

## Chapter 12: Traffic and Transport



# Chapter 12

## Traffic and Transport

### Introduction

**12.1** This chapter considers the potential effects of the proposed An Càrr Dubh Wind Farm (hereafter referred to as the 'Proposed Development') on Access, Traffic and Transport. The assessment has been undertaken based on the description of the Proposed Development as outlined in **Chapter 4: Development Description**.

**12.2** It details the following specific objectives of the chapter, which are to:

- Review the relevant policy and legislative framework;
- Describe the transport 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 likely significant effects; and
- Assess the residual effects remaining following the implementation of mitigation.

**12.3** Planning policies relating to this assessment are provided in **Chapter 5: Statutory and Policy Framework**.

**12.4** The traffic and transport assessment was undertaken by Pell Frischmann.

**12.5** This chapter is supported by a number of figures which are referenced throughout the text and which can be found at the end of this chapter. The chapter is also supported by **Appendix 12.1: Transport Assessment**.

### Scope of the Assessment

#### Effects Assessed in Full

**12.6** The assessment has fully considered the transport and access issues arising from the construction phase of the Proposed Development. The study has considered the following temporary effects:

- Direct effects during construction on traffic flows in the surrounding study area<sup>1</sup>;
- Direct effects during construction upon local road users; and
- Direct effects during construction upon local residents of an increase in construction traffic.

**12.7** Where effects meet the criteria set out in the Institute of Environmental Management and Assessment (IEMA) guidance<sup>2</sup>, a review of the effects on severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation and accidents/road safety has been undertaken.

#### Effects Scoped Out

**12.8** On the basis of the desk 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:

- 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 construction phase are scoped out of the assessment.
- Decommissioning Phase: As noted in **Chapter 2**, an assessment of effects on decommissioning of the Proposed Development has not been undertaken. Specific to access, traffic and transport, the traffic effects during the decommissioning phase can only be fully assessed closer to that period, i.e. 40 years on from the completion of construction. 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 consideration has been given to the decommissioning phase.

### Assessment Methodology

#### Legislation and Guidance

##### Legislation

**12.9** There is no specific legislation which should be considered as part of this traffic and transport assessment.

##### Guidance

**12.10** This assessment is carried out in accordance with the principles contained within the following documents:

- National Planning Framework 4 (2023)<sup>3</sup>;
- Transport Assessment Guidance (2012)<sup>4</sup>;
- Planning Advice Note 75 – Planning for Transport (2005)<sup>5</sup>;
- Argyll and Bute Local Development Plan (2015)<sup>6</sup>;
- The Guidelines for the Environmental Assessment of Road Traffic (1993); and
- Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) (2008).

#### Consultation

**12.11** In undertaking the assessment, consideration has been given to the Scoping responses and other consultation which has been undertaken as detailed in **Table 12.1**.

**Table 12.1: Consultation responses**

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Argyll and Bute Council (ABC) 20 <sup>th</sup> January 2022	Scoping Opinion	The Council's Area Roads Engineer has noted that the proposal is to the east of the B840 East Lochaweside Road. Confirmation is required that no traffic associated with the proposal will be using the B840 East Lochaweside Road.	No construction traffic is proposed to use the B840. All access will be via the A83 (T) and A819.

<sup>1</sup> Unless stated otherwise, all traffic flows quoted are daily two way flows.

<sup>2</sup> Institute of Environmental Assessment and Management (1993) The Guidelines for the Environmental Assessment of Road Traffic

<sup>3</sup> Scottish Government (2023) National Planning Framework 4 [online]. Available at: <https://www.transformingplanning.scot/national-planning-framework/>

<sup>4</sup> Transport Scotland (2012) Transport Assessment Guidance [pdf]. Available at: [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)

<sup>5</sup> Scottish Government (2005) Planning Advice Note: PAN 75 – Planning for Transport [online]. Available at: <https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/>

<sup>6</sup> Argyll and Bute Council (2015) Adopted Local Development Plan [online]. Available at: <https://www.argyll-bute.gov.uk/ldp>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
ABC 20 <sup>th</sup> January 2022	Scoping Opinion	As the Proposed Development is proposed to be served by a Trunk Road, it is considered that Transport Scotland (TS) are best placed to answer.	TS was consulted as part of the Scoping process and their response is detailed further below.
British Horse Society 7 <sup>th</sup> June 2021	Scoping Opinion	Level crossings which are currently used by equestrians should not be replaced by alternatives which would preclude the use by equestrians, for example, a footbridge. Similarly, other infrastructure like gates, bridges, cattle grids and slippery surfaces should all be installed with equestrians in mind. Access control must always be the least restrictive option.	Noted.
Transport Scotland (TS) 21 <sup>st</sup> May 2021	Scoping Opinion	Note that the Scoping Report states that there are several access options being considered and a detailed access review is being undertaken to identify the most suitable access junction option. Note that further consultation with TS will be held once the final access solution has been determined.	The proposed access solution is set out in this chapter and in <b>Appendix 12.1</b> .
TS 21 <sup>st</sup> May 2021	Scoping Opinion	Advise that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Manager. At this application stage, advise that 1:500 scale plans of any new or modified access from the trunk road should be submitted along with visibility splay plans.	1:500 plans of the proposed access junctions interfacing with the A83 are provide in <b>Appendix 12.1</b> .
TS 21 <sup>st</sup> May 2021	Scoping Opinion	Note that the Scoping Report states that the thresholds as indicated within the IEMA Guidelines for the Environmental Assessment of Road Traffic are to be used to define the scale and extent of the assessment. These specify that road links should be taken forward for assessment if: <ul style="list-style-type: none"> <li>■ Traffic flows will increase by more than 30%, or</li> <li>■ The number of HGVs will increase by more than 30%, or</li> <li>■ Traffic flows will increase by 10% or more in sensitive areas. We would confirm that no further assessment is required if the above thresholds are not exceeded.</li> </ul>	The assessment within this chapter has been undertaken in accordance with these thresholds.
TS 21 <sup>st</sup> May 2021	Scoping Opinion	Note that it is proposed that base traffic data will be obtained from historic data sources including the DfT traffic survey database, Traffic Scotland database and "other public datasets that are available". The study area for the assessment is identified as following: <ul style="list-style-type: none"> <li>■ A83(T) near the proposed Site access junction;</li> <li>■ A83(T) to the north-east of Inveraray;</li> <li>■ A83(T) in Lochgilphead; and</li> <li>■ A83(T) at Ardrishaig.</li> </ul> The SR states that base traffic flows will be factored to the assessment year using NRTF Low Growth. TS can confirm that the above proposed assessment methodology is considered acceptable.	Information regarding the sources of traffic data as well as the NRTF growth factors are provided in <b>Appendix 12.1</b> , and also further in this chapter.
TS 21 <sup>st</sup> May 2021	Scoping Opinion	While it is considered appropriate that the turbine components will be delivered to the port of Campbeltown and then transported to the Site via the A83(T), TS would draw specific attention to the pinch point located on the A83(T) at the Crinan Canal/Ardrishaig Basin (swing bridge), as well as the mini	The Route Survey Report (RSR) which is provided in <b>Appendix 12.1</b> details any anticipated pinch points along the

