Scottish & Southern Electricity Networks
TRANSMISSION

SSEN Transmission

Bingally 400 kV Overhead Line Tie-In

Environmental Appraisal

April 2025

CONTENTS

7. TRAFFIC AND TRANSPORT

7.1 Introduction

7.1.1 This chapter considers the potential for vehicular movement environmental effects resulting from the Proposed Development. It considers traffic and transport effects in accordance with Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement[1].

7.1.2 This chapter is supported by Appendix F Transport Statement.

7.2 Assessment Methodology and Significance Criteria

Scope of the Assessment

7.2.1 The traffic and movement assessment only considers the potential environmental effects of vehicular road traffic during the construction phase of the Proposed Development lifespan as identified in **Chapter 2 Description of the Proposed Development**. Operational and decommissioning stages have not been considered in this assessment. It is anticipated that the operational phase of the development would generate vehicle numbers which would not have a material impact on the local road network. The Proposed Development would operate in perpetuity and decommissioning is not considered (see **Section 7.6.16**). It is therefore considered that an assessment of the construction phase of the development presents a worst-case scenario.

7.2.2 The construction phase assessment considers construction traffic movements associated with delivery of plant and equipment, materials and construction workforce movements.

7.2.3 A forecast of vehicle movements throughout the construction programme has been provided by the Applicant (see **Appendix F Transport Statement**). Month seven (July) of 2027 is the busiest forecasted period for proposed development vehicular traffic. This time period has been adopted for the purposes of the environmental assessment of vehicular traffic and movement. **Appendix F Transport Statement** contains the detailed calculation of forecast development vehicular traffic.

Extent of the Study Area

7.2.4 Study Area roads are shown on **Figure 7-1, Appendix A Figures**. These roads are identified as those roads that may carry Proposed Development construction traffic. Study Area roads include the A831 to the east and west of the proposed Bingally substation access track. To the east, the A831 connects to the A82 trunk road network at Drumnadrochit. To the west of the proposed Bingally substation access track, the A831 routes through Cannich and then north towards Beauly. The A831 is a single carriageway road which is predominantly rural in nature. National speed limits apply to the A831 outside of the urban environs on its route, and a 40 mph speed limit applies through Cannich with a short 30 mph section at the A831 / Main Street junction.

7.2.5 Main Street in Cannich is considered as a Study Area road due to the presence of facilities such as accommodation and local shops which may be used by construction personnel. Main Street would not carry any HGV construction traffic. Main Street south of Cannich

[1] IEMA, 2023. *Environmental Assessment of Traffic and Movement* [online]. [Accessed 27 August 2024]. Available from: https://www.iema.net/resources/blog/2023/07/12/new-iema-guidance-environmental-assessment-of-traffic-and-movement

provides access to Fasnakyle Power Station. National speed limits apply to the route outside of Cannich and is rural in nature.

7.2.6 For the avoidance of doubt, construction traffic access to the Proposed Development site would be from the A82, via the A831 to the site access junction east of Cannich. No HGV construction traffic would route through the village of Cannich.

Method of Baseline Data Collation

7.2.7 A traffic baseline is derived from surveys undertaken between 6 June 2024 and 12 June 2024. Automatic Traffic Counters (ATC) surveys recorded data for seven days and Junction Turning Count (JTC) surveys recorded data on Thursday 6 June between the hours of 07:00 - 10:00 and 16:00 – 19:00. The location, type and results of the traffic surveys are provided in **Appendix F Transport Statement** and shown in **Figure 7-2, Appendix A Figures**. In summary the following traffic surveys were undertaken:

- A831 – four ATC surveys and one junction turning count survey; and
- Main Street – one Automatic Traffic Counter survey.

7.2.8 Department for Transport (DfT) recorded injury accident data was obtained from the online Crashmap[2] database which classifies accidents by location and severity.

Assessment Methodology

7.2.9 The assessment methodology follows the IEMA Guidelines 2023. Rule 1 and Rule 2 from the IEMA Guidelines are used to identify roads to be included in the environmental assessment:

- Rule 1. Include highway links where traffic flows would increase by more than 30% (or the number of heavy goods vehicles would increase by more than 30%); and
- Rule 2. Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

7.2.10 The IEMA Guidelines 30% threshold is based on research and experience of the environmental effects of vehicular traffic, with less than a 30% increase in vehicular traffic generally resulting in imperceptible changes in environmental effects apart from within specifically sensitive areas. The IEMA Guidelines consider that forecast changes in vehicular traffic of less than 10% in specifically sensitive areas creates no discernible environmental effect, hence the second threshold set out in Rule 2.

