Environmental Impact Assessment Report
Volume 1, Chapter 26: Traffic and Transport

MarramWind Offshore Wind Farm

December 2025

MarramWind

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26. Traffic and Transport

26.1 Introduction

26.1.1.1 This traffic and transport Chapter of the Environmental Impact Assessment (EIA) Report presents the results of the assessment of the likely significant effects on traffic that may arise from the construction, operation and maintenance and decommissioning of the MarramWind Offshore Wind Farm (hereafter referred to as the 'Project'). It should be read in conjunction with the project description provided in **Chapter 4: Project Description** and the relevant parts of the following Chapters in:

- **Chapter 21: Air Quality**: considers the effects of the Project's traffic generation on air quality;
- **Chapter 25: Onshore Noise and Vibration**: considers the effects of the Project's construction traffic generation on noise and vibration;
- **Chapter 29: Greenhouse Gases**: considers the effects of the Project's construction traffic generation on greenhouse gas emissions; and
- **Chapter 30: Socio-Economics:** considers the effects of the Project's construction on a community's economic and social aspects, such as employment, income, health, and quality of life.

26.1.1.2 This Chapter describes:

- the legislation, planning policy, guidance and other documentation that has informed the assessment (**Section 26.2: Relevant legislative and policy context**);
- the outcome of consultation and engagement that has been undertaken to date, including how matters relating to traffic and transport have been addressed (**Section 26.3: Consultation and engagement**);
- the scope of the assessment for traffic and transport (**Section 26.4: Scope of the assessment**);
- the data sources and methods used for gathering baseline data including surveys where appropriate (**Section 26.5: Methodology for baseline data gathering**);
- the overall environmental baseline (**Section 26.6: Baseline conditions)**;
- the basis for the EIA Report (**Section 26.7: Basis for the EIA Report**);
- methodology for the EIA Report (**Section 26.8: Methodology for the EIA Report**);
- the assessment of traffic and transport effects (**Section 26.9: Assessment of effects: Construction**);
- the summary of residual effects (**Section 26.10 Summary of residual effects);**
- consideration of transboundary effects (**Section 26.11: Transboundary effects**);
- consideration of inter-related effects and cumulative effects (**Section 26.12: Inter-related effects assessment)** and **Section 26.13: cumulative effects assessment**);
- a summary of residual effects for traffic and transport (**Section 26.14: Summary of residual likely significant effects**);
- a reference list is provided (**Section 26.15: References)**; and

- a glossary of terms and abbreviations is provided (**Section 26.16: Glossary of Terms and Abbreviations)**.

26.1.1.3 This Chapter is also supported by and should be read in conjunction with the following Appendices in **Volume 3**:

- **Appendix 26.1: Transport Assessment**; and
- **Appendix 26.2: Abnormal Load Route Assessment**.

26.2 Relevant legislative and policy context and technical guidance

26.2.1 Legislative and policy context

26.2.1.1 This Section identifies the relevant legislation and policy context that has informed the scope of the traffic and transport assessment. Further information on policies relevant to the EIA and their status is set out in **Chapter 2: Legislative and Policy Context**, which provides an overview of the relevant legislative and policy context for the Project. **Chapter 2: Legislative and Policy Context** is supported by **Volume 3, Appendix 2.1: Planning Policy Framework**, which provides a detailed summary of international, national, marine and local planning policies of relevance to the EIA.

26.2.1.2 Individual policies of specific relevance to this assessment and associated appendices have been taken into account.

26.2.1.3 This summary provides a foundation for understanding the specific requirements that this Chapter must address in terms of assessing and mitigating impacts on receptors and relevant environmental issues.

26.2.1.4 The legislation relevant to traffic and transport includes:

- Land Reform (Scotland) Act 2003 (Scottish Government, 2003).

26.2.1.5 The policies relevant to traffic and transport includes:

- National Planning Framework 4 (Scottish Government, 2023);
- Aberdeenshire Local Development Plan (Aberdeenshire Council, 2023b); and
- Nestrans Regional Transport Strategy (Nestrans, 2021).

26.2.1.6 The guidance relevant to traffic and transport includes:

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (IEMA, 2023);
- Transport Assessment Guidance (Transport Scotland, 2012);
- Planning Advice Note (PAN) 75 – Planning for Transport (Scottish Government, 2005); and
- Scottish Outdoor Access Code (SOAC) (Scottish Government, 2003).

26.2.2 Relevant technical guidance

26.2.2.1 Other information and technical guidance relevant to the assessment undertaken for traffic and transport include:

- Design Manual for Roads and Bridges (National Highways, 2021).
- Scottish Government et. al. (various dates). Design Manual for Roads and Bridges, Volume 15, Section 1, Part 1 The Nesa Manual (Scottish Government, 2015); and
- National Highways et. al. (2002). Design Manual for Roads and Bridges, Volume 15, Section 1, The COBA Manual Part 5 Speed on Links (National Highways, 2002).

26.3 Consultation and engagement

26.3.1 Overview

26.3.1.1 This Section describes the consultation and stakeholder engagement undertaken on the Project in relation to traffic and transport. This includes early engagement, the outcome of and response to the Scoping Opinions; Onshore Scoping Opinion (Aberdeenshire Council, 2023a), Offshore Scoping Opinion (Scottish Government, 2023b) and Aberdeenshire Council Pre-application Advice (Aberdeenshire, 2024) in relation to the traffic and transport assessment, non-statutory consultation, and the findings of the Project's Statutory Consultation. An overview of engagement undertaken for the Project as a whole can be found in Section 5.5 of **Chapter 5: Approach to the EIA**.

26.3.1.2 Further to the above consultation and stakeholder engagement, a letter was sent to Transport Scotland on 30 June 2025 in regard to the Project, outlining the proposed scope of the Project and requesting information on any known constraints on the trunk road network proposed to be used by the Project's construction traffic. At the time of this assessment, no response has been received from Transport Scotland on this matter.

26.3.2 Key issues

26.3.2.1 A summary of the key issues raised during statutory and non-statutory consultation, specific to traffic and transport, is outlined below in **Table 26.1**, together with how these issues have been considered in the production of this EIA Report.

26.3.2.2 Although it is recognised that responses are currently awaited from Transport Scotland, any comments, once received will be included within **Table 26.1** at a later stage.

Table 26.1 Stakeholder issues responses – traffic and transport

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Aberdeenshire Council	20	28 September 2022, meeting.	*"Aberdeenshire Council key comment raised was regarding the accesses for construction compounds and need for appropriate visibility splays."*	Visibility splays have been produced for access points and included within **Volume 3, Appendix 26.1**.
Aberdeenshire Council	95	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"The Councils Roads Development service has reviewed the scoping report. The main point of interest for Roads Development is the local access to construction compounds and the need for appropriate visibility splays. As there are no set locations for the construction compounds at this stage, specific comments have not been provided."*	Visibility splays have been produced for access points and included within **Volume 3, Appendix 26.1**.
Aberdeenshire Council	96	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"Information regarding the extent of the development, Traffic Management Plan (TMP) should be included within an EIAR."*	An Outline Construction Traffic Management Plan CTMP has been prepared in support of the EIA Report and included within **Volume 4: Outline Construction Traffic Management Plan.**
Aberdeenshire Council	97	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"Engagement with officers direct is encouraged to discuss specific details of the project."*	Nothing to address.
Aberdeenshire Council	98	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"Transport Scotland have not provided any comment. You are advised to engage directly with TS should you require to cross the A90 as part of the proposed development."*	Letter to Transport Scotland has been submitted and any response will be incorporated at a later time if required.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Aberdeenshire Council	99	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"The Council's Environment Team (Natural Heritage) notes a number of core paths within the scoping area that should be considered within the EIAR."*	Impact on core paths and rights of way (RoW) have been assessed within **Volume 4: Appendix B, Outline Core Path Management Plan**.
Aberdeenshire Council	100	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"It is noted there are potential transboundary impacts and will be further considered once the port required for construction activities is identified."*	It has been identified that there is no need for an assessment of transboundary impacts as the ports shortlisted within **Chapter 4: Project Description** are all located in Scotland.
Aberdeenshire Council	101	22 March 2023, Scoping Opinion (Aberdeenshire Council, 2023a).	*"Generally, the approach to the EIAR proposed is acceptable, with no objections raised by consultees."*	Nothing to address.
Aberdeenshire Council	186	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"In the scoping report (January 2023), Section 6.8 covers Traffic and Transport, and includes the following:* *Paragraph 6.8.9* *"An initial online meeting was held on the 28th September 2022 to provide Aberdeenshire Council with an overview of the project and to request seek feedback from the Traffic and Transport Officer present on the call. The only key comment raised by Aberdeenshire Council at this meeting was regarding the accesses for construction compounds and need for appropriate visibility splays. This information will be made available as part of separate discussions with the Council as the Project design progress.* *In general, this is Roads Development's main point of interest in regard to this project. However, with no locations identified*	Visibility splays have been produced for access points and included within **Volume 3, Appendix 26.1**.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
			yet for construction compounds etc along the route, we cannot provide comments for specific locations as yet."	
Aberdeenshire Council	187	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"The level of traffic and transportation generation of this proposal will be mainly confined to the construction stage, and therefore from the traffic and transport position we do not require further assessment within an EA and localised impacts of the scheme can be addressed through the normal planning application process. At that stage, Roads Development would require more information including the extents of any development and the traffic management plan identifying the types of vehicle proposed, any extra ordinary vehicles (length, height and weight) and the proposed routing of the delivery vehicles. We would also be able to identify any possible mitigation measures on the road network."*	**Volume 4: Outline Construction Traffic Management Plan** outlines vehicle types and volumes expected for the construction stage. An Abnormal Load Route Assessment has been prepared and is included within **Volume 3, Appendix 26.2.**
Aberdeenshire Council	195	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"Policies: ALDP 2023 - P2 Open space and access in new development (access)."*	Included in **Chapter 2: Legislative and Policy Context**.
Aberdeenshire Council	196	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"There are a number of core paths and rights of way within the search area, including the coastal path however this has been acknowledged within the traffic and transport chapter of the scoping report and will be considered within the EIA."*	Impact on core paths and RoW have been assessed within **Volume 4: Appendix B**.
Aberdeenshire Council	240	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"In previous discussions between the applicant and Aberdeenshire Council, Roads Development's main interest was regarding the accesses for construction compounds and need for appropriate visibility splays."*	Visibility splays have been produced for access points and included within **Volume 3, Appendix 26.1**.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Aberdeenshire Council	241	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"We understand that at this stage no locations have been identified for construction compounds etc along the route, but we would be interested to learn of the timescales for these proposals being brought forward for detailed review."*	Project details on construction compound locations are included within **Chapter 4: Project Description**.
Aberdeenshire Council	242	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"The level of traffic and transportation generation of this proposal will be mainly confined to the construction stage, and therefore from the traffic and transport position we do not require further assessment within an EA and localised impacts of the scheme can be addressed through the normal planning application process. At that stage, Roads Development would require more information including the extents of any development and the traffic management plan identifying the types of vehicle proposed, any extra ordinary vehicles (length, height and weight) and the proposed routing of the delivery vehicles. We would also be able to identify any possible mitigation measures on the road network."*	**Volume 4: Outline Construction Traffic Management Plan** outlines vehicle types and volumes expected for the construction stage. An Abnormal Load Route Assessment has been prepared and is included within **Volume 3, Appendix 26.2.**
Aberdeenshire Council	243	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"As mentioned earlier, one of our key considerations is visibility splays at access junctions as road safety for all users is a key consideration for the Council. The proposed access routes to/from worksites will also be of interest as depending upon the routes chosen we may require measures such as localised road widening, widening on curves and/or passing places to be provided along the routes. It may also be necessary for junction upgrades to be provided at access points (e.g. right turn lanes etc.)."*	Visibility Splays have been produced for access points and included within **Volume 3**, **Appendix 26.1**. **Volume 3, Appendix 26.1** considers potential public road improvements to accommodate increases in traffic as a result of construction.
Aberdeenshire Council	244	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"If significant worksites are located on or close to existing bus routes, we would look to see how safe and convenient access to bus services can be provided. This could include new/relocated bus stops, and safe pedestrian facilities between the worksite and bus stops. In this regard, the Council's Public Transport Unit should also be consulted."*	**Volume 4: Outline CTMP** has been produced and appended to the Outline CTMP is an Outline Travel Plan.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Aberdeenshire Council	245	22 March 2023, Scoping Opinion Representation (Aberdeenshire Council, 2023a).	*"The above is not an exhaustive list of possible measures for consideration, but I hope this is helpful and gives an insight to the matters that Roads Development would consider. We would be pleased to discuss further as and when required."*	Nothing to address.
Marine Directorate – Licensing Operations Team (MD-LOT)	373	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	*"Within Table 6.8.9 of the Scoping Report the Developer details the likely significant traffic and transport effects during the different phases of the Proposed Development and which effect is proposed to be scoped in and scoped out for assessment within the EIA Report. The Scottish Ministers agree with the impacts detailed and scoped in; however, advise that the Transport Scotland advice must be fully addressed by the Developer. In particular, the Scottish Ministers highlight the comments from Transport Scotland regarding abnormal loads and advise that a full abnormal loads assessment report should be provided with the EIA Report which identifies key pinch points on the trunk road network."*	An Abnormal Load Route Assessment has been prepared and is included within **Volume 3, Appendix 26.2.**
MD-LOT	374	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	*"The Scottish Ministers consider it acceptable to scope out operation and maintenance activities as well as decommissioning activities for the offshore phases of the assessment. The Scottish Ministers advise, in line with the Transport Scotland advice, that the Developer must provide a threshold assessment within the EIA Report to demonstrate that there is no impact to the A90(T)."*	Threshold assessment included within this Chapter and capacity assessment included within **Volume 3, Appendix 26.1**.
MD-LOT	375	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	*"Marine traffic is considered in section 5.11 Shipping and Navigation and section 5.14 Infrastructure and Other Marine Users."*	Nothing to address.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Transport Scotland	568	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"The proposed assessment of Traffic and Transport associated with the onshore elements of the Project are presented in Chapter 6.8 of the SR. This states that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic are to be used as a screening process for the assessment."*	The traffic and transport EIA assessment was undertaken in alignment with IEMA Guidelines (IEMA, 2023).
Transport Scotland	569	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"The SR also indicates that potential environmental impacts such as severance, driver delay, pedestrian amenity, pedestrian delay, fear and intimidation and accidents and safety etc will be considered and assessed where the IEMA Guideline thresholds for further detailed assessment are breached. These specify that road links should be taken forward for detailed assessment if:* • *traffic flows will increase by more than 30%, or* • *the number of HGVs will increase by more than 30%, or* • *traffic flows will increase by 10% or more in sensitive areas."*	Traffic and transport EIA assessment undertaken in alignment with IEMA Guidelines (IEMA, 2023).
Transport Scotland	570	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"The SR indicates that the Study Area will comprise all roads as identified within Figure 1.1: Scoping Boundary presented in Appendix 1A. We note that this demonstrates a study area from Cruden Bay in the south to Rosehearty in the north. In addition to all local roads within this area, the A90(T) is included."*	Study network refined to reflect latest onshore Project layout included within **Chapter 4: Project Description**.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Transport Scotland	571	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"We note that base traffic data for the assessment will be extracted from sources such as:* • *Traffic count data available from the Department for Transport (DfT)* • *Data held by Local Roads Authorities* • *Commissioned traffic counts - to supplement the available traffic data from DfT and the Road Authorities."*	Baseline traffic data has been obtained and utilised in accordance with Scoping Report.
Transport Scotland	572	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"Table 6.8.7 of the SR presents Annual Average Daily Traffic Flows for the study area. This includes the following trunk road locations:* • *A90(T) – Longhaven* • *A90(T) – between Blackhills Road and A982* • *A90(T) – between A950 and A982 (North Road)* • *A90(T) – St Fergus* • *A90(T) – North of Rathen".*	Baseline traffic data has been obtained and utilised in accordance with Scoping Report.
Transport Scotland	573	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"The SR indicates that the future baseline will take into account traffic growth as a result of new development, which will be based on growth factors from the DfT National Trip End Model (NTEM) derived from the Trip End Model Presentation Programme (TEMPro).* *Transport Scotland would state that it is considered acceptable to factor base traffic data to the construction year flows using National Road Traffic Forecasts (NRTF) Low Growth."*	TEMPRO growth has been applied to establish future baseline traffic.
Transport Scotland	574	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation	*"We note that operation and maintenance activities as well as decommissioning activities of both onshore and offshore phases are to be scoped out of the assessment. This is considered acceptable in this instance. We also note that the*	Threshold assessment included within this Chapter and capacity assessment included within **Volume 3, Appendix 26.1**.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
		Responses & Advice (Scottish Government, 2023b).	*onshore impacts of the offshore cable route, turbines and other required infrastructure (materials and staff) associated with the Offshore Construction Phase "could be scoped out subject to further project development". Transport Scotland would seek justification for this, in the form of a threshold assessment to demonstrate that there is no impact to the A90(T)."*	
Transport Scotland	575	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"The SR states that a Construction Traffic Management Plan (CTMP) will be developed in support of the application. This is welcomed."*	An Outline CTMP has been prepared in support of the EIA Report and included within **Volume 4: Outline Construction Traffic Management Plan**.
Transport Scotland	576	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"Abnormal Loads Assessment* *The SR indicates that additional technical documents will be identified through the Environmental Impact Assessment (EIA) process, including an Abnormal Indivisible Load (AIL) Study. It should be noted that Transport Scotland will require to be satisfied that the size of loads proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path."*	An Abnormal Load Route Assessment has been prepared and is included within **Volume 3, Appendix 26.2.**
Transport Scotland	577	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"Abnormal Loads Assessment* *A full Abnormal Loads Assessment report should be provided with the EIA Report at application stage that identifies key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route."*	An Abnormal Load Route Assessment has been prepared and is included within **Volume 3, Appendix 26.2.**

