is a rural A-road and is 1.4 miles long. During the five-year study period there have been a total of 12 collisions recorded on Link 49, two were serious collisions and ten were slight collisions; there were no fatal collisions recorded.</p> <p>To summarise, there were 12 collisions on Link 49, these comprised: four rear-end shunt type collisions, three failures to give way, two losses of control, two collisions involving cyclists, one collision involving a pedestrian on the footway and one head-on collision. It can be considered that there an emerging pattern of rear-end shunts on this link. The link is therefore assessed as of high sensitivity.</p>                                                                                                                                                                                                              | <p>Link 49 which is forecast to experience an increase in total and HGV traffic of less than 1%.</p> <p>It is assessed that a change in total and HGV traffic of up to 1% represents a negligible magnitude of impact.</p>                                                                                                                                               | <p>Link 49 which is forecast to experience an increase in total and HGV traffic of less than 1%.</p> <p>It is assessed that a change in total and HGV traffic of up to 1% represents a negligible magnitude of impact.</p> |
| 51       | <p>Link 51 consists of the A164 between the A164/Victoria Road/Wingfield Way roundabout and A164/Ward Way roundabout, this link is 0.5 miles long. This link was recently redesigned to incorporate two new roundabouts, the A164/Ward Way roundabout and the A164/Lincoln Way roundabout. During the five-year study period there were a total of four collisions recorded on Link 51, one collision was serious and the remaining three slight. No fatal collisions were recorded. Link 51 also contains collision cluster 22 (reported within Link 38) which is located at the roundabout junction between Link 51 and Link 38.</p>                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>A review of the types of existing collisions on Link 51 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 51 is forecast to experience an increase in total traffic of 17% and HGV traffic of up to 167%.</p> | <p>Link 51 is forecast to experience an increase in total traffic of 27% and HGV traffic of up to 247%.</p>                                                                                                                |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                   | Magnitude of Impact – Projects Concurrently                                                                                                                                                                            |
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|          | To summarise, there were four collisions on Link 51, these comprised of two rear-end shunt type collisions and two losses of control (one of which involved pedestrians being collided with). It is considered that there is no identifiable pattern in the location of the collisions on Link 51. The link is therefore assessed as of low sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | It is assessed that a change in total traffic of up to 17% represents a low magnitude of impact.                                                                                                                                                                                                                                                                                                                                                                              | It is assessed that a change in total traffic of up to 27% represents a low magnitude of impact.                                                                                                                       |
| 55       | Link 55 comprises the A1035 between the priority junction with Meaux Lane and the priority junction with Eske Lane. Link 55 is a rural A-road and is 1.3 miles long. During the five-year study period there have been nine collisions recorded on Link 55, two of these were fatal, one was serious and six were slight collisions.<br><br>To summarise, on Link 55 there were nine collisions in the study period, these comprised: four rear-end shunt type collisions, four failures to give way and a loss of control by a cyclist. It is considered that there is a pattern of rear-end shunt type collisions and failures to give way on this link. The link is therefore assessed as of high sensitivity.                                                                                                                                                        | A review of the types of existing collisions on Link 55 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.<br><br>Link 55 is forecast to experience an increase in total traffic of 6% and HGV traffic of up to 49%.<br><br>It is assessed that a change in total traffic of up to 6% represents a negligible magnitude of impact. | Link 55 is forecast to experience an increase in total traffic of 11% and HGV traffic of up to 80%.<br><br>It is assessed that a change in total traffic of up to 11% represents a low magnitude of impact.            |
| 59       | Link 59 comprises the A164/Driffild Road from Driffild Road roundabout north to the edge of the TTSA. Link 59 is a rural A-road and is 0.4 miles long. There is also a collision cluster on Link 59 (cluster 26) located at the roundabout junction between Links 58 and 69. During the five-year study period there have been nine collisions reported on Link 59 (including collision cluster 26), six serious and three slight; no fatalities have been reported.<br><br>To summarise, on Link 59 there were nine collisions during the study period, these comprised of: three rear-end shunt type collisions, three losses of control, two collisions whilst vehicles performed overtaking manoeuvres, and a failure to give way. It is considered that there is no significant emerging pattern on this link. The link is therefore assessed as of low sensitivity | A review of the types of existing collisions on Link 59 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.<br><br>Link 59 is forecast to experience an increase in total traffic of 1% and HGV traffic of up to 22%.<br><br>It is assessed that a change in total traffic of up to 1% represents a negligible magnitude of impact. | Link 59 is forecast to experience an increase in total traffic of up to 2% and HGV traffic of up to 37%.<br><br>It is assessed that a change in total traffic of up to 2% represents a negligible magnitude of impact. |
| 60       | Link 60 comprises the A1035 between the Driffild Road roundabout and the Dog Kennel Lane roundabout. Link 60 is a rural A-road and is one mile long. During the study period there were a total of six collisions reported on Link 60, one was a serious collision and five were slight collisions, no fatal collisions were reported.<br><br>To summarise, on Link 60 there were six collisions during the study period, these comprised: two collisions with cyclists, two collisions with oncoming traffic, one loss of control, and one rear-end shunt type collision. It can be considered that there is no pattern in the location or type of collision on Link 60. The link is therefore assessed as of low sensitivity                                                                                                                                           | A review of the types of existing collisions on Link 60 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.<br><br>Link 60 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 14%.<br><br>It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact. | Link 60 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 23%.<br><br>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.       |
| 61       | Link 61 consists of the A1035/Dog Kennel Lane between the Dog Kennel Lane roundabout and Killingwoldgraves roundabout. Link 61 is a rural A-road and is 1.1 miles long. There are two clusters of collisions on Link 61, cluster 27 is located on Link 61 600m south of the Dog                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A review of the types of existing collisions on Link 61 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.                                                                                                                                                                                                                         |                                                                                                                                                                                                                        |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                           | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                |
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|          | <p>Kennel Lane Roundabout and cluster 28 is located at the roundabout junction between Links 61, 62, 63, 64 and 64. During the five-year study period there have been 20 collisions recorded on Link 61 (inclusive of both clusters), five have been serious and 15 have been slight collisions; there have been no fatal collisions recorded.</p> <p>To summarise, there were 20 collisions on Link 61 (including clusters 27 and 28), these comprise: 11 losses of control, five rear-end shunt type collisions, three failures to give way and a collision caused by poor lane discipline. It can be considered that there is an emerging pattern of loss of control and rear end shunt type collisions on Link 61. The link is therefore assessed as of high sensitivity</p>                                                                                                                                     | <p>Link 61 is forecast to experience an increase in total traffic of 3% and HGV traffic of up to 14%.</p> <p>It is assessed that a change in total traffic of up to 3% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                                                               | <p>Link 61 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 22%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p>    |
| 62       | <p>Link 62 is the A1174 between the Killingwoldgraves roundabout eastwards to the edge of the TTSA on the outskirts of Beverley. Link 62 is a rural A-road and is 1.3 miles long. Link 62 also contains collision cluster 28 (outlined in Link 61). During the five-year study period, there were a total of four collisions on Link 62 (excluding collision cluster 28), all four were slight collisions, no serious or fatal collisions were recorded.</p> <p>To summarise, during the study period there were four collisions on Link 62, these comprised of: two losses of control, one collision between a car and a pedestrian and one collision between a car and an animal. It is be considered that there is no significant emerging pattern of collisions along on Link 62. The link is therefore assessed as of low sensitivity.</p>                                                                      | <p>A review of the types of existing collisions on Link 61 identifies that they would not be disproportionately impacted by vehicle composition, therefore it is more appropriate to focus upon the total change in traffic rather than changes in HGVs.</p> <p>Link 62 is forecast to experience an increase in total traffic of 3% and HGV traffic of up to 126%.</p> <p>It is assessed that a change in total traffic of up to 3% represents a negligible magnitude of impact.</p> | <p>Link 62 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 207%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p>   |
| 65       | <p>Link 65 comprises the A1079 westwards from the Killingwoldgraves roundabout until the western edge of the TTSA in Bishop Burton. Link 65 is a rural A-road and is 0.7 miles long. Link 65 also contains collision cluster 28 (outlined in Link 61). During the five-year study period, there were a total of two collisions reported on Link 65 (excluding those occurring at collision cluster 28). All collisions were slight; no serious or fatal collisions were reported.</p> <p>During the study period there were two collisions on Link 65, comprising two failures to give way. It is considered there is no significant pattern of the type and location of the collisions. The link is therefore assessed as of low sensitivity.</p>                                                                                                                                                                   | <p>Link 65 which is forecast to experience an increase in total and HGV traffic of less than 2%.</p> <p>It is assessed that a change in total and HGV traffic of up to 2% represents a negligible magnitude of impact.</p>                                                                                                                                                                                                                                                            | <p>Link 65 which is forecast to experience an increase in total and HGV traffic of less than 3%.</p> <p>It is assessed that a change in total and HGV traffic of up to 3% represents a negligible magnitude of impact.</p> |
| 74       | <p>Link 74 comprises the A1033 Mount Pleasant and the A1165/Stoneferry Road between the A164/A1033 junction (Link 18 and Link 19) and the Holwell Road/Sutton Road roundabout. It is an urban A-road and is 2.1 miles long. There are also five collision clusters present on Link 74, these are: collision cluster 10 (detailed in Link 19), collision cluster 24 (detailed in Link 40), collision cluster 29 located at the roundabout junction between Link 74 and Ferry Lane, collision cluster 30 located at the roundabout junction between Link 74, West Carr Lane and the B1237, and collision cluster 31 located at the roundabout junction between Links 74 and 75.</p> <p>During the five-year study period there have been 44 collisions recorded within the clusters detailed on this link nine have been serious and 35 have been slight collisions; there have been no fatal collisions recorded.</p> | <p>The types of existing collisions on Link 74 involving cyclists could be disproportionately impacted by vehicle composition. However, the Stoneferry Road Corridor improvements are proposed to address these existing road safety issues. It is therefore considered more appropriate to focus upon changes in the total traffic rather than changes in HGVs.</p> <p>Link 74 is forecast to experience an increase in total traffic of 4% and HGV traffic of up to 42%.</p>        | <p>Link 74 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 62%.</p>                                                                                                                  |

