

## 11 Transport & Traffic

### 11.1 Introduction

11.1.1 This chapter considers the likely significant effects on receptors along the transport routes resulting from vehicle movements associated with the construction and operation of the proposed development. The specific objectives of the chapter are to:

- describe the current baseline;
- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the potential effects, including direct, indirect and cumulative effects;
- describe the mitigation measures proposed to address the likely significant effects;
- assess the residual effects remaining following the implementation of mitigation measures.

11.1.2 The technical reviewer of the traffic and transport assessment is Gordon Buchan BEng (Hons), MSC, CMILT, FCIHT, Divisional Director of Pell Frischmann. He has over 27 years of undertaking the transport assessments associated with new developments and has worked on renewable energy and energy distribution projects across the UK, Ireland and Northern Europe.

11.1.3 The author is Stephen Cochrane, an Associate Director within the Traffic and Transport team and has over 21 years' experience in the traffic and transportation industry and over 16 years' experience in the production of EIA transport chapters (and associated studies) for onshore wind farms and other energy generation and distribution projects in Scotland. Stephen is a Chartered Member of the Chartered Institute of Logistics and Transport (CMILT) and a Member of the Chartered Institution of Highways and Transportation (MCIHT).

11.1.4 The chapter is supported by:

- Technical Appendix 11.1: Transport Assessment.

11.1.5 Figures 11.1 - 11.4 are referenced in the text where relevant.

### 11.2 Legislation, Policy and Guidance

#### Legislation

11.2.1 There is no legislation, which is specific to transport assessments, that is required to be considered as part of this assessment.

#### Policy

11.2.2 This assessment has been undertaken in accordance with policies outlined in the following plans:

- National Planning Framework 4 (NPF4) (2023);
- Scottish Borders Council Local Access Transport Strategy (LATS) (2015); and
- Scottish Borders Council Local Development Plan (LDP) (2016).

#### Guidance

11.2.3 This assessment has been carried out in accordance with the principles outlined in the following documents:

- Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic (1993);
- Institute of Environmental Assessment, Environmental Assessment of Traffic and Movement (2023);
- Institution of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005);
- Manual for Roads and Bridges (DMRB), LA 104 Environmental Assessment and Monitoring (Revision 1) (2020);
- Planning Advice Note (PAN) 75 (1995);
- Transport Assessment Guidance, (2012);
- Onshore Wind Turbines: Online Renewables Planning Advice (2014);
- Onshore Wind Policy Statement (2022); and
- Scottish Borders Council Supplementary Guidance Renewable Energy (2016).

### 11.3 Consultation

11.3.1 In undertaking the assessment, consideration has been given to the scoping responses and other consultation undertaken as detailed in **Table 11.1**.

