Chapter 11
Traffic and Transport

Introduction

11.1 This Chapter presents the findings of the assessment of the likely construction effects of the proposed Glenmuckloch to Glenglass Reinforcement Project (GGRP) on traffic and transport on the surrounding public road network and nearby sensitive receptors. The GGRP is described in detail in **Chapter 4: Development Description**.

11.2 Cumulative effects associated with committed projects which are likely to generate traffic that will utilise local public roads within the GGRP Study Area (at the same time as traffic generated by the GGRP) have also been assessed.

11.3 A Transport Assessment (TA) has not been undertaken as a TA is not generally considered to be required for temporary construction works and the traffic movements associated with the operational phase of the GGRP are not high enough to warrant a formal TA. The statutory consultees for the GGRP did not request that a formal TA was undertaken.

11.4 Planning policies of relevance to this assessment are considered in **Chapter 5: Planning Policy**.

11.5 The assessment is accompanied by the following figures:

- **Figure 11.1: Proposed Construction Access Routes**; and
- **Figure 11.2: Existing Recreational Routes**.

11.6 The following appendices accompany the Chapter:

- **Appendix 11.1: Construction Traffic Management Plan**; and
- **Appendix 11.2: Construction Access Routes and Temporary Access Review**.

Scope of the Assessment

11.7 This section outlines the likely significant effects which have been assessed in detail, as well as detailing potential effects scoped out of detailed assessment. The scope of the assessment remained under review as the Environmental Impact Assessment (EIA) progressed, with consideration given to the scoping responses and other additional consultation responses received as part of this process.

Effects Assessed in Full

11.8 The assessment is made with reference to the GGRP, as described in **Chapter 4: Development Description**. Within the Study Area the following traffic and transport effects have been considered:

- Effects on the public road network as a result of traffic generated by the construction of the GGRP and associated timber felling.
- Potential cumulative traffic and transport effects associated with wind farms and other developments which may utilise the same road network during the construction of the GGRP.

11.9 The assessment is structured around the consideration of potential environmental effects related to traffic and transport as identified by the IEMA Guidelines (IEMA, 1993):

- Driver delay.
- Road safety.
- Community effects (pedestrian delay, pedestrian amenity / fear and intimidation).

Effects Scoped Out

11.10 On the basis of the desktop-based and field survey work undertaken, professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards and feedback received from consultees, the following topic areas have been 'scoped out' of a detailed assessment, as proposed in the Scoping Report:

Chapter 11 The effects associated with the Operational Phase. Traffic associated with the operation and maintenance of overhead electric lines and the associated substation is limited and infrequent. Operational overhead electric lines are subject to an annual maintenance inspection with any further visits generally being the result of unplanned outages on the lines. These visits are infrequent and are unlikely to generate significant volumes of traffic. In the context of traffic and transport therefore, the operational phase of the GGRP is not assessed in this chapter.

- Construction traffic effects on trunk roads, aside from the A76 local to the GGRP, as thresholds for assessment[1] will not be exceeded. Furthermore, trunk routes are strategically designated to facilitate the movement of medium/long distance commercial transport.
- Construction traffic noise: This has not been assessed in detail as traffic movements will be distributed over the existing road network. In addition, the proposed new accesses to be formed during the construction phase are of temporary or short duration, therefore no significant noise effects are anticipated to arise.
- Potential effects on air quality resulting from construction traffic. These effects have not been assessed in detail on the basis that the GGRP will be accessed via several geographically distinct roads and access points and, therefore, traffic-related emissions will be diffused throughout the Study Area.

Assessment Methodology

11.11 This assessment has been undertaken as a combination of desktop study, field survey and consultation with statutory agencies, in line with current good practice and policy advice. Predicted volumes of felling and construction vehicle movements have been compared with baseline traffic flows to identify if there are likely to be periods where the increase in general traffic (or HGV traffic) exceeds standard thresholds[2]. Likely effects arising as a result of the additional traffic (i.e. those on driver delay, road safety and community effects) have been identified and their significance assessed.

Legislation and Guidance

Guidance

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

- Institution of Highways and Transportation (IHT) (1994), *Guidelines for Traffic Impact Assessment;*
- Institute of Environmental Assessment (now the Institute of Environmental Management and Assessment (IEMA) (1993), *Guidelines for the Environmental Assessment of Road Traffic*, Guidance Notes No. 1 (referred to as 'the IEMA Guidelines');
- Transport Scotland (2012), *Transport Assessment Guidance;*
- Scottish Government (2005), NESA Manual, DMRB, *Volume 15, Economic Assessment of Road Schemes in Scotland;*
- ROSPA (2007) *Road Safety Engineering Manual;*
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and
- Design Manual for Roads and Bridges LA 104 *Environmental Assessment and Monitoring*.

[1] With respect to the Institute of Environmental Assessment Guidelines (1993)

11.13 The IEMA Guidelines are intended for the assessment of the effect of road traffic associated with new developments. It is common and established practice that they are applied to energy-related developments, and, as such, these guidelines are defined as suitable in order to assess the construction phase of a high voltage overhead line and an associated substation.

Consultation

11.14 Consultation was undertaken with Transport Scotland (TS) and Dumfries and Galloway Council (D&GC) Roads Department to ascertain their views on the assessment methodology, environmental effects relating to access, traffic and transport, any particular concerns they may have, and any proposed road works. A summary of the consultation is provided in **Table 11.1**.

Table 11.1: Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Dumfries and Galloway Council (D&GC) December 2020	Consultation Response	*"The Council's roads officer has been unable to provide a response to this request at this time."* D&GC Planning officer requested that EIA includes measures to minimise impact (construction and operation) on Kirkconnel and Mynwhirn Hill Core Path.	EIA Report details mitigation in form of CTMP to minimise effects on Core Paths.
Transport Scotland 10 April 2019	Consultation Response	Potential impact of proposed 132kV overhead lines that would cross the A76. Request that the future EIA gives confirmation of consideration to the laying of underground cables, together with any supporting associated information (justifying the routeing approach taken forward).	Request noted. A strategic routing study has been undertaken and this EIA focuses on the final route as identified through that exercise. Further details are provided in **Chapter 2: The Routeing Process and Design Strategy** and **Chapter 4: Development Description**.

