

11 Access, Traffic and Transport Assessment

11.1 Introduction

11.1.1 This chapter of the EIAR considers the likely significant effects on access, traffic and transport associated with the construction, operation and decommissioning of the Proposed Development. The specific objectives of the chapter are to:

- describe the baseline conditions;
- 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 assessment has been carried out by Ian Bullard, of Sweco UK Ltd. Ian is a Member of the Chartered Institution of Highways and Transportation (CIHT) and has broad experience in the assessment of the environmental effects of wind farms and other renewable energy projects across Scotland and the wider UK.

11.1.3 The chapter is supported by:

- Technical Appendix 11.1 - Abnormal Loads Routeing Assessment
- Technical Appendix 11.2 - Estimated Traffic Flows
- Technical Appendix 11.3 - Site Access Plans

11.1.4 Figures 1.1 and Diagrams 11.1 to 11.4 are provided in the text where relevant.

11.2 Legislation, Policy and Guidance

National Planning Policy

11.2.1 The prevailing national planning policy applicable to the Proposed Development comprises National Planning Framework (NPF) 4. It was adopted in February 2023 and replaces the NPF3 and the Scottish Planning Policy.

11.2.2 NPF4 sets out the national planning policies and promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances.

11.2.3 NPF4 promotes a design led approach with a focus to ensure the right development is located in the right place. It provides in principle support for

onshore wind energy development, subject to a range of criteria, including impacts on road traffic and the adjacent trunk roads.

Aberdeenshire Local Development Plan 2023

11.2.4 The Local Development Plan sets out the policies used for determining planning applications.

11.2.5 Policy C2 Renewable Energy states that renewable energy developments will be supported if located in appropriate sites and are of the appropriate design. Specifically, wind farms must be “*appropriately sited and designed and avoid unacceptable environmental effects, taking into account the cumulative effects of existing and approved wind turbines.*”

11.3 Consultation

11.3.1 Table 11.1 presents comments received as part of the EIA Scoping Opinion (Technical Appendix 4.1) on access, traffic and transport.

Table 11.1 - EIA Scoping Opinion - Access, Traffic and Transport

Consultee	Scoping Comment	Response to Consultee	Further EIA Consultation
Energy Consents Unit	<p>Recommend the scope of the Abnormal Loads Assessment is agreed in consultation with Transport Scotland prior to it being undertaken.</p> <p>Recommend that the scope of the construction traffic management plan is agreed in consultation with Aberdeenshire Council (Infrastructure Services - Roads Department), Transport Scotland, and Local communities which will be impacted by the Proposed Development’s construction traffic.</p>	<p>Transport Scotland have been consulted as part of the Scoping process and its requirements have been taken on board within the EIA.</p> <p>An outline Construction Traffic Management Plan (CTMP) has been presented in this Chapter. However, it is anticipated that the Final CTMP will be secured by a suitably worded condition and will be agreed with relevant parties prior to the commencement of construction. This will take into account responses received through the EIA and planning process.</p>	N/A
Aberdeenshire Council	Advise that visibility Splays must be included within the site boundary.	The site boundary will include any area required for visibility splays at the public road junction.	The proposed Site Access Plan showing visibility splays and swept path analysis of the blade

Consultee	Scoping Comment	Response to Consultee	Further EIA Consultation
	<p>A S56 agreement would be required if works to public road in excess of £20k are to be undertaken.</p> <p>A Construction Traffic Management Plan (CTMP) would be required.</p>	<p>An outline CTMP will be provided in support of the EIA. It is anticipated that the detailed CTMP will be secured via a suitably worded planning condition.</p> <p>It is anticipated that should a S56 agreement be required, this will be secured prior to the commencement of construction.</p>	<p>vehicle has been presented and the Layout was deemed to be "generally acceptable" by the Council. The Site Access Plan has since been amended to incorporate the information requested.</p> <p>Following the EIA scoping process, the traffic generation estimates have been presented and no further issues were identified.</p>
Transport Scotland	<p>Consider the proposed approach acceptable.</p> <p>Require the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic to be used as a screening process for the assessment. Potential trunk road related environmental impacts such as driver delay, pedestrian amenity, severance, safety etc. will require to be considered and assessed where appropriate. Road links should be taken forward for assessment if:</p> <ul style="list-style-type: none"> - 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. <p>Transport Scotland will require to be satisfied that the size of turbines</p>	<p>Noted. The assessment has been undertaken in accordance with the IEMA guidelines and associated thresholds.</p> <p>A swept path analysis will be undertaken as part of the Abnormal Load Routeing Assessment and will contain the requested information.</p>	N/A

Consultee	Scoping Comment	Response to Consultee	Further EIA Consultation
	<p>proposed can negotiate the selected trunk road route and that their transportation will not have any detrimental effect on structures within the trunk road route path.</p> <p>The Abnormal Load Assessment should identify 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.</p>		

11.4 Methodology

Scope of Assessment

- 11.4.1 With regard to Access, Traffic and Transport, it is the construction phase of the Proposed Development which has the greatest potential to result in significant effects. The construction phase requires the transportation of large components and plant items to build the infrastructure. Quantities of building materials including aggregate also need to be transported where this is not sourced on-site. The following aspects therefore form the focus of this assessment:
- 11.4.2 **Abnormal Loads Routeing:** Access routeing from the port of entry into the UK has been identified for all abnormal loads. The chapter will confirm the suitability of the routeing for the anticipated abnormal load vehicles and identify the requirement for, and the likely scope of, any temporary off-site mitigation measures.
- 11.4.3 **Traffic Generation:** The assessment will identify the likely traffic generation during the construction phase of the Proposed Development and assess the resultant environmental effects.
- 11.4.4 A Transport Assessment has been incorporated into the chapter and covers the construction access strategy; types and volume of construction traffic; the profile of the construction programme in terms of numbers of workers (and vehicles) and other vehicle movements; on-site parking provision for construction staff;

assessment of impacts on adjacent links and junctions; and the interaction of construction traffic with other road users, including pedestrians, cyclists, businesses and local residents.

- 11.4.5 The environmental effects of the development generated traffic have been assessed with reference to the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic (1993) and in consideration for the pre-application responses provided by Transport Scotland and Aberdeenshire Council.
- 11.4.6 Following the receipt of the EIA scoping opinion, the IEMA has subsequently released a revised version of its guidance. Whilst these new guidelines have been reviewed to ensure the assessment is applicable to the modern interpretation, the specifics of the earlier guidance have been used within this assessment to ensure consistency through the application process. It is considered that the subtle differences in the suggested approaches between the two versions does not influence the findings of this chapter.
- 11.4.7 In accordance with prevailing guidance, potential effects including: traffic impact; severance; driver delay; pedestrian amenity, fear & intimidation; and accidents & road safety, associated with the construction of the Proposed Development have been assessed.
- 11.4.8 This chapter also presents an outline of mitigation measures which are proposed in order to ensure that there are no unacceptable environmental effects as a result of the traffic associated with the Proposed Development. A key aspect of the mitigation is the Construction Traffic Management Plan (CTMP).
- 11.4.9 Potential effects relating to noise and vibration as a result of the generated traffic are presented in **Chapter 12: Acoustic Assessment**.

Baseline Characterisation

Study Area

- 11.4.10 The Site lies 21 km directly west from Aberdeen and located off the B977, south of Echt, within the Dunecht Estate. The Site location is illustrated in EIAR **Figure 1.1**.
- 11.4.11 The Site will be accessed via an existing, albeit improved, access on the B977 and a system of new and improved access tracks will provide vehicular access within the Site.

