

VOLUME 2: CHAPTER 14 – TRAFFIC AND TRANSPORT

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14. TRAFFIC AND TRANSPORT

14.1 Executive Summary

- 14.1.1 This chapter has considered the potential traffic and transport effects associated with the construction of the Proposed Development on the surrounding public road network and sensitive receptors. The additional traffic due to the construction activities of the Proposed Development would result in temporary and short-term increases in traffic flows on the surrounding highway network.
- 14.1.2 The construction traffic associated with the Proposed Development would comprise construction staff in private cars and LGVs, and also HGVs carrying construction materials and plant equipment including cranes. There would be no requirement to transport any components as abnormal loads.
- 14.1.3 The level of vehicle trips anticipated to be generated by construction activities has been derived from estimates and an initial programme provided by the OHL Contractors. These trips have been assigned to the local road network based on the most appropriate route for HGV traffic identified by the OHL Contractors between the A9(T) corridor and the proposed access points.
- 14.1.4 A full assessment of the potential environmental effects of traffic and movements associated with the construction of the Proposed Development was undertaken. Effects are considered to be significant for the purposes of the EIA Regulations where the effect is classified as being of 'Major' or 'Moderate' significance. A Moderate to Major effect was identified for severance of communities, non-motorised user amenity and delay, fear and intimidation on and by road users at a number of sensitive receptors identified within the Study Area prior to the implementation of mitigation measures.
- 14.1.5 Impacts from the operation and maintenance of the Proposed Development were scoped out of the assessment as the amount of traffic generated would be minimal (significantly less than the construction phase) and will relate to monitoring and maintenance only.
- 14.1.6 A number of mitigation measures and impact avoidance measures have been proposed to help minimise the short-term traffic impacts during the construction, and of other developments acting cumulatively on the public road network. It is considered that with the implementation of the mitigation measures, the residual effect on severance of communities, non-motorised user amenity and delay, fear and intimidation on and by road users is minor or negligible and therefore considered as not significant in terms of the EIA Regulations.

14.2 Introduction

- 14.2.1 This chapter assesses the environmental effects of traffic and movements of the Proposed Development. Vehicle movements to the Proposed Development (the Site) will mainly consist of heavy goods vehicles (HGV), light good vehicles (LGV) and cars.
- 14.2.2 This assessment focuses on the environmental impacts of construction traffic associated with the Proposed Development. Once operational, there will be limited number of transport trips to the Proposed Development, limited to the occasional maintenance traffic and therefore the impact of operational traffic was scoped out of the EIA (with the approval of the Scottish Ministers) (see **Volume 5, Appendix 6.2: Scoping Opinion**). Where potential significant effects are predicted during the construction phase, appropriate mitigation measures are proposed, and the significance of predicted residual effects is assessed.
- 14.2.3 This chapter includes the following elements:
- Scope of Assessment and Methodology;
 - Baseline Conditions;

- Assessment of Effects;
- Cumulative Effects;
- Mitigation;
- Residual Effects; and
- Summary and Conclusions

14.2.4 This chapter is supported by the following figures:

- **Volume 3, Figure 14.1: Study Area;**
- **Volume 3, Figure 14.2: Road Traffic Collision (RTC) Assessment;**
- **Volume 3, Figure 14.3: Traffic Count Location Plan; and**
- **Volume 3, Figure 14.4: Indicative Construction Delivery Routes.**

14.2.5 This chapter is supported by the following appendices:

- **Volume 5, Appendix 14.1: Traffic Data;**
- **Volume 5, Appendix 14.2: Baseline Traffic Data;**
- **Volume 5, Appendix 14.3: Fear and Intimidation on and by Road Users Analysis;**
- **Volume 5, Appendix 14.4: Road Vehicle Driver and Passenger Delay Analysis;**
- **Volume 5, Appendix 14.5: Outline Construction Traffic Management Plan; and**
- **Volume 5, Appendix 14.6: Transport Assessment.**

14.3 Scope of Assessment and Methodology

Scope of Assessment

14.3.1 This assessment considers access, traffic, and transportation effects of the Proposed Development during the construction phase on the following criteria:

- Severance of communities;
- Fear and intimidation on and by road users;
- Road user and pedestrian safety;
- Road vehicle driver and passenger delay;
- Non-motorised user amenity;
- Non-motorised user delay; and
- Hazardous and large loads.

Extent of the Study Area

14.3.2 The Study Area includes all aspects of the Proposed Development as described in **Chapter 3: Description of the Proposed Development**. The Proposed Development extends for approximately 173 kilometres (km) between the proposed Banniskirk, Carnaig and Fanellan Substations.

14.3.3 The Study Area has been defined based on the public road network in the vicinity of the Proposed Development that are expected to experience increased traffic flows associated with the construction of the Proposed Development. This takes into account the potential origin locations of construction staff and supply locations of construction materials including stone and concrete from local quarries.

14.3.4 Given the length of route of the Proposed Development, the traffic and transport assessment has been split into eight 'Sections' (see each Section, with the public roads shaded black, in **Volume 3, Figure 14.1: Study Area**) as outlined below:

- Section 1: Banniskirk to Latheron (Crofts of Benachielt) (N1 to N63);
- Section 2: Latheron (Crofts of Benachielt) to Helmsdale (N64 to N147);
- Section 3: Helmsdale to Brora (N148 to N223);
- Section 4: Brora to Evelix (N224 to N297; S1 to S18);
- Section 5: Evelix to Tain (S19 to S68);
- Section 6: Tain to Evanton (S69 to S112);
- Section 7: Evanton to Tore Roundabout (S113 to 179); and
- Section 8: Tore Roundabout to North Kessock (S180 to S232).

14.3.5 These sections differ from the geographical Sections A to E defined in **Chapter 3: Description of the Proposed Development**. This is because the eight sections align with how the split of construction vehicle numbers was generated by the OHL Contractors.

Legislation, Policy and Guidance

14.3.6 The legislation, policy and guidance in **Table 14.1** have been considered in this assessment:

Table 14.1: Legislation, Policy and Guidance

Author	Title	Policy
The Scottish Government	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ¹ ('the EIA Regulations')	This provides the legal framework for the assessment and reporting of the potential significant environmental effects of the Proposed Development
The Scottish Government	National Planning Framework 4 (2023) ²	This provides a statement of the Scottish Government's policy on nationally important land use planning matters. In terms of transport, development proposals should consider the impact on road traffic and on adjacent trunk roads including construction.
The Scottish Government	National Transport Strategy 2 ³	This document provides an overview of the Scottish National Transport Strategy 2, which discusses sustainable freight movements.
The Scottish Government	Planning Advice Note 75 (PAN 75) – Planning for Transport ⁴	Provides guidance on sustainable transport planning in the context of new and existing development. The document also indicates that all planning applications that involve the generation of person trips should provide information which covers the transport implications of the

¹ UK Government (2017) The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

² The Scottish Government (2023) National Planning Framework 4 [Online] Available at: National Planning Framework 4 (www.gov.scot) (Accessed 11/04/2025)

³ The Scottish Government (2020) – Scottish National Transport Strategy 2 [Online] Available at: <https://www.transport.gov.scot/publication/national-transport-strategy-2/> (Accessed 11/04/2024)

⁴ The Scottish Executive (2005). Planning Advice Note, PAN 75, Planning for Transport. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/publication/20/08/08/planning-advice-note-pan-75-planning-transport/documents/0016795-pdf/0016795-pdf/govscot%3Adocument>. (Accessed on 18/04/2024)

Author	Title	Policy
		development. The level of detail is to be proportionate to the complexity and scale of impact of the development.
Institute of Environmental Management and Assessment (IEMA)	Guidelines for the Environmental Assessment of Traffic and Movement (2023) ⁵	Sets out guidelines for determining the appropriate and significance of traffic effects because of a proposed development. The document focuses on the assessment of potential environmental effects associated with road traffic.

Consultation and Scoping

- 14.3.7 Consultation undertaken as part of the Proposed Development is described in **Chapter 6: Scope and Consultation** and **Volume 5, Appendix 6.3: Scoping Matrix**. Specific scoping responses relevant to traffic and transport is presented in **Table 14.2**.

Table 14.28: Scoping and Consultation Responses

Consultee	Consultation Type	Summary of Consultation Response	Response to Consultee
Transport Scotland	Scoping response, February 2025	Transport Scotland notes that chapter 12 of the scoping report states that base traffic flows will be sought from THC, Transport Scotland, and the Department for Transport (DfT). It also states that the scope of the assessment will be agreed with Transport Scotland and THC, once the estimated trip generation during construction has been finalised. Transport Scotland is satisfied with this approach, however, given the potential for crossing both the A9 and A835 trunk roads, it should be noted that Transport Scotland will require to be satisfied that the proposed construction methodology will be carried out in a safe and efficient manner which will have minimal impact on trunk road users. It should be also noted that a Construction Traffic Management Plan will be required, and this should be discussed and agreed with the relevant Area Managers.	The Applicant will seek to engage separately with Transport Scotland on the proposed construction methodology for any potential crossing of both the A9 and A835 trunk roads to ensure it will be carried out in a safe and efficient manner which will have minimal impact on trunk road users. This is beyond the scope of this EIA and will be undertaken post submission. An Outline Construction Traffic Management Plan has been developed as part of this EIA Report (Volume 5, Appendix 14.5) details of which will be finalised post consent following discussion and agreement with the relevant Area Managers of the A9 and the A835 trunk roads.
	Scoping response, February 2025	Transport Scotland notes that existing access junctions “ <i>would be utilised where possible or would be upgraded wherever necessary to accommodate construction traffic</i> ”. Transport Scotland state that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Manager of the A9(T) and A825 (T).	The Applicant will engage with Transport Scotland to address this particular matter post submission of this EIA Report.

⁵Institute of Environmental Assessment – Guidelines for the Environmental Assessment of Traffic and Movement (2023)

Consultee	Consultation Type	Summary of Consultation Response	Response to Consultee
	Scoping response, February 2025	Any impacts associated with the operational phase of the development are to be scoped out of the EIA. Transport Scotland consider this to be acceptable in this instance.	No further action required.
	Scoping response, February 2025	Transport Scotland notes that it is possible that Abnormal Indivisible Load (AIL) deliveries will be required. If such loads are required, further routing studies and swept path analysis will be undertaken. This is considered appropriate, and Transport Scotland would add that they will require to be satisfied that the size of loads proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path.	No abnormal loads are anticipated although it may be that some plant such as cranes may be abnormal due to their width. This would be confirmed in the Construction Traffic Management Plan (CTMP) to be finalised post consent.
The Highland Council (THC)	Scoping response, February 2025	A single Transport Assessment (TA) to support the application rather than the two proposed by the applicant. This will simplify and streamline its consideration. Only a single schedule of mitigation will be acceptable to address both the environmental and structural effects of transport on the local road network (it will not be appropriate to have two S96 Road Scotland Act Agreements or two Construction Phase Traffic Management Plans covering the same area of network). The relevant sections of the TA can be cross referenced within the EIA report.	This chapter has set out the study area, current traffic conditions, trip generation, impacts, cumulative effects, and mitigation measures are addressed in this chapter. This information has also been included in Volume 5, Appendix 14.6: Transport Assessment . In terms of details of structural assessment of carriageway, bridges and culverts, this detail is not available for this EIA submission and therefore not included in the TA at present. The Applicant will engage separately with THC to address this matter as the information becomes available.
	Scoping response, February 2025	A detailed scoping report should be agreed in writing by the Transport Planning Team prior to submission of the TA. The TA required is broader than that needed for the EIA alone.	It is acknowledged that a detailed scoping report for the TA is yet to be agreed. However, this chapter has set out the study area, current traffic conditions, trip generation, impacts, cumulative effects, and mitigation measures are addressed in this chapter. This information has also been included in Volume 5, Appendix 14.6: Transport Assessment . In terms of details of structural assessment of carriageway, bridges and culverts, this detail is not available for this EIA submission and therefore not included in the TA at present. The Applicant would seek to engage separately with THC to address this matter. It is therefore requested that this work is

Consultee	Consultation Type	Summary of Consultation Response	Response to Consultee
			undertaken post consent and is secured through an appropriately worded condition of consent.
	Scoping response, February 2025	A detailed impact assessment of the transport movements generated to haul the bulk construction materials required for the access tracks within the Transport Assessment. This cannot be dealt with at a later stage as part of 'ancillary development' due to the likely scale of the impact and the requirement to manage the risk involved. There are many sensitive routes and receptors within the area. The most practical method of assessing the transport effects and any mitigation required is through a comprehensive TA for the planning consent.	This chapter considers any potential effects of increased traffic (realistic worst-case) including the bulk construction materials on both trunk and THC maintained roads and adjacent communities along the proposed construction delivery routes based on information available at the time of completing this EIA. Volume 3, Figure 14.4: Indicative Construction Delivery Routes shows the public road network likely to be used for construction deliveries.
	Scoping response, February 2025	THC notes that the project is broken down into smaller sections agreed with Highland Council due to the scale of the project and the local road network affected. These sections will then be consistently used for the transport assessment, for mitigation proposals and for operational management of the network during construction (based on the mitigation identified). These sections shall be agreed with reference to: <ul style="list-style-type: none"> the Road Operational Structure of the Council. the sources of the bulk materials (the possible quarries or borrow pits to be used). the main construction compounds or railheads proposed for laydown of materials. plant during construction (minor compounds may need to be brought forward at a later stage). the routes from the quarries to the main compounds, and from the main compounds to the access tracks for the OHL. 	Whilst the Study Area has been broken down into smaller sections, it has not been possible to split with reference to the Operational Structure of the Council because some of the sections in the study area are located in more than one of the operational areas.
		<ul style="list-style-type: none"> 	
	Scoping response, February 2025	More detailed guidance is currently being compiled to assist the applicant in preparing a comprehensive TA scoping document (and subsequent TA) and will be forwarded as soon as possible.	This has not been received at the time of completing this EIA.

Consultee	Consultation Type	Summary of Consultation Response	Response to Consultee
Network Rail	Scoping response, February 2025	Network Rail stated that a Traffic Assessment should be included to assess the effects of construction traffic on existing traffic flows and the public road network. Preferred construction traffic routes should be indicated. This will enable Network Rail to assess the possible impacts where/if the traffic crosses over/under our infrastructure and the suitability of these crossings.	This chapter considers any potential effects of increased traffic (realistic worst-case) on both trunk and THC maintained roads and adjacent communities along the proposed construction delivery routes based on information available at the time of completing this EIA. Volume 3, Figure 14.4: Indicative Construction Delivery Routes shows the public road network likely to be used for construction deliveries.
	Scoping response, February 2025	Network Rail has requested the full details of proposed construction and engineering works near Wick and Kyle of Lochalsh railway lines, with discussion/agreement from NR required for works over the rail network.	Details of the proposed construction and engineering works near the Wick and Kyle of Lochalsh railway lines is not yet available and is beyond the scope of this EIA. The Applicant will engage in dialogue with Network Rail to address this matter separately as the information becomes available.

Method of Baseline Data Collation

Desk Study

14.3.8 A desk study has been undertaken using publicly available information and open-source data from a range of sources to evaluate the potential impacts that the Proposed Development may have on the traffic and transport infrastructure within the Study Area. The following data sources were consulted:

- Traffic Data – Department of Transport Traffic Counts Website (Road traffic statistics (dft.gov.uk))⁶;
- Accident Data – Crashmap Website (CrashMap – UK Road Safety Map)⁷;
- Sensitive Locations – Google Earth (Google Maps);
- National Road Traffic Forecasts (1997);
- Design Manual for Roads and Bridges (Standards for Highways (2013) Volume 15, Economic Assessment of Road Schemes in Scotland, DMRB)⁸; and
- Other traffic sensitive receptors including Core Paths – Highland Council Public Rights of Way Map (Highland Council Core Paths Map)⁹.

Field Work

14.3.9 An independent Automatic Traffic Counter (ATCs) surveys were undertaken in November 2024 to augment the baseline traffic flow data obtained from the DfT count website.

