12 Traffic and Transport

12.1 Introduction

12.1.1 This chapter assesses the potential effects on traffic and transport associated with the construction and operation of the Proposed Development. This chapter (and its associated Figures and Appendices) is not intended to be read as a standalone assessment and reference should be made to the introductory chapters of this EIA Report (**Volume 2, Chapters-1-5**).

12.1.2 The technical reviewer of the traffic and transport assessment is Gordon Buchan BEng (Hons), MSC, CMILT, FCIHT, Divisional Director of Pell Frischmann Consultants Limited. He has over 25 years' experience of undertaking the transport assessments associated with new developments and has worked on renewable energy and energy distribution projects across the UK, Ireland and Northern Europe. The author is Elaine Moran BEng (Hons), MSC, MCIHT, Transport Planner. She has over six years of experience in the transport planning industry.

12.1.3 This chapter is supported by the following figures and technical appendices:

- Volume 3a: Figures
  - **Figure 12.1: Study Area;**
  - **Figure 12.2: Traffic Count Locations;**
  - **Figure 12.3: Accident Locations;** and
  - **Figure 12.4: Construction Traffic Delivery Routes**.
- Volume 4: Technical Appendices
  - **Technical Appendix 12.1: Transport Assessment;** and
  - **Technical Appendix 12.2: Construction Traffic Management Plan**.

12.1.4 Figures and technical appendices are referenced in the text where relevant.

12.2 Assessment Methodology and Significance Criteria

Scope of the Assessment

12.2.1 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;
- Direct effects upon local road users; and
- Effects upon local residents from an increase in construction traffic.

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

12.2.3 The chapter assesses cumulative effects as arising from the addition of the Proposed Development to other cumulative developments. **Figure 15.1: Cumulative Development (Volume 3a)** illustrates the Proposed Development along with other cumulative developments recorded as consented (under construction or not yet constructed), those in planning and those within the public domain, deemed reasonably foreseeable, within 15 km of the Proposed Development. Consented developments are considered as committed development and are considered part of the baseline.

12.2.4 The assessment is based on the Proposed Development as described in **Chapter 2: Description of the Proposed Development (EIAR Volume 2)**.

12.2.5 The scope of the assessment has been informed by consultation responses summarised in **Table 12-1** and the following guidelines/policies:

- Planning Advice Note 75 (2005)[1];
- Transport Assessment Guidance (2012)[2];
- The Guidelines for the Environmental Assessment of Road Traffic (1993)[3];
- Scottish Planning Policy (2014)[4]; and
- Argyll & Bute Council Local Development Plan (2015)[5].

Extent of the Study Area

12.2.6 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 supply locations for construction materials.

12.2.7 Materials for the construction of the access tracks have been assumed to arrive to the Site from local quarries, the closest of which are located approximately equidistant from Inveraray, via the A83. Equipment and materials are likely to be delivered to the Site via the A83 from Glasgow.

12.2.8 The Study Area (see **Figure 12.1: Study Area, EIAR Volume 3a**) therefore includes the following highway links, which have been consulted on through Scoping:

- The A83(T), between Inveraray and Ardgenavan;
- The A83(T), between Inveraray and Furnace; and
- The A819, between Inveraray and Cladich.

Consultation Undertaken to Date

12.2.9 Consultation undertaken to date mainly pertains to the EIA Scoping. Scoping responses received at the time of writing that are relevant to this chapter are captured in **Table 12-1**. Further information can be found in **Appendix 4.3: Consultation Register (EIAR Volume 4).**

Table 12-1: Scoping Responses and Other Consultations of Relevance to Chapter 12

Organisation	Type of Consultation	Response	How response has been considered
Transport Scotland (TS)	Scoping Response, April 2022	In general agreement with scoping proposals. Notes that future year traffic growth should be subject to Low National Road Traffic Forecast (NRTF) factors to derive the 2024 traffic flows.	The general scoping comments are noted. Low NRTF has been used to derive future year traffic flows.
		An Abnormal Indivisible Load (AIL) assessment and route survey should be provided if such loads are proposed.	No AIL traffic is associated with the Proposed Development.
		A Construction Traffic Management Plan (CTMP) is welcomed and should be forwarded to the Area	Framework CTMP measures are included in the Transport Assessment (**Technical**