Table 11.1: Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
Scottish Borders Council (SBC) 29/05/2023	Scoping	The Councils Roads Planning Service are content with the assessment methodology.	Comment noted.
SBC 29/05/2023	Scoping	<p>Observations of Scottish Borders Council Access Ranger:</p> <p>Observation 1 Core Paths, Public Rights of Way and Promoted Paths</p> <p>According to the records held by Scottish Borders Council, there is one core paths within this area of land (see map below). There are other core paths, rights of way and promoted paths in the local area from which the development will be clearly visible. Mapping of the wider path network across the Scottish Borders can be found at: <a href="http://www.scotborders.gov.uk/mapadvanced">www.scotborders.gov.uk/mapadvanced</a></p> <p>Please note that SBC does not have a definitive record of every claimed right of way within its area. The Scottish Rights of Way and Access Society, community councils and local residents may have evidence of existence of claimed rights of way that have not yet been recorded by SBC.</p>	<p>Comment noted. Details of the paths within the site, and in the vicinity of the site, are detailed in this chapter in section 11.5 Baseline and within <b>Technical Appendix 11.1</b> Transport Assessment.</p> <p>Adverse effects on the path network as a result of the presence of construction traffic will be addressed via an Outdoor Access Management Plan. An outline Outdoor Access Management Plan (OAMP) is presented in <b>Technical Appendix 3.4</b>. Proposed measures to contained within the plan are presented in this chapter in section 11.7 Mitigation and <b>Technical Appendix 11.1</b>.</p>
SBC 29/05/2023	Scoping	<p>Observation 2 Path Planning Study</p> <p>A Path Planning Study should be commissioned within the title deed extent of the landowner affected. A detailed plan of public access (pedestrian, cycle, horse, all ability routes), across and out with the site, (existing, during construction and upon completion) should be provided by the developer for the consideration of the Planning Authority. This should show:</p> <ol style="list-style-type: none"> <li>1. All existing paths and tracks used by the public;</li> <li>2. Any areas proposed for exclusion from statutory access rights, for reasons of privacy, disturbance or curtilage, in relation to proposed buildings or structures;</li> </ol>	<p>Comment noted. An outline OAMP is presented in <b>Technical Appendix 3.4</b>. It is expected that an Outdoor Access Study would form a planning condition should the proposed development obtain planning consent and will be conducted post consent. All of the listed points will be addressed in the Outdoor Access Study.</p>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
		<ol style="list-style-type: none"> <li>3. All paths and tracks proposed for construction or used for site traffic, for use by walkers, cyclists, horse, all-abilities users, etc.</li> <li>4. Any diversions of paths - temporary or permanent - proposed for the purposes of the development;</li> <li>5. Improvements which the developer will implement in terms of: <ol style="list-style-type: none"> <li>a. Provision of high-quality public access routes within the proposed development site</li> <li>b. Provision of high-quality public access routes linking the site with the wider access network of paths and tracks;</li> <li>c. Provision of additional path furniture required in terms of signage and interpretation.</li> </ol> </li> <li>6. Any existing public car park provision and potential car parking at suitable entrances to the wind farm to facilitate recreational use.</li> </ol>	
SBC 29/05/2023	Scoping	<p>Observation 3 Proximity to recreational routes</p> <p>Wind turbines should be set back at a reasonable distance from rights of way and other potential recreational routes. In their 'Scottish Wind Farm Advice Note', the British Horse Society Scotland recommend a separation distance of four times the overall height should be the target for core paths and National Trails, as these are likely to be used by equestrians unfamiliar with turbines, and a distance of three times overall height from all other routes, including roads to maintain safe access for horses and riders.</p>	<p>Noted. Due to other onsite constraints the rights of way and core paths have had a topple distance + 10% buffer applied to them.</p>
SBC 29/05/2023	Scoping	<p>Observation 4 Managing Public Access</p> <p>With regards to managing access during and after construction, Developers should follow the guidance set out in the document 'Good Practice during Wind Farm Construction - Part 8 Recreation and Access'.</p> <p>See: <a href="http://www.nature.scot/guidance-good-practice-during-wind-farm-construction">www.nature.scot/guidance-good-practice-during-wind-farm-construction</a></p>	<p>Comment noted. An outline OAMP is presented in <b>Technical Appendix 3.4</b>. It is proposed that an OAMP will be developed in accordance with the good practice document noted, and will contain measures which are outlined in this chapter in section 11.7 Mitigation, as well as <b>Technical Appendix 11.1</b>.</p>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
East Lothian Council 07/04/2023	Scoping	Roads It does not appear that access is currently intended to be taken through East Lothian, but if this changes please contact roads@eastlothian.gov.uk for comment.	Comment noted.
Oxton & Channelkirk Community Council 30/03/2023	Scoping	Section 8 - Transport and Access 14. It is assumed that access from the A697 will also require access via the A68. We request that any traffic management plan considers the potential for a neighbouring windfarm at Ditcher Law, currently in the scoping stage. The potential combined effects on traffic disruption, if construction is coincident, should be considered.	As Ditcher Law Wind Farm has not been granted planning consent it cannot be considered as cumulative development within the Traffic and Transport assessment. Transport Assessment guidance <sup>1</sup> advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or not yet determined should not be included in cumulative assessments. Should Ditcher Law Wind Farm obtain planning consent and its construction period overlap with the proposed development, the effects of construction traffic will be addressed via an overarching Construction Traffic Management Plan (CTMP), which would be prepared in full consultation with the relevant parties, including but not limited to SBC, Transport Scotland and the Applicants.
		Section 8 - Transport and Access 15. The general approach to consultation is sound, and we would specifically be interested in the area around the Carfraemill roundabout, if this is the chosen route, and how this area would be able to facilitate the delivery of abnormal loads.	The proposed Abnormal Indivisible Load (AIL) delivery route and proposed mitigation measures associated with the route is presented in a Route Survey Report (RSR) as part of <b>Technical Appendix 11.1.</b>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
ScotWays 28/04/2023	Scoping	ScotWays records The enclosed map shows that rights of way BE11 and BB107 as recorded in the National Catalogue of Rights of Way (CROW) cross or are close to the application site as shown on Figure 1.2 Site Layout. A second enclosed map shows the Heritage Paths project promotion of two routes, Muir Road from Lauder to Dunbar (Herring Road) [HP408] and Addinston Hill Ridge Route [HP409] for their historic interest. These old routes cross or are close to the application site as shown on Figure 1.2 Site Layout. In searching our records at this scoping stage, we have focussed solely on the immediate area of the proposed application. If required by the applicant to inform their Environmental Impact Assessment (EIA), maps of a wider search area are available from the Society, alongside a more detailed response.	Comment noted. Details of the paths within the site, and in the vicinity of the site, are detailed in this chapter in section 11.5 Baseline and within <b>Technical Appendix 11.1</b> Transport Assessment. Adverse effects on the path network as a result of the presence of construction traffic will be addressed via an Outdoor Access Management Plan. An outline Outdoor Access Management Plan (OAMP) is presented in <b>Technical Appendix 3.4.</b> Proposed measures to contained within the plan are presented in this chapter in section 11.7 Mitigation and <b>Technical Appendix 11.1.</b>
Transport Scotland 06/04/2023	Scoping	Assessment of Environmental Impacts Chapter 8 of the SR presents the proposed methodology for the assessment of the potential effects of Traffic and Transport associated with the construction of the wind farm. 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. This is considered appropriate.	Comment noted.
Transport Scotland 06/04/2023	Scoping	We note that baseline traffic data will be obtained from new Automatic Traffic Count surveys located on the A697 and Longcroft Farm Road, with further traffic data for the local road network obtained from Department for Transport (DfT) traffic count data, the Transport Scotland database or from specifically commissioned traffic surveys.	Existing traffic data was obtained from Transport Scotland (TS) and the Department for Transport (DfT) databases. Further information is provided in this chapter in section 11.5 Baseline and within <b>Technical Appendix 11.1.</b>

<sup>1</sup> <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
Transport Scotland 06/04/2023	Scoping	Transport Scotland will require to be satisfied that traffic associated with the construction of the proposed wind farm will not have any adverse impact at the A68(T)/ A697 Carfraemill junction, therefore, this should be included within the scope of the threshold assessment. We would also ask that survey information is sourced from the Traffic Scotland database if possible and the use of any DfT estimated traffic flows is avoided.	A review of peak traffic flow capacity was undertaken (Table 11.10) and shows that significant spare capacity exists on the A68(T) and A697. It is estimated that there will be approximately 10 vehicles per hour associated with the proposed development during peak construction activity, which is not considered to be significant and should not have an adverse impact on the A68(T)/ A697 Carfraemill junction.  Where available, TS traffic data was used in the assessment.
Transport Scotland 06/04/2023	Scoping	The SR indicates that base traffic will be factored to the peak construction year using National Road Traffic Forecast (NRTF) Low Traffic Growth assumptions. Transport Scotland is satisfied with this approach.	Comment noted.
Transport Scotland 06/04/2023	Scoping	It is noted that any impacts associated with the operational and decommissioning phases of the development are to be scoped out of the assessment. We would consider this to be acceptable in this instance.	Comment noted.
Transport Scotland 06/04/2023	Scoping	Abnormal Loads Assessment The SR states that detailed swept path analyses will be undertaken for the main constraint points on the route from the port of entry through to the site access junction. It should be noted that Transport Scotland will require to be satisfied that the size of turbines proposed can negotiate the selected route and that transportation will not have any detrimental effect on structures within the trunk road route path.	A RSR is provided as part of <b>Technical Appendix 11.1</b> and contains swept path analyses for pinch points along the proposed AIL delivery route, as well as proposed mitigation measures along the route.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action
Transport Scotland 06/04/2023	Scoping	A full Abnormal Loads Assessment report should be provided with the Environmental Impact Assessment Report (EiAR) 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.	A RSR is provided as part of <b>Technical Appendix 11.1</b> .