Determining Magnitude of Change and Sensitivity of Receptors

7.2.11 For magnitude of change, the IEMA Guidelines describe those changes in vehicular traffic of 30%, 60% and 90% should be considered as ‘slight’, ‘moderate’ and ‘substantial’ respectively. **Table 7-1** reflects the IEMA Guidelines to quantify the magnitude of change for Proposed Development traffic.

[2] Crashmap, 2024. *Crashmap* [online]. [Accessed 27 August 2024]. Available from: https://www.crashmap.co.uk/

Table 7-1 Magnitude of Change

Magnitude of Change	Change in Traffic (annual average weekly traffic (AAWT))	Description
High	90%+	Alteration to baseline conditions such that post development character or composition of baseline condition fundamentally changed.
Medium	60% - 90%	Alteration to baseline conditions such that post development character or composition of baseline condition materially changed.
Low	30% - 60%	Minor shift from baseline conditions such that post development character or composition of baseline condition remains similar to baseline and not materially changed.
Negligible	0% - 30%	Very little change from baseline conditions. Change is barely distinguishable approximating to no-change situation.

7.2.12 Receptors are locations or land-uses categorised by sensitivity or environmental value. **Table 7-2** describes the receptor sensitivity adopted for the assessment of Proposed Development traffic.

Table 7-2 Sensitivity of Receptors

Receptor Sensitivity	Description
Very High	The receptor has little or no ability to absorb change without fundamentally altering its present character, is of very high environmental value, or of international importance.
High	The receptor has low ability to absorb change without fundamentally altering its present character, is of high environmental value, or of international importance.
Medium	The receptor has moderate capacity to absorb change without significantly altering its present character, has some environmental value or is of regional importance.
Low	The receptor is tolerant of change without detriment to its character, is low environmental value, or local importance.
Negligible	The receptor is resistant to change and is of little environmental value.

7.2.13 For the purposes of assessment, receptors are identified in accordance with IEMA Guidelines as:

- People at home;
- People at work;
- Sensitive and / or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors);
- Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);
- Retail areas;
- Recreational areas;
- Tourist attractions;
- Collision clusters and routes with road safety concerns; and

- Junctions and highway links at (or over capacity).

7.3 Sensitive Receptors

7.3.1 **Appenidx F Transport Statement** provides an assessment of Study Area roads and the sensitivity of the receptors that may be present on those roads. **Table 7-3** summarises the sensitivity of Study Area roads as environmental receptors.

Table 7-3 Study Area Roads Sensitivity of Receptors

Road	Description	Sensitivity
A831 Drumnadrochit to Site Access	Single carriageway with national speed limit of 60 mph. Rural road between the proposed site access track and the trunk road network (A82). Some residential frontage in small villages to the east including Drumnadrochit. No active travel facilities.	Medium
A831 Site Access to Cannich	Single carriageway with national speed limit of 60 mph. Rural road connecting the site access track to the village of Cannich to the west. No direct frontage in vicinity of the site access track. No active travel facilities.	Negligible
A831 Cannich Village	Single carriageway with 40 mph speed limit which reduces to 30 mph in vicinity of A831 / Main Street junction. Some residential frontage on the south side. Footways also located on south of carriageway. Street lighting present.	Medium
A831 North of Cannich	Single carriageway with national speed limit of 60 mph. Reduced to single track road with passing places in sections to the north. Limited direct residential frontage and no active travel facilities. Part of A831 – Cannich to Struy Strategic Timber Transport Scheme.	Low
Main Street Cannich to Fasnakyle Substation	Single carriageway with a speed limit of 30 mph. Direct residential frontage with footways on east side of carriageway. Primary School and retail properties also with direct frontage.	Medium

7.3.2 For vehicular traffic generated by the Proposed Development the significance of environmental effect is derived from a combination of the magnitude of change and the sensitivity of receptor. **Table 7-4** summarises the approach to deriving the significance of effects. Table shading indicates likely significant effect subject to assessor's professional judgment.

Table 7-4 Significance of Effects

Magnitude of Change	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

7.3.3 The reporting of significance of environmental effects would also include:

- Temporary – where the effect occurs for a limited period of time and the change at a defined receptor can be reversed;
- Permanent – where the effect represents a long-lasting change at a defined receptor which is not reversable;

- Short Term (0–6 months), Medium Term (7-12 months) or Long Term (Longer than 12 months);
- Direct – where the effect is a direct result (or primary effect) of the Proposed development;
- Indirect – a secondary effect which occurs within or between environmental components. This may include effects on the environment which are not a direct result of the proposed development, often occurring away from the Proposed development as a result of a complex interactions with other environmental factors;
- Secondary – an induced effect arising from the actions or presence of a project, such as changes to the pattern of future land use or improvements to local road networks;
- Beneficial – an effect beneficial to one or more environmental receptors; and
- Adverse – a detrimental, or negative, effect on one or more environmental receptors.