Study Area

11.15 The Study Area for the assessment of traffic and transport has been predicated on the potential access locations to the site and the logically proposed routes linking the access points with the external public road network. To determine appropriate access routes to sites, detailed consideration and assessment of the surrounding road network has been undertaken. A comprehensive desktop-based study and site visit were undertaken to fully understand the surrounding road network in order to identify potential sensitive receptors and to highlight potential pinch points which could restrict vehicular access.

11.16 The Study Area for traffic and transport is effectively the public road network in the vicinity of the GGRP which will be used during construction of the new connections. The public road network considered in this assessment is shown on **Figure 11.1**. Whilst a Study Area has not been defined on a distance basis, the public roads in the vicinity of the GGRP are those which are proposed to be used during construction and operation of the GGRP, and therefore those which have been assessed as part of this study.

11.17 The primary route in the local area is the A76, a trunk road in south Scotland linking Kilmarnock with Dumfries. The section assessed in this chapter is located between B741 (New Cumnock) and C128n (Blackaddie Road), Sanquhar. Other roads include:

- C128n (Blackaddie Road)
- C125n (C128N (at Nithbank Cottage) to A76(T))
- U459n (Lagrae Road); and
- U432n (Euchan Water Road) between the C128n and 'Euchan Cottage'

11.18 It is recognised that a small number of vehicles may utilise the A76 trunk route south of Sanquhar; their effect would be negligible and therefore, to ensure a robust assessment, it has been assumed that all development-related traffic will access the development via the A76 from the north of Sanquhar.

Desktop Based Research and Data Sources

11.19 A preliminary desktop study was undertaken to review site access routes. Constraints and sensitive road sections were identified (i.e. locations which are likely to be more vulnerable to change in traffic flow or profile, e.g. collision cluster sites ('accident blackspot'), high footfall areas, or areas in close proximity to a school).

11.20 Recorded Personal Injury Collision (PIC) data was obtained from publicly available PIC information from the CrashMap website (https://www.crashmap.co.uk/) which utilises information sourced from the Department for Transport (DfT) database.

11.21 SPEN provided information in relation to construction traffic generation, based on their knowledge and experience of the construction and operational traffic requirements of similar projects. Information in relation to traffic movements required for forestry felling was provided by RTS as forestry advisors.

11.22 In addition, the following data sources have been used in this assessment:

- Traffic flow information for roads within the defined Study Area were sourced from Transport Scotland's database (Drakewell C2-Cloud Traffic Data) (where available).
- Mott MacDonald sample traffic counts (October 2020) were undertaken to establish conditions on the C128n and U432.
- Factored flows derived from peak and inter-peak sample counts.
- For other minor route sections within the Study Area, estimated traffic volumes were based on the professional judgement of Mott MacDonald.

Field Survey

11.23 Field surveys were undertaken on 20th March 2020, 22nd October 2020, 14th April 2022 and 8th October 2022 by experienced Mott MacDonald staff to determine characteristics of the roads within the Study Area. This involved a drive through of the public road sections within the Study Area to identify potential constraints and upgrades necessary to accommodate the safe movements of construction traffic generated by the GGRP and review sensitive route sections as defined above.

Assessing Significance

11.24 As noted above, a TA has not been requested by consultees and has not been undertaken as a TA is not generally considered to be required for temporary construction works and the traffic movements associated with the operational phase of the GGRP are not high enough to warrant a formal TA.

11.25 An assessment of traffic and transport effects has been undertaken as significant effects associated with felling and construction traffic were considered likely at the scoping stage. The following effect classifications are considered:

- Driver Delay.
- Road Safety.
- Community Effects (Pedestrian and Cyclist Amenity, Fear and Intimidation, and Severance).

Sensitivity

11.26 The receptors that may be subject to traffic effects arising from the construction of the GGRP include settlements situated adjacent to construction traffic routes. These settlements are classified by size, function, presence of school and community facilities, traffic calming or traffic management measures, vehicles speed limits and position on the road's hierarchy using the criteria identified **Table 11.2**. This classification is based upon subjectivity, professional judgement and relative sensitivity to the potential traffic effects of the GGRP.

11.27 Table 11.2 provides a description of receptor sensitivity based on DMRB LA 104 'Environmental Assessment and Monitoring'[2].

Table 11.2: Receptor Sensitivity

Receptor Sensitivity	Description
High	Typically, receptors with high importance and rarity on an international and national scale and with limited potential for substitution. To include large rural settlements containing a high number of community and public services and facilities, areas with traffic control signals, waiting and loading restrictions, traffic calming measures and minor rural roads not constructed to accommodate frequent use by HGV.
Medium	Typically, receptors with high or medium importance and rarity on a regional scale and with limited potential for substitution. To include intermediate sized rural settlements containing some community or public facilities and services, areas with some traffic calming or traffic management measures and local A or B class roads, capable of regular use by HGV traffic.
Low	Typically, receptors with low or medium importance and rarity on a local scale (on-site or neighbouring the site). To include small rural settlements with few community or public facilities or services, areas with little or no traffic calming or traffic management measures and trunk or A-class roads, constructed to accommodate significant HGV composition.
Negligible	Typically, receptors with little importance and rarity. To include very small settlements and roads with no adjacent settlements including new strategic trunk roads or motorways that would be little affected by additional traffic and suitable for abnormal loads.

Magnitude

11.28 The magnitude of traffic effects is a function of:

- Existing traffic volume
- Percentage increase and change due to a development
- Changes in the type of traffic
- Temporal distribution of traffic (day of week, time of day).

The determination of magnitude has been undertaken by reviewing the GGRP, establishing the parameters of the receptors that may be affected and quantifying these effects utilising IEMA Guidelines and professional judgement.

11.29 Consideration is given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, LGVs have less of an effect on traffic and the road system than HGVs.