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Aberdeenshire Council	633	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses & Advice (Scottish Government, 2023b).	*"Aside from ecology and archaeology, it should be noted there are a number of core paths and rights of way within the search area, including the coastal path, with beaches also used for walking and horse riding. Recreational access has been acknowledged within the traffic and transport chapter of the scoping report and will be considered within the EIA."*	Impact on core paths and RoW have been assessed within **Volume 4: Appendix B**.
Aberdeenshire Council	689	27 June 2023, meeting.	*"The Project's proposed assessment methodology will include obtaining traffic data from the Department for Transport (DfT) and Aberdeenshire Council, where available, to agree daily traffic flow. Will undertake automated traffic count surveys for roads where no data available. Aberdeenshire Council said proposed traffic and transport assessment methodology looks reasonable and what Aberdeenshire Council would expect to happen. Reference should be made to the Design Manual for Roads and Bridges or Aberdeenshire guidelines, where appropriate."*	Baseline traffic data has been obtained and utilised in accordance with Scoping Report.
Aberdeenshire Council	888	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Abnormal loads* *To be assessed as part of a formal submission, if necessary."*	An Abnormal Load Route Assessment have been prepared and included within **Volume 3, Appendix 26.2.**
Aberdeenshire Council	889	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Impact on the Local Road Network* ***Roads Development*** *The landfall sites under consideration are located to the north of Peterhead, and the potential cable corridors continue round to the north west of Peterhead and link into potential substation locations to the west of Peterhead - these are envisaged to be located to the south of the A950 south of the*	Indicative access drawings and public road improvements assessed and included within **Volume 3, Appendix 26.1.**

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
			former Longside Airfield. The substations would be located to the east of the proposed Netherton Hub. *At this stage, the locations of the above elements have still to be confirmed. Roads Development has no objections to the overall scheme proposal, and will be pleased to liaise further with the Planning Service and the Applicant and their Agents, as and when the various elements are refined further towards a final design / locations for the project.* *Roads Development's main interest would be in where the project interacts with the Council's roads network. This would include elements such as site compounds and in these cases we would wish to review more detailed plans showing specific locations, and proposed access designs. We would also be interested to discuss any roadway improvements which might be required to facilitate safe access for construction traffic and also to protect the road network for safe use by all road users."*	
Aberdeenshire Council	890	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Impact on the Truck Road Network and Transport Scotland* *Roads Development* *Any proposed works which intersect with the A90 Trunk Road should involve consultation with Transport Scotland."*	Letter to Transport Scotland has been submitted and any response will be incorporated at a later time if required.
Aberdeenshire Council	891	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Core paths and Rights of Way* *Natural Environment Team* *Due to congestion arising from similar projects also looking to land cables within this area it is possible that two landing sites will be used. While there is a coastal path along the beach, Scotstown Head is a particularly popular access point to the beach for a range of users.*	Impact on core paths and RoW have been assessed within **Volume 4: Appendix B.**

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
			The use of a trenchless method of installation will minimise any impacts on access however where informal paths are affected by the development this may require diversions to be provided. This will also apply to any paths between the landing points and the substation. Where core paths or rights of way are affected, this will require further discussion with the Countryside and Outdoor Access Team. It is assumed that an access management plan is to be developed as part of the application submission or CEMP."	
Aberdeenshire Council	892	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Construction Impacts* *A Construction Environmental Management Plan (CEMP) will be required to demonstrate how such matters will be addressed, including the site-specific controls and how these will be implemented in practice."*	An Outline CTMP has been prepared in support of the EIA Report and included within **Volume 4: Outline Construction Traffic Management Plan.** This is further complemented by the Outline CEMP included within **Volume 4: Outline Construction Environmental Plan.**
Aberdeenshire Council	893	19 December 2024, Aberdeenshire Council Pre Application Report (Aberdeenshire Council, 2024).	*"Parking* *Parking will be required within the site as appropriate during the construction period, following delivery parking provision will be required in perpetuity for operation and maintenance. This information should be detailed as part of any formal Planning application(s)."*	An Outline CTMP has been prepared in support of the EIA Report and included within **Volume 4: Outline Construction Traffic Management Plan.**
Aberdeenshire Council	906	27 June 2023, meeting.	*"Aberdeenshire Council said traffic surveys should not take place in school holidays. The Project agreed and will always aim for months outside of school holidays."*	Traffic data collected outwith school holidays as requested by stakeholder.

26.4 Scope of the assessment

26.4.1 Overview

26.4.1.1 This Section sets out the scope of the EIA for traffic and transport. This scope has been developed as the Project's design has evolved and responds to stakeholder feedback received at the time of writing, as set out in **Section 26.3**.

26.4.2 Spatial scope and study network

26.4.2.1 This section identifies the receptors considered in the traffic and transport assessment, reflecting both the IEMA guidance (IEMA, 2023) and specific stakeholder concerns raised during consultation (see **Section 26.3**). Receptors have been selected based on their potential sensitivity to changes in traffic conditions resulting from the construction and operation of the Project. The following subsections distinguish between broad user groups and special interest locations, ensuring that the assessment captures both direct and indirect effects on people and places most likely to be affected by project-related traffic.

26.4.2.2 With offshore impacts being scoped out of the traffic and transport assessment, as shown in **Section 26.3**, the spatial scope of the traffic and transport assessment is defined by the Onshore Red Line Boundary which has formed the basis of the study network described in this Section.

26.4.2.3 The linear nature and length of the onshore export cable corridor will result in construction traffic using a number of roads to support construction activities, and so the traffic will be more dispersed when compared to where activities are undertaken on a single more compact site. This is reflected in the study network which focusses on different roads stemming from the A90(T) – the road which all construction traffic will use to access the landfall(s), onshore substations and onshore export cable construction working areas.

26.4.2.4 The indicative study network includes the following roads:

- A90(T);
- A950;
- B9178;
- C5B;
- C38B;
- C43B;
- C56B;
- U32B;
- U45B;
- U50B;
- U59B; and
- U63B.

26.4.2.5 It is assumed, for the purpose of this assessment, that local material suppliers will be used with most deliveries being transported along the strategic road network (SRN) where possible. This is further explained in **Section 26.9**. Additionally, it is also anticipated that a

proportion of onshore components for the onshore substations and onshore export cable corridor, will be delivered to site from a shortlist of ports which is currently not definitive. The closest suitable port is Peterhead and for the purpose of this assessment, this port has been assumed for delivery of these onshore components. However, final port selection will be dependent upon, and only take place following:

- the grant of development consent for the Project;
- confirmation of route to market including final investment decision; and
- on the findings of further technical and commercial studies.

26.4.2.6 The location of roads in relation to the onshore export cable corridor is shown in **Volume 2, Figure 26.1: Traffic and transport study area.**

26.4.3 Temporal scope

26.4.3.1 The temporal scope of the assessment of traffic and transport is the most intense year of construction of onshore infrastructure, currently anticipated to be in the second year of construction, 2031, based on the indicative construction programme as shown in **Chapter 4: Project Description**.

26.4.3.2 It is anticipated that the construction of the Project will commence in 2030, with the first phase becoming fully operational by 2037. It is anticipated that the second phase of the Project would become fully operational by 2040 and the third phase by 2043. The operational lifetime of the Project for each phase is expected to be 35 years.

26.4.4 Identified receptors

26.4.4.1 The following receptors, including groups and special interests, have been assessed for the identified study network, in line with the IEMA Guidelines (IEMA, 2023), to determine the sensitivity of receptors:

- non-motorised users (NMUs);
- core path and right of way (RoW) users;
- motorists and freight vehicles;
- public transport; and
- emergency services.

26.4.4.2 The receptors above can broadly be grouped as the following affected parties; ‘Users of Roads’, and ‘Users / Residents of Locations’. The following list identifies special interests that should be considered when defining sensitive receptor geographic locations, and the sensitive locations will inform the assessment of effect significance when the Project’s traffic is assigned to the network:

- people at home;
- people at work;
- sensitive people including those who are of young age, older age, income deprived, poor health status, socially disadvantaged, and impacted by access and geographic factors;
- locations with concentrations of vulnerable users (for example, hospitals, places of worship, schools);

- recreational and shopping areas;
- recreation areas including ecological / nature conservation sites;
- tourist / visitor attractions;
- collision clusters and routes with road safety concerns; and
- junctions and road links at (or over) capacity.

26.4.4.3 The spatial and temporal scope of the assessment enables the identification of receptors that may experience a change as a result of the Project. The receptors identified that may experience likely significantly effects for traffic and transport are outlined in **Table 26.2**.

26.4.5 Potential effects

26.4.5.1 This Section summarises the potential effects on traffic and transport receptors that have been scoped in for detailed assessment. Effects have been identified based on the nature of project activities (e.g., landfall(s) works, onshore export cable installation, onshore substations construction) and their potential to impact sensitive receptors, as informed by baseline studies and stakeholder feedback. **Table 26.2** provides an overview of the key activities and the associated potential effects for each receptor group during the construction stage.

Table 26.2 Potential effects for traffic and transport

Receptor	Activity or impact	Potential effect
Construction stage		
Occupants of buildings alongside the study network, transport users using the roads	Landfall(s) – offshore cable installation export cable installation via horizontal directional drilling (HDD) (or similar trenchless technique) methods, transition joint bays and associated earthworks resulting in potential impacts on roads, core paths and users of these routes. In relation to trenchless crossings, HDD (or similar trenchless technique) has been presented in the EIA. Whilst other trenchless methods are available, HDD (or similar trenchless technique) is presented herein as it is likely to have the largest construction impact.	Impact of construction traffic at sensitive highway receptors. This is further assessed within **Volume 3**, **Appendix 26.1** and **Volume 3, Appendix 26.2.** Impact of construction traffic and proposed route on core paths. This is further assessed within **Volume 4: Outline Construction Traffic Management Plan** and associated **Appendix B.**
	Onshore export cable corridor – onshore export cable corridor construction (including roads and core	Impact of construction traffic at sensitive highway receptors. This is further assessed within **Volume 3, Appendix 26.1** and **Volume 3, Appendix 26.2.**

Receptor	Activity or impact	Potential effect
	path crossings) via trenched and trenchless HDD (or similar trenchless technique), and associated earthworks resulting in a potential impact on roads, core paths and users of these routes.	Impact of construction traffic and proposed route on core paths. This is further assessed within **Volume 4: Outline Construction Traffic Management Plan** and associated **Appendix B.**
	Onshore substations construction and associated earthworks resulting in potential impacts on roads, core paths and users of these routes.	Impact of construction traffic at sensitive highway receptors. This is further assessed within **Volume 3, Appendix 26.1** and **Volume 3, Appendix 26.2.** Impact of construction traffic and proposed route on core paths. This is further assessed within **Volume 4: Outline Construction Traffic Management Plan** and associated **Appendix B.**

26.4.6 Effects scoped out of assessment

26.4.6.1 A number of potential effects have been scoped out from further assessment, resulting from a conclusion of no likely significant effect. These conclusions have been made based on the knowledge of the baseline environment, the nature of planned works and the professional judgement on the potential for impact from such projects more widely. The conclusions follow (in a site-based context) existing best practice. Each scoped out activity or impact is considered in turn in **Table 26.3**.

Table 26.3 Activities or effects scoped out of assessment

Activity or impact	Rational for scoping out
The effects of traffic and transport impact outwith the study network	It is anticipated that the volume of traffic associated with the construction of the Project would not have a discernible effect on roads and sensitive receptors outwith the study network, as the effects of traffic are reduced with increasing distance from the point of origin.
The effects of traffic associated with the operational and maintenance stage	Once the Project is operational, it is expected that Project would require minimal maintenance trips during this time. Therefore, the amount of traffic generated would be minimal (substantially less than the construction stage) and would generally relate to occasional monitoring and maintenance staff. Vehicles used are likely to be a small number of private cars and / or utility vehicles (typically 4x4s or light goods vehicles). With respect to traffic and transport, the operational stage of the Project is therefore not assessed in this Chapter.
The effects of traffic associated with the decommissioning stage	Traffic associated with the decommissioning stage is anticipated to be significantly less than that generated during construction. This is commonly due to reduced material requirements, smaller on-site workforce and prolonged and phased decommissioning activity.
The effect of traffic associated with offshore components delivery	The Applicant is currently considering ports suitable for the construction base for the offshore elements of the Project, but no decision has been

Activity or impact	Rational for scoping out
	made at this time. A short list of ports is being considered including ports such as Peterhead (see **Chapter 4: Project Description**). The shortlist of ports is not definitive and does not preclude the potential consideration of other suitable locations at the time of final port selection. Final port selection will be dependent upon, and only take place following: • the grant of development consent for the Project; • confirmation of route to market including final investment decision; and • on the findings of further technical and commercial studies. As such, this Chapter does not assess traffic associated with Project activities at potential construction ports.
The effect of construction traffic on junction capacity	Due to the rural nature of the Project, it is highly unlikely construction traffic will have a significant effect on the surrounding local road network with respect to traffic flows both in isolation and cumulatively. It is therefore considered that detailed junction capacity assessments are not required and have subsequently not been carried out.
The effect of hazardous / large loads	The Project would not generate hazardous movements in association with its construction, operation and maintenance and decommissioning, consequently this impact has therefore not been considered as part of this assessment. It is however, anticipated that abnormal loads in relation to cable drums and HDD (or similar trenchless technique) rigs, and onshore substations' transformers, will be required, this has been accounted for within the assessment.

26.5 Methodology for baseline data gathering

26.5.1 Overview

26.5.1.1 This Section describes the methodology used to gather baseline data for the traffic and transport assessment. Baseline data collection was designed to provide a robust understanding of existing and future conditions across the defined Project study network (see **Section 26.4**), supporting the identification and assessment of potential project impacts.

26.5.1.2 Both desk-based research and site surveys were undertaken, with data sources selected to ensure comprehensive coverage of key routes, sensitive receptors, and potential constraints. The resulting baseline informs the assessment of likely effects presented in **Section 26.6**.

26.5.2 Desk study

26.5.2.1 The data sources that have been collected and used to inform this traffic and transport assessment are summarised in **Table 26.4**.

26.5.2.2 The desk study included the following:

- review of relevant transport policy (**Section 26.2**);
- review of local road network including traffic flows;
- review of Personal Injury Accident (PIA) data;
- identification of any other traffic sensitive receptors in the area (core paths, walking routes, communities, etc.);
- review of Ordnance Survey (OS) plans;
- determination of the potential origin locations of construction staff and supply locations for construction materials to inform extent of local area road network to be included in the assessment; and
- identification of constraints to the movement of Heavy Goods Vehicles (HGV) traffic and larger loads.