7.3.4 The potential environmental effects of vehicular traffic, transport and access considered in this assessment of the Proposed Development are:

- Severance of communities – the perceived division that can occur when it becomes separated by a major traffic route (existing or proposed);
- Fear and intimidation on and by road users – the effect on the perceived vulnerability of pedestrian traffic relating to changes in traffic flows and or speed;
- Road user and pedestrian safety – the potential for effects on rate and severity of accidents relating to changes in traffic flows;
- Non-motorised amenity – broadly defined as the relative pleasantness of a pedestrian or cycle journey. The potential for effects relates to changes in traffic flows;
- Non-motorised user delay – the effect on travel time. The potential for effects relates to changes in traffic flow;
- Road vehicle driver and passenger delay – the effect on travel time. The potential for effects relates to changes in traffic flow, noting that road and junction vehicle capacity assessments are not part of this assessment; and
- Hazardous or large loads.

7.4 Baseline Conditions

7.4.1 Baseline traffic conditions on Study Area roads, including the proposed site access route, were established by traffic surveys undertaken in June 2024. The results of the traffic surveys are provided in **Appendix F Transport Statement**.

7.4.2 The 2024 traffic data provides information on current vehicle flows as well as speeds, and is used to inform the baseline traffic position for the environmental assessment of traffic and movement. The 2024 traffic data has had a growth factor applied to arrive at a true baseline position for when construction is due to commence in 2025 and peak in 2027. This provides a robust assessment in terms of applying IEMA Guidelines Rule 1 and Rule 2 to determine which roads should be included in the environmental assessment.

7.4.3 **Table 7-5** shows the 2024 baseline traffic data collected for Study Area roads.

Table 7-5 2024 Traffic Survey Data

Road	Daily Weekday Traffic (Two-Way)		
	Car & Light Goods Vehicles (LGV)	HGV	Total
A831 Site Drumnadrochit to Site Access	634	2	636

Road	Daily Weekday Traffic (Two-Way)		
	Car & Light Goods Vehicles (LGV)	HGV	Total
A831 Site Access to Cannich	645	2	647
A831 Cannich Village	647	6	653
A831 North of Cannich	413	5	418
Main Street Cannich to Fasnakyle Substation	695	4	699

7.4.4 DfT accident data has been sourced (via Crashmap) for the five year period 2018-2022. On Study Area roads this data shows 0 fatal, 0 serious, and 0 slight injury accidents were reported. This data is proposed to be taken as the baseline position on injury accidents for the environmental assessment of traffic and movement.

7.4.5 The number 17 bus service is the only public transport link on Study Area roads. The service runs approximately four times per day on weekdays and three times per day on Saturdays.

7.4.6 In terms of active travel, there are no dedicated footways on the A831 for the majority of its route, including the vicinity of the proposed site access track. Pedestrians are therefore considered unlikely to present outside of the urban environs of the A831 (Drumnadrochit, Milton and Cannich). Within Cannich, footways are present on the south side of the A831 carriageway and on Main Street.

7.4.7 The 2024 junction turning counts show cycle numbers on study area roads. **Table 7-6** shows the number of cyclists on each study area road during the 2024 junction turning counts.

Table 7-6 2024 Cyclist Data

Road	Daily Weekday Cyclists (Two-Way)		
	AM (0700 – 1000)	PM (1600 – 1900_	Total
A831 Site Drumnadrochit to Site Access	2	11	13
A831 Site Access to Cannich	2	11	13
A831 Cannich Village	2	11	13
A831 North of Cannich	1	0	1
Main Street Cannich to Fasnakyle Substation	1	10	11

Issues Scoped Out

7.4.8 Of the categories included in IEMA Guidelines it is proposed only hazardous / large loads are scoped out. It is considered unlikely there would be material construction traffic generated whose loads would fall within the current classifications for carriage of dangerous goods (Class 1-9).

7.4.9 Operational traffic is also scoped out of this assessment. The number of vehicle trips generated during the operational phase of development is expected to be within daily variation on Study Area roads. The operational phase is therefore unlikely to have a

material impact on local roads, as only occasional operational and maintenance traffic is expected.

7.5 Proposed Development Construction Traffic

7.5.1 The proposed construction traffic route uses the A831 between the A82 at Drumnadrochit and the proposed Bingally substation access track. The proposed Bingally substation access track would consist of an 9.5 km purpose-built track to be used exclusively for construction traffic for the Proposed Development and the proposed Bingally substation. It would connect to the A831 where the existing track is currently located.

7.5.2 It is proposed that HGV construction traffic would arrive at the Site from the east and leave to the east. It would therefore not enter the town of Cannich. However, although unlikely, it is possible that car / LGV traffic would use the A831 west of the proposed Bingally substation access track and has therefore assumed to be present on all Study Area roads.