11.30 The criteria that have been used to make judgements on the magnitude of predicted changes on the receptor(s) are presented in **Table 11.3.**

Table 11.3: Magnitude of Predicted Change

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

Significance

11.31 The IEMA Guidelines suggest that two broad rules can be used as a screening process to delimit the scale and extent of the assessment of road traffic. These are:

- Rule 1 – Include highway links where traffic flows would increase by more 30% (or the number of HGVs would increase by more than 30%).
- Rule 2 – Include any other specifically sensitive areas where traffic flows would increase by 10% or more.

11.32 Where the predicted increase in traffic volume (general traffic or HGV only) is lower than these thresholds, the significance of the effects can be stated to be not significant. This means that that further detailed assessments are not warranted. Consequently, where the predicted increase in traffic volume exceeds thresholds, the effects are considered to be potentially **significant** and accordingly, are assessed in greater detail.

11.33 The assessment has clearly identified transport routes which are to be used in connection with the GGRP. Quantitative assessments have been undertaken alongside the application of professional judgement to determine whether or not the effects are considered to be of significance. Based on the Rule 1 and 2 of the IEMA Guidelines, the predicted significance of the effect was determined considering both the sensitivity of the receiving environment and the magnitude of change against the baseline. As a guide to inform the assessment, but not as a substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in **Table 11.4**. It should be noted that the assessment considers the effects of the percentage increase in general traffic (Heavy Goods Vehicles (HGV) + Light Goods Vehicles (LGV) and also the percentage increase in HGV traffic only based on related baseline traffic flows e.g. % increase in HGVs from existing HGV baseline flow).

11.34 Given the rural nature and proximity of the Study Area, all routes have been treated as sensitive areas, and therefore the **10% significance threshold** will apply as per Rule 2 of the IEMA Guidelines, thus ensuring a robust assessment.

11.35 As a guide to inform the assessment, but not as substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in **Table 11.4** below. This table is based on combining the magnitude of predicted change with the receptor sensitivity.

Table 11.4: Significance Criteria

Significance of Effect	% Increase in general traffic (HGV + LGV) volume % Increase in HGV traffic volume
Major (Significant)	Greater than or equal to 60%

[2] https://www.standardsforhighways.co.uk/prod/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a?inline=true

Significance of Effect	% Increase in general traffic (HGV + LGV) volume % Increase in HGV traffic volume
Moderate (Significant)	Greater than or equal to 10% and less than 60%
Minor (Not Significant)	Greater than or equal to 5% and less than 10%
None (Not Significant)	Less than 5%

11.36 These thresholds have been developed based upon the Rule 2 criteria above and the consideration that '**Major**' and '**Moderate**' effects are **significant** in the context of the in the context of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the 2017 EIA Regulations (as amended)").

11.37 As such, where traffic is expected to increase by less than 10%, the potential effects have not been considered as '**significant**' under this assessment. Therefore, any effect described as '**Minor**' or '**None**' has not been assessed in further detail.

11.38 The significance of all effects under consideration is linked to the volume of traffic generated by the GGRP, and so it is considered appropriate to link significance criteria to the magnitude of forecasted traffic increase. However, the IEMA Guidelines also state that:

"For many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible."

11.39 As such, professional judgement (led by good practice guidance) has also been applied in the assessment of effects so as to provide more meaningful conclusions, particularly in relation to the assessment of driver delay, community effects (pedestrian delay, pedestrian amenity / fear and intimidation) and road safety effects which require local area knowledge. Information gathered during site visits, advice provided in the IEMA Guidelines and the DMRB Volume 15 (Scottish Government, 2005) have been used.

11.40 Furthermore, where baseline traffic flows are very low, it is possible to derive unrealistic determinations of significance when considered against purely numerical assessment criteria. For example, when traffic flow is very low, it is possible to show relatively large traffic increases and for the road to operate well below capacity. Under the numerical criteria defined above, a 60% increase in traffic volume would represent a major effect, but in reality the effect is likely to be less significant, given the residual capacity of the road.

Assessment Limitations

11.41 It has been necessary to make a number of assumptions to allow for the traffic and transport assessment to be undertaken as noted below.

Assessment Assumptions

11.42 As indicated in **Chapter 4,** a seven-day working week has been assumed for assessment purposes. Construction activities will be undertaken during daytime periods only, between approximately 07:00 to 19:00 for felling and access installation activities and in summer (April to September) and 08:00 to 17:00 (or as daylight allows) for all other activities and in winter (October to March). This would be for 48 working weeks of the year, and it has been assumed that no work will be undertaken in the month of December.

11.43 Felling and construction related activities for the GGRP comprise all activities relating to tree felling, construction/upgrading of access tracks, construction of overhead line or cabling installation, commissioning and associated activities as well as civil engineering works and control building works for the proposed substation.

11.44 It has been assumed that all concrete deliveries would be sourced from concrete batching plants, located predominantly to the north of the development. Delivery vehicles would be routed via the trunk road network (A76) and access the construction areas directly from A76 (18%) or from the C128n (Blackaddie Road) and U432n (Euchan Water Road) (25%), C125n (43%), U459n (Lagrae Road) (15%).

11.45 All electrical equipment deliveries are assumed to originate from the north; delivery vehicles would be routed via the trunk road network (A76) and access the construction areas directly from A76 (18%) or from the C128n (Blackaddie Road) and U432n (Euchan Water Road) (25%), C125n (43%), U459n (Lagrae Road) (15%).

11.46 For the purposes of the EIA, it has been assumed that stone will be sourced externally, entirely from the north and delivery vehicles would be routed via the trunk road network (A76) and access the construction areas directly from A76 (18%) or from the C128n (Blackaddie Road) and U432n (Euchan Water Road) (25%), C125n (43%), U459n (Lagrae Road) (15%).

11.47 It is assumed that site personnel, during the felling/construction phase, will travel to and from the site by private car. It is not intended that these vehicles will be restricted to specific site access routes. For the purpose of the assessment, it has been assumed that site personnel will approach the construction areas directly from A76 (18%) or from the C128n (Blackaddie Road) and U432n (Euchan Water Road) (25%), C125n (43%), U459n (Lagrae Road) (15%).