[1] Planning Advice Note 75, Scottish Government, 2005 https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/
[2] Transport Assessment Guidance, Transport Scotland, 2012 https://www.gov.scot/publications/transport-scotland-core-documents/
[3] The Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment (IES), 1993
[4] Scottish Planning Policy, Scottish Government, 2014 https://www.gov.scot/publications/scottish-planning-policy/
[5] Argyll & Bute Council Local Development Plan, Argyll & Bute Council, 2015 https://www.argyll-bute.gov.uk/planning-and-environment/local-development-plan

Organisation	Type of Consultation	Response	How response has been considered
		Network Manager when it is available.	**Appendix 12.1: Transport Assessment, EIAR Volume 4**) and are detailed in the Mitigation section of this chapter. A Traffic Management Plan (TMP) will be provided post consent and will consider other SSEN Transmission projects under construction within the area.
Argyll and Bute Council (ABC)	Scoping Response, June 2022	The Planning Authority is concerned that reasonably foreseeable additional construction projects, (many of which form part of SSEN's wider Argyll infrastructure strategy) will require to be considered even if formal permission has not been granted i.e., • An additional S37 proposal Dalmally to Creag Dhubh • The construction of Creag Dhubh substation platform and access (major planning application) • Four Further large substations along the Inveraray Crossaig Route. These other major infrastructure projects may to some degree overlap with the construction of the current proposals, and therefore there is a need to ensure that that any TA is robust in terms of reasonably foreseeable cumulative impacts on the roads network, and not just restricted to only those elements which have a planning or other necessary permission in place.	The Transport Assessment (**Technical Appendix 12.1: Transport Assessment, EIAR Volume 4**) only considers committed developments. Adding other potential developments will dilute the traffic on the network, showing a reduced impact associated with the Proposed Development A draft Construction Traffic Management Plan (CTMP) has been provided in **Technical Appendix 12.2 (EIAR Volume 4)** and will be updated post consent and will consider other SSEN Transmission projects under construction within the area.
		The Planning Authority is also aware of the recent submission of the S36 Application for the enlargement of Cruachan Power Station and the potential construction timing of this should be evaluated by ECU, and if necessary factored in to any EIA TA submissions for the SSEN projects. This is particularly important where borrow pits are proposed which may be utilised to provide construction materials for more than one SSEN project. Recent S37 permissions have resulted in considerable post approval work for the Area Roads Manager in respect of conditioned TMP's and the failure for the use of borrow pits to be factored into TA's at an early enough stage. This resulted in TMP's being produced in advance of any investigation of the use of borrow pits and work having to be done multiple times associated with the	As with the cumulative assessment details above, only projects that are committed development are assessed. No borrow pits have been proposed at this stage, the requirement for this will be determined by the Appointed Contractor. The Transport Aassessment (**Technical Appendix 12.1, EIAR Volume 4**) is be based on the worst-case traffic movements.

Organisation	Type of Consultation	Response	How response has been considered
		review and approval of these conditioned submissions as part of the deemed planning permission. In this respect the Applicants are advised to have further discussions with ECU, Transport Scotland and the Area Roads Manager prior to finalising any TA submissions to ensure that other projects with potential impacts on the roads network are understood and properly addressed, as well as ensuring that the potential use of borrow pits is investigated prior to the submission of the TA.	

Effects Scoped Out

Operational Effects

12.2.10 Once operational, it is envisaged that the level of traffic associated with the Proposed Development would be minimal. Regular maintenance visits would be made using 4x4 vehicles and as such, no detailed assessment of the operational phase of the Proposed Development has been undertaken.