7.5.3 It is unknown at this time where construction personnel would originate. It has therefore been assumed that car / LGV movements associated with the Proposed Development occur on all Study Area roads.

7.5.4 **Figure 7-3, Appendix A Figures** shows the proposed construction traffic routes for HGV and car / LGV movements.

7.5.5 Forecast construction traffic data for the Proposed Development was obtained from data provided by the Applicant and is contained in full within **Appendix F Transport Statement.** The construction period for the Proposed Development is anticipated to begin in September 2026 and last approximately 34 months. Forecast construction traffic data identifies July 2027 as the peak month for Proposed Development construction traffic generation. For July 2027, it is forecast that there would be four daily HGV movements and 47 car / LGV movements on Study Area roads. To reiterate, for the purpose of assessment, HGV construction traffic would only appear on the A831 between the A82 and the proposed Bingally substation access track while car / LGV traffic has been assumed to appear on all Study Area roads.

7.6 Assessment of Effects, Mitigation and Residual Effects

7.6.1 **Table 7-7** compares forecast Proposed Development construction traffic against baseline traffic to determine which roads must be included in the environmental assessment in accordance with IEMA Guidelines Rule 1 or Rule 2. Roads to be included in the environmental assessment are marked Yes or No. The assessment uses the forecast construction traffic from the peak month of the programme which occurs in July 2027.

Table 7-7 IEMA Guidelines Roads to be Included in Environmental Assessment

Road	Baseline		Proposed Development		% Increase		Included in EA (Yes / No)
	HGV	All Vehicles	HGV	All Vehicles	HGV	All Vehicles	
A831 Site Drumnadrochit to Site Access	2	654	4	51	200%	8%	Yes
A831 Site Access to Cannich	2	665	0	47	0%	7%	No
A831 Cannich Village	6	672	0	47	0%	7%	No

Road	Baseline		Proposed Development		% Increase		Included in EA (Yes / No)
	HGV	All Vehicles	HGV	All Vehicles	HGV	All Vehicles	
A831 North of Cannich	5	430	0	47	0%	11%	Yes
Main Street Cannich to Fasnakyle Substation	4	719	0	47	0%	7%	No

7.6.2 **Table 7-7** shows that the Study Area roads which require environmental assessment are the A831 between Drumnadrochit and the proposed Bingally substation access track and the A831 north of Cannich.

Severance of Communities

7.6.3 **Table 7-8** presents the significance of effect on the severance of communities as a result of Proposed Development construction traffic. The significance of effects for severance are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-8 Severance of Communities Significance of Effect

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	8%	Negligible	Medium	Negligible
A831 North of Cannich	11%	Negligible	Low	Negligible

7.6.4 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on severance of communities is a direct, temporary, **Negligible (Not Significant)** effect.

7.6.5 For severance of communities the significance of effects for all Study Area roads carrying construction traffic would be negligible.

Fear and Intimidation on and by Road Users

7.6.6 **Table 7-9** presents the significance of effect on fear and intimidation on and by road users as a result of Proposed Development construction traffic. Using IEMA Guidelines methodology for fear and intimidation magnitude of change, there is no step change in traffic flows from baseline conditions. The significance of effects are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-9 Fear and Intimidation on and by Road Users Significance of Effect

Road	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	Negligible	Medium	Negligible
A831 North of Cannich	Negligible	Low	Negligible

7.6.7 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic for fear and intimidation on and by road users is a direct, temporary, **Negligible (Not Significant)** effect.

7.6.8 For fear and intimidation on and by road users the significance of effects for all Study Area roads carrying construction traffic would be negligible.

Road User and Pedestrian Safety

7.6.9 **Table 7-10** presents the significance of effect on road user and pedestrian safety as a result of Proposed Development construction traffic. A forecast increase in accidents resulting from the presence of construction traffic on Study Area roads is used to establish a magnitude of change. **Appendix F Transport Statement** contains the construction traffic accident forecast. The significance of effects for are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-10 Road User and Pedestrian Safety Significance of Effect

Road	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	Negligible	Medium	Negligible
A831 North of Cannich	Negligible	Low	Negligible

7.6.10 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on road user and pedestrian safety is a direct, temporary, **Negligible (Not Significant)** effect.

7.6.11 For road user and pedestrian safety, the significance of effects for all Study Area roads carrying construction traffic would be negligible.