11.48 Confirmation of the traffic routes selected will be agreed with the appropriate road authorities when a contractor has been appointed as an integral part of the Construction Traffic Management Plan (CTMP), to be approved by D&GC (in consultation with other relevant road authorities) and adopted by the contractor.

11.49 Whilst a number of assumptions based on previous overhead line construction schemes have necessarily been required to have been made at this stage, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on traffic and transport.

Existing Conditions

Tourist and Leisure Use

11.50 There are several local communities present in the Study Area, including New Cumnock, Sanquhar, Kirkconnel and Kelloholm. There are also smaller residential clusters, hamlets and farm buildings in the locality.

11.51 The locality is used for leisure and tourist trips, largely focusing on outdoor activities, with road cycling being a common pursuit. A key recreational route which could potentially be affected by the increase in traffic volume is the Southern Upland Way which is a long-distance walking route in southern Scotland.

11.52 A number of core paths intersect with, or overlap with, proposed construction routes for the GGRP, including:

- Kirkconnel to Mynwhirn Hill.
- Euchan Fall.

11.53 The recreational routes noted above are shown on **Figure 11.2**.

Road Network and Route Profiles

11.54 The road network included in the Study Area was identified on the basis of likely felling and construction traffic routes provided by SPEN. Confirmation of the routes selected will be agreed with the appropriate road authorities when a contractor has been appointed.

11.55 The GGRP locality is connected to the strategic national road network (administered by Transport Scotland) via the A76 trunk road which links with A77 (near Kilmarnock) to the north and the A75 (near Dumfries) to the south. The A76 is an inter-urban route which is predominantly single carriageway and the national speed limit applies. At settlements (including Sanquhar, Kirkconnel/Kelloholm and New Cumnock), a speed limit of 30mph generally applies.

11.56 A concise profile setting out key characteristics of the local public road sections (all administered by Dumfries and Galloway Council) within the Study Area is provided below. These road sections are shown on **Figure 11.1.**

11.57 Blackaddie Road (C128n): Blackaddie Road is a 30mph single carriageway road within Sanquhar. Industrial units are situated on the southside of the road with the Sanquhar swimming pool and a community play park situated on the other side. There is footway provision on this section of road (with the exception of the Blackaddie Road bridge, 'Blackaddie Bridge', where dedicated pedestrian reservation is marked on the road where the Southern Upland Way crosses the River Nith). A 30mph speed limit applies between its intersections with both the A76 and the John Bailey Smith Way. West of this, Blackaddie Road is subject to the national speed limit (60mph).

11.58 Euchan Water Road (U432n): The U432n is a single-track road. The road is used for access to a small number of residential and agricultural properties, as well as the Sanquhar Golf Club. The road is also used to access the Glenglass Substation and the Whiteside Hill Wind Farm. The national speed limit (60mph) applies on this section of road.

11.59 C125n: The C125n in this locality is a single carriageway road. The road is used for access to a small number of residential and agricultural properties as well as the Sanquhar Community Wind Farm. The national speed limit (60mph) applies on this section of road.

11.60 Lagrae Road (U459n): The U459n is a single-track road. The road is used for access to a small number of residential and agricultural properties as well as the opencast working. The national speed limit (60mph) applies on this section of road.

11.61 In addition to the public road sections described above, it is proposed to utilise an existing off-road track (which also serves access to the Whiteside Hill Wind Farm) accessed from the U432n (near 'Euchan Cottage').

Bridges and Other Structures

11.62 There are several bridges and culverts on the existing road network, however no evidence of any signed weight restrictions was observed during the field study nor identified during consultation.

Baseline Traffic Flows

11.63 Table 11.5 indicates the two-way Average Annual Daily Traffic (AADF) on traffic routes in the Study Area and the percentage of traffic which is classified as HGV. The source of reference data is described below the table.

Table 11.5: Existing Traffic Flow Data

Counter Location	Description [Speed Limit (mph)]	DMRB Road Capacity (two-way, vehicles per hour)	AADF [source]	Typical Peak Vehicular Flow (two-way hourly flow)	% HGV
1. Blackaddie Road (C128n)	Urban Typical Single Carriageway [30]	1600	492 [a]	<100	12.2%
2. Euchan Water Road (U432n)	Rural Typical Single-track [60]	n/a*	276 [a]	<50	4.3%
3. C125n	Rural Typical Single Carriageway [60]	n/a *	300 [b]	<50	4%
4. Lagrae Road (U459n)	Rural Typical Single-track [60]	n/a *	250 [b]	<50	4%
5. A76 (Between Kirkconnel and Sanquhar)	Inter-Urban Typical Single Carriageway [60]	2400	4232 [c]	<500	13.1%

* DMRB does not define theoretical capacities for single track roads

[a] Source: Mott MacDonald Sample Traffic Counts (October 2020) - factored flows derived from peak and inter-peak sample counts.

[b] Source: Estimated traffic volume; based on professional judgement of Mott MacDonald's subject matter expert

[c] Source: Transport Scotland database (Drakewell C2-Cloud Traffic Data) (27/09/22 – 03/10/22)

Personal Injury Collisions (PIC)

11.64 No concerns were raised during the consultation regarding road safety or collision cluster site 'blackspots' on the local or trunk road network.

11.65 Nevertheless, road traffic collision analysis has been undertaken to appraise road safety in the Study Area. PIC records have been obtained from CrashMap for a three-year period ending in June 2021 inclusive.

11.66 The data has been examined with due reference to the ROSPA Road Safety Engineering Manual (20078) (to identify any clusters and trends in the pattern and location of the collisions) and Road Casualties Great Britain (2019) to evaluate against national statistics for roads of similar classification. Where collision rates exceed the national average, these have been subject to more detailed consideration. Results of the road traffic collision analysis are summarised in **Table 11.6**.

