13 TRAFFIC AND TRANSPORT

13.1 Executive Summary

13.1.1 The likely traffic and transport impacts associated with the construction and operation of the Proposed Development on the surrounding public road network and sensitive receptors have been assessed using a combination of desk-based data and field data.

13.1.2 The Study Area for the assessment of traffic and transport has been informed by the IEMA guidelines and predicated on the access points to the Proposed Development, off the A819 and A85 trunk road (T), and the route options to reach these points from the external public road network, comprising the following:

- A85 (T) from Dalmally to Lochawe;
- A819;
- B840 from A819 Cladich to Ardchonnell; and
- A83 (T) in the vicinity of Inveraray.

13.1.3 Construction traffic would comprise construction staff in private cars, and HGVs/LGVs carrying construction materials, personnel and plant equipment. The source of construction materials is unconfirmed at this stage; however, based on the layout of the local road network it can be assumed that construction traffic (HGVs and staff) would approach the sites from both north and south via the A85 (T) and A83 (T) respectively. A small proportion of staff may utilise the B840, but no HGVs would use this route as it is considered unsuitable.

13.1.4 An indicative 24-month construction programme established that the Proposed Development would generate at most, 82 two-way HGV trip and 150 two-way staff car trips per day during the peak traffic generating month of the construction phase (months 20 and 21). It is noted that the number of HGV trips during the other 22 months of the construction period are significantly lower, particularly months 13 to 18 where HGV trips would average around 5 to 14 per day.

13.1.5 A full assessment of the potential environmental effects resulting from the construction of the Proposed Development concludes that the magnitude of impact to the road links within the Study Area is minor or negligible, and the significance of effect is considered to be **Not Significant throughout.** Cumulative impacts with neighbouring developments are also considered to be minor or negligible and **Not Significant throughout**.

13.1.6 Whilst no mitigation is required, the Applicant would implement a Construction Traffic Management Plan (CTMP) as a 'good practice' measure to ensure that the impact of the Proposed Development, and of other developments acting cumulatively, on the public road network are minimised as far as practicable. The CTMP would include, but not be limited to, the programme of works, the agreed routes to site, details of a site Liaison Officer who would have responsibilities for managing traffic and transport impacts and effects and would also identify measures to manage/ reduce construction staff travel by private car, particularly single occupancy trips.

13.1.7 Impacts from the operation of the Proposed Development have been scoped out of the assessment as the amount of traffic generated would be minimal (significantly less than the construction stage) and will relate to monitoring and maintenance only.

13.2 Introduction

13.2.1 This chapter considers the access proposals and potential traffic and transport effects associated with the construction and operation of the Creag Dhubh to Dalmally overhead line (OHL) ('the Proposed Development') on the surrounding public road network and on sensitive receptors. This chapter (and its associated figures) is not intended to be read as a standalone assessment and reference should be made to the introductory chapters of this Environmental Impact Assessment Report (EIAR) (**Chapters 1-5, EIAR Volume 2**).

13.2.2 The Traffic and Transport Chapter has been undertaken by SYSTRA Ltd (SYSTRA) and led by Alan DeVenny. Alan is a Projects Director and Chartered Engineer with SYSTRA. He has a BEng in Civil and Transportation Engineering as well as a PhD in Civil Engineering. Alan has over 21 years' experience in the traffic and transportation industry and over 12 years' experience in the production of EIA transport chapters (and associated studies) for onshore wind farms in Scotland, as well as being responsible for assisting both Transport Scotland and Highways England in the preparation of guidelines for assessing the effects of wind farm developments. Alan is a Chartered Member of the Institution of Civil Engineers (CEng, MICE).

13.2.3 The chapter is accompanied by **Figure 13.1: Study Area and Traffic Counter Locations (EIAR Volume 3a).**

13.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

13.3.1 The assessment is made with reference to the Proposed Development as described in **Chapter 2: Description of Proposed Development (EIAR Volume 2)**. This chapter includes:

- A description of the assessment methodology and significance criteria used in completing the assessment;
- The current baseline traffic and transport conditions;
- Identification and assessment of the potential environmental effects associated with increased traffic levels;
- Identification and description of the mitigation measures proposed to address any potential significant effects; and
- Assessment of any residual effects post mitigation implementation.

13.3.2 The most identifiable traffic and transport impact of the Proposed Development will be of additional vehicle movements on the local road network to transport general construction materials (concrete, aggregates, electrical equipment, peat removal etc.) to various sites along the Proposed Development corridor in Heavy Goods Vehicles (HGVs). This results in a temporary intensification of HGV traffic on the public road network. The scale of intensification fluctuates depending on the size of the development and the phase of construction. Construction staff will also generate additional traffic when commuting to/from the sites during the construction and operational phases.

13.3.3 The assessment is structured around the consideration of potential environmental effects related to traffic and transport within the Proposed Development Study Area (outlined in Section 13.2.11), as identified by the IEMA Guidelines[1]:

- Severance;

[1] Institute of Environmental Management and Assessment (IEMA). (1993). Guidelines for the Environmental Assessment of Road Traffic ("the IEMA Guidelines").

- Driver delay;
- Pedestrian delay and amenity;
- Accidents and safety; and
- Dust and dirt.

13.3.4 The IEMA guidelines also refer to visual effects, noise and hazardous loads. Visual effects and noise are addressed in **Chapter 8: Landscape and Visual Amenity** and **Chapter 12: Noise and Vibration (EIAR Volume 2)** respectively. The potential effects of dust generation from site construction works (non-traffic related) will be mitigation via **Technical Appendix (TA) 2.2: Outline Construction Environmental Management Plan (OCEMP), EIAR Volume 4**. No hazardous loads are associated with the Proposed Development therefore this effect has not been assessed.

Extent of the Study Area

13.3.5 The Study Area for the assessment of traffic and transport has been predicated on the various access point locations along the Proposed Development corridor and the potential routes from the external public road network to these access points. The Study Area for the assessment is shown in **Figure 13.1(EIAR Volume 3a)** and has been identified using the assessment thresholds within the IEMA Guidelines as an aide.

13.3.6 To determine appropriate routes, detailed consideration and assessment of the surrounding public road network has been undertaken and the location of nearby sensitive receptors has been considered. Notwithstanding this, the route taken by construction vehicles will largely depend on where the construction materials are sourced. A comprehensive desk-based study was undertaken to fully understand the surrounding public road network.

13.3.7 Considering the above, the Study Area is identified as follows:

- A85 trunk road (T) from Dalmally to Lochawe;
- A819;
- B840 from A819 Cladich to Ardchonnell; and
- A83 (T) in the vicinity of Inveraray.

13.3.8 Numerous minor roads and tracks branch from the aforementioned A and B roads, however, the impact of Proposed Development traffic on these roads will be diluted and is considered to have a negligible impact.