⁶ Department for Transport. Road Traffic Statistics: Interactive Map of Road Traffic Data in Great Britain. Available at: <https://roadtraffic.dft.gov.uk>

⁷ Crashmap: Interactive Map of Reported Road Traffic Collision in Great Britain. Available at: <https://www.crashmap.co.uk>

⁸ Standards for Highways (2013) Volume 15, Economic Assessment of Road Schemes in Scotland, DMRB. Available at: <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol15/index.htm>.

⁹ Highland Council. Highland Council Interactive Mapping Application. Available at: <https://highland.maps.arcgis.com/apps/webappviewer/index.html>

Methodology for the Assessment of Effects

- 14.3.10 The magnitude of the change in traffic flow is a function of the existing traffic volumes on routes and the percentage increase in flow as a result of the Proposed Development. As outlined in paragraph 14.3.1 of this report, the proposed approach to the Traffic and Transport assessment that has been addressed in this EIA is centred around the potential environmental effects outlined in IEMA 2023 Guidelines¹⁰ and includes severance; road vehicle driver and passenger delay; non – motorised user delay and amenity; fear and intimidation on and by road users; road user and pedestrian safety; and hazardous and large loads.
- 14.3.11 The IEMA 2023 Guidelines suggest that in order to determine the scale and extent of the assessment and the level of impact the development will have on the surrounding road network, the following two broad rules should be followed:
- Rule 1: include road 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 (or Heavy Goods Vehicles (HGVs)) are predicted to increase by 10 % or more.
- 14.3.12 Where the predicted increase in traffic flow is lower than these thresholds, the significance of effects can be considered low or not significant with no further detailed assessment warranted. Where the predicted increase in traffic flow is greater than these thresholds, the potential effects are considered to be potentially significant and are assessed in greater detail.
- 14.3.13 The IEMA 2023 Guidelines however noted that the Rule 1 and Rule 2 criteria process is not appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not be applied to assessments of road user and pedestrian safety as well as road vehicle driver and passenger delay. These impacts can be potentially significant for lower changes in traffic flow when high baseline traffic flows are evident. Full details of the methodology adopted for these effects are set out later in this section.
- 14.3.14 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 in the context of the EIA Regulations. The process for determining EIA significance where Rules 1 or 2 are triggered is undertaken on a site-specific basis and the methodology for assessing the significance of an effect is described in detail in the sections below. Further details on the framework for determining the magnitude of change in traffic flow is provided in the sections below.
- 14.3.15 Where existing traffic levels are generally low (e.g. rural roads and some unclassified roads), any increase in traffic flow may result in a predicted increase that could be higher than the IEMA 2023 Guidelines thresholds. In these situations, it is important to consider any increase in terms of overall traffic flow in relation to the capacity of the road, before making a conclusion on whether the effect is significant as defined under EIA Regulations.
- 14.3.16 It should be noted that all effects considered in this assessment, which relate to construction, are temporary and reversible following the conclusion of the construction stage.

¹⁰ Institute of Environmental Assessment – Guidelines for the Environmental Assessment of Traffic and Movement (2023)

Determining Sensitivity of Receptors

14.3.17 The sensitivity of the baseline conditions, including the importance of environmental features on or near to the Proposed Development or the sensitivity of potentially affected receptors, have been assessed in line with best practice guidance (IEMA, 2023), legislation, statutory designations and professional judgement. **Table 14.3** details the framework for determining the sensitivity of receptors.

Table 14.1Table 14.3: Framework for Determining Sensitivity of Receptors

Sensitivity of Receptor	Definition
Very High	<p>The receptor has no ability to absorb change without profoundly altering its present character, is of high strategic value, or of national importance. For example:</p> <ul style="list-style-type: none"> • Routes with existing high traffic levels which are at or very close to exceeding capacity; • Receptors such as populated areas where existing traffic levels are high and there is no capacity to absorb additional traffic flow on adjacent routes; • Strategic nationally important routes with no capacity to absorb additional traffic flow; • At severe / fatal accident hotspots where an increase in traffic flow is likely to increase the likelihood or severity of accidents; • A route with very poor pedestrian facilities and a high traffic flow level where an increase in traffic is likely to decrease pedestrian amenity severely; • At a settlement which is bisected by a major route where a significant change in traffic flow or composition is likely to severely increase severance; • A receptor where due to the presence of noise and vibration inducing road surfaces (e.g. cattle grids or cobbles) close to a residential property or similarly sensitive receptor, a change in traffic flow or traffic composition is likely to severely affect the perception of noise and vibration due to traffic; and • At a location where pedestrian crossing facilities are informal and where a significant change in traffic flow level might induce severe pedestrian crossing delay also where children / elderly people might frequently cross an informal crossing.
High	<p>The receptor has little ability to absorb change without fundamentally altering its present character, is of high strategic value, or of national importance. For example:</p> <ul style="list-style-type: none"> • Routes with existing high traffic levels which have little additional traffic flow capacity; • Receptors such as populated areas where existing traffic levels are high and there is little capacity to absorb additional traffic flow on adjacent routes; • Strategic nationally important routes with little capacity to absorb additional traffic flow; • At severe accident hotspots where an increase in traffic flow may increase the likelihood or severity of accidents; • A route with poor pedestrian facilities and a high traffic flow level where an increase in traffic is likely to decrease pedestrian amenity significantly; • At a settlement which is bisected by a major route where a significant change in traffic flow or composition is likely to significantly increase severance; • A receptor where due to the presence of noise and vibration inducing road surfaces (e.g., cattle grids or cobbles) close to a residential property or similarly sensitive receptor, a change in traffic flow or traffic composition may significantly affect the perception of noise and vibration due to traffic; and • At a location where pedestrian crossing facilities are informal and where a significant change in traffic flow level might induce significant pedestrian crossing delay also where children / elderly people might regularly cross an informal or priority crossing.
Medium	<p>Areas where the transport network has moderate capacity to change, without significantly altering its state. For example:</p>

Sensitivity of Receptor	Definition
	<ul style="list-style-type: none"> • Routes with existing moderate traffic levels which have some additional traffic flow capacity; • Receptors such as populated areas where existing traffic levels are moderate and there is some capacity to absorb additional traffic flow on adjacent routes; • Receptors such as rural roads where existing traffic levels are moderate and there is some capacity to absorb additional traffic flow on adjacent routes; • Strategic nationally important routes with some capacity to absorb additional traffic flow; • At slight accident hotspots where an increase in traffic flow may increase the likelihood or severity of accidents; • A route with moderate pedestrian facilities where an increase in traffic is may decrease pedestrian amenity; • At a settlement which is bisected by a major route where a significant change in traffic flow or composition is likely to moderately increase severance; • A receptor where due to the presence a road close to a residential property or similarly sensitive receptor, a change in traffic flow or traffic composition may moderately affect the perception of noise and vibration; and • At a location where pedestrian crossing facilities are informal or substandard and where a significant change in traffic flow level might induce a moderate pedestrian crossing delay.
Low	<p>Areas where the transport network is tolerant to change without detriment to its state, for example;</p> <ul style="list-style-type: none"> • Routes with existing low traffic levels which have additional traffic flow capacity; • Receptors such as populated areas where existing traffic levels are low and there is capacity to absorb additional traffic flow on adjacent routes; • Receptors such as rural roads where existing traffic levels are low and there is capacity to absorb additional traffic flow on adjacent routes; • Strategic nationally important routes with capacity to absorb additional traffic flow; • On routes with a low level of historical accident data where a change in traffic flow or composition would have a low effect on the likelihood or severity of accidents; • A route with formal pedestrian facilities where an increase in traffic would have a low effect on pedestrian amenity; • A settlement which is bisected by a road, but where the effect of increased traffic or change in composition would have a low effect on severance; • A receptor which is not highly sensitive to changes in noise level or where receptors are set back from the road and therefore their sensitivity to changes in noise as a result of changes in traffic flow or composition are low; and • A location where pedestrian crossing facilities are formal but priority, or pedestrian flows are sufficiently low that changes to traffic flow or composition are unlikely to cause a significant pedestrian delay.
Negligible	<p>Areas where the transport network is highly tolerant to change without detriment to its state, for example:</p> <ul style="list-style-type: none"> • Routes with existing very low traffic levels which have a lot of additional traffic flow capacity; • Receptors such as populated areas where existing traffic levels are very low and there is a lot of capacity to absorb additional traffic flow on adjacent routes; • Receptors such as rural roads where existing traffic levels are very low and there is a lot of capacity to absorb additional traffic flow on adjacent routes;

Sensitivity of Receptor	Definition
	<ul style="list-style-type: none"> Strategic nationally important routes with a lot of capacity to absorb additional traffic flow; On routes with a very low level of historical accident data where a change in traffic flow or composition would have a negligible effect on the likelihood or severity of accidents; A route with formal pedestrian facilities where an increase in traffic would have a negligible effect on pedestrian amenity; A settlement which is not bisected by a road or where the effect of increased traffic or change in composition would have a negligible effect on severance; A receptor which is negligibly sensitive to changes in noise level (e.g., a sports stadium) or where receptors are set very far back from the road and therefore their sensitivity to changes in noise as a result of changes in traffic flow or composition are negligible; and A location where pedestrian crossing facilities are formal and controlled, or pedestrian flows are negligible (i.e., where there are no footways) such that changes to traffic flow would not result in a change to pedestrian delay.

Determining Magnitude of Change

14.3.18 The magnitude of change has been identified through consideration of the degree of change to baseline conditions predicted as a result of the Proposed Development including the duration and reversibility of an effect. This has been undertaken in line with professional judgement and best practice guidelines (IEMA, 2023) and legislation. The criteria for assessing the magnitude of change on those receptors are presented in **Table 14.4**.

Table 14.4: Framework for Determining Magnitude of Change

Type of Impact	Magnitude of Change			
	Negligible	Small	Medium	Large
Severance	Change in total traffic flow of <30 %	Change in total traffic flow of 31 % to 60 %	Change in total traffic flow of 61 % to 90 %	Change in total traffic flow of >91 %
Non-motorised User Amenity	Change in traffic flow (or HGV component) <50 %	Change in traffic flow (or HGV component) of 51 % to 100 %	Change in traffic flow (or HGV component) of 101 % to 150 %	Change in traffic flow (or HGV component) of 151 %
Non-motorised Delay (e.g. Pedestrian Delay)	Change in total traffic flow of <30 %	Change in total traffic flow of 31 % to 60 %	Change in total traffic flow of 66 % to 90 %	Change in total traffic flow of >91 %
Fear and Intimidation	No change in step changes (fear and intimidation)	One step change in level (fear and intimidation), with <400 vehicle increase in average 18hr Average two-way all vehicle flow; and/or <500 HGV increase in total 18hr HGV flow	One step change in level (fear and intimidation), but with >400 vehicle increase in average 18hr Average two-way all vehicle flow; and/or >500 HGV increase in total 18hr HGV flow	Two step changes in level (fear and intimidation)

Type of Impact	Magnitude of Change			
	Negligible	Small	Medium	Large
Road Under and Pedestrian Safety	Magnitude of impact derived using professional judgment informed by the frequency of collisions within the Study Area and the forecast increase in traffic.			
Road Vehicle Driver and Passenger Delay (Driver Delay)	Magnitude of impact derived using professional judgment informed by the increase in vehicle delay and whether a junction is at, or close to, capacity.			

Significance of Effect

14.3.19 The sensitivity of the receptor and the magnitude of change have been used as a guide, in addition to professional judgment, to predict the significance of the likely effects. Table 14.5 summarises guideline criteria for assessing the significance of effects.

Table 14.5: Framework for Determining the Significance of the Effects

Magnitude of Change	Sensitivity of Resource or Receptor				
	Very High	High	Medium	Low	Negligible
Large	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Small	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

14.3.20 Effects predicted to be of major or moderate significance are considered to be 'significant' in the context of the EIA Regulations. Minor and Negligible effects are considered to be 'Not Significant'.

Issues Scoped Out

14.3.21 The following environmental effects are scoped out of this assessment as described in the Scoping Report and considered acceptable by THC and Transport Scotland in the Scoping Opinion (**Volume 5, Appendix 6.3: Scoping Matrix**).

Operational Traffic

14.3.22 The potential for the Proposed Development to give rise to traffic impacts would be limited to the construction phase only. No impacts are anticipated during the operational phase as the Proposed Development would not generate any new traffic, except during the infrequent maintenance activities using cars or LGV. Therefore, an operational traffic assessment is scoped out.

Noise and Vibration

14.3.23 Impacts relating to noise and vibration due to increased HGV movements within the Study Area have been considered as part of the noise and vibration assessment (see **Chapter 15: Noise and Vibration**). No impacts are anticipated during the operational phase and therefore the assessment of operational noise as a result of road traffic is scoped out.

Air Quality

14.3.24 It is noted that while the impacts relating to Air Quality have been scoped out of EIA, the current estimated volume of construction traffic suggests the HGV criteria of 100 Annual Average Daily Traffic (AADT) outside an Air Quality Management Area (AQMA) will likely be breached on the A9(T). However as outlined in the limitations and assumptions section of this chapter, the study of impacts and effects of the Proposed Development has been undertaken on the basis that 100 % of aggregate requirements and concrete are imported to the Site. However, in reality, there is the possibility of sourcing aggregate from on-site borrow pits and combined with the potential for on-site concrete batching, this will help to reduce HGV movement numbers considerably. It is noted that further work will be undertaken post consent at which point the HGV routing and construction staff locations and distribution will be better understood and the potential for any detailed assessment of Air Quality will be reviewed. That notwithstanding, the Proposed Development is not located within an AQMA and, due to the temporary increase in vehicles using the proposed access route, any effects on local air quality will be short term and reversible.

Visual Effects

14.3.25 The movements of HGVs are not considered to be visually intrusive as they are typical standard vehicles and any effects will be short term, fully reversible and would only occur during construction hours. Any potential significant environmental effects relating to visual effects due to traffic generated during the construction phase of the Proposed Development is considered within the landscape and visual assessment (see **Chapter 7: Landscape and Visual**). The assessment of visual effects has therefore been scoped out of this chapter.

Limitations and Assumptions

14.3.26 The impact assessment is based on estimated construction trip generation derived from programme information available at the time of assessment. The assessment has followed an approach to ensure that a realistic worst-case assessment of potential environmental effects is presented. The different design parameters of the Proposed Development that are yet to be fixed, and the use of these precautionary, realistic worst-case assumptions, means that, in reality, effects are likely to be less than reported.

14.3.27 Baseline traffic flows were gathered from publicly available traffic counts published by the DfT at locations on the proposed transport routes within the Study Area as shown on **Volume 3, Figure 14.3: Traffic Count Location Plan**. Some of the traffic count locations provide an estimated flow based upon the last manual or automatic traffic counts and the application of traffic growth factors by the DfT. It is possible that due to traffic values being estimated at locations 8 to 12 and 21 to 25 there are minor differences between the assessed and actual baseline traffic flows at these locations. This does not have any material influence on the outcome of the assessment.

14.3.28 Following the November 2024 ATC surveys, the need for an additional eight locations on roads within the Study Area for assessment was identified. However, the non-availability of 'neutral'¹¹ months meant that additional ATC surveys could not be carried out. At the locations with no traffic count data available, the assessment of the effect of increased traffic on these routes is based on professional judgement and a realistic worst-case scenario has been assumed (i.e. thresholds in the IEMA 2023 Guidelines are likely to be exceeded).

14.3.29 The assessment has assumed that all construction traffic which has been distributed to the non-trunk road network would travel to the Site via the A9(T) (see **Volume 3, Figure 14.4**). At this stage, procurement of materials has not been undertaken, and the resultant origins of materials and construction staff arrangements

¹¹ A month that avoids peak holiday periods, extreme weather conditions (Winter), or other anomalies that could distort typical traffic patterns.

cannot be confirmed. The assessment has therefore been undertaken by assuming that construction traffic will pass each traffic count location on the A9(T) to ensure a robust assessment.

14.3.30 A worse case assessment has been assumed that all aggregate material and concrete required will be imported to the Site. It is likely that potential on-site borrow pits will meet most of the aggregate requirements and there is also the option of on-site concrete batching.