Table 11.6: Summary of Collision Assessment for Public Roads within the Study Area

Route Section	No. of collisions in three-year period [Crash rate per billion vehicle miles]	RCGB Crash rate per billion vehicle miles (Comparison %)	Assessment
Blackaddie Road (C128n)	0 [0]	440 (0%)	No collisions were recorded during the three-year period ending in June 2021.
Euchan Water Road (U432n)	1 [827]	440 (188%)	The single recorded collision on this route section was considered as slight; this collision involved a total of 3 cars. No HGVs were involved in this collision.
C125n	2 [937]	440 (213%)	The two recorded collisions on this route section were both considered as slight; these collisions involved a total of 2 cars, 1 motorcycle and 1 HGV.
Lagrae Road (U459n)	0 [0]	440 (0%)	No collisions were recorded during the three-year period ending in June 2021.
A76 (Sanquhar, Blackaddie Road to New Cumnock, B741)	10 [202]	347 (58%)	Of the total recorded collisions on this route section,3 were classified as serious. 2 of the serious and 1 of the slight collisions involved pedestrians. No HGVs were involved in any of these collisions.

11.67 There is no historical evidence of a prevalent road safety problem on any of the route sections appraised; furthermore, none of the reported collisions in the Study Area, which resulted in serious or fatal injury, involved an HGV classified vehicle.

11.68 It is therefore concluded that a detailed assessment of road safety matters is not required.

Future Baseline in the Absence of the Development

11.69 This section outlines traffic conditions anticipated within the Study Area, in the absence of the GGRP.

Planned Changes to the Road Network

11.70 Routine periodic route maintenance is likely to occur at a variety of locations, however nothing notable is proposed in the Study Area at the time of writing.

11.71 No planned changes to the road network were identified during consultation.

Future Baseline Traffic Flow

11.72 This assessment has considered the effects of traffic generated during the GGRP construction phase. Construction is scheduled to commence in July 2025 and be completed by October 2026.

11.73 In the absence of the GGRP, it has been assumed that traffic flows on the local road network would increase broadly in line with National Road Traffic Forecasts (NRTF). The level of increase within the local road network is assessed to be 'Low'. This relates to a 1.6% increase in background traffic between 2022 and 2025, and a 2.1% increase between 2022 and 2026. Low growth was selected on the basis that the GGRP is situated in a sparsely populated area. High or medium levels of traffic growth would only be likely if there is to be a significant increase in population and car ownership in the area, which is not foreseen. Beyond 2026 road traffic will continue to increase in line with NRTF low forecasts. **Table 11.7** details forecast future baseline traffic flows.

Table 11.7: Future Baseline Traffic Flow Data

Route Section	2025 AADF		2026 AADF	
	Total Traffic Movements	HGV Traffic Movements	Total Traffic Movements	HGV Traffic Movements
Blackaddie Road (C128n)	414	54	416	54
Euchan Water Road (U432n)	284	37	285	37
C125n	305	40	306	40
Lagrae Road (U459n)	254	33	255	33
A76 (Sanquhar, Blackaddie Road to New Cumnock, B741)	4300	563	4321	566

Planned Local Developments

11.74 Committed developments were identified through consultation with Dumfries and Galloway Council. For the purpose of the cumulative assessment, the developments listed in **Table 11.8** were considered[3].

[3] www.energyconsents.scot [accessed on 2 Nov 2022] or Drawing - FIG00_00_10191_000_r0_CumulativeDevelopments_A3L

Table 11.8: Planned Local Developments

Committed Development	Energy Consents Unit (ECU) or D&GC Planning Portal Reference	Wind Farm Planning Status[4]	Comments	Scoped In/Out of Cumulative Assessment
Lethans Wind Farm	ECU00001856	Consented	From review of *EIA Volume 1 – Chapter 9 – Traffic and Transportation,* construction of the project would take place in 2022 if consent was granted. A 30-month construction phase has been programmed. Construction traffic is proposed to access the Lethans Wind Farm site from the A76 via C47 Mansfield Road and U716. With regards to operational phase there would be up to two vehicle movements per week for maintenance.	**Scoped out** - if construction phase occurs as programmed then there will be no overlap with the GGRP construction phase and operational associated vehicles movements are low.
Lethans Wind Farm Extension	ECU00002221	Application Submitted	From review of *EIAR Volume 1 –Chapter 9 - Traffic and Transportation,* construction of the project would take place in 2026. A 24-month construction phase has been programmed. Construction traffic is proposed to access the Lethans Wind Farm Extension site from the A76 via C47 Mansfield Road and U716. With regards to operational phase the number of vehicle movements during the operational phase are likely to be minimal.	**Scoped in** as construction programmes could overlap (on A76).
Glenmuckloch Wind Farm	15/P/3/0236	Consented	From review of *ES Volume 2 –Chapter 10 - Traffic and Transport,*it is not clear when the development would commence construction. Construction phase is programmed to be 9 - 12 months. Construction traffic would access the development from the A76 via the U459nn. With regards to operational phase the effects of vehicle movements these have been scoped out of the assessment.	**Scoped in** as construction programmes could overlap (on A76 and U459n).
Glenmucklock Community Energy Park	No Information Available	Operational	No Information Available	**Scoped out -** wind farm is operational and it is likely that only a minimal number of vehicle trips are generated.
Sanquhar Six Wind Farm	15/P/3/0166 20/1294/S42	Consented	From review of *ES Section 12 – Transport Assessment,*it is not clear when the development would commence construction. Construction phase is programmed to be around- 12 months. Construction traffic would access the development from the A76 via the C125n. With regards to operational phase the effects of vehicle movements these have been scoped out of the assessment.	**Scoped in** as construction programmes could overlap (on A76 and C125n).