- 11.4.12 With regard to the movement of abnormal loads the study area extends across two potential turbine delivery routes, based on two identified ports of entry, namely the Port of Aberdeen and the Port of Dundee.
- 11.4.13 Route Option 1 is the primary route proposed. It comprises access from the Port of Aberdeen via the A956 and then follows the A90 Aberdeen Western Peripheral Route (AWPR) northbound, then the A944 westbound until Dunecht before continuing south on the B977 to the proposed site entrance. Subject to commercial agreements and a necessity for storage, loads could capably continue south to join the B9125 eastbound, before turning left into Birchmoss Depot for storage. Following storage, loads would then return to the Site entrance via the B9125 and the B977.
- 11.4.14 Route Option 2 comprises access from the Port of Dundee via the A972 Kingsway and then follows the A90 and the A90 AWPR northbound, then continuing north at the A90 / A956 roundabout and following Route Option 1 from there to the proposed site entrance.
- 11.4.15 An alternative Sub Route Option A has also been considered, which avoids the town of Westhill, the villages of Dunecht and Echt, as well as the bridge just to the south of Echt. The alternative route commences from the point where route options 1 and 2 pass through Westhill. The loads would instead follow the B9119 and the B9125 southbound before continuing the B977 northbound to the proposed site access. The route passes the entrance to the Birchmoss Depot.
- 11.4.16 The study area, when considering traffic impacts as a result of general construction traffic, extends from the Site access as far as the strategic road network. It includes identified construction routes comprising the B977 and routes via A944; and via the B9119 and the B9125, from the north or south, respectively. The proposed routes offer the most direct and appropriate access to the Site from the trunk road network. As requested by Transport Scotland, the assessment will also consider the potential impacts on the A90 which is the closest trunk road.

Desk Study / Field Survey

- 11.4.17 Baseline traffic data have been obtained for the study area, where available from the Department for Transport (DfT) Road Traffic Statistics website.
- 11.4.18 In addition, six new automatic traffic counter (ATC) sites were also commissioned at key locations on the A944, B9119, B9125, and B977, to provide usable data where the DfT traffic data was either not available or too old to be usable.

11.4.19 Records of Personal Injury Accidents (PIAs) have been obtained for the road network of interest, namely the A944, the B9119, the B9125, and the B977 from the CrashMap database (<https://www.crashmap.co.uk/>). The data is based on information provided by the Police and is approved by the National Statistics Authority. Records have been obtained over the most recent available five-year period between 2017 to 2021.

11.4.20 The road network of interest was initially reviewed using Google Maps. A site visit was also undertaken in July 2023 to review the suitability of the proposed traffic routes, and the necessary mitigation measures to allow abnormal load vehicles to access the Site.

Sensitivity Criteria

11.4.21 The receptors that may be subject to traffic increases arising from the construction of the Proposed Development include settlements along the turbine delivery route and construction traffic routes. These settlements are classified by size, function, presence of school and community facilities, traffic calming or traffic management measures, vehicles speed limits and position on the roads hierarchy, using the criteria identified in **Table 11.2** below.

11.4.22 This classification is based upon professional judgement and relative sensitivity to the potential traffic increases associated with the Proposed Development. **Table 11.2** provides descriptions of receptor sensitivity derived from the Department for Transport's Design Manual for Roads and Bridges (DMRB) guidelines LA 104 'Environmental assessment and monitoring'.

11.4.23 For many effects there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed up by data or quantified information where possible.

Table 11.2: Sensitivity Criteria

Sensitivity	Description
High	Typically receptors with high importance and rarity on an international and national scale and with limited potential for substitution Large urban settlements containing a high number of community and public services and facilities, Minor rural roads not constructed to accommodate frequent use by HGV traffic.
Medium	Typically receptors with high or medium importance and rarity on a regional scale and with limited potential for substitution Intermediate sized settlements containing some community or public facilities and services Local A or B class roads, capable of regular use by HGV traffic.
Low	Typically low or medium importance and rarity, local scale Small rural settlements with few community or public facilities or services Trunk or A-class roads, constructed to accommodate significant heavy vehicle movements.
Negligible	Typically receptors with very low importance and rarity. Very small settlements and roads with no adjacent settlements Strategic trunk roads or motorways that would be little effected by additional traffic and suitable for abnormal loads.

Magnitude of Impact

11.4.24 The IEMA Guidelines (1993) guidance recommends two broad rules to be used as a screening process to confirm the extent of the assessment:

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

11.4.25 The guidelines indicates that 30%, 60% and 90% changes in traffic levels should be considered as "slight, moderate and substantial" impacts respectively with regard to severance and intimidation. The guidance also notes that, at a basic level, projected changes in traffic of less than 10% create no discernible environmental impact.

11.4.26 Based on these guidelines and perceptions, the magnitude of traffic impact can be estimated using the criteria in **Table 11.3**.

Table 11.3: Magnitude of Impact

High	Medium	Low	Negligible
>90% increase in traffic	60% - 90% increase in traffic	30% - 60% increase in traffic	0% - 30% increase in traffic

11.4.27 The number of abnormal load deliveries anticipated for the Proposed Development is low in terms of traffic volumes, when compared to the baseline traffic flows on the delivery route. However, the movement of abnormal loads on the road network can sometimes result in other road users being held at junctions or at other constraints since the largest vehicles may be slow moving or require the use of the full carriageway at sections along the route. It is also acknowledged that abnormal load movements can have the potential to impact upon pedestrians and other vulnerable road users due to their size. The identification of the magnitude of impact as a result of the movement of abnormal loads on the delivery route is assigned on a qualitative basis, using professional judgment rather than numerical thresholds.

Significance Criteria

11.4.28 To determine the overall significance of any resultant environmental effects, the results from the receptor sensitivity and impact magnitude classifications are correlated and classified using the scale summarised in **Table 11.4**.

Table 11.4: Significance Criteria

Sensitivity \ Magnitude	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

11.4.29 For the purposes of assessing significant effects, this matrix provides a guide subject to professional judgement.

11.4.30 Effects are considered to be significant where the effect is classified as being of **moderate** significance or above.

11.4.31 The DMRB guidelines also make reference to the need to take account of the difference between permanent and temporary effects. Permanent impacts will be

more significant than temporary impacts as temporary impacts may only occur during a single phase of the project construction.

11.5 Baseline

Current Baseline

Description of Road Network

A90 (AWPR)

11.5.1 The A90 forms part of the strategic road network running in a north-south direction from Perth through Aberdeen to Fraserburgh. The road, referred to as the Aberdeen Western Peripheral Route connects the A92 in the south to the A96 and beyond in the north. It forms a large grade separated roundabout junction with the A944 near Kingsford.

11.5.2 The road is a dual carriageway with no footway provision and street lighting at key junctions.

A944

11.5.3 The A944 runs in an east-west from Aberdeen through Westhill, Dunecht and beyond. The road is a dual carriageway between its junction with the A90 to the east and its junction with Westhill Drive to the west.

11.5.4 The road is subject to a 40 mph speed limit from the A90 and through Westhill with street lighting and footways. Through Westhill, the road is single carriageway with numerous roundabouts leading to predominantly retail development on the southern frontage and residential development on the northern frontage.

11.5.5 To the west of Westhill, the speed limit changes to 50 mph and the system of street lighting and footway provision ends.

11.5.6 A small cluster of frontage development is provided in Dunecht, predominantly focused around residential development and the Dunecht Estate office.

B977

11.5.7 The B977 is a rural single carriageway road which runs in a north-south direction between the A944 and the B9125, via Echt. The road is subject to the national speed limit with no footways or street lighting, except for a short section within Echt which is 30 mph and includes footways and street lighting.

11.5.8 Within Echt, the road forms the minor arms of a crossroad junction with the B9119.

B9119

- 11.5.9 The B9119 is a single carriageway road which runs in an east-west direction between Kingsford in the east and Echt and beyond in the west. The road also links into the B9125 at Garlogie.
- 11.5.10 The road is subject to a 50 mph speed limit between from its junction with the A944 and through Westhill, where it changes to the national speed limit. Street lighting is available along the section of road under the 50 mph speed limit, however there is no footway provision.
- 11.5.11 Within Westhill, the road provides access to commercial/industrial development via a number of roundabout junctions.

B9125

- 11.5.12 The B9125 is a single carriageway road which runs in a north-east south-west direction from Garlogie via the B977. The rural single carriageway road is subject to the national speed limit, with no street lightning or footway provision.

Port of Aberdeen South Harbour Exit Route

- 11.5.13 The route from Port of Aberdeen South Harbour to the A90 is predominantly via the A956. The road is a dual carriageway road which runs in an east-west along the southern perimeter of Aberdeen, leading to the A90 to the west.
- 11.5.14 The A956 is subject to a 30 mph speed limit within Aberdeen up until its junction Greenwell Road to the south where it changes to 40 mph. The speed limit changes to the national speed limit just west of the A92.
- 11.5.15 Footways and street lighting are available along the section of road within Aberdeen, up until the A92.