13.3.9 Based on the IEMA criteria for identifying sensitive receptors (Section 13.2.10), this assessment considers Dalmally along the A85 (T) and Inveraray along the A83 (T) as sensitive receptors whereby an increase in total traffic levels of above 10 % and / or an increase in HGV levels of above 30 % as a result of Proposed Development traffic (as per IEMA Rules 1 and 2 outlined in the Legislation and Guidance section above) should be assessed further and potentially mitigated.

Consultation Undertaken to Date

13.3.10 Consultation undertaken to date mainly pertains to the EIA Scoping Report. Scoping responses received at the time of writing which are relevant to this chapter are captured in **Table 13.1**.

Table 13.1: Scoping Responses

Organisation	Type of Consultation	Response	How response has been considered
Transport Scotland	Scoping Response	The SR states that the Study Area will include the A85(T). Transport Scotland is satisfied with this approach, and would add that the assessment should establish if there are likely to be any significant environmental effects associated with increased traffic on the trunk road network, and any requirement for further trunk road assessment.	Noted – this assessment considers the traffic impact on the trunk road network.
		Given the current COVID19 situation, Transport Scotland would not consider any new traffic data collected to be representative, and instead would suggest an alternative source of traffic data - Traffic Scotland's National Traffic Data System.	This response was provided in March 2021 when travel behaviour was significantly impacted by the pandemic as people were advised to work from home and avoid travel where possible. The situation is much improved since March and at the time of writing this chapter (and collecting the new traffic survey data), there are no restrictions on local travel behaviour. It is therefore considered appropriate to use a combination of new and historic (factored up to the current year) traffic data.
		It is noted that any impacts associated with the operational phase of the development are to be scoped out of the EIAR. We would consider this to be acceptable in this instance.	Noted – this assessment considers the impact on the construction phase only and operational impacts are scoped out.
Argyll & Bute Council	Scoping Response	The EIA should both clarify and commit the Applicant to the exploration of the use of borrow pits in advance of the submission of any TMP, and a condition requiring a phased approach to this exercise to seek to reduce traffic movements and movement of construction materials long distances by road is considered appropriate.	Noted, a TMP would be produced for approval by ABC post-planning consent.

Effects Scoped Out

13.3.11 On the basis of the desk-based study undertaken, the professional judgement of the EIA team, experience from other relevant projects, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment as proposed in the Scoping Report (December 2020):

- The impact of increased traffic associated with the Proposed Development on existing/proposed on-site access tracks.
- The effects of traffic associated with the operational stage. Once the Proposed Development is operational, the amount of traffic generated will be minimal (significantly less than the construction stage) and will relate to monitoring and maintenance only. Vehicles used are likely to be a small number of private cars and / or utility vehicles (typically 4x4s or light goods vehicles (LGVs)). With respect to traffic and transport, the operational stage of the Proposed Development is therefore not assessed in this chapter.
- The effects of traffic associated with the decommissioning stage. Planning permission is being sought for a 50-year period, after which the Proposed Development would be decommissioned. Traffic associated with the decommissioning stage is anticipated to be significantly less than that generated during construction. Due to the timescales involved and the likelihood for changes to the baseline situation during this period, the traffic and transport effects are not assessed in this chapter.
- The effect of construction traffic on junction capacity along the road network with respect to traffic flows both in isolation and cumulatively. As this is highly unlikely to be significant in terms of congestion, it is considered that detailed junction capacity assessments are not required and have subsequently not been carried out.
- It is anticipated that the volume of traffic associated with the construction of the Proposed Development will not have a discernible effect on roads and sensitive receptors out-with the Study Area as the effects of traffic are reduced with increasing distance from the point of origin.
- As noted above, no hazardous loads are associated with the Proposed Development therefore this has been scoped out.

Legislation and Guidance

13.3.12 The assessment of potential traffic and transport effects on the road network and sensitive receptors has been undertaken in accordance with the following guidance documents:

- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended)[2];
- Planning Advice Note (PAN) 75 – "Planning for Transport"[3];
- Scottish Government publication "Planning Advice Note 1/2013: Environmental Impact Assessment" 2013[4];
- Institute of Environmental Management and Assessment (IEMA), "Guidelines for the Environmental Assessment of Road Traffic (1993)" ('the IEMA Guidelines');
- Institute of Highways and Transportation (IHT), "Guidelines for Traffic Impact Assessment (1998)"; and

[2] https://www.legislation.gov.uk/uksi/2017/571/contents/made
[3] https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/
[4] https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/

- Department for Transport (DfT), "Design Manual for Roads and Bridges (DMRB)"[5].

Methodology

13.3.13 The methodology used in this assessment adheres to that set out in the IEMA Guidelines. The guidelines suggest that to determine the scale and extent of the assessment and the level of effect a development will have on the surrounding road network, the following two 'rules' should be followed:

- Rule 1 - Include road links where total traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- Rule 2 - Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.

13.3.14 The IEMA Guidelines acknowledge that day-to-day variations of traffic on a road can frequently be at least + / -10 % and, at a basic level, it should therefore be assumed that projected changes in traffic of below 10 % create no discernible environmental impact.

13.3.15 Rules 1 and 2 are used as a screening tool to determine whether or not a full assessment of effects on routes within the Study Area is required as a result of intensification of road traffic. Therefore, it should be noted that an increase in total traffic or HGV levels of more than 30% (or 10% depending on the sensitivity of the area) does not necessarily equate to a significant effect. The process for determining significance where Rules 1 or 2 are triggered is undertaken on a site-specific basis. The methodology for assessing the significance of effects is described below.

Sensitive Receptors

13.3.16 Section 2.5 of the IEMA Guidelines identifies groups, locations and special interests which may be sensitive to changes in traffic conditions. These are:

- People at home;
- People in workplaces;
- Sensitive groups including children, elderly and disabled;
- Sensitive locations, e.g. hospitals, churches, schools, historic buildings;
- People walking or cycling;
- Open spaces, recreational sites, shopping areas; and
- Sites of ecological / nature conservation value and tourist attractions.

Method of Baseline Data Collation

13.3.17 The traffic and transport Study Area characteristics have been determined by a comprehensive desk-based assessment, commissioned automatic traffic counters (ATC) and publicly available annual average daily traffic (AADT) count data from the DfT. Described below is the source of the traffic count information at each of the road links identified in the Study Area (these are also shown in **Figure 13.1, EIAR Volume 3a**):

1. Commissioned 24-hour ATC survey data collected for the A85 (T) from Tuesday 28 September to Monday 4 October 2021;
2. Commissioned 24-hour ATC survey data collected for the A819 between the B840 and A85 (T) from Tuesday 28 September to Monday 4 October 2021;
3. DfT AADT manual count data for the A819 undertaken in 2020 – counter ID: 92228;

[5] https://www.standardsforhighways.co.uk/dmrb/

4. Commissioned 24-hour ATC survey data collected for the B840 immediately west of the A819 from Tuesday 28 September and Monday 4 October 2021; and
5. DfT AADT manual count data for the A83 (T) undertaken in 2019 – counter ID: 10765.

