

The Lighthouse Green Fuels Order

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Abbreviations

Abbreviation	In full
AADF	Annual Average Daily Flow
AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
APC	Air Pollution Control
ATC	Automatic Traffic Count
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CTMP	Construction Traffic Management Plan
CWTP	Construction Worker Travel Plan
DfT	Department for Transport
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
DEMP	Decommissioning Environmental Management Plan
EATM Guidelines	Environmental Assessment of Traffic and Movement Guidelines
ECP	England Coast Path
EIA	Environmental Impact Assessment
ES	Environmental Statement
GEART	Guidelines for the Environmental Assessment of Road Traffic
HGV	Heavy Goods Vehicle
IEMA	Institute of Environmental Management and Assessment
ISEP	Institute of Sustainability and Environmental Professionals
JTC	Junction Turning Count
mph	miles per hour
NCN	National Cycle Network
NMU	Non-Motorised User
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
pcuHr	passenger car units per hour
PEIR	Preliminary Environmental Information Report
PPG	Planning Practice Guidance
PRoW	Public Right of Way
RSPB	Royal Society for the Protection of Birds
SAF	Sustainable Aviation Fuel

SoS	Secretary of State
SRN	Strategic Road Network
STBC	Stockton-on-Tees Borough Council
TA	Transport Assessment
TEMPro	Trip End Model Program
TP	Travel Plan
TS	Transport Statement

18 Traffic and Transport

18.1 Introduction

18.1.1 This chapter of the Environmental Statement (ES) presents the findings of the assessment of the likely significant effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development on traffic and transport. The assessment has been undertaken in accordance with good industry practice guidance, as set out in the Institute of Environmental Management and Assessment (IEMA (now known as the Institute of Sustainability and Environmental Professionals (ISEP)) Guidelines: Environmental Assessment of Traffic and Movement [Ref 1].

18.1.2 This chapter should be read in conjunction with **Chapter 3: Site and Surrounding Area**, **Chapter 4: Proposed Development** and **Chapter 5: Construction Programme and Management (ES Volume I, Application Document Ref. 6.1)**.

18.1.3 There is the potential for cumulative traffic and transport effects, where effects associated with the Proposed Development may act in conjunction with other planned projects and local plan allocations in the vicinity. **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)** considers the need to assess the cumulative traffic impact of the Proposed Development in combination with other developments within the vicinity of the Site utilising the same local highway network. However, at this stage, all other major development proposals have been scoped out as set out in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**.

18.2 Legislation and planning policy context

18.2.1 This section identifies and describes legislation, planning policy and guidance that is of relevance to the assessment of traffic and transport effects.

Legislation

Table 18.1 Traffic and Transport Legislation

Legislation	Relevance to assessment
Highways Act 1980 [Ref 2]	The Highways Act 1980 sets out the requirements pertaining to delivering highways infrastructure, managing existing highways and managing highway activity including off-site highway works, for example, the creation of temporary site access.
New Roads and Street Works Act 1991 [Ref 3]	The New Roads and Street Works Act 1991 provides a legislative framework for street works by undertakers and

Legislation	Relevance to assessment
	works for road purposes to the extent that these must be coordinated by street authorities.
Traffic Management Act 2004 [Ref 4]	The Traffic Management Act 2004 provides powers to tackle congestion and disruption on the road network and requires local authorities, where possible, to ensure that traffic can move quickly and freely on their roads.
The Planning Act 2008 (PA 2008) [Ref 5]	The PA 2008 created a development consent regime for major infrastructure projects in the fields of energy, transport, water, wastewater and waste. It was intended to speed up the process for approving major new infrastructure projects.
Local Transport Act 2008 [Ref 6]	The Local Transport Act 2008 intended to address increasing road congestion and to improve the quality of local bus services and placed a requirement on authorities to prepare a Local Transport Plan.
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 [Ref 7]	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 is UK legislation that sets out the requirements for assessing and mitigating the environmental impacts of major infrastructure projects. The regulations require developers to prepare an Environmental Impact Assessment (EIA) and consult with stakeholders and the public. The aim of the regulations is to ensure that the environmental impacts of major projects are fully assessed and addressed, and that sustainable development principles are followed.

Policy

Table 18.2 Traffic and Transport Policy

Policy	Relevance to assessment
Overarching National Policy Statement for Energy (EN-1) 2025 [Ref 8]	The Overarching National Policy Statement (NPS) for Energy (EN-1) explains the assessment principles to which the Secretary of State (SoS) will have regard in the examination of energy Nationally Significant Infrastructure Projects (NSIPs) (such as the Proposed Development) and explains the considerations for the assessment of traffic and movement impacts associated with the transport of materials, goods and personnel to and from a development during all project phases.
National Policy Statement for Renewable Energy Infrastructure (EN-3) 2025 [Ref 9]	NPS EN-3 sets out the needs case for renewable energy and secondly to establish specific criteria by which applications for development consent for such schemes are to be assessed.
National Planning Policy Framework (NPPF) 2025 [Ref 10]	The National Planning Policy Framework (NPPF) is used to determine planning applications under the Town and Country Planning Act 1990 and has relevance in determinations of NSIPs. The document states the need for a Transport Statement (TS) or Transport Assessment (TA) to support

Policy	Relevance to assessment
	developments likely to generate significant numbers of trips. It suggests that development should take advantage of opportunities for sustainable travel, facilitated by a Travel Plan (TP).
Draft National Planning Policy Framework (NPPF) (2025) [Ref 11]	The draft NPPF underwent consultation in December 2025 and represents a restructuring of the Framework into a more rules-based format, with separate plan-making and national decision-making policies to increase clarity and consistency in decisions. It reinforces that transport should be considered from the outset, with movement, access, and design embedded in scheme development, and places stronger emphasis on walking, cycling and public transport, requiring robust mitigation and TP measures.
Department for Transport Circular 01/2022 Strategic Road network and the delivery of sustainable development (2022) [Ref 12]	Department for Transport (DfT) Circular 01/2022 explains how National Highways will engage with the planning system and fulfil its remit to be a delivery partner for sustainable economic growth whilst maintaining, managing and operating a safe and efficient Strategic Road Network (SRN).
Highways England Water Preferred Policy (2019) [Ref 13]	This policy provides guidance on when to move an Abnormal Indivisible Load (AIL) by water and when it is allowed to be moved by road.
Tees Valley Strategic Transport Plan (2020) [Ref 14]	The Tees Valley Strategic Transport Plan is a comprehensive plan outlining the long-term transportation strategies and infrastructure improvements for the Tees Valley region. It aims to improve connectivity, support economic growth, and promote sustainable travel across the area.
Stockton-on-Tees Borough Council Local Plan (2019) [Ref 15]	The Stockton-on-Tees Borough Council (STBC) Local Plan, adopted 30 January 2019, sets out a framework for the delivery of sustainable transport opportunities and associated infrastructure (Policy T11), including the development of public transport, rail, and NMU networks. Multi-modal access to and from areas of industrial activity must also form part of the overall approach to the planning and development of the future transport networks, including the identification of preferred Heavy Goods Vehicle (HGV) routes to/from areas of industrial activity. This is particularly relevant to the location, construction, operation and decommissioning of the Proposed Development.
Redcar and Cleveland Borough Council Local Plan (2018) [Ref 16]	The Redcar and Cleveland Borough Council (RCBC) Local Plan, adopted 24 May 2018, sets out the Council's policies and proposals to guide planning decisions and establishes the framework for the sustainable economic growth and development of the Borough up to 2032. The Local Plan covers a range of matters including the number of new homes that are needed and where they should be located; the amount and proposed location of new employment land; protection and enhancement of the natural and historic environment; provision of new infrastructure and

Policy	Relevance to assessment
	improvement of town centres and community facilities in the Borough.

Guidance

Table 18.3 Traffic and Transport Guidance

Guidance	Relevance to assessment
Environmental Assessment of Traffic and Movement (2023) [Ref 1]	The Institute of Environmental Management and Assessment (IEMA) now known as the Institute of Sustainability & Environmental Professionals (ISEP) issued 'the EATM Guidelines'. This guidance provides a basis for a comprehensive and consistent approach to the appraisal of traffic and movement impacts.
Planning Practice Guidance Travel Plans, Transport Assessments and Statements (2014) [Ref 24]	This Planning Practice Guidance (PPG) was published in March 2014. Together, PPGs and the NPPF set out what the Government expects of local authorities. The overall aim is to ensure the planning system allows land to be used for new homes and jobs, while protecting valuable natural and historic environments. The guidance includes specific details in relation to the preparation of a TA, TS and TP.
Design Manual for Roads and Bridges (DMRB) LA101 - Introduction to environmental assessment (2019) [Ref 17]	This document sets out the overarching requirements and principles that form an introduction to the environmental assessment of motorway and all-purpose trunk roads.
DMRB LA103 - Scoping projects for environmental assessment (2020) [Ref 18]	This document sets out the requirements for scoping motorway and all-purpose trunk road projects for environmental assessment.
DMRB LA104 - Environmental assessment and monitoring (2020) [Ref 19]	This document sets out the requirements for environmental assessment of projects, including reporting and monitoring of significant adverse environmental effects.
DMRB LA112 - Population and Human Health, Design Manual for Roads and Bridges (2020) [Ref 20]	This document sets out the requirements for assessing and reporting on the environmental effects on population and health from construction, operation and maintenance of highways projects.

18.3 Assessment methodology and significance criteria

Overview

- 18.3.1 The environmental impact of traffic generated by the Proposed Development has been assessed with reference to the EATM Guidelines [Ref 1] and other guidance as detailed in Section 18.2. In accordance with guidance, issues including severance, pedestrian amenity, fear and intimidation, highway safety and driver delay associated with the Proposed Development have been investigated and are reported below.

- 18.3.2 Any likely significant environmental effects relating to noise and vibration and air quality generated by traffic associated with the Proposed Development are considered in **Chapter 8: Air Quality and Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1)**.

Study area

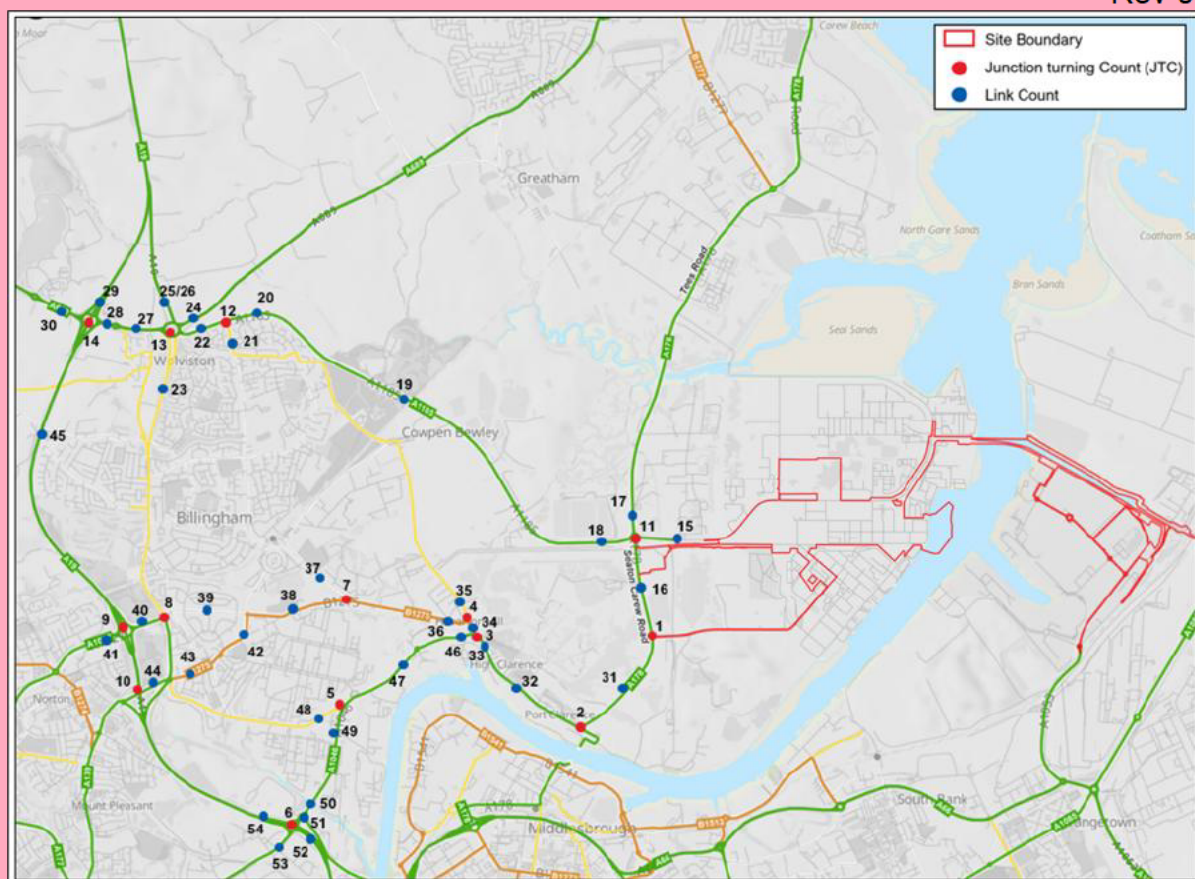
- 18.3.3 The Main Site is connected to the public highway network via Seal Sands Road which joins Seaton Carew Road (A178) at Seal Sands Roundabout. From this roundabout, Seaton Carew Road (A178) runs north to Hartlepool and south to Port Clarence. The western arm of this roundabout links to the A1185 which connects to the trunk road network via the A689 and A19 north of Billingham. The A19 and A1(M) provide north-south links into the SRN, which is managed by National Highways.
- 18.3.4 The spatial scope of assessment for the Proposed Development has taken into account key roads that would be affected by predicted traffic generation associated with the construction, operation, and decommissioning phases.
- 18.3.5 The extent of the traffic Study Area has primarily been defined by the distribution and assignment of traffic associated with the construction phase of the Proposed Development, given that traffic and transport impacts are predicted to be greatest during the construction phase. The network to the south of the River Tees has been excluded from the Study Area due to the low number of construction and operational traffic movements anticipated to be associated with the Proposed Development.
- 18.3.6 The Study Area for this assessment has been based upon 'Rule 1' and 'Rule 2' of the EATM Guidelines which can be used to determine the effect of increased traffic volumes on links within the Study Area, as described below:
- Rule 1 - Include highway links where traffic flows (or heavy goods vehicle (HGV) flows) are predicted to increase by more than 30%; and
 - Rule 2 - Include any other specifically sensitive areas where traffic flows (or HGV flows) are predicted to increase by 10% or more.
- 18.3.7 The traffic and transport assessment Study Area is set out in **Figure 18.1: Traffic Network (ES Volume II, Application Document Ref. 6.2)** and comprises the following junctions and connecting highway links as described in Table 18.4 (refer also to Inset 18.1).