Decommissioning Effects

12.2.11 The Proposed Development would not have a fixed operational life as it is assumed to be operational for 50 years or more. Effects associated with the construction phase can be considered to be representative of the worst-case decommissioning effects and therefore decommissioning effects have been scoped out.

Method of Baseline Data Collation

Desk Study

12.2.12 The desk study included reviews and identification of the following:

- Relevant transport policy;
- Accident data;
- Sensitive location;
- Any other traffic sensitive receptors in the area (core paths, routes, communities, etc.)
- OS plans; and
- Potential origin locations of construction staff and supply locations for construction material to inform extent of local area roads network to be included in the assessment.

Limitations and Assumptions

12.2.13 The assessment is based upon an assumed 43 month construction programme for the Proposed Development. Alterations in this programme, may increase or decrease traffic flows per month.

12.2.14 This assessment is based upon average traffic flows. There may be localised peaks with construction days where flows can be higher for a specific hour, such as a shift change on site.

12.2.15 Assumptions on the origin points for materials have been made to provide a worst-case assessment scenario. Should these origin points change, the effects on surrounding areas may alter to those presented in the assessment.

12.2.16 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 Traffic and Transport.

Method of Assessment

12.2.17 The methodology adopted in this assessment involved the following key stages:

- Determine 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.

Sensitivity of Receptor

12.2.18 The IEMA 'Guidelines for Environmental Impact Assessment' (2005) 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 are intended to complement professional judgement and the experience of trained assessors.

12.2.19 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.

12.2.20 The IEMA Guidelines include guidance on how the sensitivity of receptors should be assessed. Using this, professional judgement was used to develop a classification of sensitivity for receptors based on the characteristics of roads and locations. This is summarised in **Table 12-2**.

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.

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

Magnitude of Impact

12.2.22 The following rules, also taken from the IEMA Guidelines are used 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%); and
- Rule 2 – include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

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

- Severance – the IEMA Guidelines 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”. (Paragraph 4.28);
- Driver delay – the IEMA Guidelines note that these delays are 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.” (Paragraph 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 (Paragraph 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; and
- 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.

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

Cumulative Effects

12.2.25 In traffic and transport terms, only developments that have been consented can be assumed to be cumulative developments. A sensitivity review has been undertaken as part of the cumulative assessment (see **Section 12.7**) to inform the planning authorities of possible issues if all consented developments were to be constructed concurrently.

Significance Criteria

12.2.26 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 2.4 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) and summarised in **Table 12-3**.

12.2.27 The DMRB defines the potential changes in magnitude of 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; and
- Neutral: No effects or those that are imperceptible.

Table 12-3 Significance of Effects

Receptor Sensitivity	Magnitude of Effect			
	Major	**Moderate**	**Slight**	**Neutral**
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

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

12.3 Baseline Conditions

Current Baseline

Road Access

12.3.1 The A819 is a single carriageway which is generally bound by trees and is maintained by Argyll and Bute Council (ABC). The A819 is generally subject to the national speed limit, however, this is reduced upon entering Inveraray.

12.3.2 The A83(T) is a trunk road which is a single carriageway and is maintained by Bear Scotland. The A83(T) is generally subject to the national speed limit, this reduces going through towns and villages.

Existing Traffic Conditions

12.3.3 In order to assess the impact of the Proposed Development on the Study Area, traffic data was obtained from existing traffic sources from the UK Department for Transport (DfT) database. These sites were identified as being areas where sensitive receptors on the access route would be located.

12.3.4 The locations for the DfT traffic survey sites are as follows:

- A83(T), to the east of Inveraray;
- A83(T), to the south west of Inveraray; and
- A819 to the south of Cladich.

12.3.5 The locations of the traffic survey sites are shown in **Figure 12.2: Traffic Count Locations, EIAR Volume 3a**.

12.3.6 The traffic counters allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars / light good vehicles (LGVs) and heavy goods vehicles (HGVs) (all goods vehicles >3.5 tonnes gross maximum weight).