Dundee Port Exit Route

- 11.5.16 The route from Dundee Port uses Strips of Craigie Road to reach the Kingsway East dual carriageway route to access the A90 via a number of roundabouts. From the A90 the road is dual carriageway and predominantly grade separated to its roundabout junction with the A90 at the A90/A92 near New Mains of Ury.
- 11.5.17 Within Dundee the roads are subject to 30 mph speed limit with street lighting provided. Kingsway East includes footways on both carriageways with dedicated pedestrian infrastructure at key points, including a pedestrian bridge at the Kingsway East/Old Craigie Road roundabout.
- 11.5.18 The Kingsway East / A90 junction is a complex signal controlled junction which forms part of the trunk road network.

Collisions

- 11.5.19 Records of Personal Injury Accidents (PIAs) have been obtained from the CrashMap database over the most recent available five-year period between 2017 to 2021. It should be noted that this period spans the Covid travel restrictions which may impact on the number of recorded accidents due to the reduced number of trips. The dataset is considered appropriate for this assessment.
- 11.5.20 The category of casualties differs according to the severity of the injuries sustained. Three groups are defined as follows:
- Fatal: any death that occurs within 30 days from causes arising out of a collision.
 - Serious: casualties who require hospital treatment and have lasting injuries.
 - Slight: where casualties have injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.
- 11.5.21 A summary of the PIAs recorded is presented below in **Table 11.5** and their respective locations are illustrated in Inset **Diagram 11.1** below.

Table 11.5: Summary of PIA casualties

Location	Slight	Serious	Fatal	Total
A944, between the A90 and Dunecht	6	6	0	12
B9119, between the A944 and Echt	0	0	0	0
B977, between Dunecht and The Birks	0	2	0	2
B9125, between Garlogie and The Birks	3	0	0	3

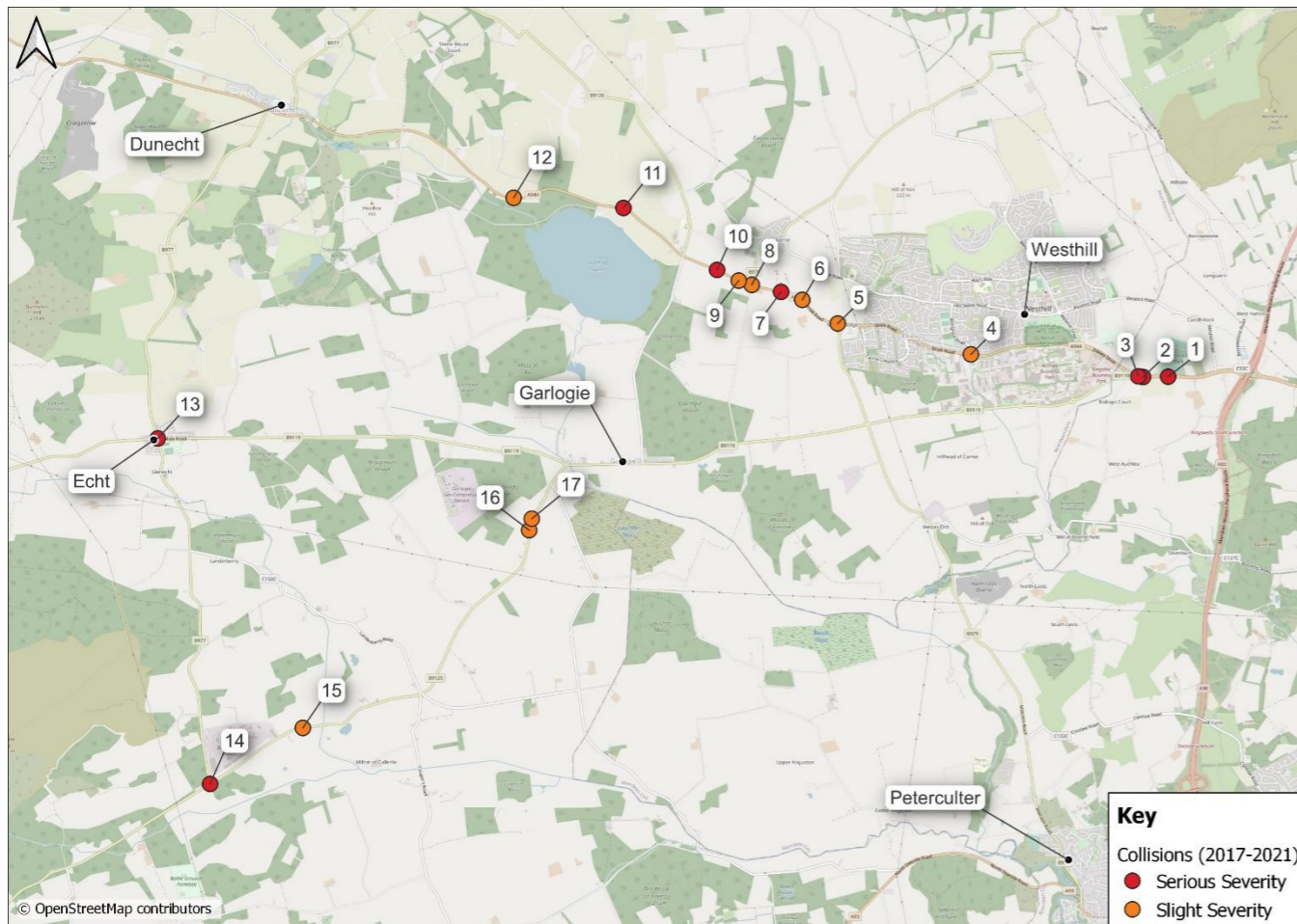


Diagram 11.1: Collision Locations

- 11.5.22 A total of twelve collisions were recorded along the A944 between the A90 and Dunecht, with six resulting in Serious injuries.
- 11.5.23 Three of the Serious injury collisions occurred to the west of Westhill, west of the A944/ B9119 junction. Two of these occurred in 2019, and one in 2020. Each incident involved multiple vehicles, and the latter involved a goods vehicle. Two Slight injury collisions occurred within Westhill - one in 2017, and one in 2019. A further seven collisions occurred to the west of Westhill, including three Serious ones, and four Slight ones. Of the serious collisions, two occurred in 2017, and one occurred in 2019. All involved multiple vehicles. Of the Slight collisions, two occurred in 2017, and two occurred in 2020. Two of these involved a collision of multiple vehicles, and two involved a single vehicle collision. One Slight injury collision and one Serious injury collision involved goods vehicles.
- 11.5.24 No collisions were recorded long the B9119, between the A944 and Echt.

- 11.5.25 Two Serious injury collisions occurred along the B977. One occurred in 2020, whilst the other occurred in 2021. Both collisions involved multiple vehicles.
- 11.5.26 Three Slight injury collisions occurred along the B9125, between Garlogie and The Birks. One collision occurred per year between 2017 and 2019.
- 11.5.27 A total of 17 collisions occurred across the network of interest in the latest five-year period, including eight resulting from Serious injuries and nine Slight. No fatal collisions were recorded. No collisions involving pedestrians were recorded, and only one collision involving a cyclist was recorded. A total of three collisions involved a goods vehicle, including two resulting in Serious injuries and one Slight. All collisions were distributed equally across the road network of interest, with no particular clusters being identified.
- 11.5.28 Overall, the frequency, type and location of the collisions and severity of the resultant casualties would suggest that there are no specific areas of concern on the assessed road network. Therefore road safety is not considered to affect the sensitivity of the identified receptors.

Traffic Data

- 11.5.29 Baseline traffic data have been obtained for the study area, where available from the DfT Road Traffic Statistics website. Although a number of count sites are located across the network of interest, most are either too old, or comprise traffic estimates, rather than true counts. One suitable site is an ATC from 2022, located on the A944, to the west of its junction with the B9126 (DfT site 50864). Separately, the only data point on the trunk road network is a site comprising a manual count undertaken in 2019, to the south of the A944 junction (DfT site 91034). Although 2019 could be considered as old in traffic data terms, the level of accuracy is considered to be appropriate for comparison against the generated traffic flows.
- 11.5.30 Classified ATCs were commissioned at six key locations on the A944, B9119, B9125, and B977, to ensure a broad reflection of the baseline traffic flows across the network of interest. A summary of the data are presented in **Table 11.6**, with all traffic flows being presented as two-way annual average daily flows (AADFs). The locations of the count sites are shown on **Diagram 11.2**.