Table 26.4 Data sources used to inform the traffic and transport chapter

Source	Date	Summary	Coverage of study network
OS Mapping (Microsoft Bing, 2025)	2025	Use of online mapping of 1:50,000 and 1:25,000 OS Mapping from Bing Maps.	Full coverage of study network.
Google Maps (Google, 2025)	2025	Use of online congestion data from Google Maps. Traffic data for key local roads was reviewed.	Full coverage of study network.
Stats19 Road Safety Data, (DfT, 2024)	2019	Use of Government Road Safety Statistics (Stats19) data is a free online resource for looking at the accident record of road networks.	Full coverage of study network.
Google StreetView, (Google, 2025)	2025	Use of street view views of local road network from Google Maps.	Full coverage of study network.
Core Path Routes, Aberdeenshire Council (Aberdeenshire Council, 2025)	2025	Core path information from online core path maps from Aberdeenshire Council.	Full coverage of study network.
DfT Traffic Data, (DfT, 2025)	2022	Existing traffic and transport data on local and Trunk Road Network (TRN).	Partial coverage of study network.

26.5.3 Site surveys

26.5.3.1 To supplement desk-based data and address gaps in existing information, targeted site surveys were undertaken. These focused on collecting up-to-date traffic flow data on key links within the study network, particularly where existing data was incomplete or outdated.

26.5.3.2 **Table 26.5** summarises the site surveys conducted, which provide a robust empirical basis for the assessment of construction traffic impacts.

Table 26.5 Site surveys undertaken

Survey type	Scope of survey	Coverage of study network
Automatic Traffic Counter (ATC) survey data, 2023 September	A package of eight ATC surveys to collect baseline traffic data on the local road network within the study network.	Partial coverage of survey study network.

26.5.4 Data limitations

26.5.4.1 The commissioning of the ATC surveys was undertaken based on an indicative Onshore Red Line Boundary and prior to the design freeze underpinning this assessment. Consequently, smaller links within the network do not have up to date traffic data on which impact can be estimated. To combat this, it has therefore been assumed that construction traffic on these links will have 100 per cent impact, triggering the threshold need for assessment as is common industry practice.

26.6 Baseline conditions

26.6.1 Current baseline

26.6.1.1 This Section presents the baseline conditions for traffic and transport within the defined study network, providing the foundation for the assessment of project impacts. The baseline encompasses the existing and future conditions of the local and SRN, without any of the below onshore infrastructure elements of the Project:

- landfall(s) – the infrastructure associated with landfall(s) located above MLWS;
- underground onshore export cables running from the landfall(s) to the onshore substations;
- onshore substations co-located at one site;
- underground grid connection cables connecting the onshore substations to the grid connection point at Scottish and Southern Electricity Networks (SSEN) Netherton Hub[1]; and
- tie-in to grid connection point at the SSEN Netherton Hub.

[1] This is a separate project and does not form part of the consenting applications that this EIA relates to.

26.6.1.2 Baseline data have been gathered through a combination of desk study and site surveys (see **Section 26.5**) and are structured to support the identification of sensitive receptors, potential constraints, and the likely effects of construction traffic. The study network is defined by the Onshore Red Line Boundary (see **Volume 2, Figure 26.1**), ensuring that all relevant routes and locations are included in the assessment.

26.6.1.3 Details of the above elements have been used to inform construction vehicle levels and movements, study network and programming of the traffic and transport baseline.

26.6.1.4 To understand the baseline conditions of the local and SRN, the baseline assessment is based on the traffic and transport study network relating to the Onshore Red Line Boundary as set out in **Volume 2, Figure 26.1** and described in **Chapter 4: Project Description.**

Road network

26.6.1.5 The study network includes various roads, as detailed in **Volume 2, Figure 26.1.** Within this area, there are 'A', 'B', 'C', and unclassified roads that could be directly impacted by the Project and will be part of the assessment. This subsection describes the key features of the road network, including carriageway type, speed limits, and the presence of pedestrian or cycle facilities, to provide context for the assessment of traffic impacts. The following information has been used to determine the most appropriate routing of construction vehicles and other Project traffic movement.

Trunk Road Network (TRN)

26.6.1.6 The Trunk Road Network (TRN) is a network of major highways of strategic national importance, designated and maintained by the national government rather than local authorities. In Scotland, this authority is Transport Scotland (TS).

26.6.1.7 The A90 is the principal trunk road in the study network, providing north-south connectivity and serving as the main access route for construction traffic. It features both single and dual carriageway sections, with varying speed limits and levels of pedestrian infrastructure. The road runs from Fraserburgh to Edinburgh passing through Aberdeen and Dundee and is dual carriageway from Aberdeen to Edinburgh. North of Aberdeen, the road has the National Speed Limit (NSL) of 60 miles per hour (mph) in rural areas and in urban settlements it has a speed limit of 40mph. Through smaller settlements such as Crimond the speed limit is 30mph and through Longhaven the speed limit is 50mph. Within the study network the route passes round Peterhead forming a junction with the A950 and north to Fraserburgh along the east coast. In built up areas the road has streetlighting and footways.

Local road network

26.6.1.8 The local road network refers to roads and streets managed by a local government, designed primarily to provide access to local properties like homes and businesses within a specific area rather than for through traffic. The A950, B9178, and a series of C-class and unclassified roads provide east-west and local access, supporting both project-related and general traffic. These roads vary in width, surface quality, and provision for NMUs.

A roads

26.6.1.9 The A950 two lane single carriageway road forms an east west link through the study network, linking Peterhead town centre to the A98. The road within the built-up areas has a speed limit of 30mph, streetlights and has footways either side. The road runs through the settlements of Mintlaw and New Pitsligo and has a key junction with the TRN (A90(T)) west of Peterhead. Outside of built-up areas the speed limit is the NSL.

B roads

26.6.1.10 The B9178 two lane single carriageway road forms an east west link from Peterhead port to the A90(T). The road has a speed limit of 40mph, no streetlights and no footways. The road runs south of Burnhaven and Inverettie and has a key junction with the TRN (A90(T)) south of Peterhead.

C roads

26.6.1.11 The C5B is a two-lane single carriageway road (no centre line marking) running east west through the study network, linking the A90(T) to the A952 just north of Mintlaw. The road is rural in its entirety with no lighting or footway provision. The road is subject to the NSL and is of sufficient width to accommodate larger vehicles.

26.6.1.12 The C43B is predominantly a single carriageway road running south north through Inverugie located within the study network. This road forms a link between the C5B at A90(T) and Longside Airfield to the southwest. The road is rural in nature with no lighting or footway provision. The road is subject to the NSL and varies in width between approximately 3 metres (m) to 5m.

26.6.1.13 The C56B is a two-lane single carriageway road (with centre line marking) running north south through the study network. This road forms a link between the A950 at Thunderton and the C38B to the south. The road is subject to the NSL and rural in nature with no lighting or footway provision.

Unclassified roads

26.6.1.14 The U32B is a single carriageway road running east west through the study network connecting St Fergus to Scotstown Beach. The road is subject to the NSL, approximately 4m in width and rural in nature, with no lighting or footway provision.

26.6.1.15 The U45B is a single carriageway road running east west through the Easterton and Ravenscraig settlements within the study network, connecting Inverugie with Longside Airfield. The road is subject to the NSL, approximately 4m in width and rural in nature, with no lighting or footway provision.

26.6.1.16 The U50B is a single carriageway road running north south through the Blackhills settlement within the study network, connecting the C43B with the A950. The road is subject to the NSL, approximately 4m to 5m in width and rural in nature, with lighting provided but no footway provision.

26.6.1.17 The U59B is a single carriageway road running north south through Howemuir within the study network, connecting the C38B with the A950. The road is subject to the NSL and is of sufficient width to accommodate larger vehicles at the northern end of the road. This rural road is not supported by lighting or footway provision.

26.6.1.18 The U63B is a two-lane single carriageway road (with centre line marking) running north south through the study network. This road forms a link between the A950 at Thunderton and the C38B to the south. The road is subject to the NSL and rural in nature with no lighting or footway provision.

26.6.2 Existing traffic conditions

26.6.2.1 As previously outlined in **Table 26.5**, baseline traffic flows have been established using a combination of DfT data, TS data and ATC surveys. This subsection summarises current traffic volumes, vehicle composition (including HGV proportions), and identifies any notable patterns or constraints.

26.6.2.2 A summary of the most recent two-way flows on the study links contained in the study network is provided in **Table 26.6**, with the locations of the traffic count sites shown in **Volume 2, Figure 26.2: Traffic count site locations**.

Table 26.6 Existing Annual Average Daily (AADT) two-way traffic flow

Study link	Location	Survey year	Survey ID	Survey year 24hr two-way flows		HGV proportion
				HGV	Total	
A90-01	A90 between A982 at Whitehilll and A950.	2022	DfT 80572	**649**	**7462**	8.7%
A90-02	A90 between A950 and A982 at Waterside.	2022	DfT 80573	**176**	**4356**	4.0%
A90-03	A90 between A982 and C5B.	2022	DfT 80573	**176**	**4356**	4.0%
A90-04	A90 between C5B and U32B.	2023	TS Counter 1	**343**	**5917**	5.8%
A950-01	A950 between A90 and C56B.	2023	ATC 3	**792**	**7614**	10.4%
C43B-01	C43B between C5B and U45B.	No data.	N/A	**-**	**-**	-
C56B-01	C56B between A950 and C38B.	No data.	N/A		**-**	-
C5B-01	C5B between A90 and Cairnhill.	2019	DfT 931840.	**22**	**537**	4.1%
U32B-01	U32B west off the A90 at Inverquinzie Cotts.	No data.	N/A	**-**	**-**	-
U45B-01	U45B between U50B and C43B.	No data.	N/A	**-**	**-**	-
U50-01	U50B between A950 and C43B.	No data.	N/A	**-**	**-**	-
U59B-01	U59B between A950 and C38B at Denholm.	No data.	N/A	**-**	**-**	-
U63B-01	U63B between A950 and C38B at Stockbridge.	2023	ATC 7	**47**	**421**	11.2%
B9178-01	B9178 east of A90 Inverettie Roundabout.	2023	ATC 2	**506**	**2072**	24.4%

26.6.2.3 To provide a robust assessment, and to align with the current information on construction working hours, it is assumed that construction deliveries could take place over a 12-hour day (between 07:00 and 19:00). Conversion factors have been derived from DfT Road Traffic Statistics – Table TRA0308: 'Traffic distribution on all roads by time of day and day of the week, for selected vehicle types in Great Britain' for the latest data available, 2024, to convert the DfT and ATC AADT flows to 12-hour flows.

26.6.2.4 The following factors have been derived for cars, light vehicles and HGVs to convert 24hr AADT to 12-hour traffic:

- HGVs – 0.759; and
- all vehicles – 0.798.

26.6.2.5 The 12-hour traffic data resulting from the use of the above factors are shown in **Table 26.7**.

Table 26.7 Annual average daily two-way traffic flows (12-hours)

Study link	Location	Survey year	Survey ID	Survey year 24hr two-way flows		HGV proportion
				HGV	Total	
A90-01	A90 between A982 at Whitehilll and A950.	2022	DfT 80572	**493**	**5955**	8.7%
A90-02	A90 between A950 and A982 at Waterside.	2022	DfT 80573	**134**	**3476**	4.0%
A90-03	A90 between A982 and C5B.	2022	DfT 80573	**134**	**3476**	4.0%
A90-04	A90 between C5B and U32B.	2023	TS Counter 1	**261**	**4722**	5.8%
A950-01	A950 between A90 and C56B.	2023	ATC 3	**601**	**6076**	10.4%
C43B-01	C43B between C5B and U45B.	No data.	No data.	-	-	-
C56B-01	C56B between A950 and C38B.	No data.	No data.	-	-	-
C5B-01	C5B between A90 and Cairnhill.	2019	DfT 931840	**17**	**429**	4.2%
U32B-01	U32B west off the A90 at Inverquinzie Cotts.	No data.	No data.	-	-	-
U45B-01	U45B between U50B and C43B.	No data.	No data.	-	-	-
U50-01	U50B between A950 and C43B.	No data.	No data.	-	-	-
U59B-01	U59B between A950 and C38B at Denholm.	No data.	No data.	-	-	-
U63B-01	U63B between A950 and C38B at Stockbridge.	2023	ATC 7	**36**	**336**	11.2%

Study link	Location	Survey year	Survey ID	Survey year 24hr two-way flows		HGV proportion
				HGV	Total	
B9178-01	B9178 east of A90 Inverettie Roundabout.	2023	ATC 2	**384**	**1654**	24.4%

26.6.2.6 For certain minor links within the study network, up-to-date quantitative traffic data was not available due to the timing and scope of the ATC surveys and the evolving project boundary. In line with IEMA guidance and established best practice, these links have been subject to a precautionary, qualitative assessment.

26.6.2.7 To ensure a robust and conservative approach, it has been assumed that the addition of construction traffic would result in a 100% increase over baseline flows on these links, thereby triggering the threshold for detailed assessment. This assumption ensures that any potential impacts are not underestimated, and that sensitive receptors are appropriately considered even in the absence of empirical data.

26.6.2.8 Where feasible, further data collection or monitoring may be recommended at later project stages to validate these assumptions and inform mitigation.

26.6.2.9 The available quantitative data presented in **Table 26.7** has been used to support the impact assessment for all links where such data exists, ensuring that the assessment is evidence-based and proportionate.

Pedestrian, cyclist and rights of way facilities

26.6.2.10 The assessment of baseline conditions for NMUs is essential to ensure that potential impacts on vulnerable road users are fully understood and appropriately mitigated. This includes pedestrians, cyclists, and users of RoW and core paths, in line with IEMA and DMRB guidance on transport and EIA.

26.6.2.11 The Project alignment traverses a predominantly rural area, where pedestrian and cyclist facilities are generally limited outside of towns and villages. This context increases the importance of understanding where NMUs may be exposed to construction traffic or temporary diversions.

26.6.2.12 There are pedestrian facilities provided by way of footways adjacent to carriageways on some sections of the access routes, predominantly within the vicinity of the towns of Inverugie and Blackhills. These towns are not served by comprehensive pedestrian networks but by discontinuous sections of footway infrastructure.

26.6.2.13 Segregated pedestrian facilities are also present along the A90 directly west of Peterhead.

Core paths and rights of way

26.6.2.14 A review of Aberdeenshire's RoW and core path network indicates that only a limited number of routes are located in proximity to the Onshore Red Line Boundary. These have been mapped and assessed in **Volume 3, Appendix 26.1** and **Volume 4: Outline Construction Traffic Management Plan, Appendix C, Figure 1 Core path network** and within respectively **Appendix B Outline Core Path Management Plan**. Where core paths or RoW intersect with construction activities, potential impacts on access and safety have been identified for further assessment and mitigation. The following core path routes have been identified for inclusion within assessment:

- 7LD.01.18 – Coastal Path: Old Rattray to Peterhead;

- 217.01 – St Fergus: Scotstown Head Path;
- L30R – St Fergus: Scotstown Head road link;
- 7LD.03MP.05 – The Formartine and Buchan Way: Longside to Peterhead;
- 7LD.03MP.06 – The Formartine and Buchan Way: Peterhead;
- 215.11 / 215.02 – Peterhead: A90;
- 215.04 – Peterhead: Boddam; and
- 7LD.01.22P / 7LD.01.24 – Coastal Path: Peterhead Prison.

Cycle facilities

26.6.2.15 There are limited cycle facilities in the vicinity of the Project however, the Formartine and Buchan Way, part of the Core Path Network (CPN), is a long-distance off-road trail that links Dyce with Peterhead and Fraserburgh. The route passes through the onshore export cable corridor in an east and west direction.

Accident review

26.6.2.16 PIA data for the most recently available five-year period, covering 2019 to 2023, was obtained for the study network. The locations and severity of the PIAs reported within the study network are shown in **Volume 2, Figure 26.3: Personal injury accident locations** further detailed is provided in **Volume 3, Appendix 26.1** and summarised in **Table 26.8**.

Table 26.8 PIA summary (2019-2023)

Location	Road type	Slight	Serious	Fatal	Total	PIA rate (per Million Vehicle Km)	National average (per Million Vehicle Km)
A90 between A982 at Whitehilll and A950	Trunk Road.	2	2	0	4	0.09	0.43
A90 between A950 and A982 at Waterside	Trunk Road.	0	2	0	2	0.12	0.43
A90 between A982 and C5B	Trunk Road.	2	1	0	3	0.35	0.12
A90 between C5B and U32B	Trunk Road.	0	0	1	1	0.02	0.12
A950 between A90 and C56B	A Road.	0	2	0	2	0.03	0.12
C43B between C5B and U45B	Rural Road.	1	0	0	1	N/A	0.20
C56B between A950 and Site Access	Rural Road.	0	0	0	0	N/A	0.20

Location	Road type	Slight	Serious	Fatal	Total	PIA rate (per Million Vehicle Km)	National average (per Million Vehicle Km)
C5B between A90 and Cairnhill	Rural Road.	0	0	0	0	0.00	0.20
U32B west off the A90 at Inverquinzie Cotts	Rural Road.	0	0	0	0	N/A	0.20
U45B between U50B and C43B	Rural Road.	1	0	0	1	N/A	0.20
U50B between A950 and C43B	Rural Road.	0	0	0	0	N/A	0.20
U59B between A950 and C38B at Denholm	Rural Road.	0	0	0	0	N/A	0.20
U63B between A950 and C38B at Stockbridge	Rural Road.	1	0	0	1	1.22	0.20
B9178 east of A90 Inverettie Roundabout	B Road.	0	0	0	0	0.00	0.40

26.6.2.17 As shown in **Table 26.8**, the majority of local roads with recorded accidents have annual accident rates below the national average for their road type, indicating no systemic safety issues.