| Link ID. | Description and sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Magnitude of Impact – Projects Concurrently                                                                                                                                                                              |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <p>To summarise, there have been 44 collisions reported during the five-year study period. These collisions comprised:</p> <ul style="list-style-type: none"> <li>• 11 rear-end shunt type collisions;</li> <li>• eight failures to give way which led to collisions with cyclists, eight losses of control;</li> <li>• five collisions caused by poor lane discipline on roundabouts;</li> <li>• four collisions with crossing pedestrians / cyclists;</li> <li>• three collisions with causes not given in the data;</li> <li>• two collisions between vehicles and cyclists on a roundabout;</li> <li>• one collision caused by a driver driving the wrong way around a roundabout</li> <li>• one collision during an overtake; and</li> <li>• one failure to give way.</li> </ul> <p>It is considered there an emerging pattern of collision with cyclists and rear-end shunt type collisions on Link 74. The link is therefore assessed as of high sensitivity</p> <p>Hull City Council are currently constructing improvements known as 'Stoneferry Road Corridor improvements' (along Link 74) due to be completed by 2023 (Prior the commencement of the Projects in 2026) (Hull City Council, 2019).</p> <p>One of the main aims of the Stoneferry Road Corridor improvements is to improve safety. Prior to the commencement of the Projects the link sensitivity would therefore be expected to be reduced to low.</p>          | It is assessed that a change in total traffic of up to 4% represents a negligible magnitude of impact.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.                                                                                                                   |
| 75       | <p>Link 75 comprises the A1033 Sutton Road between the Holwell Road/Sutton Road roundabout and the Sutton Road/Ennerdale (A1033) roundabout. Link 75 is an urban A-road and is 0.5 miles long. There are also two collision clusters on Link 75, cluster 23 (which is detailed in Link 40) and cluster 31 (which is detailed in Link 74). During the five-year study period there have been a total of 12 collisions reported on Link 75 (omitting those in collision clusters 23 and 31); two were fatal and 13 were slight collisions.</p> <p>To summarise, on Link 75 during the study period there were 16 collisions, these comprised: six collisions with pedestrians / cyclists, five rear-end shunt type collisions, two collisions which occurred for unknown reasons, two failures to give way and one failure to look. It can be considered that there is an emerging pattern of collisions with cyclists / pedestrians on this link. The link is therefore assessed as of high sensitivity</p> <p>Hull City Council are currently constructing improvements known as 'Stoneferry Road Corridor improvements' (along Link 75) due to be completed by 2023 (Prior the commencement of the Projects in 2026).</p> <p>One of the main aims of the Stoneferry Road Corridor improvements is to improve safety. Prior to the commencement of the Projects the link sensitivity would therefore be expected to be reduced to low.</p> | <p>The types of existing collisions on Link 75 involving cyclists and pedestrians could be disproportionately impacted by vehicle composition. However, the Stoneferry Road Corridor improvements are proposed to address these existing road safety issues. It is therefore considered more appropriate to focus upon changes in the total traffic rather than changes in HGVs.</p> <p>Link 75 is forecast to experience an increase in total traffic of 5% and HGV traffic of up to 98%.</p> <p>It is assessed that a change in total traffic of up to 5% represents a negligible magnitude of impact.</p> | <p>Link 75 is forecast to experience an increase in total traffic of 7% and HGV traffic of up to 145%.</p> <p>It is assessed that a change in total traffic of up to 7% represents a negligible magnitude of impact.</p> |

## 24.6.1.4.2 Significance of Effect – DBS East or West in Isolation

205. **Table 24-27** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of road safety effect.

Table 24-27 Significance of Road Safety Effect – DBS East of West in Isolation

| Links                                                             | Link Sensitivity | Magnitude of Road Safety Impact | Significance of Effect  |
|-------------------------------------------------------------------|------------------|---------------------------------|-------------------------|
| 36                                                                | Negligible       | Low                             | Negligible              |
| 6, 46, 59, 60, 62, 63, 74, 75                                     | Low              | Negligible                      | Negligible              |
| 5, 8, 24, 37, 51                                                  |                  | Low                             | <b>Minor</b> adverse    |
| 1, 2, 4, 10, 26                                                   | Medium           | Negligible                      | <b>Minor</b> adverse    |
| 9, 12, 15, 16, 19, 20, 28, 29, 30, 32, 35, 38, 40, 45, 49, 55, 61 | High             | Negligible                      | <b>Minor</b> adverse    |
| 18                                                                |                  | Low                             | <b>Moderate</b> adverse |

## 24.6.1.4.3 Significance of Effect – DBS East and West Concurrently

206. **Table 24-28** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of road safety effect.

Table 24-28 Significance of Road Safety Effect – DBS East and West Concurrently

| Links                                         | Link Sensitivity | Magnitude of Road Safety Impact | Significance of Effect  |
|-----------------------------------------------|------------------|---------------------------------|-------------------------|
| 36                                            | Negligible       | Low                             | Negligible              |
| 6, 46, 59, 60, 62, 63                         | Low              | Negligible                      | Negligible              |
| 5, 24, 37, 51, 74, 75                         |                  | Low                             | <b>Minor</b> adverse    |
| 8                                             | Medium           | Low                             | <b>Minor</b> adverse    |
| 1, 2, 4, 10, 26                               | Medium           | Negligible                      | <b>Minor</b> adverse    |
| 9, 12, 15, 16, 19, 28, 29, 35, 40, 45, 49, 61 | High             | Negligible                      | <b>Minor</b> adverse    |
| 20, 30, 32, 38, 55                            |                  | Low                             | <b>Moderate</b> adverse |
| 18                                            |                  | Medium                          | <b>Major</b> adverse    |

## 24.6.1.4.4 Mitigation and Residual Significance of Effect – All Scenarios

207. **Table 24-27** and **Table 24-28** identify potentially significant road safety effects along Link 18 (the A165 Holderness Road). **Table 24-28** also identifies potentially significant road safety effects along Links 30, 32, and 38 (the A164) and Links 20 and 55 during the construction of DBS East and West concurrently.
208. With regard to Links 30, 32 and 38, East Riding of Yorkshire Council have a series of planned highway improvements along the A164 to address existing capacity and safety concerns. These include:
  - A164 and Jocks Lodge improvement scheme (East Riding of Yorkshire Council, 2017); and
  - A164/B1232 at Willerby roundabout junction improvements (East Riding of Yorkshire Council, 2021b).
209. The exact timing of both schemes is unclear at this stage and will be discussed with East Riding of Yorkshire Council (post PEIR) to understand if delivery of the measures can be relied upon to mitigate existing road safety concerns prior to the planned commencement of construction of the Projects in 2026.
210. In the event that the A164 improvements may not be in place prior to the commencement of construction of the Projects it would be proposed to agree further mitigation measures with East Riding of Yorkshire Council to ensure that residual effects are not significant, i.e. no greater than minor adverse.
211. Noting the temporary nature of the Projects construction phase it is proposed that mitigation measures would focus upon management measures, rather than physical highway improvements. Management measures could include limiting peak daily traffic flows along these links so that they do not exceed the assessed levels of the Projects in isolation (which are assessed to not result in significant impacts).
212. These mitigation measures are outlined within the OCTMP and would be secured by a DCO Requirement during the DCO application.
213. With regard to Link 18, 20 and 55 the assessment identifies significant baseline road safety issues. It would be proposed to discuss these concerns with the relevant highway authorities (post PEIR) to understand if they have any planned improvements that may mitigate the existing road safety issues.

214. In the event that there are no planned improvements, the Applicant would discuss potential mitigation measures with the relevant highway authorities to ensure residual effects are not significant, i.e. no greater than minor adverse. Mitigation measures could include:
- Limiting the numbers of peak vehicle movements via these links;
  - Restricting hours during which traffic travels via these links, i.e. to avoid particularly sensitive hours (e.g. school start and finish times); and/or
  - Enhanced driver inductions and training to make drivers aware of the risks at these locations, etc.
215. These mitigation measures are outlined within the OCTMP and would be secured by a DCO Requirement during the DCO application.

#### 24.6.1.5 Impacts 4, 5 and 6: Driver Delay

216. The driver delay impact assessment has been sub-divided into three discrete impacts each of which have the potential to induce significant effects on highway network users. These impacts are:
- Impact 4: Driver Delay (Capacity) - delays induced by the highway networks' lack of spare capacity to accommodate additional traffic flows;
  - Impact 5: Driver Delay (Highway Geometry) - delays induced by constrained road space forcing vehicles to slow or stop to traverse the highway network; and
  - Impact 6: Driver Delay (Road Closures) - delays to diverted traffic re-routing on the highway network due to road closures necessitated by 'open cut' trenching to install the Project onshore export cables across the public highway.

## 24.6.1.6 Impact 4 Driver Delay (Capacity)

217. The GEART screening thresholds do not apply to the impact of Driver Delay. The impact is defined as potentially significant when the highway network surrounding the development under consideration is at or close to capacity (congested).
218. Recognising the extent of the TTSA (approximately 150km of highway network), a proportionate approach to the assessment of driver delay (capacity) effects has been discussed with the relevant highway authorities.
219. It was agreed (refer to **Table 24-1** for agreements) with the relevant highway authorities that for the PEIR, the assessment of driver delay (capacity) should present details of the peak hour increases in traffic flows via all 'A' roads within the TTSA.
220. **Table 24-29** therefore provides details of the peak change in peak hour traffic flows for the Projects on A-roads in the TTSA. The forecast changes in hourly traffic flows have been extrapolated from daily traffic flows presented in **Table 24-16** and **Table 1-15** applying the following principles:
221. During the morning peak (07:30 – 09:00), industry experience indicates that the majority of the construction workforce would have already arrived in order to be available to start work at 07:00 and maximise productivity during the defined working hours for the Projects (07:00 – 19:00). Equally, experience indicates that employees would leave after 18:00 in the evening thus avoiding the evening peak period.
222. In order to consider an absolute worst-case scenario for capacity impacts, it has however, been assumed that up to 25% of the employee demand would occur during the morning and evening peak hours and that one tenth of daily HGV movements would also occur during that period.