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		roundabout junction of the A83(T) with the A816. TS 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.	Abnormal Indivisible Load (AIL) delivery route, as well as proposed mitigation measures to facilitate the delivery of the AILs. The delivery routes are shown on <b>Figure 12.4</b> .  Within the RSR, POI 70 provides details regarding AILs passing through A83 Ardrishaig Basin and POI 73 provides details regarding AILS passing through the A83/A816 Roundabout.
TS 21 <sup>st</sup> May 2021	Scoping Opinion	A full Abnormal Loads Assessment report should be provided with the EIA Report that identifies key pinch points on the trunk road network. The swept path analysis should provide details regarding any required changes to street furniture or structures along the route.	The detailed RSR is provided in <b>Appendix 12.1</b> .

#### Study Area

**12.12** The study area includes local roads that are likely to experience increased traffic flows resulting from the Proposed Development. The geographic scope was determined through a review of Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and locations for construction materials.

**12.13** The Proposed Development is located approximately 6 kilometres (km) to the north-west of Inveraray and approximately 4.5km east of Dalavich. Strategic access to the Site is available from the A83 trunk road (T).

**12.14** The Proposed Development will be accessed via the A83 (T), south of Inveraray near Auchnabreac. The access will head north to join the existing 'Inveraray bypass' (also known as Upper Avenue) just south of the Scottish Water treatment works, located to the west of Inveraray Golf Club. This short section of track is shown within the discrete red line application boundary on **Figure 4.1.a.7**. Some widening and realignment will be required along this section of track. The access then joins the A819 for approximately 1.2km before accessing the Site, south of Electric Cottage. The Inveraray bypass only be used by AIL traffic and no other vehicles. All other vehicles will access the Site via the A83 (T) and the Site entrance from the A819.

**12.15** It is anticipated that the Port of Entry (PoE) will be the Campbeltown Harbour and AIL deliveries will subsequently to the Site via the A83 (T). This is the only feasible port as there are restrictions in place on the wider A83 (T) at Inveraray, Tarbert and Arrochar.

**12.16** The port has been previously used by turbine imports for a number of local wind farms. The quay at Campbeltown has been upgraded to accommodate heavier offshore tower sections and the access road to and from the quay is proven to facilitate heavier loads.

**12.17** The proposed access route is as follows:

- Loads will depart the Campbeltown Harbour and continue north on the A83 (T);
- Loads will continue through Tarbert on the A83 (T);
- Loads will continue through Lochgilphead towards Inveraray on the A83 (T);
- Loads will turn left onto the Inveraray bypass and continue along Upper Avenue (which is currently a gravel track in varying states of repair);
- Loads will then turn left onto the A819; and

- Access to the Site entrance will be taken directly from the A819.

12.18 The study area for this assessment is therefore as follows:

- A819, between Inveraray and Cladich;
- A83, between Cairndow and Inveraray;
- A83, between Inveraray and Lochgilphead; and
- A83, between Lochgilphead and Ardrishaig.

12.19 The extent of the study area is presented in **Figure 12.1**.

#### Desk Based Research and Data Sources

12.20 The following data sources have informed the assessment:

- Relevant transport planning policy and guidance – Locations of sources as previously detailed in Legislation and Guidance section;
- Accident data ([www.crashmap.co.uk](http://www.crashmap.co.uk));
- Traffic data ([roadtraffic.dft.gov.uk](http://roadtraffic.dft.gov.uk));
- Sensitive location ([www.googlemaps.co.uk](http://www.googlemaps.co.uk));
- Any other traffic sensitive receptors in the area (core paths, routes, communities, etc.) ([www.googlemaps.co.uk](http://www.googlemaps.co.uk) and relevant agency's website);
- 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 AILs through a Route Survey including swept path assessments – OS plans, aerial photography and Google Streetview.

#### Field Survey

12.21 Detailed site visits to review the potential access options to the Site were undertaken in 2022.

12.22 Site visits to assess the proposed AIL delivery route and to identify potential constraints along the route was undertaken in 2020 and 2021.