26.6.2.18 Two road links, the A90(T) between A982 and C5B, and U63B between A950 and C38B at Stockbridge, exceed the national average accident rate. Detailed review suggests these higher rates are attributable to isolated incidents, driver error, or weather conditions, rather than persistent hazards. The short length of these links may also inflate the calculated PIA rate.

26.6.2.19 The accident data review has therefore confirmed that there are no specific safety concerns within the study network.

26.6.3 Future baseline

26.6.3.1 It is anticipated that construction of the Project would commence in 2030. In order to provide a robust assessment, the future baseline year has been adjusted to cover the peak period of construction movements in relation to onshore infrastructure. The indicative construction programme (provided in **Chapter 4: Project Description**) currently anticipates that the busiest construction period would take place during the second year of construction, 2031, and the assessment has therefore been undertaken for a 2031 future baseline to coincide with the peak period.

26.6.3.2 To assess the impact during the construction stage of the Project, future baseline traffic (2031) was determined, as outlined in **Volume 3, Appendix 26.1,** by applying TEMPro growth factors for the existing traffic flows shown in **Table 26.6**. The growth factors for each year are shown in **Table 26.9**.

Table 26.9 TEMPro growth factors

Years	TEMPro Growth Factor
2019 – 2031	1.103
2022 – 2031	1.074
2023 – 2031	1.065

26.6.3.3 The resulting 2031 base traffic flows are presented in **Table 26.10** and use of traffic data conversions are shown **Volume 3, Appendix 26.1**.

Table 26.10 2031 Annual average daily two-way traffic flows (12-hour)

Study link	Location	Main construction element	Survey year	Survey year 24hr two-way flows		HGV proportion
				HGV	Total	
A90-01	A90 between A982 at Whitehilll and A950.	Landfall(s) / onshore export cable / onshore substations.	2022	**529**	**6396**	8.3%
A90-02	A90 between A950 and A982 at Waterside.	Landfall(s) / onshore export cable / onshore substations.	2022	**144**	**3734**	3.8%
A90-03	A90 between A982 and C5B.	Landfall(s) / onshore export cable	2022	**144**	**3734**	3.8%
A90-04	A90 between C5B and U32B.	Landfall(s) / onshore export cable	2023	**278**	**5028**	5.5%
A950-01	A950 between A90 and C56B.	Onshore export cable / onshore substations.	2023	**640**	**6470**	9.9%
C43B-01	C43B between C5B and U45B.	Onshore export cable.	No data.	-	-	-
C56B-01	C56B between A950 and C38B.	Onshore export cable.	No data.	-	-	-
C5B-01	C5B between A90 and Cairnhill.	Onshore export cable.	2019	**18**	**456**	4.0%

Study link	Location	Main construction element	Survey year	Survey year 24hr two-way flows		HGV proportion
				HGV	Total	
U32B-01	U32B west off the A90 at Inverquinzie Cotts.	Landfall(s) / onshore export cable.	No data.	-	-	-
U45B-01	U45B between U50B and C43B.	Onshore export cable.	No data.	-	-	-
U50-01	U50B between A950 and C43B.	Onshore export cable / onshore substations.	No data.	-	-	-
U59B-01	U59B between A950 and C38B at Denholm.	Onshore substations	No data.	-	-	-
U63B-01	U63B between A950 and C38B at Stockbridge.	Onshore export cable / onshore substations.	2023	**38**	**357**	10.6%
B9178-01	B9178 east of A90 Inverettie Rbt.	Onshore export cable / onshore substations.	2023	**409**	**1761**	23.2%

26.6.3.4 The data in **Table 26.10** has been used to support the traffic and transport assessment.

Sensitive Receptor Identification

26.6.3.5 **Table 26.11** Sensitive receptor identification provides a summary of the sensitive receptors identified on each link, with the locations of the links shown in **Volume 2, Figure 26.1**.

26.6.3.6 The IEMA Guidelines (IEMA, 2023) states that the sensitivity of receptors should be assessed using professional judgement to develop a classification of sensitivity for users based on the characteristics of a road and its location. Where a road passes through a particular location, users are considered subject to the level of sensitivity defined by either the road or its location characteristics.

Table 26.11 Sensitive receptor identification

Study link	Road	Sensitivity classification	Sensitivity rationale
A90-01	A Road.	**Low**	This section of the A90 (T) is a wide, high standard carriageway with residential properties set back from the carriageway. This section is semi-rural with segregated pedestrian and cycling infrastructure located next to the carriageway. As such, this section has been classified as **low** sensitivity.

Study link	Road	Sensitivity classification	Sensitivity rationale
A90-02	A Road.	**Low**	This section of the A90 (T) is a wide, high standard carriageway with residential properties set back from the carriageway. This section is semi-rural with segregated pedestrian and cycling infrastructure located next to the carriageway. As such, this section has been classified as **low** sensitivity.
A90-03	A Road.	**Low**	This section of the A90 (T) is a wide, high standard carriageway with residential properties set back from the carriageway. This section is predominantly rural with limited receptors identified. As such, this section has been classified as **low** sensitivity.
A90-04	A Road.	**Low**	This section of the A90 (T) is a wide, high standard carriageway with few properties present, all set back from the carriageway. This section is rural with limited receptors identified. As such, this section has been classified as **low** sensitivity.
A950-01	A Road.	**Low**	The A950 is a wide, high standard carriageway with few properties present, all set back from the carriageway. This section is rural with limited receptors identified. As such, this section has been classified as **low** sensitivity.
C43B-01	Classified Road.	**Medium**	The C43B is a single carriageway and does not commonly experience high levels of HGV traffic. The presence of properties close to the carriageway with no footway infrastructure leads to this section being classified as **medium** sensitivity.
C56B-01	Classified Road.	**Medium**	The C56B is a single carriageway road of high standard with some residential properties present, set back from the carriageway. This section is rural with limited receptors identified and current HGV levels are expected to be low. As such, this section has been classified as **medium** sensitivity.
C5B-01	Classified Road.	**Low**	The C5B is a single carriageway road of high standard with industrial properties present, set back from the carriageway. This section is rural with limited receptors identified and current HGV levels are expected to be low. As such, this section has been classified as **low** sensitivity.
U32B-01	Unclassified Road.	**Medium**	The U32B is a single carriageway road with limited residential properties present, set back from the carriageway. This section is rural and part of the core path network where receptors are identified and current HGV levels are expected to be low. As such, this section has been classified as **medium** sensitivity.
U45B-01	Unclassified Road.	**Medium**	The U45B is a single carriageway road with residential properties present, set back from the carriageway. This section is rural; however, crosses part of the CPN where receptors are identified, and current HGV levels are expected to be low. As such, this section has been classified as **medium** sensitivity.
U50-01	Unclassified Road.	**Medium**	The U50 is a single carriageway road with residential properties present, set back from the carriageway. This section is predominantly rural; however, footways are present, and some

Study link	Road	Sensitivity classification	Sensitivity rationale
			sensitive receptors are identified. As such, this section has been classified as **medium** sensitivity.
U59B-01	Unclassified Road.	**Low**	The U59B is a single carriageway road with limited properties present, set back from the carriageway. This section is rural with limited receptors identified and current HGV levels are expected to be moderate due to the presence of industrial properties. As such, this section has been classified as **low** sensitivity.
U63B-01	Unclassified Road.	**Low**	The U63B is a single carriageway road with limited properties present, significantly set back from the carriageway. This section is rural with limited receptors identified and current HGV levels are expected to be low; however, farm vehicles are expected. As such, this section has been classified as **low** sensitivity.
B9178-01	B Road.	**Low**	The B9178 is a single carriageway industrial road with limited properties present and no footway infrastructure. This section is semi-urban however limited receptors are identified, and current HGV levels are high. As such, this section has been classified as **low** sensitivity.

26.7 Basis for the EIA Report

26.7.1 Maximum design scenario

26.7.1.1 The process of assessing using a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the planning application, marine licences applications and s.36 consent.

26.7.1.2 The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse effect and as a result effects of greater adverse significance would not arise should any other scenario (as described in **Chapter 4: Project Description**) to that assessed within this Chapter be taken forward in the final Project design.

26.7.1.3 The maximum design scenario parameters that have been identified to be relevant to land use are outlined in **Table 26.12** and are in line with the project design envelope (**Chapter 4: Project Description**).

Table 26.12 Maximum design scenario for impacts on traffic and transport

Activity / impact	Maximum design scenario parameter	Justification
Construction		
Impact C1: landfall(s) – cable installation, transition joint bays and associated earthworks resulting in potential impacts on roads, core paths and users of these routes	**Landfall(s):** Based on maximum footprint of construction activities for all landfall options (Option 2: Scotstown and Lunderton): • temporary access road/s up to 6m wide, see **Volume 2, Figure 4.1: Onshore Red Line Boundary and indicative onshore infrastructure**; • temporary access road aggregate depth is approximately 0.3m; • temporary construction compound area 345m x 70m; • up to seven, below ground, transition joint bays, each transition joint bay; • up to eight cable ducts; and • cable ducts installed using HDD (or similar trenchless technique) methodology. **Landfall(s) construction works duration:** Total construction traffic considered over a 12-month period in Year 2 of construction (2031), assuming 24 working days a month. Working hours: • 08:00-18:00 hours Monday to Friday; and • 08:00-13:00 hours on Saturday. Prior to and following the core working hours Monday to Friday, a 'shoulder hour' for mobilisation and shut down will be applied. No activity outside of these hours, including Sundays, public holidays or bank holidays will take place apart from under the following circumstances:	Basing the construction traffic for landfall(s) on the maximum construction footprint scenario yields the highest trip generation of construction trips and a higher impact from transport on the local road network. Landfall(s) infrastructure details have informed the estimation of material delivery and vehicle movement requirements. Construction vehicle trip generation has been derived based on professional judgement and prior experience of similar projects. In 2031 construction activities will be taking place in relation to landfall(s), the onshore export cable corridor and the onshore substations concurrently, resulting in the highest levels of construction traffic during the construction stage and consequently this has formed the basis of assessment of construction traffic as in all other years of construction of onshore infrastructure the construction traffic levels would be lower than in the second year of construction. This ensures that the maximum construction scenario

Activity / impact	Maximum design scenario parameter	Justification
	• where continuous periods (up to 24-hours, seven days per week) of construction work are required for HDD (or similar trenchless technique); • for other works requiring extended working hours such as concrete pouring which will require the relevant Planning Authority to be notified at least 72 hours in advance; • for the delivery of abnormal loads to the connection works, which may cause congestion on the local road network, where the relevant highway authority has been notified prior to such works 72 hours in advance; and • as otherwise agreed in writing with the relevant Planning Authority. **Abnormal load assessment:** • two types of AL are expected to be delivered to landfall(s). **(MEGA) HDD (or similar trenchless technique) rig (load + vehicle):** • overall length: 32.0m; • overall width: 2.85m; • height: 3.5m; and • weight: >45.8 tonnes. **Cable drums (load + vehicle):** • drum diameter: 4.6m; • width: 7.6m; • overall length: 26.1m • capacity: 2,000m; and • weight: >80 tonnes. Both ALs will be transported to landfall(s) on a low loader via the trunk road network.	is being assessed yielding the highest impact on the local traffic network. The stated dimensions of the abnormal loads (ALs), a vehicle and load combination that exceeds the standard legal limits for weight, length, or width, were chosen to represent the realistically largest and heaviest loads requiring transportation. This will yield the potential requirement for the most extensive mitigation measures.
Impact C2: Onshore route – onshore export	**Onshore export cable corridor:** • temporary access roads / haul roads up to 6m wide, see **Volume 2, Figure 4.1**;	Onshore export cable corridor infrastructure details have informed the estimation of material delivery and vehicle

Activity / impact	Maximum design scenario parameter	Justification
cable corridor construction (including highways and core path crossings) and associated earthworks resulting in a potential impact roads, core paths and users of these routes	• temporary access and haul road aggregate depth is approximately 0.3m; • onshore export cable corridor from the landfall(s) to the onshore substations, the corridor is up to 89m wide and an approximate length of 11 kilometres (km). Up to six trenches, with typical trench depth of up to 1.5m; and • onshore export cable corridor from the onshore substations to the SSEN Netherton Hub, the corridor is up to 99m wide and an approximate length of 2.35km. Up to seven trenches, with typical trench depth of up to 1.5m. **Joint bays:** • typically, joint bays are located every 600m to 1000m; • at each joint bay location, along the onshore export cable corridor from the landfall(s) to the onshore substations, there are up to six joint bays; • at each joint bay location, along the onshore export cable corridor from the onshore substations to SSEN Netherton Hub, there are up to seven joint bays; • each joint bay has a depth of up to 2m, length of up to 9m and width of up to 3m; and • joint bay construction duration per location (does not include cable pulling duration) is six to ten weeks. **Trenchless or HDD (or similar trenchless technique) crossings:** • the onshore export cable corridor widens to up to 300m at locations where trenchless crossings are required; • up to twenty-two trenchless crossing compounds. • trenchless crossing compound dimensions: up to 300m x 50m (width and length); and • six to twelve months construction duration per trenchless crossing location (does not include cable pulling duration). **Temporary construction compounds:**	movement requirements. Construction vehicle trip generation has been derived based on professional judgement and prior experience of similar projects. In 2031 construction activities will be taking place in relation to landfall(s), the onshore export cable corridor and the onshore substations concurrently, resulting in the highest levels of construction traffic during the construction stage and consequently this has formed the basis of assessment of construction traffic as in all other years of construction of onshore infrastructure the construction traffic levels would be lower than in the second year of construction. This ensures that the maximum construction scenario is being assessed yielding the highest impact on the local traffic network. The stated dimensions of the ALs were chosen to represent the realistically largest and heaviest loads requiring transportation to the onshore export cable corridor. This will yield the potential requirement for the most extensive mitigation measures.