Table 24-29 Traffic Flows on A-roads During Peak Hours

| Link ID | Link Description                      | Peak Hour Traffic Flows for Projects in Isolation | Peak Hour Traffic Flows for Projects Concurrently |
|---------|---------------------------------------|---------------------------------------------------|---------------------------------------------------|
| 1       | A165 Carnaby to Lissett               | 3                                                 | 4                                                 |
| 2       | A165 Lissett to Beeford               | 10                                                | 17                                                |
| 3       | A165 Beeford to Brandesburton         | 44                                                | 80                                                |
| 9       | A165 Brandesburton to Leven           | 65                                                | 119                                               |
| 10      | A1035 Leven to Catwick                | 26                                                | 46                                                |
| 12      | A1035 Leven to A165                   | 90                                                | 164                                               |
| 13      | A165 from A1035 to Skirlaugh          | 73                                                | 130                                               |
| 14      | A165 through Skirlaugh                | 47                                                | 79                                                |
| 15      | A165 from Skirlaugh to Coniston       | 46                                                | 78                                                |
| 16      | A165 from Coniston to Holderness Road | 46                                                | 78                                                |
| 17      | A165/Holderness Road                  | 46                                                | 78                                                |
| 18      | A165/Holderness Road                  | 46                                                | 78                                                |
| 19      | Mount Pleasant/A1033                  | 93                                                | 140                                               |
| 20      | A1033 Slip Road                       | 89                                                | 132                                               |
| 21      | A1033/Hedon Road                      | 89                                                | 133                                               |
| 22      | A1033/Hedon Road                      | 89                                                | 133                                               |
| 23      | A1033/Hedon Road                      | 85                                                | 126                                               |
| 24      | A63                                   | 90                                                | 134                                               |
| 25      | A63                                   | 90                                                | 134                                               |
| 26      | A63                                   | 85                                                | 126                                               |

| Link ID | Link Description          | Peak Hour Traffic Flows for Projects in Isolation | Peak Hour Traffic Flows for Projects Concurrently |
|---------|---------------------------|---------------------------------------------------|---------------------------------------------------|
| 27      | A63                       | 137                                               | 214                                               |
| 28      | A15/Boothferry Road       | 137                                               | 214                                               |
| 29      | Humber Bridge             | 40                                                | 67                                                |
| 30      | A164                      | 182                                               | 289                                               |
| 31      | A164                      | 183                                               | 292                                               |
| 32      | A164                      | 211                                               | 338                                               |
| 33      | A164                      | 211                                               | 338                                               |
| 34      | A164                      | 238                                               | 384                                               |
| 35      | A164                      | 264                                               | 413                                               |
| 38      | A164                      | 210                                               | 332                                               |
| 40      | A1033/Thomas Clarkson Way | 101                                               | 151                                               |
| 45      | A1033                     | 106                                               | 158                                               |
| 46      | A1174                     | 8                                                 | 14                                                |
| 49      | A1174                     | 8                                                 | 14                                                |
| 50      | A164/ Woodmansey          | 149                                               | 269                                               |
| 51      | A164/Woodmansey           | 204                                               | 318                                               |
| 52      | A1174/A164                | 153                                               | 279                                               |
| 53      | A1174/A164/Swinemoor Lane | 153                                               | 279                                               |
| 54      | A1035                     | 123                                               | 226                                               |
| 55      | A1035                     | 146                                               | 268                                               |
| 56      | A1035                     | 178                                               | 328                                               |

| Link ID | Link Description                             | Peak Hour Traffic Flows for Projects in Isolation | Peak Hour Traffic Flows for Projects Concurrently |
|---------|----------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| 57      | A1035/A164                                   | 47                                                | 88                                                |
| 59      | A164 / Driffield Road                        | 11                                                | 22                                                |
| 60      | A1035                                        | 51                                                | 94                                                |
| 61      | A1035/Dog Kennel Lane                        | 48                                                | 87                                                |
| 62      | A1174                                        | 20                                                | 37                                                |
| 63      | A1079                                        | 152                                               | 224                                               |
| 65      | A1079/Bishop Burton                          | 21                                                | 36                                                |
| 66      | A1079                                        | 133                                               | 202                                               |
| 74      | Mount Pleasant/A1033 and Stoneferry Rd/A1165 | 96                                                | 142                                               |
| 75      | Sutton Road/A1033                            | 99                                                | 149                                               |

223. The relevant highway authorities have confirmed that they would review these changes in traffic flows presented in **Table 24-29** and apply their local knowledge to advise of those junctions/links where they consider that the Projects could adversely impact upon driver delay (capacity).
224. These junctions/links would be considered to be sensitive to changes in traffic and will be subject to a detailed capacity assessment within the ES.
225. Should potentially significant impacts be identified in the ES, mitigation measures would be proposed. It is preferred that any mitigation measures would focus upon 'traffic management' measures to reduce peak traffic movements, such as, car-sharing, reprofiling deliveries, etc.

## 24.6.1.7 Impact 5 Driver Delay (Highway Geometry)

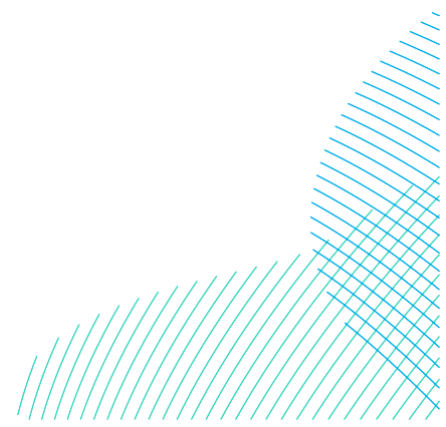
226. Driver Delay (Highway Geometry) impacts are considered to have the potential for significant effects where the highway network within the TTSA is of constrained width to prevent two vehicles from passing (therefore leading to potential delays associated with waiting and manoeuvring). A review of all links has been undertaken (Section 24.4.3.2) to identify any links that are of 'constrained width', defined as roads less than 5.5m wide.

### 24.6.1.7.1 *Magnitude of Impact and Sensitivity of Receptors – All Scenarios*

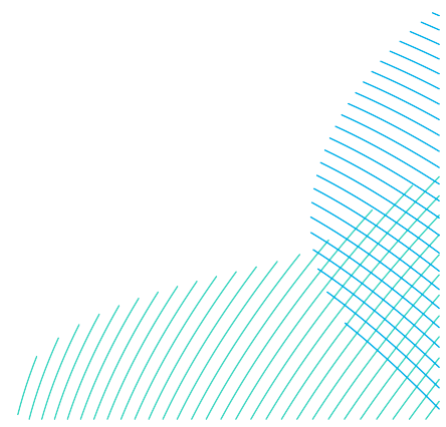
227. **Table 24-30** provides a summary of the magnitude of impact and sensitivity of the five links identified as of constrained width in the context of the changes in forecast daily traffic flows in 2026. Details of the changes in daily traffic flows have been extrapolated from **Table 24-16** and **Table 24-17**.

Table 24-30: Magnitude of Driver Delay (Highway Geometry) Impact and Sensitivity of Receptors – All Scenarios

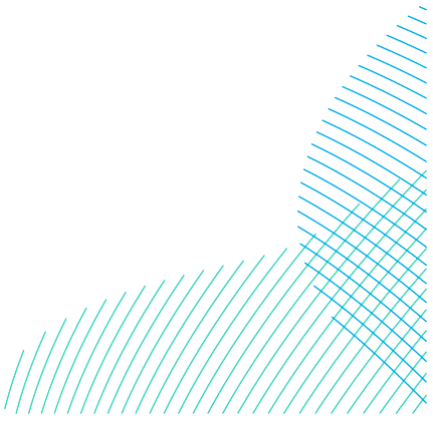
| Link ID | Link Description                               | Background Link Characteristics and Sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7       | Dunnington Lane leading east from the A165     | <p>The Project's construction traffic would be required to travel approximately 1.1km along Dunnington Lane to accesses 3 and 4.</p> <p>Dunnington Lane is on average approximately 4.0m wide and currently allows two LVs to pass slowly. There are also approximately five formalised passing places, approximately every 220m apart.</p> <p>The link currently accommodates 147 total vehicle trips a day of which 28 are HGVs.</p> <p>The link is therefore assessed to be of low sensitivity.</p>                                                                          | <p>Peak daily increase in LV trips on Link 7 would be 108 per day, equivalent to approximately 54 arrivals in the morning and 54 departures in the evening.</p> <p>Peak daily increase in HGV trips on Link 7 would be 74 (equivalent to eight an hour), there is a baseline of 28 HGVs on Link 7 (approximately three an hour), which would amount to a total of 102 HGVs on Link 7. This would be equivalent to 11 HGVs per hour.</p> <p>Considering the existing and forecast levels of HGV use the magnitude of impact is assessed as high.</p> | <p>Peak daily increases in LV trips on Link 7 would be 208 per day, equivalent to approximately 104 arrivals in the morning and 104 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 7 would be 129 (equivalent to 13 an hour), there is a baseline of 28 HGVs on Link 7 (approximately three an hour), which would amount to a total of 157 HGVs on Link 7. This would be equivalent to 16 HGVs per hour.</p> <p>Considering the existing and forecast levels of HGV use the magnitude of impact is assessed as high.</p> |
| 8       | Catfoss Road from junction with A164 eastwards | <p>The Project's construction traffic would be required to travel approximately 2.9km along Catfoss Road to accesses 5 and 6.</p> <p>Catfoss road is over 5.5m wide for the first 2.1km eastwards along the link and is around 4.4m wide after for 800m. The entirety of Link 8 is wide enough for two LVs to pass one another, however after the road narrows two HGVs would be unable to pass each other.</p> <p>The link currently accommodates 1,064 total vehicle trips a day of which 17 are HGVs.</p> <p>The link is therefore assessed to be of medium sensitivity.</p> | <p>Peak daily increases in LV trips on Link 8 would be 111 per day, equivalent to approximately 56 arrivals in the morning and 56 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 8 would be 72 (equivalent to eight an hour), there is a baseline of 17 HGVs on Link 8 (approximately two an hour), which would amount to a total of 89 HGVs on Link 8. This would be equivalent to nine HGVs per hour.</p> <p>Considering the existing levels of HGV traffic the magnitude of impact is assessed as medium.</p>       | <p>Peak daily increases in LV trips on Link 8 would be 22 per day, equivalent to approximately 111 arrivals in the morning and 111 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 8 would be 122 (equivalent to 12 an hour), there is a baseline of 17 HGVs on Link 8 (approximately two an hour), which would amount to a total of 139 HGVs on Link 8. This would be equivalent to 14 HGVs per hour.</p> <p>Considering the existing levels of HGV traffic the magnitude of impact is assessed as high.</p>             |