12.3.7 Traffic count data for 2019 was obtained from the count site information, as this traffic data remains unaffected by the travel restrictions associated with the COVID-19 pandemic. A National Road Traffic Forecast (NRTF) low growth factor of 1.022 was applied to the 2019 flows to forecast 2022 flows.

12.3.8 **Table 12-4** summarises the 24-hour average daily traffic data forecast at the count sites.

Table 12-4: 24-hour Average Daily Traffic Data (2022)

No.	Survey Location	Cars & Lights	HGV	Total
1	A83(T), to the east of Inveraray	5,518	646	6,164
2	A83(T), to the south west of Inveraray	2,883	317	3,200
3	A819 to the south of Cladich	1,312	141	1,453

Please note variances may occur due to rounding

Accident Data

12.3.9 Road accident traffic information for the five year period commencing 01 January 2016 to 31 December 2020 was obtained from the online resource crashmap.co.uk which uses data collected by the police about road traffic crashes occurring on British roads where someone is injured (it should be noted that there is only provisional data currently available for 2021 to June).

12.3.10 The statistics are categorised into three categories, namely “Slight” for damage only incidents, “Serious” for injury accidents and “Fatal” for accidents that result in a death.

12.3.11 A summary of the 36 accidents recorded within the Study Area for the five year surveyed period are presented in **Table 12-5**.

Table 12-5: Accident Data

Link	Severity			Single / Multi Vehicle Collision		Casualty Types				Vehicle Types					
	Slight	Serious	Fatal	Single	Multi	Bicycle	Child	Motorcycle	Pedestrian	Bicycle	Motorcycle	Car	HGV	Bus	Young Driver
A819 – between Inveraray and Cladich	1	6	0	4	3	0	0	2	0	0	2	2	3	0	0
A83(T) – between Inveraray and Dunderave Castle	10	8	2	14	6	0	1	7	1	0	7	14	4	0	2
A83 – between Inveraray and Furnace	8	1	0	4	5	0	0	1	0	0	1	6	4	0	1

12.3.12 The locations of the accidents are presented in **Figure 12.3: Accident Locations, EIAR Volume 3a**.

12.3.13 Within the Study Area, the accident information does not appear to have any trends along the A819 road link between Inveraray and Cladich or along the section of A83 between Inveraray and Furnace.

12.3.14 On the section of A83 between Inveraray and Dunderave Castle, there are two locations where there are multiple accidents within a short distance.

12.3.15 A total of five accidents were recorded at the 90º bend approximately 1.35 km to the south of Garron Bridge, within a length of approximately 120 m. Four of these incidents occurred in 2017, of which three accidents occurred in the month of September. Of the five recorded accidents, there were two single vehicle collisions, one involving a motorcycle and one involving a car, and three multi vehicle collisions of which two incidents involved both a car and a motorcycle and one incident involved a motorcycle and an HGV. Signage to reduce speeds as well as the presence of a bend are located on both approaches to the bend.

12.3.16 The two incidents recorded at the same location, approximately 1.80 km to the west of Dunderave Castle, occurred on 02 January 2016 and 03 January 2016, respectively. Both of the accidents were recorded as single vehicle collisions involving cars. The is a slight bend and hilly terrain along the carriageway near the location of these accidents.

Active Travel Links

12.3.17 Within the town of Inveraray, there is a network of footways which along the A83(T) appear to be in good condition and meet standards and along the A819 seem to be substandard in terms of width.

12.3.18 While there are no core paths located along the Proposed Development, there are a number of core paths which are with located along or intersect with roads within the Study Area.

12.3.19 At two locations along the A83(T), core paths cross the carriageway. A core path also crosses the A83 near the A819 / A83(T) junction. There are no crossing facilities located at these crossing points.

12.3.20 There are no National Cycle Routes along the A819 or A83(T) within the Study Area.

12.3.21 Users of the Core Paths are assumed to have the same sensitivity as residents in Inveraray and as such, no separate assessment has been undertaken for Core Path users.