#### Assessing Significance

##### Sensitivity

12.23 Sensitivity has been determined on the basis of the IEMA 'Guidelines for Environmental Impact Assessment' (2005) which notes that the separate 'Guidelines for the Environmental Assessment of Road Traffic' (1993) document 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.

12.24 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.

12.25 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.

Table 12.2: 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.  Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.	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.  Includes new strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal Loads and new strategic trunk road junctions capable of accommodating Abnormal Loads.
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.

12.26 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

12.27 The magnitude of change has been assessed in relation to the IEMA Guidelines to determine which links within the study area should be considered for detailed assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles is predicted to increase by more than 30%).
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

12.28 Examples of specifically sensitive areas include locations where there are hospitals, churches, schools and historical buildings.

12.29 The IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development:

- Severance: The IEMA Guidance states that "severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery". Further "Changes in traffic of 30%, 60%, and 90% are regarded as producing 'slight', 'moderate', and 'substantial' [or minor, moderate, and major] changes in severance respectively". However, the Guidelines acknowledge that "the measurement and prediction of severance is extremely difficult" (Para 4.28).
- Driver delay: The IEMA Guidelines note that these delays are only likely to be "significant [or major] when the traffic on the network surrounding the development is already at, or close to, the capacity of the system" (Para 4.32).
- Pedestrian delay: The delay to pedestrians, as with driver delay, is likely only to be major when the traffic on the network surrounding the development is already at, or close to, the capacity of the system. An increase in total traffic of approximately 30% can double the delay experienced by pedestrians attempting to cross the road and would be considered major.
- Pedestrian amenity: The IEMA Guidelines suggests that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or its lorry component) is halved or doubled (Para 4.39). It is therefore considered that a change in the traffic flow of -50% or +100% would produce a major change in pedestrian amenity.

- 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 major changes respectively.
- Accidents and safety: Professional judgement would be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents.

### Significance

**12.30** 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 Table 3.8.1 of LA104 Revision 1, 3. Environmental Assessment Methodology of the DMRB and summarised in **Table 12.3**.

**12.31** The DMRB defines the potential changes in effect as follows:

- Large: These effects are considered to be material in the decision-making process.
- Moderate: These effects may be important but are not likely to be material factors in decision making. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a receptor.
- Slight: These effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in improving the subsequent design of the project.
- Neutral: No effects or those that are imperceptible.

**Table 12.3: Significance of effects**

Receptor Sensitivity	Magnitude of Effect (based on the IEMA thresholds noted above, informed by professional judgement)			
	Major	Moderate	Minor	Negligible
High	Large	Large/Moderate	Moderate/Slight	Slight
Medium	Large/Moderate	Moderate	Slight	Slight/Neutral
Low	Moderate/Slight	Slight	Slight	Slight/Neutral
Negligible	Slight	Slight	Slight/Neutral	Neutral

**12.32** In the context of the EIA Regulations, effects are considered to be significance where they are assessed to be large or moderate. Where an effect could be one of Large/Moderate or Moderate/Slight, professional judgement is used to determine overall significance.

### Assessment Limitations

**12.33** The assessment is based upon average traffic flows in one month periods. During the month, activities at the Site are likely to fluctuate day to day and it is not possible to fully develop a detailed daily traffic flow estimate as no Balance of Plant (BoP) 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).

**12.34** Whilst some information gaps have been identified, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on Access, Traffic and Transport.

## Existing Conditions

### Active Travel Network

**12.35** A review of Argyll and Bute Paths Map (<https://argyll-bute.maps.arcgis.com/apps/webappviewer/>) indicates that the following core paths are located within the Site:

- Core Path C200(a) – Coille Bhraghad – Queens Drive – Inveraray which is 1.2km in length and comprises a stone track. Information on the Core Path notes that it is not waymarked.
- Core Path C200(b) – Coille Bhraghad – Queens Drive – Inveraray which is 4.7km long and comprises a stone track and is not waymarked.

**12.36** There are a number of Core Paths in the vicinity of the Site which include:

- Core Path C203 – Bealach an Fhuarain, Inveraray (circular) which is approximately 3.7km in length and constructed of a stone track and is not waymarked.
- Core Path C201 – Dun Na Cuaiche, Inveraray which is 3.1km in length and comprises stone track and is not waymarked.
- Core Path C199(e) – Furnace to Inveraray via Kenmore which is 1.5km in length and comprises a path/stone track and is not waymarked.

**12.37** A review of the Sustrans cycle network plan of the United Kingdom indicates that there are no National Cycle Routes (NCR) in the vicinity of the Site, however, there are a couple of sections of the A83 (T), along the AIL delivery route, which are designated as “On-road route not on the national Cycle Network”.

### Accident Review

**12.38** Road traffic accident data for the period commencing 1<sup>st</sup> January 2018 through to 30<sup>th</sup> June 2021 was obtained from the online resource CrashMap ([www.crashmap.co.uk](http://www.crashmap.co.uk)) which uses data collected by police about road traffic crashes occurring on British roads. It should be noted that at the time of writing, only provisional data for 2021 is available from CrashMap, and this only covers the period January to June 2021. While some of the accident study period was during the Covid-19 lockdown periods, the data obtained is considered sufficient to highlight any accident trends within the study area.

**12.39** The statistics are categorised into three categories which include “slight” for damage only incidents, “serious” for injury accidents and “fatal” for accidents that result in death. Accident information which occurred along road links within the study area was analysed.

**12.40** **Table 12.4**, **Table 12.5** and **Table 12.6** summarise the accidents recorded within the study area and the locations are presented in **Figure 12.3**.