Table 11.6: Baseline Traffic Data

Site Ref	Description	Baseline				
		Count Year	AADF	HGV	% HGV	85 th Percentile Speed (mph)
1	B977, south of Dunecht	2023	2150	80	4%	54.3
2	B977, south of Echt	2023	1758	65	4%	58.7
3	B9125, east of its junction with the B977	2023	5387	80	1%	54.2
4	B9119, east of Echt	2023	2248	57	3%	64.6
5	B9119, east of its junction with the B979	2023	7753	142	2%	47.9
6	A944 Straik Road, south of Westhill	2023	12293	234	2%	40.3
7	A944 Straik Road, west of its junction with the B9126 (DfT site: 50864)	2022	12239	1468	12%	N/A
8	A90, south of its junction with the A944 (DfT site: 91034)	2019	34669	2370	7%	N/A

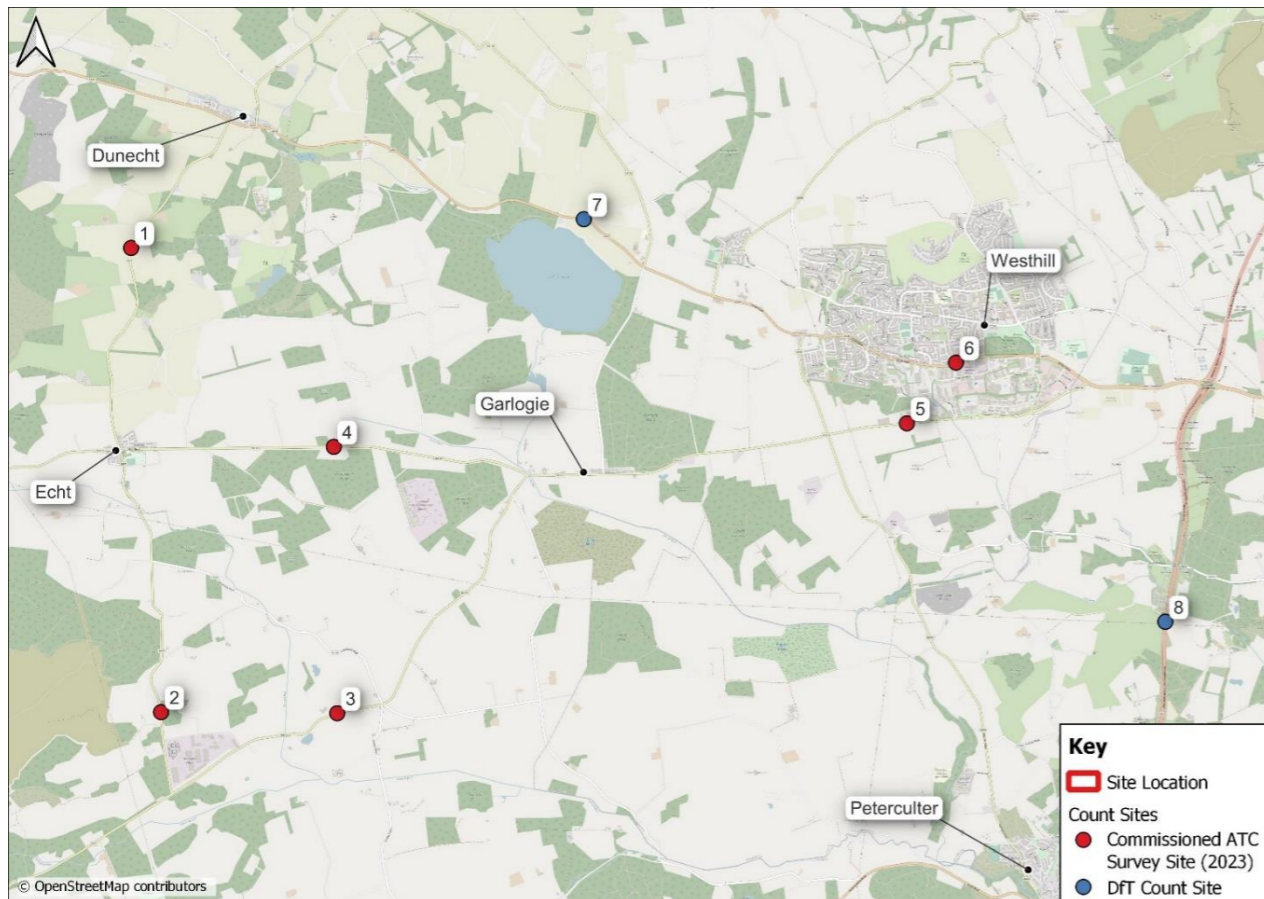


Diagram 11.2: Count Site Locations

Future Baseline

11.5.31 NRTF Central growth factors have been applied to account for growth in baseline traffic to the assessment year of 2027 (commencement of construction) across all count sites. The growth factors used are as follows:

- 2019 to 2027: 1.081
- 2022 to 2027: 1.046
- 2023 to 2027: 1.037

11.5.32 The collated data, expressed as two-way totals, are detailed in Table 11.7.

Table 11.7: Future Baseline Traffic Data

Site Ref	Description	2027 Baseline	
		AADF	HGV
1	B977, south of Dunecht	2230	83
2	B977, south of Echt	1823	67
3	B9125, east of its junction with the B977	5586	83
4	B9119, east of Echt	2331	59
5	B9119, east of its junction with the B979	8040	147
6	A944 Straik Road, south of Westhill	12748	243
7	A944 Straik Road, west of its junction with the B9126 (DfT site: 50864)	12802	1536
8	A90, south of its junction with the A944 (DfT site: 91034)	37477	2562

11.6 Assessment of Potential Effects

11.6.1 This sub-section describes the potential significant effects which might occur as a result of the estimated traffic generation associated with the construction, operational and decommissioning phase of the Proposed Development.

Construction Effects

Development Proposals

11.6.2 Construction activities for the Proposed Development are anticipated to commence in 2027. The types, quantity and scheduling of the estimated construction traffic is shown in Technical Appendix 11.2. The estimated traffic flows are calculated from a study of the civil engineering parameters of the Site,

including new track construction, provision of crane pads, hardstanding areas, control buildings and establishment of borrow pits. The peak month traffic flows have been applied to each traffic flow data point to identify a worst case increase in traffic flow terms.

11.6.3 The following section sets out the assumptions with regard to the estimated traffic generation during the construction phase.

Estimated Traffic Generation - Abnormal Loads

11.6.4 Turbines will be delivered to the Site as individual components. Overall it is anticipated that eleven individual components will be required for each turbine. A minimum of eight of these components will be classified as an abnormal load due to its length, width or weight. Abnormal load movements will be in-bound only. Once unloaded the vehicle trailer is able to reduce in length and can be moved as a regular HGV.

11.6.5 Two cranes are required to facilitate erection of the turbines. It is expected that both cranes would be self-propelled vehicles which would constitute abnormal loads due to their weight. Both cranes will arrive on-site at the start of the turbine erection phase and then leave site after erection is completed. Each crane will also require the delivery of ancillary equipment such as counterweights and gantries, although these items would be delivered via standard HGV vehicles.

11.6.6 Separately, the Site will require the installation of a transformer to facilitate connection to the national grid. The transformer is expected to be delivered on multi-axle float trailers, under escort. Once unloaded the vehicle weight would be significantly reduced, although the vehicle is still likely to constitute an abnormal load for the return trip due to its overall dimensions.

Estimated Traffic Generation - HGVs

11.6.7 Estimated Heavy Good Vehicles (HGV) movements include for site establishment and comprise the delivery of temporary offices, plant and machinery, fencing and welfare facilities. The number of movements also includes an allowance for fuel and other miscellaneous deliveries to the Site.

11.6.8 The forestry clearance required for the Site will produce an estimated 3,768 tonnes of timber to be exported in the initial phase of the construction programme.

11.6.9 Each turbine foundation will vary in its specification, dependant on ground conditions although it is anticipated that each foundation will require an average of 600m³ of concrete. Concrete will be batched on-site enabling the delivery of

raw materials to be distributed more evenly throughout the construction period, when compared with the importation of readymix concrete. Foundations will also require the delivery of steel reinforcement and structural fill aggregate.