[4] www.energyconsents.scot [accessed on 2 Nov 2022] or Drawing - FIG00_00_10191_000_r0_CumulativeDevelopments_A3L

Committed Development	Energy Consents Unit (ECU) or D&GC Planning Portal Reference	Wind Farm Planning Status[4]	Comments	Scoped In/Out of Cumulative Assessment
Sanquhar Community Wind Farm	No Information Available	Operational	No Information Available	**Scoped out**. Wind farm is operational, and it is likely that only a minimal number of vehicle trips are generated.
Sandy Knowe Wind Farm	ECU00000660	Under Construction	From review *of EIA Chapter 12 Traffic and Transport,* an 18-month construction phase has been programmed. Construction traffic is proposed to access the Sandy Knowe Wind Farm site from the A76 via C125n. With regards to operational phase the effects of vehicle movements during the operational phase are likely to be minimal.	**Scoped out** - if construction phase occurs as programmed then there will be no overlap with the GGRP construction phase and operational associated vehicles movements are low.
Sandy Knowe Wind Farm Extension	ECU00003274	Application Submitted	From review of *EIA Chapter 9: Transport and Access*, construction of the project would take place in 2024. A 12-month construction phase has been programmed. Construction traffic is proposed to access the Sandy Knowe Wind Farm Extension site from the A76 via C125n. With regards to operational phase the effects of vehicle movements during the operational phase will be minimal.	**Scoped in** - construction programmes could overlap (on A76 and C125n).
Twentyshilling Hill Wind Farm	No Information Available	Under Construction	No Information Available	**Scoped out** - wind farm will be operational at the time of GGRP construction therefore it is likely that only a minimal number of vehicle trips are associated with Twentyshilling Hill Wind Farm operations.
Sunnyside Wind Cluster	No Information Available	Operational	No Information Available	**Scoped out** - wind farm is operational and therefore it is likely that only a minimal number of vehicle trips will be generated.
Euchanhead Renewable Energy Development (Wind Farm)	ECU00002141	Application Submitted	From review of *EIA Chapter 12: Access, Traffic and Transport*, construction of the project would commence in the first quarter of 2024. A 22-month construction phase has been programmed. Two alternative access routes have been considered for construction traffic for the assessment. Access Route A would access the site from the A76 via the Hare Hill Wind Farm access. Access Route B or the A76 via C128n Blackaddie Road and U432n Euchan Water Road. When wind farm is operational it is likely that only a minimal number of vehicle trips will be generated.	**Scoped in** - construction programmes could overlap (on A76, C125n and U432n).
Sanquhar II Community Wind Farm	ECU00001801	Appeal/Public Inquiry	From review *of EIA Section 12 – Traffic and Transport,* it is not clear when the development would commence construction. Construction phase is programmed to be 24 months.	**Scoped in** - construction programmes could overlap (on A76 and C125n).

Committed Development	Energy Consents Unit (ECU) or D&GC Planning Portal Reference	Wind Farm Planning Status[4]	Comments	Scoped In/Out of Cumulative Assessment
			Construction traffic would access the development from the A76 via the C125n. With regards to operational phase the effects of vehicle movements these have been scoped out of the assessment.	
High Park Farm	No Information Available	Operational	No Information Available	**Scoped out -** Wind farm is operational therefore it is likely that only a minimal number of vehicle trips are associated with operations.
Hare Hill Phase1	No Information Available	Operational	No Information Available	**Scoped out** - wind farm is operational therefore it is likely that only a minimal number of vehicle trips are associated with operations.
Hare Hill Phase 2	No Information Available	Operational	No Information Available	**Scoped out** - wind farm is operational therefore it is likely that only a minimal number of vehicle trips are associated with operations.

Implications of Climate Change

11.75 Qualitatively, the UK Climate Projections CP18[5] projects the following for Dumfries and Galloway:

- An increase in summer temperatures
- An increase in dry spells, particularly in the summer months
- An increase in winter rainfall
- An increase in wind speeds, including an increase in frequency of winter storms.

11.76 These changes suggest that there might be an increase in travel disruptions due to increased flood risk and an increase in travel discomfort due to higher summer temperatures.

11.77 The assessment of the potential traffic and transport effects associated with the GGRP has focused on the construction phase starting in 2025 and finishing in 2026. The implications of climate change on the baseline conditions during that period and over the lifetime of the GGRP are unlikely to alter the predicted effects set out in this assessment.

Identified Sensitive Receptors

11.78 The key receptors on the construction traffic routes are the villages of Sanquhar and Kirkconnel.

11.79 A summary of the sensitive receptors is provided in **Table 11.9**.

Table 11.9: Receptor Sensitivity

Receptor [Route Section]	Negligible	Low	Medium	High	Comments
New Cumnock [A76]		X			Small town situated on trunk route with notable community and public services and facilities. Features good quality pedestrian infrastructure and 30mph speed limit.
Kirkconnel [A76]		X			Large village situated on trunk route with notable community and public services and facilities. Features good quality pedestrian infrastructure and 30mph speed limit.
Sanquhar [A76]		X			Small town situated on trunk route with notable community and public services and facilities. Features good quality pedestrian infrastructure and 30mph speed limit.
Sanquhar [Blackaddie Road]				X	Local minor road facilitating community access in small town; locality contains notable community and public services and facilities. Features variable quality pedestrian infrastructure and 30mph speed limit.

Embedded Mitigation

Construction Traffic Management Plan (CTMP)

11.80 The temporary effects of felling and construction (whether assessed as significant or otherwise) will be mitigated through adoption of a regulated and approved CTMP. A CTMP is provided in **Appendix 11.1** and the assessment has been undertaken on the assumption that this, and the embedded measures set out within it, will be in place.

11.81 SPEN will agree temporary traffic management measures, then adopt and monitor an appropriate way of working in consultation with D&GC Roads Department, Transport Scotland and/or their Agent and the Police as appropriate. Felling and construction activity generated vehicles (with the exception of site personnel in cars and vans) will travel on predefined routes to and from the relevant sites to reduce effects on existing local traffic.

11.82 Timing and frequency of vehicle movements will be managed to ensure, where practical, that vehicle movements are spaced adequately to reduce disruption and coincide (if/where applicable) with existing/current local forestry operations.

11.83 The CTMP will be further developed as necessary in consultation with Road Authorities and the Police prior to construction commencing. The CTMP will document outline measures to promote the efficient transportation of components and materials to site, whilst reducing congestion and disruption which might impact negatively on local communities or general traffic and in particular the emergency services. The CTMP should be considered a 'live' document that includes:

- A programme of delivery types/numbers by month;
- A statement of which public roads are to be used by felling and construction traffic;
- A statement of which public roads are not to be used by felling and construction traffic;
- A statement of which local towns and villages are to be avoided (completely or on stated days and times);
- Details of all proposed mitigation measures, list of contacts, and details of measures that will be implemented to limit the potential of vehicle stacking on any part of the public road network;

[5] https://www.metoffice.gov.uk/research/collaboration/ukcp or Figure 1

- If appropriate, details of speed restrictions through sensitive areas and procedures to ensure pedestrian safety adjacent to worksites; and
- Details of temporary signage to be installed at defined locations.