Activity / impact	Maximum design scenario parameter	Justification
	• up to three temporary primary construction compound locations (each up to 125m x 125m in area); • up to six temporary secondary construction compound locations (each up to 100m x 100m in area); and • construction of each joint bay will require a temporary construction compound (each up to 30m x 85m in area). These compounds are likely to be accommodated within the onshore export cable corridor and the land required is therefore included above under onshore export cable corridor. **Onshore export cable corridor construction works:** • assessment applies to total construction traffic considered over a 12-month period in Year 2 of construction (2031), assuming 24 working days a month. **Working hours:** • same as stated in C1. **Abnormal load assessment:** • two types of ALs expected to be delivered to the onshore export cable corridor. **(MAXI) HDD (or similar trenchless technique) rig (load + vehicle):** • overall length: 29.0m; • overall width: 2.85m; • height: 3.7m; and • weight: >47.6 tonnes. **Cable drums (load + vehicle):** • drum diameter: 4.6m; • width: 7.6m; • overall length: 26.1m • capacity: 2,000m; and	

Activity / impact	Maximum design scenario parameter	Justification
	• weight: >80 tonnes. Both ALs will be transported to the onshore export cable corridor access points on a low loader via the trunk road and local road network.	
Impact C3: Onshore substations construction and associated earthworks resulting in potential impacts on roads, core paths and users of these routes	**Onshore substations:** • Up to 15 hectares (ha) permanent area for the onshore substations with two permanent access roads up to 6m wide (up to 4.2ha in area), plus drainage / landscaping areas estimated at approximately 36ha, all of which will be located within the Onshore Red Line Boundary. • Up to 3.06ha additional temporary construction compound area. **Onshore substation site construction works:** • assessment applies to onshore substations construction in 2031 only; • works duration for the following construction activities for each onshore substation: earthworks, construction, electrical installation, commissioning, reinstatement, is 36 months per onshore substation, of which there are three. The three onshore substations will be built sequentially to align with the phased energisation of the WTGs with construction works starting in Year 1 (indicative construction programme in **Chapter 4: Project Description**); and • construction traffic only considered over the 12-month period in Year 2 of onshore substation site construction (2031), assuming 24 working days a month. **Working hours:** • same as stated in C1. **Abnormal load assessment:** • three types of ALs expected to be delivered to onshore substations: **(MAXI) HDD (or similar trenchless technique) rig (load + vehicle):** • overall length: 29.0m; • overall width: 2.85m;	Onshore export cable corridor infrastructure details have informed the estimation of material delivery and vehicle movement requirements. Construction vehicle trip generation has been derived based on professional judgement and prior experience of similar projects. In 2031 construction activities will be taking place in relation to landfall(s), the onshore export cable corridor and the onshore substations concurrently, resulting in the highest levels of construction traffic during the construction stage and consequently this has formed the basis of assessment of construction traffic as in all other years of construction of onshore infrastructure the construction traffic levels would be lower than in the second year of construction. This ensures that the maximum construction scenario is being assessed yielding the highest impact on the local traffic network. The stated dimensions of the ALs were chosen to represent the realistically largest and heaviest loads requiring transportation to the onshore substations. This will yield the potential requirement

Activity / impact	Maximum design scenario parameter	Justification
	• height: 3.7m; and • weight: >47.6 tonnes. **Cable drums (load + vehicle):** • drum diameter: 4.6m; • overall width: 7.6m; • overall length: 26.1m • capacity: 2,000m; and • weight: >80 tonnes. **Onshore substations' transformers (load + vehicle):** • overall length: 88.8m; • overall width: 6.6m; • overall height: 5.4m; and • weight: >300 tonnes. Whilst the HDD (or similar trenchless technique) rigs will be transported to the onshore substations on a low loader, the transformers will require a much larger girder frame vehicle for transportation. Both types of ALs will be transported via the trunk road network.	for the most extensive mitigation measures.
Impact C4: Offshore construction stage – the onshore impacts of the offshore cable corridor, turbines and other required infrastructure (materials and	Offshore construction not included in assessment.	The Applicant is currently considering ports suitable for the construction base for the offshore elements of the Project, but no decision has been made at this time. A short list of ports is being considered including ports such as Peterhead (see **Chapter 4: Project Description**).

Activity / impact	Maximum design scenario parameter	Justification
staff) resulting in a potential impact on local roads and users of these routes		The shortlist of ports is not definitive and does not preclude the potential consideration of other suitable locations at the time of final port selection. Final port selection will be dependent upon, and only take place following: • the grant of development consent for MarramWind; • confirmation of route to market including final investment decision; and • on the findings of further technical and commercial studies. Additional activities may occur at other ports and locations further afield; the global nature of supply chains means it is not possible to identify or assess these at this relatively early stage As such, the Chapter does not assess offshore project activities at potential construction ports.

26.7.2 Embedded environmental measures

26.7.2.1 As part of the Project design process, a number of embedded environmental measures have been adopted to reduce the potential for adverse impacts on traffic and transport. These embedded environmental measures have evolved as the Project has progressed and in response to consultation.

26.7.2.2 These measures also include those that have been identified as good or standard practice and include actions that would be undertaken to meet existing legislation requirements. As there is a commitment to implementing these embedded environmental measures in full, and also to various standard sectoral practices and procedures, they are considered inherently part of the design, and their effectiveness is considered in the determination of residual effects set out in the EIA Report.

26.7.2.3 **Table 26.13** sets out the relevant embedded environmental measures within the design and how these affect the traffic and transport assessment.

Table 26.13 Relevant traffic and transport embedded environmental measures

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to traffic and transport assessment
M-001	Underground cables will be used to connect from the landfall(s) transition joint bays to the onshore substations. An additional section of the onshore export cable corridor will run from the onshore substations to the grid connection point at SSEN Netherton Hub. Cables are typically installed in ducts in a standard buried trench arrangement with appropriate insulation, providing protection from temperature extremes and changes in soil moisture.	Scoping Amended at EIA Report	**Volume 4: Outline Construction Environmental Management Plan (CEMP)** and planning conditions.	The CEMP will be adopted to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network.
M-003	A crossing schedule of the grid connection crossings will be prepared that includes crossing methodologies, where required, for all roads, rail, core paths, RoW and watercourses.	Scoping	**Volume 4: Outline CEMP** and planning conditions.	The CEMP will be adopted to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network.
M-004	At any sensitive features identified along the route, including sensitive crossing locations, the working width of the temporary construction corridor will be reduced as far as practicable to avoid or minimise potential environmental effects.	Scoping	**Volume 4: Outline CEMP** and planning conditions.	The CEMP will be adopted to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network.
M-026	Signage and / or temporary core path / RoW diversions will be provided during construction where necessary to avoid the construction working areas.	Scoping	**Volume 4: Appendix B Outline Core Path Management Plan (CPMP)** and planning conditions.	The Outline CPMP will be adopted to minimise temporary impacts from construction activities on receptors using and accessing the core path network.

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to traffic and transport assessment
M-063	A CEMP will be implemented by the contractor in accordance with **Volume 4: Outline Construction Environmental Management Plan**. The contractor will ensure that the relevant environmental measures within the CEMP and health and safety procedures are implemented. The CEMP identifies the project management structure roles and responsibilities with regard to managing and reporting on the environmental impact of the construction stage.	Scoping Amended at EIA Report	**Volume 4: Outline CEMP** and planning conditions.	The CEMP will be adopted to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network.
M-092	Construction accesses to the public roads will be provided with required visibility splays, where permanent accesses are required as well as major construction accesses are proposed. All other locations will be managed via traffic management processes (signage, speed limit reductions and banksmen).	Scoping	Visibility splays will be provided on the relevant planning application plans.	Visibility Splays, identifying the visibility requirements to ensure safe operations of construction traffic accessing construction site, are included within **Volume 3, Appendix 26.1**.
M-094	A road and core path condition survey will be undertaken on roads and core paths affected by construction traffic before, during and after the construction stage of the Project. The results of these surveys will be used to identify the requirement for any repairs needed as a result of Project related damage.	Scoping Amended at EIA Report	**Volume 4: Appendix B Outline CPMP** and planning conditions.	The Outline CPMP together with Outline CTMP will be adopted to record and repair impacts on road and core path infrastructure caused by construction traffic.
M-095	All road crossings will be agreed with the relevant roads authority. Road closures will be avoided where possible, and where they are required will be scheduled to avoid other local scheduled road works on the road network.	Scoping Amended at EIA Report	**Volume 4: Outline Construction Traffic Management Plan** and planning conditions.	The Outline CTMP will be adopted and refined to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network through appropriate routing of traffic and

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to traffic and transport assessment
				implementation of mitigating measures.
M-096	Access locations and access routes from the SRN will be planned to avoid settlements and villages where possible. The use of haul roads and loop road arrangements will be proposed where appropriate and possible to mitigate proposed environmental effects of traffic and transport.	Scoping	**Volume 4: Outline Construction Traffic Management Plan** and planning conditions.	The Outline CTMP will be adopted and refined to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network. This has informed the suggested routing of construction traffic and implementation of mitigating measures of the associated **Volume 3, Appendix 26.1**.
M-099	**Volume 4: Outline Construction Environmental Management Plan** will include measures to minimise emissions from construction traffic. This will include measures such as consolidating deliveries where possible. Consideration will be given towards the impact of construction traffic, road traffic and adjacent trunk roads. Sustainable modes of travel for the construction workforce will be promoted.	Scoping Amended at EIA Report	**Volume 4: Outline CEMP** and planning conditions.	The Outline CEMP and Outline CTMP will be adopted to minimise temporary impacts from construction traffic on receptors using and accessing the road and core path network.

26.7.2.4 Further detail on the embedded environmental measures in **Table 26.13** is provided in **Volume 3, Appendix 5.2**, which sets out how and where particular embedded environmental measures will be implemented and secured.

26.7.3 Predicted construction traffic

Estimated construction traffic generation

26.7.3.1 **Volume 3, Appendix 26.1** presents an estimate of the total level of construction traffic associated with the delivery of each onshore infrastructure element of the Project during the most intense period of construction, 2031.

Maximum daily trip generation per study link

26.7.3.2 **Table 26.14** summarises the maximum level of daily trips anticipated to be generated by the construction along each study link within the study network during the most intense period of construction, 2031. This takes cognisance of the combined trips generated by the construction of the landfall(s), onshore export cable corridor and the onshore substations' activities. The table also summarises the average number of vehicles generated on an hourly basis, on the assumption that construction traffic would be accessing the construction areas for a 12-hour period. The numbers represent the maximum number of two-way trips on each link, one arrival and one departure, at any time.

Table 26.14 Maximum construction traffic generation

Study link	Daily Light Commercial Vehicles (LCVs)	Daily HGVs	Hourly LCVs	Hourly HGVs
A90-01	0	331	0	28
A90-02	297	245	25	20
A90-03	297	245	25	20
A90-04	297	245	25	20
A950-01	451	208	38	17
C43B-01	104	58	9	5
C56B-01	110	70	9	6
C5B-01	124	98	10	8
U32B-01	112	24	9	2

Study link	Daily Light Commercial Vehicles (LCVs)	Daily HGVs	Hourly LCVs	Hourly HGVs
U45B-01	115	80	10	7
U50-01	113	77	9	6
U59B-01	321	92	27	8
U63B-01	110	70	9	6
B9178-01	1	1	0	0

26.7.3.3 As identified within **Volume 3, Appendix 26.1**, it is assumed that the trip generation identified above is the maximum level of daily traffic that each study link would experience at any one time.

26.8 Methodology for the EIA Report

26.8.1 Introduction

26.8.1.1 The project-wide approach to assessment is set out in **Chapter 5: Approach to EIA.** Whilst this has informed the approach that has been used in this traffic and transport assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of the traffic and transport assessment.

26.8.2 Significance evaluation methodology

Overview

26.8.2.1 The significance level attributed to each effect has been assessed based on the value of the affected receptor and the magnitude of change resulting from the Project. The level of significance has then been determined by the combination of value and magnitude.

Characterisation of effects

26.8.2.2 The IEMA Guidelines (IEMA, 2023) identify the key impacts that are most important when assessing the magnitude of traffic and transport impacts from an individual development. Those key impacts are as follows:

- severance of communities;
- road vehicle driver and passenger delay;
- NMU delay;
- NMU amenity;
- fear and intimidation on and by road users;
- road user and pedestrian safety; and

- hazardous / large loads.

26.8.2.3 The evaluation methodologies for each of the seven traffic related impacts are discussed individually in turn in the following sections.

Severance of communities

26.8.2.4 Severance is described by the IEMA Guidelines (IEMA, 2023) as *"The perceived division that can occur within a community when it becomes separated by major transport infrastructure … severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure"* (IEMA, 2023).

26.8.2.5 The IEMA Guidelines (IEMA, 2023) reference historical thresholds set out by DfT to estimate impact as a starting point to assess severance. These DfT thresholds have subsequently been considered when assessing the likely level of severance:

- ≤30 per cent increase in traffic equates to a negligible change in severance;
- >30 per cent ≤60 per cent increase in traffic equates to a low change in severance;
- >60 per cent ≤90 per cent increase in traffic equates to a medium change in severance; and
- >90 per cent increase in traffic equates to a high change in severance.

26.8.2.6 It is considered common industry practice that where there is no available traffic information, as a worst-case assessment, to assume that the percentage increase in total flows and HGV flows equate to 100 per cent.

26.8.2.7 The IEMA guidance (IEMA, 2023) outlines that when assessing severance, the assessor should consider any physical infrastructure barriers, road width, traffic flow, traffic composition, traffic speed, crossing facilities and likely crossing movements (for example, defining facilities to which access may be impaired and the potential total users and user groups), along with considering the impact on vulnerable groups.

26.8.2.8 Therefore, while the assessment suggests that all links could experience an impact on severance, the IEMA guidelines (IEMA, 2023) note that the original 30, 60, 90 per cent DfT thresholds identified above for assessment do not take into account instances where there are low baseline flows and the local context of the link. The thresholds are therefore applied above as a starting point for the assessment.

26.8.2.9 The IEMA Guidelines (IEMA, 2023) recommend use of professional judgement to determine significance. Therefore, the quantitative assessment of severance is further refined by the qualitative assessment, accounting for local context when explaining the significance of the construction traffic impact on each link.

26.8.2.10 It is generally accepted that footway widths should be a minimum of 2m to allow for 'sufficient distance' between pedestrians and traffic. The presence of street furniture including property boundary walls, fences and guardrails, also play a role in acting as a barrier between pedestrians and traffic. These are therefore considered to reduce the magnitude of impact on transport effects that may otherwise result from increases in traffic flows.

Road vehicle driver and passenger delay

26.8.2.11 The IEMA Guidelines (IEMA, 2023) state that *"Driver delay is only likely to be significant when traffic on the network surrounding the site is already at, or close to, the capacity of the system"* (IEMA, 2023).

26.8.2.12 The guidance confirms that impacts may be 'beneficial' or 'adverse' depending on whether the change in traffic results in an increase or decrease in driver delay. The effect on driver delay on links (excluding junctions), has been based on the change in traffic volume that would occur on key links as a result of the Project. In this case, professional judgement has been used to determine whether there would be a significant impact.

26.8.2.13 In order to calculate the capacity of the system, a capacity assessment of road links can be undertaken to determine the effects of the temporary increase in traffic flow generated by the Project. Theoretical road capacities for rural roads are based on Volume 13, Section 1, Part 5: Speeds on Links (Design Manual for Roads and Bridges (DMRB), 2002). The theoretical road capacity equates to the maximum traffic volumes which a road can accommodate. Above this level, traffic conditions would become unstable and queuing along a road would occur.

Non-motorised user delay

26.8.2.14 Changes in the volume, composition or speed of traffic may affect the ability of people to cross carriageways. In general, increases in traffic levels are likely to lead to greater increases in delay. However, delays would also depend upon the general level of NMU activity, visibility and general physical condition of the road.

26.8.2.15 The IEMA Guidelines (IEMA, 2023) do not support the use of threshold assessments to quantify the magnitude of impacts due to changes in delay for NMUs. Therefore, the magnitude of this impact has been determined using professional judgement based on the predicted increase in traffic levels and the predicted level of pedestrian activity.

26.8.2.16 Whilst the IEMA Guidelines (IEMA, 2023) do not support the use of thresholds, the IEMA guidelines do refer to a predictive method for determining pedestrian mean delay within a report published by the Transport Research Laboratory (Goldschmidt, 1977), as providing a useful approximation for determining pedestrian delay. This predictive method, alongside professional judgement, has informed the assessment. Whilst this method does not mention NMUs, historically research on NMU is 'pedestrian-led'.

Non-motorised User amenity

26.8.2.17 The IEMA Guidelines (IEMA, 2023) describe NMU amenity in pedestrian terms, stating that pedestrian amenity describes the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width / separation from traffic.

26.8.2.18 The IEMA Guidelines (IEMA, 2023) considers that a suitable starting point for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Therefore, the magnitude of impact in pedestrian amenity has been determined based on the level of increase in traffic flows on a particular road link and the likely level of pedestrian activity on that link.

26.8.2.19 The IEMA Guidelines (IEMA, 2023) state that although the above rule is established in case law, that assessment of amenity should pay full regard to the specific local conditions and cautions use of threshold analysis. The IEMA Guidelines (IEMA, 2023) refers to the Guide to the Healthy Streets Indicators: Delivering the healthy streets approach (Transport for London, 2017) which provides indicators, or factors that affect the healthiness of a street. It is considered that the following seven are somewhat relevant to this assessment:

- easy to cross;
- people feel safe;
- places to stop and rest;

- people feel relaxed;
- not too noisy;
- clean air; and
- shade and shelter.

26.8.2.20 Therefore, it is considered that while taking into account the established threshold method, that the assessor should also regard the special local conditions baseline within the study network for these factors when assessing the temporary impact of the construction traffic, and that the magnitude of impact is determined based on professional judgement.

Fear and intimidation

26.8.2.21 Danger is recognised as an important environmental impact and the IEMA Guidelines (IEMA, 2023) suggest a set of thresholds for estimating fear and intimidation caused by traffic based on the following:

- degree of hazard (DoH);
- level of fear and intimidation (LoFI); and
- resulting magnitude of impact reviewed in relation to the change in traffic flows.