14.3.31 Whilst the Study Area has been split into different sections, the assessment has been undertaken using the total combined development traffic trips because the eight sections would be constructed concurrently and there will be an overlap of construction activities between sections and routes.

14.3.32 Forestry removal (management felling) activities within or in proximity to the Site have been excluded from this assessment. This is on the basis that any associated haulage operations are anticipated to occur outside the peak construction period for the Proposed Development and/or are expected to utilise alternative haul routes. Notwithstanding, the volume of vehicle trips associated with such management felling is also not of a scale that would materially alter the conclusions of the assessment presented in this chapter.

14.4 Baseline Conditions

14.4.1 This section describes the existing conditions of the road network likely to be used throughout the duration of construction and its accident record. **Volume 3, Figure 14.4: Indicative Construction Delivery Routes** shows the road network in Study Area while the locations of each of the identified Road Traffic Collision are noted on **Volume 3, Figure 14.2: Road Traffic Collision (RTC) Assessment**.

Section 1

Transport Links

14.4.2 Transport Links within Section 1 are detailed in **Table 14.6**. Note that the transport links identified within the Study Area are listed in a north – south direction.

Table 14.6: Section 1 Transport Links

Transport Link	Description
A9(T) between Georgemas and Brora	<p>Scrabster and Perth are connected by the A9, which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road.</p> <p>The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.</p>
B870, connecting the A882 and A9(T)	<p>The B870 serves as a rural traffic distributor road, connecting the areas of Kirk and Glengolly. The B870 is a narrow single carriageway road with passing places, operating at the national speed limit, with the exception of the residential area in Watten, where the speed limit is 30 mph.</p> <p>The B870 provides access to the Lieurary Quarry, and it is expected that the road within the Study Area is well frequented by HGVs.</p>
C1053 (Lybster – Achavanich Road)	<p>The C1053 commences at Achavanich at its junction with the A9(T), extending in a south-easterly direction to Lybster Achavanich. The C1053 is a narrow single carriageway road with passing places, operating at the national speed limit. The C1053 is generally rural, unlit and lacks footway provision.</p>

Pedestrian and Cycle Network

14.4.3 THC online Core Path mapping system notes the Core Paths within Section 1 of the Proposed Development include the Achavanich and Munsary Track (CA10.11) near Achavanich, Latheron.

14.4.4 The Sustrans National Cycle Network (NCN) Map indicates that there are no official National Cycle routes within Section 1 of the Proposed Development.

Road Traffic Collision (RTC) Assessment

Trunk Road Analysis

14.4.5 During the five-year period between 2019 – 2023, a total of eight collisions were recorded on designated trunk roads (A9(T)) within Section 1. A summary of these collisions is provided in **Table 14.7**.

Table 14.7: Section 1 Trunk Road Analysis

Classification	Collisions
Slight	Of the six slight collisions, it has been noted that two involved HGVs, one involved a goods vehicle of unknown weight, and three involved cars. Among the six slight collisions, three involved a single vehicle; one of these occurred on bends, while the other two took place under icy road conditions. Additionally, a collision was recorded between two HGVs in fine and dry conditions, with one attempting to overtake while the other was turning right. The remaining two collisions involved a goods vehicle and one HGV, occurring in wet and dark conditions.
Serious	One serious collision occurred in fine and dry conditions between two cars, with one of the vehicles attempting to turn right.
Fatal	One fatal RTC was recorded on the A9(T) involved two cars navigating a right-hand bend in wet road conditions.

Non-designated Trunk Road Analysis

14.4.6 During the five-year period between 2019 – 2023, no collisions were recorded on non-designated trunk roads.

Section 2

Transport Links

14.4.7 Transport links within Section 2 are detailed in **Table 14.8**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.8: Section 2 Transport Links

Transport Link	Description
A9(T)	Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road. The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.
C1065 (Public Road to Smerral)	The C1065 commences at its junction at Latheronwheel at its junction with the A9(T), extending in north-westerly and northerly directions. The C1065 is a single lane rural road with no passing places and is generally unlit.
U1043 (Dunbeath – Mullbuie Road, Dunbeath)	The U1043 commences at its junction with the A9(T), north of Dunbeath a single lane road extending in north-westerly and northerly directions. The U1043 is a single lane rural road with no passing places and footway provision.

Transport Link	Description
U1063 (Left to farm track - Near Tower N77)	The U1063 commences at its junction with the C1065 near Smerral a single lane road extending in westerly and north-westerly directions to its junction with the U1043 near Houstry. The U1063 is rural, generally unlit and lacks footway provision.
U1055 (Braehiller Road)	Braehiller Road is a single carriageway rural road, running in a north to south direction from Rhemullan Road to a private property in the north. Braehiller Road is of narrow width, with passing places and operates at the national speed limit.
U1051 (Rhemullan Road)	Rhemullan Road is a single carriageway rural road, running in a north to south direction from Dunbeath to Rhemullan, which operates at the national speed limit. Rhemullan Road is of narrow width, with passing places, whereby several residential and commercial properties are fronted directly on this route.
Achorn Road	Achorn Road is a single lane rural road, running in a north-west to south-east direction from Dunbeath. The road is of narrow width, with passing places and operates at the national speed limit. No footway provision or lighting is present along Achorn Road.
U1001 (Berriedale – Newport Road)	The U1001 commences at its junction with the A9(T) at Berriedale a single lane road via Newport extending in north-easterly and easterly directions to its junction with the A9(T). The road is a single lane road, with narrow width and with residential properties fronting onto the road.
Berriedale Church Service Road	This service road commences at its junction with the A9(T) at Berriedale Church a single lane road. The road is a single lane road, with narrow width, with passing places and operates at the national speed limit.
Public Road (Near Ousdale Burn)	This public road commences at its junction with the A9(T) near Qusdale Burn a single lane road. The road is a rural single lane road, with narrow width and rural. It lacks footway provision and passing places and is lined by trees and rocks on either side of the road.
Dunrobin Street	Dunrobin Street is a single carriageway, urban road located in the town of Helmsdale. It is of narrow width, with passing places, whereby several residential and commercial properties are fronted directly on this route. Footway provision and lighting is present on Dunrobin Street.
A897	The A837 serves as a rural traffic distributor road, connecting the towns of Helmsdale and Melvich. The A897 is a narrow single carriageway road, which contains frequent passing places that runs north-south at the national speed limit, with the exception of residential areas, where the speed limit is 30 mph.
Stittenham Road	Stittenham Road is a single carriageway, urban road located in the town of Helmsdale. It is of narrow width, with passing places, whereby several residential and commercial properties are fronted directly on this route. Footway provision and lighting is present on Stittenham Road.
C1148 (Link Road A9(T) – A897 – Public Road South Side of Helmsdale River)	The C1148 commences at its junction with the A9(T) extending in a northerly and easterly direction to its junction with the Helmsdale-Melvich Road (A897). The C1148 is a single lane road, with a rural aspect and passing places.

Pedestrian and Cycle Network

14.4.8 THC's online Core Path mapping system has determined that the Core Paths within Section 2 include:

- Helmsdale River Bank (SU13.03); and
- Achnaclyth track by Toutnagoul (CA04.04)

14.4.9 The Sustrans NCN Map indicates that there are no official National Cycle routes within Section 2 of the Proposed Development.

RTC Assessment

Trunk Road Analysis

14.4.10 During the five-year period between 2019 – 2023, a total of 16 collisions were recorded on designated trunk roads (A9). A summary of these collisions is provided in **Table 14.9**.

Table 14.9: Section 2 Trunk Road Analysis

Classification	Collisions
Slight	Upon analysis of the slight collisions recorded on the A9(T) within Section 2, it has been noted that four of the nine slight collisions involved cars, while three involved goods vehicles and the other two involved motorcycles. Four collisions occurred in fine conditions, whilst two occurred on a bend, and three occurred in adverse weather conditions. Therefore, it is likely that these collisions can be attributed to driver error.
Serious	Of the seven serious collisions, it has been noted that one involved the use of a motorcycle, while the remaining six all involved cars. It has been found that three of the six serious RTCs involved a single vehicle, all of which occurred on a right-hand bend. A collision has been recorded after a car attempted to turn left during wet conditions, and a collision has been recorded between two cars during an overtaking manoeuvre. The remaining serious collision has been recorded following a head-on collision between two cars.
Fatal	No fatal collisions were recorded on the A9 in section 2.

Non-designated Trunk Road Analysis

14.4.11 During the five-year period between 2019 – 2023, one collision was recorded on the non-designated trunk road (A897) in Section 2. A slight collision was recorded on the A897, where an HGV was reversing into the road and collided with a motorcycle.

Section 3

Transport Links

14.4.12 Transport links within Section 3 are detailed in **Table 14.10**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.10: Section 3 Transport Links

Transport Link	Description
A9(T)	Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road. The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.
A897	The A837 serves as a rural traffic distributor road, connecting the towns of Helmsdale and Melvich. The A897 is a narrow single carriageway road, which contains frequent passing places that runs north-south at the national speed limit, with the exception of residential areas, where the speed limit is 30 mph.
Clynemilton Road	Clynemilton Road is a single lane rural road with no passing places. It is lined with trees and rocks on either side. It is of a narrow width, with no passing places. It provides access to residential settlement.
Clynelish Road	Clyneish Road is a single rural carriageway road with passing places. It fronts onto residential and commercial settlements. No footway provision or lighting is present on Clyneish Road.

Transport Link	Description
Craigshonnoch	Craigshonnoch Road carries on from Clynelish Road. It is a single carriageway road with passing places operating at the national speed limit. Craigshonnoch road is rural, whereby footway provision and lighting are not present.
Braids Road	Braids Road carries on from Craigshonnoch Road. It is a single carriageway road with passing places operating at the national speed limit. Braids road is rural, whereby footway provision and lighting are not present.
Rhodes Park	Rhodes Park Road is a single carriageway rural road with passing places. It carries on from Braids Road operating at the national speed limit. Rhodes Park road is rural, whereby footway provision and lighting is not present.

Pedestrian and Cycle Network

14.4.13 THC's online Core Path mapping system noted the following Core Paths within Section 3 of the Proposed Development:

- The Drove Road (SU06.03);
- Doll Bridge Loch Brora (SU06.14); and
- Loch Brora – West Track (SU06.02).

14.4.14 The Sustrans NCN Map indicates that there are no official National Cycle routes within Section 3 of the Proposed Development.

RTC Assessment

Trunk Road Analysis

14.4.15 During the five-year period between 2019 – 2023, a total of 12 collisions have been recorded on designated trunk roads (A9(T)). A summary of these collisions is provided in **Table 4.11**.

Table 14.11: Section 3 Trunk Road Analysis

Classification	Collisions
Slight	Upon analysis of the slight collisions recorded on the A9(T) within Section 3, it has been noted that the one slight collision occurred in the dark and with two cars.
Serious	Of the 10 serious collisions, it has been noted that two involved the use of a motorcycle, one involved a car and cyclist, six involved two cars and one car and a heavy goods vehicle. It has been found that six of the 10 serious collisions occurred on a right-hand bend with one involving a motorcycle, one a goods vehicle and a car and four cars colliding with oncoming cars. Four of the serious collisions occurred within adverse weather conditions including frost, snow, rain and flooding.
Fatal	The fatal collision recorded on the A9(T) occurred as a result of a head on collision between three cars on a bend on wet road conditions.

Non-designated Trunk Road Analysis

14.4.16 No RTC's were recorded on non-designated trunk roads in Section 3.

Section 4

Transport Links

14.4.17 Transport links within Section 4 are detailed in **Table 14.12**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.12: Section 4 Transport Links

Transport Link	Description
A9(T)	<p>Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road.</p> <p>The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.</p>
C1058	The adopted road crosses the River Brora by means of a ford and footbridge. It is a single carriageway with passing places but no footway provision.
U5317 (Drummuie Brae)	Drummuie Brae road is a single lane carriageway road which commences off the A9(T). It has passing places, and footway provision and provides access to Loch Lunndiadh.
U3103 (Dunrobin Glen Road)	It commences off the A9(T) at the Church of Golspie up Dunrobin Glen to the C1022 near Rhilochan. It is rural, with no footway provision or lighting present.
A839	The A839 commences at its junction with the A9(T). The road extends in a north westerly direction to its termination at the junction with A836, recommencing at the easterly end of the new Black Bridge, Lairg where it joins the A836 a double and single lane road with footways and passing places.
(U2277) Rogart, off A839	The road commences at its junction with A839 at the C1022. A single lane road with passing places. The road extends in a south westerly then south easterly direction.
U2242 Dalmore Road (Rovie Farm)	The U2242 commences off the A839 and is rural. It is a single lane road with no footway provision or lighting present.
U3521 (Migdale Road)	This road commences from both the A9(T) and the A836. It is a single carriageway rural road with passing places. It is rural, with no footway provision or lighting present.

Pedestrian and Cycle Network

14.4.18 THC's online Core Path mapping system notes the following Core Paths are within Section 4 of the Proposed Development:

- Meall Mor Fire Track (SU20.01).

14.4.19 The Sustrans NCN Map indicates that there are no official National Cycle routes within Section 4 of the Proposed Development.

RTC Assessment

Trunk Road Analysis

14.4.20 During the five-year period between 2019 – 2023, a total of 12 collisions have been recorded on designated trunk roads (A9(T)). A summary of these collisions is provided in **Table 14.13**.

Table 14.13: Section 4 Trunk Road Analysis

Classification	Collisions
Slight	<p>Upon analysis of the slight collisions recorded on the A9 within Section 4, it has been noted that four of the five slight collisions involved the use of cars, while the remaining collision involved an unknown vehicle type. One of the slight collisions took place at night, and three took place on adverse road conditions. Three of the five collisions were single vehicle collisions, of which two occurred on a bend, and it is likely that these collisions can be attributed to driver error.</p>
Serious	<p>Of the six serious collisions, it has been noted that one involved the use of a motorcycle, five involved a car. It has been found that three of the six serious collisions occurred on a right-hand bend. The remaining collisions occurred in adverse weather conditions with two cars involved.</p>

Classification	Collisions
Fatal	The fatal collision recorded on the A9(T) occurred on a bend involving two cars in adverse weather conditions.

Non-designated Trunk Road Analysis

14.4.21 During the five-year period between 2019 – 2023 a total of five collisions have been recorded on non-designated trunk roads and the A949. A summary of these collisions is provided in **Table 14.14**.

Table 14.14: Section 4 Non-Designated Trunk Road Analysis

Classification	Collisions
Slight	The slight collision occurred in darkness between two cars resulting in a head on collision.
Serious	Two serious collisions occurred, with one serious collision occurring in adverse weather conditions. One collision occurred with a motorcycle and car in dry conditions which can be attributed to driver error.
Fatal	One fatal collision occurred between a driver and pedestrian on a left-hand bend in dark conditions.

Section 5

Transport Links

14.4.22 Transport links within Section 5 are detailed in **Table 14.15**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.15: Section 5 Transport Links

Transport Link	Description
A9 (T)	<p>Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road.</p> <p>The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.</p>
A837	The A837 is a road ranging from narrow single-track to a single carriageway road. It commences at its junction with A836 at Invershin a single lane and double lane road extending in a westerly, then north westerly direction. The A937 operates at the national speed limit.
A836	The A836 commences at its junction with the A9(T) at the Dornoch Bridge Roundabout. A single lane rural road, extending in a north westerly and north easterly direction via Bonar Bridge. It is a single carriageway road which passes through Ardgay and Bonar Bridge. It operates at the national speed limit except for in built up areas.
Migdale Road	Migdale road is a single carriageway road of the A836. At the start of Migdale road it provides access to residential properties with passing places, footway provision and lighting present along the route. Migdale road then becomes rural and operates at the national speed limit.
C1136 Church Street	C1136 Church Street is a rural single carriageway road that connects local settlements and infrastructure in the area. It operates at the national speed limit, with reductions to 30 mph in built-up areas. The road is typically narrow, approximately 4.5 - 5.5 m wide, unlit, and lacks footway provision except in residential and commercial areas, where footways and/or street lighting may be present.