13.3.18 The future baseline flows have been calculated by applying the National Roads Traffic Forecast (NRTF)[6] 'low growth' rate to the current year data which equates to a factor of 1.011 for the period of 2021 to 2023.

Assessing Significance

13.3.19 The sensitivity of a given road link to changes in traffic levels is generally assessed by considering the residual capacity of the network under the existing conditions. Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic and therefore the sensitivity may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity, and the sensitivity to any change in traffic levels will be considered to be high.

13.3.20 The following Sections set out the methodology used to assess the significance of effects at locations along the routes within the Study Area where total traffic levels or the level of HGV traffic exceeds the Screening thresholds set out by IEMA Rules 1 or 2 (depending on the sensitivity of the receptor) described in Section 13.2.15.

Sensitivity

13.3.21 The criteria derived from the IEMA guidance that have been used to make judgements on the sensitivity of the receptor(s) are presented in **Table 13.2**.

Table 13.2: Sensitivity of Receptor

Receptor Sensitivity	Description
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance. Local residents whose daily activities depend upon unrestricted movement within their environment. Receptors such as schools, colleges, hospitals and accident hotspots.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low/local importance. Areas such as trunk road or A class roads constructed to accommodate significant HGV volumes.
Negligible	Users not sensitive to transport effects. Includes very small settlements and roads with no significant settlements including new strategic trunk roads or motorways.

[6] https://www.gov.uk/government/publications/road-traffic-forecasts-2018.

Magnitude

13.3.22 The magnitude of traffic effects is a function of the existing traffic volumes, the percentage increase and change due to a development, changes in the type of traffic and the temporal distribution of traffic (day of week, time of day). The determination of magnitude has been undertaken by reviewing the Proposed Development, establishing the parameters of the receptors that may be affected and quantifying these effects utilising IEMA Guidelines and professional judgement.

13.3.23 Consideration is given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, cars and LGVs have less effect on traffic and the road system than HGVs. Similarly, HGVs can have less effect than abnormal load vehicles, depending on the frequency of the abnormal loads.

13.3.24 The criteria that have been used to make judgement on the magnitude of the effect on the receptor(s) are presented in **Table 13.3**.

Table 13.3: Magnitude of Effect

Magnitude	Description
Large	The proposals could result in a significant change in terms of length and / or duration to the present traffic routes or schedules or activities, which may result in hardship. Generally a rule of >90% (or >70% at sensitive receptors) change in traffic is considered to be a large magnitude.
Medium	The proposals could result in changes to the existing traffic routes or activities such that some delays or rescheduling could be required, which cause inconvenience. Generally a rule of 60% - 90% (or 40%-70% at sensitive receptors) change in traffic is considered to be a medium magnitude.
Small	The proposals could occasionally cause a minor modification to routes, or a very slight delay in present schedules, or on activities in the short term. Generally a rule of 30 – 60% (or 10%-40% at sensitive receptors) change in traffic is considered to be a small magnitude.
Negligible	No effect on movement of road traffic above normal level. Generally a rule of <30% change in traffic is considered to be a negligible magnitude.

Significance

13.3.25 As a guide to inform the assessment, but not as a substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in **Table 13.4**. This is based on combining the magnitude of the effect with the receptor sensitivity.

Table 13.4 Significance Criteria

Sensitivity of Receptor	Magnitude of Effect			
	Large	Medium	Small	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

13.3.26 Effects are categorised as major, moderate, minor or negligible. Major or moderate effects are considered to be Significant in the context of the EIA Regulations. Minor or negligible effects are considered Not Significant. Where Significant effects are identified appropriate mitigation measures will be put in place to address these effects.

13.3.27 Where mitigation measures are required, a further assessment is undertaken on any remaining 'residual' effects that may still be present after the implementation of mitigation measures.

Limitations and Assumptions

13.3.28 The following assumptions have been made to inform the assessment and ensure a robust approach:

- Forestry felling and peat removal from the sites will occur in the six months prior to the 24-month construction stage and monthly vehicle movements associated with these activities will not exceed the peak levels assessed within this chapter (months 11 and 12 of the construction phase);
- All surplus peat generated as a result of the Proposed Development works can be re-used within the OHL area and the three proposed habitat management areas;
- 100% of the stone requirement is imported to the sites; and
- All construction HGVs will travel to the sites via the A85 (T) and the A83 (T), all staff movements come from both the A85 (T) and the A83 (T), and 50 % of staff movements will come from the B840 (discussed further in Sections 13.4.13 and 13.4.14).

13.4 Baseline Conditions

13.4.1 The baseline conditions for the road links identified within the Study Area, as shown in **Figure 13.1 (EIAR Volume 3a)**, are outlined below.

Road Network

A85 Trunk Road

13.4.2 The A85 is part of the strategic road network and runs east to west between Perth and Oban. It is a good standard rural single carriageway road that is approximately 7.3 m wide and generally in good condition throughout. The carriageway is subject to the National Speed Limit (60 mph) with sections of 30/40 mph through settlements such as Dalmally. The trunk road network (A85 and A83 within the Study Area) is maintained by Transport Scotland and the A85 and A83 are recognised routes for heavy goods vehicles traveling through the area.

A819

13.4.3 The A819 is a good standard rural single carriageway road running north to south between the A85 (T), approximately 1.9 km west of Dalmally Rail Station (direct distance), and the A83 (T) at Inveraray. The A819 is subject to the National Speed Limit (60 mph). The A819 meets the A85 (T) in a wide bellmouth priority T-junction with corner radii suitable for turning HGVs.

13.4.4 The A819 and B840 are maintained by the local authority (ABC).

A83 Trunk Road

13.4.5 The A83 is part of the strategic road network and runs between Campbeltown and Tarbert. It is a good standard rural single carriageway road, generally subject to the National Speed Limit (60 mph) with sections of 30 mph through settlements such as Inveraray. It meets the A819 in a three-arm priority junction at Inveraray.

B840

13.4.6 The B840 is a single-track road with passing places running in a south-west direction from the A819 and through the small settlement of Cladich. It is not considered suitable for HGV traffic.

Baseline Traffic Flows

13.4.7 **Table 13.5** indicates the current baseline (2021) and future construction year (2023) baseline two-way AADT flows for routes within the Study Area and the percentage of traffic which is classified as HGVs. **Table 13. 5** also indicates the theoretical category and capacity of each road link as per guidance contained within the DMRB.