26.8.2.22 The IEMA Guidelines (IEMA, 2023) states that, the extent of fear and intimidation is dependent on:

- the total volume of traffic;
- the Heavy Vehicle (HV) (which will include all HGVs associated with the Project) composition;
- the speed these vehicles are passing; and
- the proximity of traffic to people and / or the feeling of the inherent lack of protection created by factors such as a narrow pavement median, a narrow path or a constraint (such as a wall or fence) preventing people stepping further away from moving vehicles.

26.8.2.23 The IEMA Guidelines (IEMA, 2023) also note that special consideration should be given to areas where there are likely to be:

- high-speed sections of road;
- locations of turning points and accesses;
- narrow pavement median, narrow footway and / or constraints such as fences;
- areas frequented by road users unfamiliar with the location such as tourist spots; and
- areas frequented by vulnerable groups.

26.8.2.24 The IEMA Guidelines (IEMA, 2023) also confirm that the assessment should be defined by the DoHs to pedestrians by average traffic flow over an 18-hour HGV flow and average speed (mph) over an 18-hour day.

26.8.2.25 **Table 26.15** identifies the criteria as extracted from the IEMA Guidelines (IEMA, 2023), which has been used to review the Project's impact in relation to fear and intimidation.

Table 26.15 Fear and intimidation DoH

Average traffic flows over 18-hour day – all vehicles / hour 2-way (a)	Total 18-hour HV flow (b)	Average vehicle speed (mph) (c)	DoH 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

26.8.2.26 The IEMA Guidelines (IEMA, 2023) suggests that assessors should consider the total hazard score for each link within the study network based on a review of the total traffic flow, the level of HGVs using the link and the typical vehicle speeds to determine the LoFI in comparison with guidance summarised in **Table 26.16**.

Table 26.16 LoFI

LoFI	Total hazard score – (a) + (b) + (c)
Extreme	71+
Great	41 - 70
Moderate	21 - 40
Small	<=20

26.8.2.27 **Table 26.17** summarises the magnitude of impact which has been used to assess fear and intimidation taking cognisance of the criteria shown in **Table 26.14** and **Table 26.15**.

Table 26.17 Fear and intimidation magnitude of impact

Magnitude of impact	Change in step / traffic flows (AADT) from baseline conditions
High	Two step changes in level.
Medium	One step change in level, but with: • >400 vehicle increase in average 18-hour average two-way all vehicle flow; and / or • >500 HV increase in total 18-hour HV flow.
Low	One step change in level, but with: • <400 vehicle increase in average 18-hour average two-way all vehicle flow; and / or • <500 HV increase in total 18-hour HV flow.
Negligible	No change in step changes.

Road user and pedestrian safety

26.8.2.28 The IEMA Guidelines recommends that at locations where clusters of PIAs are recorded, accident statistics should be used to provide an estimate of the existing road link's accident rate. An assessment of the Project's construction traffic in addition to baseline traffic flows can then be used to undertake a statistical assessment of the likely increase in accident rates based on the increase in vehicle-kilometres (Veh-km)[2]. The statistical assessment can also be compared to national averages, derived from DfT reported road casualties for Great Britain as presented in RAS0302: national accident rate per million vehicle kms by road classification (DfT, 2023).

26.8.2.29 It is also considered that collision cluster analysis be undertaken to identify potential impacts at a more detailed level. Collision clusters are identified by a detailed review of the baseline characteristics to determine the road safety sensitivity of discrete areas of the road network. The collision cluster criterion is typically based on a definition of number of personal injury collisions occurring within a defined period in a given spatial radius. Impacts are assessed by examining STATS19 collision data (DfT, 2024) to identify any emerging patterns or factors that could be exacerbated by traffic or movement generation.

Hazardous / large loads

26.8.2.30 The IEMA Guidelines (IEMA, 2023) states that should a development involve the transportation of hazardous loads, these would need to be considered under the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

26.8.2.31 The IEMA Guidelines (IEMA, 2023) recommends that a traffic and movement assessment needs to outline the composition of such loads. Where the number of movements is considered to be significant, the assessment should include a risk or catastrophe analysis to illustrate the potential for an accident to happen and the likely effect of such an event. The extent of such analysis should clearly reflect the nature of the load being transported. For instance, much more detail is required for a development that involves the transportation of nuclear products than for one that involves the delivery of petroleum.

26.8.2.32 The guidance states that should large or abnormal loads be anticipated:

"The traffic and movement expert must consider appropriate routes for abnormal load movements and mitigation strategies to secure safe passage. If frequent abnormal load movements are anticipated (e.g. heavy plant movements), the traffic and transport expert should consider if other traffic impacts could be induced (e.g. fear and intimidation, driver delay, etc." (IEMA, 2023).

26.8.2.33 Transport Scotland specify that an Abnormal Indivisible Load Vehicle (AILV) is classified as larger than 2.9m overall width by 18.3m rigid length or exceeding 44 tonne gross weight. Movement of AILVs is subject to separate agreement with the relevant road authority and police via notification or an Electronic Service Delivery for AILs system. The extent of such analysis should clearly reflect the nature of the load being transported.

26.8.2.34 A requirement for hazardous loads to be transported to site have not been identified and subsequently scoped out if this assessment as highlighted in **Section 26.4.6**, **Table 26.3**.

26.8.2.35 In regard to assessment of large loads, also referred to as abnormal loads, the impact from these has been assessed within **Volume 3, Appendix 26.2.**

[2] Per million vehicle-kilometres is a unit of measurement used in transportation statistics to express quantities like crash rates or emissions relative to the distance travelled by vehicles. Specifically, it measures the number of incidents (for example, crashes) or emissions per million kilometres travelled by vehicles on a given road or network.

Value of receptor

26.8.2.36 The following receptors, including groups and special interests, have been assessed for the identified study network in line with the IEMA Guidelines, to determine the sensitivity of receptors:

- NMU;
- Core path and RoW users;
- motorists and freight vehicles;
- public transport; and
- emergency services.

26.8.2.37 The receptors above can broadly be grouped as the following affected parties; 'Users of Roads', and 'Users / Residents of Locations'. The following list identifies special interests that should be considered when defining sensitive receptor geographic locations, and the sensitive locations will inform the assessment of effect significance when the development traffic is assigned to the network:

- people at home;
- people at work;
- sensitive people including those who are of young age, older age, income deprived, poor health status, socially disadvantaged, and impacted by access and geographical factors;
- locations with concentrations of vulnerable users (for example, hospitals, places of worship, schools);
- recreational and shopping areas;
- recreation areas including ecological / nature conservation sites;
- tourist / visitor attractions;
- collision clusters and routes with road safety concerns; and
- junctions and road links at (or over) capacity.

26.8.2.38 The IEMA Guidelines suggests how the sensitivity of receptors should be assessed. Professional judgement was subsequently used to develop a classification of sensitivity for users based on the characteristics of roads and locations. This is summarised in **Table 26.18**.

Table 26.18 Receptor sensitivity

Receptor sensitivity	Description / users of roads	Users of locations
High	Receptors of high sensitivity to change in traffic flows: schools, colleges, playgrounds, accident blackspots, retirement homes and urban / residential homes without footways that are used by pedestrians and cyclists.	Occupants of buildings alongside the roads within the study network. Transport users using the roads within the study network.

Receptor sensitivity	Description / users of roads	Users of locations
Medium	Receptors of medium sensitivity to change in traffic flows including congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycle ways, community centres, parks and recreation facilities.	Occupants of buildings alongside the roads within the study network. Transport users using the roads within the study network.
Low	Receptors with low sensitivity to change in traffic flows: places of worship, public open space, nature conservation areas, listed buildings, tourist / visitor attractions and residential areas with adequate footway provision.	Occupants of buildings alongside the roads within the study network. Transport users using the roads within the study network.
Negligible	Receptors with negligible sensitivity to change in traffic flows including Motorways and Dual Carriageways and / or land uses sufficiently distant from affected routes and junctions.	Occupants of buildings alongside the roads within the study network. Transport users using the roads within the study network.

Magnitude of changes

26.8.2.39 The IEMA Guidelines (IEMA, 2023) recommend the following two rules to be considered when assessing the impact of development traffic on a road link:

- rule 1: Include road links where traffic flows will increase more than 30 per cent (or the number of HGVs will increase by more than 30 per cent); and
- rule 2: Include any other specific environmental or population sensitive areas where traffic flows have increased by 10 per cent or more.

26.8.2.40 Although the IEMA Guidelines (IEMA, 2023) go on to state that any increases in traffic flows of less than 10 per cent are generally accepted as having no discernible environmental impact as it falls under expected daily variance in traffic flows, IEMA highlights that, where the sensitivity of a road link is judged as high or medium, Rule 2 should be applied, and assessment of environmental effects will be undertaken.

26.8.2.41 Where the sensitivity is judged as low or negligible results, Rule 1 will be applied and where traffic flows are predicted to increase by more than 30 per cent, or where the number of HGVs is predicted to increase by more than 30 per cent, an assessment of environmental effects will be undertaken of the road link.

26.8.2.42 The 30 per cent threshold relates to the level at which receptors may perceive change and there may therefore be an effect. Impacts above this level therefore do not suggest that there is a significant impact, only that further consideration is required to assess the significance.

26.8.2.43 **Table 26.19** shows the magnitude of impact that will be applied to the environmental effects to help identify levels of significance.

Table 26.19 Magnitude of impact

Transport effect	Magnitude of impact			
	High	**Medium**	**Low**	**Negligible**
Severance	Change in total traffic or HGV flows of >90%	Change in total traffic or HGV flow of >60% ≤90%	Change in total traffic or HGV flows of >30% ≤60%	Change in total traffic or HGV flows of ≤30%
	Where severance is thought likely to require more detailed investigation, it is recommended the assessment involves: a) defining the facilities to which access is potentially impaired; b) defining facility catchment areas from which users may be drawn; and c) estimating the populations within those both in total and in vulnerable groups. This is determined by professional judgement.			
Driver and passenger delay	High increase in queuing at junctions and / or congestion on road links.	Medium increase in queuing at junctions and / or congestion on road links.	Low increase in queueing at junctions and / or congestion on road links.	Low or no increase in queuing at junctions and / or congestion on road links.
	Magnitude of impact is context driven and in absence of detailed junction analysis, this is determined by professional judgement in combination with road capacity assessment on the study network.			
NMU delay	Generally, increases in traffic may lead to greater delay, though is dependent on the level of NMUs activity in the area. Assessed based on pedestrian delay experienced when crossing highways links considering a range of factors including crossing type, pedestrian flows, traffic levels, visibility and general highway condition. This is determined by professional judgement.			
NMU amenity	A halving or doubling of traffic flow (or HGV flow) can be used as a broad threshold when considered in the local context and applied with caution. This is determined by professional judgement.			
Fear and intimidation	Assessed as per **Table 26.15**, **Table 26.16**, and **Table 26.17**. Note that if there are AILVs used in the transporting of transformers, the perception of fear and intimidation may be heightened.			
Road safety	Assignment informed by a review of existing collision patterns and trends based upon the existing PIA records and the forecast increase in traffic that may change the risk of serious and fatal injuries.			
Hazardous loads	Based on the probability of a personal injury collision, categorised as fatal or serious, involving a hazardous load occurring.			
Large loads	Generally, the movements of large loads may have an effect on other traffic impacts (for example, fear and intimidation, driver delay). The number, composition, frequency, timing and nature of the load may induce an effect of the other six traffic impacts. Large loads have been assessed separately as part **Volume 3, Appendix 26.2**.			

26.8.2.44 The magnitude of each impact has subsequently been determined in accordance with the IEMA Guidelines (IEMA, 2023) and based on professional judgement.

Significance evaluation

26.8.2.45 **Table 26.20** sets out the significance effects matrix adopted based on the receptor sensitivity and magnitude of impact in **Table 26.18** and **Table 26.19.**

Table 26.20 Significant effects matrix

Transport effect		Receptor sensitivity			
		High	**Medium**	**Low**	**Negligible**
Magnitude of impact	**High**	**Major**	**Major**	**Moderate**	**Negligible**
	Medium	**Major**	**Moderate**	**Minor**	**Negligible**
	Low	**Moderate**	**Minor**	**Minor**	**Negligible**
	Negligible	**Negligible**	**Negligible**	**Negligible**	**Negligible**

26.8.2.46 The combination of the receptor sensitivity and magnitude of impact due to the effect of the Project, enables the significance of effects to be determined.

26.8.2.47 The likely effects can be:

- **beneficial (positive):** meaning that the changes produce benefits in terms of transportation and access (such as reduction of traffic, travel time or patronage, or provision of a new service, access or facility);
- **negligible (neutral):** meaning that there is no measurable effect; or
- **adverse (negative):** meaning that changes produce disbenefits in terms of transportation and access (such as increase of traffic, travel time, patronage or loss of service or facility).

26.8.2.48 The significance grading criteria are summarised in **Table 26.21**. It is these criteria that have been used in the assessment.

Table 26.21 Significance criteria

Significance criteria	Description
Major (Beneficial)	Major improvement in traffic and transport terms. This has been deemed a **Significant** effect.
Moderate (Beneficial)	Moderate improvement in traffic and transport terms. This has been deemed a **Significant** effect.
Minor (Beneficial)	Minor improvements in traffic and transport terms. This has been deemed a **Not Significant** effect.

Significance criteria	Description
Negligible (Neutral)	No appreciable impact in traffic and transport terms. This has been deemed a **Not Significant** effect.
Minor (adverse)	Minor adverse impact in traffic and transport terms. This has been deemed a **Not Significant** effect.
Moderate (adverse)	Moderate adverse impact in traffic and transport terms. This has been deemed a **Significant** effect.
Major (adverse)	Major adverse impact in traffic and transport terms. This has been deemed a **Significant** effect.

26.8.2.49 Following the classification of an effect using the significance criteria identified in **Table 26.21,** a clear statement is then made as to the temporal and spatial scale of the effects on the basis of the following criteria:

- **'Temporary'** – where the effect occurs for a limited period of time (for example, the construction period) and the change for a defined receptor can be reversed;
- **'Permanent'** – where the effect represents a long-lasting change for a defined receptor;
- **'Local'** effects are those affecting neighbouring receptors;
- **'District'** effects are those which are likely to occur to receptors within the administrative boundary of Aberdeenshire Council;
- **'Sub-regional'** effects are those affecting areas adjacent to the administrative area of Aberdeenshire Council;
- **'Regional'** effects are those affecting receptors across the Northern region of Scotland; and
- **'National'** effects are those affecting receptors within the Scotland.

26.9 Assessment of effects: construction stage

26.9.1 Introduction

26.9.1.1 This Section provides an assessment of the effects on traffic and transport arising from the construction of the onshore elements of the Project. The assessment methodology set out in **Section 26.7.2.4** has been applied, ensuring that effects are evaluated in accordance with the embedded environmental measures and the significance evaluation methodology described in **Section 26.8.**

Overview

26.9.1.2 The assessment of effects is based on the project description as outlined in **Chapter 4: Project Description** and the indicative construction programme.

26.9.1.3 In 2031 construction activities will be taking place in relation to landfall(s), the onshore export cable corridor and the onshore substations concurrently, resulting in the highest

levels of construction traffic during the construction stage and consequently this has formed the basis of assessment of construction traffic as in all other years of construction of onshore infrastructure the construction traffic levels would be lower than in the second year of construction.

26.9.1.4 The assessment is based upon the construction effects that may occur within the study network. Likely traffic generation associated with the Project has been sourced for the second year of construction lasting over a 12-month period. It is estimated that the following traffic would require access to the Onshore Red Line Boundary:

- staff movements via cars or LCVs between various temporary construction compounds and access points to construction working sites;
- construction equipment and materials delivered by HGVs; and
- AL deliveries consisting of transformers, cable drums and HDD (or similar trenchless technique) rigs.

26.9.1.5 Except for the ALs, most construction vehicle traffic would be standard construction plant such as dumper trucks, excavators, mobile cranes and bulldozers.

26.9.1.6 The resulting construction traffic generation is attached in **Volume 3, Appendix 26.1**.

26.9.1.7 The distribution of construction traffic on the road network would vary depending on the types of loads being transported. Materials for the construction of compounds, access tracks and haul roads will come from local quarries, the closest of which is located along the A90(T), directly south of Peterhead (Grid Reference NK 12359 41375). This quarry, identified as Breedon Stirlinghill Quarry, can provide both aggregate and ready-mixed concrete.

26.9.1.8 Equipment and materials required to mobilise i.e. prepare and organise resources for, construction working areas will be transported to the site via the A90(T) from the north and south of Peterhead whilst staff will be regionally based travelling via the A90(T) and A950.