**Table 12.4: Accident history summary**

Accident Severity	Number of Recorded Incidents		
	A819	A83, south of A819/A83 priority junction	A83, north of A819/A83 priority junction
Slight	0	12	5
Serious	4	4	4
Fatal	0	2	0

**12.41** There are a total of 31 recorded incidents along the road links within the study area within the survey period. A summary of the casualty types are presented in **Table 12.6** and the types of vehicles involved in the accidents are presented in **Table 12.7**.

**Table 12.5: Accident casualty type summary**

Accident Severity	Cyclist	Child	Motorcyclist	Pedestrian	Car Driver/ Passenger
A819					
Slight	0	0	0	0	0
Serious	0	0	2	0	1

Accident Severity	Cyclist	Child	Motorcyclist	Pedestrian	Car Driver/ Passenger
Fatal	0	0	0	0	0
A83, south of A819/A83 priority junction					
Slight	0	0	0	0	9
Serious	0	1	1	0	3
Fatal	0	0	1	0	1
A83, north of A819/A83 priority junction					
Slight	0	0	2	0	3
Serious	0	0	2	0	2
Fatal	0	0	0	0	0

Table 12.6: Vehicles involved in accidents summary

Accident Severity	Cyclist	Motorcycle	Car	HGV	Bus	Young Driver
A819						
Slight	0	0	0	0	0	0
Serious	0	2	1	2	0	0
Fatal	0	0	0	0	0	0
A83, south of A819/A83 priority junction						
Slight	0	0	9	4	0	2
Serious	0	1	3	1	0	1
Fatal	0	1	1	1	0	0
A83, north of A819/A83 priority junction						
Slight	0	2	3	0	0	1
Serious	0	2	2	1	0	0
Fatal	0	0	0	0	0	0

12.42 With regards to accidents trends, a review of the above accidents indicates that:

- To the north of Furnace, three accidents occurred within approximately 500m of each other;
- In Middle Kames, three incidents occurred within approximately 250m of each other; and
- To the north of Achnaba, four accidents occur within 450m of each other.

<sup>7</sup> For the purpose of this assessment it is assumed that this count point is located at the Site Access to capture construction traffic arriving to the Site from both the north and south along the A819.

12.43 A review of the above accident locations shows that the topography of the A83 (T) road is winding in nature where the accidents occurred.

#### Existing Traffic Conditions

12.44 The Proposed Development will be accessed from the A819 using an upgraded access junction. It is proposed that all vehicular traffic will use this access, including AILs. A newly provided Inveraray bypass will be provided which links the A83 (T) to Upper Avenue and subsequently to the A819 to the north-west of Inveraray.

12.45 The A83 (T) forms part of the trunk road network which runs from Campbeltown to Arrochar. The road is maintained by BEAR Scotland, on behalf of TS. The A83 (T) is mainly subject to the national speed limit, which reduces when travelling through towns and villages.

12.46 The A819 is a two-way single carriageway which links the A83 (T), to the south, to the A85 (T), to the north. The A85 forms part of the trunk road network which links Oban to Perth. Outside of Inveraray, the A819 is mainly subject to the national speed limit and is maintained by ABC.

12.47 To assess the impact of traffic on the study area, traffic information was obtained from Department for Transport (DfT) and TS website count sites at the following locations (see Figure 12.2):

1. A819, north of the Site Entrance (DfT Count Point 30927)<sup>7</sup>;
2. A83 (T), Ardgenavan (DfT Count Point 507771);
3. A83 (T), south of Inveraray (DfT Count Point 10765);
4. A83 (T), Minard (DfT Count Point 40768);
5. A83 (T), Lochgilphead (DfT Count Point 20772); and
6. A83 (T), south of Ardrishaig (TS Count Point JCT08339).

12.48 Available 2019 flow information was obtained for all locations, as these flows will be unaffected by Covid-related travel restrictions. Traffic flow data was obtained for the A83 (T), near Ardrishaig, from the TS traffic database as there was no suitable DfT count point at this location. Although a full years' worth of data was not available from the TS traffic database at this location, as flow information for the majority of June, all of July and half of August were not available, the extent of the coverage is considered sufficient to estimate Annual Average Daily Flows (AADF).

12.49 National Road Traffic Forecast (NRTF) low growth factors were used to factor 2019 flows to 2022 flows. The NRTF low growth factor from 2019 to 2022 is 1.022.

12.50 The traffic information received from TS and DfT allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars/light good vehicles (LGVs) and heavy good vehicles (HGVs) (buses and all goods vehicles >3.5 tonnes gross maximum weight).

12.51 A summary of the results for the average daily 24-hour period is provided in Table 12.7.

Table 12.7: Daily average two way traffic flows (2022)

No.	Survey Location	Data Source	Cars & LGV	HGV	Total
1	A819, Site Access*	DfT	1,312	141	1,453
2	A83 (T), Ardgenavan	DfT	5,518	646	6,164
3	A83 (T), south of Inveraray	DfT	2,883	317	3,200
4	A83 (T), Minard	DfT	2,576	317	2,893
5	A83 (T), Lochgilphead	DfT	7,047	495	7,541

No.	Survey Location	Data Source	Cars & LGV	HGV	Total
6	A83 (T), south of Ardrishaig	TS	1,990	205	2,195

Note that minor variances due to rounding may occur. \*Assumed to capture all construction traffic at Site Access (from the north and south along the A819) for a robust assessment.

**12.52** It is anticipated that construction of the Proposed Development will commence in 2027 if consent is granted. It is expected that construction of the project is to take up to 18 months.

**12.53** The future baseline traffic flows have been used for the assessment and are estimated by applying a NRTF low growth to the obtained traffic flows. The NRTF low growth factor for 2022 to 2027 is 1.026.