Table 13.5: Existing and Future Traffic Flows within the Study Area

Counter Location	DMRB Road Category	Approximate Capacity (two-way per 12 hrs)	2021 Baseline AADT	2021 Baseline HGV	2023 Future Baseline AADT	2023 Future Baseline HGV	% HGVs
1. A85 (T)	Rural - good single 7.3 m wide	28,800	3,058	609	3,092	616	19.9
2. A819 (between A85 an B740)	Rural - good single 7.3 m wide	28,800	1,366	255	1,381	258	18.7
3. A819 (between B840 and Substation Access Point)	Rural - good single 7.3 m wide	28,800	706	110	714	111	15.6
4. B840	Rural - poor single 4.0 m wide	3,360	310	26	313	26	8.4
5. A83 (T)	Rural - good single 7.3 m wide	28,800	3,151	281	3,186	284	8.9

Road Safety

13.4.8 The Crash Map[7] website has been utilised to determine the number of accidents that have occurred in the previous five years (2016-2020) within the Study Area. The results of this process are indicated by **Table 13.6** with additional commentary provided on serious and fatal accidents.

Table 13.6: Accident Statistics

Counter Location	Slight	Serious	Fatal	Comment
1. A85 (T)	2	-	-	-
2. A819 (between A85 an B840)	1	3	-	A serious accident occurred in 2017 following a right-hand bend between the B840 and the A85 (T).

[7] www.crashmap.co.uk

Table 13.6: Accident Statistics

Counter Location	Slight	Serious	Fatal	Comment
				A serious accident occurred in 2018 approaching Kilchurn Castle from the west. A serious accident occurred in 2020 approximately 700 m south-west of the A85 (T).
3. A819 (between B840 and Substation Access Point)	1	5	-	Two serious accidents occurred at right-hand bends approaching the B840 in 2017 and 2019 respectively. A serious accident occurred in 2019 immediately south of the Substation Access Point. The other two serious accidents occurred in 2019 at separate locations to the south of the Substation Access Point.
4. B840	-	-	-	-
5. A83 (T)	1	-	-	-

13.4.9 **Table 13.6** indicates that five slight and eight serious accidents occurred within the Study Area in the vicinity of the traffic counter locations. A review of the data demonstrates that there does not appear to be any accident 'hot spots' within the Study Area that should be actively avoided by construction traffic associated with the Proposed Development or that would require special consideration and mitigation as part of the application.

13.5 Assessment of Effects, Mitigation and Residual Effects

Construction Traffic Generation

13.5.1 Vehicle movements will be required to construct new or upgraded access roads; deliver the foundation and tower components and conductor materials to sites; deliver and collect materials and construction plant from the main site compound and to individual tower locations.

13.5.2 Construction of the Proposed Development will also give rise to regular numbers of staff transport movements, with small work crews travelling to work site areas. It is anticipated that the Principal Contractor will identify a single main compound area, with a safe area for parking away from the public highway.

13.5.3 It is anticipated that construction would commence in Q2 2023 (subject to consents and approvals being granted). A provisional construction period of 24 months in total is anticipated, with energisation of the project scheduled for Q2 2025.

13.5.4 Forestry and peat removal will take place over a 6-month period prior to the start of the construction phase.

13.5.5 The detailed construction phasing and programme would be subject to change as the design progresses and also due to necessary consents and wayleaves being agreed but is divided into the following main phases:

Phase 1 – Enabling Works

- Existing Network Diversions.
- Road Improvements and Access – access will be established through a combination of upgrade to existing tracks; installation of temporary new stone tracks; installation of permanent / temporary floating stone tracks; and installation of permanent new stone tracks.
- Site Compounds – Principal contractor will identify suitable sites for the construction compounds (temporary / permanent).
- Vegetation Management and Forestry Clearance – the Proposed Development navigates areas of commercial forestry and woodland; and in these areas an operational corridor would be required. The width of this corridor would be variable depending on the nature of the woodland, however for the purposes of this assessment, it is assumed that an average corridor of 80 m would be required (40 m either side of the tower centre line).
- Construction compound sites (temporary/permanent) have not been identified at this stage, and will be determined by the Principal Contractor.

Phase 2 – OHL Construction

- Tower Foundations – it has been assumed that individual tower foundations and associated construction activities will require a working area of approximately 2500 m^2 (50 m x 50 m) for section towers and 6400 m^2 (80 m x 80 m) for angle towers. It is anticipated that formation of each tower foundation will take approximately four weeks.
- Tower Construction – tower construction can commence two weeks after the foundations have been cast (subject to weather conditions and concrete curing rates). Tower steelwork would be delivered to each tower construction site either as individual steel members or as prefabricated panels, depending on the method of installation and the available access. Each tower would be assembled on site into panels by a team of up to eight people.
- Conductor Stringing – The conductor would be delivered to site on wooden drums in pre-determined pulling section lengths. Typical drum lengths for conductors are up to a maximum 2,400 m (approximate weight of 4 tonnes) but would depend on the specific length of section to be strung.

Phase 3 – OHL Commissioning

- The OHL and support towers will be subject to an inspection and snagging process. The Proposed Development will also go through a commissioning procedure for the switchgear, communications and protection controls through the switching station at Glen Lochy and substation at Creagh Dhubh. The circuits will then be energised.

Phase 4 – Re-Instatement

- Following commissioning of the Proposed Development, all construction sites will be reinstated, including the removal of all temporary access tracks, all work sites around the tower locations and the re-vegetation of all construction compounds.

13.5.6 Further details on the construction phases are located in **Chapter 2 (EIAR Volume 2).**

Estimated Number of Vehicle Trips

HGVs

13.5.7 Based on the activities above, the following estimates of construction vehicle numbers required for each task during the construction and the associated size of average loads provided by the civil engineering team are outlined in **Table 13.7**.

Table 13.7: Estimated No. of HGV Trips During Construction

Construction Task	Vehicle Type	Approximate No. of Loads
Access Track / Laydown areas – Construction	20 T Tipper lorry	7,824
Access Track / Laydown areas – Removal	20 T Tipper lorry	4,218
Concrete for all foundations	Concrete wagon (6 m^3 carry capacity)	752
Tower assembly / wiring deliveries (incl. scaffolding)	HGV Trailer	550
Tower erection	90 T Crane	47
Total Loads (One-way trips)		**13,391**
Total Movements (Two-way trips)		**26,782**

13.5.8 It is the Applicant's intention to investigate on-site borrow pits in order to win stone in this manner for the construction of access tracks and foundations. The use of on-site borrow pits will help to reduce HGV levels considerably. Notwithstanding this, to provide a robust assessment of effects it has been assumed that 100% of the stone and concrete requirement for the Proposed Development would be imported.