Table 18.4 Traffic and Transport Study Area

Site Ref.	Name used in this chapter	Location	Type
1	Junction 1	A178, Seaton Carew Road/Huntsman Drive Junction	Junction traffic count (JTC)
2	Junction 2	A1046, Port Clarence Road/A178, Seaton Carew Road Junction	JTC
3	Junction 3	A1046, Haverton Hill Road/A1046, Clarence Street/B1275, Hope Street Junction	JTC
4	Junction 4	B1275, Robson Street/Hope Street Junction	JTC
5	Junction 5	A1046, Haverton Hill Road/New Road Junction	JTC
6	Junction 6	A19 Portrack Interchange	JTC
7	Junction 7	B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout	JTC
8	Junction 8	A1027/Wolviston Road/Central Avenue Double Roundabout	JTC
9	Junction 9	A19 Norton Interchange	JTC
10	Junction 10	A19/A139 Junction	JTC
11	Junction 11	A1185/A178, Seaton Carew Road (Seal Sands Roundabout)	JTC
12	Junction 12	A1185/Marsh House Avenue Junction	JTC
13	Junction 13	A689/A1185/A19 Southbound Off-Slip Roundabout	JTC
14	Junction 14	A19/Wolviston Interchange	JTC
15	Link 1	Site access road (East of Seal Sands Roundabout)	Automatic traffic count (ATC)
16	Link 2	A178, Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road (Seal Sands Roundabout))	ATC
17	Link 3	A178, Seaton Carew Road (North of Seal Sands Roundabout)	ATC
18	Link 4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout) and Saltholme North Power Station))	ATC
19	Link 5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	ATC

Site Ref.	Name used in this chapter	Location	Type
20	Link 6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	ATC
21	Link 7	Marsh House Avenue	ATC
22	Link 8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	ATC
23	Link 9	Wolviston Road	ATC
24	Link 10	A689, Stockton Road	ATC
25	Link 11	A19/Wynyard Park Southbound Off-Slip	ATC
26	Link 12	A19 Wolviston Interchange Northbound On-Slip	ATC
27	Link 13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	ATC
28	Link 14	A689 (West of A689/Wolviston Services Roundabout)	ATC
29	Link 15	A19 Mainline (North of A19 Wolviston Interchange)	ATC
30	Link 16	A689, Coal Lane (West of A19 Wolviston Interchange)	ATC
31	Link 17	A178, Seaton Carew Road (Between A178 Seaton Carew Road/Huntsman Drive and A1046, Port Clarence)	ATC
32	Link 18	A1046, Port Clarence Road (Adjacent to High Clarence Primary School)	ATC
33	Link 19	A1046, Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Signal Controlled Junction)	ATC
34	Link 20	B1275, Hope Street (Between A1046, Haverton Hill Road/A1046, Clarence Street Junction and B1275)	ATC
35	Link 21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	ATC
36	Link 22	B1275, Belasis Avenue	ATC
37	Link 23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout)	ATC
38	Link 24	B1275, Belasis Avenue (Between Greenwood Road and Cowpen Lane)	ATC
39	Link 25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	ATC

Site Ref.	Name used in this chapter	Location	Type
40	Link 26	A1027 (Between A1027/Wolviston Road/Central Avenue Double Roundabout and A19 Norton Interchange)	ATC
41	Link 27	A1027 (West of A19 Norton Interchange)	ATC
42	Link 28	Cowpen Lane	ATC
43	Link 29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	ATC
44	Link 30	A139	ATC
45	Link 31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	ATC
46	Link 32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046	ATC
47	Link 33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	ATC
48	Link 34	New Road	ATC
49	Link 35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	ATC
50	Link 36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	ATC
51	Link 37	A1032, Newport Bridge Approach Road	ATC
52	Link 38	A19 Mainline (South of A19 Portrack Interchange)	ATC
53	Link 39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	ATC
54	Link 40	A19 Mainline (North of A19 Portrack Interchange)	ATC



Inset 18.1 Traffic and Transport Study Area

Sensitivity of receptors

- 18.3.8 This section outlines the sensitivity of highway links within the Study Area. The sensitivity of a road, or the immediate area through which it passes, can be defined by the type of user groups who may use it. Vulnerable users include elderly residents and children. It is also necessary to consider footpath and cycle route networks that cross the roads within the Study Area.
- 18.3.9 A desktop exercise has been undertaken to classify the sensitivity of the highway links within the Study Area. The classification of the link sensitivity is based on guidance contained in DMRB LA104 and the EATM Guidelines taking into consideration sensitive receptors assigned to the link and the receptor environment, and professional judgement. For example, if the route passes a school, care home or similar it would likely have a higher sensitivity to change in traffic flows due to the presence of vulnerable users. The descriptions for value (sensitivity) of receptors are provided in Table 18.5.

Table 18.5 Environmental value (sensitivity) and descriptions

Value (sensitivity) of receptor / resource	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

18.3.10 Table 18.6 identifies the highway links within the Study Area, the assigned sensitivity rating, and the rationale.

Table 18.6 Sensitivity of Receptors

Link	Description	Link Sensitivity	Rationale
1	Site access road (East of Seal Sands Roundabout)	Low	The unclassified site access road, known as Seal Sands Road, is a single carriageway road and is subject to a 40 miles per hour (mph) speed limit. The route becomes private just west of the Main Site. There are no footways along the entirety of the route. This link is considered Low sensitivity because it is a lightly used, semi-private access road with no footways or direct frontage. There are no transport-related sensitive receptors or vulnerable users present, meaning the potential for traffic changes (as a result of construction and operation) to affect people or place function is limited.
2	A178, Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road (Seal Sands Roundabout))	Low	This section of the A178, Seaton Carew Road is a single carriageway road, subject to the national speed limit. There are no footways along the route, however, the England Coast Path (ECP) runs along the eastern side of the A178, Seaton Carew Road. The local bus stops are located on the A178, situated within laybys. The section of the A178, Seaton Carew Road in the vicinity of the A178, Seaton Carew Road/Huntsman Drive junction is lit. This link is considered Low sensitivity because it is a high-speed rural route with no direct frontage and limited pedestrian infrastructure. Although the England Coast Path runs nearby, user interaction with traffic is limited, reducing sensitivity to change.
3	A178, Seaton Carew Road (north of Seal Sands Roundabout)	Low	This section of the A178, Seaton Carew Road is a single carriageway road, subject to the national speed limit. The King Charles 3rd Coastal Path runs along the footway on the eastern side of the A178, Seaton Carew Road and crosses the road prior to the bridge over Greatham Creek. There is no streetlighting along this route, except within the vicinity of the Seal Sands Roundabout. There is no direct frontage onto this section of the A178, Seaton Carew Road, with a limited number of accesses that serve small industrial activities. This link is considered Low sensitivity because it is a rural route with minimal frontage, limited access points and low pedestrian activity. The absence of nearby receptors and users reduces sensitivity to traffic changes.

Link	Description	Link Sensitivity	Rationale
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout) and Saltholme North Power Station)	Low	This section of the A1185 is a single carriageway road, subject to the national speed limit. There are no footways or streetlighting along this route or direct frontage. There are a number of maintenance accesses which serve reservoirs and adjacent agricultural fields. This link is considered Low sensitivity because it is a high-speed strategic route with no frontage, pedestrian provision or sensitive receptors. The road environment is predominantly vehicular, limiting the effect of changes in traffic.
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	Medium	This section of the A1185 is a single carriageway road, subject to the national speed limit. There are no footways or streetlighting along this route or direct frontage. The A1185 runs between Billingham Cemetery and Saltholme North Power Station, bisecting Cowpen Bewley Woodland Park and is linked by Public Right of Way (PRoW) BY 30. This link is considered Medium sensitivity because it passes through environmentally sensitive land, including woodland and a cemetery, and intersects with Public Rights of Way. The presence of recreational users and pedestrians increases susceptibility to changes in traffic conditions.
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	Medium	This section of the A1185 is a single carriageway road, subject to the national speed limit. There are no footways or streetlighting along this route or direct frontage. There are a number of field gate accesses serving adjacent agricultural routes along this link. PRoW FP 8D runs from Newton Bewley (within the Hartlepool local authority area), crosses the A1185 and runs south into residential estates to the north of Billingham. This link is considered Medium sensitivity because it is intersected by a Public Right of Way connecting residential areas to surrounding land. The presence of pedestrian crossing movements increases sensitivity compared with fully rural links.
7	Marsh House Avenue	Medium	This link is a dual carriageway route, subject to a 40mph speed limit, has streetlighting and no direct frontage. There are residential estates on both sides of this link and there is an uncontrolled pedestrian crossing point linking both estates.

Link	Description	Link Sensitivity	Rationale
			This link is considered Medium sensitivity because it is adjacent to residential areas and includes an uncontrolled pedestrian crossing between communities. The presence of nearby residents and pedestrian movement increases sensitivity to traffic changes.
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	Low	This link is a dual carriageway route, subject to a 50mph speed limit, has streetlighting and no direct frontage. This link is considered Low sensitivity because it is a dual carriageway with no direct frontage and limited pedestrian activity. The road environment prioritises vehicular movement, reducing sensitivity to change.
9	Wolviston Road (South of A689 Roundabout)	Low	This link is a dual carriageway route, subject to a 50mph speed limit and forms a set of slip roads that link to the A689/A1185 roundabout. Both carriageways have no footways and are lined with dense vegetation/trees on both sides. There is streetlighting on the northbound carriageway on the approach to the roundabout. This link is considered Low sensitivity because it operates as a high-speed link road with no footways, no frontage and limited interaction with pedestrians. The absence of receptors results in low sensitivity.
10	A689 Stockton Road	Low	This link is a dual carriageway route, subject to the national speed limit and has streetlighting on the approach to the A689/A1185 roundabout. There is no street lighting and no direct frontage onto the A689. This link is considered Low sensitivity because it is a strategic high-speed route with no direct frontage and minimal non-motorised user activity. Traffic increases are unlikely to affect receptors.
11	A19/Wynyard Park Southbound Off-Slip	Medium	This link is a southbound Off-Slip from the A19 and connects to the A689/A1185 roundabout. The route is subject to national speed limit; there is no direct frontage and there are a number of field gate accesses to adjacent agricultural fields. To the west of the link, PRoW FP 15 runs west from this link, crossing the A19 mainline (Link 15). There is a separate PRoW which runs from this link east to Newton Bewley (within the Hartlepool local authority area). It is not known if this PRoW connects directly to FP 15.

Link	Description	Link Sensitivity	Rationale
			This link is considered Medium sensitivity because it includes nearby Public Rights of Way and crossing opportunities associated with rural access. The presence of pedestrians and rural users increases sensitivity.
12	A19 Wolviston Interchange Northbound On-Slip	Medium	This link is the northbound on-slip from the A19 Wolviston Interchange to the A19 northbound carriageway. There is a single controlled pedestrian crossing at the beginning of the link. There are no direct accesses located on this link and it is subject to the national speed limit. This link is considered Medium sensitivity because it includes a controlled pedestrian crossing facility, indicating interaction between vehicles and pedestrians. This increases susceptibility to traffic changes.
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	Low	This link is a dual carriageway route, subject to a 40mph speed limit and has streetlighting throughout. There are no footways or direct frontage on to the A689. There are signal-controlled crossing facilities located on both carriageways at the junction with Coal Lane. This link is considered Low sensitivity because it is a dual carriageway with no frontage and limited pedestrian interaction, despite the presence of crossing facilities at junctions. Overall exposure of receptors is low.
14	A689 (West of A689/Wolviston Services Roundabout)	Low	This link is a dual carriageway route, subject to a 40mph speed limit and has streetlighting throughout. There are no footways or direct frontage on this link. This link is considered Low sensitivity because it is a high-capacity route with no frontage and minimal pedestrian activity, resulting in limited receptor interaction.
15	A19 Mainline (North of A19 Wolviston Interchange)	Medium	This is a dual-carriageway route subject to a 70mph speed limit and part of the SRN. PRoW FP 15 runs east/west and crosses the A19 mainline at-grade. This link is considered Medium sensitivity because a Public Right of Way crosses the route, introducing interaction between traffic and pedestrians. This increases sensitivity relative to typical SRN conditions.