**12.54** These factors were applied to the 2022 traffic data obtained to estimate the 2027 Baseline traffic flows, which are shown in **Table 12.8** below. These figures have been used as the assumed baseline traffic flows for the assessment. The traffic count locations are shown on **Figure 12.2**.

Table 12.8: Daily average two way traffic flows (2027)

No.	Survey Location	Cars & LGV	HGV	Total
1	A819, Site Access	1,346	145	1,491
2	A83, Ardgenavan	5,661	663	6,324
3	A83, south of Inveraray	2,958	325	3,283
4	A83, Minard	2,643	325	2,969
5	A83, Lochgilphead	7,230	508	7,737
6	A83, south of Ardrishaig	2,042	211	2,252

Note that minor variances due to rounding may occur.

## Implications of Climate Change

**12.55** It is considered that climate change projections will not have a discernible impact on the baseline conditions for road traffic within the timescales of the Proposed Development.

**12.56** It is assumed that, at regional level, appropriate measures will be put in place to ensure flood risk is managed and does not have long term effects on transport infrastructure.

## Future Baseline in the Absence of the Proposed Development

**12.57** As noted above, the assessment has been undertaken on the basis of a future baseline of conditions in 2027, with growth factors applied. In the absence of the Proposed Development, it is anticipated that traffic growth will occur throughout the study area as a result of other development pressures, tourism and population flows.

## Design Considerations

**12.58** The Site layout allows for the use of several onsite borrow pits to provide material for the creation of the access tracks, hardstandings and compound bases. It is estimated these can provide sufficient material for the construction of the entire Site, however, to ensure that a robust assessment is undertaken, it has been assumed that the borrow pits will only provide 50% of the required stone value.

**12.59** To allow abnormal load access through Inveraray, it is proposed to bypass the town using an upgraded access track connecting the A83 (T) to the A819. This track follows the route of an existing forest track that will require upgrading. It is proposed that only AIL traffic will use this bypass and that all stone required for its improvement and widening is sourced from quarries located to the south of Inveraray. The route of the access has been designed to avoid the North Cromalt Wren Memorial sited on the east side of the track at the junction with the access road to the Scottish Water Treatment Works. Further details relating to the memorial are provided in **Chapter 10: Cultural Heritage** and **Appendix 10.2: Historic Environment Assessment**.

**12.60** The Site is large enough to warrant on-site batching of concrete and given its location and length of access, on-site batching will be undertaken. As such, a concrete batching plant will be located within the Site. All turbine and substation foundation concrete will be mixed on-site, with deliveries of cement powder and water assumed to be delivered by HGV tankers via the A83 (T) to the south-west of the Site. Sand and aggregate will be delivered via the A83 (T) by tipper HGV and is expected to originate at quarries located to the north-east of the Site. It should be noted that the batching of concrete on-site will lead to a reduction in the numbers of concrete delivery vehicles required in comparison to using ready-mix concrete.

## Assessment of Effects

**12.61** The assessment of effects is based on the project description as outlined in **Chapter 4**. Unless otherwise stated, potential effects identified are considered to be negative.

**12.62** A review of sensitive receptors has been undertaken within the study area based on the review of baseline conditions. **Table 12.9** details the receptors and their sensitivities for use within the assessment. A justification for the sensitivity has been provided, based upon the details contained in **Table 12.2**.

Table 12.9: Receptor sensitivity summary

Receptor	Sensitivity	Justification
Users of A819	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
Users of A83	Low	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.
Inveraray Residents	High	Where a location is a large rural settlement containing a high number of community and public services and facilities.
Lochgilphead Residents	High	Where a location is a small rural settlement, few community or public facilities or services.
A819/A83 Individual Residents	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.

**12.63** Based on the indicators which are stated within the IEMA Guidelines, the following locations are identified as a sensitive receptors in this assessment due to the presence of schools, churches or medical practices, as well as paths:

- Inveraray Residents; and
- Lochgilphead Residents.

**12.64** These locations will be subject to the 'Rule 2' of the IEMA Guidelines which requires a full assessment of effects if the traffic count locations are anticipated to be subject to an increase in 10% of total traffic.

**12.65** All other locations within the study area are subject to 'Rule 1' and are assessed if traffic flows (or HGV flows) on highway links are anticipated to increase by more than 30% as a result of the construction of the Proposed Development.

## Construction Effects

**12.66** The assessment is based upon the construction effects that may occur within the study area. To assess the effects, it is necessary to determine the likely traffic generation associated with the Proposed Development.

**12.67** During the 18 month construction period, the following traffic will require access to the Site:

- Staff transport, either cars or staff minibuses;
- Construction equipment and materials, deliveries of machinery and supplies such as cement; and
- Abnormal loads consisting of the wind turbine sections and also a heavy lift crane.



**12.68** Average monthly traffic flow data were used to establish the construction trips associated with the Proposed Development and are detailed in the Transport Assessment contained in **Appendix 12.1**. The trip estimates have been based upon first principle estimates of traffic movements to and from the Site, having established the likely volumes of construction materials, resources and components.

**12.69** Access of the AIL deliveries will be from the Campbeltown Harbour and will subsequently travel north-bound via the A83 (T).

**12.70** If consented, the Applicant will engage in detailed discussions with the turbine suppliers, haulage contractors, TS, Police Scotland and road authorities in regard to an agreed port of entry strategy and AIL delivery route.

**12.71** The trip estimates have been assigned to the proposed construction programme to allow the identification of the peak of construction traffic to be established. The construction programme is also provided in **Appendix 12.1**.

**12.72** The peak of construction traffic activity was identified as being Month 6 of the programme. The traffic associated with this month was then assigned to the study area network using the distribution of traffic described within **Appendix 12.1**.