11.6.10 A network of new tracks and spurs will be constructed to enable the movement of construction traffic from the Site entrance, from the proposed borrow pits to each construction compound and turbine location. The works constitute approximately 7.3 km of new site tracks which are likely to be of standard construction; and 10.3 km of site roads which will be upgraded from existing tracks. These roads will also be used for service access during the operational phase.

11.6.11 Tracks will be constructed from stone aggregate for which the intent would be sourced from Site. For the purposes of EIA, should some stone need to be imported, the assessment estimates 80% sourced from the on-site borrow pits, and 20% to be imported from a local quarry. Tracks and other running areas will be finished with approximately 500 mm depth of aggregate. Stone will be delivered by articulated tippers with an assumed nominal load capacity in the order of 20 tonnes.

11.6.12 Stone aggregate won from the on-site borrow pits will also be used in the construction of crane hardstandings and construction compounds.

11.6.13 Cabling will be delivered on drums carrying 500 m lengths with two drums per vehicle. The assessment assumes a total cable length at 1.5 times that of the expected track length. Cables would be buried in trenches filled with sand that is currently assumed to be imported from a local quarry. The importation of sand has been calculated based on nominal load capacity of 20 tonnes.

Estimated Traffic Generation - Cars/ LGVs

11.6.14 Up to 35 staff are anticipated to be on-site during the peak of construction. This total will be primarily made up of civil contractors although this figure also includes for site managers, surveyors and a variety of other disciplines. For the purposes of providing a worst case assessment, it has been assumed that these staffing levels are maintained throughout the construction programme. A level of car sharing is expected at a ratio of four people per vehicle, which accounts for single occupants in small commercial vans as well as minibuses for larger civil works gangs.

Site Access Proposals

- 11.6.15 The Site will be accessed via an existing, albeit improved, access from the B977. A site access plan is included as **Technical Appendix 11.3**. The plan includes swept path analysis of the blade transporter vehicle, and visibility splays (215 m to the north, and 160 m to the south), and an access track widened at the bell mouth to accommodate an HGV accessing whilst one waits at the give way line. The access includes 15 m of bituminous surfacing back from the road edge with a gradient of no more than 1:20 over that length.
- 11.6.16 A separate study has been undertaken to identify a potential turbine delivery route. The study has included a review of the feasibility and extent of any mitigation measures required to facilitate the anticipated abnormal load vehicles along a number of routes and from two key ports of origin.
- 11.6.17 There are two turbine delivery routes proposed based on two identified ports of entry, namely the Port of Aberdeen South Harbour and the Port of Dundee. The proposed routes are described below, with the full Abnormal Loads Routeing Assessment (ALRA) presented in **Technical Appendix 11.1**.
- 11.6.18 As previously described, Route Option 1 runs from the Port of Aberdeen South Harbour via the A956, the A90 AWPR, the A944 and the B977.
- 11.6.19 Route Option 2 runs from the Port of Dundee via the A972 Kingsway, the A90 and follow Route Option 1 from there to the proposed site access.
- 11.6.20 An alternative Sub Route Option A has also been considered which runs to the south of Westhill via the B9119 and the B9125.
- 11.6.21 A review of the local area and the wider road network has been undertaken to identify suitable routes for general construction traffic that avoid, where possible, potentially sensitive receptors such as residential areas, schools and roads which may be unsuitable to accommodate heavy traffic.
- 11.6.22 General construction traffic is proposed to access the Site from the trunk road network via the A90 from the north and the south, and follow either the A944 or the B9119 and the B9125, to access the B977 and the Site access. The proposed routes offer the most direct and appropriate access to the Site whilst the B9119 to the east of Echt. Further review of the principal routes for the delivery of aggregates and concrete may be necessary following confirmation of the source quarries and batching facilities and this will be covered within the Final CTMP, as necessary.

Offsite Road Improvements

- 11.6.23 Conceptual plans showing the details of proposed works at the locations noted above are included in the ALRA (**Technical Appendix 11.1**).

- 11.6.24 The extent of mitigation works for each of the identified sites are summarised in Table 2.1 of the ARLA (**Technical Appendix 11.1**).

Assessment of Effects

Traffic Impact

11.6.25 Table 11.8 shows the development generated peak daily traffic flows and the 2027 assessment flows at each count site on the road network of interest. The percentage change columns represent the percentage increase over the 2027 baseline traffic flows presented above in Table 11.7. For robustness, and to account for a worst case scenario, all development traffic is assumed to pass through each count site, although in reality general construction traffic is more likely to be distributed across multiple points within the study area.

Table 11.8: Development and Assessment Traffic Data

Site Ref	Description	Site Traffic		2027 Assessment		% Change	
		AADF	HGV	AADF	HGV	AADF	HGV
1	B977, south of Dunecht	70	52	2300	135	3%	63%
2	B977, south of Echt	70	52	1893	119	4%	78%
3	B9125, east of its junction with the B977	70	52	5656	135	1%	63%
4	B9119, east of Echt	70	52	2401	111	3%	88%
5	B9119, east of its junction with the B979	70	52	8110	199	1%	35%
6	A944 Straik Road, south of Westhill	70	52	12818	295	1%	21%
7	A944 Straik Road, west of its junction with the B9126 (DfT site: 50864)	70	52	12872	1588	1%	3%
8	A90, south of its junction with the A944 (DfT site: 91034)	70	52	37547	2614	0%	2%

11.6.26 When applying the IEMA guidance rules used for considering the extent of the assessment, it is clear from the table above that all of the count sites are well below the threshold of 30% increase in AADFs. Furthermore, the changes are below the 10% threshold which is suggested in the IEMA guidance as resulting in “no discernible environmental impact.”

11.6.27 However, when considering changes in HGV traffic only, count sites 1-5 exceed the identified 30% threshold.

11.6.28 Of note, the A90 barely registers a percentage increase in traffic flows and no part of the trunk road network is included within this assessment.

11.6.29 Therefore, from the above review, sites 1-5 are considered to have the potential for significant effects when considering the increases in traffic as a result of the Proposed Development, specifically with regard to the movement of HGVs during the construction period. As such, the assessment focuses on those sites.

11.6.30 As previously noted, the resultant change in baseline traffic flows is not considered an appropriate indicator of the potential for significant effects resulting from the movement of abnormal loads. Therefore the potential effects from abnormal load movements are considered separately, along the full delivery route.

Severance

11.6.31 Severance refers to the level of crossing difficulty for pedestrians, which may be caused by the introduction of additional traffic. Crossing difficulty is not specifically affected by the proportion of HGV traffic and therefore the percentage increase as a result of all vehicles has been used. The threshold for assessing severance given in IEMA is that a 30% increase in traffic would result in a “slight severance effect.”

11.6.32 No pedestrian demand data is available for the count sites (Diagram 11.3), however during the site visit it was noted that pedestrian activity in these locations (sites 1 to 4) was exceptionally low and is likely to remain so throughout a typical day, which can be attributed to the remote location of the sites and lack of frontage development. Site 5 could be expected to have a slightly elevated chance of pedestrian activity due to the proximity of the industrial development to the north of the B9119, however the total absence of pedestrian infrastructure suggests that no demand exists.

11.6.33 With regards to severance, sites 1-4 are considered to have Negligible sensitivity, whilst site 5 is considered to have Low sensitivity. The magnitude of impact for sites 1-5 can be considered Negligible as all sites are below the 30% threshold for general traffic. Therefore, the resultant significance of effect for severance is **Negligible** for all sites.

11.6.34 When considering the delivery route for abnormal loads, areas such as Aberdeen and Dundee Centres, and the town of Westhill, have been assessed as Medium sensitivity as a result of increased frontage development and as such an increased pedestrian activity. The magnitude of impact from abnormal load deliveries on

severance is considered to be Low due to the slow moving convoys and requirement for pedestrians to wait clear, but accepting that these deliveries are infrequent and disturbance is very short lived. The resultant significance of effect is **Minor**, albeit temporary during the delivery of abnormal loads.