Transport Link	Description
Inveroykel Culrain	Inveroykel Culrain is a minor rural road which commences off the C1138. It operates at the national speed limit and is rural, generally unlit, and lacks footway provision. Limited HGV traffic could be accommodated on this road with appropriate planning and route management.
C1138 Cadh' an Tartair	The C1138 Cadh'an Tair Road is a minor rural road that connects local settlements and infrastructure in the area. It is a single carriageway road, typically operating at the national speed limit outside of built-up areas, with a reduced speed limit of 30 mph within settlements. The C1138 is rural, generally unlit, and lacks footway provision. The C1138 can accommodate limited HGV traffic and abnormal loads with appropriate planning and route management.
C1140 (Lower Gledfield)	The C1140 commences at its junction with the Ardgay Brae Road (C1136) at Lower Gledfield a single road carriageway extending in a westerly direction to its junction with the C1138. The C1140 is rural, generally unlit, and lacks footway provision.
U3578 (Kincardine Hill, Ardgay) – Unnamed lane Kincardine	The U3578 commences at the A838 where the road extends in a generally south westerly then westerly direction. It is generally rural, generally unlit, and lacks footway provision.

Pedestrian and Cycle Network

14.4.23 THC's online Core Path mapping system notes the following Core Paths cross Section 5 of the Proposed Development:

- River Carron (SU03.06);
- Gledfield – Cona Creag (SU03.15); and
- Carbisdale Constructed Path (SU08.02).

14.4.24 The Sustrans NCN Map indicates that there are no official National Cycle routes within Section 5 of the Proposed Development.

RTC Assessment

Trunk Road Analysis

14.4.25 No RTC data is recorded on the A9(T) in Section 5.

Non-designated Trunk Road Analysis

14.4.26 During the five-year period between 2019 – 2023, a total of 10 collisions have been recorded on non-designated trunk roads (A836). A summary of these collisions is provided in **Table 14.16**.

Table 14.16: Section 5 Non-Designated Trunk Road Analysis

Classification	Collisions
Slight	All the slight collisions occurred in wet conditions with two involving a single car whilst on a right-hand bend. The other involved a car and another vehicle colliding with each other head on.
Serious	Four serious collisions occurred, one involving a young driver in dark conditions. The other collision occurred on a right-hand bend in adverse weather conditions. The last collision occurred with a goods vehicle, motorcycle and a car whilst on a right-hand bend attempting to pass each other.
Fatal	Three fatal collisions occurred on the A836, one occurred in adverse weather conditions, one occurred with a single motorcycle on a right-hand bend and the final collision occurred between two cars who collided head on.

Section 6

Transport Links

14.4.27 Transport links within Section 6 are detailed in **Table 14.17**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.17: Section 6 Transport Links

Transport Link	Description
A9 (T)	Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road. The A9(T) is made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.
B9176	The B9176, is a rural traffic distributor road which carries traffic between the A9(T) and the A836 roads and provides an alternative route to the northwest via the A836. The B9176 is a good standard B-Class rural single carriageway road, which runs in a north-south direction from Alness to Easter Fearn. The B9176 operates at the national speed limit, with the exception of when in built up areas, where the speed limit reduces to 30 mph. The B9176 is generally rural, is unlit and has no footway provision except in built up areas where footways and / or lighting is present.
B817	The B817, from which Site access is taken, is a good standard B-Class Road, which runs in an East-West direction from Drummond to Kildary, via Invergordon. The B817 operates at the national speed limit, except for when in built up areas, where the speed limit is 30 mph. The NCN Route 1 runs adjacent to the B817.
U1907 (Strath Rusdale Road)	The U1907 commences at its junction with the B9176 extending in a north-westerly direction to the access road to Braeantra. The U1907 is generally rural, unlit and lacks footway provision.
U1990 (Contullich)	The U1990 commences at its junction with the B9176 at a point opposite the latter roads junction with the (U1989). The U1990 is a single lane road extending in a north-westerly direction. It is rural, therefore lacking footway provision and lighting.

Pedestrian and Cycle Network

14.4.28 THC's online Core Path mapping system noted that no Core Paths are within Section 6 of the Proposed Development.

14.4.29 The Sustrans NCN Map indicates that there are no official National Cycle routes within Section 6 of the Proposed Development.

RTC Assessment

Trunk Road Analysis

14.4.30 During the five-year period between 2019 – 2023, a total of 24 collisions have been recorded on designated trunk roads A9(T). A summary of these collisions is provided in **Table 14.18**.

Table 14.18: Section 6 Trunk Road Analysis

Classification	Collisions
Slight	Out of the 11 collisions, all involved two cars with three occurring in adverse weather conditions. 4 were head on collisions occurring with two cars, with two occurring in adverse weather conditions. Two collisions occurred in darkness between two cars. Three collisions occurred

Classification	Collisions
	whilst in the action of turning right between two cars in darkness and two in daylight and fine conditions.
Serious	Out of the nine collisions, three collisions were head on collisions in dry conditions, one of the drivers involved in the head on collision was found to be over the age of 75. Two collisions occurred as a result of vehicles slowing down or stopping, resulting in rear end shunt collisions. Two collisions occurred whilst one car was attempting to overtake with one occurring in darkness and the other in dry and fine conditions. Two collisions involved a driver of the 16–20-year-old age bracket with one resulting in the vehicle slowing down or stopping causing a rear end shunt collision and the final one was after a vehicle turned right onto the carriageway, colliding with another car.
Fatal	Four fatal collisions took place on the A9 in Section 6, two of the collisions involved HGVs. One of the collisions was due to the HGV turning right onto the carriageway colliding with a car, the other collisions were a head on collision with a car where the driver was in the 16–20-year-old age bracket. Another collision occurred between a motorcycle and car when the car was attempting to overtake on a bend. The final fatal collision occurred in dry conditions between two cars who collided head on.

Non-designated Trunk Road Analysis

14.4.31 During the five-year period between 2019 – 2023 a total of 11 collisions have been recorded on designated trunk roads A summary of these collisions is provided in **Table 14.19**.

Table 14.19: Section 6 Non-Designated Trunk Road Analysis

Classification	Collisions
Slight	A total of seven collisions were recorded on the B9176, with five involving cars, one involving a motorcycle and one involving an HGV. Four collisions occurred whilst in the act of being on a bend having a head on collision with another car. With three of these collisions involving cars and the other one involving an HGV and a car. Two collisions occurred in adverse weather conditions and occurred whilst on a bend both involving single cars. The last collision occurred between a motorcyclist and a car in frosty conditions.
Serious	Four serious collisions were recorded on the B9176, where two involved a motorcycle and a car and the other two cars on a bend with one involving a young driver in the age bracket of 16-20. Two collisions occurred during adverse weather conditions both involving two cars resulting in a head on collision.
Fatal	None within Section 6.

Section 7

Transport Links

14.4.32 Transport links within Section 7 are detailed in **Table 14.20**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.20: Section 7 Transport Links

Transport Link	Description
A9 (T)	<p>Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road.</p> <p>The A9(T) is a made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.</p>

Transport Link	Description
B817	The B817, from which Site access is taken, is a good standard B-Class Road, which runs in an East-West direction from Drummond to Kildary, via Invergordon. The B817 operates at the national speed limit, except for when in built up areas, where the speed limit is 30 mph.
U1990 (Contullich)	The U1990 commences at its junction with the B9176. It is a single lane rural road extending in a north-westerly direction lacking footway provision and lighting.
U1991 (Unnamed Road Glen Glass)	The U1991 commences at its junction with the B817 at Station Road extending in westerly and north-westerly. It is generally rural, unlit and lacks footway provision.
U1999 (Chapel Road)	The U1999 commences at its junction with the B817, extending in a north-westerly direction. It is rural, unlit and lacks footway provision.
A834	The A834 commences at its double junction in Contin with the A835 Trunk Road. It is a single carriageway road extending in a north easterly, easterly, southerly and easterly direction to its junction in Dingwall with the A862.
A862	The A862 commences at its junction with the A9 at Ardullie Roundabout and extending in a general south westerly direction via Dingwall to its junction with the A835. It extends in a general southerly, and then easterly direction, via Conon Bridge, Muir of Ord, Beauly, Inchmore and Clachnaharry to its junction with the A82.
A835	The A835 forms part of the strategic trunk road network and runs in a northeast- southwest direction from Ullapool to Inverness and the A9 (T) via Garve and Contin. The A835 is a good standard single carriageway with varying speed limit ranging from 30 mph in sections through settlements, up to the national speed limit (60 mph) in more rural sections.
A832	The A832 is a road linking Cromarty, on the east coast, to Gairloch on the west coast. The A832 is a single carriageway road with a speed limit of 60 mph, operating through forested and coastal regions. The A832 is rural, is unlit and has no footway provision except in instances where the route goes through towns and villages where footways and / or street lighting is present.
Achnochie Road	Achnochie Road starts in Marybank at its junction with the A832, extending in a westerly direction through Strathconon. It is a rural road which provides access to residential properties. Footway provision and lighting is present along Achnochie Road.

Pedestrian and Cycle Network

14.4.33 THC's online Core Path mapping system noted the following Core Paths are within Section 7 of the Proposed Development:

- View Rock Path (RC10.01); and
- Mains of Coul (RC10.03).

14.4.34 The Sustrans NCN Map indicates that NCN Route 1 passes through Drummond and Alness.

RTC Assessment

Trunk Road Analysis

14.4.35 During the five-year period between 2019 – 2023, a total of 12 collisions have been recorded on designated trunk roads. A summary of these collisions is provided in **Table 14.21**.

Table 14.21: Section 7 Trunk Road Analysis

Classification	Collisions
Slight	Eight slight collisions were recorded on the A9(T) in Section 7, seven involved a car and one involved an HGV and a car. Four took place in adverse weather conditions where a single

Classification	Collisions
	car was involved, two collisions were head on collisions between two cars and the final one was due to a car attempting to overtake. two collisions involved two cars who were going ahead and head on collided with one another. One accident involved an HGV and car which head on collided with one another.
Serious	Four serious collisions were recorded on the A9 (T), two involved two cars where one was in adverse weather conditions. One collision occurred in normal conditions with a motorcycle and car which was in the act of turning right. The final RTC occurred in adverse weather conditions between an agricultural vehicle and car who was attempting to turn right at a junction.
Fatal	None within Section 7.

Non-Trunk Road Analysis

14.4.36 During the five-year period between 2019 – 2023, a total of 30 collisions have been recorded on non-designated trunk roads. A summary of these collisions is provided in **Table 14.22**.

Table 14.22: Section 8 Trunk Road Analysis

Classification	Collisions
Slight	<p>Two slight collisions occurred on the B817; one collision involved two heavy goods vehicles colliding with one another on a bend. The other slight collision occurred on a right-hand bend between two cars who lost control due to icy road conditions.</p> <p>Six slight collisions occurred on the A835, four occurred in adverse weather conditions with cars involved either attempting to turn right, left, rear or head on collision. The 2 other collisions occurred due to a car stopping suddenly and two cars having a head on collision.</p> <p>One slight collision occurred on the A834 in adverse weather conditions, with a single motorcycle who lost control and ended up in a ditch.</p> <p>Five slight collisions were recorded on the A832, three occurred during adverse weather conditions and took place whilst on a right-hand bend. For these three collisions, two involved two cars and the other involved a motorcycle and car where one driver was over the age of 75. The other collision occurred between an HGV and car whilst in the act of turning right at a junction. The final RTC occurred between two cars where one car was in the act of turning right.</p>
Serious	<p>Six serious collisions occurred, with three occurring in darkness with two separate collisions occurring with heavy goods vehicle and the other with a car attempting to turn right. Two occurred in adverse weather conditions attempting to U-turn and the other involved a car and motorcycle. The last serious collision was head on between two cars.</p> <p>One serious collision occurred on the A834 in adverse weather conditions where two cars collided head on with one another.</p> <p>Eight serious collisions were recorded on the A832, five of which occurred during adverse weather conditions, all involving cars except one which involved a car and motorcycle. Three collisions were due to drivers slowing down or stopping where all involved two cars. Two collisions involved two cars on a bend who lost control due to adverse weather conditions. Another collision occurred between a motorcycle and car which head on collided with one another on a bend. One collision occurred between two cars who head on collided with one another. The final collision occurred whilst one car was in the act of changing lanes/ overtaking another car.</p>
Fatal	The one fatal collision that occurred on the A835 occurred in adverse weather conditions where the car was attempting to turn right.

Section 8

Transport Links

14.4.37 Transport links within Section 8 are detailed in **Table 14.23**. Note that the transport links identified within the Study Area have been listed in a north – south direction.

Table 14.23: Section 8 Transport Links

Transport Link	Description
A9 (T)	<p>Scrabster and Perth are connected by the A9(T), which serves as the area's primary trunk road and is maintained by BEAR Scotland. Outside of the local settlements, the national speed restriction applies to the road.</p> <p>The A9(T) is a made up of both single and dual carriageway sections, allowing for unrestricted two-way opposing HGV traffic.</p>
A832	<p>The A832 is a road linking Cromarty, on the east coast, to Gairloch on the west coast. The A832 is a single carriageway road with a speed limit of 60 mph, operating through forested and coastal regions. The A832 is rural, is unlit and has no footway provision except in instances where the route goes through towns and villages where footways and / or street lighting is present.</p>
A862	<p>The A862 commences at its junction with the A9 at Ardullie Roundabout and extending in a general south westerly direction via Dingwall to its junction with the A835. It extends in a general southerly, and then easterly direction, via Conon Bridge, Muir of Ord, Beauly, Inchmore and Clachnaharry to its junction with the A82.</p>
A831	<p>The A831 commences at its junction with the A82 at Drumnadrochit, extending in a westerly direction to Cannich. It is a single carriageway road which lacks footway provision and lighting.</p>
U2976 (Teandalloch Road)	<p>The U2976 commences at its junction with the A9T extending in a south-westerly direction to its junction with the Muir of Ord. It is a single lane road which is lined with vegetation on either side. The U2976 lacks footway provision and lighting.</p>
Corry Road	<p>Corry road is a single carriageway road which commences at the A832. It has a speed limit of 30 mph when in built up residential areas otherwise it operates at the national speed limit. It is rural, but footways are present and lighting.</p>
Croyard Road	<p>Croyard Road is a single carriageway road which commences of the A862. It is generally rural with residential properties fronting onto the road. Footway provision and lighting is present along Croyard road.</p>
C1106 (Fanellan Road)	<p>The C1106 commences at Ballachrask A831 and is rural. It lacks footway provision and lighting.</p>
C1104 (Beauly – Torgormack Road)	<p>The C1104 commences at Croyard Road in Beauly at its junction with the A862 extending in a westerly direction via Torgormack. It is rural and lacks footway provision.</p>

Pedestrian and Cycle Network

14.4.38 THC's online Core Path mapping system has noted that the Core Paths within Section 8 of the Proposed Development are:

- (Orrin Circular) RC30.02

14.4.39 The Sustrans NCN Map indicates that the NCN Route 1 is located alongside sections of the A825, A9(T) passing through Tore.

RTC Assessment

Trunk Road Analysis

14.4.40 No RTC's were recorded on the A9(T) in Section 8.

Non-Trunk Road Analysis

14.4.41 During the five-year period between 2019 – 2023, a total of four road collisions have been recorded on non-designated trunk roads. A summary of these collisions is provided in **Table 14.24**.

Table 14.24: Section 8 Trunk Road Analysis

Classification	Collisions
Slight	One slight collision occurred within adverse weather conditions whilst a car was attempting to turn right at a junction. Two collisions occurred on a right-hand bend with two cars involved where both cars lost control. The final collision occurred between three cars where one was attempting to slow down and two other cars behind rear end shunt collisions.
Serious	The one serious collision occurred involving a bus and car where the car was attempting to turn right at a junction in wet road conditions.
Fatal	None within Section 7.

Baseline Traffic Flow

14.4.42 As outlined in **Section 14.3**, baseline traffic flow information was obtained from publicly available traffic count information provided by Department for Transport. An independent Automatic Traffic Counter (ATC) survey was undertaken by ERM at additional locations within the Study Area in November 2024. **Volume 3, Figure 14.3: Traffic Count Location Plan** shows the traffic count locations and **Volume 5, Appendix 14.1: Traffic Data** contains the results of the ATC surveys.