## 11.4 Methodology

### Scope of Assessment

11.4.1 The following effects were identified at the scoping stage for consideration in this assessment:

- Direct effects during construction on traffic and transport:
  - Traffic flows in the surrounding area;
  - Local road users; and
  - Local residents.
- Cumulative effects during construction on traffic and transport.

11.4.2 The assessment scenarios used for this topic will be:

- Future Baseline Flows (2030) - which are estimated by applying National Road Traffic Forecast (NRTF) low growth factors to traffic flow information obtained from the Department for Transport (DfT) and Transport Scotland (TS) databases; and
- Future Baseline + Development Flows (2030) - which are estimated by applying the distributed development trips to the future baseline traffic flow information.

### Effects Scoped Out

11.4.3 On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment, as proposed in the Scoping Report:

- Operational Phase: The traffic effects during the operational phase of the proposed development are likely to be insignificant as expected traffic flows will be less than two vehicle movements per week, far below the recognised thresholds for triggering a formal transport assessment. As such, the effects during the operation phase are scoped out of the assessment.
- Decommissioning Phase: The traffic effects during the decommissioning phase can only be fully assessed closer to that period. As elements of the proposed development are likely to remain in-situ (such as cable trenches, access tracks, etc), the traffic flows associated with the decommissioning works will be lower than those associated with the construction phase. The construction phase therefore represents a worst case assessment and as such, no further assessment of the decommissioning phase has been considered at this point in time and has been scoped out of the assessment.

### Baseline Characterisation

#### Study Area

- 11.4.4 The study area centred around data collection count sites, likely points of origin for materials to assist in developing a suitable study area.
- 11.4.5 ALLs associated with the wind turbines will be delivered to site from the proposed Port of Entry (POE) at Rosyth Port.
- 11.4.6 The study area for this assessment is therefore as follows:
- A68 between the A720 and Birkhill;
  - A697 between Carfraemill and Whiteburn; and
  - D-Class Road, D124 between the A697 and site.
- 11.4.7 The study area network is illustrated in **Figure 11.1**.

#### Desk Study / Field Survey

- 11.4.8 The desk study included reviews and identification of the following:
- Relevant transport planning policy;
  - Accident data;
  - Sensitive locations;
  - Any other traffic sensitive receptors in the area (core paths, routes, communities, etc.);
  - Ordnance Survey (OS) plans;

- Potential origin locations of construction staff and supply locations for construction materials to inform extent of local area roads network to be included in the assessment; and
- Constraints to the movement of ALL through a route survey including swept path assessments.

11.4.9 Field surveys were also undertaken and comprised of a site visit to review the access routes and local road network.

### Sensitivity Criteria

- 11.4.10 The Institute of Environmental Management and Assessment (IEMA) ‘Guidelines for Environmental Impact Assessment’ (2005) notes that the separate IEMA Guidelines should be used for characterising the environmental traffic and transport effects (off-site effects) and the assessment of significance of major new developments. Recent guidance published by the IEMA, namely ‘Environmental Assessment of Traffic and Movement’ (2023) provides an update to the previously used guidance, ‘Guidelines for the Environmental Assessment of Road Traffic’ (1993) document, that should be used to characterise the environmental traffic and transport effects (off-site effects) and the assessment of significance of major new developments. The guidelines intend to complement professional judgement and the experience of trained assessors.
- 11.4.11 In terms of traffic and transport impacts, the receptors are the users of the roads within the study area and the locations through which those roads pass.
- 11.4.12 The IEMA Guidelines includes guidance on how the sensitivity of receptors should be assessed. Using that as a base, professional judgement was used to develop a classification of sensitivity for users based on the characteristics of roads and locations. This is summarised in **Table 11.2**.

**Table 11.2: Classification of Receptor Sensitivity**

Receptor	Sensitivity			
	High	Medium	Low	Negligible
Users of Roads	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.	Where the road is a local A or B class road, capable of regular use by HGV traffic.  Includes roads where there is some traffic calming or traffic management measures.	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.  Includes roads with little or no traffic calming or traffic management measures.	Where roads have no adjacent settlements.

Receptor	Sensitivity			
	High	Medium	Low	Negligible
	Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.			Includes new strategic trunk roads that would be little affected by additional traffic and suitable for ALLs and new strategic trunk road junctions capable of accommodating ALLs.
Users/ Residents of Locations	Where a location is a large rural settlement containing a high number of community and public services and facilities.	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.	Where a location is a small rural settlement, few community or public facilities or services.	Where a location includes individual dwellings or scattered settlements with no facilities.

11.4.13 Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or location characteristics.

### Magnitude of Effect

11.4.14 The following rules, also taken from the 1993 and 2023 IEMA Guidelines, were used to determine which links within the study area should be considered for detailed assessment:

- Rule 1 - Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles (HGV) will increase by more than 30%); and
- Rule 2 - Include highway links of high sensitivity where traffic flows have increased by 10% or more.

11.4.15 The IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development: the impacts and levels of magnitude are discussed below:

- Severance - the IEMA Guidance advises that, “*The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.*” (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that “*the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc.*” (Para 3.17).
- Driver delay - the IEMA Guidelines note that these delays are only likely to be “*significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*” (Para 3.20).
- Pedestrian delay (incorporating delay to all non-motorised users) - the IEMA Guidance advises that “*pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site.*” (Para 3.24). Furthermore, the guidance advises that “*...it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect.*” (Para 3.26).
- Non-motorised user amenity - the IEMA Guidance advises that, “*The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law.*” (Para 3.30).

- Fear and intimidation - there are no commonly agreed thresholds for estimating levels of fear and intimidation, from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30%, 60% and 90% are regarded as producing minor, moderate and substantial changes respectively in the guidelines. (Para 2.19). As such, this has been used to assess the potential impacts associated with construction activities around fear and intimidation on people in close proximity to the proposed development.
- Road safety - professional judgement would be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA Guidance, those areas of collision clusters would be subject to detailed review.
- Road safety audits - It would be proposed to undertake any necessary Road Safety Audits (RSA) post consent and it is considered that this can be secured via a planning condition.
- Large loads - The movement of the AILs associated with the construction of the proposed development have been considered in full, within a separate route survey assessment, which identifies physical mitigation measures required to accommodate the predicted loads. Additional mitigation in terms of addressing potential impacts on sensitive receptors are included as standard within Section 11.7 Mitigation.