26.9.1.9 The peak construction traffic has been distributed based on assumed origins of materials and staff for the second year of construction. It is assumed that the onshore export cable corridor will be constructed simultaneously with the landfall(s) and onshore substations.

26.9.1.10 To allow the connection to the national electrical grid, transformers will be required. These transformers will be located at the onshore substations and due to their size and weight are classified as ALs. The transformers have been identified as being the largest and biggest ALs to be transported to site however, other ALs may be required which will be identified at a later stage. For the purpose of this assessment, the transformers have been assumed to be delivered to the onshore substations from port of Peterhead via the B9178, A90(T) and A950.

26.9.1.11 The maximum assessment scenario relating to the construction stage is presented in **Table 26.12.** Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 26.8**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 26.13** have been implemented as part of the Project.

Predicted construction impacts

26.9.1.12 A detailed assessment has been undertaken to determine the potential level of effect the construction traffic would have on the road network. **Table 26.22** quantifies the impact which construction traffic is forecast to have on the operation of each of the links in the study network.

Table 26.22 Construction traffic impact summary

Study Link	Scenario	2031 two-way flows			Further assessment required? (yes / no)
		HGVs	Cars and LGVs	Total (combined)	
A90-01	Baseline	529	5866	6396	**Yes**
	Baseline + construction traffic.	860	5866	6727	
	% Impact	**63%**	**0%**	**5%**	
A90-02	Baseline	144	3590	3734	**Yes**
	Baseline + construction traffic.	389	3887	4276	
	% Impact	**171%**	**8%**	**15%**	
A90-03	Baseline	144	3590	3734	**Yes**
	Baseline + construction traffic.	389	3887	4276	
	% Impact	**171%**	**8%**	**15%**	
A90-04	Baseline	278	4750	5028	**Yes**
	Baseline + construction traffic.	523	5047	5570	
	% Impact	**88%**	**6%**	**11%**	
A950-01	Baseline	640	5829	6470	**Yes**
	Baseline + construction traffic.	848	6280	7128	
	% Impact	**32%**	**8%**	**10%**	
C43B-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	58	104	163	
	% Impact	**100%**	**100%**	**100%**	

Study Link	Scenario	2031 two-way flows			Further assessment required? (yes / no)
		HGVs	Cars and LGVs	Total (combined)	
C56B-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	70	110	180	
	% Impact	**100%**	**100%**	**100%**	
C5B-01	Baseline	18	438	456	**Yes**
	Baseline + construction traffic.	116	562	679	
	% Impact	**534%**	**28%**	**49%**	
U32B-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	24	112	137	
	% Impact	**100%**	**100%**	**100%**	
U45B-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	80	115	195	
	% Impact	**100%**	**100%**	**100%**	
U50-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	77	113	190	
	% Impact	**100%**	**100%**	**100%**	
U59B-01	Baseline	0	0	0	**Yes***
	Baseline + construction traffic.	92	321	412	
	% Impact	**100%**	**100%**	**100%**	
U63B-01	Baseline	38	319	357	

Study Link	Scenario	2031 two-way flows			Further assessment required? (yes / no)
		HGVs	Cars and LGVs	Total (combined)	
	Baseline + construction traffic.	108	429	538	**Yes**
	% Impact	**82%**	**10%**	**17%**	
B9178-01	Baseline	409	1352	1761	**No**
	Baseline + construction traffic.	410	1353	1763	
	% Impact	**0%**	**0%**	**0%**	

* Where there is no available traffic information, as a worst-case assessment it is assumed that percentage increase in total flows and HGV flows equate to 100 per cent and these locations have been assessed as such.

Road capacity assessment

26.9.1.13 Capacity assessments have been conducted under the maximum design scenario informing the construction traffic levels that occur, and the results of the assessment can be seen in **Table 26.23**.

Table 26.23 Road capacity assessment

Study link	2031 two-way flows			
	Total base traffic flows	Theoretical road capacity (12-hour period)	Base + construction traffic flows	Spare capacity
A90-01: A90 between A982 at Whitehilll and A950	6396	31200	6727	**78%**
A90-02: A90 between A950 and A982 at Waterside	3734	31200	4276	**86%**
A90-03: A90 between A982 and C5B	3734	31200	4276	**86%**
A90-04: A90 between C5B and U32B	5028	31200	5570	**82%**
A950-01: A950 between A90 and C56B	6470	26400	7128	**73%**
C43B-01: C43B between C5B and U45B	0	4800	163	**97%**

Study link	2031 two-way flows			
	Total base traffic flows	**Theoretical road capacity (12-hour period)**	**Base + construction traffic flows**	**Spare capacity**
C56B-01: C56B between A950 and C38B	0	4800	180	**96%**
C5B-01: C5B between A90 and Cairnhill	456	4800	679	**86%**
U32B-01: U32B west off the A90 at Inverquinzie Cotts	0	4800	137	**97%**
U45B-01: U45B between U50B and C43B	0	4800	195	**96%**
U50-01: U50B between A950 and C43B	0	16800	190	**99%**
U59B-01: U59B between A950 and C38B at Denholm	0	52800	412	**99%**
U63B-01: U63B between A950 and C38B at Stockbridge	357	16800	538	**97%**

26.9.1.14 The results in **Table 26.23** show that the addition of construction traffic levels does not significantly affect capacity of the road links. The lowest spare capacity, 73 per cent, is experienced on the A950 where the onshore substation site and multiple onshore export cable corridor access points are accessed.

26.9.1.15 It is therefore considered that the increase in traffic on the study network as a result of construction would not result in noticeable change on road capacity. The sensitivity to change on road capacity is considered **low** and the magnitude of impact **negligible** compared to current conditions. The impact of the Project on the capacity of the road network is therefore expected to create **temporary**, **short-medium term**, **negligible** and **Not Significant** transport effects.

26.9.1.16 In regard to the roads within the study network where no baseline traffic flows are available, these would have a minimum of 4,800 total vehicle capacity within a 12-hour period. With the addition of a maximum of 71 total daily construction vehicles, this equates to one to two per cent of the theoretical capacity of this road link.

26.9.1.17 As the profile of traffic flows over a day is not expected to be flat, i.e. traffic tends to be higher during peak periods, it is considered unlikely that actual spare capacity is as high as the theoretical at certain times of the day. It is therefore considered that at-worst the Project would have a **temporary, short to medium-term, minor adverse impact**, which is **Not Significant**.

Severance assessment

26.9.1.18 The predicted change in severance of communities on the links has been evaluated based on the percentage increase in total traffic levels expected during the construction stage, in line with IEMA Guidelines (IEMA, 2023). The significance of the change in severance has been determined based on factors including the road condition and location, traffic flows, trip attractors and level of pedestrian activity.

26.9.1.19 **Table 26.24** sets out quantitative severance assessment where the sensitivity grading of receptors as per **Table 26.18**, and the magnitude of impact due to construction traffic (per historical thresholds) are shown.

26.9.1.20 As per the IEMA Guidelines (IEMA, 2023), the quantitative assessment is to be used as a **starting point** to the severance assessment however, **Table 26.25** sets out the qualitative severance assessment which accounts for various factors of influence and local context not captured by the quantitative assessment in **Table 26.24**. Therefore, the results of the qualitative assessment in **Table 26.25** are a further refinement to the initial quantitative severance assessment and should be considered the resulting impact of severance.

Table 26.24 Quantitative severance assessment

Study link	Total Base traffic flows	Base + construction traffic flows	Total impact	HGV impact	Sensitivity of receptor	Magnitude of impact
A90-01: A90 between A982 at Whitehilll and A950	6396	6727	5.2%	62.5%	**Low**	**Medium**
A90-02: A90 between A950 and A982 at Waterside	3734	4276	14.5%	170.5%	**Low**	**High**
A90-03: A90 between A982 and C5B	3734	4276	14.5%	170.5%	**Low**	**High**
A90-04: A90 between C5B and U32B	5028	5570	10.8%	88.2%	**Low**	**Medium**
A950-01: A950 between A90 and C56B	6470	7128	10.2%	32.4%	**Low**	**Low**
C43B-01: C43B between C5B and U45B	0	163	100%	100%	**Medium**	**High**
C56B-01: C56B between A950 and C38B	0	180	100%	100%	**Medium**	**High**
C5B-01: C5B between A90 and Cairnhill	456	679	48.8%	533.6%	**Low**	**High**

Study link	Total Base traffic flows	Base + construction traffic flows	Total impact	HGV impact	Sensitivity of receptor	Magnitude of impact
U32B-01: U32B west off the A90 at Inverquinzie Cotts	0	137	100%	100%	**Medium**	**High**
U45B-01: U45B between U50B and C43B	0	195	100%	100%	**Medium**	**High**
U50-01: U50B between A950 and C43B	0	190	100%	100%	**Medium**	**High**
U59B-01: U59B between A950 and C38B at Denholm	0	412	100%	100%	**Low**	**High**
U63B-01: U63B between A950 and C38B at Stockbridge	357	538	50.4%	184.7%	**Low**	**High**

Table 26.25 Qualitative severance assessment

Study link	Severance impact	Significance of effects
A90-01: A90 between A982 at Whitehilll and A950	The link is semi-rural in nature, with segregated pedestrian facilities, indicating some presence of pedestrians adjacent to the road, potentially using uncontrolled crossing points. It is considered that the need for pedestrians to cross the carriageway from the segregated facilities are low considering the lack of trip attractors on the west side of the road. There are more than 6,500 total movements per day on this road indicating higher baseline flows and increase due to construction traffic is low. Considering the above context of lack of trip attractors resulting low expectation of pedestrians crossing the carriageway, the implementation of embedded environmental measures and the temporary nature of the increase, the magnitude of impact is considered to be **low**, which is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
A90-02: A90 between A950 and A982 at Waterside	The link is semi-rural in nature, with some pedestrian facilities adjacent to the carriageway, indicating some presence of pedestrians close to the road, potentially using uncontrolled crossing points. A core path runs across this link via an uncontrolled crossing however, this is located at a point where visibility is good. It is considered that the need for pedestrians to cross the carriageway from the east side of the road to the west is isolated at the core path crossing. There are more than 4,000 total movements per day on this road indicating	**Minor adverse** (**Not Significant**).

Study link	Severance impact	Significance of effects
	higher baseline flows and increase of HGVs due to construction traffic is high. Considering the above context of lack of trip attractors resulting low expectation of pedestrians crossing the carriageway, the implementation of embedded environmental measures and the temporary nature of the increase, the magnitude of impact is considered to be **low**, which is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	
A90-03: A90 between A982 and C5B	The link is semi-rural in nature, with no pedestrian facilities, indicating minimal presence of pedestrians close to the road. There are no trip attractors on this link to which access may be impeded by an increase in construction traffic. There are more than 4,000 total movements per day estimated on this road indicating higher baseline flows but increase of HGVs due to construction traffic is high. Considering the above context of lack of trip attractors resulting low expectation of pedestrians crossing the carriageway, the implementation of embedded environmental measures and the temporary nature of the increase, the magnitude of impact is considered to be **low**, which is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
A90-04: A90 between C5B and U32B	The link is rural in nature, with no pedestrian facilities, indicating minimal presence of pedestrians close to the road. There is a lack of trip attractors along this section of road to which access would be impeded by an increase in traffic. There are more than 5,000 total movements per day estimated on this trunk road indicating higher baseline flows. The impact from increased HGVs due to construction traffic is not as high as for other parts of the A90(T). Considering the above context, lack of pedestrian activity, lack of trip attractors along this rural trunk road in combination with the implementation of embedded environmental measures and the temporary nature of the change the magnitude of impact is considered to be **low**, which is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
A950-01: A950 between A90 and C56B	The link is rural in nature, with no pedestrian facilities, indicating minimal presence of pedestrians close to the road. The presence of industrial and farming properties along this section of the road, indicates higher levels of HGVs as demonstrated by the existing traffic survey data. There are more than 6,500 total movements per day recorded on this road and the increase of HGVs due to construction traffic is low. Considering the above context, lack of trip attractors along this road in combination with existing higher levels of HGVs, the implementation of embedded environmental measures and the temporary nature of the changes, the magnitude of impact is considered to be **negligible**. This is lower than that of the quantitative assessment, resulting in a **Negligible** effect.	**Negligible** (**Not Significant**).

Study link	Severance impact	Significance of effects
C43B-01: C43B between C5B and U45B	The link is semi-rural in nature, with no pedestrian facilities, however residential properties indicate some presence of pedestrians close to the road. A core path runs across this link through via an uncontrolled crossing. There is no available baseline data on total movements per day on this road but they are expected to be low. Due to the lack of data, the increase of construction traffic HGVs relative to baseline is infinite resulting in a high quantitative impact. As it is not proposed to route HGVs past the residential properties along this road as it is unsuitable for HGVs, this high impact is considered unrealistic, and actual impact significantly lower. Considering the above context, overestimation of HGV impact and the restriction of HGVs routing through residential areas in combination with the implementation of embedded environmental measures and the temporary nature of the changes, the magnitude of impact is considered to be **low**. This is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
C56B-01: C56B between A950 and C38B	The link is rural in nature, with no pedestrian facilities and limited residential properties, indicating limited presence of pedestrians close to the road. There is also a lack of trip attractors along this section of road to which access would be impeded by an increase in traffic. There is no available baseline data on total movements per day on this road, but they are expected to be low. Due to the lack of data, the increase of construction traffic HGVs relative to baseline is infinite resulting in a high quantitative impact. Considering the above context, overestimation of HGV impact, the lack of trip attractors and residential properties in combination with the implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **Negligible**. This is lower than that of the quantitative assessment, resulting in a **Negligible** effect.	**Negligible** (**Not Significant**).
C5B-01: C5B between A90 and Cairnhill	The link is rural in nature, with no pedestrian facilities and limited residential properties, indicating limited presence of pedestrians close to the road. There is also a lack of trip attractors along this section of road to which access would be impeded by an increase in traffic. There are less than 1,000 total movements per day estimated on this road demonstrating generally low baseline flows therefore, increase of construction traffic is relatively high however, presence of farmlands indicates the road is subject to larger vehicle on a regular basis. Considering the above context, higher impact from construction traffic, the lack of trip attractors and residential properties in combination with the implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **low**. This is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).

Study link	Severance impact	Significance of effects
U32B-01: U32B west off the A90 at Inverquinzie Cotts	The link is rural in nature, with minimal residential properties present. There are no pedestrian facilities however, the road makes up a part of the core path network facilitating access to Scotstown beach, indicating presence of pedestrians on the road. There is no available baseline data on total movements per day on this road but they are expected to be low and increase of HGVs due to construction traffic high. Due to the lack of data, the increase of construction traffic HGVs relative to baseline is infinite resulting in a high quantitative impact. This high impact is considered unrealistic, and actual impact lower, with this impact to be minimised and managed by suitable traffic and core path management. Considering the above context, overestimation of HGV impact in combination with implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **low**. This is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
U45B-01: U45B between U50B and C43B	The link is rural in nature, with no pedestrian facilities and while the road crosses part of the core path network, access is not impeded, with pedestrians separated from the carriageway via a bridge structure. There is no available baseline data on total movements per day on this road, but they are expected to be low and increase of HGVs due to construction traffic high. Due to the lack of data, the increase of construction traffic relative to baseline is infinite resulting in a high quantitative impact. This high impact is considered unrealistic, and actual impact lower. Considering the above context, overestimation of construction traffic impact in combination with implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **low**. This is lower than that of the quantitative assessment, resulting in **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
U50-01: U50B between A950 and C43B	The link is semi-rural in nature, with some residential properties and footway facilities adjacent to the carriageway, indicating a presence of pedestrians close to the road. There is no available baseline data on total movements per day on this road, but they are expected to be low and impact from construction traffic high. Due to the lack of data, the increase of construction traffic relative to baseline is infinite resulting in a high quantitative impact. This high impact is considered unrealistic, and actual impact lower, with this impact to be minimised and managed by suitable traffic management. Considering the above context, overestimation of construction traffic impact in combination with implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **low**. This is lower than that of the quantitative assessment, resulting in a **Minor adverse** effect.	**Minor adverse** (**Not Significant**).
U59B-01: U59B between A950 and C38B at Denholm	The link is rural in nature, with no pedestrian facilities, indicating limited presence of pedestrians close to the road. There is also a lack of residential properties or trip attractors on this section of road which may be impeded by additional construction traffic. There is no available baseline data on total movements per day on this road but	**Negligible** (**Not Significant**).