14.4.43 Traffic flow capacity was estimated using information contained in the DMRB – Volume 15. It is acknowledged that this document has been withdrawn as part of the ongoing reformatting of the DMRB however the quoted traffic flow capacities still remain valid for use in this assessment network. Capacity is defined as the maximum sustainable flow of traffic passing in one hour under favourable road and traffic conditions and depends on the road type, speed limit and width.

14.4.44 Background traffic growth will occur on the local road network irrespective of whether or not the Proposed Development is constructed. Traffic growth factors between the baseline traffic flow and the anticipated commencement of construction of the Proposed Development (2026) was estimated using factors from the National Road Traffic Forecasts (NRTF) 'central growth' rate for non-trunk road network and 'high growth' rate for trunk road network. **Volume 5, Appendix 14.2: Baseline Traffic Data** contains the existing baselines traffic flows, estimated capacity of each of the roads in the Study Area and the traffic growth factors calculated from NRTF whilst **Table 14.25** summarises the projected 2026 baseline traffic flows.

Table 14.25: Projected Baseline Traffic Flow (2026)

Traffic Count Location/Link ID	Total Average Daily Traffic (ADT)	HGV (ADT)	% HGVs
1: A9 Banniskirk, DfT ID: 40960	1,530	100	7 %
2: B870	197	86	44 %

Traffic Count Location/Link ID	Total Average Daily Traffic (ADT)	HGV (ADT)	% HGVs
3: A9 Achavanich, DfT ID: 10959	1,375	252	18 %
4: A9 North of Helmsdale, DfT ID: 50719	2,587	276	11 %
5: A9 South of Helmsdale, DfT ID: 30721	2,991	238	8 %
6: A897, DfT ID: 30961	284	28	10 %
7: A9 Brora, DfT ID: 40719	4,543	342	8 %
8: A9 South of Golspie, DfT ID: 720	5,485	331	6 %
9: A839, DfT ID: 20935	858	27	3 %
10: A836, near Edderton, DfT ID: 80004	683	129	19 %
11: A836, Bonar Bridge, DfT ID: 50937	1,752	103	6 %
12: A836, Ardgay, DfT ID: 80005	1,824	126	7 %
13: C1136 Church Street	534	148	28 %
14: B9176, near Dalnavie, DfT Point ID: 979064	1,876	138	7 %
15: A9, North of Tain, DfT ID: 80001	8,274	536	6 %
16: A9, Drummond, DfT ID: 50813	15,640	1,028	7 %
17: B817, North of Evanton	1,566	318	20 %
18: B817 South of Evanton (Drummond)	1,483	286	19 %
19: A9, North Kessock, DfT ID: 80013	32,350	1,234	4 %
20: A835, Wester Moy, DfT ID: 80017	5,360	261	5 %
21: A834 North of Strathpeffer, DfT ID: 20799	2,873	40	1 %
22: A832 East of Marybank, DfT ID: 20931	1,394	37	3 %
23: A832 Muir of Ord, DfT ID: 40950	6,485	298	5 %
24: A862 North of Beaulay, DfT ID: 10950	6,690	328	5 %
25: A862 East of Wester Balblair, DfT ID: 30950	5,374	136	3 %
26: C1104 Torgormack	233	68	29 %

Sensitive Receptors

14.4.45 As per the IEMA 2023 Guidelines, particular groups of locations which may be sensitive to changes in traffic conditions should be identified. The IEMA 2023 Guidelines suggest, for example, that people at home, , schools, and vulnerable groups (including young age, older age) etc may be sensitive to changes in traffic conditions. A desktop search was undertaken for the proposed delivery routes within the Study Area.

14.4.46 A number of receptors have been identified within the Study Area and are detailed in **Table 14.26**. These receptors are either located on proposed delivery routes or located within close proximity and require access through the proposed delivery routes. These delivery routes are illustrated on **Volume 3, Figure 14.4: Indicative Construction Delivery Routes**.

Table 14.26: Sensitive Receptors

Route	Receptor	Relevant Count Location	Sensitivity	Justification
Section 1				
A9(T)	Banniskirk, Spittal	1	Low	<p>This section of the proposed delivery route passes through the town of Banniskirk and Spittal. Rural single-carriageway road with few junctions and very limited or no direct frontage of nearby commercial and residential properties. Very limited/restricted pedestrian facilities along this section of the route with any notable pedestrian activity. In this respect the speed environment will be a further constraint. However, this route is a major transport corridor (trunk road) constructed to accommodate significant HGV traffic and so a high level of traffic should be expected.</p> <p>It is worth noting that this section of the A9(T) has been well used by HGVs and abnormal load vehicles for the construction of a number of wind farm developments including Bad a Cheo Wind Farm and Causeymire Wind Farm among others.</p>
C1053	Road Users	N/A	Low	<p>Very limited/isolated residential properties (farm houses) located directly on the proposed delivery route who require unrestricted use of the route in order to access their property.</p> <p>Narrow single-carriageway road with passing places and no pedestrian facilities along this section of the route. This receptor may be sensitive to changes in HGV traffic.</p>
B870	Road Users Watten	2	Low	<p>This section of the proposed delivery route passes through the town of Watten where there are commercial and residential properties which front directly onto the B870 as it passes through Watten although alternative routes exist to access wider road network. It is acknowledged the short section of the B870 likely to be used by construction traffic has very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property.</p> <p>Narrow single-carriageway road with passing places and no pedestrian facilities along this section of the route. This receptor may be sensitive to changes in HGV.</p>
Section 2				
A9(T)	Latheron	3	Medium	<p>This section of the proposed delivery route passes through the village of Latheron. Very limited direct frontage of nearby commercial and residential properties. Pedestrian footway is present on the east side of the carriageway with dropped kerb crossing available. However, this section is part of the trunk road network and provides access to Thurso and Scrabster Harbour which is well used by HGVs and abnormal load vehicles for the construction of a number of wind farm developments including Bad a Cheo Wind Farm and Causeymire Wind Farm among others.</p>
C1065	Road Users	N/A	Low	<p>Very limited/isolated or no residential properties (farm houses) located directly on the proposed delivery route who require unrestricted use of the route in order to access their property.</p>

Route	Receptor	Relevant Count Location	Sensitivity	Justification
				Narrow single-carriageway road with passing places and no pedestrian facilities along this section of the route. This receptor may be sensitive to changes in HGV traffic.
A9(T)	Dunbeath	4	Medium	This section of the proposed delivery route passes through Dunbeath, has relatively good standard pedestrian footways along the route but with no formal crossing points. Very limited or no direct frontage of nearby commercial and residential properties. There are also a number of bus stops located on the A9(T), but there are no formal crossing points. Pedestrians may require crossing the carriageway when accessing the bus service.
Achorn Road	Road Users	N/A	Low	Very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property. Narrow single-carriageway road with passing places but very limited or no pedestrian facilities along this section of the route. This receptor may be sensitive to changes in HGV traffic.
U1043	Road Users	N/A	Medium	Very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property. Narrow single-carriageway road with no passing places but very limited or no active travel facilities along this section of the route. This receptor may be sensitive to changes in HGV traffic
A9(T)	Helmsdale	5	High	This section of the proposed delivery route passes through Helmsdale. There are commercial and residential properties which front directly onto the A9(T) as it passes through Helmsdale. This includes shops, restaurants, and public transport facilities. Limited crossing facilities on the A9(T) and users may be required to use/cross the route when accessing the services. However, this route is a major transport corridor (trunk road) constructed to accommodate significant HGV traffic and so a high level of traffic should be expected.
A897	Road Users	6	Low	Very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property. Rural single-carriageway road with very limited or no pedestrian facilities along this section of the route.
Section 3				
A9(T)	Brora	7	High	This section of the proposed delivery route passes through Brora. There are commercial and residential properties which front directly onto the A9(T) as it passes through Brora. This includes shops, restaurants, public transport facilities (including a train station) etc. This section of the A9 has no formal crossing points, which users may be required to use/cross the route when accessing these services.

Route	Receptor	Relevant Count Location	Sensitivity	Justification
				However, this route is a major transport corridor (trunk road) constructed to accommodate significant HGV traffic and short-term increases in HGV are not uncommon.
Clynellis h Road	Road Users	N/A	Low	<p>Very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property.</p> <p>Narrow single-carriageway road with passing places but very limited or no pedestrian facilities along this section of the route. This receptor may be sensitive to changes in HGV traffic.</p>
Section 4				
A9(T)	Golspie	8	High	<p>This section of the proposed delivery route passes through the town of Thurso. There are a number of commercial and residential properties which front directly onto the A9 as it passes through Golspie. The town centre includes shops, services, and has formal pedestrian crossing points on it. Users may be required to use/cross the route when accessing these services.</p> <p>However, this route is a major transport corridor (trunk road) constructed to accommodate significant HGV traffic and short-term increases in HGV are not uncommon.</p>
A839	Pittentrail	9	High	<p>This section of the proposed delivery route passes through Pittentrail. There are commercial and residential properties which front directly onto the A839 as it passes through Pittentrail. This includes shops, the town hall, public transport facilities etc. This section of the A839 has no formal crossing points, which users may be required to use/cross the route when accessing these services.</p>
C1022	Residents of Rogart, Rogart Primary School	NA	High	<p>This school is located in Rogart within the vicinity of, and directly on the proposed delivery route. The C1022 is a narrow single carriageway road with passing places, and not footway provision and pupils are likely to cross the route on their journey to and from the school</p>
Section 5				
A836, Edderton	Edderton Primary School	10	High	<p>This school is located in Edderton within the vicinity of, and directly on the proposed delivery route. Very limited pedestrian facilities on this section of the A836 and pupils are likely to cross the route on their journey to and from the school. The A836 is part of the of Sustrans' NCN map indicates that a section of the NCN Route 1 (Inverness to John O'Groats) although the section of this route along the A836 has now been declassified a 'local' route.</p>
A836 Ardgay	Ardgay	12	High	<p>This section of the proposed delivery route through Ardgay has both commercial and residential properties. Also, a primary school and public hall is present. Users may be required to use / cross the route when accessing these services. The A836 is part of the of Sustrans' NCN map indicates that a section of the NCN Route 1 (Inverness to John O'Groats) although the section of this route along the A836 has now been declassified a 'local' route.</p>

Route	Receptor	Relevant Count Location	Sensitivity	Justification
A836, Bonar Bridge	Bonar Bridge	11	High	There are a number of commercial and residential properties which front directly onto the route as it passes through Bonar Bridge. The village centre includes shops, services, and has pedestrian facilities along this section of the route. Users may be required to use / cross the route when accessing these services. The A836 is part of the of Sustrans' NCN map indicates that a section of the NCN Route 1 (Inverness to John O'Groats) although the section of this route along the A836 has now been declassified a 'local' route.
U3521 Migdale Road (Bonar Bridge)	Residents of Bonar Bridge including Primary School.	N/A	High	This school is located in Bonar Bridge within the vicinity of, and directly on the proposed delivery route. Very limited pedestrian facilities on this section of the U3521 and pupils are likely to cross the route on their journey to and from the school.
C1136C hurch Street	Residents of Lower Gledfield including Primary School.	13	High	This school is located in Lower Gledfield within the vicinity of, and directly on the proposed delivery route. Very limited pedestrian facilities on this section of the route and pupils are likely to cross the route on their journey to and from the school. The road is part of the of Sustrans' NCN map indicates that a section of the NCN Route 1 (Inverness to John O'Groats) although the section of this route along the A836 has now been declassified a 'local' route.
A9(T)	Donnoch, Tain	15	Low	This section of the proposed delivery route passes through the settlement of Tain and Donnoch and has no pedestrian facilities along it. There are no direct frontages of nearby commercial and residential properties. Nonetheless, this route is a major transport corridor (trunk road) in the north of Scotland designed to accommodate significant HGV traffic.
Section 6				
B9176 Struie Road	Road Users	14	Low	Very limited residential properties located directly on the proposed delivery route who require unrestricted use of the route in order to access their property. Rural single-carriageway road with very limited or no pedestrian facilities along this section of the route.
B817, North of Evanton	Road Users	17	High	This section of the proposed delivery route passes through the north of Evanton has both commercial and residential properties present. A school and community hall are also present. A cycle path (NCN Route 1) is present alongside the B817 where sections cross the road. This receptor may be highly sensitive to changes in HGV traffic.
B817, South of Evanton (Drummond)	Road Users	18	High	This section of the proposed delivery route passes through the south of Evanton and has both commercial and residential properties present. This receptor may be highly sensitive to changes in HGV traffic.
Glenglas Road	Residents, Road Users	N/A	High	This section of the proposed delivery route passes through the Culcairn area of Evanton where residents require unrestricted use of the route in order to access their properties and other

Route	Receptor	Relevant Count Location	Sensitivity	Justification
				facilities. Narrow single-carriageway road with no passing places and active travel facilities present. This receptor will be sensitive to changes in HGV traffic.
Swordale Road	Residents, Road Users	N/A	High	This section of the proposed delivery route passes through the south Evanton where residents require unrestricted use of the route in order to access their properties and other facilities. Narrow single-carriageway road with no passing places and active travel facilities present. This receptor will be sensitive to changes in HGV traffic,
A9(T)	Drummond	16	Low	<p>This section of the proposed delivery route passes through the settlement of Drummond and has no pedestrian facilities along it. There are no direct frontages of nearby commercial and residential properties. Nonetheless, this route is a major transport corridor (trunk road) in the north of Scotland designed to accommodate significant HGV traffic and so a high level of traffic should be expected.</p> <p>It is worth noting that this section of the A9(T) has been well used by HGVs and abnormal load vehicles for the construction of a number of renewable developments in the area.</p>
Section 7				
A834	Strathpeffer	21	High	This section of the proposed delivery route passes through Strathpeffer. There are commercial and residential properties which front directly onto the A834. Pedestrian facilities available along the route although it is discontinuous at some sections. There are schools located in Strathpeffer within the vicinity of, although not directly on, the general construction traffic route. Pupils may walk on or cross the route on their journey to school. Users will be required to use/cross the route when accessing the services including the schools and will be sensitive to changes in HGV traffic.
A835	Contin	20	High	This section of the proposed delivery route passes through the town of Contin. While the A825 is a major transport corridor (trunk road) constructed to accommodate significant HGV traffic, there are a number of local cycle paths (off-road and sections of on road facilities) near Contin and Garve for cyclists doing the North Coast 500. This receptor will be highly sensitive to changes in HGV traffic.
Section 8				
A9 (T)	Tore, Muir of Ord, North Kessock	23	Low	<p>This section of the proposed delivery route is a rural dual-carriageway road with few junctions and very limited or no direct frontage of nearby commercial and residential properties. Very limited/restricted pedestrian facilities along this section of the route with any notable pedestrian activity. In this respect the speed environment will be a further constraint.</p> <p>However, this route is a major transport corridor (trunk road) in the north-east of Scotland designed to accommodate significant HGV traffic and so a high level of traffic should be expected.</p>

Route	Receptor	Relevant Count Location	Sensitivity	Justification
				It is worth noting that this section of the A9(T) has been well used by HGVs for the construction of a number of renewable developments in the area.
A862	Beaully	24	High	This section of the proposed delivery route passes through the town of Beaully. There are commercial and residential properties which front directly onto the A862 as it passes through Beaully. The town centre includes shops, primary school, public transport facilities etc, and has formal pedestrian crossing points on it. Users may be required to use/cross the route when accessing these services.
A832	Muir of Ord	23	High	This section of the proposed delivery route passes through the town of Muir of Ord. There are commercial and residential properties which front directly onto the A832 as it passes through Muir of Ord. The town centre includes shops, primary school, public transport facilities etc, and has formal pedestrian crossing points on it. Users may be required to use/cross the route when accessing these services.
A832	Marybank	22	High	This section of the proposed delivery route passes through the settlement of Marybank. There are commercial and residential properties which front directly onto the A832 as it passes through Marybank. The town centre includes shops, primary school, public transport facilities etc, and has formal pedestrian crossing points on it. Users may be required to use/cross the route when accessing these services.
A831	Wester Balblair	25	Medium	This section of the proposed delivery route passes through the settlement of Wester Balblair, has relatively good standard pedestrian facilities along the route. Very limited or no direct frontage of nearby commercial and residential properties. This section provide access to exiting quarry operations so is relatively well used by HGVs.
C1104	Torgormack	26	High	This section of the proposed delivery route provide access to the settlement of Torgormack and its environs. The C1104 is a narrow single carriageway road with no passing places, and footway provision. This receptor may be highly sensitive to changes in HGV traffic.