Non-Motorised User Amenity and Non-Motorised User Delay

7.6.12 **Table 7-11** presents the significance of effect on non-motorised user amenity and delay as a result of Proposed Development construction traffic. The magnitude of change for these environmental effects is based on the same 30%, 60% and 90% changes in traffic flow used for severance of communities. The significance of effects for severance are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-11 Non-Motorised User Amenity and Delay

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	8%	Negligible	Medium	Negligible
A831 North of Cannich	11%	Negligible	Low	Negligible

7.6.13 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on non-motorised user amenity and delay is a direct, temporary, **Negligible (Not Significant)** effect.

7.6.14 For non-motorised user amenity and delay the significance of effects for all Study Area roads carrying construction traffic would be negligible.

Road Vehicle and Passenger Delay

7.6.15 **Table 7-12** presents the significance of effect on road vehicle and passenger delay as a result of Proposed Development construction traffic. The magnitude of change for these environmental effects is based on the same 30%, 60% and 90% changes in traffic flow used for severance of communities. The significance of effects for severance are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-12 Road User and Passenger and Delay

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	8%	Negligible	Medium	Negligible
A831 North of Cannich	11%	Negligible	Low	Negligible

7.6.16 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on road user and passenger delay is a direct, temporary, **Negligible (Not Significant)** effect.

7.6.17 For road user and passenger delay the significance of effects for all Study Area roads carrying construction traffic would be negligible.

Mitigation

7.6.18 A Construction Traffic Management Plan (CTMP) would operate throughout the duration of the construction programme. **Appendix F Transport Statement** contains a draft CTMP. A detailed CTMP including the following is expected to be conditioned through the Section 37 consent and provided once a Principal Contractor is appointed. This would include:

- Site and the entry / exit arrangements from public roads;
- Traffic routeing plans – defining the routes to be taken by HGVs to the Site avoiding sensitive locations;
- Construction traffic hours and delivery times;
- Strategy for traffic management and measures for informing construction traffic of local access routes, road restrictions (statutory limits: width, height, axle loading and gross weight), timing restrictions (if applicable) and where access is prohibited;
- Measures to protect the public highway (e.g. wheel wash facilities) and regular inspection of road conditions throughout Proposed Development construction;
- Measures for the monitoring of the CTMP to ensure compliance from construction drivers and appropriate actions in the event of non-compliance;
- Mechanism for responding to traffic management issues arising during the works (including concerns raised from the public) including a joint consultation approach with relevant road authorities; and

- Staff Travel Plan designed to reduce the number of staff car / LGV trips to and from site.

Residual Effects

7.6.19 Following the implementation of mitigation**,** residual environmental effects are forecast as follows:

Severance of Communities

7.6.20 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on severance of communities following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

Fear and Intimidation on and by Road Users

7.6.21 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on fear and intimidation on and by road users following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

Road User and Pedestrian Safety

7.6.22 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on road user and pedestrian safety following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

Non-motorised User Amenity

7.6.23 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on non-motorised user amenity following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

Non-motorised User Delay

7.6.24 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on non-motorised user delay following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

Road Vehicle Driver and Passenger Delay

7.6.25 The sensitivity of receptors on Study Area roads would be unchanged. Mitigation would further reduce the previously reported magnitude of change. Therefore, the effect on road vehicle driver and passenger delay following mitigation would remain a direct, temporary, **Negligible (Not Significant)** effect.

7.7 Cumulative Effects

7.7.1 The cumulative assessment considers the effects from the Proposed Development, the proposed Bingally substation, and the other cumulative developments identified in **Table 3-2** in **Chapter 3 Methodology**. The Proposed Development and the proposed Bingally substation would use the same access route from the A831, and the same Study Area road network.

7.7.2 The cumulative peak period has been determined by combining the construction traffic forecasts of the Proposed Development and proposed Bingally substation. This identified a

clear worst-case scenario in terms of development traffic on which to base the cumulative assessment.

7.7.3 September 2027 was identified as the cumulative peak month. September 2027 has therefore been used as the month for cumulative assessment despite the Proposed Development generating no construction traffic during this month.

7.7.4 The cumulative assessment includes the developments listed in **Chapter 3 Methodology**. A review of planning documents associated with developments listed in **Table 3-2** shows that many are at Scoping / Screening stage and do not have construction traffic forecasts available. Knowledge of similar projects has been used to make a forecast of construction traffic for each cumulative development site. In the absence of construction programme information for cumulative sites, the previously identified month of September 2027 is used for cumulative assessment.

7.7.5 **Table 7-13** shows how cumulative development construction traffic forecasts have been distributed on Study Area roads. It should be noted that the Tomchrasky Wind Farm OHL Connection is not expected to use any Study Area roads for construction and therefore none of its traffic appears in **Table 7-13**.