| Link ID | Link Description                                       | Background Link Characteristics and Sensitivity                                                                                                                                                                                                                                                                                                                                                                                | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11      | Unnamed Road north of the A1035 opposite Catwick Heads | <p>The Project's construction traffic would be required to travel approximately 350m along Link 11 to accesses 7 and 8.</p> <p>Link 11 is between 5m and 5.5m wide and currently allows two LVs to pass each other or an HGV to pass an oncoming LV.</p> <p>The link currently accommodates 235 total vehicle trips a day, of which four are HGVs.</p> <p>The link is therefore assessed to be of low sensitivity.</p>         | <p>Peak daily increases in LV trips on Link 11 would be 93 per day, equivalent to approximately 47 arrivals in the morning and 47 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 7 would be 37 (equivalent to four an hour), there is a baseline of four HGVs on Link 7 (approximately one an hour), which would amount to a total of 41 HGVs on Link 7. This would be equivalent to five HGVs per hour.</p> <p>Considering the existing levels of HGV traffic the magnitude of impact is assessed as medium.</p> | <p>Peak daily increases in LV trips on Link 11 would be 186 per day, equivalent to approximately 93 arrivals in the morning and 93 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 11 would be 59 (equivalent to six an hour), there is a baseline of four HGVs on Link 11 (approximately one an hour), which would amount to a total of 63 HGVs on Link 7. This would be equivalent to six HGVs per hour.</p> <p>Considering the existing levels of HGV traffic the magnitude of impact is assessed as medium.</p> |
| 58      | Ings Road north of the A1035                           | <p>The Project's construction traffic would be required to travel approximately 100m along Ings Road to access 18.</p> <p>Ings Road is approximately 4.5 wide and currently allows two LVs to pass.</p> <p>The link is therefore assessed to be of medium sensitivity.</p>                                                                                                                                                     | <p>Peak daily increases in LV trips on Link 58 would be 86 per day, equivalent to approximately 43 arrivals in the morning and 43 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 58 would be 75 (equivalent to eight an hour).</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p>                                                                                                                                                                           | <p>Peak daily LV trips on Link 58 would be 170 per day, equivalent to approximately 85 arrivals in the morning and 85 departures in the evening.</p> <p>Peak daily increases in HGV trips on Link 58 would be 110 (equivalent to 11 an hour).</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p>                                                                                                                                                                                          |
| 73      | Eske Lane                                              | <p>The Project's construction traffic would be required to travel approximately 700m along Eske Lane to accesses 15 and 16.</p> <p>Eske Lane is approximately 3.1m wide, with two passing places along the road. This would currently allow two LVs slowly.</p> <p>The link currently accommodates 48 total vehicle trips a day, of which one is a HGV.</p> <p>The link is therefore assessed to be of medium sensitivity.</p> | <p>Peak daily increase in LV trips on Link 73 would be 91 per day, equivalent to approximately 46 arrivals in the morning and 46 departures in the evening.</p> <p>Peak daily increase in HGV trips on Link 73 would be 71 (equivalent to eight an hour), there is a baseline of one HGV on Link 73 per day, which would amount to a total of 72 HGVs on Link 73. This would be equivalent to eight HGVs per hour.</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p>                    | <p>Peak daily increase LV trips on Link 73 would be 182 per day, equivalent to approximately 91 arrivals in the morning and 91 departures in the evening.</p> <p>Peak daily increase in HGV trips on Link 73 would be 119 (equivalent to 12 an hour), there is a baseline of one HGV on Link 73 per day, which would amount to a total of 120 HGVs on Link 73. This would be equivalent to ten HGVs per hour.</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p>                          |



| Link ID | Link Description           | Background Link Characteristics and Sensitivity                                                                                                                                                                                                                                                                                                                                   | Magnitude of Impact – Projects in Isolation                                                                                                                                                                                                                                                                                                                              | Magnitude of Impact – Projects Concurrently                                                                                                                                                                                                                                                                                                                             |
|---------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| n/a     | Jillywood Farm Access Road | <p>The Project’s construction traffic may be required to travel a short distance (approximately 50m) along the Jillywood Farm access road to access 43a.</p> <p>The access road is approximately 4.0m wide and currently allows two LVs to pass slowly. The road is also provided as a PRow and bridleway.</p> <p>The link is therefore assessed to be of medium sensitivity.</p> | <p>Peak daily increase in LV trips to access 43a would be 91 per day, equivalent to approximately 46 arrivals in the morning and 46 departures in the evening.</p> <p>Peak daily increase in HGV trips to access 43a would be 82 (equivalent to eight an hour).</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p> | <p>Peak daily increase in LV trips to access 43a would be 182 per day, equivalent to approximately 91 arrivals in the morning and 91 departures in the evening.</p> <p>Peak daily increase in HGV trips to access 43a would be 132 (equivalent to 13 an hour).</p> <p>Considering the forecast increase in HGV traffic the magnitude of impact is assessed as high.</p> |



## 24.6.1.7.2 Significance of Effect – All Scenarios

228. **Table 24-31** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of the driver delay effect.

Table 24-31 Significance of Driver Delay (Highway Geometry) – All Scenarios

| Links                      | Magnitude of Impact – Projects in Isolation | Magnitude of Impact – Projects Concurrently | Sensitivity | Significance of Effect – Projects in Isolation | Significance of Effect – Projects Concurrently |
|----------------------------|---------------------------------------------|---------------------------------------------|-------------|------------------------------------------------|------------------------------------------------|
| 7                          | High                                        | High                                        | Low         | <b>Moderate</b> adverse                        | <b>Moderate</b> adverse                        |
| 8                          | Medium                                      | High                                        | Medium      | <b>Moderate</b> adverse                        | <b>Major</b> adverse                           |
| 11                         | Medium                                      | Medium                                      | Low         | <b>Minor</b> adverse                           | <b>Minor</b> adverse                           |
| 58                         | High                                        | High                                        | Medium      | <b>Major</b> adverse                           | <b>Major</b> adverse                           |
| 73                         | High                                        | High                                        | Medium      | <b>Major</b> adverse                           | <b>Major</b> adverse                           |
| Jillywood Farm access road | High                                        | High                                        | Medium      | <b>Major</b> adverse                           | <b>Major</b> adverse                           |

## 24.6.1.7.3 Mitigation and Residual Significance of Effect – All Scenarios

229. **Table 24-31** identifies that the Project's construction traffic could result in potentially significant driver delay (highway geometry) effects upon the users of Links 7, 8, 58 and 73 and the Jillywood Farm access associated with the forecast increases in HGV traffic.
230. **Table 24-32** details mitigation measures that would be applied to reduce the potentially significant adverse driver delay (highway constraints) effects.

Table 24-32 Potential Mitigation Measures for Driver Delay (Highway Geometry) – All Scenarios

| Links | Potential Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7     | <p>The link is identified to be wide enough to allow two LVs to pass and has existing passing places to allow a limited number of HGVs to pass. The increase in HGV traffic however could result in conflict between HGVs if the passing places are blocked by existing HGV movements.</p> <p>To accommodate the forecast increase in HGV traffic it would be proposed to extend the existing passing places to provide additional space for HGVs to wait.</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| 8     | <p>The link is identified to be wide enough to allow two LVs to pass and the majority of the link would also allow two HGVs to pass (with the exception of the final 800m). To accommodate the additional HGV traffic new passing places would be provided along the final 800m of the link to allow two HGVs to pass or an escort vehicle would be used to guide HGVs along the link and hold back conflicting HGV traffic.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 58    | <p>The link is identified to be wide enough to allow two LVs to pass but would not be wide enough to allow two HGVs to pass. Works to widen Ings Road (Link 58) are proposed as part of a proposal for a new Household waste centre. Should planning permission be granted for the Household waste centre and improvements be implemented, the road would be wide enough for the Projects construction traffic and no additional mitigation measures would be required.</p> <p>In the event that the improvements to Ings Road are not implemented in time for the commencement of construction of the Projects the following measures are proposed. To accommodate the forecast HGV traffic, the road would be widened (for approximately 100m) or an escort vehicle would be used to guide HGVs along the link and hold back conflicting HGV traffic.</p> |

| Links                      | Potential Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 73                         | The link is approximately 700m long and currently provided with two passing places which would allow two LVs to pass but would not allow HGVs to pass. To accommodate the additional HGV traffic new passing places would be provided and the existing passing places widened, or an escort vehicle would be used to guide HGVs along the link and hold back conflicting HGV traffic.                                                                                                                                                                                                                                                              |
| Jillywood Farm access road | <p>The link is identified to be wide enough to allow two LVs to pass slowly but would not be wide enough to allow two HGVs to pass. The link also forms part of a PRow and bridleway. Construction traffic would be required to travel a short distance (approximately 50m) along the road.</p> <p>To accommodate the forecast HGV traffic, the road and junction with the A164 would be widened and users of the PRow and bridleway would be segregated from construction traffic.</p> <p>Alternatively, an escort vehicle could be used to guide HGVs along the link and hold back conflicting traffic, including pedestrians / equestrians.</p> |

231. Following the implementation of the proposed additional mitigation measures outline in **Table 24-32** the magnitude of impact is assessed as low on receptors of low to medium sensitivity resulting in a **minor** adverse residual effect.

#### 24.6.1.8 Impact 6 Driver Delay (Road Closures)

232. During the cable installation works, within the onshore cable corridor(s) onshore export cables would need to be installed across a number of minor public roads using open-cut trenching techniques. To provide a safe working area for the installation it would be proposed to close the roads for a short period of time (up to two weeks).
233. The exception to strategy to close the roads is at the B1230 and Park Lane where **Table 24-3** outlines embedded mitigation measures to ensure access is maintained through shuttle working (e.g. the use of traffic signals to alternate flows on a one-way section of road).
234. Access through the closures would be maintained for pedestrians and cyclists at all times.

## 24.6.1.8.1 *Magnitude of Impact and Sensitivity of Receptors – All Scenarios*

235. **Table 24-33** provides a summary of the magnitude of impact and sensitivity of all open-cut onshore cable corridor crossings required during the onshore export cable installation works. The location of the proposed road crossings are highlighted in **Figure 24-3**.
236. In assessing the sensitivity and magnitude of impact, consideration has been given to the volume of traffic (taken from the TA, **Appendix 24-1**), the additional delay drivers would experience if a road were closed or access restricted, and also, if the road crossing impacts scheduled bus services.