**12.73** The peak traffic flows associated with the Proposed Development's construction phase results in an average of 147 movements per day (74 inbound trips and 73 outbound trips), of which 48 comprises light vehicles (24 inbound and 24 outbound) and 99 by HGV (50 inbound and 49 outbound). Following the distribution and assignment of traffic flows to the study area network, the resultant daily traffic flows during the peak of construction are summarised in **Table 12.10**.

**Table 12.10: Peak construction traffic**

No.	Survey Location	Cars & LGV	HGV	Total
1	A819, Site Access	48	99	147
2	A83, Ardgenavan	10	1	10
3	A83, south of Inveraray	48	99	147
4	A83, Minard	24	2	26
5	A83, Lochgilphead	24	2	26
6	A83, south of Ardrishaig	24	2	26

Note that minor variances due to rounding may occur.

**12.74** The construction traffic was compared against the future baseline traffic to estimate the increase in traffic associated with this phase of the Proposed Development. **Table 12.11** illustrates the potential traffic impact at the peak of construction activity.

**Table 12.11: 2027 Traffic impact summary**

No.	Survey Location	2027 Baseline Flow and Peak Traffic			% Increase		
		Cars & LGV	HGV	Total	Cars & LGV	HGV	Total Traffic
1	A819, Site Access	1,394	244	1,638	3.57%	68.54%	9.87%
2	A83, Ardgenavan	5,671	663	6,334	0.17%	0.09%	0.16%
3	A83, south of Inveraray	3,006	424	3,430	1.62%	30.51%	4.48%
4	A83, Minard	2,667	327	2,994	0.91%	0.56%	0.87%
5	A83, Lochgilphead	7,254	509	7,763	0.33%	0.36%	0.33%
6	A83, south of Ardrishaig	2,066	213	2,278	1.18%	0.86%	1.15%

Note that minor variances due to rounding may occur.

**12.75** The total traffic movements are not predicted to increase by more than 10% in any of the study area.

**12.76** A review of existing road capacity has been undertaken using the DMRB, Volume 15, Part 5 'The NESA Manual'. The theoretical road capacity has been estimated for each of the road links that makes up the study area. The results are summarised in **Table 12.12**.

**Table 12.12: 2027 daily traffic (12hr) capacity review summary**

No.	Survey Location	2027 Baseline Flow	2027 Base and Development Flows	Theoretical Road Capacity	Spare Road Capacity %
1	A819, Site Access	1,491	1,638	21,600	92.4%
2	A83, Ardgenavan	6,324	6,334	21,600	70.7%
3	A83, south of Inveraray	3,283	3,430	19,200	82.1%
4	A83, Minard	2,969	2,994	21,600	86.1%
5	A83, Lochgilphead	7,737	7,763	19,200	59.6%
6	A83, south of Ardrishaig	2,252	2,278	19,200	88.1%

Note that minor variances due to rounding may occur.

**12.77** The results indicate that ample spare capacity exists within the trunk and local road network to accommodate construction phase traffic.

**12.78** The significance of the potential effects on the above receptors has been determined using the rules and thresholds previously outlined. **Table 12.13** summarises the significance on the receptors for the construction phase prior to mitigation measures being applied.

**Table 12.13: Construction phase effects summary**

Receptors	Potential Effect	Sensitivity	Magnitude of Effect	Significance of Effect	Comment
A819 Users	Severance	Medium	Minor	Minor ( <b>Not Significant</b> )	Increase in total traffic is anticipated to be below 10%. Changes in traffic flow less than 30% are considered Minor.  The effect of severance is therefore considered Minor.
	Driver Delay	Medium	Minor	Minor ( <b>Not Significant</b> )	There is ample spare capacity along the existing link road, therefore the effect of driver delay is considered Minor.
	Pedestrian Delay	Medium	Minor	Minor ( <b>Not Significant</b> )	The total number of construction vehicles expected on this link is 147 vehicles which equates to approximately 15 vehicles per hour which is not considered significant in terms of pedestrian delay for this receptor.
	Pedestrian Amenity	Medium	Minor	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 10% and pedestrian facilities on the route are limited along its length.  The effect on pedestrian amenity is therefore considered Minor.
	Fear and Intimidation	Medium	Minor	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 10%. The effect is therefore considered Minor.
	Accidents and Safety	Medium	Moderate	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 10%. The effect is therefore considered Minor.

Receptors	Potential Effect	Sensitivity	Magnitude of Effect	Significance of Effect	Comment
Inveraray Residents	Severance	High	Minor	Minor ( <b>Not Significant</b> )	Increase in total traffic is anticipated to be below 5%. Changes in traffic flow less than 30% are considered Minor.  The effect of severance is therefore considered Minor.
	Driver Delay	High	Minor	Minor ( <b>Not Significant</b> )	There is ample spare capacity along the existing link road, therefore the effect of driver delay is considered Minor.
	Pedestrian Delay	High	Minor	Minor ( <b>Not Significant</b> )	The total number of construction vehicles expected on this link is 147 vehicles which equates to approximately 15 vehicles per hour which is not considered significant in terms of pedestrian delay for this receptor.
	Pedestrian Amenity	High	Minor	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 5% and less than average daily fluctuations that can be experienced in daily traffic flows.  The effect on pedestrian amenity is therefore considered Minor.
	Fear and Intimidation	High	Minor	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 5%. The effect is therefore considered Minor.
	Accidents and Safety	High	Moderate	Minor ( <b>Not Significant</b> )	The overall increase in traffic is less than 5%. The effect is therefore considered Minor.

**12.79** A review for Lochgilphead residents has not been displayed as the traffic impact is far less than that experienced for Inveraray residents at 0.33%. Any effect will be categorised as negligible.