11.4.16 While not specifically identified as more vulnerable road users, cyclists are considered in similar terms to pedestrians.

### Significance Criteria

11.4.17 To determine the overall significance of effects, the results from the receptor sensitivity and magnitude of change assessments are correlated and classified using a scale set out in DMRB LA 104 Environmental Assessment and Monitoring (Revision 1) and summarised in **Table 11.3**.

**Table 11.3: Significance of Effects**

		Magnitude of Change			
		High	Medium	Low	Negligible
Sensitivity	High	Major	Major/Moderate	Moderate	Moderate/Minor
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
	Low	Moderate	Moderate/Minor	Minor	Minor/Negligible
	Negligible	Moderate/Minor	Moderate/Minor	Minor/Negligible	Negligible

11.4.18 In terms of the EIA Regulations, effects would be considered of significance where they are assessed to be Major or Major/Moderate. Where an effect could be one of Major/Moderate or Moderate/Minor, professional judgement would be used to determine which option should be applicable.

#### Assessment Limitations

11.4.19 The assessment is based upon average traffic flows in one-month periods. During the month, activities at the proposed development may fluctuate between one day and another and it is not possible to fully develop a day-by-day traffic flow estimate as no contractor has been appointed and external factors can impact upon activities on a day by day basis (weather conditions, availability of materials, time of year, etc).

## 11.5 Baseline

### Current Baseline

#### Pedestrian and Cycle Networks

- 11.5.1 There are limited pedestrian facilities in the immediate vicinity of the site, reflecting the rural nature of the site. Those areas where pedestrian facilities are located are detailed below:
- there is a pedestrian footway on the southern side of the A697 at Carfraemill, running from the A68 Carfraemill Roundabout, for a distance of approximately 470 metres (m); and
  - there is a pedestrian footway on the eastern side of the A68 at Carfraemill, running from the A68 Carfraemill Roundabout, for a distance of approximately 140m.
- 11.5.2 Further away from the proposed development in the wider study area, there are pedestrian facilities within the larger settlements, including Lauder and Pathhead, where there are footways on one side or both sides of the carriageway. In addition, there are dedicated signal-controlled crossing points for pedestrians in both settlements.
- 11.5.3 The level of pedestrian infrastructure is commensurate with the scale of the local settlements and their rural setting.

11.5.4 A review of SBC's Core Path network and the ScotWays Maps enclosed in the Scoping Response indicates that there are two Core Paths within the vicinity of the site which are Core Path 194, located north-west of the site and Core Path 16, which runs through the eastern section of the site in a north-south direction. These are also recorded as Public Right of Ways (PRoWs) as BE/BE9/1 and BE/BE11/1, respectively, on the maps provided by ScotWays. A review of the Scottish Borders Oxtan Longcroft Area map provided by SBC in the Scoping Response shows a number of "Other" paths which are located within, and in the immediate vicinity of, the site boundary including OXCH/LMC/269/0007/1, OXCH/FGO/1, OXCH/FGO/2, OXCH/FGO/3, CREL/FGO/4, CREL/FGO/5, OXCH/FGO/4, CREL/FGO/6 and CREL/FGO/3.

11.5.5 A review of Sustrans National Cycle Network (NCN) map<sup>2</sup> indicates that there are no NCN routes within the study area.

#### Study Area Road Network

##### *Unclassified road between the A697 and site*

11.5.6 Access to the existing site area is taken from the D-Class Road, D124 which runs from its junction with the A697 to the south of Cleekhimin Bridge near Carfraemill. The road is a single carriageway road of varying width and approximately 1.77km in length. There are passing places located on the road, of varying standards. The road is maintained by SBC.

##### *A697*

11.5.7 The A697 is a single carriageway rural road, which runs from Carfraemill at the A86 to Morpeth, for a distance of approximately 38km. On the sections of the road likely to be used by construction traffic, the national speed limit is in place.

##### *A68(T)*

11.5.8 The A68 Edinburgh to Newcastle Upon Tyne is a Trunk Road (T) operated by Bear Scotland. The road runs from the grade separated junction with the A720 Edinburgh City By-pass in a south-eastwards direction for a distance of approximately 83km to the Scotland / England border. The national speed limit is in place for the majority of its length, reducing to 20 or 30 miles per hour (mph) in villages and settlements along its length.

#### *Road Suitability*

11.5.9 A number of the roads within the study area form part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic. This includes the A697 and A68(T).

11.5.10 The Agreed Timber Route Map<sup>3</sup> has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles i.e., HGVs. The routes are categorised into four groups, namely; 'Agreed Routes', 'Consultation Routes', 'Severely Restricted Routes' and 'Excluded Routes'.

11.5.11 'Agreed Routes' are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as 'Agreed Routes' by default unless covered by one of the other road classifications. Those links classed as 'Consultation Routes' are categorised as a route which is key to timber extraction, but which are not up to 'Agreed Route' standard. Consultation with the local authority is required, and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads are classified as 'Consultation Routes' by default unless covered by one of the other classifications. 'Severely Restricted Routes' are not normally to be used for timber transport in their present condition. These routes are close to being Excluded Routes. Consultation with the local authority is required prior to use. Finally, 'Excluded Routes' should not be used for timber transport in their present condition. These routes are either formally restricted, or are close to being formally restricted, to protect the network from damaging loads.

#### Existing Traffic Conditions

11.5.12 In order to assess the impact of construction traffic within the study area, Annual Average Daily Traffic (AADT) flows were obtained from the UK Department for Transport (DfT) traffic database<sup>4</sup> and TS database<sup>5</sup>. With regards to the traffic data obtained from TS database 2023 data has been used, while for the DfT database 2019 data has been used as 2023 is currently unavailable and these flows would be unaffected by Covid-related travel restrictions.

<sup>2</sup> <https://www.sustrans.org.uk/national-cycle-network>

<sup>3</sup> <https://timbertransportforum.org.uk/>

<sup>4</sup> <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>

<sup>5</sup> <https://ts.drakewell.com/multinodemap.asp>



11.5.13 The traffic counts sites used were as follows:

- A68(T) at Pathhead (TS Count site reference: 130754);
- A68(T) North of Carfraemill (TS Count site reference: JTC00048);
- A68(T) North of Lauder (TS Count site reference: ATC00004); and
- A697 South of Addinston (DfT Count site reference: 50934).