13.5.9 Using the indicative construction programme, the number of construction trips that are anticipated to be generated each month of the 24-month construction period has been calculated and is presented within **Table 13.8**.

Table 13.8: Estimate HGV Trips by Month of Construction Programme

Task	Month																							Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Access Track/ Laydown areas – Construction	652	652	652	652	652	652	652	652	652	652	652	652													**7,824**
Access Track/ Laydown areas – Removal																			843	844	844	844	844	844	**4,218**
Tower Foundation Concrete							94	94	94	94	94	94	94	94											**752**
Tower Assembly/Wiring deliveries (incl. scaffolding)											50	50	50	50	50	50	50	50	50	50	50				**550**
Tower erection														6	6	6	6	6	6	6	5				**47**
Total Loads (One-way)	**652**	**652**	**652**	**652**	**652**	**652**	**746**	**746**	**746**	**746**	**796**	**796**	**144**	**150**	**56**	**56**	**56**	**56**	**899**	**899**	**844**	**844**	**844**	**899**	**13,391**
Total Movements (Two-way Trips)	**1,304**	**1,304**	**1,304**	**1,304**	**1,304**	**1,304**	**1,492**	**1,492**	**1,492**	**1,492**	**1,592**	**1,592**	**288**	**300**	**112**	**112**	**112**	**112**	**1,798**	**1,798**	**1,688**	**1,687**	**1,687**	**1,687**	**26,782**

13.5.10 **Table 13.8** indicates that the peak month of construction will be months 20 and 21 generating 1,798 two-way HGV trips. Assuming 22 working days per month, this equates to an additional 82 two-way HGV trips throughout the Study Area daily. It should be noted that the number of HGV trips during the other 22 months of the construction period are significantly lower, particularly months 13 to 18 where HGV trips would average around 5 to 14 per day.

Staff Vehicle Trips

13.5.11 It is envisaged that there will be a number of separate teams working at the same time at different locations within the Proposed Development corridor. The resource levels will be dependent on the final construction sequence and will be determined by the Principal Contractor.

13.5.12 At this stage it is estimated that construction of the Proposed Development will generate in the region of 79,200 two-way staff vehicle trips (in car or LGVs) over the duration of the 24-month construction period. For the purposes of this assessment, it is assumed that will be a maximum of approximately 3,300 two-way staff trips attending the Proposed Development corridor per month. Assuming 22 working days per month, this equates to 150 two-way staff vehicle trips across the Study Area daily.

13.5.13 Construction working is anticipated to be during both daytime and night-time periods, typically between 07:00 – 19:00 daily. Works outside of daylight hours requiring illumination would be undertaken in accordance with relevant guidance to avoid light spill. Hours of working would be agreed in writing in advance with the ABC.

Forestry & Peat HGV Movements

13.5.14 It is noted that there is also a requirement to remove forestry and peat from the sites to facilitate construction of the Proposed Development. These activities will occur prior to the start of the 24-month construction phase and monthly HGV movements would not exceed the peak numbers during the construction phase which are assessed within this chapter.

13.5.15 During the six months prior to the construction phase, the following vehicle movements are predicted in association with forestry felling and removal and peat extraction:

- Timber lorry – 1,735 loads;
- Forestry low loader – 26 loads;
- Fuel lorry – 52 loads; and
- Peat extraction in tipper truck – 167 loads.

13.5.16 This equates to 3,960 two-way movements across six months. The peak number of movements in one month is expected to be 933 two-way HGV trips, assuming that forestry movements are spread across six months but the peat extraction takes place within one month. This level of trip generation is considerably lower than the peak month during the construction phase. As such, the impact of these movements has not been considered further as the assessment is undertaken for the worst-case scenario (i.e. months 11 and 12 of the construction phase).

Construction Traffic Impact

13.5.17 The source of construction materials is unconfirmed at this stage, however, based on the layout of the local road network, it can be assumed that construction traffic (HGVs and staff) will approach the sites from both north and south via the A85 (T) and A83 (T) respectively, to route onto the A819 where the access point to the associated proposed Creag Dhubh Substation is located. A small proportion of staff may utilise the B840, however, no HGVs will use this route as it is considered unsuitable geometrically.

13.5.18 For the purposes of providing a robust assessment, **Table 13.9** below demonstrates the predicted traffic impact on each road link within the Study Area assuming the following routing scenarios:

- All construction HGVs will travel to the sites via the A85 (T) and the A83 (T) – note: this is double counting HGV movements within the Study Area, but represents a worst-case assessment for each road link;
- All staff movements come from both the A85 (T) and the A83 (T) – as above, this is double counting staff movements for the purposes of providing a worst-case assessment. In reality, HGV and staff movements would be distributed across the road links; and
- 50 % of staff movements will come from the B840.

Table 13.9: Construction Traffic Impact within Study Area

Scenario	1. A85 (T)	2. A819 (between A85 an B740)	3. A819 (between B740 and Substation Access Point)	4. B840	A83 (T)
Future Baseline AADT	3,092	1,381	714	313	3,186
Future Baseline HGV Levels	616	258	111	26	284
Proposed Development Total Traffic Generation (HGVs + Staff)	232	232	232	38	232
Proposed Development HGV Trip Generation	82	82	82	0	82
Proposed Development Impact on Total Traffic Levels (%)	7.5%	16.8%	32.5%	12.1%	7.3%
Proposed Development Impact on HGV Traffic Levels (%)	13.3%	31.7%	73.6%	0.0%	28.8%

13.5.19 **Table 13.9** demonstrates that Proposed Development HGV traffic will remain within the 30% threshold (IEMA 'Rule 1') for all road links within the Study Area, except the A819. At the sensitive receptors of Dalmally and Inveraray along the A85 (T) and A83 (T) respectively, total traffic levels generated by the Proposed Development will not exceed the 10% threshold, as stipulated by IEMA 'Rule 2' and HGV levels will not exceed 30%, as stipulated by IEMA 'Rule 1'.

13.5.20 Therefore, the impact of increased total traffic and HGV levels associated with the Proposed Development along the A85 (T), the B840 and A83 (T) is considered to be negligible and does not require further assessment of effects in accordance with the IEMA guidelines.

13.5.21 HGV levels along the A819, between the A85 (T) and the substation access point (counter locations 2 and 3), are predicted to increase by more than 30% as a result of Proposed Development construction traffic, therefore, a full assessment of potential effects for this road link has been undertaken below.

Construction Traffic Effects

Severance

13.5.22 The IEMA Guidelines state that severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery.

13.5.23 The potential for traffic associated with the sites to cause severance is assessed on a case-by-case basis using professional judgement where non-negligible traffic increases are predicted on roads through residential settlements.