Driver Delay

- 11.6.35 Overall, the Proposed Development will result in a maximum of 92 additional vehicle trips on the road network over the course of a 12-hour operational day. On average this results in a little over one additional vehicle every 10 minutes which is unlikely to result in other road users experiencing any notable increase in delays due to operational issues at junctions or on the road network in general.
- 11.6.36 Despite the percentage increases identified in **Table 11.8** the magnitude of impact from construction traffic on driver delay is considered to be Negligible and will therefore result in a **Negligible** significance of effect.
- 11.6.37 A further potential cause of driver delay is during the delivery of abnormal loads, which will be travelling at slower speeds and may require the use of the full carriageway width when negotiating junctions and constrained sections along the delivery route. The delivery routes have been assessed as Low sensitivity to the movement of abnormal loads noting the high capacity infrastructure in the vicinity of the ports and the strategic routes beyond.
- 11.6.38 Road users will be required to wait clear of the vehicle path whilst a convoy passes and will therefore experience some delays. In some instances, drivers may need to follow a convoy over a prolonged section of a route at significantly reduced speed. The magnitude of impact from abnormal load deliveries on driver delay is considered to be **Medium**. The resultant significance of effect is **Minor**, albeit temporary during the delivery of abnormal loads.

Pedestrian Delay

- 11.6.39 As previously defined for pedestrians, count sites 1-4 are considered to have Negligible sensitivity, whilst site 5 is considered to have Low sensitivity. The magnitude of impact from construction traffic beyond that already identified for severance is considered to be Negligible. Therefore, the resultant significance of effect for pedestrian delay is **Negligible** for all sites.
- 11.6.40 Separate to the potential pedestrian delay experienced as a result of severance, the most likely cause of pedestrian delay is as a result of pedestrians being required to wait clear of abnormal load vehicles whilst a convoy passes.
- 11.6.41 As previously noted, the abnormal load route is considered as Medium sensitivity with regard to pedestrian impacts. The magnitude of impact from abnormal load

deliveries on pedestrian delay is considered to be **Low**. The resultant significance of effect is **Minor**, albeit temporary during the delivery of abnormal loads.

Pedestrian Amenity, Fear & Intimidation

- 11.6.42 Pedestrian amenity, fear and intimidation are affected by the perceived traffic flow, traffic composition, footway width and its separation away from the carriageway. The impact can be considered as proportional to the level of HGV traffic which is in close proximity to pedestrians and other vulnerable road users.
- 11.6.43 The sensitivity of the network is therefore driven by the presence of pedestrians and has been categorised using the same reasoning as that identified for severance, with only count Site 5 being regarded as **Low**. The magnitude of impact is considered to reflect the percentage increases in HGV traffic using the IEMA thresholds and is therefore Low for Site 5, Medium for Sites 1 to 4. Therefore, the resultant significance of effect for pedestrian amenity, fear & intimidation is **Negligible** for all count site.
- 11.6.44 With regards to abnormal loads, the route has been considered to have Medium sensitivity due to pedestrian activity, as above. It is to be expected that any pedestrian in close proximity to an abnormal load vehicle would undoubtedly experience a level of intimidation based on the size and proximity of the vehicle and the magnitude of impact from abnormal load deliveries is therefore considered to be **Medium**. The resultant significance of effect is **Moderate**, albeit temporary during the delivery of abnormal loads, and is therefore considered as significant in EIA terms.

Accidents & Road Safety

- 11.6.45 It has been assessed earlier in this chapter, that the number of road collisions in the vicinity of the Site is very low and pedestrian activity is also extremely low. However, the predominantly rural nature of the roads and presence of numerous junctions means that the sensitivity for all sites is considered to be Low, with regard to road safety.
- 11.6.46 The proposed increase in construction traffic on the study area is unlikely to raise any road safety concerns in and of itself. However it is acknowledged that any increase in traffic movements may increase the potential for accidents. The magnitude of impact on road safety is considered to be Medium, irrespective of the relative increases summarised in **Table 11.8**. Therefore, the resultant significance of effect on accidents and road safety is **Minor** for all count sites.
- 11.6.47 The larger and slow moving abnormal load vehicles, could result in an increase in the potential for accidents along the delivery routes. The magnitude of impact

from abnormal load deliveries is considered to be High. When considering the route, has been assessed as Low sensitivity, the resultant significance of effect is **Moderate**, albeit temporary during the delivery of abnormal loads, and is therefore considered as significant in EIA terms.

Operational Effects

- 11.6.48 In traffic terms, the operational phase of a wind farm is negligible, with only occasional visits by service vehicles which usually comprise of a light goods vehicle or van. As such, the significance of any environmental effect from the operational phase of the Proposed Development is considered to be **Negligible**.
- 11.6.49 The Proposed Development is unlikely to require a full time presence during normal operation and will be visited for periodic inspections, maintenance and repairs. The delivery of abnormal loads would only be required in the event of a terminal component failure which is considered to be highly unlikely. If such an abnormal load delivery is required, the delivery methodology used during construction will be implemented. The Police and Road Authority will be notified, and any delivery is likely to be a single event, with very short lived impacts for other road users.

Decommissioning Effects

- 11.6.50 Details of the likely traffic generation during the decommissioning of the Proposed Development are not known at this stage. However, significantly fewer HGV and abnormal load movements are expected during decommissioning than during construction since large components are likely to be broken down prior to transportation and underground infrastructure such as foundations and the access tracks are likely to remain in-situ.
- 11.6.51 It is proposed that an assessment is undertaken, and any mitigation is identified, prior to commencing the decommissioning of the Site.

11.7 Mitigation

- 11.7.1 The following sub-sections describe the additional mitigation measures that have been identified to address the likely significant effects associated with the estimated traffic generation associated with the Proposed Development.

Construction Traffic Management Plan

- 11.7.2 The need for the Proposed Development to be supported by a Construction Traffic Management Plan (CTMP) has been identified by Transport Scotland and

Aberdeenshire Council during scoping discussions. The CTMP should consider the operation and management of all construction traffic to ensure the safe and efficient transportation of the turbine components and other materials to the Site during the construction phase. The CTMP will form an appendix to the final Construction Environmental Management Plan (CEMP).

- 11.7.3 It is not possible to provide a finalised CTMP to support the Proposed Development at this stage. A CTMP would be produced pre-construction once the location of source materials is identified and the Principal Contractor is appointed. It is anticipated that the requirement to provide a CTMP will be secured via a planning condition attached to any subsequent planning consent. The following sets out an outline by which the key elements of the finalised CTMP are considered.
- 11.7.4 The CTMP/CEMP would confirm the operational hours for the Site during the construction phase. All HGV deliveries would be timed to occur within these times, although some additional limitations may be identified within the CTMP, if required. The majority of staff are anticipated to arrive and depart the Site in the preceding and following hour before and after the operational times, respectively. However, some staff are expected to arrive throughout the day, depending on their requirements.
- 11.7.5 The CTMP would provide updated information on the construction schedule, key construction activities, and expected traffic volumes as details are understood. Primarily this would include the confirmed locations of source materials such as local quarries and expected key milestones.
- 11.7.6 The CTMP would also detail the agreed turbine delivery route, as described in the ALRA (**Technical Appendix 11.1**) and presented in **Diagram 11.3** and **Diagram 11.4** (Route Option 1 Focus), and the delivery routes for general HGV traffic. It is proposed that use of the delivery routes would form a requirement of any agreement between the developer and any contractor. Other strategies will also be considered for inclusion in the CTMP, in liaison with the Aberdeenshire council and Transport Scotland, such as the use of vehicle identification system and a method of public reporting of routing infringements.