11.5.14 The location of the traffic surveys is presented in **Figure 11.2**.

11.5.15 DfT and TS traffic data allow the traffic flows to be split into vehicle classes. The data was summarised into Cars/Light Goods Vehicles (LGVs) and HGVs (all goods vehicles >3.5tonnes gross maximum weight).

11.5.16 A National Road Traffic Forecast (NRTF) low growth factor was applied to the DfT survey data, to bring the traffic data up to the base year of 2023. The NRTF low growth factor for 2019 to 2023 is 1.027.

11.5.17 These sites were identified as being areas where sensitive receptors on the access routes would be located.

11.5.18 With regards to the D124 road, as previously discussed, this is a single-track road with passing places, serving a small number of isolated dwellings and providing access to areas used for agricultural purposes. The road is very lightly trafficked and given that all traffic used in the construction of the proposed development will use it to access the site, the percentage increase will be significant. As such rather than use the base flows to determine if an assessment is required, one has been undertaken regardless.

11.5.19 Table 11.4 summarises the Annual Average Daily Traffic (AADT) traffic data estimated at the nine sites for 2023.

**Table 11.4: Existing Traffic Flow (2023)**

Site Ref	Survey Location	Cars & Lights	HGV	Total
1	A68(T) at Pathhead	8,581	943	9,524
2	A68(T) North of Carfraemill	7,498	1,375	8,873
3	A68(T) North of Lauder	6,822	537	7,359
4	A697 South of Addinston	2,588	265	2,853

Please note minor variances due to rounding may occur.

11.5.20 The TS count sites which provided traffic volume data were also used to obtain speed statistics. The two-way seven-day average and 85th percentile speeds observed at the count sites are summarised in **Table 11.5**.

**Table 11.5: Speed Summary (2023)**

Site Ref	Survey Location	Daily Mean Speed (mph)	85th %ile Speed (mph)	Speed Limit (mph)
1	A68(T) at Pathhead	25.7	29.8	30
2	A68(T) North of Carfraemill	26.5	56.4	60
3	A68(T) North of Lauder	24.3	29.2	20

\* No speed data available from DfT database

11.5.21 Speed information from the **Table 11.5**, suggests that there are speeding issues on the A68(T) North of Lauder, where a new 20mph speed limit has been recently introduced. Police Scotland may wish to consider enforcement spot checks in these areas.

#### Accident Review

11.5.22 Personal Injury Accident (PIA) data for the five-year period covering January 2017 to December 2021 was obtained from the online resource CrashMap<sup>6</sup> which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured.

11.5.23 Transport Assessment Guidance<sup>7</sup> requires an analysis of the PIA on the road network in the vicinity of any development to be undertaken for at least the most recent 3-year period, or preferably a 5-year period, particularly if the site has been identified as being within a high accident area.

11.5.24 The statistics are categorised into three categories, namely “Slight”, “Serious” and “Fatal”, for those accidents that result in a death. The locations and severity of the recorded accidents within the study area are summarised in **Table 11.6**, while **Figure 11.3** shows their locations.

**Table 11.6: Personal Injury Accident Summary**

Survey Location	Slight	Serious	Fatal	HGV Incidents
A68(T)	23	11	1	13
A697	7	2	0	5
Total	30	13	1	18
Percentage	68.18%	29.55%	2.27%	-

11.5.25 A summary analysis of the incidents indicates that:

- a total of 44 accidents were recorded within the study area roads within the five year period;

<sup>6</sup> <https://www.crashmap.co.uk/>

<sup>7</sup> [https://www.transport.gov.scot/media/4589/planning\\_reform\\_-\\_dpmtag\\_-\\_development\\_management\\_dpmtag\\_ref\\_17\\_-\\_transport\\_assessment\\_guidance\\_final\\_-\\_june\\_2012.pdf](https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management_dpmtag_ref_17_-_transport_assessment_guidance_final_-_june_2012.pdf)

- of those 44 accidents, 30 were classed as “slight”, 13 as “serious” and one as “fatal”;
- the accident which included a fatality occurred on the A68, approximately 100m to the east of the B3668 junction. The accident involved two cars and resulted in one fatality;
- one accident involved a single vehicle motorcycle collision at the westbound access to Carfraemill Roundabout. The incident was classified as a serious accident;
- a total of 18 accidents involved HGVs, of which 13 occurred on the A68 and five occurred on the A697;
- four of the accidents involving HGVs on the A68 were recorded as serious, as was one on the A697 and the remainder were recorded as slight. All of the incidents also involved cars;
- there were no accidents recorded along the unclassified road between the A697 and site;
- there were no accidents involving pedestrians or cyclists within the study area during the survey period; and
- there were no reported accidents involving a bus in the study area.

11.5.26 Based on the information available, it has been established that there are no specific road safety issues within the immediate vicinity of the proposed development that currently require to be addressed or would be exacerbated by the construction of the proposed development.

### Future Baseline

11.5.27 Construction of the proposed development could commence during 2030 if consent is granted and is anticipated to take approximately 16 months depending on weather conditions and ecological considerations.

11.5.28 To assess the likely effects during the construction, base year traffic flows were determined by applying a NRTF low growth factor to the surveyed traffic flows. The NRTF low growth factor for 2023 to 2030 is 1.036. These factors were applied to the survey data to estimate the 2030 Base traffic flows, as shown in **Table 11.4**.

11.5.29 The 2030 Future Baseline Traffic Flows are presented in **Table 11.7**. This will be used in the Construction Peak Traffic Impact Assessment.

**Table 11.7: 24-hour Two-way Average Traffic Data (2030)**

Site Ref	Survey Location	Cars & Lights	HGV	Total
1	A68(T) at Pathhead	8,890	977	9,867
2	A68(T) North of Carfraemill	7,768	1,425	9,192
3	A68(T) North of Lauder	7,067	557	7,624
4	A697 South of Addinston	2,681	275	2,956

Please note minor variances due to rounding may occur.

11.5.30 In the scenario that the proposed development did not proceed, traffic growth will still occur and the links within the study area will experience increased traffic flows resulting from other development pressures, tourism traffic and population flows.

11.5.31 A review of sensitive receptors has been undertaken within the study area. **Table 11.8** details the receptors and their sensitivities for use within the following assessment. A justification for the sensitivity has been provided, based upon the details contained in **Table 11.2**.