Study link	Severance impact	Significance of effects
	they are expected to be low and increase of HGVs due to construction traffic moderate due to the presence of industrial land uses on the road. Due to the lack of baseline traffic data, the increase of construction traffic relative to baseline is infinite resulting in a high quantitative impact. This high impact is considered unrealistic, and actual impact lower, with this impact to be minimised and managed by suitable traffic management. Considering the above context, overestimation of construction traffic impact in combination with implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **negligible**. This is lower than that of the quantitative assessment, resulting in a **Negligible** effect.	
U63B-01: U63B between A950 and C38B at Stockbridge	The link is rural in nature, with no pedestrian facilities, indicating limited presence of pedestrians close to the road. There is also a lack of trip attractors on this section of road which may be impeded by additional construction traffic. The road is also wider and of a higher standard than most rural roads in the area which allows for higher levels of traffic volumes to be accommodated. There are less than 500 total movements per day estimated on this road indicating lower baseline flows therefore, increase of HGVs due to construction traffic is relatively moderate. Considering the above context, lack of trip attractors along this road in combination higher road standard and the implementation of embedded environmental measures and the temporary nature of the change, the magnitude of impact is considered to be **negligible**. This is lower than that of the quantitative assessment, resulting in a **Negligible** effect.	**Negligible** (**Not Significant**).

26.9.1.21 The assessment confirms that the potential for increased severance of communities on all links is at worst **minor**, with some links classed as **negligible** due to the lower sensitivity of parts of the rural network and lack of sensitive receptors such as pedestrians and vulnerable users.

26.9.1.22 The greatest significance that is anticipated throughout the study network is found where there are rural areas or those with services or receptors on either side of the carriageway, which all have a 'medium' sensitivity. Although the impact of the construction traffic is considered high based on initial quantitative threshold values, the severance effect is expected to be lesser as low base traffic flows inflate the impact. It is therefore expected that the maximum effect on severance is **temporary**, **short to medium-term**, **minor adverse**, and **Not Significant**.

Road vehicle driver and passenger delay

26.9.1.23 The IEMA Guidelines (IEMA, 2023) state that driver delay is only likely to be significant when traffic on the network surrounding the Project is already at, or close to, the capacity of the system. As established in **Table 26.23**, there are no links that are forecast to operate close to capacity following the addition of traffic generated by construction activities and therefore the impact in driver delay is considered to be **negligible** to **low** overall.

26.9.1.24 Therefore, as some of the links have medium sensitive receptors the effect of road vehicle driver and passenger delay would have a **temporary**, **short to medium-term**, **minor adverse** effect on the links and considered **Not Significant**.

Non-Motorised User delay and amenity

Non-Motorised User delay

26.9.1.25 As detailed in the severance assessment in **Table 26.25** all of the study links are subject to NSL (60mph), where pedestrians crossing the carriageway within or outwith of settlements are unlikely to occur. While some footway infrastructure is provided close to residential properties, the study network is generally rural in nature, with limited NMU facilities provided along the majority of links. Additionally, as there are few formal crossing facilities throughout the study network, it is difficult to determine pedestrian visibility where crossings would be made in the rural context.

26.9.1.26 It is expected that an increase of 331 HGV and 211 car / LCV daily deliveries, equating to two HGVs one car / LCV and every five minutes will not result in significant NMU delay or impact amenity substantially.

26.9.1.27 Therefore, it is anticipated that for sensitive receptors the effect of NMU delay would be **temporary**, **short to medium-term** and **negligible** on all links. Therefore, this effect is considered **Not Significant**.

Non-Motorised User amenity

26.9.1.28 When considering the effect on pedestrian amenity, it is considered a starting point to compare whether traffic flows have halved or doubled. **Table 26.24** indicates that for the following study links, the threshold has been reached for a doubling in total traffic flows:

- C43B-01: C43B between C5B and U45B;
- C56B-01: C56B between A950 and C38B;
- U32B-01: U32B west off the A90 at Inverquinzie Cotts;
- U45B-01: U45B between U50B and C43B;
- U50-01: U50B between A950 and C43B; and
- U59B-01: U59B between A950 and C38B at Denholm.

26.9.1.29 When considering the effect of pedestrian amenity, it is also considered suitable to also compare whether HGV flows have halved or doubled. **Table 26.24** indicates that for the following study links, this HGV threshold has been reached for doubling in traffic flows:

- A90-02: A90 between A950 and A982 at Waterside;
- A90-03: A90 between A982 and C5B;
- C43B-01: C43B between C5B and U45B;
- C56B-01: C56B between A950 and C38B;
- C5B-01: C5B between A90 and Cairnhill;
- U32B-01: U32B west off the A90 at Inverquinzie Cotts;
- U45B-01: U45B between U50B and C43B;

- U50-01: U50B between A950 and C43B;
- U59B-01: U59B between A950 and C38B at Denholm; and
- U63B-01: U63B between A950 and C38B at Stockbridge.

26.9.1.30 It is estimated that there would be a maximum of 542 total two-way vehicle movements and 331 two-way HGV movements within a 12-hour working day along the A90(T) and 659 two-way total vehicle movements and 208 two-way HGV movements along the A950. For minor roads, a maximum of 412 total two-way vehicle movements and 92 two-way HGV movements are expected along the U59B. This equates to a maximum of three car / LCV movement and two HGV movements every five minutes.

26.9.1.31 Consequently, based on the expected low NMU movements, and the expected low traffic increase on links of **medium** sensitivity, the impact of construction traffic on NMU amenity is predicted to be **low**. Therefore, the effect on NMU amenity is to have (at worst) **temporary, short to medium-term**, **minor adverse**, and **Not Significant** effects.

Fear and intimidation

26.9.1.32 The findings of impact on fear and intimidation on and by road users are included within **Table 26.26**. Within this table, the comparison of the 18-hour baseline with a threshold for level of fear score assigned to each link and the magnitude of impact as a result of the forecast increase in vehicle movements on each link are shown.

26.9.1.33 The establishment of 18-hour baseline traffic data was produced by applying the following 24-to-18 hour conversion factors derived from DfT Road Traffic Statistics – Table TRA0308: 'Traffic distribution on all roads by time of day and day of the week, for selected vehicle types in Great Britain' for the latest data available, 2024:

- Total vehicle flows: 0.9443
- HGV flows: 0.8997

Table 26.26 Fear and intimidation assessment

Study link	18 hr base – two-way trips		DoH score	LoFI	18hr base + peak construction two-way trips		DoH score	LoFI	Significance of impact
	Vehicles / hour	Total HGVs			Vehicles / hour	Total HGVs			
A90-01	420	627	30	Moderate	439	958	30	Moderate	**Negligible**
A90-02	245	170	30	Moderate	276	415	30	Moderate	**Negligible**
A90-03	245	170	30	Moderate	276	415	30	Moderate	**Negligible**
A90-04	331	329	30	Moderate	361	574	30	Moderate	**Negligible**
A950-01	425	759	30	Moderate	462	966	30	Moderate	**Negligible**
C43B-01	0	0	60	Great	9	58	60	Great	**Negligible**
C56B-01	0	0	60	Great	10	70	60	Great	**Negligible**
C5B-01	30	22	30	Moderate	42	120	30	Moderate	**Negligible**
U32B-01	0	0	60	Great	8	24	60	Great	**Negligible**
U45B-01	0	0	60	Great	11	80	60	Great	**Negligible**
U50-01	0	0	60	Great	11	77	60	Great	**Negligible**
U59B-01	0	0	60	Great	23	92	60	Great	**Negligible**
U63B-01	24	45	0	Small	34	115	0	Small	**Negligible**

26.9.1.34 The results in **Table 26.26** (fear and intimidation) show that with the addition of the maximum design scenario construction traffic levels, none of the links would experience changes in level of fear. As such, it is considered that the increase in traffic from construction vehicles would result in a negligible impact on fear and intimidation. This would result in an effect that is **temporary**, **short to medium-term**, **negligible** and **Not Significant**.

26.9.1.35 For roads where baseline traffic data are not available, these are based on qualitative assessment. With the addition of a maximum of 88 total vehicles within the 18-hour assessment window, it is unlikely to be a significant impact on any links within the study network. For links with no baseline traffic data, the maximum design scenario could generate a small level of fear and intimidation resulting in a one-step level change and **low** impact. Therefore, the roads without traffic data could result effects that are **temporary**, **short to medium-term** and **minor adverse**, which is **Not Significant**.

Road user and pedestrian safety

26.9.1.36 As shown in **Table 26.26**, there is no requirement to introduce specific casualty reduction measures as a low number of PIAs have been reported on the local road network in the most recently available five-year period. All reported accidents have been attributed to driver / pedestrian / rider error, and further analysis of the accident data confirms that there are no specific safety concerns on the local road network which would support construction vehicle movements to the access points from the trunk road network. The analysis concludes that there are not any inherent road safety or accident concerns.

26.9.1.37 While the analysis concludes that there are no inherent road safety concerns, a majority of study links are forecast to experience more than 30 per cent HGV increase due to construction traffic. This temporary traffic flow increases during the construction stage is expected to have some impact on road safety on minor roads due to their lower HGV base flows however, embedded mitigations such as traffic management will minimise this.

26.9.1.38 Therefore, for the majority of the study network, the impact is considered to be **Low** for minor roads and **negligible** for major roads. Consequently, the maximum impact on safety of road users and pedestrians would have a **temporary**, **short to medium-term**, **minor adverse** effect on all links, which is considered **Not Significant**.

Hazardous / Large Loads

26.9.1.39 There are currently no hazardous loads anticipated to be delivered as part of the construction stage of the Project. This has therefore not been assessed within this Chapter.

26.9.1.40 The frequency of abnormal load movements for the Project is considered to be low and therefore, in accordance with IEMA Guidelines (IEMA, 2023), traffic impact from abnormal load movements on key impact categories (e.g. fear and, intimidation, driver delay, etc.) has not been considered.

26.9.1.41 The impacts associated with the delivery of large loads has been considered within **Volume 3, Appendix 26.2** and it is considered that this impact would have a **temporary, short-term, negligible** effect on all links, which is considered **Not Significant**.

26.9.2 Summary of likely effects from construction traffic

26.9.2.1 A summary of the residual effects arising from the construction based on the seven key traffic related impacts are summarised in **Table 26.27**.

Table 26.27 Summary of significance of effects on each study link

Study link	Severance	Road driver delay	NMU delay	NMU amenity	Fear and intimidation	Road safety	Large Loads
A90-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.
A90-02	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.
A90-03	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.
A90-04	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.
A950-01	Negligible, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.
C43B-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.
C56B-01	Negligible, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.
C5B-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.
U32B-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.
U45B-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant	Negligible, Not Significant.
U50-01	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Minor adverse, Not Significant.	Negligible, Not Significant.

Study link	Severance	Road driver delay	NMU delay	NMU amenity	Fear and intimidation	Road safety	Large Loads
U59B-01	**Negligible, Not Significant.**	**Minor adverse, Not Significant.**	**Negligible, Not Significant.**	**Negligible, Not Significant.**	**Minor adverse, Not Significant.**	**Minor adverse, Not Significant.**	**Negligible, Not Significant.**
U63B-01	**Negligible, Not Significant.**	**Minor adverse, Not Significant.**	**Negligible, Not Significant.**	**Negligible, Not Significant.**	**Negligible, Not Significant.**	**Minor adverse, Not Significant.**	**Negligible, Not Significant.**

26.10 Summary of residual effects

26.10.1.1 A summary of the residual effects arising from the construction stage of the Project in relation to traffic and transport are summarised in **Table 26.28**.

Table 26.28 Summary of effects during the construction stage of the Project from traffic and transport

Receptor	Sensitivity / value of receptor	Potential effect	Embedded environmental measures	Magnitude of effect	Significance of effects
Occupants of buildings alongside the study network and transport users using the roads	**Low** to **Medium**	Severance	M-026 M-092 M-094 M-095 M-096	**Minor Adverse**.	**Not Significant**.
	Low to **Medium**	Road driver delay.	M-026 M-092 M-095 M-096	**Minor Adverse**.	**Not Significant**.
	Low to **Medium**	NMU delay.	M-026 M-092 M-094 M-095 M-096	**Negligible**.	**Not Significant**.
	Low to **Medium**	NMU amenity.	M-026 M-094 M-095 M-096	**Minor Adverse**.	**Not Significant**.
	Low to **Medium**	Fear and intimidation.	M-026 M-092 M-095 M-096	**Minor Adverse**	**Not Significant**.
	Low to **Medium**	Road safety.	M-026 M-092 M-094 M-095	**Minor Adverse**.	**Not Significant**.

Receptor	Sensitivity / value of receptor	Potential effect	Embedded environmental measures	Magnitude of effect	Significance of effects
			M-096		
	Low to **Medium**	Large loads.	M-026 M-092 M-094 M-095 M-096	**Negligible**.	**Not Significant**.

26.11 Transboundary effects

26.11.1.1 Transboundary effects arise when impacts from a development with one European Economic Area (EEA) State affects the environment of another EEA State(s). A screening of transboundary effects has been carried out and is presented in Appendix 4B of the Scoping Report (MarramWind Limited., 2023).

26.11.1.2 It has been identified that there is no need for an assessment of transboundary impacts as the ports shortlisted within **Chapter 4: Project Description** are all located in Scotland.

26.11.1.3 Based on the above, there are not considered to be any transboundary effects from traffic and transport associated with the Project.

26.12 Inter-related effects

26.12.1.1 A description and assessment of the likely inter-related effects arising from the Project on traffic and transport is provided in **Chapter 32: Inter-Related Effects**.

26.13 Assessment of cumulative effects

26.13.1.1 A description and assessment of the cumulative effects arising from the Project on traffic and transport is provided in **Chapter 33: Cumulative Effects Assessment**.

26.14 Summary of residual likely significant effects

26.14.1.1 There are no residual likely significant effects on traffic and transport receptors assessed in this Chapter have been identified.

26.15 References

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26.16 Glossary of terms and abbreviations

26.16.1 Abbreviations

Acronym	Definition
AADT	Annual Average Daily Traffic
ATC	Automatic Traffic Counter
CPMP	Core Path Management Plan
CPN	Core Path Network
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
DoH	Degree of Hazard
EEA	European Economic Area
EIA	Environmental Impact Assessment
HDD	Horizontal directional drilling
HGV	Heavy Goods Vehicle
HV	Heavy Vehicle
IEMA	Institute of Environmental Management and Assessment
LCV	Light Commercial Vehicle
LoFI	Level of Fear and Intimidation
mph	miles per hour
NMU	Non-Motorised User
NSL	National Speed Limit
OS	Ordnance Survey
PIA	Personal Injury Accident
RoW	Rights of Way
SRN	Strategic Road Network
TEMPro	Trip End Model Presentation Program
TMP	Traffic Management Plan

26.16.2 Glossary of terms

Term	Definition
Abnormal Load	An abnormal load is a vehicle and load combination that exceeds the standard legal limits for weight, length, or width, making it too large or heavy to be carried on a conventional vehicle without special arrangements.
Annual Average Daily Traffic	A measure of road traffic volume that represents the average number of vehicles that pass a specific point on a road each day over the course of a year.
Core Path	A designated public access route, established under Scotland's Land Reform (Scotland) Act 2003, that forms a basic network across a local authority area to provide reasonable access for walking, cycling, horse riding, and other non-motorized activities
Department for Transport	The government department responsible for the transport network in the UK.
Heavy Goods Vehicle	Is defined as a commercial vehicle with a gross weight exceeding 3,500 kg (3.5 tonnes).
Light Commercial Vehicle	Is defined as a commercial vehicle with a gross weight of 3,500 kg (3.5 tonnes) or less.
Non-Motorised User	A road user who does not utilise a motor vehicle such as pedestrians, cyclists, or equestrians. They are often considered a distinct group that requires separate consideration to motorised traffic.
Personal Injury Accident	A collision or incident occurring on a public road or area where at least one mechanically propelled vehicle is involved, causing personal injury to a person, or dagame to another vehicle, or property.
Principal Contractor	A principal contractor is appointed by a client to control the construction stage of any project involving more than one contractor.
Right of Way	For Scotland, rights of way are paths that link two public places and have been used by the public for a period of at least 20 years without permission or any attempt to stop this use.
TEMPro	TEMPro is a program developed by the Department for Transport (DfT) providing traffic growth projections used in transport models and intended to act as a nationwide standardised distribution of growth in trip ends.
Transport Scotland	The national transport agency of Scotland, established by the Transport Scotland Act 2005 as an Executive Agency of the Scottish Government.

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