14.5 Assessment of Effects

Construction Traffic Generation

- 14.5.1 The identification of the traffic and transport environmental effects requires an assessment of the amount of traffic associated with construction activities and the significance of this additional traffic. The traffic associated with the construction phase of the Proposed Development will comprise construction workers, HGVs / LGVs carrying construction materials, personnel and plant.
- 14.5.2 The Proposed Development traffic data has been provided by the Applicant's OHL Contractors and construction is expected to run for a total of approximately 48 months.

14.5.3 Traffic associated with the construction of the Proposed Development was then assigned to the road network within the Study Area based on the construction delivery routes identified by the OHL Contractors between the A9(T) corridor and the proposed access points as shown in **Table 14.27** below.

Table 14.27: Estimated Daily Total Traffic for each Section

Sections	Daily Two-way Movement ¹²		
	LGV	HGV	Total
Section 1	117	256	373
Section 2	380	816	1,197
Section 3	271	996	1,267
Section 4	450	592	1,042
Section 5	101	142	244
Section 6	109	137	246
Section 7	86	122	208
Section 8	127	127	254

14.5.4 The percentage traffic impact on road links within the Study Area as a result of the construction of the Proposed Development is shown in **Table 14.28** below. It should be noted that for traffic and transport, the baseline has been split into sections for ease of reporting and because of how the construction vehicle numbers were generated. However, a whole line assessment has been undertaken because different sections of the Proposed Development will be constructed concurrently and therefore there will be an overlap of construction activities between sections.

Table 14.28: Predicted Peak – Average Daily Traffic

Traffic Count Location/Link ID	Total Vehicle Movements			HGV Movements Only		
	2026 Baseline	Baseline + Development	Increase (%)	2026 Baseline	Baseline + Development	Increase (%)
1: A9 Banniskirk, DfT ID: 40960	1,530	2,627	72 %	100	852	756 %
2: B870	197	332	69 %	86	177	106 %
3: A9 Achavanich, DfT ID: 10959	1,375	2,472	80 %	252	1,004	299 %
4: A9 North of Helmsdale, DfT ID: 50719	2,587	3,684	42 %	276	1,028	273 %
5: A9 South of Helmsdale, DfT ID: 30721	2,991	4,517	51 %	238	1,274	434 %
6: A897, DfT ID: 30961	284	509	79 %	28	178	541 %
7: A9 Brora, DfT ID: 40719	4,543	6,069	34 %	342	1,378	303 %

¹² A two-way movement refers to a vehicle trip that includes both the outbound and return journeys. For e.g. 20 two-way movements (10 inbound + 10 outbound = 20 total movements).

Traffic Count Location/Link ID	Total Vehicle Movements			HGV Movements Only		
	2026 Baseline	Baseline + Development	Increase (%)	2026 Baseline	Baseline + Development	Increase (%)
8: A9 South of Golspie, DfT ID: 720	5,485	7,012	28 %	331	1,367	313 %
9: A839, DfT ID: 20935	858	1,135	32 %	27	186	595 %
10: A836, near Edderton, DfT ID: 80004	683	1,126	65 %	129	385	198 %
11: A836, Bonar Bridge, DfT ID: 50937	1,752	2,032	16 %	103	267	160 %
12: A836, Ardgay, DfT ID: 80005	1,824	2,267	24 %	126	382	203 %
13: C1136 Church Street	534	697	31 %	148	240	62 %
14: B9176, near Dalnavie, DfT Point ID: 979064	1,876	2,237	19 %	138	342	148 %
15: A9, North of Tain, DfT ID: 80001	8,274	10,755	30 %	536	2,102	292 %
16: A9, Drummond, DfT ID: 50813	15,640	18,121	16 %	1,028	2,594	152 %
17: B817, North of Evanton	1,566	1,840	17 %	318	476	50 %
18: B817 South of Evanton (Drummond)	1,483	1,598	8 %	286	353	23 %
19: A9, North Kessock, DfT ID: 80013	32,350	34,831	8 %	1,234	2,800	127 %
20: A835, Wester Moy, DfT ID: 80017	5,360	5,518	3 %	261	366	40 %
21: A834 North of Strathpeffer, DfT ID: 20799	2,873	2,967	3 %	40	95	137 %
22: A832 East of Marybank, DfT ID: 20931	1,394	1,458	5 %	37	87	135 %
23: A832 Muir of Ord, DfT ID: 40950	6,485	6,538	1 %	298	340	14 %
24: A862 North of Beauly, DfT ID: 10950	6,690	6,880	3 %	328	406	24 %
25: A862 East of Wester Balblair, DfT ID: 30950	5,374	5,511	3 %	136	172	27 %
26: C1104 Torgormack	233	370	59 %	68	104	53 %

14.5.5 As detailed in the assessment methodology, a screening exercise was undertaken to determine which locations warrant detailed assessment of effects in relation to an increase in traffic flows associated with the construction of the Proposed Development.

- 14.5.6 The upper threshold (Rule 1) of significance was considered appropriate for those locations identified as having medium to low sensitive receptors, i.e., count locations 1, 2, 3, 6, 14, 15, 16, 19 and 25 with the lower threshold of significance (Rule 2) considered appropriate for all other locations within the Study Area.
- 14.5.7 **Table 14.28** indicates that the daily percentage increases in total traffic and/or HGV from the construction traffic exceeds the Rule 1 or 2 threshold, therefore a full assessment of effects is required for all count locations in accordance with the IEMA 2023 Guidelines. It is worth noting that the daily increase in construction traffic will have a varying impact on the public road network with some of the higher impacts recorded on links with extremely low baseline flow and the magnitude of the predicted increases including HGVs is also low in absolute terms.
- 14.5.8 As outlined in paragraph 14.3.28, no traffic count data was available at seven locations, including on the U3521, at the time of writing this chapter. Therefore, based on the characteristics of the roads and applying a realistic worst-case scenario, it is assumed that the IEMA 2023 Guidelines significance thresholds will be exceeded and has been assessed.
- 14.5.9 It should also be noted that additional potential delivery routes, primarily unclassified, short, no-through or dead-end roads have yet to be confirmed. While it is acknowledged that thresholds in the IEMA 2023 Guidelines are likely to be exceeded on these routes as well, the impacts of construction traffic will be fully assessed in the Transport Assessment, which will be finalised post-consent. An initial draft Transport Assessment is included in **Volume 5, Appendix 14.6: Transport Assessment** while an initial Public Road Improvement Appraisal Report is included in **Volume 5, Appendix 3.2: Public Road Improvements Environmental Appraisal**.

Severance of Communities

- 14.5.10 The IEMA 2023 Guidelines identify severance as the “*perceived division that can occur within a community when it becomes separated by major transport traffic artery*”. As an example, a road that passes through a community such as a town or village, where amenities may be located on one side of the road and residential properties are located on the other side, causes severance to the movements between those places. Severance may be caused by a physical barrier created by a development or by the difficulty of crossing roads due to an increase in traffic flow. **Table 14.29** shows an assessment of the impact of construction traffic at locations within the Study Area which will likely experience severance effects. The magnitude of change is derived from the total increase in traffic generated by the construction of the Proposed Development and classified in accordance with **Table 14.4**. The corresponding significance of effect is classified with reference to **Table 14.5**.

Table 14.29: Assessment of Severance of Communities

Traffic Count Location / Link ID	Sensitivity of Receptor	Traffic Increase (%)	Magnitude of Change	Significance of Effect
2: B870	Low	69 %	Medium	Minor
3: A9 Achavanich, DfT ID: 10959	Medium	80 %	Medium	Moderate
4: A9 North of Helmsdale, DfT ID: 50719	High	42 %	Medium	Moderate
5: A9 South of Helmsdale, DfT ID: 30721	High	51 %	Medium	Moderate
7: A9 Brora, DfT ID: 40719	High	34 %	Small	Moderate
8: A9 South of Golspie, DfT ID: 720	High	28 %	Negligible	Minor
10: A836, near Edderton, DfT ID: 80004	High	65 %	Medium	Moderate
11: A836, Bonar Bridge, DfT ID: 50937	High	16 %	Negligible	Minor

Traffic Count Location / Link ID	Sensitivity of Receptor	Traffic Increase (%)	Magnitude of Change	Significance of Effect
12: A836, Ardgay, DfT ID: 80005	High	24 %	Negligible	Minor
13: C1136 Church Street	High	31 %	Small	Moderate
17: B817, North of Evanton	High	17 %	Negligible	Minor
18: B817 South of Evanton (Drummond)	High	8 %	Negligible	Minor
20: A835, Wester Moy, DfT ID: 80017	High	3 %	Negligible	Minor
21: A834 North of Strathpeffer, DfT ID: 20799	High	3 %	Negligible	Minor
22: A832 East of Marybank, DfT ID: 20931	High	5 %	Negligible	Minor
23: A832 Muir of Ord, DfT ID: 40950	High	1 %	Negligible	Minor
24: A862 North of Beaulay, DfT ID: 10950	High	3 %	Negligible	Minor
25: A862 East of Wester Balblair, DfT ID: 30950	Medium	3 %	Negligible	Negligible
26: C1104 Torgormack	High	59 %	Small	Moderate

14.5.11 **Table 14.29** above shows that the short-term increase in construction traffic will result in **moderate** and **significant** effects on severance at locations: 3, 4, 5, 7, 10, 13 and 26. In accordance with the EIA Regulations, **Section 14.7** of this chapter details mitigation measures which will be adopted to reduce the significance of this effect. For all the remaining locations under consideration, **Table 14.29** shows that the temporary, short-term increase in construction traffic on severance of communities will result in **negligible or minor** and **not significant** effect and no mitigation is required.

14.5.12 In terms of locations without traffic counts, it is noted that the U3521 (Bonar Bridge), U1999, and U1991 has the potential to experience severance effects. The section of the U3521 in Bonar Bridge is subject to a 30-mph speed restriction with pedestrian crossing facilities. Most of the facilities that are likely to generate notable pedestrian demand are located on the A949 where crossing points are present. It is considered that the magnitude of the realistic worst-case increase in overall traffic flow or HGV composition (280 two-way vehicle movements per day, comprising 116 cars/vans and 164 HGV) is not sufficient to effect a change in severance on this link.

14.5.13 Therefore, when considering the sensitivity and magnitude of change, the effect of construction traffic on severance on the U3521 (Bonar Bridge) results in a negligible magnitude of change on receptors of high sensitivity. Thus, the effect of increased traffic on severance is **minor** and **not significant** in the context of the EIA Regulations.

14.5.14 With regards to the U1999 and U1991, traffic levels including HGV traffic (115 two-way vehicle movements per day, comprising 48 cars/vans and 67 HGV) are predicted to increase above the relevant thresholds of significance throughout construction on sensitive receptors along this link and the magnitude of change in traffic levels on severance is anticipated to be high based on the road (low baseline flow, in particular HGVs). Therefore, when considering the sensitivity and the magnitude of change, the effect of construction traffic on severance on the U1999, and U1991 results in a high magnitude of change on receptors of high sensitivity. Thus, the effects of increased traffic on severance is **major / moderate** and **significant** in the context of the EIA Regulations. Therefore, mitigation measures to reduce this effect are outlined in **Section 14.7**.

Non-motorised User Amenity

14.5.15 Pedestrian amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition, pavement width and separation between vehicles and pedestrian cyclists. Guidance set out in **Table 14.4** of this chapter identifies that doubling or halving of the total traffic or HGV traffic volumes could lead to perceptible change upon pedestrian or cyclist amenity. The IEMA 2023 Guidelines also state these thresholds are a starting point for any assessment.

14.5.16 **Table 14.30** shows an assessment of the impact of construction traffic at locations within the Study Area which will likely experience non-motorised user amenity effects. The magnitude of change is derived from the total increases in HGV traffic (realistic worst-case) generated by the construction of the Proposed Development and classified in accordance with **Table 14.4**. The corresponding significance of effect is classified with reference to **Table 14.5**.

Table 14.30: Assessment of Non-motorised User Amenity

Traffic Count Location / Link ID	Sensitivity of Receptor	Traffic Increase (%)	Magnitude of Change	Significance of Effect
2: B870	Low	106 %	Small	Negligible
3: A9 Achavanich, DfT ID: 10959	Medium	299 %	Large	Moderate
4: A9 North of Helmsdale, DfT ID: 50719	High	273 %	Medium	Moderate
5: A9 South of Helmsdale, DfT ID: 30721	High	434 %	Large	Major
7: A9 Brora, DfT ID: 40719	High	303 %	Large	Major
8: A9 South of Golspie, DfT ID: 720	High	313 %	Large	Major
10: A836, near Edderton, DfT ID: 80004	High	198 %	Large	Major
11: A836, Bonar Bridge, DfT ID: 50937	High	160 %	Large	Major
12: A836, Ardgay, DfT ID: 80005	High	203 %	Large	Major
13: C1136 Church Street	High	62 %	Small	Moderate
17: B817, North of Evanton	High	50 %	Negligible	Minor
18: B817 South of Evanton (Drummond)	High	23 %	Negligible	Minor
20: A835, Wester Moy, DfT ID: 80017	High	40 %	Negligible	Minor

Traffic Count Location / Link ID	Sensitivity of Receptor	Traffic Increase (%)	Magnitude of Change	Significance of Effect
21: A834 North of Strathpeffer, DfT ID: 20799	High	137 %	Medium	Moderate
22: A832 East of Marybank, DfT ID: 20931	High	135 %	Medium	Moderate
23: A832 Muir of Ord, DfT ID: 40950	High	14 %	Negligible	Minor
24: A862 North of Beauly, DfT ID: 10950	High	24 %	Negligible	Minor
25: A862 East of Wester Balblair, DfT ID: 30950	High	27 %	Negligible	Minor
26: C1104 Torgormack	High	53 %	Small	Moderate

14.5.17 **Table 14.30** shows that the temporary, short-term increase in construction traffic on non-motorised user amenity is **negligible or minor** and **not significant** at count locations 17, 18, 20, 23, 24 and 25 and therefore no mitigation is required. For all the remaining locations, **Table 14.30** shows that the short-term increase in construction traffic will result in a **moderate or major** and **significant** effect on non-motorised user amenity. In accordance with the EIA Regulations, **Section 14.7** of this chapter details mitigation measures which are to be adopted to reduce the significance of this effect.

14.5.18 In terms of locations without traffic counts, it is noted that the U3521 (Bonar Bridge), U1999, and U1991 have the potential to experience non-motorised user amenity effects. Traffic levels including HGV traffic are predicted to increase above the relevant thresholds of significance throughout construction on sensitive receptors along this link. For the U3521 (Bonar Bridge), a number of the identified sensitive receptors are located on the outskirts of Bonar Bridge including, in particular, Bonar Bridge Primary School where the quality of the footway diminishes (and becomes very narrow) as you approach the school from the centre of Bonar Bridge. The footway is only present on the eastern section of the road and there are no formal pedestrian crossing facilities at this location. Further south, for the U1999, and U1991, a number of the identified sensitive receptors are located along this as it routes through Evanton including, recreational and tourist facilities, with relatively poor/limited pedestrian facilities present.

14.5.19 Given the above, the magnitude of change in traffic levels on non-motorised user amenity is anticipated to be high based on the road (low baseline flow, in particular HGVs). Therefore, when considering the sensitivity and the magnitude of change, the effect of construction traffic on non-motorised user amenity on the U3521 (Bonar Bridge), U1999, and U1991 results in a high magnitude of change on receptors of high sensitivity. Thus, the effects of increased traffic on non-motorised user amenity are **major or moderate** and **significant** in the context of EIA Regulations. Mitigation measures to reduce this effect are outlined in **Section 14.7**.