**Table 11.8: Receptor Sensitivity Summary**

Receptor	Sensitivity	Justification
D124 Proposed Site Access Road Users	High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.
A697 Users	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
A68(T) Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
Residents along D124	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Residents along A697	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Whiteburn Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Carfraemill Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Residents along A68(T)	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Pathhead Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Lauder Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Core Paths / Public Rights of Way / Path Users within the site	High	Minor paths used by walkers and cyclists, not constructed to accommodate HGV traffic flows

11.5.32 Based on the indicators set out within the IEMA Guidelines, the users/residents of Pathhead and Lauder, and the Core Path / PRoW / Path Users within site are identified as sensitive receptors in this assessment. These locations will therefore be subject to 'Rule 2' of the IEMA Guidelines which requires a full assessment of effects if the locations are subject to an increase in 10 % of traffic.

11.5.33 All other locations within the study area are subject to 'Rule 1' and are assessed if traffic flows (or HGV flows) on highway links increase by more than 30%.

## 11.6 Assessment of Potential Effects

### Construction Effects

11.6.1 The assessment is based upon the construction effects that may occur within the study area. In order to assess the effects, it is necessary to determine the likely traffic generation associated with the proposed development.

11.6.2 During the 16-month construction period, the following traffic will require access to the site:

- staff transport, in either cars or staff minibuses;
- construction equipment and materials, deliveries of machinery and supplies such as concrete and crushed rock;
- components relating to the battery storage element and associated infrastructure; and
- AILs consisting of the wind turbine sections and a heavy lift crane.

11.6.3 Except for the wind turbine components, most traffic would be normal construction plant and would include grading tractors, excavators, high-capacity cranes, forklifts and dumper trucks. Most would arrive at the proposed development on low loaders.

11.6.4 The wind turbines are delivered in component sections for transport and would be assembled at the proposed development. The nacelle, hub, drive train, blade, tower sections are classified as AIL due to their weight and/or length, width and height when loaded.

11.6.5 The components can be delivered on a variety of transport platforms with typical examples illustrated in RSR presented as part of **Technical Appendix 11.1**.

11.6.6 In addition to the wind turbine deliveries, two high-capacity erection cranes would be needed to offload some components and erect the wind turbines. The main crane is likely to be a mobile crane with a capacity up to 1,000 tonnes that would be escorted by boom and ballast trucks to allow full mobilisation on-site. A smaller assist crane will also be present to allow the assembly of the main crane and to ease overall erection of the wind turbines.

11.6.7 The resulting traffic generation profile is included in **Technical Appendix 11.1** for review, with the predicted traffic movements for the whole 16-month construction programme detailed in **Table 11** of the **Technical Appendix**.

11.6.8 The peak of construction activity is expected to occur in Month 8 when there will be a total of 172 vehicle movements, comprising 100 two-way HGV movements and 72 two-way car / LGV movements.

11.6.9 This would equate to 8 two-way HGV movements per hour across a typical 12-hour day, assuming a flat traffic profile.

11.6.10 The distribution of proposed development construction traffic on the network would vary depending on the types of loads being transported. The assumptions for the distribution of construction traffic during the peak months are as follows:

- all construction traffic enters the site via the D124 road, accessed from the A697;
- deliveries associated with concrete materials, such as cement powder and water, will be sourced from local concrete suppliers, which for the purpose of this assessment will originate from the A68 to the south or the A697 from the south (for the purposes of the assessment, these have been split 50/50);
- for the purpose of this assessment it is proposed that 60% of access track and hardstand aggregate requirements will be sourced from local quarries, which are assumed to originate from the A68 to the south or the A697 from the south (for the purposes of the assessment, these have been split 50/50). The BoP contractor will confirm final quarry and material sourcing with SBC in the final CTMP;
- HGV deliveries associated with cabling and associated materials, etc. will arrive via the A68, A697 and D124;
- staff working at the site are likely to be based locally. It is assumed that 45% will come from the A68 to the north, 45% from the south, and 10% from the A697 to the south-east; and
- general site deliveries will be split 50/50 via the A68 from the north and south.

11.6.11 For the purposes of preparing this chapter, it has been assumed that all AIL traffic will access the proposed development site via the following route, which is illustrated in **Figure 11.4**:

- loads will exit the port onto Keith Road and will then proceed eastbound;
- loads will then merge onto the B981 before turning right onto the M90 southbound;
- loads will continue southbound on the M90 until the Interchange with the M9 and M9 Junction 1a;
- loads will merge onto the M8 at Newbridge and will proceed towards Edinburgh until Hermiston Gait, where they will turn right and join the A720 Edinburgh City Bypass;
- loads will continue eastbound on the length of the A720 before exiting at the Millerhill Junction;
- loads will proceed southbound on the A68 until Carfraemill when they will turn left onto the A697 south-eastbound;
- loads would continue to a proposed transfer point near Newbigging Walls on the A697 before returning north-westbound with, blades in the blade lifting trailer; and
- loads would turn right at Cleekhimin onto the D124 and continue to the site entrance.

11.6.12 Details of the mitigation measures which are required to facilitate the AIL deliveries are presented in the RSR as part of **Technical Appendix 11.1**.

11.6.13 To estimate the total trips through the study area during the peak of the construction phase, traffic was distributed through the network and combined with the 2030 Future Baseline traffic data. The resulting figures were compared with the weekday 2030 Baseline traffic (**Table 11.7**) to provide a percentage change in movements which is shown in **Table 11.9**.

**Table 11.9: 24-hour Two-way Average Traffic Data (2030)**

Site Ref	Survey Location	Cars & LGV	HGV	Total Traffic	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
1	A68(T) at Pathhead	8,923	981	9,903	0.4%	0.4%	0.4%
2	A68(T) North of Carfraemill	7,800	1,429	9,229	0.4%	0.3%	0.4%
3	A68(T) North of Lauder	7,100	606	7,706	0.5%	9.0%	1.1%
4	A697 South of Addinston	2,754	375	3,128	2.7%	36.4%	5.8%

Please note minor variances due to rounding may occur.

11.6.14 The total traffic movements are predicted to increase by less than 6% on all of the study area. It is however assumed that the total traffic increase on the rural single track road (D124) leading through to the site from the A697 will be in excess of 100% for total traffic due to the extremely low levels of existing traffic using it.