**12.80** The assessment confirms that the temporary effects experienced during construction will not be significant.

**12.81** It should be noted that the effects relate solely to the peak of construction activities (Month 6), and that the construction period is short lived and the effects transitory in nature.

#### Proposed Mitigation

**12.82** Whilst no mitigation is required under the assessment guidelines, the Applicant will still commit to measures to ensure the safe and efficient movement of construction traffic on the road network.

**12.83** During the construction period, a project website will be regularly updated with project news to provide the latest information to the community. In relation to traffic movements associated with the AIL /turbine component delivery, the website will be kept up to date, and other methods, as such as a text messaging service will be investigated.

**12.84** The following measures will be implemented during the construction phase through the Construction Traffic Management Plan (CTMP):

- Where possible the detailed design process will minimise the volume of material to be imported to site to help reduce HGV numbers.
- A site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times).
- A Construction Traffic Management Plan (CTMP) will be prepared.
- 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 the views of ABC and TS (for the Inveraray bypass).
- Unless otherwise agreed with the roads authorities, normal site working hours will be limited to between 0700 and 1900 (Monday to Friday and 0700 and 1300 (Saturday) though component delivery and turbine erection may take place outside these hours.
- Appropriate traffic management measures will be put in place on the A83 (T) to avoid conflict with general traffic, subject to the agreement of the roads authority. Typical measures will include HGV turning and crossing signs and banksman where necessary.
- Provide construction updates will be posted on the project website and liaison will be undertaken with community councils.
- Adoption of a voluntary speed limit of 15 miles per hour (mph) for all construction vehicles through Inveraray, Furnace, Minard, Lochgair, Lochgilphead and Ardrishaig.
- All drivers will be required to attend an induction to include:
  - A tool box 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.

**12.85** TS may request that an agreement to cover the cost of abnormal wear on its network is made.

**12.86** Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route will be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline will inform any change in the road condition during the construction phase. Any necessary repairs will be coordinated with ABC and TS. Any damage caused by traffic associated with the Proposed Development during the construction period that will be hazardous to public traffic will be repaired immediately.

**12.87** Damage to road infrastructure caused directly by construction traffic will be made good and street furniture that is removed on a temporary basis will be fully reinstated.

**12.88** There will be a regular road review and any debris and mud will be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users.

**12.89** Before the AILs traverse the route, the following tasks will 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 abnormal loads; and
- Confirm the police are satisfied with the proposed movement strategy.

#### Abnormal Load Transport Management Plan

**12.90** An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Proposed Development, including tower and blade deliveries. This will 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 popular local events etc. (e.g. the Inveraray Highland Games).

- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic.
- Proposals to establish a Construction Community 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. This Group will form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

#### Onsite Measures Delivered Using an Access Management Plan

**12.91** Within the Site and on the Inveraray bypass, consideration has been given to path users (for example pedestrians, cyclists and horse riders) due to potential interactions between construction traffic and users of the core paths. A Path Planning 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 an Access Management Plan (AMP) which will be reviewed by the Principal Contractor and updated prior to construction. An outline AMP is provided as **Appendix 13.1: Outline Access Management Plan** of the EIA Report.

**12.92** The principal contractor will take measures to ensure that speed limits are adhered to by their drivers and associated subcontractors are aware of the Site speed limits and their responsibility to adhere to them. This is particularly important within close proximity to the core paths and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic.

**12.93** Signage will be installed on the Site exits that makes drivers aware of local speed limits and reminding drivers of the potential presence of path users in the area. This will also be emphasised in the weekly tool box talks.

#### A Staff Travel Plan

**12.94** 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;
- Provision of public transport information;
- Mini-bus service for transport of site staff;
- Promotion of a car sharing scheme; and
- Car parking management.

#### Offsite Mitigation

**12.95** It is anticipated that an agreement on wear and tear on road infrastructure caused directly by construction traffic will be established prior to construction commencing. The agreement will set out the area of review, scope and response requirement of any dilapidations that can be proven to be linked to construction traffic.

**12.96** The AIL RSR highlights a number of constraint points which have been assessed within the report using swept path assessment software. Key points and issues associated with the route that requires the temporary removal of physical obstructions are outlined in **Appendix 12.1**.

**12.97** The locations of the constraint points and swept path drawings are included in **Appendix 12.1**. All mitigation works can be designed to be temporary in nature to enable the restoration to their original condition, if required by ABC or TS.

**12.98** All public roads works will be subject to survey and detailed engineering drawings will be submitted to ABC and TS for approval and secured via an appropriate planning condition of the technical approval process. It is suggested that this is undertaken once the candidate turbine selection process has identified the exact requirements of the necessary mitigation.

#### Residual Construction Effects

**12.99** The identification of residual construction effects considers the assessment of traffic impacts following the incorporation of the identified mitigation measures. An evaluation of the potential effects of the temporary increase in traffic on the study area roads used for the construction traffic has been undertaken. All residual construction effects are as above and are predicted to be **Minor and Not Significant**.

#### In-Combination Effects with the Blade Transfer Areas During Construction

##### Predicted In-Combination Effects During Construction

**12.100** The AIL blades are to be transferred from the Superwing carrier trailers to blade lifting trailers (examples of these types of vehicles are presented in **Appendix 12.1**). Once loaded onto the tilting trailers, the loads will proceed through Tarbert and north on the A83 (T) to the second transfer zone located to the east of Lochgilphead. To the east of Lochgilphead blades will be transferred from the blade lifting trailers to the scissor lift Superwing carriers. The location of the blade transfer areas is shown on **Figure 4.16** with an indicative layout illustrated on **Figure 4.17**.

##### Proposed Mitigation

**12.101** Blade transfers will be undertaken in accordance with the procedures outlined in the Abnormal Load Transport Management Plan.