Table 7-13 Distribution of Cumulative Development Traffic on Study Area Roads

Development	Vehicle Type	Study Area Roads				
		A831 Drumnadrochit to proposed Bingally substation access track	A831 proposed Bingally substation access track to Cannich	A831 Cannich Village	A831 North of Cannich	Main Street Cannich to Fasnakyle Power Station
Proposed Development	HGV	0	0	0	0	0
	Car / LGV	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**
Proposed Bingally substation (25/00592/FUL)	HGV	226	0	0	0	0
	Car / LGV	378	378	378	378	378
	Total	**604**	**378**	**378**	**378**	**378**
Bingally to Fasnakyle UGC / OHL connection	HGV	4	4	4	0	4
	Car / LGV	47	47	47	47	47
	Total	**51**	**51**	**51**	**47**	**51**
Tomchrasky Wind Farm OHL Connection	HGV	0	0	0	0	0
	Car / LGV	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**
Fiodhag Wind Farm (ECU00001969)	HGV	162	0	0	0	0
	Car / LGV	60	60	60	60	60
	Total	**222**	**60**	**60**	**60**	**60**
Fasnakyle Energy Storage (23/04100/FUL)	HGV	18	18	18	0	18
	Car / LGV	30	30	30	30	30
	Total	**48**	**48**	**48**	**30**	**48**
Kerrow Farm BESS (23/01025/SCRE)	HGV	18	18	18	0	18
	Car / LGV	30	30	30	30	30
	Total	**48**	**48**	**48**	**30**	**48**
Chrathaich Wind Farm (ECU00004704)	HGV	70	0	0	0	0
	Car / LGV	24	24	24	24	24
	Total	**94**	**24**	**24**	**24**	**24**
Erection of OHL (ECU00004569)	HGV	2	2	2	0	2
	Car / LGV	23	23	23	23	23

Development	Vehicle Type	Study Area Roads				
		A831 Drumnadrochit to proposed Bingally substation access track	A831 proposed Bingally substation access track to Cannich	A831 Cannich Village	A831 North of Cannich	Main Street Cannich to Fasnakyle Power Station
	Total	**25**	**25**	**25**	**23**	**25**
Cnoc Farasd Wind Farm (ECU00005214)	HGV	70	0	0	0	0
	Car / LGV	24	24	24	24	24
	Total	**94**	**24**	**24**	**24**	**24**
Total	**HGV**	**574**	**42**	**42**	**0**	**42**
	Car / LGV	**663**	**663**	**663**	**663**	**663**
	Total	**1237**	**705**	**705**	**663**	**705**

7.7.6 **Table 7-14** shows which Study Area roads should be included within the cumulative environmental assessment. The cumulative assessment considers the forecast effects of construction traffic during the peak month of construction of the Proposed Development.

Table 7-14 IEMA Guidelines Roads to be Included in Environmental Assessment

Road	Baseline		Cumulative Development		% Change		Included in EA (Yes / No)
	HGV	All Vehicles	HGV	All Vehicles	HGV	All Vehicles	
A831 Site Drumnadrochit to Site Access	2	654	574	1,237	27,710%	181%	Yes
A831 Site Access to Cannich	2	665	42	705	2,042%	99%	Yes
A831 Cannich Village	6	672	42	705	681%	98%	Yes
A831 North of Cannich	5	430	0	663	0%	143%	Yes
Main Street Cannich to Fasnakyle Substation	4	719	42	705	1,021%	92%	Yes

7.7.7 **Table 7-14** shows that all Study Area roads must be included within the cumulative environmental assessment.

Severance of Communities

7.7.8 **Table 7-15** presents the significance of effect on the severance of communities as a result of cumulative development construction traffic. The magnitude of change for these environmental effects is based on the 30%, 60% and 90% changes in traffic flow set out in

Table 7-1. The significance of effects for severance are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-15 Severance of Communities Significance of Effect

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	181%	High	Medium	Moderate
A831 Site Access to Cannich	99%	High	Negligible	Minor
A831 Cannich Village	98%	High	Medium	Moderate
A831 North of Cannich	143%	High	Low	Moderate
Main Street Cannich to Fasnakyle Substation	92%	High	Medium	Moderate

7.7.9 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on severance of communities is a direct, temporary, **Moderate Adverse (Significant)** effect.

7.7.10 For severance of communities the significance of effects for on the A831 east of Cannich, through Cannich Village and north of Cannich is considered moderate. There is also considered to be a moderate significance of effects on Main Street. HGV construction traffic would not be routed along these roads and therefore the significant effect is due to additional car / LGV traffic generated by cumulative development.

Fear and Intimidation on and by Road Users

7.7.11 **Table 7-16** presents the significance of effect on fear and intimidation on and by road users as a result of cumulative development construction traffic. Magnitude of change has been determined by the method set out in IEMA Guidelines 2023. This method and the results of which are covered in more detail within **Appendix F Transport Statement**. The significance of effects for fear and intimidation on and by road users are based on an assessment of all traffic in accordance with the IEMA Guidelines 2023.