11.6.15 **Table 11.9** shows that HGV traffic movements will increase by more than 10% on the A697 South of Addinston (36.4%). Whilst this increase could be considered high, it is generally caused by relatively low HGV flows on this link which will see an increase of 100 HGV movements. This represents approximately eight HGV movements per hour on the link during construction activities, which is not considered significant in terms of overall traffic flows.

11.6.16 A review of the existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 “The NESA Manual”. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The results are summarised in **Table 11.10**.

**Table 11.10: 2030 Future Baseline + Construction Development - Capacity Summary**

Site Ref	Survey Location	2030 Baseline Flow	2030 Base + Development Flows	Theoretical Road Capacity (12hr)	Spare Road Capacity
1	A68(T) at Pathhead	9,867	9,903	28,800	65.6%
2	A68(T) North of Carfraemill	9,192	9,229	28,800	68.0%
3	A68(T) North of Lauder	7,624	7,706	28,800	73.2%
4	A697 South of Addinston	2,956	3,128	21,600	85.5%

Please note minor variances due to rounding may occur.

11.6.17 The results indicate there are no road capacity issues with the addition of the construction traffic associated with the construction of the proposed development and that ample spare capacity exists within the local road network to accommodate construction phase traffic.

11.6.18 In accordance with the IEMA Guidelines Rules 1 and 2, detailed assessments have been undertaken on the following receptors:

- Users of the A697 South of Addinston (Medium Sensitivity);
- Residents / Users living and working along the A697 South of Addinston (Negligible Sensitivity) and
- Core Paths / Public Rights of Way / Path Users within the site (High Sensitivity).

11.6.19 As previously advised, a detailed assessment has been undertaken for the D124, which is a rural single track road with passing places, which will be to access the proposed development and will therefore be subject 100% of construction traffic. This road is lightly trafficked and as such even a small increase in vehicular traffic could impact on local sensitive receptors. As such, in addition to the above, the assessment includes the following receptors:

- Users of the D124 (High Sensitivity); and
- Residents / Users living and working along the D124 (Negligible Sensitivity).

11.6.20 The significance of the potential effects has been determined using the rules and thresholds discussed previously. **Table 11.11** summarises the significance on the receptors for the construction phase.

**Table 11.11: Overall Construction Phase Effects**

Receptors	Severance	Driver Delay	Pedestrian Delay	Non-motorised user Amenity	Fear & Intimidation	Road Safety	Large Loads
Users of the A697 South of Addinston	Moderate	Moderate / Minor	Moderate	Moderate	Moderate	Moderate	Major Moderate
Residents / Users living and working along the A697 South of Addinston	Moderate / Minor	Negligible	Negligible	Minor / Negligible	Minor / Negligible	Moderate / Minor	Moderate / Minor
Users of the D124	Major	Moderate / Minor	Minor	Moderate / Minor	Major	Moderate / Minor	Major / Moderate
Residents / Users living and working along the D124	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Core Path / PRoW / Path Users	Major	Negligible	Moderate	Major	Major	Moderate	N/A

11.6.21 The assessment of significance suggests that the following receptors would experience significant effects, prior to the application of mitigation measures:

- Users of the A697 South of Addinston;

- Residents / Users living and working along the A697 South of Addinston;
- Core Paths / Public Rights of Way Users within the site; and
- Users of the D124.

11.6.22 It should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects are transitory in nature.

### Operational Effects

11.6.23 No potential significant operational effects are predicted as part of the proposed development and this topic has been scoped out of the assessment.

### Decommissioning Effects

11.6.24 No potential significant decommissioning effects are predicted as part of the proposed development and this topic has been scoped out of this assessment.

## 11.7 Mitigation

11.7.1 The following mitigation measures are proposed to mitigate the effects of the temporary increase in construction traffic and reduce the significance of effect.

### Construction Traffic

#### Construction Traffic Management Plan (CTMP)

11.7.2 The following measures will be implemented during the construction phase through the CTMP:

- agree AIL route modifications and improvements with SBC and other relevant stakeholders. Works which will be required to facilitate AIL deliveries are outlined in the respective delivery route options RSR, which are presented in Appendix A of **Technical Appendix 11.1**;
- where possible, the detailed design process will minimise the volume of material to be imported to site to help reduce HGV numbers;
- a Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times);
- a Transport Management Plan for AIL deliveries;
- all materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;

- wheel cleaning facilities may be established at the site entrance, depending on the views of SBC;
  - normal site working hours would be limited to between 0700 and 1900 (Monday to Saturday), though component delivery and wind turbine erection may take place outside these hours;
  - appropriate traffic management measures would be put in place on the A697 and the D124 leading through to the site, to avoid conflict with general traffic, subject to the agreement of SBC. Typical measures would include HGV turning and crossing signs and/ or banksmen at the site access and warning signs;
  - provide construction updates on the project website, social media feeds and newsletter to be distributed to residents within an agreed distance of the site;
  - adoption of a voluntary reduced speed limits at locations to be agreed with SBC;
  - all drivers would be required to attend an induction to include:
    - a toolbox talk safety briefing;
    - the need for appropriate care and speed control;
    - a briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and
    - identification of the required access routes and the controls to ensure no departure from these routes.
- 11.7.3 SBC may request that an agreement to cover the cost of abnormal wear and tear on its road network is made. Video footage of the pre-construction phase condition of the AIL route and the construction vehicles route would be recorded to provide a baseline of the condition of the roads prior to any construction work commencing. This baseline would provide evidence of any change in the road condition during the construction phase. Any necessary repairs would be coordinated with SBC's roads team. Any damage caused by traffic associated with the proposed development during the construction period, that would be hazardous to public traffic, would be repaired immediately.
- 11.7.4 Damage to road infrastructure caused directly by construction traffic would be remediated, and street furniture that is removed on a temporary basis would be fully reinstated.
- 11.7.5 There would be a regular road review, and any debris and mud would be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users.
- 11.7.6 Before the AILs traverse the route, the following tasks would be undertaken to ensure load and road user safety:
- ensure any vegetation which may foul the loads is trimmed back to allow passage;
  - confirm there are no roadworks or closures that could affect the passage of the loads;
  - check no new or diverted underground services on the proposed route are at risk from the AILs; and
  - confirm the police are satisfied with the proposed movement strategy.
- AIL Traffic**
- AIL Transport Management Plan*
- 11.7.7 There are a number of traffic management measures that could help reduce the effect of AIL convoys.
- 11.7.8 All AIL deliveries will be undertaken at appropriate times (to be discussed and agreed with the local authority and police) with the aim to minimise the effect on the local road network. It is likely that the AIL convoys will travel in the early morning periods before peak times while general construction traffic would generally avoid the morning and evening peak periods.
- 11.7.9 The majority of potential conflicts between construction traffic and other road users will occur with AIL traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.
- 11.7.10 Potential conflicts between the AILs and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur:
- on sections of single carriageway road, for example on the D124;
  - at locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width;
  - where traffic turns at a road junctions, requiring other traffic to be restrained on other approach arms; and
  - in locations where high speeds of general traffic are predicted.
- 11.7.11 Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help assist drivers. Flip up panels would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor.
- 11.7.12 This signage will assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