Table 24-33 Magnitude of Driver Delay (Road Closures) Impact and Sensitivity

| Crossing Location  | Daily Traffic Flows | Bus Route | Sensitivity                                                                                                                                                                                                      | Alternative Diversion route                                                                                                                                                                                                                                 | Magnitude of Impact | Rationale                                                                                              |
|--------------------|---------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------|
| Bewholme Lane      | <500 *              | No        | Bewholme Lane has relatively few receptors along it and is a narrow road, with no cycle lanes, footway or scheduled bus services. The link is therefore assessed as of low sensitivity.                          | Traffic could be diverted to the A165 and Skipsea Road (Beeford Road) which is of a higher classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional two minutes of journey time.  | Low                 | A suitable alternative route exists which would add up to two minutes additional journey time.         |
| Dunnington Lane    | <500 *              | No        | Dunnington Lane is a narrow, single-tracked road which would potentially have a low traffic flow. It has no footway, cycle lanes or scheduled bus service. The link is therefore assessed as of low sensitivity. | Traffic could be diverted to the B1249 and A165 which are of a higher classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional two minutes of journey time.                       | Low                 | A suitable alternative route exists which would add up to two minutes additional journey time.         |
| Billings Lane      | <500 *              | No        | Billings Lane is a narrow single lane road, there is no cycle lane, footway or schedule bus services. The link is therefore assessed as of low sensitivity.                                                      | Traffic could be diverted to the Catfoss Road which is wider and the same classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional 1-2 minutes of journey time.                   | Low                 | A suitable alternative route exists which would add up to two minutes additional journey time.         |
| Catfoss Road       | 1,064               | No        | Catfoss Road has relatively low daily traffic flows, has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                   | A diversion of traffic to a road of similar or higher classification and width would result in traffic being diverted to the A1035, through Hornsea and onto the B1242. A diversion via the A1035 would result in an additional journey time of 12 minutes. | High                | A suitable alternative route exists; however, this would add an additional 12 minutes of journey time. |
| Harsell Lane       | <500 *              | No        | Harsell Lane is a narrow single lane road, has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                             | Traffic could be diverted to the A1035 which is of a higher classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional one minute of journey time.                                  | Negligible          | A suitable alternative route exists which would add up to one minute additional journey time.          |
| Catwick Heads Lane | <500 *              | No        | Catwick Heads Lane is a narrow single-track road has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                       | Traffic could be diverted to the A1035 and B1243 which are of a higher classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional two minutes of journey time.                      | Low                 | A suitable alternative route exists which would add up to two minutes additional journey time.         |
| Rise Lane          | <500 *              | No        | Rise Lane is a narrow single lane road has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                                 | Traffic could be diverted to the A1035 and B1243 which are of a higher classification and could therefore be expected to accommodate an increase                                                                                                            | Low                 | A suitable alternative route exists which would add up to                                              |

| Crossing Location                  | Daily Traffic Flows | Bus Route | Sensitivity                                                                                                                                                                                                                                      | Alternative Diversion route                                                                                                                                                                                                          | Magnitude of Impact | Rationale                                                                                     |
|------------------------------------|---------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------|
|                                    |                     |           |                                                                                                                                                                                                                                                  | in traffic. This diversion would result in an additional two minutes of journey time.                                                                                                                                                |                     | two minutes additional journey time.                                                          |
| Riston Road                        | <500 *              | No        | Riston Road is a narrow single lane road has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                                                               | Traffic could be diverted to the A1035 and A165 which are of a higher classification and could therefore be expected to accommodate an increase in traffic. This diversion would result in an additional one minute of journey time. | Negligible          | A suitable alternative route exists which would add up to one minute additional journey time. |
| Eske Lane                          | 56                  | No        | Eske Lane is a narrow single lane road has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                                                                 | No suitable diversion via the highway network exists, therefore a closure of the road would prevent access to the properties and farms served by this road.                                                                          | High                | No suitable diversion route exists.                                                           |
| Newbald Road                       | <2,000 *            | No        | Newbald Road is a single carriageway has relatively low daily traffic flows, road has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                      | A diversion of traffic to a road of similar or higher classification and width would result in traffic being diverted to the A1174. A diversion via the A1174 would result in an additional journey time of one minute.              | Negligible          | A suitable alternative route exists which would add up to one minute additional journey time. |
| B1230                              | 7,399               | Yes       | The B1230 is a single carriageway main B-road, has flows of over 7,000 vehicles per day, a scheduled bus services. A footway / cycleway is also provided alongside the link. The link is therefore assessed as of high sensitivity.              | The use of temporary traffic signals to maintain a single lane of traffic would not be expected to result in significant delays.                                                                                                     | Negligible          | A single lane of traffic would be maintained via the use of temporary traffic signals.        |
| Victoria Road                      | <2,000              | No        | Victoria Road is a narrow single lane road, has no scheduled bus services, footway or cycleway. The link is therefore assessed as of low sensitivity.                                                                                            | No suitable diversion via the highway network exists, therefore a closure of the road would prevent access to the properties and farms served by this road.                                                                          | High                | No suitable diversion route exists                                                            |
| Park Lane                          | <500 *              | No        | Park Lane is a narrow single lane road, has no scheduled bus services. The link however provides access to the existing National Grid Electricity Transmission substation at Creyke Beck. The link is therefore assessed as of high sensitivity. | The use of temporary traffic signals to maintain a single lane of traffic would not be expected to result in significant delays.                                                                                                     | Negligible          | A single lane of traffic would be maintained via the use of temporary traffic signals.        |
| <b>Notes:</b><br>* Estimated flows |                     |           |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                      |                     |                                                                                               |

## 24.6.1.8.2 Significance of Effect – All Scenarios

237. **Table 24-34** provides a summary of the sensitivity of each receptor, the magnitude of impact and an evaluation of the significance of the driver delay effect.

Table 24-34 Significance of Driver Delay (Road Closures) – All Scenarios

| Crossing Location  | Magnitude of Impact | Sensitivity | Significance of Effect  |
|--------------------|---------------------|-------------|-------------------------|
| Bewholme Lane      | Low                 | Low         | <b>Minor</b> adverse    |
| Dunnington Lane    | Low                 | Low         | <b>Minor</b> adverse    |
| Billings Lane      | Low                 | Low         | <b>Minor</b> adverse    |
| Catfoss Road       | High                | Low         | <b>Moderate</b> adverse |
| Harsell Lane       | Negligible          | Low         | <b>Negligible</b>       |
| Catwick Heads Lane | Low                 | Low         | <b>Minor</b> adverse    |
| Rise Lane          | Low                 | Low         | <b>Minor</b> adverse    |
| Riston Road        | Negligible          | Low         | <b>Negligible</b>       |
| Eske Lane          | High                | Low         | <b>Moderate</b> adverse |
| Newbald Road       | Negligible          | Low         | <b>Negligible</b>       |
| B1230              | Negligible          | High        | <b>Minor</b> adverse    |
| Victoria Road      | High                | Low         | <b>Moderate</b> adverse |
| Park Lane          | Negligible          | High        | <b>Minor</b> adverse    |

## 24.6.1.8.3 Mitigation and Residual Significance of Effect – All Scenarios

238. **Table 24-34** identifies that the temporary closure of Catfoss Road, Eske Lane and Victoria Road to install the Project's onshore export cables could result in potentially significant driver delay (road closure) effects upon the users of these links.
239. Prior to the submission of the DCO application, the Applicant plans to undertake further site investigation works to establish the potential to use trenchless technologies at these locations. If trenchless techniques cannot be used at these locations, the following mitigation measures are proposed:
- Temporarily widening of the road to allow the works to be undertaken in two stages, thereby maintaining one lane for traffic, with traffic controlled via signal control;
  - Working with East Riding of Yorkshire Council and local stakeholders to agree an appropriate time to undertake the works (e.g. during school holidays);
  - Implementation of advanced signing to assist drivers in finding alternative routes; and
  - Ensuring all road closure works are staggered to minimise any cumulative effects within close geographical areas.
240. Following the implementation of the proposed additional mitigation measures in relation to road closures, the magnitude of impact is assessed as low on a receptor of low sensitivity resulting in a **negligible** residual effect.

## 24.6.2 Potential Effects During Operation

241. It is expected that the onshore substations will not be permanently manned; however, staff will periodically visit to carry out routine checks and maintenance. It is estimated that on average there would be one visit per week by two personnel (equivalent to up to eight vehicle trips). Most annual maintenance will be short, but, if necessary, some campaigns may be longer. The proposed operational access strategy for the onshore substation(s) is outlined in the TA (**Appendix 24-1**).
242. Any inspections/ maintenance of the onshore export cable route will be infrequent and subject to very low vehicle demand.

243. Considering the activities listed, no significant traffic and transport effects are anticipated during the operational phase and as agreed with the relevant highway authorities (detailed in **Table 24-1**), no operational scenarios have been assessed within this traffic and transport impact assessment.

### **24.6.3 Potential Effects During Decommissioning**

244. No decision has been made regarding the final decommissioning policy for the onshore substation, as it is recognised that industry best practice, rules and legislation change over time. However, the onshore substation station equipment will likely be removed and reused or recycled.
245. It is expected the onshore export cables will be removed from ducts and recycled, with the transition pits and ducts left in-situ.
246. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. A decommissioning plan would be provided.
247. It is anticipated that the effects of decommissioning will be no greater in nature than those identified during construction (section 24.6.1).

## 24.7 Preliminary Assessment of Cumulative Effects

248. As detailed in section 24.4.4, this section presents a preliminary assessment of cumulative effects in relation to traffic and transport. The final CEA will be undertaken within the ES chapter.

### 24.7.1 Initial Screening for Cumulative Effects

249. **Table 24-35** below details the potential cumulative effects that may occur between the Projects and other plans, projects and activities. Primary impacts assessed in section 24.6 as minor, moderate or major will be taken forward to the final CEA (i.e. those assessed as 'negligible' are not taken forward as there is no potential for them to contribute to a cumulative effect).