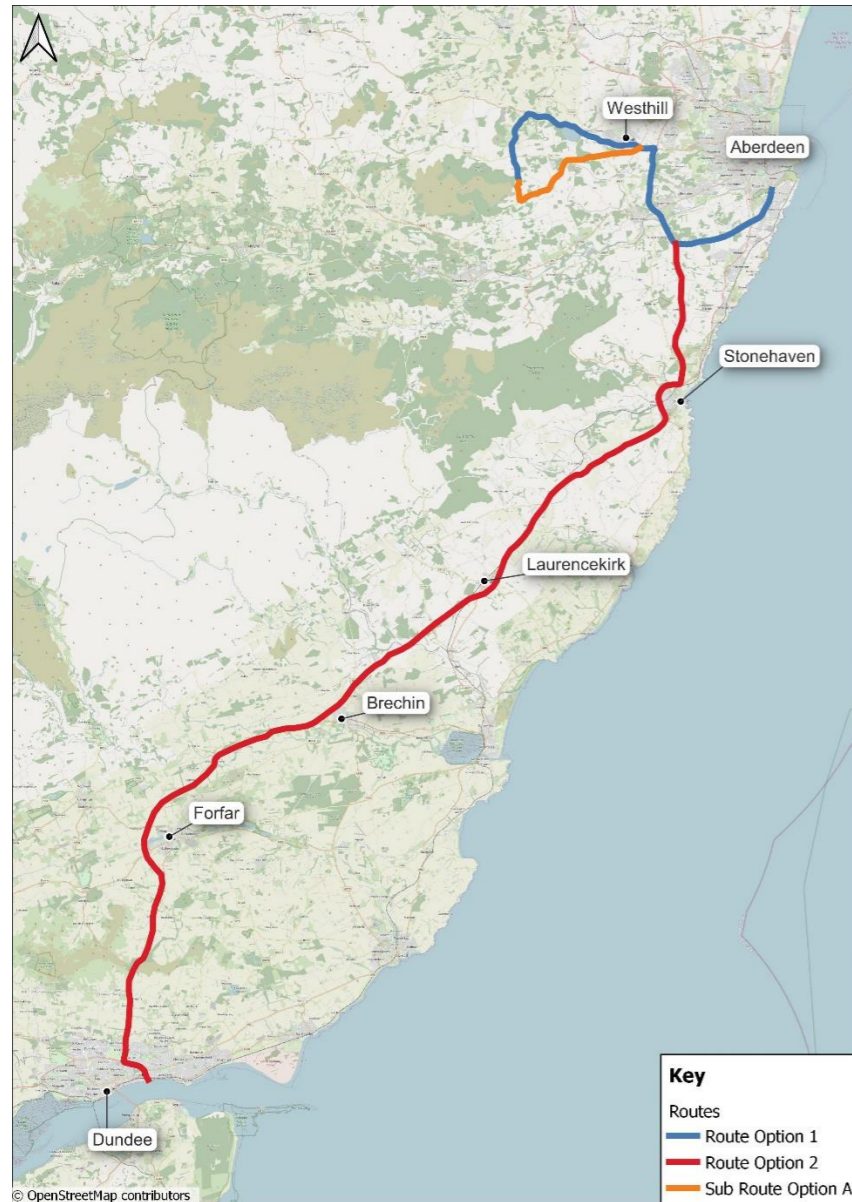


Diagram 11.3: Abnormal Loads Route Options

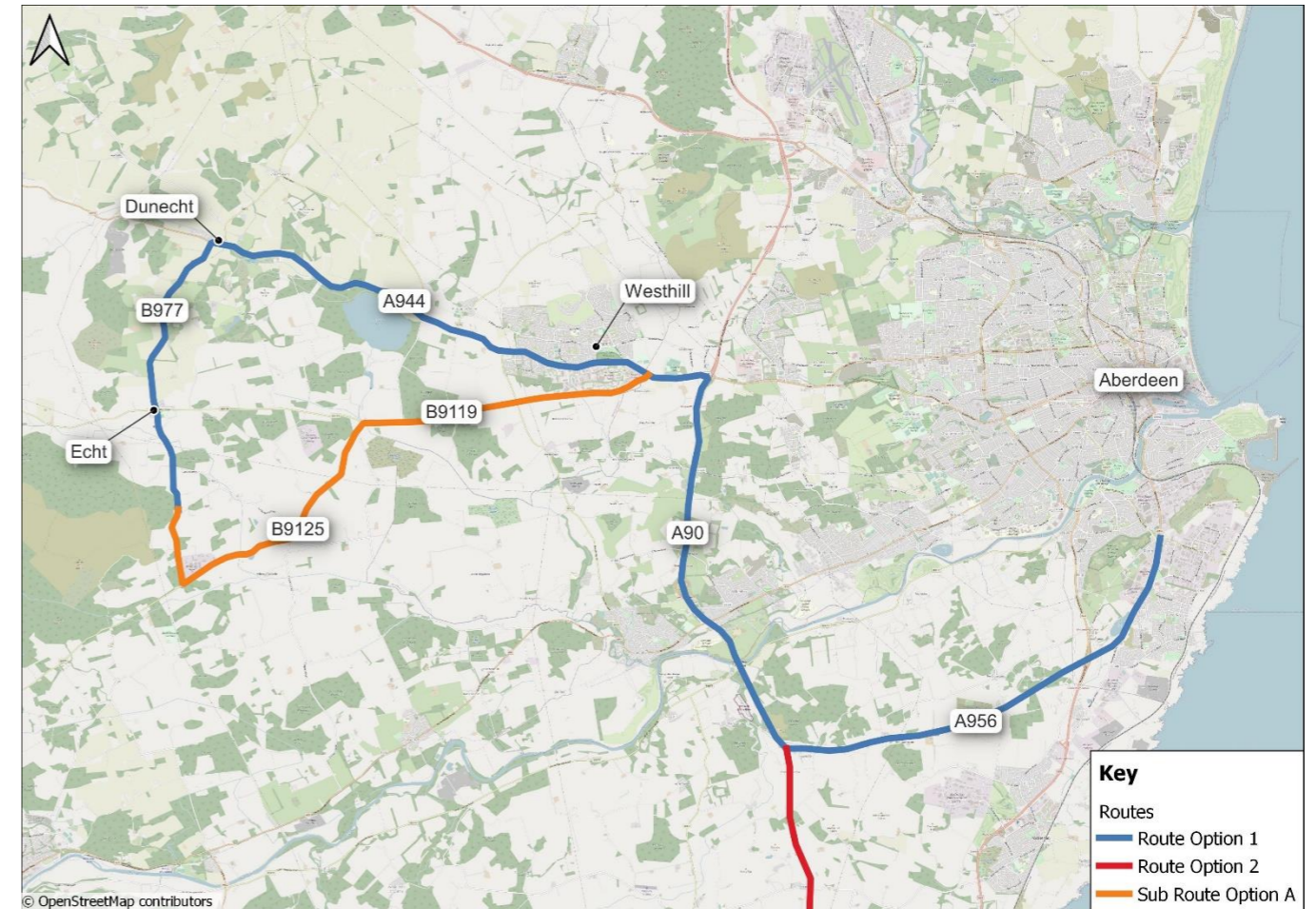


Diagram 11.4: Abnormal Loads Route Options (Route Option 1 Focus)

- 11.7.7 Information on the temporary signage strategy for the delivery route will be presented in the CTMP along with details of temporary advance warning signage at crossing points and the Site access junction. The CTMP will also set out a number of road safety measures including use of wheel washers and load netting to reduce the impact of mud, dirt and general detritus deposits on the road.
- 11.7.8 Details of the number of personnel expected on-site will be set out within the CTMP following confirmation with the appointed contractors. Details will include the staff parking arrangements and any strategies for promoting car sharing. All staff will be expected to park within the Site boundary and clear of the adopted public road.
- 11.7.9 It is inevitable that traffic management measures will need to be implemented while mitigation works are undertaken on the road network. If works require temporary road closures, suitable diversion routes will be agreed with the relevant road authority and information will be provided to the public and emergency services to minimise any safety risk and potential delay.

- 11.7.10 At this stage, no road closures are anticipated in order to facilitate the movements of abnormal vehicles. However, where abnormal loads are required to use the whole carriageway to complete a manoeuvre or where a narrow section of the route requires single file running, traffic will need to be controlled by Police escorts.
- 11.7.11 It is proposed that abnormal load deliveries will be carried out outside of typical peak hours to minimise disruption and delay on the local and wider road network. Once vehicle details are known, the haulier will provide load specifications to each affected road authority so that the suitability of the structures along the route can be re-confirmed, prior to undertaking any deliveries.
- 11.7.12 It is proposed that the local community be updated on the haulage delivery schedule so that people have the opportunity to plan journeys with advanced knowledge. This will help to reduce potential for disruption, specifically on the minor roads.
- 11.7.13 It is proposed that information be disseminated via posting information on a website and the possible use of variable message signs. Furthermore, a channel of communication will be made available, most likely by 24 hour phone number, where specific issues and emergencies can be brought to the attention of the project team. It is envisaged that this can also be used to highlight any particular maintenance issues as they arise.
- 11.7.14 All vehicles arriving on-site will be expected to travel in a courteous and respectful manner. The public will be able to report cases of dangerous driving or routing infringements to the site operator using email or 24 hour emergency contact details to be provided by the Principal Contractor.