Future Baseline

12.3.22 Construction of the Proposed Development would commence in 2024, if consent is granted and is anticipated to take up to 43 months depending on weather conditions and ecological decisions. Energisation of the project is scheduled for 2027.

12.3.23 To assess the likely effects during the construction and typical operational phase, base year traffic flows were determined by applying a NRTF low growth factor to the surveyed traffic flows.

12.3.24 The NRTF low growth factor for 2022 to 2024 is 1.011. These factors were applied to the 2022 traffic data shown in **Table 12-4** to estimate the 2024 baseline traffic flows shown in **Table 12-6**.

Table 12-6: Future Year Traffic Conditions (2024)

No.	Survey Location	Cars & Lights	HGV	Total
1	A83(T), to the east of Inveraray	5,578	653	6,231
2	A83(T), to the south west of Inveraray	2,915	320	3,235
3	A819 to the south of Cladich	1,327	143	1,469

Please note variances may occur due to rounding

12.3.25 If the Proposed Development did not proceed, traffic growth will occur and the links within the Study Area would experience increased traffic flows resulting from other development pressures, tourism traffic and population flows.

Sensitive Receptors

12.3.26 **Table 12-7** outlines sensitive receptors carried through to the assessment.

Table 12-7: Summary of Receptor Sensitivity

Receptor	Rationale	Receptor Sensitivity
A83(T) Users – north east of Inveraray	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.	Low
A83(T) Users – south west of Inveraray	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.	Low
A819 Users – north of Inveraray	Where the road is a local A or B class road, capable of regular use by HGV traffic.	Medium
Residents of Inveraray	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.	Medium
Residents of Furnace	Where a location is a small rural settlement, few community or public facilities or services.	Low

Receptor	Rationale	Receptor Sensitivity
Residents along A83(T) – north east of Inveraray	Where a location includes individual dwellings or scattered settlements with no facilities.	Negligible
Residents along A83(T) – south west of Inveraray	Where a location includes individual dwellings or scattered settlements with no facilities.	Negligible
Residents along A819 – north of Inveraray	Where a location includes individual dwellings or scattered settlements with no facilities.	Negligible

12.3.27 Given the sensitivities noted in **Table 12-7**, only the A819 users and residents of Inveraray could experience significant effects.

12.4 Assessment of Effects

12.4.1 The assessment is based upon the construction effects that may occur within the Study Area. In order to assess the effects, it is necessary to determine the likely traffic generation associated with the construction phase of Proposed Development.

12.4.2 During the construction period, the following traffic will require access to the to the Proposed Development:

- Staff transport, in either cars or staff minibuses; and
- Construction equipment and materials, including tower sections and OHL, deliveries of machinery and supplies such as concrete, cabling and crushed rock.

12.4.3 The Applicant has undertaken a preliminary design of the Proposed Development and has advised on likely traffic movements based upon their recent experience of similar developments and on bulk materials needed to be imported.

12.4.4 Daily construction traffic estimates have been developed and are detailed in **EIAR Volume 4: Technical Appendix 12.1: Transport Assessment**. The peak of construction activity occurs in Month 6 of the programme and results in 114 daily movements (57 inbound and 57 outbound movements per day). Of these, 74 movements are associated with HGVs moving equipment to mobilise sections of the works as well as the import of track building materials from local quarries. The remaining 40 movements are associated with construction staff arriving at and departing from the Site.

12.4.5 A review of committed development traffic generation has been undertaken for sites that have planning consent but that have not yet been constructed. A wide range of energy and non-energy developments has been considered. Of these, only Blarghour Wind Farm can be considered as committed. As this site has planning consent and could be constructed at the same time as the Proposed Development, its peak construction traffic flows were included in the baseline traffic flows.