Table 24-35 Potential Cumulative Effects

| Impact                            | Potential for Cumulative Effects | Data Confidence | Rationale                                                                                                                                                                                                             |
|-----------------------------------|----------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction</b>               |                                  |                 |                                                                                                                                                                                                                       |
| Impact 1: Severance               | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon links 4 to 8, 10, 11, 14, 16, 18, 20, 53, 56, 58, 65, 71 and 73.                                                           |
| Impact 2: Amenity                 | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon links 3 to 6, 8, 10, 11, 13 to 20, 22, 32 to 38, 40, 45, 50 to 56, 58, 62, 64, 68, 71 and 73 to 75.                        |
| Impact 3: Road Safety             | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon links 1, 2, 4, 5, 8, 9, 10, 12, 15, 16, 18, 19, 20, 24, 26, 28, 29, 30, 32, 35, 37, 38, 40, 45, 49, 51, 55, 61, 74 and 75. |
| Impact 4: Driver Delay (Capacity) | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon all A roads within the TTSA.                                                                                               |

| Impact                                                                                                                                                                                                                                          | Potential for Cumulative Effects | Data Confidence | Rationale                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impact 5: Driver Delay (Highway Geometry)                                                                                                                                                                                                       | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon links 7, 8, 11, 58, 73 and the Jillywood Farm access road.                                                                                 |
| Impact 6: Driver Delay (Road Closures)                                                                                                                                                                                                          | Yes                              | High            | Plans and projects currently in planning have potential to have cumulative effects on upon Bewholme Lane, Dunnington Lane, Billings Lane, Catfoss Road, Catwick Heads Lane, Rise Lane, Eske Lane, B1230, Victoria Road and Park Lane. |
| <b>Operation &amp; Maintenance</b>                                                                                                                                                                                                              |                                  |                 |                                                                                                                                                                                                                                       |
| No significant traffic and transport effects are anticipated during the operational phase and as agreed with the relevant highway authorities, no operational scenarios have been assessed within this traffic and transport impact assessment. |                                  |                 |                                                                                                                                                                                                                                       |
| <b>Decommissioning</b>                                                                                                                                                                                                                          |                                  |                 |                                                                                                                                                                                                                                       |
| Decommissioning strategies have not yet been finalised; however, the cumulative effects are expected to be no greater than those of construction.                                                                                               |                                  |                 |                                                                                                                                                                                                                                       |

## 24.7.2 Plans/Projects Considered for Cumulative Impacts

250. A high-level list of plans/projects that may result in cumulative effects with the Projects is detailed in **36**. For traffic and transport to determine the initial list of projects considered for the CEA consideration has been given to whether the projects would overlap temporally and if the respective transport study areas would overlap spatially. Where project dates are not specified a temporal overlap has been assumed.
251. Plans / projects have been assigned a tier level between 1 and 7, based on the most recent guidance (see **Chapter 6 EIA Methodology**). For the final CEA at ES, this high-level list will be reviewed and screened to ensure all relevant plans / projects are considered in the final assessment. All listed plans / projects will be re-examined at ES to ensure each assigned tier remains accurate at the time of writing.

Table 24-36 High-Level List of Plans/Projects Screened For Further Assessment in the Final CEA

| Tier | Plan / Project                                                                         | Included in the CEA (Y/N) | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------|----------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2    | Dogger Bank A & B Offshore Wind Farm                                                   | No                        | Dogger Bank A & B would be operational prior to commencement of the Project's and the ES Traffic and Transport Chapter for Dogger Bank A & B identifies no significant operational traffic and transport impacts.                                                                                                                                                                                                                                                              |
| 3    | A164 and Jock Lodge Junction Improvement Scheme                                        | Yes                       | The Jocks Lodge scheme is identified by East Riding of Yorkshire Council to be complete by 2026 subject to starting in 2022. It is understood however that works have not commenced and the end date would therefore likely be delayed. There could therefore be a temporal overlap with the Project's (scheduled for construction in 2026). A review of the planning application for the Jocks Lodge scheme also indicates an spatial overlap with the TTSA for the Projects. |
| 3    | Solar Farm – Land south of Creyke Beck Substation, 4875 Park Lane, Cottingham          | Yes                       | The Solar Farm project is at the screening stage and therefore there is limited detail on potential for temporal or spatial overlaps. The Solar Farm project is therefore included at this stage.                                                                                                                                                                                                                                                                              |
| 3    | Solar Farm – Land east and west of West of Tickton Bridge Plantation, Main Road, Routh | Yes                       | The Construction Traffic Management Plan for the proposed Solar Farm highlights a potential spatial overlap with the TTSA for the Projects.                                                                                                                                                                                                                                                                                                                                    |
| 4    | Hornsea Project Four Offshore Wind Farm                                                | Yes                       | Onshore construction for Hornsea Project Four is identified to commence construction in 2025 and last up to 4.5 years. There could therefore be a temporal overlap with the Project's (earliest possible construction in 2026). A review of the Traffic and Transport ES Chapter for Hornsea Project Four also indicates an spatial overlap with the TTSA for the Projects.                                                                                                    |

| Tier | Plan / Project                                                                    | Included in the CEA (Y/N) | Rationale                                                                                                                                                                                                                                                                                                                                                      |
|------|-----------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4    | Scotland England Green Link 2 (SEGL2)                                             | No                        | SEGL2 is identified to commence construction in 2024 and be complete by 2029. There could therefore be a temporal overlap with the Project's (scheduled for construction in 2026). A review of the Traffic and Transport ES Chapter for SEGL2 however indicates that there would not be a spatial overlap with the TTSA for the Projects.                      |
| 4    | Solar Farm – Land north east and west of Carr Plantation, Ferry Road, Wawne       | Yes                       | A review of the Transport Assessment for the Solar Farm project indicates an spatial overlap with the TTSA for the Projects.                                                                                                                                                                                                                                   |
| 4    | Household Recycling Centre – Land north west of Ings Road Picnic Site, Molescroft | Yes                       | The Transport Assessment for the proposed Household Recycling Centre highlights a potential spatial overlap with the TTSA for the Projects. The Transport Assessment however also highlights that the Household Recycling Centre will introduce improvements at link 58 Ings Lane which would widen the road to two lanes and provide a new footway alongside. |
| 6    | Solar Farm – Robson & Co, White Hall, Shepard Lane, Woodmansey                    | Yes                       | No planning application for the Solar Farm project has been submitted at this stage and therefore there is limited detail on potential for temporal or spatial overlaps. The Solar Farm project is therefore included at this stage.                                                                                                                           |
| 7    | New National Grid Substation (Birkill Wood)                                       | Yes                       | No planning application for the New National Grid Electricity Transmission Substation has been submitted at this stage and therefore there is limited detail on potential for temporal or spatial overlaps. The New National Grid Substation project is therefore included at this stage.                                                                      |

| Tier | Plan / Project                   | Included in the CEA (Y/N) | Rationale                                                                                                                                                                                                                                          |
|------|----------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7    | North Humber to High Marnham     | Yes                       | No planning application for Humber Trent Green has been submitted at this stage and therefore there is limited detail on potential for temporal or spatial overlaps. The North Humber to High Marnham project is therefore included at this stage. |
| 7    | Creyke Beck Substation Extension | Yes                       | No planning application for Humber Trent Green has been submitted at this stage and therefore there is limited detail on potential for temporal or spatial overlaps. Creyke Beck Substation Extension project is therefore included at this stage. |

## 24.8 Potential Monitoring Requirements

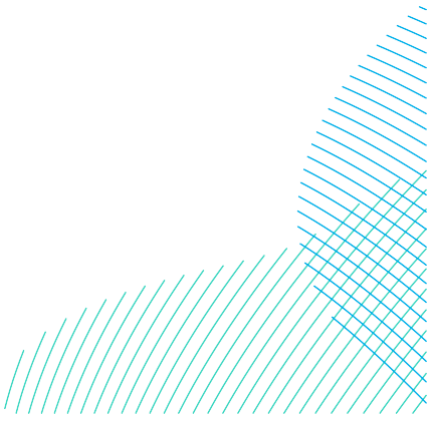
252. Monitoring requirements will be described in the In-Principal Monitoring Plan (IPMP) submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction based on the IPMP and taking account of the final detailed design of the Projects.
253. An Outline Construction Traffic Management Plan (OCTMP) will be available as part of the statutory consultation and will be further developed and agreed with stakeholders prior to construction.
254. The OCTMP provides details of the proposed approach to monitoring of traffic movements associated with the Projects. In summary, these include commitments to monitoring and reporting of:
- Vehicle numbers against agreed targets;
  - Transgressions of HGVs from routes;
  - Accidents and near misses;
  - Highway condition; and
  - Complaints.

## 24.9 Interactions

255. The effects identified and assessed in this chapter have the potential to interact with each other. The areas of potential interaction between effects are presented in **Table 24-37**. This provides a screening tool for which effects have the potential to interact.
256. Impacts 1 (severance) and 2 (amenity) are considered to be closely related and **Table 24-37** identifies that traffic would impact upon similar receptor groups (pedestrians, cyclists and equestrians). Therefore, the maximum forecast effect for impacts 1 or 2 would not be exceeded due to interactions. However, there is potential for impacts 1 and 2 to collectively interrelate with impact 4 (road safety). **Table 24-37** identifies this inter-relationship.
257. **Table 24-37** also identifies that impacts 4 (driver delay – capacity), 5 (driver delay – highway geometry) and 6 (driver delay – road closures) are also considered to be closely related and have potential to interact with each other to increase driver delay significance.
258. **Appendix 24-3** contains a detailed assessment of the identified interactions (impacts 1, 2 and 4, plus impacts 4, 5 and 6) and concludes that there are no significant interactions between impacts from the construction of the Projects on traffic and transport.
259. **Table 24-37** provides an assessment for each receptor (or receptor group) as related to these impacts. No assessment lifetime assessment is undertaken as the operational impacts have been scoped out of the assessment.