Road Condition Survey

- 11.7.15 The CTMP will include details of the route condition survey undertaken along the delivery route to the Site entrance. Where required, the Applicant will enter into an agreement under Section 96 of the Roads (Scotland) Act 1984 “Extraordinary expenses in repairing roads damaged by heavy vehicles etc.” with each affected road authority. Given the estimated volume of development generated traffic, road condition surveys are only proposed for the B977, as the estimated traffic increases are low in comparison to baseline flows on the remainder of the road network. The extent of condition surveys will be agreed with the Aberdeenshire Council, prior to construction activities commencing.

- 11.7.16 A review of the before and after condition of the carriageway will be undertaken in order to ascertain any damage caused by the construction traffic. It is proposed that a video survey is undertaken, supplemented by inspections as required, prior to the commencement of any works and again upon their completion. This will allow all parties to agree the scope of any issues related directly to the Site’s construction activities. Given the prolonged period of the construction phase, it is acknowledged that some interim works may be required. The details of these works will be confirmed as issues occur.
- 11.7.17 It is accepted that the responsibility for any maintenance requirements identified and shown to be as a direct result of site construction traffic, will lie with the Applicant. General road maintenance and all maintenance post-construction will remain the responsibility of the relevant road authority.

Abnormal Loads

- 11.7.18 The movement of abnormal load convoys will be timed to pass through Aberdeen or Dundee Centres, and the town of Westhill, avoiding peak times. This measure will also ensure deliveries occur during times when pedestrian activity is lower.
- 11.7.19 All abnormal load deliveries will be undertaken using Police escort vehicles to control other road users where abnormal loads are required to use the whole carriageway to complete a manoeuvre or where a narrow section of the route requires single file running.
- 11.7.20 The mitigation works proposed on the turbine delivery route ensure that the largest vehicles are able to negotiate the various junctions and other constraints safely and without undue delay. Street furniture will be temporarily removed to enable the vehicles to over sail the verges and footways as required. A trial run will be undertaken to re-confirm the suitability of the route prior to the delivery of any turbine components.
- 11.7.21 The haulier will provide load specifications to each affected road authority so that the suitability of the structures along the route can be re-confirmed, prior to undertaking any deliveries. Furthermore, and as outlined above, a road condition survey will be undertaken prior to deliveries starting and again once deliveries have been completed to identify any damage to the carriageway which is as a result on the movement of the abnormal loads. It is agreed that any damage caused by abnormal loads is made good at the Applicant’s cost.

HGVs

- 11.7.22 The CTMP, prepared in agreement with each road authority, will include a package of measures to ensure that HGV traffic does not cause undue disruption to other road users. This will include routeing agreements and confirmation of times of operation and delivery schedules.
- 11.7.23 HGVs will be routed via either the A944 or the B9119 and B9125 to arrive at the Site via the B977. Specifically, HGVs will be required to avoid the B9119 to the east of Echt where the overall traffic impact is the greatest. Further review of the principal routes for the delivery of aggregates and concrete may be necessary following confirmation of the source quarries and batching facilities and this will be covered within the Final CTMP, as necessary.

11.8 Assessment of Residual Effects

- 11.8.1 The following sub-sections describe the residual effects which might occur as a result of the estimated traffic generation associated with the construction, operational and decommissioning phases of the Proposed Development.
- 11.8.2 The residual effects are those which remain, following the implementation of the proposed mitigation measures.

Residual Construction Effects

- 11.8.3 The mitigation measures identified above will help to reduce the overall environmental effects previously identified.
- 11.8.4 The provision of an abnormal loads escort and a delivery schedule which seeks to avoid busy times will help to lessen the magnitude of impact for the issues identified previously during the movement of abnormal loads.
- 11.8.5 The identification of delivery routes for HGVs and the preparation of a CTMP which will be agreed between the affected road authorities, the Applicant and the Principal Contractor will also help to reduce the magnitude of impacts identified previously for general construction traffic and specifically HGVs.
- 11.8.6 Following the implementation of the identified mitigation measures, the residual environmental effects have been re-evaluated and are set out below.
- 11.8.7 The proposed measures seek to reduce the magnitude of impact on Pedestrian Amenity, Fear & Intimidation and for Accidents & Road safety to Low. Along with the effects previously assessed, the residual effect from abnormal load deliveries on severance; driver delay; pedestrian delay; pedestrian amenity, fear & intimidation; and accidents & road safety are considered to be **Minor** and temporary in nature, during the delivery of abnormal loads to the Site.

- 11.8.8 The residual effect from construction traffic on severance is considered to be **Negligible**.
- 11.8.9 The residual effect from construction traffic on driver delay is considered be **Negligible**.
- 11.8.10 The residual effect from construction traffic on pedestrian delay is considered to be **Negligible**.
- 11.8.11 Following the mitigation measures set out to control the routeing and timing of HGV activities (amongst other measures), the residual effect from HGV traffic on pedestrian amenity, fear & intimidation has been removed at count Site 4, is considered to be **Negligible** across count sites 1, 2, 3 and 5.
- 11.8.12 The residual effect from construction traffic on accidents and road safety is considered to be **minor**.
- 11.8.13 The above residual environmental effects are assessed to be '**not significant**' in the context of the EIA regulations.

Residual Operational Effects

- 11.8.14 The residual environmental effects due to the operational phase of the Proposed Development remains as **Negligible**.

Residual Decommissioning Effects

- 11.8.15 The residual environmental effects due to the decommissioning phase of the Proposed Development have not been assessed. However, it is clear that the residual effects will be less than those predicted during the construction phase and therefore not significant.

Assessment of Cumulative Effects

- 11.8.16 With regards to Access, Traffic and Transport effects resulting from the construction of a wind farm development, the key implication for cumulative impacts relates to the simultaneous construction of additional developments, in the vicinity. Therefore it could be expected that construction traffic would utilise the same road networks to access the developments from the source origins of aggregate and other construction materials. Or in the case of abnormal loads, the simultaneous delivery of abnormal loads along the route.
- 11.8.17 A review of sites detailed within **Table 2.1 of Chapter 2: Project Description** of this EIAR confirms that of the developments currently identified to be considered within the assessment of cumulative effects, only two are not currently operational. Of these two sites, (Craigneil Wind Farm and Fettersesso Wind Farm)

both have currently commenced construction with 11 and 10 turbines, respectively. Therefore it is safe to assume that both of these developments will be fully operational by the time construction of the Proposed Development commences in 2027.

11.8.18 From the above, it is concluded that in terms of Access, Traffic and Transport, there are no cumulative effects likely resulting from known or planned wind farm developments in the vicinity of the Proposed Development.

11.9 Summary

11.9.1 The above assessment has shown that the Proposed Development will generate modest levels of traffic on the road network during the construction phase. The effects of this traffic have been assessed across the adjacent road network to identify any areas where mitigation may be required. Mitigation measures have also been considered to assist with the movement of abnormal loads associated with the delivery of turbine components.

11.9.2 The assessment has been undertaken in line with IEMA guidelines and considering pre-application responses from Transport Scotland and Aberdeenshire Council.

11.9.3 Overall it has been demonstrated that, following implementation of a range of mitigation measures, the residual environmental effects of the construction and operational phases of the Proposed Development are assessed to be ‘not significant’ in the context of the EIA regulations.

11.9.4 Furthermore, it has been concluded that no cumulative effects are likely, as a result of other identified wind farm developments.

Table 11.9 summarises the identified residual effects.

Table 11.9: Summary of Residual Effects

Likely Significant Effect	Mitigation	Means of Implementation	Residual Effect
Moderate effect from abnormal loads on Pedestrian Amenity, Fear & Intimidation; and accidents & road safety	Provision of an abnormal loads escort; implementing identified works to facilitate movement on the road network; and a delivery schedule avoiding busy times	Liaison with the Police and affected roads authorities in line with measures set out in the ALRA (Technical Appendix 11.1).	Minor effect