Non-motorised User Delay (Pedestrian Delay)

14.5.20 The IEMA 2023 Guidelines note that “the assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads”. Pedestrian delay and severance are closely related effects and changes in the volume, composition or speed of traffic may affect the ability of

people to cross existing roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the level of pedestrian activity, visibility, and general physical conditions of the Site. The IEMA 2023 Guidelines also state that pedestrian delay and severance are closely related effects and can be grouped together. **Table 14.31** shows an assessment of the impact of construction traffic at locations within the Study Area which will likely experience non-motorised user delay effects. The magnitude of change is derived from the total increase in construction traffic generated by the Proposed Development and classified in accordance with **Table 14.4**. The corresponding significance of effect is classified with reference to **Table 14.5**.

Table 14.31: Assessment of Non-motorised User Delay

Traffic Count Location / Link ID	Sensitivity of Receptor	Traffic Increase (%)	Magnitude of Change	Significance of Effect
2: B870	Low	69 %	Medium	Minor
3: A9 Achavanich, DfT ID: 10959	Medium	80 %	Medium	Moderate
4: A9 North of Helmsdale, DfT ID: 50719	High	42 %	Medium	Moderate
5: A9 South of Helmsdale, DfT ID: 30721	High	51 %	Medium	Moderate
7: A9 Brora, DfT ID: 40719	High	34 %	Small	Moderate
8: A9 South of Golspie, DfT ID: 720	High	28 %	Negligible	Minor
10: A836, near Edderton, DfT ID: 80004	High	65 %	Medium	Moderate
11: A836, Bonar Bridge, DfT ID: 50937	High	16 %	Negligible	Minor
12: A836, Ardgay, DfT ID: 80005	High	24 %	Negligible	Minor
13: C1136 Church Street	High	31 %	Medium	Moderate
17: B817, North of Evanton	High	17 %	Negligible	Minor
18: B817 South of Evanton (Drummond)	High	8 %	Negligible	Minor
20: A835, Wester Moy, DfT ID: 80017	High	3 %	Negligible	Minor
21: A834 North of Strathpeffer, DfT ID: 20799	High	3 %	Negligible	Minor
22: A832 East of Marybank, DfT ID: 20931	High	5 %	Negligible	Minor
23: A832 Muir of Ord, DfT ID: 40950	High	1 %	Negligible	Minor
24: A862 North of Beaully, DfT ID: 10950	High	3 %	Negligible	Minor
25: A862 East of Wester Balblair, DfT ID: 30950	High	3 %	Negligible	Minor
26: C1104 Torgormack	High	59 %	Small	Moderate

14.5.21 **Table 14.31** above shows that the short-term increase in construction traffic will result in a **moderate** and **significant** effect on non-motorised user amenity at locations, 3, 4, 5, 7, 10, 13, 26. In accordance with the EIA Regulations, **Section 14.7** of this chapter details mitigation measures which are to be adopted to reduce the significance of this effect. For all the remaining locations, **Table 14.31** shows that the temporary, short-term increase in construction traffic on non-motorised user amenity is **negligible or minor** and **not significant** and no mitigation is required.

14.5.22 With respect to the U3521 (Bonar Bridge), U1999, and U1991 reference should be made to the non-motorised user amenity assessment undertaken in this chapter. The magnitude of change in traffic levels on pedestrian

delay is anticipated to be high based on the road (low baseline flow, in particular HGVs), therefore, when considering the sensitivity and the magnitude of change, the effect of construction traffic on pedestrian delay on the U3521 (Bonar Bridge), U1999, and U1991 results in a high magnitude of change on receptors of high sensitivity. Thus, the effects on increased traffic on pedestrian delay is **major / moderate** and **significant** in the context of the EIA Regulations. Mitigation measures are adopted to reduce this effect and outlined in **Section 14.7**.

Fear and Intimidation on and by Road Users

14.5.23 The IEMA 2023 Guidelines note that “the extent of fear and intimidation is dependent on the total volume of traffic, the heavy vehicle composition, speed these vehicles are passing, proximity of traffic to people – and / or the feeling of the inherent lack of protection created by factors such as a narrow pavement median, and a narrow path or a constraint (such as a wall or fence) preventing people stepping further away from moving vehicles”.

14.5.24 The effects of fear and intimidation can be quantified by using the weighting system provided in the IEMA 2023 Guidelines, whereby the degree of hazard to pedestrians is assessed with reference to the established thresholds, and a score provided for each combination on a highway link as shown in **Volume 5, Appendix 14.3: Fear and Intimidation on and by Road Users Analysis**.

14.5.25 **Table 14.29** shows an assessment of the impact of construction traffic at locations within the Study Area which will experience the effects of fear and intimidation.

Table 14.32: Assessment of Fear and Intimidation on and by Road Users

Traffic Count Location / Link ID	Sensitivity of Receptor	Step Change	Magnitude of Change	Significance of Effect
2: B870	Low	No Change	Negligible	Negligible
3: A9 Achavanich, DfT ID: 10959	Medium	No Change	Negligible	Negligible
4: A9 North of Helmsdale, DfT ID: 50719	High	No Change	Negligible	Minor
5: A9 South of Helmsdale, DfT ID: 30721	High	No Change	Negligible	Minor
7: A9 Brora, DfT ID: 40719	High	No Change	Negligible	Minor
8: A9 South of Golspie, DfT ID: 720	High	No Change	Negligible	Minor
10: A836, near Edderton, DfT ID: 80004	High	No Change	Negligible	Minor
11: A836, Bonar Bridge, DfT ID: 50937	High	No Change	Negligible	Minor
12: A836, Ardgay, DfT ID: 80005	High	No Change	Negligible	Minor
13: C1136 Church Street	High	No Change	Negligible	Minor
17: B817, North of Evanton	High	No Change	Negligible	Negligible
18: B817 South of Evanton (Drummond)	High	No Change	Negligible	Negligible
20: A835, Wester Moy, DfT ID: 80017	High	No Change	Negligible	Minor
21: A834 North of Strathpeffer, DfT ID: 20799	High	No Change	Negligible	Minor
22: A832 East of Marybank, DfT ID: 20931	High	No Change	Negligible	Minor
23: A832 Muir of Ord, DfT ID: 40950	High	No Change	Negligible	Minor
24: A862 North of Beaulay, DfT ID: 10950	High	No Change	Negligible	Minor

Traffic Count Location / Link ID	Sensitivity of Receptor	Step Change	Magnitude of Change	Significance of Effect
25: A862 East of Wester Balblair, DfT ID: 30950	Medium	No Change	Negligible	Minor
26: C1104 Torgormack	High	No Change	Negligible	Minor

14.5.26 **Table 14.32** above shows that there would be no step change in traffic flows or associated levels of fear and intimidation for any of the locations based on the criteria in the IEMA 2023 Guidelines. As no step change occurs, the IEMA 2023 Guidelines classify the magnitude of change as negligible, which in turn results in a **negligible or minor** and **not significant** effect at all locations.

14.5.27 With respect to the U3521 (Bonar Bridge), U1999, and U1991, reference should be made to the non-motorised user amenity assessment undertaken in this chapter. The magnitude of change in traffic levels on fear and intimidation is anticipated to be high based on the road (low baseline flow, in particular HGVs), therefore, when considering the sensitivity and the magnitude of change, the effect of construction traffic on fear and intimidation on the U3521 (Bonar Bridge), U1991 and U1999 results in a large magnitude of change on receptors of high sensitivity. Thus, the effects of increased traffic on fear and intimidation is **major or moderate** and **significant** in the context of the EIA Regulations. Mitigation measures which are to be adopted to reduce this effect are outlined in **Section 14.7**.

Road Vehicle and Passenger Delay

14.5.28 The IEMA 2023 Guidelines note 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*”. Delays may also occur at junctions which operate close to capacity due to increase in traffic flows particularly during peak periods or the passage of slower moving vehicles such as HGVs. No sensitive junctions in terms of capacity constraints have been identified and, given the type of the roads within the Study Area are rural, it is unlikely they are operating close to capacity. As such, the magnitude of change for road vehicle driver and passenger delay has been derived based on the net change in the daily capacity utilisation of roads within the Study Area, as detailed in **Volume 5, Appendix 14.4: Road Vehicle Driver and Passenger Delay Analysis**.

14.5.29 **Table 14.33** shows an assessment of the impact of construction traffic at locations within the Study Area on passenger and driver delay. The magnitude of change is classified in accordance with **Table 14.4** and the corresponding significance of effect is classified with reference to **Table 14.5**

Table 14.33: Assessment of Road Vehicle and Passenger Delay

Traffic Count Location / Link ID	Sensitivity of Receptor	Net Change in usage of Daily Road Capacity (%)	Magnitude of Change	Significance of Effect
1: A9 Banniskirk, DfT ID: 40960	Low	3.8 %	Negligible	Negligible
2: B870	Low	0.7 %	Negligible	Negligible
3: A9 Achavanich, DfT ID: 10959	Medium	3.8 %	Negligible	Negligible
4: A9 North of Helmsdale, DfT ID: 50719	High	3.8 %	Negligible	Minor
5: A9 South of Helmsdale, DfT ID: 30721	High	5.3 %	Negligible	Minor
6: A897 (Outside of Helmsdale), DfT ID: 30961	Low	6.7 %	Negligible	Negligible
7: A9 Brora, DfT ID: 40719	High	5.3 %	Negligible	Minor

Traffic Count Location / Link ID	Sensitivity of Receptor	Net Change in usage of Daily Road Capacity (%)	Magnitude of Change	Significance of Effect
8: A9 South of Golspie, DfT ID: 720	High	5.3 %	Negligible	Minor
9: A839, DfT ID: 20935	High	1.3 %	Negligible	Minor
10: A836, near Edderton, DfT ID: 80004	High	2.1 %	Negligible	Minor
11: A836, Bonar Bridge, DfT ID: 50937	High	1.3 %	Negligible	Minor
12: A836, Ardgay, DfT ID: 80005	High	2.1 %	Negligible	Minor
13: C1136 Church Street	High	0.8 %	Negligible	Minor
14: B9176, near Dalnavie, DfT Point ID: 979064	Low	1.7 %	Negligible	Negligible
15: A9, North of Tain, DfT ID: 80001	Low	8.6 %	Negligible	Negligible
16: A9, Drummond, DfT ID: 50813	Low	8.6 %	Negligible	Negligible
17: B817, North of Evanton	High	1.3 %	Negligible	Minor
18: B817 South of Evanton (Drummond)	High	0.5 %	Negligible	Minor
19: A9, North Kessock, DfT ID: 80013	Low	3.0 %	Negligible	Negligible
20: A835, Wester Moy, DfT ID: 80017	High	0.5 %	Negligible	Minor
21: A834 North of Strathpeffer, DfT ID: 20799	High	0.4 %	Negligible	Minor
22: A832 East of Marybank, DfT ID: 20931	High	0.3 %	Negligible	Minor
23: A832 Muir of Ord, DfT ID: 40950	High	0.2 %	Negligible	Minor
24: A862 North of Beaulay, DfT ID: 10950	High	0.9 %	Negligible	Minor
25: A862 East of Wester Balblair, DfT ID: 30950	High	0.6 %	Negligible	Minor
26: C1104 Torgormack	High	4.1 %	Negligible	Minor

14.5.30 **Table 14.33** above shows that the short-term increase in construction traffic of the Proposed Development will result in a **negligible or minor** and **not significant** effect on road vehicle and passenger delay on roads within the Study Area.

14.5.31 For the roads without baseline traffic flows, a comparison of the estimated daily traffic against the theoretical capacity was undertaken. **Table 14.34** below indicates the percentage of the theoretical capacity which would be used by the predicted construction traffic. For the below table, it has been assumed that construction traffic will be distributed over a 10-hour period.

Table 14.34: Capacity Assessment

Road	Capacity (veh/hour/ direction)	Two-way Hourly Capacity	Two-way 10-hour Capacity	Estimated Daily Traffic	% of 10-hour Capacity
C1053	140	280	2,800	238	8.5 %
C1065	140	280	2,800	128	4.6 %
U1043	140	280	2800	113	4.0 %

Road	Capacity (veh/hour/ direction)	Two-way Hourly Capacity	Two-way 10-hour Capacity	Estimated Daily Traffic	% of 10-hour Capacity
Achorn Road	800	1600	16,000	149	0.9 %
Clynish Road	800	1600	16,000	167	1 %
U3521 Migdale Road (Bonar Bridge)	140	280	2,800	280	10 %
C1136 Inveroykel Culrain	140	280	2,800	72	2.6 %
C1138 Cadh' an Tartair	140	280	2,800	72	2.6 %
U1907	140	280	2,800	87	3.1 %
U1990	140	280	2,800	274	9.8 %
U1991 Glenglass Road	140	280	2800	115	4.1 %
U1999 Swordale Road	140	280	2800	115	4.1 %
Achonochie Road	140	280	2,800	64	2.1 %

14.5.32 As shown above, the predicted peak construction traffic is a negligible component of the overall road capacity. It is acknowledged that, while construction traffic is unlikely to be evenly distributed across the 10-hour working day, construction deliveries (HGVs) typically follow a set schedule. As such, the timing of these deliveries can be managed to minimise potential impacts on these roads. The predicted percentages are such that the impact of construction traffic on these roads, and thus the effect of short-term increase in traffic on road vehicle and passenger delay, is **negligible or minor** and **not significant** in the context of the EIA Regulations.

Road User and Pedestrian Safety

14.5.33 Highway safety is assessed by the frequency and severity of injury accidents that are attended by the police and recorded in official accident statistics. Intensification of use or changes in the composition of traffic has the potential to have an effect on accident rates and for the assessment of effects on accidents and safety, the receptor is the safety of the road network.

14.5.34 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 construction of the Proposed Development. The likelihood of an accident occurring is commonly expressed in accidents per million vehicle-km.

14.5.35 Values taken from the latest Scottish Transport Statistics report indicates that the accident rate for the trunk road network is 0.037 accidents per million vehicle-km travelled (approximately 700 recorded collisions). This accident rate has been applied to the total number of construction trips across the whole construction phase to estimate the potential increase in RTCs during the construction phase.

14.5.36 The trunk road (A9(T)) makes up the longest route within the Study Area with an approximate length of 173 km and it is noted that not all vehicles will travel the entire length of the A9(T). Therefore, it is assumed that the average distance travelled per vehicle is 85 km to account for short and long trips made to the Site.

14.5.37 Based on the rate above, the predicted change in RTCs is 10 across the five-year construction period (approximately two accidents per year). It is therefore considered that the temporary increase in overall traffic and HGVs for the duration of the construction of the Proposed Development will not result in an adverse effect in respect to accidents and safety. The receptor sensitivity to this effect (road user and pedestrian safety) is considered high with a negligible magnitude of change. Thus, the effect of increased traffic on road user and pedestrian safety is assessed as **minor** and **not significant** in the context of the EIA Regulations.

Core Path Network

14.5.38 During the construction phase, the presence of plant and equipment in work areas adjacent to the core path network may temporarily reduce the amenity value of the paths, however, the effects would be temporary and short-term. Appropriate construction traffic management measures will be put in place to manage these effects. This would include, for example, solid fencing / barriers in areas where dust is generated together with appropriate signage to caution passers-by of construction. It is acknowledged that temporary diversions and additional management measures may be required for core paths within the Site. Therefore, the negligible magnitude of impact related to identified core paths of low to high sensitivity within the Study Area are **negligible to minor**, and **not significant** in the context of EIA Regulations.

Hazardous and Large Loads

14.5.39 No abnormal loads are anticipated although it may be that some plant such as cranes may be classed as abnormal loads due to their width. In this event, further routeing studies and swept path analysis will be undertaken.

14.5.40 Vehicle fuel will be regularly transported throughout the construction period. All fuel will be transported by suitably qualified contractors who are required to adhere to regulations for the transportation and storage of hazardous substances. No other hazardous substances in significant quantities are expected to be transported to Site. The existing road network is likely to already experience transportation of hazardous substances to nearby developments and facilities. Therefore, the effect of the transportation of hazardous substances is considered to result in a negligible magnitude of change on road links of low to high sensitivity. Thus, the effect of hazardous load is **negligible to minor** and **not significant** in the context of the EIA Regulations.