Table 7-16 Fear and Intimidation on and by Road Users Significance of Effect

Road	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	Negligible	Medium	Negligible
A831 Site Access to Cannich	Negligible	Negligible	Negligible
A831 Cannich Village	Negligible	Medium	Negligible
A831 North of Cannich	Negligible	Low	Negligible
Main Street Cannich to Fasnakyle Substation	Negligible	Medium	Negligible

7.7.12 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic for fear and intimidation on and by road users is a direct, temporary, **Negligible (Not Significant)** effect.

7.7.13 For fear and intimidation on and by road users the significance of effects for all Study Area roads carrying cumulative construction traffic would be negligible.

Road User and Pedestrian Safety

7.7.14 **Table 7-17** presents the significance of effect on road user and pedestrian safety as a result of cumulative development construction traffic. As per IEMA Guidelines, magnitude of change for Road User and Pedestrian Safety has been determined by a forecast of injury accidents as a result of increases in traffic associated with cumulative development.

Table 7-17 Road User and Pedestrian Safety Significance of Effect

Road	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	Negligible	Medium	Negligible
A831 Site Access to Cannich	Negligible	Negligible	Negligible
A831 Cannich Village	Negligible	Medium	Negligible
A831 North of Cannich	Negligible	Low	Negligible
Main Street Cannich to Fasnakyle Substation	Negligible	Medium	Negligible

7.7.15 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on road user and pedestrian safety is a direct, temporary, **Negligible (Not Significant)** effect.

7.7.16 For road user and pedestrian safety, the significance of effects for all Study Area roads carrying cumulative construction traffic would be negligible.

Non-Motorised User Amenity and Non-Motorised User Delay

7.7.17 **Table 7-18** presents the significance of effect on non-motorised user amenity and delay as a result of cumulative development construction traffic. The magnitude of change for these environmental effects is based on the same 30%, 60% and 90% changes in traffic flow

used for severance of communities, as IEMA indicated these environmental effects are closely related.

Table 7-18 Non-Motorised User Amenity and Delay

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	181%	High	Medium	Moderate
A831 Site Access to Cannich	99%	High	Negligible	Minor
A831 Cannich Village	98%	High	Medium	Moderate
A831 North of Cannich	143%	High	Low	Moderate
Main Street Cannich to Fasnakyle Substation	92%	High	Medium	Moderate

7.7.18 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on non-motorised user amenity and delay is a direct, temporary, **Moderate Adverse (Significant)** effect.

7.7.19 For non-motorised user amenity and delay the significance of effects of the A831 east of Cannich, through Cannich Village and north of Cannich carrying cumulative development construction traffic is considered moderate. There is also considered to be a moderate significance of effects of Main Street carrying cumulative development construction traffic. HGV construction traffic would not be routed along these roads and therefore the significant effect is due to additional car / LGV traffic generated by cumulative development.

Road Vehicle Driver and Passenger Delay

7.7.20 **Table 7-19** presents the significance of effects on road vehicle driver and passenger delay as a result of cumulative development construction traffic. The magnitude of change for these environmental effects is based on the same 30%, 60% and 90% changes in traffic flow used for severance of communities.

Table 7-19 Road User and Passenger and Delay

Road	% Change in Total Traffic	Magnitude of Change	Sensitivity of Receptor	Significance of Effect
A831 Site Drumnadrochit to Site Access	181%	High	Medium	Moderate
A831 Site Access to Cannich	99%	High	Negligible	Minor
A831 Cannich Village	98%	High	Medium	Moderate
A831 North of Cannich	143%	High	Low	Moderate
Main Street Cannich to Fasnakyle Substation	92%	High	Medium	Moderate

7.7.21 Classifying the significance of effects: prior to mitigation, the likely effect of construction traffic on road vehicle driver and passenger delay is a direct, temporary, **Moderate Adverse (Significant)** effect.

7.7.22 For road vehicle driver and passenger delay, the cumulative assessment forecasts the significance of effects on the A831 east of Cannich, through Cannich Village and north of Cannich to be moderate. There is also forecast to be a moderate significance of effects on Main Street. These effects are forecast due to carrying cumulative development construction traffic. Proposed Development construction traffic would not be routed along the A831 west of the proposed Bingally substation access track or along Main Street and therefore the significant effects forecast are due to additional traffic generated by the other cumulative development sites.

7.8 Cumulative Assessment Mitigation

7.8.1 **Table 7-8** shows that significant affects are forecast as a result of cumulative development traffic across the following IEMA categories:

- Severance of Communities (Direct, Temporary, **Moderate Adverse**);
- Non-motorised User Amenity and Delay (Direct, Temporary, **Moderate Adverse**); and
- Road Vehicle Driver and Passenger Delay (Direct, Temporary, **Moderate Adverse**).