Link	Description	Link Sensitivity	Rationale
16	A689 Coal Lane (West of A19 Wolviston Interchange)	Medium	This link is a dual carriageway route, subject to a 50mph speed limit and has streetlighting throughout. There are no footways or direct frontage on this link. There is a bus stop located within a layby on the eastern link with a footway connecting to Wynyard Park. There is also a field gate access located on both sides of the carriageway serving agricultural fields. This link is considered Medium sensitivity because it includes a bus stop, pedestrian connection and access to adjacent land uses. These features introduce some level of user interaction with traffic.
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	Low	This section of the A178, Seaton Carew Road is a single carriageway road, subject to the national speed limit. There are no footways along the route, however, ECP runs along the eastern side of the A178, Seaton Carew Road. The section of the A178, Seaton Carew Road in the vicinity of the A178, Seaton Carew Road/Huntsman Drive junction is lit. This link is considered Low sensitivity because it has no direct frontage and limited pedestrian activity, despite proximity to the England Coast Path. Interaction between users and traffic remains low.
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	High	This link forms the main route through the settlement of Port Clarence and is subject to a 30mph speed limit. There is a footway running along the north side of the carriageway for the entirety of the link and a shared-footway cycle on the south. There are a number of residential streets that connect to this link and there are various uses that directly front this link, including residential dwellings, local amenities and a primary school. Local bus stops are also present on this route. The route is also subject to a prohibition of goods vehicles exceeding 7.5 tonnes gross weight (TSRGD 622.1A). This link is considered High sensitivity because it forms the main route through a residential area with direct frontage, including a primary school and local services. The presence of vulnerable users, including children, and regular pedestrian activity significantly increases sensitivity to changes in traffic flow.

Link	Description	Link Sensitivity	Rationale
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	Medium	This link is subject to a 40mph speed limit, has streetlighting on both sides of the carriageway and forms the eastern arm of the A1046, Clarence Road/B1275 Hope Street signal-controlled junction. There is a footway on the north side of the link and a shared/footway cycleway on the south. There are various direct accesses to light industrial units on this link. This link is considered Medium sensitivity because it includes pedestrian infrastructure and accesses to industrial uses, resulting in moderate levels of user interaction with traffic.
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	Medium	This link is subject to a 40mph speed limit, has streetlighting and footways on both sides of the carriageway and forms the northern arm of the A1046, Haverton Hill Road/A1046, Clarence Street signal-controlled junction. There are various direct accesses to light industrial units on this link. This link is considered Medium sensitivity because it has footways on both sides and provides access to employment uses. The presence of pedestrians and site access points increases sensitivity.
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	Low	The majority of this link is subject to a 40mph speed limit, with streetlighting and footways on both sides of the carriageway. There are various direct accesses to light industrial units on this link along with junctions serving other industrial units. Continuing north, this link becomes subject to the national speed limit, with no footways or streetlighting. This link is considered Low sensitivity because it transitions to a high-speed environment with limited frontage and reduced pedestrian presence along much of its length.
22	B1275 Belasis Avenue	Low	This link is subject to a 40mph speed limit, has streetlighting and footways on the south side of the carriageway. The link follows a relatively straight alignment with no direct frontage and there is one main T-junction on the link with Nelson Avenue, which serves a food manufacturing facility. This link is considered Low sensitivity because it has limited frontage, low pedestrian activity and primarily serves vehicular movements associated with industrial uses.

Link	Description	Link Sensitivity	Rationale
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout)	High	The majority of this link is subject to a 40mph speed limit, becoming 30mph on the approach to Billingham where residential dwellings take direct access from the link. There are on-carriageway cycle lanes, footways and streetlighting located on both sides of the carriageway. This link is considered High sensitivity because it includes residential frontage, pedestrian infrastructure and cycle facilities. The presence of local residents and users increases sensitivity to traffic changes.
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	Low	This link is subject to a 40mph speed limit, has streetlighting and footways on both sides of the carriageway. There is no direct frontage on this link and two T-junctions, one to the north and south which serve industrial/manufacturing facilities. This link is considered Low sensitivity because it lacks direct frontage and has minimal interaction between traffic and surrounding land uses or pedestrians.
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	High	This link is a dual carriageway route subject to a 30mph speed limit. There are footways and streetlighting on both sides of the carriageway and both sides of the carriageway are fronted by terraced and semi-detached residential properties. This link is considered High sensitivity because it is located within a residential area with direct frontage, pedestrian infrastructure and frequent local activity. This increases vulnerability to traffic changes.
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double Roundabout and A19 Norton Interchange)	Medium	This link is a dual carriageway route subject to a 40mph speed limit. There is a shared footway cycleway on the north side of the carriageway and a separate footway and cycleway on the south. Both are separated from the running lanes by crash barriers. Streetlighting is present throughout this link. There is an access from the eastbound carriageway which serves Billingham Beck Valley Country Park and PRow crosses the link to the east of Junction 9. To the north of the link, the PRow is identified as FP 27 and becomes FP 29 to the south of the link. This link is considered Medium sensitivity because it provides pedestrian and cycle infrastructure and access to recreational areas, resulting in moderate interaction with users.

Link	Description	Link Sensitivity	Rationale
27	A1027 (West of A19 Norton Interchange)	Low	This link is a dual carriageway route subject to a 40mph speed limit. There are footways and streetlighting on both sides of the carriageway. There are no direct accesses or junctions that connect to this link. This link is considered Low sensitivity because it has no frontage, limited pedestrian activity and operates as a distributor route primarily serving vehicles.
28	Cowpen Lane	High	The initial section of this link is dual carriageway, subject to a 30mph speed limit with footways and streetlighting situated on both sides of the carriageway. Travelling south, the link becomes single carriageway and is known as the B1275 Belasis Avenue. There are two pedestrian access points to Billingham South Community Primary School located on this link, along with access to light industrial units and residential dwellings located adjacent to the link. This link is considered High sensitivity because it provides access to a primary school and residential areas, with pedestrian activity and vulnerable users present. This significantly increases sensitivity.
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	High	This link forms the main route through the south of Billingham and is subject to a 30mph speed limit. There are footways and streetlighting along the entirety of this link. There are on-carriageway cycle routes on both sides of the carriageway for the majority of the link. There are a number of junctions that connect to residential dwellings, along with residential dwellings and local amenities directly front this link. Local bus stops are also present on this route. This link is considered High sensitivity because it passes through a residential area with frontage, pedestrian and cycle facilities, and local amenities. User exposure to traffic is high.
30	A139	Low	This link connects two roundabouts that form Junction 10 within the Study Area. This link is subject to a 40mph speed limit, is a single carriageway route with streetlighting and shared footway cycleways on both sides of the carriageway. There is no direct frontage on this link but there is a junction on the northern side which links to a network of footpaths.

Link	Description	Link Sensitivity	Rationale
			This link is considered Low sensitivity because it has no direct frontage and limited interaction with receptors, despite the presence of shared pedestrian/cycle infrastructure.
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	Medium	This link is a dual carriageway route with three lanes in each direction, subject to the national speed limit and is part of the SRN. This link is considered Medium sensitivity because it is part of the SRN but carries high traffic volumes. While pedestrian interaction is limited, the strategic function results in moderate sensitivity.
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	Medium	These links are single carriageway routes with a 40mph limit. The A1046 is a main distributor route linking the A19 to a number of industrial and commercial premises. There are shared footway cycleways on both sides of the carriageway for the majority of the A1046, Haverton Hill Road. Local bus stops are also present on this route.
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	Medium	These links are considered Medium sensitivity because they include pedestrian and cycle infrastructure and support access to employment uses, resulting in moderate receptor interaction.
34	New Road	Medium	New Road is a single carriageway route subject to a 40mph speed limit. The route is lit and there is a footway on the northern side of the carriageway. There is no direct frontage on New Road, but there are a number of junctions which serve industrial/manufacturing premises. Local bus stops are also present on this route. This link is considered Medium sensitivity because it includes pedestrian infrastructure and access points to adjacent land uses, resulting in moderate interaction with traffic.

Link	Description	Link Sensitivity	Rationale
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	Medium	These links are single carriageway route with a 40mph speed limit. The A1046, Haverton Hill Road is a main distributor route linking the A19 to a number of industrial and commercial premises. There are shared footway cycleways on both sides of the carriageway for the majority of the A1046, Haverton Hill Road. Local bus stops are also present on this route. These links are considered Medium sensitivity because they function as main distributor routes with pedestrian/cycle facilities and access to employment sites, resulting in moderate exposure of receptors.
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	Medium	
37	A1032, Newport Bridge Approach Road	Medium	The initial section of this link is dual carriageway and subject to a 40mph speed limit. Streetlighting is provided throughout the link and there is a shared footway/cycleway on the eastern side of the link. Travelling south, the link is a single carriageway with a 30mph speed limit travelling over the Newport Bridge. This link is considered Medium sensitivity because it includes pedestrian/cycle infrastructure and varied road environments, including lower speed sections, increasing interaction with users.
38	A19 Mainline (South of A19 Portrack Interchange)	Medium	This link is a dual carriageway route with three lanes in each direction, subject to the national speed limit and is part of the SRN. This link is considered Medium sensitivity because it is part of the SRN with high traffic volumes, but limited pedestrian interaction. Sensitivity reflects strategic importance rather than receptor presence.
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	Medium	This link is a dual carriageway route, subject to a 40mph speed limit and is the main route through North Tees Industrial Estate. There is a shared footway/cycleway on both sides of the carriageway and streetlighting is present throughout. Local bus stops are also present on this route. This link is considered Medium sensitivity because it provides pedestrian and cycle infrastructure and access to industrial areas, resulting in moderate interaction with users.

Link	Description	Link Sensitivity	Rationale
40	A19 Mainline (North of A19 Portrack Interchange)	Medium	This link is a dual carriageway route with three lanes in each direction, subject to the national speed limit and is part of the SRN. This link is considered Medium sensitivity because it is part of the SRN with high traffic volumes and limited pedestrian interaction, leading to moderate sensitivity.

Impact assessment methodology

- 18.3.11 This section outlines the methodology for assessing the likely significant effects on traffic and transport from the construction, operation and decommissioning of the Proposed Development.
- 18.3.12 The assessment methodology that is used to determine the potential effects of the Proposed Development on the traffic and transport networks within the assessment area follows the EATM Guidelines [Ref 1]. This document supersedes the 'Guidelines for the Environmental Assessment of Road Traffic' (GEART) [Ref 21] which, until early 2023, provided the basis of the transport assessment process.
- 18.3.13 There is a difference between a formal TA (as presented in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)** and an EIA Traffic and Movement assessment (as presented in this chapter). As identified within the EATM Guidelines [Ref 1]:
- TAs report on the overall strategy for the development of sites and to maximise accessibility for non-car modes of transport, but also to assess the traffic impact of the proposals; and
 - Traffic and movement assessments for EIA present the impact of traffic and movement on people and the environment – which are initially undertaken with reference to daily traffic flows prior to assessing the highest potential impacts, or 'worst case' scenario.
- 18.3.14 **Chapter 5: Construction Programme and Management (ES Volume I, Application Document Ref. 6.1)** provides detail on the proposed construction programme for the Proposed Development.
- 18.3.15 The assessment scenarios considered in this chapter are:
- Construction phase – assuming construction commences in 2028 with a peak of construction in 2030;
 - Opening year – assuming operation commences in 2031; and
 - Decommissioning phase – assuming earliest year for decommissioning will occur in 2046, based on the 25-year estimated design life of the Proposed Development adopted for assessment purposes. The anticipated operational life of the Proposed Development may extend beyond this period, however a 25-year design has been used consistently within the ES as the basis for assessment.

Potential environmental factors

- 18.3.16 The following environmental factors are susceptible to changes as a result of traffic increases associated with the Proposed Development.

Severance

- 18.3.17 Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure. The term is used to describe a complex series of factors that separate people from places and other people. The EATM Guidelines [Ref 1] suggest that changes in total traffic flow of 30%, 60% and 90% result in slight, moderate and substantial changes in severance respectively.

Non-motorised user (NMU) amenity

- 18.3.18 NMU amenity is broadly defined as the relative pleasantness of a journey and is affected by changes in traffic flow, traffic composition and pavement width/separation from traffic between vehicles and pedestrians, cyclists and equestrians. The 1993 GEART Guidelines suggest that a threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled and could lead to perceptible negative or positive impacts upon pedestrian amenity. Whilst the GEART Guidelines [Ref 21] have been superseded by the EATM Guidelines [Ref 1], the thresholds have not been superseded by DfT guidance and have been established in case law. Therefore, these thresholds have been used to assess impacts to NMU amenity as a result of the Proposed Development.

Fear and intimidation

- 18.3.19 A further environmental impact that affects people is the fear and intimidation created by all moving objects. The extent of fear and intimidation is dependent on the total volume of traffic, the heavy vehicle composition, the speed these vehicles are passing, and the proximity of traffic to people. The EATM Guidelines provide a weighted system to provide an approximation of the likelihood of pedestrian fear and intimidation. The degree of hazard is assessed with reference to the established thresholds (a, b and c) (see Table 18.7) and a score is provided for each combination on a highway link under consideration (see Table 18.8). The magnitude of impact is approximated with reference to changes in the level of fear and intimidation from baseline conditions.