12.4.6 To estimate the total trips through the Study Area during the peak of the construction phase, traffic was distributed through the network and combined with the 2024 Baseline traffic data. The resulting figures were compared with the weekday 2024 Baseline traffic to provide a percentage change in movements. The traffic impact summary is provided in **Table 12-8**.

Table 12-8: Traffic Impact Summary

No.	Survey Location	Cars & Lights	HGV	Total	Cars & Lights % Increase	HGV % Increase	Total Traffic % Increase
1	A83(T), to the east of Inveraray	5,578	747	6,325	0.0%	5.4%	0.6%
2	A83(T), to the southwest of Inveraray	2,915	412	3,327	0.0%	9.6%	1.1%
3	A819 to the south of Cladich	1,367	328	1,695	3.0%	29.2%	7.2%

Please note variances may occur due to rounding

12.4.7 The impact assessment indicates that the predicted traffic impact will not exceed either the 30% or 10% rules noted in the IEMA Guidelines. As such, no further detailed assessment is considered necessary.

12.4.8 A review of existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESA Manual". The theoretical road capacity has been estimated for each of the road links that makes up the Study Area. The results are summarised in **Table 12-9**.

Table 12-9: Construction Phase Effects Summary

No.	Survey Location	2024 Baseline Flow	Theoretical Road Capacity	2024 Base + Development Flows	Spare Road Capacity
1	A83(T), to the east of Inveraray	6,287	21,600	6,325	70.72%
2	A83(T), to the southwest of Inveraray	3,291	21,600	3,327	84.60%
3	A819 to the south of Cladich	1,581	21,600	1,695	92.15%

Please note variances may occur due to rounding

12.4.9 The results indicate there are no road capacity issues with the combined development and ample spare capacity exists within the trunk and local road network to accommodate construction phase traffic.

Mitigation by Design

12.4.10 The access points will be designed in accordance with ABC standards and will feature compliant visibility splays in both directions. All four access points will be retained as permanent following the completion of construction works.

12.4.11 Appropriate signage to warn drivers of the new access points and turning construction traffic will be provided and a signage schedule will be agreed with ABC prior to works commencing.

Potential Effects

Potential Construction Effects

12.4.12 The significance of the potential effects during construction has been determined using the rules and thresholds outlined in the subsections of **Section 12.2 and Table 12-3**. The following paragraphs summarise the significance of effect for sensitive receptors during the construction phase.

A819 Users – north of Inveraray

Severance

12.4.13 The total increase in traffic along the A819, as presented in **Table 12-8**, is 7.2% which is not considered significant to cause severance issues for users of the A819, such as pedestrians crossing the road. It should also be noted that there are no pedestrian facilities along the A819 outwith Inveraray, and as such it is unlikely that there is a high demand to cross this link. As there are also very few dwellings located along this link, it is not considered that communities will be severed as a result of construction traffic movements. It is therefore considered that the magnitude of impacts is minor and the significance of effect is slight.

Driver Delay

12.4.14 Following the addition of the Proposed Development's construction traffic, the spare road capacity of the A819 will be 92.15%. It is therefore considered that the magnitude of impacts is minor and the significance of effect is slight.

Pedestrian Delay

12.4.15 Following the addition of the Proposed Development's construction traffic, there will still be ample spare capacity along the A819. It should also be noted that there are no pedestrian facilities along the majority of A819, outwith Inveraray and so is unlikely that there is high demand to cross this link. It is therefore considered that the magnitude of impacts is minor and, the significance of effect is slight.

Pedestrian Amenity

12.4.16 As the total change in traffic is anticipated to be 7.2%, and as there are no pedestrian facilities along the A819, outwith Inveraray it is not anticipated that there is a large number of pedestrians using this link. It is therefore considered that the magnitude of impacts is minor and the significance of effects is slight.

Fear & Intimidation

12.4.17 The total increase in traffic along the A819, as presented in **Table 12-8**, is 7.2%. The magnitude of impacts is therefore considered minor and significance of effect is therefore considered to be slight.