**12.102** Consultation will be undertaken with ABC and TS prior to any AIL deliveries being made which is in line with the AIL permitting process. Engagement with all relevant statutory consultees will be undertaken to determine delivery times and methodologies.

##### Residual In-Combination Effects During Construction

**12.103** No significant residual in-combination effects with the blade transfer areas are predicted during construction following the implementation of the above measures.

#### Cumulative Effects During Construction

##### Predicted Cumulative Effects During Construction

**12.104** A review of surrounding developments has been undertaken and noted several consented (i.e. committed developments) in the surrounding area. The review noted however that only one development, Blarghour Wind Farm was considered likely to result in potential cumulative effects with the Proposed Development due to its location and likely timescales for construction. It should be noted that, whilst a 17 turbine scheme at Blarghour has been consented for turbines up to 136.5m, a new application for 14 larger turbines was submitted in March 2023.

**12.105** A review of the consented Blarghour Wind Farm EIA Report was undertaken to understand the proposed traffic generation levels associated with this committed scheme<sup>8</sup>. The EIA Report chapter only considered HGV traffic and no provision was made for staff and LGV movements. A total of 111 HGV movements were noted on the A819, with a 50/50 split of traffic to the north and south of Inveraray. **Table 12.14** details the combined traffic for the Proposed Development plus Blarghour Wind Farm traffic.

**Table 12.14: 2027 proposed development and committed development traffic impact summary**

No.	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
1	A819, Site Access	1,394	355	1,749	3.57%	38.79%	9.19%
2	A83, Ardgenavan	5,671	719	6,390	0.17%	0.08%	0.16%
3	A83, south of Inveraray	3,006	535	3,541	1.62%	22.74%	4.34%

<sup>8</sup> A review of the planning application documents associated with the revised Blarghour Wind Farm application for 14 turbines shows a slight reduction in the peak construction traffic with a total of 108 HGV movements noted on the A819, and the same proposed distribution as the consented scheme. As such, there would no discernible difference in the cumulative effects associated with consented scheme and the revised application.

No.	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
4	A83, Minard	2,667	383	3,050	0.91%	0.48%	0.85%
5	A83, Lochgilphead	7,254	565	7,819	0.33%	0.32%	0.33%
6	A83, south of Ardrishaig	2,066	269	2,334	1.18%	0.68%	1.12%

Note minor variances due to rounding may occur.

**12.106** A review of existing road capacity including the committed development flows has been undertaken using the DMRB, Volume 15, Part 5 “*The NESAs Manual*”. The theoretical road capacity has been estimated for each of the road links that makes up the study area. The results are summarised in **Table 12.15**.

**Table 12.15: 2027 daily traffic (12hr) capacity review summary (including committed development flows)**

No.	Survey Location	2027 Baseline Flow	2027 Base and Development Flows	Theoretical Road Capacity	Spare Road Capacity %
1	A819, Site Access	1,602	1,749	21,600	91.9%
2	A83 (T), Ardgenavan	6,379	6,390	21,600	70.4%
3	A83 (T), south of Inveraray	3,394	3,541	19,200	81.6%
4	A83 (T), Minard	3,025	3,050	21,600	85.9%
5	A83 (T), Lochgilphead	7,793	7,819	19,200	59.3%
6	A83 (T), south of Ardrishaig	2,308	2,334	19,200	87.8%

Note minor variances due to rounding may occur.

**12.107** The assessment indicates that the cumulative impact will not be significant and that there will be no road capacity issues.

#### Residual Cumulative Effects During Construction

**12.108** Should construction of both developments take place at the same time, any potential effects will be mitigated through the use of an overarching Construction Traffic Management Plan (CTMP). Should any other developments come forward on a similar timescale, it is assumed that these will also be considered under the joint CTMP. This will include a phased delivery plan which will be agreed with the local council roads department and Police Scotland.

**12.109** In reality, however it is not predicted that the potential traffic flow increases could ever occur on the study area for the following reasons:

- It is extremely unlikely that the peak traffic conditions will occur at the same time due to differences in construction programmes, material supplies and developer resources; and
- All abnormal load deliveries cannot occur at three separate sites on the same day due to restrictions on the number of loads moving on the network at the same time set by Police Scotland.

#### Interrelationship Between Effects

**12.110** The IEMA guidelines also refer to visual effects, noise and hazardous loads. Visual effects and noise are addressed in **Chapter 6: Landscape and Visual Amenity** and **Chapter 11: Noise and Vibration**.

#### Further Survey Requirements and Monitoring

**12.111** No further surveys or monitoring is required beyond that proposed within the CTMP.

#### Summary of Significant Effects

**12.112** The Proposed Development will lead to a temporary increase in traffic volumes on the study road network during the construction phase. Traffic volumes will decrease considerably outside the peak period of construction.

**12.113** The maximum traffic impact associated with the construction is predicted to occur in Month 6 of the construction programme. During this month, an average of 99 HGV movements is predicted per day and it is estimated that there will be a further 48 car and light van movements per day to transport construction workers to and from the Site.

**12.114** The assessment of effects suggests that total traffic flows will not give rise to significant adverse effects and that no link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature.

**12.115** A review of potential cumulative effects found that there will be more than sufficient spare road capacity to accommodate the Blarghour Wind Farm if it is constructed concurrently with the Proposed Development. Nevertheless, it is proposed that an effects of both sites, plus any others that may come forward and end up being constructed at the same time, will be mitigated through the use of a CTMP.

**12.116** All effects will be of no more than Minor significance prior to mitigation, and not significant in the context of the EIA Regulations. Following implementation of the CTMP, effects will remain as Minor.