Table 18.7 Fear and Intimidation Degree of Hazard

Average traffic flow over 18-hour day – all vehicles/hour 2-way (a)	Total 18-hour heavy vehicle flow (b)	Average vehicle speeds (c)	Degree of hazard score
1,800	>3,000	>40	30
1,200 – 1,800	2,000 – 3,000	30 – 40	20
600 – 1,200	1,000 – 2,000	20 – 30	10
<600	<1,000	<20	0

Table 18.8 Level of Fear and Intimidation

Level of fear and intimidation	Total hazard score (a) + (b) + (c)
Extreme	71+
Great	41 – 70
Moderate	21 – 40
Small	0 - 20

Road safety

- 18.3.20 Road safety is assessed by the frequency and severity of injury accidents that are attended by the police and recorded in official accident statistics. Intensification of use or changes in the composition of traffic has the potential to have an effect on collision rates. The examination of recent collision statistics on routes within the Study Area will highlight any hotspots that need further examination.

Driver delay

- 18.3.21 The use of industry standard junction capacity modelling programmes ('Junctions 11' and 'LinSig') provides a methodology to quantify junction delay. Driver delay is only likely to be significant where the existing Study Area highway network is at or close to capacity. In accordance with the EATM Guidelines [Ref 1], this approach is considered to be appropriate to assess driver delay.

Hazardous loads

- 18.3.22 The assessment of hazardous loads has been based upon the nature of hazardous loads being transported and the number of movements anticipated to illustrate the potential and likely effect of a catastrophic event. Hazardous loads are assessed on the basis set out within the IEMA (now ISEP) Major Accidents and Disasters Guidance [Ref 22], when it is

determined to be a low-likelihood/high-consequence event. Events assessed to be low consequence (i.e., leaks and spills at construction sites) are not in the scope of major accidents and/or disaster assessments as they do not meet the definition and hence will be assessed under other criteria. Refer to **Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 6.1)** for further information.

Magnitude of impacts

Significance criteria

18.3.23 Using the information set out above, the magnitude of traffic and transport impacts is set out in Table 18.9.

Table 18.9 Magnitude of Impact Summary

Type of impact	Magnitude of impact			
	Negligible	Low	Medium	High
Severance	Change in total traffic flow of <30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 61% to 90%	Change in total traffic flow of >90%
NMU Amenity	Changes in traffic flow (or HGV component) <30%	Changes in traffic flow (or HGV component) >30 and <50%	Changes in traffic flow (or HGV component) of 50% to 100%	Changes in traffic flow (or HGV component) of >100%
Fear and Intimidation	No change in step changes	One step change in level, with <400 vehicle increase in average 18hr AV two-way all vehicle flow; and/or <500 HV increase in total 18hr HV flow	One step change in level, but with >400 vehicle increase in average 18hr AV two-way all vehicle flow; and/or >500 HV increase in total 18hr HV flow	Two step changes
Road Safety	Magnitude of impact derived using professional judgement informed by the frequency and severity of recorded collisions within the Study Area and the forecast increase in traffic			
Driver Delay	Magnitude of impact derived using professional judgement informed by the increase in vehicle delay and whether a junction is at, or close to capacity			
Hazardous Loads	Magnitude of impact derived using professional judgement informed by the frequency and routing of hazardous loads within the Study Area and the forecast increase in traffic			

18.3.24 By combining the receptor sensitivity with the magnitude of impact using the assessment matrix shown in Table 18.10, traffic effects are classified as negligible, minor, moderate or major (adverse or beneficial).

Table 18.10 Classification of Effects

Magnitude of Impact	Sensitivity of Receptor			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

18.3.25 Major and moderate (adverse or beneficial) effects are considered significant, whilst those that are minor (adverse or beneficial) or negligible are considered to be 'not significant'.

Sources of information

18.3.26 The following sources of information have been reviewed and have informed the assessment, with further details of the traffic data being included in the paragraph below:

- Traffic count data collected in 2024 and 2025;
- DfT count data from 2009, 2019, and 2024;
- Road safety data from CrashMap; and
- Data provided by the Applicant in regard to the traffic generation of both the construction and operational phases.

18.3.27 This data can be viewed within **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**.

18.3.28 Initial JTC data was obtained by the Applicant from Lighthouse Green Fuels Limited who conducted surveys on Thursday 20 June 2024 in relation to a now discontinued project (PINS Reference: EN010150). This data was used to inform the assessment for the Proposed Development DCO application (EN0110025). This data was collected at the following locations:

- A178 Seaton Carew Road/Huntsman Drive/A178 Seaton Carew Road;
- A178 Seaton Carew Road/A1046 Port Clarence Road;
- B1275 Hope Street/A1046 Clarence Street/A1046 Haverton Hill Road;
- Hope Street/Frederick Terrace/B1275 Hope Street/B1275 Robson Street;

- A1046 Haverton Hill Road/New Road; and
 - A178 Seaton Carew Road/Unnamed Road/A1185.
- 18.3.29 At the same time, a series of 7-day ATCs were undertaken at the following locations to provide a baseline for comparison on the following road links:
- A178 Seaton Carew Road, adjacent to the Royal Society for the Protection of Birds (RSPB) Salthome;
 - A178 Seaton Carew Road, north of Seal Sands Roundabout;
 - A1185, adjacent Cowpen Bewley Woodland;
 - Marsh House Avenue, south of the junction with A1185;
 - A689, between Wolviston Interchange and Wolviston Services carpark access roundabout;
 - A178 Seaton Carew Road, north of the junction with Port Clarence Road;
 - A1046 Port Clarence Road, adjacent to Wilson Group; and
 - B1275 Hope Street.
- 18.3.30 This ATC data has been verified against the DfT Traffic Count Location webviewer which provides estimated Annual Average Daily Flow (AADF) data for highway links within Great Britain. The most recent estimates available online are for 2024, with some links within the Study Area having older AADF data available (2009 and 2019). The AADF data for these locations was then factored using the Trip End Model Program (TEMPro) growth factors provided in Table 18.14 for consistency across the 2024 baseline year assessment.
- 18.3.31 Further manual classified turning counts were collected in July 2025 at the following junctions along the proposed HGV access route for the AM and PM peak periods:
- Junction 1: A19/A689/A689 Coal Lane (Wolviston Interchange);
 - Junction 2: Car Park Access/A689; and
 - Junction 3: A19 Off Slip/A689 Stockton Road/A1185/Wolviston Road/A689/Wynyard Park.

Assumptions and limitations

- 18.3.32 The assessment presented in this chapter is based on a series of assumptions derived from the Applicant's design information, construction

programme and operational parameters available at the time of assessment. These assumptions have been defined to ensure that the assessment considers a robust worst-case scenario, in accordance with the EATM Guidelines and standard EIA practice.

18.3.33 For both the construction and operational phases, it has been assumed that all traffic associated with the Proposed Development is accommodated on the local highway network, unless otherwise confirmed. This includes a conservative assumption that:

- **Construction Phase:** All construction workforce trips and HGV movements are assumed to travel by road, including up to approximately 2,200 workers per day at peak construction and up to 360 two-way daily HGV movements. This approach ensures that the assessment captures the maximum potential impact on the highway network, notwithstanding that travel plan measures (via the CWTP), potential use of marine transport, and contractor logistics strategies may reduce reliance on road-based transport in practice.
- **Operational Phase:** A worst-case assumption has been adopted whereby operational HGV movements associated with the import of some feedstock (noting the majority will arrive by ship), delivery of consumables, and export of all products (including SAF, naphtha and associated waste streams) are undertaken by road. This results in an assessment based on up to approximately 282 two-way HGV movements per day. This represents a conservative scenario, as the design of the Proposed Development includes infrastructure to facilitate alternative modes (including marine-based import/export via the quay, and export of products via pipeline connections to third-party infrastructure). This ensures a robust assessment.
- **Workforce Travel:** Construction and operational workforce travel has been assessed assuming realistic but precautionary modal splits, with private vehicle use forming the primary mode. Travel Plan measures, including the CWTP, are expected to reduce single occupancy vehicle use; however, these reductions are not relied upon to demonstrate acceptable impacts.
- **Emergency Services:** Emergency service operations will not be affected by the construction or operation of the Proposed Development. Potential impacts on the local road network around Billingham Community Fire Station (located on the A178 Seaton Carew Road south of Seal Sands Roundabout) are assessed as part of this traffic and transport assessment (and concluded in Section 18.6).

- AILs: Movement of AILs is detailed within **Appendix 18D: Construction Traffic Management Plan (ES Volume III, Application Document Ref. 6.3)**. The majority of AILs and major process modules are likely to arrive via the new quay.

18.3.34 In addition, for traffic distribution and assignment:

- Construction HGV movements have been assigned to the North Tees corridor (A178 / A1185 to A19 Wolviston Interchange), representing the anticipated primary HGV route and ensuring that potential impacts are assessed on the most sensitive parts of the network; and
- Local workforce trip distribution has been informed by Census data and a gravity-based approach, while mobile workforce distribution has been based on accommodation availability within the surrounding area.

18.3.35 The assessment is subject to the following limitations:

- Construction logistics (including routing, timing of deliveries and potential use of non-road modes) will be refined at the detailed design stage and secured through the Construction Traffic Management Plan (CTMP) and associated management plans;
- Operational logistics (including the balance between marine and road-based transport) may vary depending on commercial and operational arrangements, however, this assessment assumes a scenario that includes 100% export of products by road to ensure a conservative position; and
- Traffic data and baseline conditions are based on available datasets at the time of assessment, with future traffic growth incorporated through TEMPro factors as described in Section 18.4.

18.3.36 Notwithstanding the above, the assumptions adopted are considered to provide a robust and precautionary basis for assessing the likely significant effects of the Proposed Development on traffic and transport. Further detail on the derivation of traffic generation and assignment assumptions is provided in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**.

Consultation

Scoping Opinion

18.3.37 Consultation for the Proposed Development has been ongoing and commenced at the EIA Scoping Stage with the preparation of the EIA Scoping Report which was submitted in October 2025 (see **Appendix 2A: Scoping Report (ES Volume III, Application Document Ref. 6.3)**), and a

Scoping Opinion was adopted by the Planning Inspectorate on 11 November 2025 (see **Appendix 2B: Scoping Opinion in ES Volume III, Application Document Ref. 6.3**).

Statutory consultation

- 18.3.38 A formal Section 42 and Section 47 consultation commenced at the same time as the publication of the PEIR on 2 December 2025 and ended on 13 January 2026.
- 18.3.39 Table 18.11 provides a summary of how comments raised by stakeholders to date in relation to traffic and transportation have been considered and actioned where appropriate.

Table 18.11 Consultation Summary Table

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
Planning Inspectorate	Scoping Opinion – 11 November 2025	It is unclear what mechanism will be in place to ensure that ship/rail are utilised over road movements for the operational movement of feedstock. Therefore, the Inspectorate does not agree to scope this matter out at this stage. Accordingly, the ES should include an assessment of these matters, or the information referred to demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.	The worst-case operational phase scenario has been assessed within this chapter, assuming some import and 100% of the export associated with the Proposed Development will be via the local road network.
		The Scoping Opinion proposes to scope out decommissioning phase effects on the basis that these would be similar to or less than the construction phase. As noted in paragraph 18.7.9 decommissioning works are uncertain at this stage. Furthermore, since the construction phase is scoped in on the basis that significant effects could occur, there is potential for significant effects to occur within the decommissioning phase.	Decommissioning is considered in Section 18.6 of this chapter.
		The Scoping Report provides limited justification for scoping operational and decommissioning traffic out and then acknowledges that this approach has not been agreed with consultees (paragraph 18.11.1). As such, the Inspectorate is not in a position to scope these matters out at this stage. The ES should refer to the Traffic Assessment.	The ES refers to the TA in Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3) .
		The study areas should include the affected road network where there is the potential for significant effects for all phases of the proposed development. The ES should include a figure showing the study area for the	The Study Area is shown in Figure 18.1 (ES Volume II, Application Document Ref. 6.2) . The Study Area has been defined to include those road links and junctions where changes in

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
		assessment. This should be justified and explained in the ES and agreed with relevant consultees.	traffic flows associated with the Proposed Development are anticipated to be material, informed by professional judgement and the screening criteria set out in the EATM Guidelines. Further detail on the Study Area selection is provided in Section 18.3.
		It is stated that the applicant intends for the feedstock to be delivered by rail. The ES should provide numbers of rail movements associated with the operational of the proposed development and demonstrate that there is capacity on the rail network to accommodate the additional flows. Agreements and consents/easements may be required.	This is no longer applicable at ES stage as the feedstock will be solely delivered by shipping and there will be no rail movements associated with the Proposed Development. Therefore, no assessment of the capacity of the rail network has been undertaken.
		The ES should differentiate between incoming trips generated for feedstock and outgoing trips generated for waste streams and this should consistently be reported throughout the description of the proposed development and aspect assessments.	Section 18.6 of this chapter provides further information on the operation import/export HGV split.
		The Scoping Report provides a list of four speculative mitigation measures. The ES should specify whether mitigation measures are embedded or 'additional'/'secondary' and these should be secured in the DCO where relevant. Effort should be made to agree any mitigation measures with relevant consultation bodies.	Embedded mitigation measures are described in Section 18.5 of this chapter. No additional mitigation measures have been identified to be required.
		The Scoping Report estimates that 2000 construction staff will be required during the peak of construction phase. The ES should ensure that this is factored into the construction traffic assessment.	The peak construction staff has been considered within Section 18.3 of this chapter and accompanying appendices.