Accidents & Safety

12.4.18 A review of accidents along the A819 over a five year period did not any highlight accident trends along this section of road. The magnitude of impacts is therefore considered minor and the significance of effect is considered slight.

<u>Residents of Inveraray</u>

12.4.19 Count Point No.2 (A83(T), to the southwest of Inveraray) is located just to the south of Inveraray and considered the most appropriate point to evaluate the significance of effects for the residents of Inveraray.

Severance

12.4.20 The total traffic increase is anticipated to be 1.1% which is not considered a significant increase in traffic to cause a separation to the community. It is therefore considered that the magnitude of impacts is minor and the significance of effects is slight.

Driver Delay

12.4.21 Following the addition of the Proposed Development's construction traffic, the spare road capacity of the A83(T), to the southwest of Inveraray will be 84.60%. It is therefore considered that the magnitude of impacts is minor and the significance of effect is slight.

Pedestrian Delay

12.4.22 The total increase in traffic is approximately 1.1% which is not considered significant to cause an increased delay to residents of Inveraray crossing the roads within the town. The magnitude of impacts is considered minor and the significance of effects is therefore considered to be slight.

Pedestrian Amenity

12.4.23 The A83(T) is a trunk road which travels through Inveraray and so it can be reasonably assumed that residents of Inveraray are accustomed to HGVs associated with construction traffic. The magnitude of impacts is considered minor and the significance of effects is therefore considered to be slight.

Fear & Intimidation

12.4.24 The total traffic increase is anticipated to be 1.1% which is not considered a significant increase in traffic to cause fear and intimidation to the community. It should also be noted that the A83(T) which is a trunk road travels through Inveraray and so residents are accustomed to HGVs associated with construction traffic. The magnitude of impacts is considered minor and the significance of effects is slight.

Accidents & Safety

12.4.25 A review of accidents within Inveraray town over a five year period did not any highlight accident trends within Inveraray town. The magnitude of impacts is therefore considered minor and the significance of effect is considered slight.

Potential Operational Effects

12.4.26 There are no potential operational effects associated with the Proposed Development relating to Traffic and Transport.

12.5 Mitigation

Mitigation During Construction

12.5.1 The following measures would be implemented through a Construction Traffic Management Plan (CTMP) during the construction phase for the Proposed Development. The CTMP would be agreed with the ABC and TS and other affected stakeholders prior to construction works commencing. The draft CTMP is provided in **Appendix 12.2: Construction Traffic Management Plan, EIAR Volume 4** and includes the following measures:

- Deliveries to Site shall be scheduled to the working times of the Site. Any deliveries to be made outwith these working times will be reviewed on a case by case basis taking into account a number of factors including, time and impact on local community, noise and traffic disruption;
- Specific training and disciplinary measures would be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Unless otherwise agreed with ABC, construction activities would in general be undertaken during daytime periods only. For weekdays, this would involve work between approximately 07:00 to

19:00 in the summer and 07:30 to 17:00 (or as daylight allows) in the winter. On Saturday the working hours would be approximately 07:00 to 17:00 in the summer and 07:30 to 17:00 (or as daylight allows) in the winter;

- All reversing operations and the movement of plant/deliveries which will take place on-site will be supervised and controlled;
- Throughout the project, temporary works access signage will be provided at the junctions where construction traffic will access/egress from the temporary access roads onto the main trunk roads;
- All tracks will be accessible off the A819 by means of either an existing or new bell mouth junction. Existing access junctions will be assessed for visibility, vehicle movements and types considered allowing an assessment of the safety of the existing junction prior to these being used by project construction traffic;
- Traffic mitigation measures will be introduced at access/ existing bell mouth junctions which are found not to meet DMRB visibility splay standards. These measures may include reduction of speed limit to 30 mph with suitable signage and traffic management employed, as required;
- The arrangements for Traffic Management (TM) will be communicated to the public and local community directly affected by construction traffic via the SSEN public liaison officer. Other methods of communication which may be implemented by the project team include letter drops to landowners in the immediate vicinity to planned TM works, online update notices communicated via SSEN website and local press releases; and
- All visitors and new staff must undertake a Site induction. During the induction, personnel will be made aware of the Traffic Management Plan and Site rules. ABC may request that an agreement to cover the cost of abnormal wear on its network is made.