13.5.24 Increased severance can result in the isolation of areas of a settlement or individual properties. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself. Severance effects could equally be applied to residents, motorists or pedestrians.

13.5.25 The A819 between the A85 (T) and the substation access points has no footways or pedestrian activity. Therefore, the sensitivity of the receptor to a severance effect is considered to be negligible. The magnitude of the impact is, at most, medium, i.e. the increase in traffic associated with the Proposed Development falls within the 60 – 90% range, as per **Table 13.3**. Combining the magnitude of the impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

Driver Delay

13.5.26 Some driver delay may be experienced when traffic is accessing the sites. The IEMA Guidelines advise that delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system.

13.5.27 Traffic delay to non-development traffic can occur at several points on the network surrounding the Proposed Development, including:

- At the site access points where there will be additional turning movements;
- At junctions along the local road network which might be affected by increased traffic; and
- At side roads where the ability to find gaps in traffic may be reduced, thereby lengthening delays.

13.5.28 The sensitivity of the A819 (between the A85 (T) and the substation access point) to an increased driver delay effect is considered to be negligible as there are very few junctions along this section, the only junction with another public road is the B840 which is lightly trafficked. The magnitude of the impact is medium, therefore, when combined, the significance of effect is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

Pedestrian Delay & Amenity

13.5.29 Traffic volume, composition, speed, pedestrian footways and crossings all contribute to the level of general pleasantness or fear, intimidation and delay experienced by pedestrians and other vulnerable road users. Changes in the volume, composition or speed of traffic may affect the ability of people to crossroads.

13.5.30 Pedestrian amenity is generally defined as the relative pleasantness of a journey affected by traffic flow, traffic composition and pavement width/separation from traffic. In terms of pedestrian amenity, the IEMA guidelines suggest 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.

13.5.31 As with a severance effect, the sensitivity of the A819 to an increased pedestrian delay and reduced amenity effect is considered to be negligible as no pedestrians are present along this stretch of road. The magnitude of the impact is medium and when combined, the significance of effect is concluded as negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

Accidents and Safety

13.5.32 An approximate calculation has been undertaken to quantify the level of accident risk that could be expected due to an increase in traffic associated with the Proposed Development. The likelihood of an accident occurring is commonly expressed in accidents per million vehicle-km. Accidents that are appraised in relation to transport are predominantly those in which personal injury is sustained by those involved (personal injury accidents (PIAs)).

13.5.33 The A819 between the A85 (T) and the substation access point is approximately 11 km in length and can be classified as 'rural typical single carriageway' in accordance with the criteria set out within DMRB. Accident rates from the DMRB for this standard of road are:

- Rural typical single carriageway: 0.381 PIA per million veh-km.

13.5.34 Assuming a two-way trip on the 11 km route for each of the 26,782 vehicles during the construction period, a total distance of 294,602 km is obtained. Based on the rate above; this suggests 0.112 PIAs during the construction period.

13.5.35 The magnitude of this effect is considered to be negligible but receptor sensitivity to this effect is always considered as high. When combined, the effect can be classified as minor and Not Significant in accordance with **Table 13.4**.

Dust and Dirt

13.5.36 IEMA Guidelines acknowledge that it is not practical to quantify the level of dust and dirt that can be anticipated from development traffic. Therefore, a qualitative approach is taken.

13.5.37 It is acknowledged that HGVs would have the potential to collect debris on their tyres when accessing the Proposed Development. This could be transferred to the road surface when vehicles travel away from the Proposed Development and can be deposited on the road in the form of either dust or mud depending on weather conditions.

13.5.38 It is noted that dust management measures on-site are embedded into the pre-assessment mitigation of the Proposed Development as 'good practice'. Therefore, the sensitivity of the receptor to this effect is low and magnitude of the impact is considered to be small. The overall significance of the environmental effect of dust and dirt is classified as negligible and Not Significant.

13.6 Cumulative Impact

13.6.1 **Figure 14.1** (**EIAR Volume 3a**) shows the Proposed Development along with the locations of other cumulative developments. The development relevant to the cumulative assessment relating to traffic and transport impacts within the Study Area are as follows:

- Creag Dhubh 132 / 275 kV Substation;
- Creag Dhubh to Inveraray 275 kV OHL;
- Blarghour Wind Farm; and
- Meteorological Mast, Ladyfield Cottage.

Creag Dhubh 132 / 275 kV Substation

13.6.2 As identified previously, construction of the Proposed Development would be undertaken in parallel with the construction of the Creag Dhubh Substation. The Study Area for the substation is consistent with the Proposed Development. As a result, there would be potential in-combination effects as a result of increased traffic movements in the Study Area.

13.6.3 The substation construction phase will take 30-months and the peak traffic generating month for the will occur in months 4 to 6 with 1,193 two-way vehicles, equating to 54 two-way daily HGV trips. However, substation construction traffic during month 26 (overlapping with the Proposed Development's peak traffic generating month i.e., month 20) is low, with only 3 two-way HGV trips per day.

13.6.4 The cumulative peak month would occur in months 1 to 3 of the Proposed Development construction phase (months 7 to 9 of the substation construction phase) with 2,446 two-way HGV trips. Assuming 22 working days, this would equate to a worst-case traffic generation of 111 two-way HGVs within the Study Area. Cumulative staff trips would equate to a maximum of 300 two-way car trips per day within the Study Area (assuming no car sharing amongst staff).

13.6.5 The impact of this level of cumulative traffic on the road links in the Study Area is outlined in **Table 13.10** below.

Table 13.10: Cumulative Traffic Impact

Scenario	1. A85 (T)	2. A819 (between A85 an B840)	3. A819 (between B840 and Substation Access Point)	4. B840	A83 (T)
Future Baseline AADT	3,092	1,381	714	313	3,186
Future Baseline HGV Levels	616	258	111	26	284
Proposed Development + Substation Total Traffic Generation (HGVs + Staff)	411	411	411	150	411
Proposed Development + Substation HGV Trip Generation	111	111	111	-	111
Proposed Development + Substation Impact on Total Traffic Levels (%)	13.3%	29.8%	57.6%	47.9%	12.9%
Proposed Development + Substation Impact on HGV Traffic Levels (%)	18.0%	43.1%	100.2%	0.0%	39.1%

13.6.6 **Table 13.10** demonstrates that the cumulative impact will exceed a 10 % increase in total traffic levels along the A85 (T) and A83 (T) at the sensitive receptors of Dalmally and Inveraray respectively, and a 30 % impact on total traffic and / or HGV levels along the A819 and B840. Therefore, in accordance with the IEMA guidelines, a full assessment of environmental effects for the cumulative impact has been undertaken for the A85 (T), B840 and A83 (T) road links below.