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
		The Scoping Report indicates that no surveys have been undertaken to date to inform the baseline use of the PRow and cycle network that are adjacent to the proposed development. The ES should appropriately characterise the baseline use of the affected PRow and cycle networks and identify any diversions and/or closures to these networks during construction/decommissioning. The locations diversions or closures should also be illustrated on suitable figures in the ES. The applicant should consider the potential for the proposed development to enhance the quality of the PRow and cycle network, with particular reference to promoted routes.	The construction of the Proposed Development may have a short term negative impact on PRow in the local study area through temporary disruption during the construction phase, including reduced amenity associated with construction traffic and HGV movements on nearby roads. A short-term temporary closure and diversion of footpath 116/31, as illustrated on the Access and Rights of Way Plans (Application Document Ref. 2.4), near Dabholm Gut may also be required during construction of the industrial gases connection and crossing controls may be required where the King Charles III England Coast Path crosses the access to the Linkline corridor. The effect would be temporary, localised and limited in extent.
		The assessment proposes to use the Trip End Model Program (TEMPro) to predict the level of background traffic growth at the peak year of construction. The ES should also assess the operational traffic against background traffic flows for the peak year of operation of the proposed development.	This has been assessed and details of trip rates used provided in Section 18.4 of this chapter.
		The Scoping Report identifies the use of Strava 'heat maps' to inform accident data. The ES should justify why the use of such maps is a robust data source for establishing accident data baseline conditions, particularly considering there is potential for routes to be used by non-motorised users who may not use the Strava application. Therefore, these maps are unlikely to represent a worst-	Strava has not been used to inform this chapter. Instead, CrashMaps and the DfT MAVRIC Tool have been used as sources to inform accident data.

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
		case scenario. Furthermore, these maps do not provide quantitative data of route usage.	
National Highways	Scoping response - 20 November 2025	When the full CWTP is prepared, appropriate evidence should be submitted to validate any assumptions in the approach used to derive the number of construction worker trips accessing and egressing the Site. To minimise the need to travel via private vehicle, as required in Circular 01/2022, the full CTMP should put forward clear targets for managing down the traffic impact of the construction phase of the proposed development. National Highways would also expect the full CWTP should detail the shift patterns of construction personnel when they are known. Any remedial measures should be firmly committed to if the within a full CWTP, to cover the scenario in which the targets are not met.	Annex C: Framework Construction Worker Travel Plan (fCWTP) of Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3) provides details on construction worker trip generation assumptions. A Framework Construction Traffic Management Plan (fCTMP) is also provided in Appendix 18D (ES Volume III, Application Document Ref. 6.3) .
		National Highways would expect the full CTMP to detail the AM and PM peak hour HGV, LGV and car trip generation for each month of the construction phase. It is proposed that all HGV movements will be assigned to the North Tees connection corridor (A178, Seaton Carew Road and A1185 to A19 Wolviston Interchange), with this to be confirmed at full ES stage. We would expect the full CTMP to present traffic flow diagrams detailing the interaction of HGV traffic associated with the construction phase of the proposed development on the SRN. Prior to any abnormal loads being delivered to the site via the SRN, the Applicant should contact the National Highways Abnormal Loads Team in advance to discuss the details any abnormal load(s). Swept path analyses	Appendix 18D: fCTMP (ES Volume III, Application Document Ref. 6.3) provides details on full construction traffic trip generation and considers AILs.

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
		must also be provided for any AIL movements via the SRN.	
		National Highways suggest that the Applicant should demonstrate the expected peak hour HGV traffic generated at different points of the construction process, when this information is known, within the CTMP.	Appendix 18D: fCTMP (ES Volume III, Application Document Ref. 6.3) provides the HGV profile.
Durham County Council	Consultation response to PEIR - 6 January 2026	Given the distance from any roads under the jurisdiction of Durham County Council as Local Highway Authority, the impact on the County Durham network would be negligible.	No further action taken.
Natural England	Consultation response to PEIR - 13 January 2026	Provide evidence for exclusion of a wider road network. Traffic using roads in addition to those immediately around the project site. E.g. A171 (North York Moors) A19 (Castle Eden Dene).	The roads fall outside the defined Study Area and are not anticipated to experience significant effects; therefore, they were scoped out of the assessment.
Cleveland Fire Brigade	Consultation response to PEIR – 13 January 2026	Stated that they were unable to conduct a full assessment of access and water supply matters due to a lack of information on the completed site.	The Applicant will continue to liaise with the Fire Brigade as necessary.
PD Teesport	Consultation response to PEIR – 13 January 2026	Several key access roads within the DCO limits, including Tees Dock Road and routes around Seal Sands, are critical to port operations and experience high traffic volumes, with around 5,000 vehicle movements per day on Tees Dock Road and a further 4,000 on Seal Sands Road. These roads support significant port activities, including frequent vessel calls, bulk cargo handling, and distribution movements linked to major operators and critical energy infrastructure. Consequently, any proposed use or works affecting these routes must be carefully managed to avoid disruption to port operations, with	Where necessary, appropriate mitigation will be agreed with PD Teesport, including addressing any damage or wear to privately owned roads during construction.

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response
		appropriate mitigation secured, and recognition given to the private ownership of some roads, including potential liabilities for damage, maintenance, and associated costs to be addressed by the Applicant.	
		An emergency access road serving the Seal Sands petrochemical cluster lies outside the current DCO limits but may need to be included if COMAH applies, as it forms part of required emergency planning. The road must remain unobstructed at all times, and the Applicant is expected to engage with PDT and provide further details on any proposals that could affect or interfere with this access.	The Applicant remains committed to ongoing, constructive engagement with PD Teesport to ensure that pipeline and access-related matters, including any use of the Emergency Access Road, are addressed as the design progresses.
Sembcorp	Consultation response to PEIR – 12 January 2026	Any proposed use or works to any access roads will need to be carefully considered and any impacts on Sembcorp's operations avoided and/or mitigated. Where any rights relate to private roads, there are also potential cost implications associated with damage/wear and tear, which will need to be addressed by Applicant.	Where necessary, appropriate mitigation will be agreed with Sembcorp, including addressing any damage or wear to privately owned roads during construction.

Targeted consultation

- 18.3.40 A targeted consultation was undertaken between 13 April 2026 and 13 May 2026, following minor changes to the redline boundary. No comments were received in relation to traffic and transport matters. Accordingly, no changes to the assessment of traffic and transport effects presented in this chapter have been required as a result of the consultation.

18.4 Baseline conditions**Existing baseline*****Local highway network***

- 18.4.1 The Proposed Development is located in Teesside, in the industrial area of Seal Sands, approximately 5km east of Billingham town centre and 4km northeast of Middlesbrough town centre. The Proposed Development is on the north bank of the River Tees and roughly 3km southwest of Teesmouth.
- 18.4.2 The Proposed Development is immediately bounded by the River Tees to the east and is surrounded by the Seal Sands industrial area. Further details are provided in **Chapter 3: Site and Surrounding Area (ES Volume I, Application Document Ref. 6.1)**.
- 18.4.3 The Main Site is connected to the public highway network via Seal Sands Road which joins Seaton Carew Road (A178) at Seal Sands Roundabout. From this roundabout, Seaton Carew Road (A178) runs north to Hartlepool and south to Port Clarence. The western arm of this roundabout links to the A1185 which connects to the trunk road network via the A689 and A19 north of Billingham. The A19 and A1(M) provide north-south links into the strategic road network. The A19 links to Hartlepool, Peterlee and Sunderland to the north, and to Thirsk and York and the A1(M) to the south.
- 18.4.4 The primary roads, links, and routes that have the potential to be impacted by the Proposed Development include the following:
- **A1185:** This operates as the primary route connecting the SRN (i.e. the A19 and A689) to the Proposed Development. Currently operating as an identified HGV priority route (confirmed by STBC), it consists of a two lane, 50mph carriageway in both directions, with a physical right turn island providing the northern access into the residential area of Billingham;
 - **A178/Seaton Carew Road:** This north-south running 'A' road provides a direct link between Seaton to the north and Port Clarence to the south. It connects into a 4-arm roundabout with the A1185, providing direct access to/from the Proposed Development;

- **A1046/Port Clarence Road:** Located to the south west of the Proposed Development, this link passes through a small area comprising residential and industrial activities. The route is also subject to a prohibition of goods vehicles exceeding 7.5 tonnes gross weight (TSRGD 622.1A) from the Hope Street junction in Haverton Hill to the junction with Seaton Carew Road east of Port Clarence. Importantly, it passes High Clarence Primary School and, as a high sensitivity receptor, it is included as part of the wider Traffic and Movement assessment;
- **A1085 'Trunk Road':** Located on the south side of the River Tees, this 'A' road runs from Middlesbrough to Redcar, passing through a largely industrialised area, including the main entrance to the British Steel Lackenby site. It operates as a dual carriageway at its southern end, narrowing to a single lane, two-way carriageway north of the British Steel site entrance; and
- **A1053:** Providing a connecting link between the A174 and the A1085, this 'A' road dual carriageway is subject to the 60mph national speed limit. While not located adjacent to any sensitive receptors, it is anticipated that it will operate as a key route for construction vehicles travelling to/from the construction works south of the River Tees.

Walking and cycling

- 18.4.5 Access to the Proposed Development is from the eastern arm of the Seal Sands roundabout which does not have footways. This arm is only public highway for a short distance and can only be used to access the private road to Seal Sands.
- 18.4.6 To the north of the A178, Seaton Carew Road/Huntsman Drive junction, there are footways in the immediate vicinity of the closest bus stops to the Proposed Development. The footway on the western side of the A178, Seaton Carew Road is only present within the proximity of the bus layby. A desk study indicates that this footway is overgrown with vegetation.
- 18.4.7 The footway on the eastern side of the A178 Seaton Carew Road forms part of the route of the King Charles 3rd Coastal Path, a national walking route along England's coastline. The route of the Coastal Path in the local area is shown on **Figure 18.3: Walking and Cycling Active Travel Network (ES Volume II, Application Document Ref. 6.2)** and locally, runs between Hartlepool and Seaton Carew in the north and to Port Clarence and Middlesbrough to the south (via Haverton Hill Road and the A1032, Newport Bridge Approach Road). The footway on Seaton Carew Road

comprises a mixture of sealed surfaced path, unsealed and loose material surfacing.

- 18.4.8 In the wider Study Area, there are footways and streetlighting on all main routes that link the surrounding areas.
- 18.4.9 There is no cycling infrastructure in place along the site access road, however, the A178, Seaton Carew Road in the vicinity of the access is classed as an advisory cycle route. To the north, the advisory route links to a traffic-free route that runs through Saltholme nature reserve and links to Port Clarence.
- 18.4.10 To the south, the advisory route continues on the A1046, Port Clarence Road through Port Clarence and to Billingham (via the B1275, Belasis Avenue and Greenwood Road) and Cowpen Bewley (via Cowpen Bewley Road).
- 18.4.11 There is also a shared footway/cycleway along the A1046, Port Clarence Road through Port Clarence which continues on both sides of the carriageway along the majority of the A1046, Haverton Hill Road. The shared footway/cycleway links to a wider network of routes at the A19 Portrack Interchange, including National Cycle Network (NCN) 14 to the north that links to Billingham in the north and Stockton-on-Tees to the west and to NCN 1 within Middlesbrough to the south, via the A1032, Newport Bridge Approach Road. Locally, NCN 14 runs between Hartlepool and Seaton Carew in the north, through Stockton-on-Tees to Darlington and NCN 1 runs between Redcar, Middlesbrough and Stockton-on-Tees.
- 18.4.12 NCN 65 connects to the NCN 1 within Middlesbrough and locally, provides connections to residential areas to the south of Middlesbrough, including Linthorpe, Acklam and Hemlington.
- 18.4.13 The Teesdale Way can be accessed from the A1032, Newport Bridge Approach Road. To the east of the A1032 Newport Bridge Approach Road, the route mostly runs along the south bank of the River Tees through Middlesbrough and South Bank to Coatham Sands. To the west of the A1032, Newport Bridge Approach Road, the route mostly runs along the north bank of the River Tees through Stockton-on-Tees, Eaglescliffe and Yarm.
- 18.4.14 The only NCN which may be impacted by the Proposed Development is NCN 14. The NCN 14 runs along the A139 and the Bypass Road, north east through Wolviston.

Public Right of Way (PRoW)

- 18.4.15 A desk-study has been undertaken to identify PRoW within the Study Area which may need to be closed or diverted (temporarily or permanently) to manage any potential conflict between NMUs and development generated traffic.
- 18.4.16 There are five PRoW within 500m of the Proposed Development, including:
- Footpath 31 which runs along the route of the pipeline before heading south west towards Tees Dock Road and footpath 102/2A;
 - Footpath 102/2A (102/2A/1 – 102/2A/2) runs approximately south west to north east in parallel to the internal Teesport private access road before connecting to footpath 102/2 (102/2/1 - 102/2/3);
 - Footpath 102/2 (102/2/1 - 102/2/3) follows the alignment of a rail line in parallel to footpath 102/2 (102/2/1 - 102/2/3);
 - Bridleway 116/9 (116/9/1 - 116/9/2) follows the alignment of a rail line in parallel to footpath 102/02 (102/2/1 - 102/2/3); and
 - The King Charles 3rd Coastal Path.
- 18.4.17 The identified PRoWs sit outside the Study Area. The area associated with the wastewater pipeline connection works (including the nearby PRoWs) and industrial gases south of the River Tees has been omitted from the Study Area due to the limited number of vehicle movements forecast during these works.
- 18.4.18 Across the wider Study Area, there are multiple PRoW that intersect road links, this includes:
- Public Byway Ref. BY 30 which crosses the A1185 (Link 5), running between Billingham Cemetery in the south to Cowpen Bewley Woodland Park in the north;
 - Footpath Ref. FP 8D which runs from Newton Bewley (within the Hartlepool local authority area), crosses the A1185 (Link 6) and runs south into residential estates to the north of Billingham;
 - Public Footpath Ref. FP 1 which runs north from the A689 (Link 13) and connects to Public Footpath FP 15;
 - Public Footpath Ref. FP 15 runs east/west crossing the A19 mainline (Link 15) at-grade in the west and the A19 mainline Off-Slip (Link 11) in the east;

- A PRow which runs from the A19 mainline Off-Slip (Link 11) east to Newton Bewley (within the Hartlepool local authority area). It is not known if this PRow connects directly to Public Footpath Ref. FP 15; and
- Public Footpath Ref. FP 27 runs to the east of Junction 9 and crosses the A1027 (Link 26), where it becomes FP 29. Public Footpath Ref. FP 29 wraps around the southern section of Junction 9, crossing the A19 mainline via a footbridge and links to a residential estate within Stockton-on-Tees.