11.84 As far as reasonably practicable, deliveries will be scheduled outwith school opening and closing times.

11.85 In partnership with SPEN, the appointed contractors will be required to maintain close liaison with local community representatives, landowners and statutory consultees throughout the construction phase. This is likely to include circulation of information about ongoing activities; particularly those that could potentially cause disturbance, including those due to traffic. A telephone number will be provided and persons with appropriate authority to respond to calls and resolve or escalate any problems arising will be available.

Assessment of Effects

11.86 The assessment of effects is based on the description of the GGRP as outlined in **Chapter 4: Development Description**. Unless otherwise stated, potential effects identified are considered to be negative.

Access Arrangements

11.87 Transportation, including deliveries to and from the construction areas will be taken from the existing trunk and local road network. The local area road network is shown in **Figure 11.1.**

11.88 Given the nature of construction of the overhead line (i.e. a linear development), SPEN has identified seven construction access points for the GGRP, identified in **Table 11.10** and shown on **Figure 11.1**.

11.89 Further information relating to the proposed construction worksite access locations is included in **Appendix 11.2**.

Table 11.10: Access Points for the GGRP

Worksite Access Reference	Public Road	Tower Number / Work Area(s) Accessed
A	U432n	1,2,3,4
B	U432n	5,6,7,8,9
C	C125n	10, 11,12,13,14,15,16
D	C125n	17,18,19,20,21,22,23,24,25,26,27
E	A76	28,29,30
F	A76	31,32,33,34
G	U459n	35,36,37,38,29,40

The proposed worksite accesses are preliminary, based on SPEN's experience of constructing similar projects. The worksite access locations will be confirmed by the appointed contractor as an integral part of their adopted CTMP, a preliminary version of which is provided as **Appendix 11.1**.

11.90 All construction vehicle drivers will be instructed to access a worksite via an approved route.

Construction Effects (including tree felling)

11.91 The construction phase represents the greatest intensification in traffic although it is important to note that this intensification is temporary in nature and will vary depending on the construction phase and requirements. The parameters and assumptions used to inform this assessment have been designed to represent a robust scenario.

11.92 Felling and construction related activities for the GGRP comprise all activities relating to tree felling, construction/upgrading of access tracks, construction of overhead line, cabling installation and construction of the Glenmuckloch Substation.

11.93 The construction traffic associated with the GGRP will comprise construction workers and HGVs / LGVs carrying construction materials and plant.

11.94 There is expected to be approximately 70 personnel working onsite on average, increasing to 97 personnel at peak times (January 2026 – May 2026). It is important to note that the number of personnel onsite will vary during the construction process. Construction activities will be undertaken during daytime periods only. In general, work hours are expected to be between 07:00 to 19:00 on weekdays for felling and access installation activities and in summer (April to September) and 08:00 to 17:00 (or as daylight allows) for all other activities and in winter (October to March) which means that staff will generally arrive and depart outside the peak hours associated with the surrounding road network (typically 08:00 to 09:00 and 16:00 to 17:00 weekdays).

11.95 Estimates of traffic generation associated with the construction phase of the GGRP have been calculated reflecting the following activities:

- Felling of forestry.
- Preparation of accesses.
- Platform formation for the new Glenmuckloch substation.
- Excavation of foundations.
- Tower delivery.
- Erection of towers.
- Delivery of conductors and stringing equipment.
- Insulator and conductor erection and tensioning.
- Reinstatement

11.96 To calculate a robust scenario, information was gathered regarding the materials required for construction and the size of average loads associated with the construction vehicles. An indicative programme for the construction activities is included within **Chapter 4: Development Description,** while **Table 11.11** includes an estimate of construction vehicle numbers required for each task that will generate HGV movements in relation to the activities outlined in construction programme**.** It is the intention of SPEN to source all of the stone requirement from quarries offsite. Therefore, for this assessment, a robust case scenario has been adopted which assumes that all stone and all concrete will be sourced offsite thus representing a robust case in terms of vehicle movements.

11.97 In addition to the construction purposed vehicles, it is anticipated that there will be an average of approximately 140 two-way daily private car trips (based on a daily average of 70 personnel) to the GGRP associated with construction staff. This would increase to around 194 two-way daily private car trips (based on a daily peak of 97 personnel) during the peak construction phase (January 2026 – May 2026). This equates to a maximum of 97 arrivals and 97 departures at the start and end of the working day which would be distributed proportionally across all work sites.

Table 11.11: Construction Vehicles Required

Work Stage	Part of GGRP	Total Load / No. of Deliveries	Duration	Total Vehicle Movements	Movements per Day (average)
Earthworks (including Felling and Access Installation)	Substation	1000 sqm stone	Jul 25 – Aug 25	200 (HGV)	4

Work Stage	Part of GGRP	Total Load / No. of Deliveries	Duration	Total Vehicle Movements	Movements per Day (average)
Civil Engineering Works - Foundations	Substation	370 sqm concrete	Sept 25 – Mar 26	124 (HGV)	1
Civil Engineering Works & Control Building Works	Substation	4080 HGV deliveries 2040 LGV deliveries	Sept 25 – Aug 26	8,160 (HGV) 4,080 (LGV)	25 (HGV) 13 (LGV)
Access Installation	OHL	Felling – 450 HGVs Access Installation – c.24750 sqm stone	Jan 26 – May 26	900 (HGV) 4,950 (HGV)	45
Foundation Installation	OHL	1600 sqm concrete	Feb 26 – Jul 26	534 (HGV)	7
Tower Erection	OHL	200 deliveries - based on 5 deliveries per tower	Apr 26 – Sept 26	400 (HGV)	7
Wiring Works	OHL	240 deliveries - based on 6 deliveries per tower	May 26 – Oct 26	480 (HGV)	7
Construction Staff	Substation + OHL	Average 70 staff private vehicle movements per day Peak 97 staff private vehicle movements per day	Jul 25 – Oct 26	72,134 (Cars)	70
			TOTAL HGV Traffic Movements	**15,748**	
			TOTAL Traffic Movements	**91,962**	

11.99 With reference to the indicative construction programme and the anticipated vehicle movements for each activity, the number of vehicle movements that are anticipated for each month of the construction programme has been calculated and have then been distributed over each route section as per the assumptions indicated in the 'Assessment Assumptions' section.