7.8.2 The following IEMA categories are forecast to experience not-significant effects:

- Fear and Intimidation on and by Road Users (Direct, Temporary, **Negligible);** and
- Road User and Pedestrian Safety (Direct, Temporary, **Negligible)**.

7.8.3 Mitigation is proposed in the form of a CTMP for the Proposed Development, and co-ordination with construction contractors and their own respective CTMPs for cumulative development sites. The key points in the CTMP are included in **Section 7.6**.

7.8.4 Significant effects can be attributed to increases in total traffic volume on Study Area roads. **Section 7.7** presents a worst case scenario whereby peak months for construction traffic generation across all cumulative development coincides. It is considered that ensuring peak construction periods do not coincide would drastically reduce the likelihood of significant effects. As mitigation for significant cumulative effects, it is therefore proposed that co-ordination between contractors appointed to each development should

occur. Contractors would be expected to liaise with each other to ensure that peak traffic generation periods are not scheduled for the same months.

7.8.5 It is proposed that, once a contractor is appointed, the requirement to liaise with other cumulative development contractors should be included within the CTMP for the Proposed Development.

7.8.6 The expected outcome of this mitigation would be to reduce magnitude of change across all Study Area roads by one step.

7.9 Cumulative Assessment – Residual Effects

7.9.1 Following mitigation, it is forecast that there would be residual effects across the following IEMA categories:

- Severance of Communities (Direct, Temporary, **Moderate Adverse**);
- Non-motorised User Amenity and Delay (Direct, Temporary, **Moderate Adverse**); and
- Road Vehicle Driver and Passenger Delay (Direct, Temporary, **Moderate Adverse**).

7.9.2 It should be noted that these effects would be temporary and short term.

7.9.3 The above residual effects are essentially a result of low baseline traffic, which leads to high percentage increases when considering cumulative development traffic. Weight must be given to IEMA Guidelines on the matter of low baseline traffic volumes. The Guidelines state that caution needs to be observed when applying magnitude of change thresholds (percentage increases in traffic) to very low baseline flows, as Study Area roads are unlikely to experience impacts or significance of effects even with high percentage changes in traffic.

7.10 Summary of Effects

7.10.1 Construction traffic forecasts for the Proposed Development and Cumulative Development presented in this chapter provide a robust basis for the assessment of environmental effects. Proposed Development traffic would arrive at the site via the A831 from the east. Assumptions have also been made regarding the routing of Cumulative Development traffic based on the location of each development.

7.10.2 Prior to mitigation, the environmental effects forecast in the assessment of Proposed Development construction traffic are temporary minor (not significant) environmental effects for severance, non-motorised user amenity, non-motorised user delay and road vehicle and passenger delay. Mitigation in the form of a CTMP would be conditioned as part of the Section 37 planning consent, and subsequently approved by relevant planning, roads, and emergency authorities.

7.10.3 Prior to mitigation, the environmental effects forecast in the assessment of cumulative development construction traffic are forecast to be direct, temporary Moderate (Significant) effect in terms of Severance, Non-motorised User Amenity, Non-motorised User Delay and Road Vehicle and Passenger Delay. These effects relate to roads within the village of Cannich, and the Proposed Development would not route traffic through Cannich on these roads. Mitigation in the form of a CTMP and coordination between cumulative developments would be in place aiming to reduce the magnitude of change on Study Area roads from cumulative development construction traffic. It is anticipated that post-mitigation environmental effects forecast by the assessment of cumulative development traffic would therefore be direct, temporary Minor (Not Significant) effects on Study Area roads.

7.10.4 **Table 7-20** presents a summary of the environmental effects forecast in this assessment.

Table 7-20 Summary of Effects

Category	Proposed Development			Cumulative Development		
	Significance of Effects	Mitigation	Residual Effects	Significance of Effects	Mitigation	Residual Effects
Severance of Communities	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Moderate Adverse (Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Minor Adverse (Not Significant)
Fear and Intimidation on and by Road Users	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Negligible (Not Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Negligible (Not Significant)
Road User and Pedestrian Safety	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Negligible (Not Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Negligible (Not Significant)
Non-motorised User Amenity	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Moderate Adverse (Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Minor Adverse (Not Significant)
Non-motorised User Delay	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Moderate Adverse (Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Minor Adverse (Not Significant)
Road Vehicle and Passenger Delay	Direct, Temporary Negligible (Not Significant)	CTMP	Direct, Temporary Negligible (Not Significant)	Direct, Temporary Moderate Adverse (Significant)	CTMP + Coordination between cumulative developments	Direct, Temporary Minor Adverse (Not Significant)