12.5.2 Video footage of the pre-construction phase condition of the construction vehicles route would be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline would inform any change in the road condition during the construction phase. Any necessary repairs would be coordinated with ABC's roads team. Any damage caused by traffic associated with the Proposed Development during the construction period that would be hazardous to public traffic would be repaired immediately.

12.5.3 Damage to road infrastructure caused directly by construction traffic would be made good and street furniture that is removed on a temporary basis would be fully reinstated. It is anticipated that a Section 96 Agreement will be developed with ABC to ensure that the road network does not deteriorate as a result of the proposed construction traffic.

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

Mitigation During Operation

12.5.5 Given there are no potential operational effects associated with the Proposed Development relating to Traffic and Transport, no mitigation measures are proposed.

12.6 Residual Effects

Residual Construction Effects

12.6.1 This section considers the assessment of traffic effects following the incorporation of the mitigation measures identified above.

12.6.2 **Table 12-10** summarises the assessment of residual effects identified as well as the proposed mitigation measures and how they will be implemented during the construction phase. **Table 12-10** shows that the residual effects are considered not significant following the implementation of the mitigation measures.

12.6.3 It should be noted that the assessment has focussed on the peak construction traffic activities and that the percentage increases noted are high, given the relatively low level of HGV traffic on the existing network.

12.6.4 The construction period is transitory in nature and all impacts will be short lived and temporary.

Residual Operational Effects

12.6.5 No residual operational effects are associated with the Proposed Development.

12.7 Cumulative Effects

12.7.1 A review of cumulative developments has been undertaken. Only one development can be considered as committed and this has been accounted for in the 2024 baseline traffic flows. There are no further significant traffic generating developments that are considered as committed development at present.

12.7.2 Should a new development or associated development be consented following determination of the Proposed Development, then a planning condition can be imposed on that application to account for any cumulative traffic impacts on the Study Area, should the two developments be constructed simultaneously. The implementation and phrasing of such a condition would be determined by ABC, in consultation with Transport Scotland.

12.8 Summary

12.8.1 The Proposed Development will lead to increased traffic volumes on the A819 and A83(T) in the vicinity of the site during the construction phase. These will be of a temporary timescale and transitory in nature.

12.8.2 Existing traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.

12.8.3 The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the proposed development. The maximum traffic effect associated with construction of the proposed development is an additional 40 car and LGV movements and 74 HGV movements per day.

12.8.4 An assessment of likely effect using IEMA guidelines has been undertaken. This determined that minor, non-significant effects could be expected along the A819 and for Inveraray Users.

12.8.5 With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be not significant and they will occur during the construction phase only, they are temporary and reversible.

Table 12-10: Summary of Potential Significant Effects of the Proposed Development

Likely Significant Effect	Mitigation Proposed	Means of Implementation	Residual Effect
Construction for A819 users and Inveraray Residents			
Severance	Improved signage, temporary signage and public information provision.	CTMP	Not significant
Driver delay	Improved signage, temporary signage and public information provision.	CTMP	Not significant
Pedestrian delay	Improved signage, temporary signage and public information provision.	CTMP	Not significant
Pedestrain amenity	Improved signage, temporary signage and public information provision.	CTMP	Not significant
Fear and intimidation	Improved signage, temporary signage and public information provision.	CTMP	Not significant
Accidents and safety	Improved signage, temporary signage and public information provision. Junctions to be designed in accordance with ABC standards.	CTMP and approved junction design	Not significant
Operation			
None	None	None	None
Cumulative Construction			
None	None	None	None
Cumulative Operation			
None	None	None	None