Table 24-37 Interactions Between Impacts - Screening

| Potential Interactions Between Impacts                                                                                                                            |                     |                   |                       |                                   |                                           |                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------|-----------------------|-----------------------------------|-------------------------------------------|----------------------------------------|
| Construction                                                                                                                                                      |                     |                   |                       |                                   |                                           |                                        |
|                                                                                                                                                                   | Impact 1: Severance | Impact 2: Amenity | Impact 3: Road Safety | Impact 4: Driver Delay (Capacity) | Impact 5: Driver Delay (Highway Geometry) | Impact 6: Driver Delay (Road Closures) |
| Impact 1: Severance                                                                                                                                               |                     | Yes               | Yes                   | No                                | No                                        | No                                     |
| Impact 2: Amenity                                                                                                                                                 | Yes                 |                   | Yes                   | No                                | No                                        | No                                     |
| Impact 3: Road Safety                                                                                                                                             | Yes                 | Yes               |                       | No                                | No                                        | No                                     |
| Impact 4: Driver Delay (Capacity)                                                                                                                                 | No                  | No                | No                    |                                   | Yes                                       | Yes                                    |
| Impact 5: Driver Delay (Highway Geometry)                                                                                                                         | No                  | No                | No                    | Yes                               |                                           | Yes                                    |
| Impact 6: Driver Delay (Road Closures)                                                                                                                            | No                  | No                | No                    | Yes                               | Yes                                       |                                        |
| Operation                                                                                                                                                         |                     |                   |                       |                                   |                                           |                                        |
| No significant effects                                                                                                                                            |                     |                   |                       |                                   |                                           |                                        |
| Decommissioning                                                                                                                                                   |                     |                   |                       |                                   |                                           |                                        |
| Decommissioning strategies have not yet been finalised; however, the inter-relationship between impacts are expected to be no greater than those of construction. |                     |                   |                       |                                   |                                           |                                        |



## 24.10 Inter-relationships

260. In order to address the environmental effects of the Projects as a whole, this section establishes the interactions between traffic and transport and other physical, environmental and human receptors. The objective is to identify where the accumulation of impacts on a single receptor, and the relationship between those impacts, may give rise to a need for additional mitigation.
261. **Table 24-38** summarises the inter-relationships that are considered of relevance to traffic and transport and identifies where they have been considered within this PEIR. The traffic and transport metrics established in this chapter have been used to inform the related chapters.

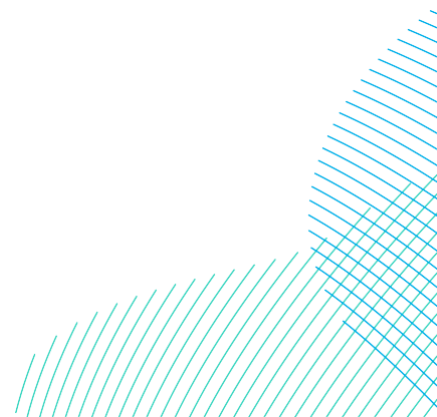


Table 24-38 Traffic and Transport Inter-relationships

| Topic and Description                                                                                                                 | Related Chapter                   | Where Addressed in this Chapter | Rationale                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Construction</b>                                                                                                                   |                                   |                                 |                                                                                                             |
| Impact 1: Severance and Impact 2: Amenity                                                                                             | <b>Chapter 25 Noise</b>           | Section 24.6.1.2 and 24.6.1.3   | Traffic has the potential to increase noise disturbance temporarily.                                        |
|                                                                                                                                       | <b>Chapter 26 Air Quality</b>     |                                 | Traffic has the potential to temporarily affect air quality and impact upon local residents.                |
|                                                                                                                                       | <b>Chapter 27 Human Health</b>    |                                 | Traffic associated with construction may generate localised dust emissions leading to potential complaints. |
|                                                                                                                                       | <b>Chapter 28 Socio-Economics</b> |                                 | Traffic associated with construction may impact the local demography.                                       |
| Impact 3: Road Safety                                                                                                                 | <b>Chapter 28 Socio-Economics</b> | Section 24.6.1.4                | Traffic associated with construction may impact the local demography.                                       |
| Impact 4 to 5: Driver Delay                                                                                                           | <b>Chapter 26 Air Quality</b>     | Section 24.6.1.4.2              | Traffic has the potential to temporarily affect air quality and impact upon local residents.                |
| <b>Operation</b>                                                                                                                      |                                   |                                 |                                                                                                             |
| No significant effects.                                                                                                               |                                   |                                 |                                                                                                             |
| <b>Decommissioning</b>                                                                                                                |                                   |                                 |                                                                                                             |
| Decommissioning strategies have not yet been finalised; however the effects are expected to be no greater than those of construction. |                                   |                                 |                                                                                                             |

## 24.11 Summary

- 262. This chapter has assessed the potential effects of the onshore infrastructure of the Projects on the surrounding traffic sensitive receptors.
- 263. This chapter has been developed with regard to the legislative and policy framework outlined in section 24.4.1 and further informed by consultation with East Riding of Yorkshire Council, Hull City Council and National Highways.
- 264. Traffic demand has been forecast by applying a first principles approach to generate traffic volumes from an understanding of material quantities and personnel numbers. This traffic demand has been assigned to access locations serving the Projects and applying a package of embedded mitigation to minimise the significance of effects.
- 265. In accordance with national guidance, a TTSA has been identified, baseline conditions established and sensitive receptors within the TTSA identified. The TTSA area was screened to identify routes that could be potentially adversely affected by the Project's traffic generation.
- 266. A total of 66 highway links across 150km of highway network within the TTSA have been assessed for the impacts of amenity, severance, road safety and driver delay. With the application of additional mitigation measures (as appropriate) the residual effect upon all receptors was assessed to be not significant in EIA terms as shown in **Table 24-39**.

Table 24-39 Summary of Potential Likely Significant Effects on Traffic and Transport for Projects in isolation

| Potential Impact                                        | Receptor                                                                                                 | Magnitude of Impact | Sensitivity | Pre-mitigation Effect   | Mitigation Measures Proposed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Residual Effect                    |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>Construction (DBS East or DBS West in Isolation)</b> |                                                                                                          |                     |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| Impact 1:<br>Severance                                  | Links: 4, 5, 6, 14, 16, 18, 53                                                                           | Negligible          | High        | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Negligible to <b>Minor</b> adverse |
|                                                         | Links: 10, 20, 56, 71                                                                                    |                     | Medium      | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 8, 13, 15, 17, 19, 22, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 54, 55, 62, 64, 68, 74, 75 |                     | Low         | Negligible              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Link: 11                                                                                                 | Low                 | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 7, 58, 73                                                                                         | High                | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         |                                                                                                          |                     |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| Impact 2:<br>Amenity                                    | Links: 3, 28, 54, 55, 59, 74                                                                             | Negligible          | Low         | Negligible              | <p>It is proposed that an acceptable level of HGV trips via these links will be agreed with discussed with the relevant highways authorities and outlined in the DCO submission. Measures to reduce peak daily HGV trips could include:</p> <ul style="list-style-type: none"> <li>• Stockpiling of materials to reduce peak daily HGV demand;</li> <li>• Backhauling, i.e. using laden vehicles to import stone and export excavated material;</li> <li>• Use of local supply chain, to reduce the number of new HGV trips entering the TTSA;</li> <li>• Optimising the size of HGVs to reduce the total number;</li> <li>• Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and</li> <li>• The reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.</li> </ul> | Negligible to <b>Minor</b> adverse |
|                                                         | Link 10                                                                                                  |                     | Medium      | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Link 18                                                                                                  |                     | High        | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 13, 15, 17, 19, 22, 32, 33, 34, 35, 38, 40, 45, 52, 75                                            | Low                 | High        | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 20, 56                                                                                            |                     | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 14, 16, 53                                                                                        |                     | Medium      | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 8, 11, 50, 51, 62, 64, 68                                                                         | Medium              | High        | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Link 71                                                                                                  |                     | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 4, 6                                                                                              |                     | Medium      | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Links: 36, 37, 58, 73                                                                                    | High                | High        | <b>Major</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
|                                                         | Link 5                                                                                                   |                     | Low         | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |

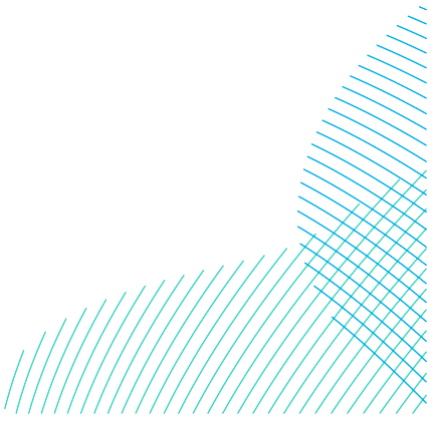
| Potential Impact                          | Receptor                                                                                                                                                                                                                                                                        | Magnitude of Impact | Sensitivity | Pre-mitigation Effect | Mitigation Measures Proposed                                                                                                                                                                                                                                                                                                                            | Residual Effect |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Impact 3: Road Safety                     | Link 36                                                                                                                                                                                                                                                                         | Negligible          | Low         | Negligible            | n/a                                                                                                                                                                                                                                                                                                                                                     | Negligible      |
|                                           | Links: 6, 46, 59, 60, 62, 63, 74, 75                                                                                                                                                                                                                                            | Negligible          | Low         | Negligible            | n/a                                                                                                                                                                                                                                                                                                                                                     | Negligible      |
|                                           | Links: 5, 8, 24, 37, 51                                                                                                                                                                                                                                                         | Low                 |             | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                                                                     | Minor adverse   |
|                                           | Links: 1, 2, 4, 10, 26                                                                                                                                                                                                                                                          | Negligible          | Medium      | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                                                                     | Minor adverse   |
|                                           | Links: 9, 12, 15, 16, 19, 20, 28, 29, 30, 32, 35, 38, 40, 45, 49, 55, 61                                                                                                                                                                                                        | Negligible          | High        | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                                                                     | Minor adverse   |
|                                           | Links: 18                                                                                                                                                                                                                                                                       | Low                 |             | Moderate adverse      | Potential road safety interventions will be discussed with the local highway authorities to understand if they have any proposed schemes that could mitigate the existing road safety issues. If not, alternative measures will be proposed, such as limiting peak daily traffic movements, restricting delivery times and/or enhanced driver training. | Minor adverse   |
| Impact 4: Driver Delay (Capacity)         | The scope of the driver delay (capacity) assessment will be refined post PEIR in consultation with the relevant highway authorities. Should potentially significant effects be identified, mitigation measures will be proposed to ensure residual effects are not significant. |                     |             |                       |                                                                                                                                                                                                                                                                                                                                                         |                 |
| Impact 5: Driver Delay (Highway Geometry) | Link 7                                                                                                                                                                                                                                                                          | High                | Low         | Moderate adverse      | Extension of existing passing places or the use of an escort vehicle.                                                                                                                                                                                                                                                                                   | Minor adverse   |
|                                           | Link 8                                                                                                                                                                                                                                                                          | Medium              | Medium      | Moderate adverse      | New passing places or the use of an escort vehicle.                                                                                                                                                                                                                                                                                                     |                 |
|                                           | Link 11                                                                                                                                                                                                                                                                         | Medium              | Low         | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                                                                     |                 |
|                                           | Link 58                                                                                                                                                                                                                                                                         | High                | Medium      | Major adverse         | Road widening or the use of an escort vehicle.                                                                                                                                                                                                                                                                                                          |                 |
|                                           | Link 73                                                                                                                                                                                                                                                                         | High                | Medium      | Major adverse         | New / widening of passing places or the use of an escort vehicle.                                                                                                                                                                                                                                                                                       |                 |