18.4.19 **Figure 18.3: Walking and Cycling Active Travel Network (ES Volume II, Application Document Ref. 6.2)** includes an overview of the PRow network for context.

Public transport

- 18.4.20 The area surrounding Seal Sands is served by a network of public transport services. Stagecoach Northeast operates several bus routes in this region. Notably, route 1 connects Middlesbrough Bus Station to Hartlepool High Tunstall.
- 18.4.21 The closest bus stops to the Proposed Development are situated on the A178, Seaton Carew Road, to the north of the A178, Seaton Carew Road/Huntsman Drive junction. This service operates seven days a week, providing regular access to residential, industrial, and natural areas, including the RSPB (Royal Society for the Protection of Birds) Saltholme Reserve.
- 18.4.22 Additionally, route 36 links Middlesbrough to Hartlepool, traversing areas like Billingham and Greatham. This route serves the Seal Sands Link Road and operates daily, ensuring connectivity across various communities.
- 18.4.23 The closest train stations to the Proposed Development are Middlesbrough Train Station, located south of the River Tees, and Billingham Train Station, located west of the Proposed Development. The closest river crossing between the Proposed Development and Middlesbrough Train Station is via the Tees Newport Bridge, making the walking route over 10km. In addition, Billingham Train Station is located over 5km from the Proposed Development via Cowpen Bewley Woodland. Therefore, the Proposed Development is not directly accessible by walking from the nearest stations with access likely to be reliant on car, bus or cycle.

Existing traffic flows

18.4.24 The following highway links form the Study Area for this assessment and baseline 24-hour Annual Average Daily Traffic (AADT) two-way link flows are outlined in Table 18.12.

Table 18.12 2024 Baseline AADT Flows

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
1	Site access road (East of Seal Sands Roundabout)	4,490	629	14%
2	A178 Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road)	8,146	362	4%
3	A178 Seaton Carew Road (North of Seal Sands Roundabout)	6,911	475	7%
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station))	4,950	986	20%
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	4,950	986	20%
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	4,950	986	20%
7	Marsh House Avenue	9,170	228	2%
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	13,290	1,612	12%
9	Wolviston Road (south of the A689 Roundabout)	8,211	84	1%
10	A689 Stockton Road	30,520	1,248	4%
11	A19/Wynyard Park Southbound Off-Slip	3,946	294	7%
12	A19 Wolviston Interchange Northbound On-Slip ¹	-	-	-
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	33,563	2,694	8%
14	A689 (West of A689/Wolviston Services Roundabout)	33,563	2,694	8%
15	A19 Mainline (North of A19 Wolviston Interchange)	54,716	3,965	7%
16	A689 Coal Lane (West of A19 Wolviston Interchange)	19,692	1,688	9%
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	8,146	362	4%

¹ No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	8,146	362	4%
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	8,146	362	4%
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	8,146	362	4%
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	3,274	196	6%
22	B1275 Belasis Avenue	7,343	167	2%
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout) ²	-	-	-
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	7,343	167	2%
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	7,343	167	2%
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double Roundabout and A19 Norton Interchange)	7,343	167	2%
27	A1027 (West of A19 Norton Interchange)	31,970	211	1%
28	Cowpen Lane	10,407	407	4%
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	10,407	407	4%
30	A139	16,539	235	1%
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	77,571	5,991	8%
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	14,445	1,081	7%
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	14,445	1,081	7%
34	New Road	4,664	251	5%
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	14,445	1,081	7%

² No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	14,445	1,081	7%
37	A1032, Newport Bridge Approach Road	18,042	634	4%
38	A19 Mainline (South of A19 Portrack Interchange)	110,155	6,999	6%
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	27,236	958	4%
40	A19 Mainline (North of A19 Portrack Interchange)	98,111	5,794	6%

Personal injury accidents

- 18.4.25 Accident data has been acquired from the CrashMap database. CrashMap functions as an online resource providing details on the location, date, and severity of recorded personal injury accidents across United Kingdom roads. Incidents are classified as 'Slight,' 'Serious,' or 'Fatal,' according to the level of injury sustained by the most severely affected individual. For this assessment, the baseline review covers a five-year period spanning from 2020 to 2024 (inclusive).
- 18.4.26 Table 18.13 provides details of the baseline accident data, focused on routes that will be used or affected by the proposed development.

Table 18.13 Accident Data Summary (Severity)

Location	Severity			
	Slight	Serious	Fatal	Total
Seal Sands Roundabout/A1185	1	1	0	2
Seaton Carew Road	4	1	0	5
A1046 Port Clarence Road	0	3	0	3
Wolviston Interchange	12	0	0	12
A689 Roundabout	3	2	0	5
A689/A1185 Roundabout	5	1	0	6
B1275/Greenwood Rd Roundabout	1	0	0	1
A1046 (Clarence Street/Haverton Hill Road/Hope Street)	5	1	0	6
A1032 (Newport Bridge Approach Rd)	2	2	0	4
A19 Mainline (South of A19 Portrack Interchange)	11	2	0	13
A1046, Haverton Hill Road (West of A19 Portrack Interchange)	2	0	0	2
A19 Mainline (North of A19 Portrack Interchange)	6	0	0	6
Total	52	13	0	65

18.4.27 As shown above, 65 accidents have been reported on links within the Study Area between 2020 and 2024. Of these, 52 have been reported as having slight casualty injuries, 13 having serious injuries, and 0 resulting in fatalities.

Future baseline

18.4.28 Subject to the necessary consents being granted, it is anticipated that construction would commence early 2028 and would continue for a period

of 3-4 years. The peak of construction would occur in Q4 2030 based on the construction workforce profile, and this has been used as the construction phase assessment year.

TEMPro factors

18.4.29 As the majority of available traffic data is historic, growth rates have been applied where necessary. 2024 has been adopted as the baseline year scenario for monitoring purposes across Air Quality and Noise and Vibration assessments (see **Chapter 8: Air Quality and Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1)**).

18.4.30 TEMPro traffic growth factors have also been applied to obtain future year figures for 2030, 2031 and 2041. Average growth factors have been compiled using TEMPro 8.1 for Stockton-on-Tees, as summarised in Table 18.14. These growth factors were determined using the following criteria in TEMPro:

- Years: Base year of 2011 (earliest available) and 2019 and future years of 2030, 2031 and 2041;
- Area: Stockton-on-Tees;
- Scenario: 'Core';
- Trip End: Origin/Destination; and
- Time Period: Average Day/Average Weekday.

Table 18.14 TEMPro Growth Factors (Daily)

Period	Growth Factor – Average Day
2011-2024	0.9976
2019-2024	1.0397
2024-2030	1.0384
2024-2031	1.0436
2024-2041	1.0867

Future baseline traffic

Construction

18.4.31 Future year baseline traffic flows for the peak construction year assessment are presented in Table 18.15.

Table 18.15 2030 Future Baseline Traffic Flows

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
1	Site access road (East of Seal Sands Roundabout)	4,662	653	14%
2	A178 Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road)	8,459	376	4%
3	A178 Seaton Carew Road (North of Seal Sands Roundabout)	7,176	493	7%
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station))	5,140	1,024	20%
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	5,140	1,024	20%
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	5,140	1,024	20%
7	Marsh House Avenue	9,522	236	2%
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	13,800	1,674	12%
9	Wolviston Road (south of the A689 Roundabout)	8,526	87	1%
10	A689 Stockton Road	31,692	1,296	4%
11	A19/Wynyard Park Southbound Off-Slip	4,098	305	7%
12	A19 Wolviston Interchange Northbound On-Slip ³	-	-	-
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	34,852	2,797	8%
14	A689 (West of A68/Wolviston Services Roundabout)	34,852	2,797	8%
15	A19 Mainline (North of A19 Wolviston Interchange)	56,817	4,117	7%
16	A689 Coal Lane (West of A19 Wolviston Interchange)	20,448	1,753	9%
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	8,459	376	4%
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	8,459	376	4%
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	8,459	376	4%

³ No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	8,459	376	4%
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	3,400	203	6%
22	B1275 Belasis Avenue	7,625	174	2%
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout) ⁴	-	-	-
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	7,625	174	2%
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	7,625	174	2%
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double Roundabout and A19 Norton Interchange)	7,625	174	2%
27	A1027 (West of A19 Norton Interchange)	33,198	219	1%
28	Cowpen Lane	10,807	423	4%
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	10,807	423	4%
30	A139	17,174	244	1%
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	80,550	6,221	8%
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	15,000	1,123	7%
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	15,000	1,123	7%
34	New Road	4,843	261	5%
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	15,000	1,123	7%
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	15,000	1,123	7%
37	A1032, Newport Bridge Approach Road	18,735	658	4%
38	A19 Mainline (South of A19 Portrack Interchange)	114,385	7,268	6%

⁴ No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	28,282	995	4%
40	A19 Mainline (North of A19 Portrack Interchange)	101,878	6,016	6%

Operation

18.4.32 Future year baseline traffic flows for the opening year assessment are presented in Table 18.16.

Table 18.16 2031 Future Baseline Traffic Flows

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
1	Site access road (East of Seal Sands Roundabout)	4,686	656	14%
2	A178 Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road)	8,501	378	4%
3	A178 Seaton Carew Road (North of Seal Sands Roundabout)	7,212	496	7%
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station))	5,166	1,029	20%
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	5,166	1,029	20%
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	5,166	1,029	20%
7	Marsh House Avenue	9,570	238	2%
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	13,869	1,682	12%
9	Wolviston Road (south of the A689 Roundabout)	8,569	88	1%
10	A689 Stockton Road	31,851	1,302	4%
11	A19/Wynyard Park Southbound Off-Slip	4,118	307	7%
12	A19 Wolviston Interchange Northbound On-Slip ⁵	-	-	-
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	35,026	2,811	8%
14	A689 (West of A689/Wolviston Services Roundabout)	35,026	2,811	8%

⁵ No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
15	A19 Mainline (North of A19 Wolviston Interchange)	57,102	4,138	7%
16	A689 Coal Lane (West of A19 Wolviston Interchange)	20,551	1,762	9%
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	8,501	378	4%
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	8,501	378	4%
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	8,501	378	4%
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	8,501	378	4%
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	3,417	204	6%
22	B1275 Belasis Avenue	7,664	175	2%
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout) ⁶	-	-	-
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	7,664	175	2%
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	7,664	175	2%
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double Roundabout and A19 Norton Interchange)	7,664	175	2%
27	A1027 (West of A19 Norton Interchange)	33,364	220	1%
28	Cowpen Lane	10,861	425	4%
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	10,861	425	4%
30	A139	17,260	245	1%
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	80,953	6,252	8%
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	15,075	1,128	7%

⁶ No data available: no suitable DfT count or survey undertaken at this location.

Link	Link Name	Total Vehicles (AADT)	HGV (AADT)	% HGVs
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	15,075	1,128	7%
34	New Road	4,867	262	5%
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	15,075	1,128	7%
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	15,075	1,128	7%
37	A1032, Newport Bridge Approach Road	18,829	662	4%
38	A19 Mainline (South of A19 Portrack Interchange)	114,958	7,304	6%
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	28,423	1,000	4%
40	A19 Mainline (North of A19 Portrack Interchange)	102,389	6,047	6%

Other developments

- 18.4.33 Based on the information available at the time of assessment, none of the cumulative development sites, presented in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)**, have been included within this chapter. This is due to limited traffic assignment detail being available for other developments and/or the developments falling outside of the Study Area for the Proposed Development. Any traffic associated with these sites is assumed to be incorporated within the background growth applied to the 2024 baseline flows for the purpose of this assessment.

18.5 Proposed Development design and impact avoidance

- 18.5.1 The following impact avoidance measures have either been incorporated into the design or are standard construction or operational practices. These measures have, therefore, been taken into account during the impact assessment and where relevant are secured by a Requirement within the **draft DCO (Application Document Ref. 3.1)**.