14.6 Cumulative Effects

14.6.1 The maximum spatial extent of potential cumulative traffic effects, is determined when the construction phase of other developments utilising the same sections of the road network overlaps with the construction phase of the Proposed Development. Areas beyond this are unlikely to experience any measurable change.

14.6.2 Given the extent of the Study Area, there are several developments which may overlap construction periods with the Proposed Development. For the purpose of this cumulative assessment, only developments that have been granted consent or those still in the planning process that have submitted a supporting Transport Assessment have been considered. Developments that are in the early stages of the planning process such as scoping or screening have therefore been excluded from the assessment. The developments listed in **Table 14.35** have been considered in this cumulative assessment.

Table 14.35: Cumulative Development Information

Development	Status	Comment
Banniskirk 400 kV Substation and HVDC Converter Station	Under consideration	General construction traffic will use the A9(T) approach route, in common with the Proposed Development. The A9(T) is a good standard trunk road which is well used by HGVs and has sufficient capacity to accommodate temporary increases in traffic levels. The proposed connecting Banniskirk

Development	Status	Comment
		substation will be constructed at the same time by the Applicant who will seek to reduce overlap in peak traffic numbers where practicable. Therefore, this has not been considered further.
Carnaig 400 kV Substation	Under consideration	<p>General construction traffic will use the A9 (T) and the U3521 approach route, in common with the Proposed Development.</p> <p>The A9 (T) is a good standard trunk road which is well used by HGVs and has sufficient capacity to accommodate temporary increases in traffic levels. It is acknowledged that the U3521 is unsuitable for HGV traffic however, the proposed Carnaig substation is being constructed at the same time by the Applicant and there are on ongoing discussions with THC on road upgrades required to accommodate the short term increase in HGV traffic as well as the implementation of a borrow pit thereby minimising potentially reducing the import of aggregate. Consequently, the Applicant will seek to reduce overlap in peak traffic numbers where practicable. Therefore, this has not been considered further.</p>
Fanellan 400 kV Substation and HVDC Converter Station	Under consideration	<p>General construction traffic will use the A832, and A862 approach routes, in common with the Proposed Development.</p> <p>The roads highlighted above are good standard single carriageway roads are able to accommodate temporary increases in traffic levels with no improvements required. The proposed Fanellan substation is being constructed at the same time by the Applicant who will seek to reduce overlap in peak traffic numbers where practicable. Therefore, this has not been considered further.</p>
Beauly to Blackhillock to New Deer to Peterhead 400kV OHL	Scoping Application Decision Issued	<p>As stated in Chapter 5: EIA Process and Methodology, the final list of developments to be considered in the cumulative effects assessment was frozen at the end of March 2025, to allow sufficient time to compile this EIA Report. Therefore, the EIA Report for Beauly to Blackhillock to New Deer to Peterhead (BBNP) has not been submitted at time of writing. However, as it is an internal project, it has been possible to have sight of information available prior to finalising the EIA Report. This has therefore been used to undertake a cumulative assessment but will be subject to finalisation of the BBNP EIA Report.</p> <p>General construction traffic will use the A831 and A862 approach routes, in common with the Proposed Development.</p> <p>The roads highlighted above are good standard single carriageway roads are able to accommodate temporary increases in traffic levels with no improvements required. The proposed BBNP is being constructed at the same time by the Applicant who will seek to reduce overlap in peak traffic numbers where practicable. Therefore, this has not been considered further.</p>
Strathy Wood Wind Farm Grid Connection	Under consideration	<p>General construction traffic will use the A9(T) approach route, common with the Proposed Development.</p> <p>The A9(T) is a good standard trunk road which is well used by HGVs and has sufficient capacity to accommodate temporary increases in traffic levels. In addition, the proposed Strathy Wood Wind Farm Grid Connection is being constructed at the same time by the Applicant who will seek to reduce overlap in peak traffic numbers where practicable. Therefore, this has not been considered further.</p>

Development	Status	Comment
Garvary Wind Farm	Under consideration	<p>General construction traffic will use the A9, A839, A836 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 84 daily two-way movements (38 HGV movements and 45 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>
Abhainn Dubh Wind Farm	Under consideration	<p>General construction traffic will use the A9, B817 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 209 daily two-way movements (149 HGV movement and 60 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>
Acheilidh Wind Farm (formerly known as Lairg III)	S36 Raise Objection	<p>General construction traffic will use the A9, A839, A836 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 150 daily two-way movements (105 HGV movements and 45 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>
Strathrory Wind Farm Redesign	Appeal Allowed	<p>General construction traffic will use the A9, A836, B9176 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 82 HGV movements and the corresponding traffic assignment to inform the cumulative assessment.</p>
Camster II Wind Farm	Appeal Allowed	<p>General construction traffic will use the A9, B870 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 262 daily two-way movements (232 HGV movement and 30 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>
Achany Extension Wind Farm	Approved by Scottish Ministers	<p>General construction traffic will use the A9, A836, A949 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 138 daily two-way movements (93 HGV movement and 45 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>
Chleansaid Wind Farm	Approved by Scottish Ministers	<p>General construction traffic will use the A9, A836, A839 approach route, common with the Proposed Development.</p> <p>A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 200 daily two-way movements (168 HGV movement and 32 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.</p>

Development	Status	Comment
Creag Riabhach Extension Wind Farm	Approved by Scottish Ministers	General construction traffic will use the A9, A836, A839 approach route, common with the Proposed Development. A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 16 daily two-way movements (6 HGV movement and 10 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.
Strath Tirry Wind Farm	Application Permitted	General construction traffic will use the A9, A836, A839 approach route, common with the Proposed Development. A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 54 daily two-way movements (44 HGV movement and 10 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.
Sallachy Wind Farm	Application Permitted	General construction traffic will use the A9, A836, A949 approach route, common with the Proposed Development. A review of the Transport Assessment submitted in support of its application has been undertaken to obtain the peak traffic flow of 74 daily two-way movements (50 HGV movement and 24 car/van movements) and the corresponding traffic assignment to inform the cumulative assessment.

14.6.3 As outlined in **Table 14.35** above, ten developments have been considered further for potential cumulative traffic effects by the construction of these developments along with the Proposed Development, with the six relevant locations shown in **Table 14.36**. The table indicates the realistic worst-case traffic effect at these locations if the above developments were to be constructed over the same period as the Proposed Development and the corresponding peak traffic generating months occur at the same time.

Table 14.36: Cumulative Traffic Effects Assessment

Traffic Count Location/Link ID	Total Vehicle Movements			HGV Movements Only		
	2026 Baseline	Baseline + Cumulative Developments	Increase (%)	2026 Baseline	Baseline + Cumulative Developments	Increase (%)
2: B870	197	594	202 %	86	409	378 %
9: A839, DfT ID: 20935	858	1,469	71 %	27	405	1415 %
10: A836, near Edderton, DfT ID: 80004	683	1,721	152 %	129	817	531 %
11: A836, Bonar Bridge, DfT ID: 50937	1,752	2,689	53 %	103	711	592 %
12: A836, Ardgay, DfT ID: 80005	1,824	2,886	58 %	126	826	554 %
18: B817 South of Evanton (Drummond)	1,483	1,807	22 %	286	502	76 %

14.6.4 As indicated in **Table 14.36**, the addition of all construction traffic from the identified cumulative developments will result in the exceedance of IEMA 2023 Guidelines Rule 1 and Rule 2, with higher impact recorded on links with lower baseline flows and therefore further assessment is required. However, it must be emphasised that

the cumulative assessment is based on the realistic worst-case scenario of all developments undergoing their peak period of construction at the same time and professional judgement must be applied.

- 14.6.5 As the applications are at different stages in the planning process and each development has varying lengths of construction period, it is highly unlikely that these peak construction periods would overlap. In addition, most of the cumulative developments are wind farm projects and the high traffic generating activities, such as the importation of stone and concrete, only occur over a few months of the whole construction period. It is also unlikely that the local capacity for concrete and stone production could supply several developments at once, therefore, high traffic generating activities would be staggered. In addition, many of these developments have based their assessments on realistic worst-case scenarios that assume all aggregate and concrete are imported to the site, without accounting for the potential to establish on-site borrow pits for stone extraction or to operate on-site concrete batching facilities. The incorporation of these measures has the potential to significantly reduce HGV movements associated with material deliveries, thereby lowering the overall effect on the local transport network.
- 14.6.6 It is anticipated that in line with good practice and the application of standard planning conditions, the implementation of a CTMP for each development would ensure that there are open lines of communication with THC and Transport Scotland. This would monitor the progress of the construction phases and ensure that adequate steps are taken to minimise and potential disruption on the surrounding road network.
- 14.6.7 It is therefore considered that the cumulative effect of the Proposed Development and other developments would not lead to any changes in the significance of effects predicted for the Proposed Development, in the context of the EIA Regulations.

14.7 Mitigation

- 14.7.1 Significant effects were identified in relation to severance, non-motorised user amenity, non-motorised delay and fear and intimidation on and by road users at number of sensitive receptors within the Study Area. In accordance with EIA Regulations, mitigation is required to address these potential significant effects.
- 14.7.2 A number of mitigation measures are proposed for adoption within the CTMP, which would be agreed in consultation with Transport Scotland and THC. It is anticipated that the agreed CTMP will be integrated into the Principal Contractor's construction processes and controls, and so this section will be updated accordingly post-consent in the CTMP. The mitigation measures would include the following:
- As far as reasonably possible, deliveries shall be scheduled outside of school opening and closing times. Drivers of all delivery vehicles to be made aware during induction of the presence of schools and other amenities within villages and settlements along delivery routes;
 - Drivers to be reminded of the presence of 20-mph temporary speed restrictions on the main roads outside of schools along the delivery routes and that a strict adherence to these speed limits is expected;
 - Delivery times will be scheduled to ensure that deliveries do not arrive in convoy where possible;
 - Timing of deliveries will be outlined within the CTMP to ensure construction vehicles avoid potentially congested networks at peak hours;
 - Where it is reasonably practicable, HGV deliveries will be programmed outwith local community events where increased traffic or parking requirements may be reasonably anticipated;
 - Temporary construction signage will be erected on the approved routes to Site to warn people of construction activities and associated construction vehicles. Road user safety (including non-motorised users) will be enhanced via the installation of signage and the maintenance of sight lines. Details of the implementation of temporary signage will be provided to THC/Transport Scotland (as appropriate) by the Applicant or their appointed Principal Contractor prior to the commencement of construction within the

CTMP. All signing will also be provided in accordance with the Traffic Signs Regulations and General Directions 2016 and associated Traffic Signs Manuals 3, 5 and 8;

- Consideration of reduced construction traffic speed limits (for example, 20-mph in 30-mph zones) through sensitive areas along the route (i.e. within settlements) and on approach to the main access points;
- All HGVs transporting fine and loose material must be sheeted to avoid dust and the spillage of materials onto the highway;
- Arrangements will be in place for regular road maintenance and cleaning, e.g., road sweeping in the vicinity of site access points as necessary;
- Provision of construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the Site;
- Implementation of a package of measures in the form of construction staff travel plan to encourage construction staff to adopt modes of transport which reduce reliance on single occupancy private car use;
- Appropriate parking / lay-up facilities will be provided for construction workers' vehicles and HGVs;
- Consideration will be given to the potential use of on-site borrow pits to source aggregate material, thereby minimising or potentially eliminating the need to import aggregate from off-site quarries. This approach will significantly reduce HGV traffic accessing the Site, contributing to the overall reduction in construction-related transport impacts on the local road network; and
- Traffic Management Co-Ordinator will be appointed by the Principal Contractors who is responsible for ensuring that construction vehicle route timings do not coincide with planned public events and/or road network improvements within the vicinity of the Proposed Development, so as to not further impede local road users and communities. Furthermore, the Traffic Management Co-Ordinator will ensure communication and coordination with other cumulative developments under construction in the local area to identify opportunities to mitigate cumulative traffic impacts through a collaborated approach with others.

14.7.3 A road condition survey will be undertaken on the access routes used during the construction phase as a condition of granting consent to the Proposed Development. This will be undertaken prior to the start of the construction phase to record the existing road conditions. The survey area and methodology will be agreed with THC following confirmation of the construction access routes. Any deterioration in road condition, which is agreed as attributable to construction traffic associated with the Proposed Development will be restored to at least the same standard upon completion of construction. Additional measures that will be considered and undertaken as part of the road condition survey include:

- carriageway strengthening;
- strengthening of bridges and culverts;
- swept path assessment and visibility splay assessment
- carriageway widening and/or edge strengthening; and
- provision of passing places.

14.7.4 This process will ensure that there are no significant residual adverse effects on the condition of the local roads.

14.7.5 An Outdoor Access Management Plan will also be prepared to support the development proposals and will include additional details of specific routes that may be affected and also set out any proposed mitigation required to mitigate the impacts of the potential interactions between construction traffic and the users of Core Paths. A Draft Outdoor Access Management Plan is included in **Volume 5, Appendix 16.1**.

14.8 Residual Effects

14.8.1 It is considered that with the implementation of the mitigation measures outlined in **Section 14.7** through the CTMP for the duration of construction, the effect on increased traffic on severance, non-motorised user

amenity, as well as non-motorised delay at the sensitive receptors identified will be reduced to **minor** and therefore considered **not significant** in the context of the EIA Regulations.

14.9 Summary and Conclusions

14.9.1 **Table 14.37** provides a summary of the predicted effects detailed within this chapter.

Table 14.37: Summary of Effects

Receptor	Potential Effects	Significance of Effect	Additional Mitigation	Residual Effects
Settlements along route	Severance of Communities	Major / Moderate	The CTMP will set out a phasing, timing, and routing strategy for construction traffic movements. Where necessary, construction traffic movements will be programmed outwith periods of increased baseline traffic (such as during local community events).	Minor, Not Significant
Non-motorised Users	Non-motorised User Amenity	Major / Moderate	The CTMP, which would be agreed in consultation with THC and finalised post consent, will set out a phasing and timing strategy for construction traffic movements. Where it is reasonably practicable, construction traffic movements (in particular HGV deliveries) will be programmed outwith periods of increased non-motorised users' activities.	Minor, Not Significant
Non-motorised Users	Non-motorised User Delay (Pedestrian Delay)	Major / Moderate	The CTMP, which would be agreed in consultation with THC and finalised post consent, will set out a phasing and timing strategy for construction traffic movements. Where it is reasonably practicable, construction traffic movements (in particular HGV deliveries) will be programmed outwith during periods of increased non-motorised users' activity.	Minor, Not Significant
Non-motorised Users	Fear and Intimidation on and by Road Users	Major / Moderate	The CTMP, which would be agreed in consultation with THC and finalised post consent, will set out a phasing and timing strategy for construction traffic movements. Where it is reasonably practicable, construction traffic movements (in particular HGV deliveries) will be programmed outwith periods of increased pedestrian activity e.g. school opening and closing times.	Minor / Negligible, Not Significant
Road Network	Road Vehicle Driver and Passenger Delay	Minor / Negligible	The CTMP will set out a phasing, timing, and routing strategy for construction traffic movements. Where necessary, construction traffic movements will be reduced during periods of increased baseline traffic.	Minor / Negligible, Not Significant

Receptor	Potential Effects	Significance of Effect	Additional Mitigation	Residual Effects
Road Network	Road User and Pedestrian Safety	Minor	The CTMP, which would be agreed in consultation with THC and finalised post consent, will include measures to further enhance existing road safety conditions during the construction phase.	Minor, Not Significant
Road Users and Settlements along route	Hazardous and Large Loads	Minor / Negligible	N/A	Minor / Negligible, Not Significant
Core Path Network	Non-motorised Users	Minor / Negligible	No significance of effect identified, however, in line with good practice, further information regarding the outline OAMP and its approach to reducing impacts on recreational users can be found in Volume 5, Appendix 16.1: Draft Outdoor Access Management Plan.	Minor / Negligible, Not Significant