13.6.7 A full assessment of environmental effects has been undertaken above for the A819 in respect of the Proposed Development traffic, on the basis of a medium magnitude of impact (60 – 90 % increase), which has concluded that all effects would be minor / negligible and Not Significant. The magnitude of traffic impact cumulatively will increase to large at most, reflecting a >90 % change, as per **Table 13.3**. The sensitivity of the A819 remains negligible for severance, driver delay and pedestrian delay and amenity, therefore, combining a large magnitude of change with a negligible sensitivity equates to a significance of effect which is classed as minor and Not Significant in accordance with **Table 13.4**. No further assessment of the A819 has therefore been undertaken.

Severance

A85 (T)

13.6.8 The magnitude of change in HGV levels along the A85 (T) as a result of the Proposed Development and the Creag Dhubh Substation cumulative traffic impact (18 %) is considered small as it falls between 10 - 40 % at a sensitive location, in accordance with **Table 13.3**. The sensitivity of the receptor to an increased severance effect is considered to be low as the local amenities and majority of properties within Dalmally are located to the south of the A85 (T) and accessed from local roads, i.e. Dalmally Village Loop Road and Glen View. Consequently, there is only a footway on the southern side of the road between Dalmally Village Loop Road and Glen View. Therefore, pedestrian activity will primarily be limited to the southern side of the road only and there is only a small number of isolated properties on the northern side of the A85 (T) which are separated from the rest of the village by the road.

13.6.9 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

B840

13.6.10 The magnitude of change in total traffic levels along the B840 as a result of the cumulative impact with the Proposed Development and the Creag Dhubh Substation (47.9 %) is considered small as it falls between 30 - 60 %, in accordance with **Table 13.3**. The sensitivity of the receptor to an increase severance effect is considered to be negligible as there are only isolated properties along this link, there are limited services / amenities and no footways present, therefore pedestrian activity will be very limited.

13.6.11 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

A83 (T)

13.6.12 The magnitude of change in HGVs levels along the A83 (T) as a result of Proposed Development and the Creag Dhubh Substation the cumulative traffic impact (39.1 %) is considered small as it falls between 10 - 40 % at a sensitive location, in accordance with **Table 13.3**. The sensitivity of the receptor to an increased severance effect is considered to be medium as the majority of local amenities and properties within Inveraray are located on the western side of the A83 (T). However, the A85 (T) does route through Church Square and separate the community from the shorefront amenities / leisure opportunities.

13.6.13 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be minor and Not Significant, in accordance with the matrix in **Table 13.4**.

Driver Delay

A85 (T)

13.6.14 The magnitude of change in HGVs levels cumulatively along the A85 (T) is considered small. The sensitivity of the receptor to an increased driver delay effect is considered to be low as there are key junctions with Dalmally Village Loop Road, Glen View and the B877 within the Study Area. However, traffic flows along the A85 (T) are estimated to be significantly under the maximum capacity for the road type, according to DMRB theoretical capacities (AADT at approximately 10 – 15 % of total capacity).

13.6.15 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

B840

13.6.16 The magnitude of change in total traffic levels cumulatively along the B840 is considered small. The sensitivity of the receptor to an increased driver delay effect is considered to be negligible as primarily, there are only local accesses to properties along this link and no junctions which are considered to be 'key junctions' linking to village centres or other A or B-class roads.

13.6.17 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

A83 (T)

13.6.18 The magnitude of change in HGVs levels cumulatively along the A83 (T) is considered small. The sensitivity of the receptor to an increased driver delay effect is considered to be low as there is a small number of junctions within Inveraray and traffic flows along the A83 (T) are estimated to be significantly under the maximum capacity for the road type, according to DMRB theoretical capacities (AADT at approximately 10 – 15 % of total capacity).

13.6.19 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

Pedestrian Delay and Amenity

A85 (T)

13.6.20 The magnitude of change in HGVs levels cumulatively along the A85 (T) is considered small. The sensitivity of the receptor to an increased pedestrian delay and reduced amenity effect is considered to be low as the local amenities accessed from local roads, i.e. Dalmally Village Loop Road and Glen View. Therefore, pedestrian activity directly along the A85 (T) will be limited. Furthermore, any pedestrian activity will be limited to the footway on the southern side of the road only and there is only a small number of isolated properties on the northern side of the A85 (T) which are required to cross the road to access local amenities.

13.6.21 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

B840

13.6.22 The magnitude of change in total traffic levels cumulatively along the B840 is considered small. The sensitivity of the receptor to an increased pedestrian delay and reduced amenity effect is considered to be negligible as there are only isolated properties along this link and no footways present, therefore pedestrian activity will be very limited. Furthermore, no HGVs will be routed along this road link so the composition of traffic along this link will be unchanged.

13.6.23 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be negligible and Not Significant, in accordance with the matrix in **Table 13.4**.

A83 (T)

13.6.24 The magnitude of change in HGVs levels cumulatively along the A83 (T) is considered small. The sensitivity of the receptor to an increased pedestrian delay and reduced amenity effect is considered to be medium as the majority of local amenities and properties within Inveraray are located on the western side of the A83 (T) and there are footways and street lighting on both sides of the road. However, the A85 (T) does route through Church Square and there are no controlled pedestrian crossings provided (i.e. signalised or zebra crossings).

13.6.25 Combining the magnitude of the cumulative impact with the sensitivity of the receptor results in a significance of effect which is considered to be minor and Not Significant, in accordance with the matrix in **Table 13.4**.

Accidents and Safety

13.6.26 The Study Area as a whole is approximately 40 km in length and can generally be classified as 'rural typical single carriageway' in accordance with the criteria set out within DMRB.

13.6.27 Assuming a two-way trip on the 40 km route for each of the 21,988 vehicles during the two construction phases, a total distance of 1,759,040 km is obtained. Based on an accident rate of 0.381 PIA per million veh-km; this suggests 0.670 PIAs a year during the construction period.

13.6.28 The magnitude of this cumulative impact is considered to be negligible but receptor sensitivity to this effect is always considered as high. When combined, the effect can be classified as minor and Significant in accordance with **Table 13.4**.

Dust and Dirt

13.6.29 As discussed, dust management measures on-site are embedded into the pre-assessment mitigation of the Proposed Development as 'good practice'. Therefore, the sensitivity of the receptor to this effect is low and magnitude of the impact is considered to be small for all road links. The overall significance of the environmental effect of dust and dirt is classified as negligible and Not Significant.

Summary of Proposed Development and Creag Dhubh Substation Cumulative Impact

13.6.30 Whilst the percentage increase in traffic or HGV levels exceeds the IEMA thresholds for each road link, a full assessment into the potential effects concludes that all effects will remain negligible or minor and Not Significant.