| Potential Impact                                  | Receptor                                                                                                             | Magnitude of Impact | Sensitivity | Pre-mitigation Effect | Mitigation Measures Proposed                                                                                                                                                                                                                                                                       | Residual Effect             |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
|                                                   | Jillywood Farm access road                                                                                           | High                | Medium      | Major adverse         | Road/junction widening and segregation of bridleway/PRoW users; or the use of an escort vehicle.                                                                                                                                                                                                   |                             |
| Impact 6: Driver Delay (Road Closures)            | Bewholme Lane, Dunnington Lane, Billings Lane, Catwick Heads Lane and Rise Lane                                      | Low                 | Low         | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                | Negligible to Minor adverse |
|                                                   | Catfoss Road, Eske Lane and Victoria Road                                                                            | High                | Low         | Moderate adverse      | Potential measures could include the use of trenchless technologies is possible, or alternatively: <ul style="list-style-type: none"><li>Temporary widening to allow shuttle working;</li><li>Agreeing timing of works and other road works; and</li><li>Implementing diversion signing.</li></ul> |                             |
|                                                   | B1230 and Park Lane                                                                                                  | Negligible          | High        | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                |                             |
|                                                   | Harsell Lane, Riston Road and Newbald Road                                                                           | Negligible          | Low         | Negligible            | n/a                                                                                                                                                                                                                                                                                                |                             |
| Construction (DBS East and DBS West Concurrently) |                                                                                                                      |                     |             |                       |                                                                                                                                                                                                                                                                                                    |                             |
| Impact 1: Severance                               | Links: 4, 5, 6, 14, 16, 18, 53, 65                                                                                   | Negligible          | High        | Minor adverse         | n/a                                                                                                                                                                                                                                                                                                | Negligible to Minor adverse |
|                                                   | Links: 10, 56, 71                                                                                                    |                     | Medium      | Minor adverse         |                                                                                                                                                                                                                                                                                                    |                             |
|                                                   | Links: 3, 13, 15, 17, 19, 20, 22, 28, 32, 33, 34, 35, 36, 37, 38, 40, 45, 50, 51, 52, 54, 55, 59, 62, 64, 68, 74, 75 |                     | Low         | Negligible            |                                                                                                                                                                                                                                                                                                    |                             |
|                                                   | Links: 7, 8, 11, 58, 73                                                                                              | Low                 | Low         | Minor adverse         |                                                                                                                                                                                                                                                                                                    |                             |
|                                                   | Links: 28, 59                                                                                                        | Negligible          | Low         | Negligible            |                                                                                                                                                                                                                                                                                                    | Negligible to Minor adverse |

| Potential Impact      | Receptor                                             | Magnitude of Impact | Sensitivity | Pre-mitigation Effect   | Mitigation Measures Proposed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Residual Effect      |
|-----------------------|------------------------------------------------------|---------------------|-------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Impact 2: Amenity     | Link 18                                              |                     | High        | <b>Minor</b> adverse    | <p>It is proposed that an acceptable level of HGV trips via these links will be agreed with discussed with the relevant highways authorities and outlined in the DCO submission. Measures to reduce peak daily HGV trips could include:</p> <ul style="list-style-type: none"> <li>• Stockpiling of materials to reduce peak daily HGV demand;</li> <li>• Backhauling, i.e. using laden vehicles to import stone and export excavated material;</li> <li>• Use of local supply chain, to reduce the number of new HGV trips entering the TTSA;</li> <li>• Optimising the size of HGVs to reduce the total number;</li> <li>• Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and</li> <li>• The reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.</li> </ul> |                      |
|                       | Links: 3, 13, 15, 17, 19, 32, 33, 34, 35, 54, 55, 74 | Low                 | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Link 10                                              |                     | Medium      | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Link 16                                              |                     | High        | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Links: 11, 13, 22, 38, 40, 45, 52, 56, 64, 68, 75    | Medium              | Low         | <b>Minor</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Links: 20, 56                                        |                     | Medium      | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Links: 14, 53                                        |                     | High        | <b>Major</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Links: 8, 36, 37, 50, 51, 58, 62, 73                 | High                | Low         | <b>Moderate</b> adverse |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Link 71                                              |                     | Medium      | <b>Major</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
|                       | Links: 4, 5, 6                                       |                     | High        | <b>Major</b> adverse    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
| Impact 3: Road Safety | Link 36                                              | Low                 | Negligible  | Negligible              | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Negligible           |
|                       | Links: 6, 46, 59, 60, 62, 63                         | Negligible          | Low         | Negligible              | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Negligible           |
|                       | Links: 5, 24, 37, 51, 74, 75                         | Low                 |             | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Minor</b> adverse |
|                       | Link 8                                               | Medium              | Low         | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Minor</b> adverse |
|                       | Links: 1, 2, 4, 10, 26                               | Negligible          | Medium      | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Minor</b> adverse |
|                       | Links: 9, 12, 15, 16, 19, 28, 29, 35, 40, 45, 49, 61 | Negligible          | High        | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Minor</b> adverse |
|                       | Links: 20, 30, 32, 38, 55                            | Low                 |             | <b>Moderate</b> adverse | Potential road safety interventions will be discussed with the local highway authorities to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Minor</b> adverse |

| Potential Impact                                   | Receptor                                                                                                                                                                                                                                                                        | Magnitude of Impact | Sensitivity | Pre-mitigation Effect   | Mitigation Measures Proposed                                                                                                                                                                                                                                                                                 | Residual Effect      |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|                                                    | Link 18                                                                                                                                                                                                                                                                         | Medium              |             | <b>Major</b> adverse    | understand if they have any proposed schemes that could mitigate the existing road safety issues. If not, alternative measures will be proposed, such as limiting peak daily traffic movements, restricting delivery times and/or enhanced driver training.                                                  | <b>Minor</b> adverse |
| Impact 4:<br>Driver Delay<br>(Capacity)            | The scope of the driver delay (capacity) assessment will be refined post PEIR in consultation with the relevant highway authorities. Should potentially significant effects be identified, mitigation measures will be proposed to ensure residual effects are not significant. |                     |             |                         |                                                                                                                                                                                                                                                                                                              |                      |
| Impact 5:<br>Driver Delay<br>(Highway<br>Geometry) | Link 7                                                                                                                                                                                                                                                                          | High                | Low         | <b>Moderate</b> adverse | Extension of existing passing places or the use of an escort vehicle.                                                                                                                                                                                                                                        | <b>Minor</b> adverse |
|                                                    | Link 8                                                                                                                                                                                                                                                                          | High                | Medium      | <b>Major</b> adverse    | New passing places or the use of an escort vehicle.                                                                                                                                                                                                                                                          |                      |
|                                                    | Link 11                                                                                                                                                                                                                                                                         | Medium              | Low         | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                          |                      |
|                                                    | Link 58                                                                                                                                                                                                                                                                         | High                | Medium      | <b>Major</b> adverse    | Road widening or the use of an escort vehicle.                                                                                                                                                                                                                                                               |                      |
|                                                    | Link 73                                                                                                                                                                                                                                                                         | High                | Medium      | <b>Major</b> adverse    | New / widening of passing places or the use of an escort vehicle.                                                                                                                                                                                                                                            |                      |
|                                                    | Jillywood Farm access Road                                                                                                                                                                                                                                                      | High                | Medium      | <b>Major</b> adverse    | Road / junction widening and segregation of bridleway / PRow users; or the use of an escort vehicle.                                                                                                                                                                                                         |                      |
| Impact 6:<br>Driver Delay<br>(Road<br>Closures)    | Bewholme Lane, Dunnington Lane, Billings Lane, Catwick Heads Lane and Rise Lane                                                                                                                                                                                                 | Low                 | Low         | <b>Minor</b> adverse    | n/a                                                                                                                                                                                                                                                                                                          | <b>Minor</b> adverse |
|                                                    | Catfoss Road, Eske Lane and Victoria Road                                                                                                                                                                                                                                       | High                | Low         | <b>Moderate</b> adverse | Potential measures could include the use of trenchless technologies is possible, or alternatively: <ul style="list-style-type: none"> <li>• Temporary widening to allow shuttle working;</li> <li>• Agreeing timing of works and other road works; and</li> <li>• Implementing diversion signing.</li> </ul> | <b>Minor</b> adverse |

| Potential Impact                                                                                                                       | Receptor                                   | Magnitude of Impact | Sensitivity | Pre-mitigation Effect | Mitigation Measures Proposed | Residual Effect |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------|-------------|-----------------------|------------------------------|-----------------|
|                                                                                                                                        | B1230 and Park Lane                        | Negligible          | High        | <b>Minor</b> adverse  | n/a                          |                 |
|                                                                                                                                        | Harsell Lane, Riston Road and Newbald Road | Negligible          | Low         | Negligible            | n/a                          | Negligible      |
| Operation (All Scenarios)                                                                                                              |                                            |                     |             |                       |                              |                 |
| No significant effects.                                                                                                                |                                            |                     |             |                       |                              |                 |
| Decommissioning (All Scenarios)                                                                                                        |                                            |                     |             |                       |                              |                 |
| Decommissioning strategies have not yet been finalised; however, the effects are expected to be no greater than those of construction. |                                            |                     |             |                       |                              |                 |



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