11.7.13 The location and numbers of signs would be agreed post consent and would form part of the CTMP for the proposed development.

11.7.14 The AIL Transport Management Plan will also include:

- procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;
- a diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- proposals to establish a construction liaison group to ensure the smooth management of the project / public interface with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

#### *Public Information*

11.7.15 Information on the AIL convoys will be provided to local media outlets such as local papers and local radio to help assist the public.

11.7.16 Information would relate to expected vehicle movements from the POE through to the site access junction. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts.

11.7.17 The applicant will also ensure information was distributed through its communication team via the project website, local newsletters, and social media.

#### *Convoy System*

11.7.18 A police escort will be required to facilitate the delivery of the predicted AILs. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible.

11.7.19 The AIL convoys will be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.

11.7.20 The times in which the convoys will travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.

#### **Outdoor Access**

11.7.21 Within the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths.

11.7.22 Users of the Core Paths / PRoWs / Paths will be separated from construction traffic through the use of barriers and other features to be approved in discussion with SBC. Crossing points would be provided where required, with path users having right of way. Appropriate Traffic Signs Manual Chapter 8 compliant temporary road signage would be provided to assist at these crossing for the benefit of all users.

11.7.23 If required, an Outdoor Access Study will be conducted post consent and will be secured through a planning condition. Findings from the study will be used to formulate a set of measures into a OAMP.

11.7.24 The principal contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the Core Paths, Rights of Way and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic.

11.7.25 Signage will be installed on the site exits that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly toolbox talks.

11.7.26 With regards to the possible interaction with horses on and in the vicinity of the proposed development, a scoping response has been received from The British Horse Society. Consideration will therefore be given to the implementation of measures to mitigate any potential issues between construction traffic and horse riders. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flight animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

11.7.27 The main factors causing fear in horses in this situation are:

- something approaching them, which is unfamiliar and intimidating;
- a large moving object, especially if it is noisy;
- lack of space between the horse and the vehicle;
- the sound of air brakes; and
- anxiety on the part of the rider.

11.7.28 The British Horse Society has previously recommended the following actions that will be included in the site training for all HGV staff:

- on seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- if the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- the vehicle should not move off until the riders are well clear of the back of the HGV;
- if drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and
- all drivers delivering to the site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

#### A Staff Travel Plan

11.7.29 A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include:

- appointment of a Travel Plan Coordinator (TPC);
- provision of public transport information;
- mini-bus service for transport of site staff;
- promotion of a car sharing scheme; and
- car parking management.

#### Mitigation during Operation

11.7.30 In terms of the IEMA Guidelines, such a small number of traffic movements and the associated percentage uplift over Baseline traffic movements are not considered significant.

#### Mitigation during Decommissioning

11.7.31 As decommissioning would result in fewer vehicle trips on the road network than the construction phase, the significance of any effects would not be greater. It can therefore be assumed that the assessment of the construction phase covers the worst-case scenario.

## 11.8 Assessment of Residual Effects

- 11.8.1 An evaluation of the potential effects of the increase in traffic on the roads, within the study area, used for construction traffic was undertaken. The summary of this assessment is provided in **Table 11.12**.
- 11.8.2 The assessment confirms the effects would be minor in nature and they would be not significant. The traffic effects are transitory in nature. No long-lasting detrimental transport or access issues are associated with the construction phase of the proposed development.

## 11.9 Assessment of Cumulative Effects

- 11.9.1 As detailed in **Technical Appendix 11.1**, the review of committed development schemes (developments with extant planning permission) did not identify any other significant traffic generating developments in the study area that may occur during the construction period associated with the proposed development. It is therefore considered that no cumulative assessment is required.

## 11.10 Summary

- 11.10.1 The proposed development would lead to a temporary increase in traffic volumes on the study area during the construction phase. Traffic volumes would fall considerably outside the peak period of construction.
- 11.10.2 The peak of construction activity is expected to occur in Month 8, when there will be 100 two-way HGV movements and 72 cars / LGV movements. These figures on average indicate approximately eight HGVs arriving and departing the site every hour during a typical 12-hour work day, during the peak period of construction activity.
- 11.10.3 The greatest potential impact would occur along the A697, D124 and the Core Path / PRoW / Path network within the site.
- 11.10.4 With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be slight or insignificant but as they will occur during the construction phase only, they are temporary and reversible.



**Table 11.12: Summary of Residual Effects**

Likely Significant Effect	Mitigation	Means of Implementation	Residual Effect
<b>Construction Phase</b>			
Severance	CTMP proposals	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing.	Not significant
Driver delay	CTMP proposals and improved signage	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing.	Not significant
Pedestrian delay	CTMP and OAMP proposals	Via a condition of consent. CTMP and OAMP to be agreed with SBC prior to construction activities commencing.	Not significant
Non-motorised user amenity	CTMP and OAMP proposals	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing.	Not significant
Fear and intimidation	CTMP and OAMP proposals	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing.	Not significant
Road Safety	CTMP and OAMP proposals	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing. Access junction designed in accordance with SBC design guidelines.	Not significant
Large Loads	CTMP and AIL Transport Management Plan proposals	Via a condition of consent. CTMP to be agreed with SBC prior to construction activities commencing. AIL suppliers will prepare a TMP to manage the Ail deliveries from the POE to the site.	Not significant
<b>Operational Phase</b>			
None	None	None	None
<b>Decommissioning Phase</b>			
None	None	None	None

## 11.11 References

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