Creag Dhubh to Inveraray 275 kV OHL

13.6.31 No details on the predicted traffic generation for the Creag Dhubh to Inveraray OHL is available as the application is only at pre-application stage. However, it is the same Applicant as for the Proposed Development and Creag Dhubh to Dalmally OHL, therefore, the potential cumulative effects would be managed collectively by the Applicant in accordance with each project's Construction Environmental Management Plan (CEMP) and CTMP to ensure no significant traffic and transport related effects arise.

Blarghour Wind Farm

13.6.32 It is possible the construction programme may overlap with the Blarghour Wind Farm which would result in potential cumulative impacts along the road links within the Study Area.

13.6.33 The Traffic and Transport EIAR for Blarghour Wind Farm has been reviewed to establish the anticipated construction programme, traffic routing and traffic generation numbers. The construction phase for Blarghour is expected to take 21 months. The peak months for construction traffic are anticipated to be months 9 to 11 when stone and concrete imports occur. Traffic levels drop significantly from month 12 onwards.

13.6.34 Blarghour Wind Farm was granted planning consent in October 2021. It can therefore be assumed that construction will begin well ahead of construction for the Proposed Development and the Creag Dhubh Substation and that the peak traffic generating months will not coincide with month 12 of the Proposed Development and month 18 of the substation construction phases. Therefore, any cumulative traffic impact will remain below the worst-case scenario assessed within this chapter.

13.6.35 Furthermore, a Construction Traffic Management Plan (CTMP) will be implemented for Blarghour Wind Farm to minimise and manage effects within the Study Area.

13.6.36 Through the CTMPs for Blarghour and the Proposed Development, it would be ensured that there is communication with between the construction sites to minimise effects and ensure that larger traffic generating activities (such as stone importation or concrete pours) are phased to avoid overlap where practicable. This is also indirectly managed by the availability of resources from local quarries as they typically operate on a campaign basis and would not be able to supply multiple construction sites simultaneously.

13.6.37 Cumulative effects associated with Blarghour Wind Farm are therefore concluded to be negligible and Not Significant.

Blarghour Wind Farm OHL Connection

13.6.38 This project aims to connect the proposed Blarghour Wind Farm to the new Creag Dhubh Substation via approximately 10 km of overhead line by Autumn/Winter 2025. Consultation on the preferred route for the OHL is targeted for May 2022.

13.6.39 No details on the predicted traffic generation for the Blarghour Wind Farm OHL Connection is available at present. However, it is the same Applicant as for the Proposed Development and Creag Dhubh to Dalmally OHL, therefore, the potential cumulative effects would be managed collectively by the Applicant in accordance with each project's Construction Environmental Management Plan (CEMP) and CTMP to ensure no significant traffic and transport related effects arise.

Meteorological Mast, Ladyfield Cottage

13.6.40 The traffic impact associated with the construction of a meteorological mast in isolation would be negligible given the scale of the scheme. The construction programme is not anticipated to overlap with the Proposed Development; therefore, cumulative traffic impacts are not anticipated.

13.7 Mitigation

13.7.1 It is the intention of the Applicant to implement a Construction Traffic Management Plan (CTMP) as a 'good practice' measure to ensure that the impact of the Proposed Development, and of other developments acting cumulatively, on the public road network are minimised as far as practicable.

13.7.2 The CTMP would identify measures to reduce the number of construction vehicles as well as considering reducing or avoiding the impact of vehicles through construction programming / routing and identification of an individual with responsibilities for managing traffic and transport impacts and effects.

13.7.3 The CTMP will identify the programme of works, the agreed routes to sites and details of a site Liaison Officer who would have responsibilities for managing traffic and transport impacts and effects. The CTMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. The CTMP would include the following measures as a minimum:

- The main contractor would develop a logistics plan highlighting the access points for the project, loading bays(s), welfare, storage, security and material handling that would be enforced following full site establishment.
- Approved haul routes would be identified to the sites and protocols put in place to ensure that HGVs adhere to these routes.
- All contractors would be provided with a site induction pack containing information on delivery routes, any restrictions on routes and maximum load capacity for the internal access tracks.
- Temporary construction site signage would be erected along the identified construction traffic routes to warn other road users of construction activities and associated construction vehicles.
- A construction traffic speed limit (for example, 20 mph in 30 mph zones) would be imposed through the sensitive areas along the route (i.e. Dalmally and Inveraray) and on approach to the main site access point on the A819.
- The construction material 'lay down' areas would allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 06:00 and after 22:00).
- An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors would be required to give details of proposed timing of material deliveries to the sites. At this stage, they would be given a specific area for delivery.
- The CTMP and the control measures therein would be included within all trade contractor tender enquiries to ensure early understanding and acceptance / compliance with the rules that would be enforced on this project.
- Under no circumstances would HGVs be allowed to lay-up in surrounding roads. All personnel in the team would be in contact with each other and with Site management, who in turn would have mobile and telephone contact with the subcontractors.
- Roads would be maintained in a clean and safe condition. A wheel washing / wheel cleaning facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.
- A condition survey of the A819 will be undertaken pre and post construction phase to monitor the condition of the road. The Applicant will ensure that any deterioration to the A819 will be repaired.

Summary

13.7.4 This chapter considers the potential traffic and transport effects associated with the construction and operation of the Proposed Development on the surrounding public road network and sensitive receptors.

13.7.5 The construction traffic associated with the Proposed Development would comprise construction staff in private cars, and HGVs / LGVs carrying construction materials, personnel and plant equipment.

13.7.6 Access to the Proposed Development sites will be provided from various access points along the A819 and A85 (T). Construction HGV traffic would route to and from the access points via the A819, A85 (T) and A83 (T) and not impact Inveraray. A proportion of construction staff may utilise the B870 to route to the site access points.

13.7.7 An indicative 24-month construction programme established that the Proposed Development would generate at most, 82 two-way HGV trip and 150 two-way staff car trips per day during the peak traffic generating month of the construction phase (months 20 and 21).

13.7.8 A full assessment of the potential environmental effects concludes that the impact to the road links within the Study Area is minor or negligible, and the significance of effect is considered to be Not Significant throughout. Cumulative impacts with neighbouring developments are also considered to be minor or negligible and Not Significant throughout.

13.7.9 Whilst no mitigation is required, the Applicant will implement a Construction Traffic Management Plan as a 'good practice' measure to ensure that the impact of the Proposed Development, and of other developments acting cumulatively, on the public road network are minimised as far as practicable. The CTMP will identify the programme of works, the agreed routes to site, details of a site Liaison Officer who would have responsibilities for managing traffic and transport impacts and effects and will also identify measures to manage / reduce construction staff travel by private car, particularly single occupancy trips.