Construction

- 18.5.2 Mitigation measures will be implemented during the construction phase to minimise the impact on the local highway network, including:
- Implementation of a Construction Worker Travel Plan (CWTP) which includes measures and procedures to encourage construction workers to adopt modes of transport which reduces reliance on single

occupancy private car use (a fCWTP is provided in **Annex C to Appendix 18A: Transport Assessment, ES Volume III, Application Document Ref. 6.3**);

- Liaison with the appointed Contractors for the potential to implement construction worker minibuses and car sharing options (included in the **fCWTP (Annex C to Appendix 18A: Transport Assessment, ES Volume III, Application Document Ref. 6.3)**);
- Implementation of a CTMP to control the impact of HGVs (including AILs) on the local road network during construction (a **fCTMP** is provided as **Appendix 18D, ES Volume III, Application Document Ref. 6.3**);
- Working with suppliers to ensure that all relevant materials (including chemicals) brought to the Site that are classified as hazardous are transported in compliance with applicable regulations including the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG Regs) (as amended) [Ref 23], during construction, commissioning and operational phases. This will include, for example, consignments being marked with the familiar “Emergency Access Codes” and including a telephone number for advice in the event of an emergency;
- Implementation of a Construction Environmental Management Plan(s) (CEMP(s)) which will be produced by the Contractor(s) in accordance with **Appendix 5A: Framework CEMP (fCEMP) (ES Volume III, Application Document Ref. 6.3)** prior to construction and will be produced in accordance with the framework, which deals with matters which will influence traffic flows (e.g. efficient waste management); and
- Management of delivery timing to minimise interaction with peak traffic conditions, including the potential use of off-peak or night-time deliveries where practicable. This approach will be secured through the CTMP and is facilitated by the location of the Main Site within an industrial area with limited nearby residential receptors. By reducing the overlap between construction traffic and peak period commuter flows, this measure further limits the potential impact on the surrounding highway network.

18.5.3 The **draft DCO (Application Document Ref. 3.1)** includes requirements which secure the submission and approval of the Construction Worker Travel Plan (CWTP), the CTMP and the CEMP.

Operation

- 18.5.4 Workforce numbers during operation will be around 320 permanent members of staff, of that around 52 members of staff will work traditional office-hours in managerial, engineering support and administrative roles, with their expected working hours to be 09:00 – 17:00 Monday to Friday.
- 18.5.5 The SAF production facility, including the CHP Plant, will be operational 24/7 and staffed by personnel on a two 12-hour shift pattern. Each of the two shifts is anticipated to comprise 54 shift workers spread across the production plant operational units.
- 18.5.6 The shift pattern is expected to consist of a rolling program of 12 hour day/night shifts with breaks scheduled in between each block of shifts for days off and employees annual leave to be rostered in. Expected start times for day shifts are 06:30 – 18:30 and night shifts are 18:30 – 06:30. It is anticipated that personnel travelling to and from work will be arriving at/or departing from site up to 0.5 hour before/after their normal working hours.

Decommissioning

- 18.5.7 Decommissioning would be expected to require some traffic movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and reinstatement. To minimise the impacts of decommissioning upon local highways, the **draft DCO (Application Document Ref. 3.1)** includes a requirement that provides for the submission and approval of a Decommissioning Environmental Management Plan(s) (DEMP) and an EA-approved decommissioning plan. The DEMP(s) will contain measures, as appropriate, to manage and control traffic associated with decommissioning activities, including HGV routing, delivery timing and site access arrangements, in order to minimise any associated impacts on the surrounding highway network.
- 18.5.8 Due to this activity being several years in the future, the baseline conditions cannot be estimated with any accuracy and as such no further assessment is possible at this stage, although any impact is likely to be similar to the construction phase of the Proposed Development.

18.6 Impacts and likely significant effects

- 18.6.1 This section sets out a summary of the trip generation during the construction and operation phases, with the full details provided in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**.

Construction

- 18.6.2 Access to and from the Site for all construction workers would be via Seal Sands Road off Seal Sands Roundabout.
- 18.6.3 It is anticipated that construction will commence early 2028 over a period of up to 48 months ending Q4 2031, with the peak period for construction anticipated to be in Q4 2030 requiring approximately 2,200 workers per day. This is based on the anticipated construction programme and the profile of construction workforce over the Proposed Development build period. A profile of the anticipated daily workforce for each month through the construction period is provided in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**.
- 18.6.4 Core construction working hours will be between 07:00 and 19:00 Monday to Friday (except bank holidays), Saturday 07:00 to 16:00 and Sunday 08:00 to 17:00. However, it is likely that some construction activities may need to be undertaken outside of these core working hours. Where on-site works are to be conducted outside the core hours, they will comply with restrictions agreed with the local planning authority, in particular regarding control of noise and traffic.
- 18.6.5 It is likely that most deliveries will be made to Site during construction working hours. However, the delivery of AILs are likely to be scheduled to arrive outside of construction hours to avoid impact on the local highway network. The timing of when AIL deliveries may have lesser impact on the local highway network would be agreed with the local planning authority on a case-by-case basis.
- 18.6.6 Based on the methodology presented in **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**, the weekday construction worker shift is likely to generate 2,706 vehicular trips (two-way) per day during the peak of construction arriving at the Main Site.
- 18.6.7 With reference to **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**, at the peak period of construction in Q4 2030, there is predicted to be a total of 180 HGVs travelling to the Site per day, equating to 360 two-way HGV movements.

Total construction traffic – workers and HGVs

- 18.6.8 A car occupancy of one has been assumed for local workers and a car occupancy of two has been assumed of transient staff.
- 18.6.9 Table 18.17 summarises the expected profile of construction phase peak traffic levels arriving at the Main Site.

Table 18.17 Daily Construction Vehicle Profile (Peak Month of Construction)

Hour Beginning	Construction Worker Vehicles		Construction HGVs	
	Arrival	Departure	Arrival	Departure
06:00	460	27	0	0
07:00	338	27	16	16
08:00	68	27	0	0
09:00	54	27	16	16
10:00	54	41	16	16
11:00	54	41	17	17
12:00	68	54	17	17
13:00	54	54	17	17
14:00	41	41	17	17
15:00	27	41	16	16
16:00	27	68	0	0
17:00	41	203	16	16
18:00	41	474	16	16
19:00	27	216	16	16
20:00	0	14	0	0
21:00	0	0	0	0
Total	1,353	1,353	180	180

18.6.10 Based on the vehicle assignment and assumptions contained within **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**, Table 18.18 summarises the likely changes in link flows within the Study Area for the anticipated peak of construction in 2030.

Table 18.18 2030 Base and Proposed Peak Construction Development Two-Way AADT Traffic Flows

Link Number	Link Description	2030 Baseline Flow		Construction Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
1	Site access road (East of Seal Sands Roundabout)	4,662	653	3,066	360	66%	55%
2	A178 Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road)	8,459	376	2,089	0	25%	0%
3	A178 Seaton Carew Road (North of Seal Sands Roundabout)	7,176	493	335	0	5%	0%
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station))	5,140	1,024	642	360	12%	35%
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	5,140	1,024	642	360	12%	35%
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	5,140	1,024	642	360	12%	35%
7	Marsh House Avenue	9,522	236	106	0	1%	0%
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	13,800	1,674	536	360	4%	22%

Link Number	Link Description	2030 Baseline Flow		Construction Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
9	Wolviston Road (south of the A689 Roundabout)	8,526	87	2	0	0%	0%
10	A689 Stockton Road	31,692	1,296	7	0	0%	0%
11	A19/Wynyard Park Southbound Off-Slip	4,098	305	0	0	0%	0%
12	A19 Wolviston Interchange Northbound On-Slip	-	-	69	22	-	-
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	34,852	2,797	455	335	1%	12%
14	A689 (West of A689/Wolviston Services Roundabout)	34,852	2,797	450	335	1%	12%
15	A19 Mainline (North of A19 Wolviston Interchange)	56,817	4,117	74	22	0%	1%
16	A689 Coal Lane (West of A19 Wolviston Interchange)	20,448	1,753	186	137	1%	8%
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	8,459	376	2,089	0	25%	0%
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	8,459	376	2,085	0	25%	0%

Link Number	Link Description	2030 Baseline Flow		Construction Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	8,459	376	2,085	0	25%	0%
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	8,459	376	483	0	6%	0%
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	3,400	203	13	0	0%	0%
22	B1275 Belasis Avenue	7,625	174	149	0	2%	0%
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout)	-	-	35	0	-	-
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	7,625	174	113	0	1%	0%
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	7,625	174	16	0	0%	0%
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double	7,625	174	97	0	1%	0%

Link Number	Link Description	2030 Baseline Flow		Construction Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
	Roundabout and A19 Norton Interchange)						
27	A1027 (West of A19 Norton Interchange)	33,198	219	75	0	0%	0%
28	Cowpen Lane	10,807	423	16	0	0%	0%
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	10,807	423	16	0	0%	0%
30	A139	17,174	244	58	0	0%	0%
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	80,550	6,221	196	180	0%	3%
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	15,000	1,123	1923	0	13%	0%
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	15,000	1,123	1,923	0	13%	0%
34	New Road	4,843	261	52	0	1%	0%
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	15,000	1,123	1,871	0	12%	0%

Link Number	Link Description	2030 Baseline Flow		Construction Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	15,000	1,123	1,871	0	12%	0%
37	A1032, Newport Bridge Approach Road	18,735	658	152	0	1%	0%
38	A19 Mainline (South of A19 Portrack Interchange)	114,385	7,268	1,699	0	1%	0%
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	28,282	995	23	0	0%	0%
40	A19 Mainline (North of A19 Portrack Interchange)	101,878	6,016	15	0	0%	0%

Peak construction year assessment

18.6.11 As set out in Table 18.18, the increase in traffic flows, including HGVs, associated with the construction of the Proposed Development will result in some increases in traffic flows, and in accordance with the EATM Guidelines [Ref 1], only those highly sensitive links that show a greater than 10% increase in total traffic flows or, for all other links, a greater than 30% increase in total traffic or the HGV component, are considered when assessing the traffic impacts upon receptors. The following links exceed the aforementioned criteria and have been considered for assessment:

- Link 1 - Site access road (East of Seal Sands Roundabout);
- Link 4 - A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station);
- Link 5 - A1185 (Between Saltholme North Power Station and Cowpen Woodland);
- Link 6 - A1185 (Between Cowpen Woodland and Marsh House Avenue); and
- Link 18 - A1046 Port Clarence Road (Adjacent to High Clarence Primary School).

18.6.12 The assessment of each of the links is provided below. **Appendix 18B: Assessment of Construction Phase Effects (ES Volume III, Application Document Ref. 6.3)** includes a summary of the assessment for all 40 links identified.

Severance

18.6.13 The predicted change in total traffic associated with the construction of the Proposed Development exceeds 30% on Link 1 - Site access road (East of Seal Sands Roundabout) (medium impact) and therefore has been classified as minor **(not significant)**. The effect of severance is regarded as negligible or minor adverse **(not significant)** on all other links.

Pedestrian amenity

18.6.14 The predicted change in total traffic (and HGV component) associated with the construction of the Proposed Development exceeds 50% on Link 1 - Site access road (East of Seal Sands Roundabout) (medium impact) and therefore has been classified as minor adverse **(not significant)**. All other links are expected to experience negligible or low impact and, therefore, the effect of severance is regarded as negligible or minor adverse **(not significant)** on all other links.

Fear and intimidation

- 18.6.15 No step change was observed across all links, and therefore the effect on fear and intimidation is considered negligible (**not significant**).

Highway safety

- 18.6.16 Given that the level of increase of traffic flow resulting from the Proposed Development on all links is negligible, the effect on highway safety is considered **negligible (not significant)**.

Driver delay

- 18.6.17 The assignment of traffic to and from the Site showed that the majority of workforce trips will travel through Portrack Interchange. As a result, this junction was tested in LinSig for changes in capacity with and without the construction traffic. The results of the LinSig modelling show that in all scenarios the junction will operate with spare Practical Reserve Capacity (PRC) in the AM (16.2%) and PM (27.6%) peaks.
- 18.6.18 Acceptable level of operation through Portrack Interchange based on the total delay reported within **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**, noting delays of 57.68 passenger car units per hour (pcuHr) in the AM peak and 44.25 pcuHr in the PM peak. This is an increase of ~10 pcuHr and ~5 pcuHr from the 2030 base scenario for the AM and PM peaks respectively. Therefore, the effect on driver delay is considered negligible (**not significant**).

Operation

- 18.6.19 The Proposed Development is anticipated to employ in the region of 260 permanent members of staff.
- 18.6.20 As set out in Section 18.5, It is anticipated that around 52 of those members of permanent staff will be working traditional office-hours in managerial, engineering support and administrative roles, with their expected working hours to be 08:30 – 16:30 Monday to Friday.
- 18.6.21 The Sustainable Aviation Fuel (SAF) production facility, including the CHP Plant, will be operational 24/7 and staffed by personnel on two 12-hour shift pattern. Each of the two shifts is anticipated to comprise 54 shift workers.
- 18.6.22 As described in paragraph 18.5.6, plant operative staff are likely to work on a two 12-hour shift pattern, with the first shift between 06:30 and 18:30 and the second between 18:30 and 06:30, and personnel travelling to and from work anticipated to arrive at/or depart from the Site up to 0.5 hour before/after their normal working hours.

- 18.6.23 In addition, there will be a maximum of 282 two-way HGV movements to/from the Site in the operational phase, associated with the import of some feedstock and processing materials and (as a worse case assumption for assessment) the export of all products (including SAF and naphtha), together with the removal of process by-products and waste materials. These include operational consumables and waste streams such as CHP ash and Air Pollution Control (APC) residues.
- 18.6.24 This estimate is based on 58 one-way HGV movements associated with export activities and 65 one-way movements associated with import activities. A 15% contingency allowance has been applied to estimate the worst-case scenario for operational HGV movements.
- 18.6.25 Notwithstanding that the Proposed Development includes provision for the transfer of products via pipeline connections to third-party infrastructure for onward export, no reliance has been placed on these alternative modes within the traffic assessment. The assumed HGV movements therefore represent a robust upper bound, accounting for a contingency in vehicle movements and assuming that export activities are undertaken entirely by road. This means a worst case scenario has been assessed and tested on the public highway.
- 18.6.26 Based on the vehicle assignment and assumptions contained within **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)**, Table 18.19 summarises the likely changes in link flows within the Study Area for the assessment year 2031.

Table 18.19 2031 Base and Proposed Operational Development Two-Way AADT Traffic Flows

Link Number	Link Description	2031 Baseline Flow		Operational Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
1	Site access road (East of Seal Sands Roundabout)	4,686	656	602	282	13%	43%
2	A178 Seaton Carew Road (Between Huntsman Drive and A1185/A178, Seaton Carew Road)	8,501	378	205	0	2%	0%
3	A178 Seaton Carew Road (North of Seal Sands Roundabout)	7,212	496	26	0	0%	0%
4	A1185 (Between A1185/A178, Seaton Carew Road (Seal Sands Roundabout and Saltholme North Power Station))	5,166	1,029	371	282	7%	27%
5	A1185 (Between Saltholme North Power Station and Cowpen Woodland)	5,166	1,029	371	282	7%	27%
6	A1185 (Between Cowpen Woodland and Marsh House Avenue)	5,166	1,029	371	282	7%	27%
7	Marsh House Avenue	9,570	238	34	0	0%	0%
8	A1185 (Between Marsh House Avenue and A689, Stockton Road/A1185 Roundabout)	13,869	1,682	338	282	2%	17%

Link Number	Link Description	2031 Baseline Flow		Operational Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
9	Wolviston Road (south of the A689 Roundabout)	8,569	88	1	0	0%	0%
10	A689 Stockton Road	31,851	1,302	2	0	0%	0%
11	A19/Wynyard Park Southbound Off-Slip	4,118	307	-	0	0%	0%
12	A19 Wolviston Interchange Northbound On-Slip	-	-	32	17	-	-
13	A689 (Between A689, Stockton Road/A1185 Roundabout and A689/Wolviston Services Roundabout)	35,026	2,811	300	262	1%	9%
14	A689 (West of A689/Wolviston Services Roundabout)	35,026	2,811	299	262	1%	9%
15	A19 Mainline (North of A19 Wolviston Interchange)	57,102	4,138	33	17	0%	0%
16	A689 Coal Lane (West of A19 Wolviston Interchange)	20,551	1,762	123	107	1%	6%
17	A178 Seaton Carew Road (Between Huntsman Drive and A1046 Port Clarence Road)	8,501	378	205	0	2%	0%
18	A1046 Port Clarence Road (Adjacent to High Clarence Primary School)	8,501	378	204	0	2%	0%

Link Number	Link Description	2031 Baseline Flow		Operational Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
19	A1046 Clarence Street (East of A1046, Haverton Hill Road/B1275, Hope Street Junction)	8,501	378	204	0	2%	0%
20	B1275 Hope Street (Between Haverton Hill Road/Clarence Street Junction and B1275 Robson Street)	8,501	378	153	0	2%	0%
21	Hope Street (North of B1275, Robson Street (Belasis Avenue))	3,417	204	4	0	0%	0%
22	B1275 Belasis Avenue	7,664	175	47	0	1%	0%
23	Greenwood Road (North of B1275, Belasis Avenue/Greenwood Road/Coxwold Way Roundabout)	-	-	11	0	-	-
24	B1275 Belasis Avenue (Between Greenwood Road and Cowpen Lane)	7,664	175	36	0	0%	0%
25	Central Avenue (Between Cowpen Lane and A1027/Wolviston Road/Central Avenue Double Roundabout)	7,664	175	5	0	0%	0%
26	A1027 (Between A1027/Wolviston Road/Central Avenue Double	7,664	175	31	0	0%	0%

Link Number	Link Description	2031 Baseline Flow		Operational Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
	Roundabout and A19 Norton Interchange)						
27	A1027 (West of A19 Norton Interchange)	33,364	220	24	0	0%	0%
28	Cowpen Lane	10,861	425	5	0	0%	0%
29	B1275 (Between Cowpen Lane and A139/A19 Southbound On-slip)	10,861	425	5	0	0%	0%
30	A139	17,260	245	18	0	0%	0%
31	A19 Mainline (Between A19 Wolviston Interchange and A19 Norton Interchange)	80,953	6,252	146	141	0%	2%
32	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/Hope Street Junction and A1046/SUEZ EfW Roundabout)	15,075	1,128	153	0	1%	0%
33	A1046, Haverton Hill Road (Between A1046, Haverton Hill Road/SUEZ EfW Roundabout and New Road)	15,075	1,128	153	0	1%	0%
34	New Road	4,867	262	16	0	0%	0%
35	A1046, Haverton Hill Road (Between New Road and Able UK Head Office Access)	15,075	1,128	136	0	1%	0%

Link Number	Link Description	2031 Baseline Flow		Operational Traffic		Percentage Increase (%)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
36	A1046, Haverton Hill Road (East of A19 Portrack Interchange)	15,075	1,128	136	0	1%	0%
37	A1032, Newport Bridge Approach Road	18,829	662	48	0	0%	0%
38	A19 Mainline (South of A19 Portrack Interchange)	114,958	7,304	82	0	0%	0%
39	A1046, Haverton Hill Road (West of A19 Portrack Interchange)	28,423	1,000	7	0	0%	0%
40	A19 Mainline (North of A19 Portrack Interchange)	102,389	6,047	5	0	0%	0%

- 18.6.27 Based on the criteria outlined in paragraph 18.6.11, across all the highway links within the Study Area, none of the highly sensitive links show a greater than 10% increase in total traffic flows. For all other links, a greater than 30% increase in total traffic or the HGV component, is observed on Link 1 – Site access road only and is of low sensitivity. Therefore, the traffic generated by the operational phase is not likely to result in significant effects. Based on the estimated trip generation set out above, traffic flows are expected to be low and less than those anticipated in the construction phase. This is evidenced in **Appendix 18C: Assessment of Operation Phase Effects (ES Volume III, Application Document Ref. 6.3)**.

Decommissioning

- 18.6.28 Detailed information on decommissioning is not yet available due to the assumed 25-year design life of the Proposed Development, which may be extended depending on market conditions and plant performance. As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)**, the most likely scenario is that the Proposed Development will be decommissioned at the end of its operational life, with plant, buildings and associated infrastructure removed; however, certain elements of infrastructure, such as the quay, have been designed to remain in situ for potential future use.
- 18.6.29 Decommissioning activities are expected to generate some traffic associated with the removal and recycling of plant, equipment and construction materials, together with the potential import of materials required for site restoration and reinstatement. These activities are anticipated to be undertaken over a defined programme, with decommissioning of the Main Site expected to occur over approximately one year, followed by demolition works over a longer period.
- 18.6.30 The baseline traffic data used in this assessment will not be representative at the time of decommissioning. Nevertheless, it is not expected that background traffic levels on the local road network will reduce significantly. As such, any increase in traffic during decommissioning is predicted to be negligible (**not significant**), with overall effects no greater than those identified during construction.
- 18.6.31 Traffic associated with decommissioning will be managed through the DEMP secured via the **draft DCO (Application Document Ref. 3.1)**. The DEMP(s) will include measures, as appropriate, to control HGV routing, delivery timing and site access arrangements in order to minimise impacts on the surrounding highway network. On this basis, no further assessment has been undertaken.

18.7 Mitigation and enhancement measures

- 18.7.1 No additional mitigation or enhancement measures are considered necessary. However, the Contractors will continue to review options for the use of water transport when sourcing construction materials. The Contractors will also review the use of minibuses for construction staff accessing the Site.

18.8 Residual effects and conclusions

Construction

- 18.8.1 The additional traffic predicted to be generated by the construction of the Proposed Development based upon a robust analysis of 2,200 construction workers at the peak of construction activity and of predicted HGV movements, will result in a temporary increase of traffic flows on the roads leading to the Main Site.
- 18.8.2 The residual effects of the construction traffic on all road sections and junctions are anticipated to be negligible to minor adverse (**not significant**). Notwithstanding this, several traffic management measures will be implemented during the Proposed Development's construction phase to minimise traffic impacts upon the local road network, as described in Section 18.5.

Operation

- 18.8.3 The generation of traffic during the operation of the Proposed Development is considered to be negligible and therefore **not significant**, as presented in **Appendix 18C: Assessment of Operation Phase Effects (ES Volume III, Application Document Ref. 6.3)**.

Decommissioning

- 18.8.4 The decommissioning of the Proposed Development is not expected to generate traffic levels any higher than during the construction phases. The effect is therefore predicted to be negligible (**not significant**). This will be assessed prior to the commencement of the decommissioning phase and a DEMP will be prepared to manage and identify traffic impacts.

18.9 Summary of significant effects

- 18.9.1 No significant effects are identified for any of the links assessed in this chapter at the peak of construction, operation or decommissioning phases.

References

- Ref 1 David, S, Hoare. D, Howard. R, Ross. A. (2023). Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement. Available online: <https://www.iema.net/media/5mrmquib/iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf> [Accessed May 2026].
- Ref 2 Parliament of the United Kingdom. (1980). Highways Act. Available online: <https://www.legislation.gov.uk/ukpga/1980/66> [Accessed May 2026].
- Ref 3 Parliament of the United Kingdom. (1991). New Roads and Street Works Act. Available online: <https://www.legislation.gov.uk/ukpga/1991/22/contents> [Accessed May 2026].
- Ref 4 Parliament of the United Kingdom. (2004). Traffic Management Act. Available online: <https://www.legislation.gov.uk/ukpga/2004/18/contents> [Accessed May 2026].
- Ref 5 Parliament of the United Kingdom. (2008). Planning Act. Available online: <https://www.legislation.gov.uk/ukpga/2008/29/contents> [Accessed May 2026].
- Ref 6 Parliament of the United Kingdom. (2008). Local Transport Act. Available online: <https://www.legislation.gov.uk/ukpga/2008/26/contents> [Accessed May 2026].
- Ref 7 Parliament of the United Kingdom. (2017). Infrastructure Planning (Environmental Impact Assessment) Regulations. Available online: <https://www.legislation.gov.uk/uksi/2017/572/contents> [Accessed May 2026].
- Ref 8 Department for Energy Security and Net Zero. (2025). Overarching National Policy Statement for Energy (EN-1). Available online: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed May 2026].
- Ref 9 Department for Energy Security and Net Zero. (2023). National Policy Statement for renewable energy infrastructure (EN-3). Available online: <https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf> [Accessed May 2026].
- Ref 10 Department for Levelling Up, Housing & Communities. (2025). National Planning Policy Framework (NPPF) 2024. Available online:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed May 2026].

- Ref 11 Department for Levelling Up, Housing & Communities. (2025). Draft National Planning Policy Framework (NPPF) 2025. Available online: https://assets.publishing.service.gov.uk/media/697b71c52ff8d10a830d5d4a/Draft_NPPF_December_2025.pdf [Accessed May 2026].
- Ref 12 Department for Transport and National Highways. (2013). Strategic Road network and the delivery of sustainable development (DfT Circular 01/2022). Available online: <https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development> [Accessed May 2026].
- Ref 13 Highways England. (2019). Water Preferred Policy. Available online: https://assets.publishing.service.gov.uk/media/5ccc3c81ed915d50b5a206a7/WPP_guidelines_2019_DfT_consultation_revision.pdf [Accessed May 2026].
- Ref 14 Tees Valley Combined Authority. (2020). Strategic Transport Plan 2020-2030. Available online: <https://teesvalley-ca.gov.uk/about/wp-content/uploads/sites/2/2023/07/STP-Main-Report-Design-Jan20-4.pdf> [Accessed May 2026].
- Ref 15 Stockton-on-Tees Borough Council. (2019). Local Plan. Available online: https://www.stockton.gov.uk/media/2518/Local-Plan-2019/pdf/Local_Plan_2019.pdf?m=1645450086087 [Accessed May 2026].
- Ref 16 Redcar and Cleveland Borough Council. (2018). Local Plan. Available online: <https://www.redcar-cleveland.gov.uk/planning/local-plan/redcar-and-cleveland-local-plan> [Accessed May 2026].
- Ref 17 Highways England. (2019). LA101 - Introduction to environmental assessment. Available online: <https://www.standardsforhighways.co.uk/search/54b0eb69-fd65-4fa5-a86b-7313f70b3649> [Accessed May 2026].
- Ref 18 Highways England. (2020). LA103 - Scoping projects for environmental assessment. Available online: <https://www.standardsforhighways.co.uk/search/fb43a062-65ad-48d3-8c06-374cfd3b8c23> [Accessed May 2026].
- Ref 19 Highways England. (2020). LA104 - Environmental assessment and monitoring. Available online: <https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a> [Accessed May 2026].

- Ref 20 Highways England. (2020). LA112 - Population and human health. Available online: <https://www.standardsforhighways.co.uk/search/1e13d6ac-755e-4d60-9735-f976bf64580a> [Accessed May 2026].
- Ref 21 IEMA. (1993). Guidelines for the Environmental Assessment of Road Traffic. Available online: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/dc/df/dcdfa287-b475-4fbb-bd4e-a1e96b06be5d/cd71-guideline-for-the-environmental-assessment-of-road-traffic-institute-of-environmental.pdf [Accessed May 2026].
- Ref 22 IEMA. (2020). Major Accidents and Disasters in EIA: A Primer. Available online: <https://www.isepglobal.org/resources/blogs/2020/09/23/isep-isep-major-accidents-and-disasters-in-eia-guide/> [Accessed May 2026].
- Ref 23 HM Government. (2009). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009. Available online: <https://www.legislation.gov.uk/ukxi/2009/1348/contents> [Accessed May 2026].
- Ref 24 HM Government. (2014). Guidance: Travel Plans, Transport Assessments and Statements. Available online: <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements> [Accessed May 2026].



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