11.100 Estimated daily movements generated by the GGRP against the programme along with predicted percentages increases on relevant trunk and local roads are shown in **Table 11.12 and Table 11.13. Table 11.14** summarises the peak increase for 'all traffic' and HGV traffic on each road section and the significance of each increase in the context of EIA Regulations.

Predicted Construction Effects

Construction Traffic Effects

11.98 As indicated in **Table 11.11** the total traffic generated by the GGRP is estimated as 91,962 vehicle movements, of which 15,748 movements will be HGV movements over the 16-month construction phase. The peak construction phase would be between January 2026 and May 2026.

Table 11.12: Estimated Daily Vehicle Movements and Impact on Public Road Network

Construction Activity	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Peak Daily Veh Movements	Peak Month
OHL	HGV Movements per day																	
Access Installation (inc. felling)	0	0	0	0	0	0	45	45	45	45	45	0	0	0	0	0	45	Feb 26 – May 26
Foundation Install	0	0	0	0	0	0	0	7	7	7	7	7	7	0	0	0	7	Feb 26 – May 26
Tower Erection	0	0	0	0	0	0	0	0	0	7	7	7	7	7	7	0	7	Apr 26 – Sep 26
Wiring Works	0	0	0	0	0	0	0	0	0	0	7	7	7	7	7	7	7	May 26 – Oct 26
Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**52**	**52**	**59**	**66**	**21**	**21**	**14**	**14**	**7**	**71**	**May-26**
Substation																		
Earthworks	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	N/A
Civil Engineering Works	0	0	26	26	26	0	26	26	26	0	0	0	0	0	0	0	26	Jul 25 – Aug 25
Control Building Works	0	0	0	0	0	0	0	0	0	26	26	26	26	26	0	0	26	Sep 25 – May 26
Balance of Plant Works	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
Commissioning Works	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
Subtotal	**5**	**5**	**26**	**26**	**26**	**0**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**0**	**0**	**26**	**Sep 25 – Aug 26**
Total HGV Movements Per Day	**5**	**5**	**26**	**26**	**26**	**0**	**71**	**78**	**78**	**85**	**92**	**47**	**47**	**40**	**14**	**7**	**92**	**May-26**
LGV + Private Vehs Movements Per Day	**140**	**140**	**153**	**153**	**153**	**0**	**207**	**207**	**207**	**207**	**207**	**153**	**153**	**153**	**140**	**140**	**207**	**Jan 26 – May 26**

Construction Activity	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Peak Daily Veh Movements	Peak Month
TOTAL VEH MOVEMENTS PER DAY	145	145	179	179	179	0	278	285	285	292	299	200	200	193	154	147	299	May-26

Table 11.13: Construction Traffic Impact on Public Road Network

Road Sections	Impact (All Traffic) (%) [Significance]																Peak Impact [Significance]	Peak Month
	Direction	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	
A76 (between New Cumnock & Kirkconnel)	NB	3%	3%	4%	4%	4%	0%	6%	7%	7%	7%	7%	5%	5%	5%	4%	3%	7% [Minor – Not Significant]	Feb 26 – May 26
	SB	3%	3%	4%	4%	4%	0%	6%	7%	7%	7%	7%	5%	5%	4%	4%	3%	7% [Minor – Not Significant]	Feb 26 – May 26
	Total	3%	3%	4%	4%	4%	0%	6%	7%	7%	7%	7%	5%	5%	4%	4%	3%	7% [Minor – Not Significant]	Feb 26 – May 26
A76 (between Kirkconnel & Sanquhar)	NB	0%	0%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1% [None – Not Significant]	May-26
	SB	0%	0%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1% [None – Not Significant]	May-26
	Total	0%	0%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1% [None – Not Significant]	May-26
C128n (Blackaddie Rd)	NB	0%	0%	8%	8%	8%	0%	13%	13%	13%	14%	14%	9%	9%	9%	9%	8%	**14% [Moderate – Significant]**	May-26
	SB	0%	0%	8%	8%	8%	0%	13%	13%	13%	14%	14%	9%	9%	9%	9%	8%	**14% [Moderate – Significant]**	May-26
	Total	0%	0%	8%	8%	8%	0%	13%	13%	13%	14%	14%	9%	9%	9%	9%	8%	**14% [Moderate – Significant]**	May-26
C125n (between A76 & Access Point D)	NB	0%	0%	21%	21%	21%	0%	35%	35%	35%	36%	37%	23%	23%	22%	22%	21%	**37% [Moderate – Significant]**	May-26
	SB	0%	0%	21%	21%	21%	0%	35%	35%	35%	36%	37%	23%	23%	22%	22%	21%	**37% [Moderate – Significant]**	May-26
	Total	0%	0%	21%	21%	21%	0%	35%	35%	35%	36%	37%	23%	23%	22%	22%	21%	**37% [Moderate – Significant]**	May-26
C125n (between Access Point D & Access Point C)	NB	0%	0%	8%	8%	8%	0%	14%	14%	14%	15%	15%	9%	9%	9%	9%	8%	**15% [Moderate – Significant]**	May-26
	SB	0%	0%	8%	8%	8%	0%	14%	14%	14%	15%	15%	9%	9%	9%	9%	8%	**15% [Moderate – Significant]**	May-26
	Total	0%	0%	8%	8%	8%	0%	14%	14%	14%	15%	15%	9%	9%	9%	9%	8%	**15% [Moderate – Significant]**	May-26
U432n	NB	0%	0%	11%	11%	11%	0%	18%	19%	19%	20%	21%	13%	13%	12%	12%	12%	**21% [Moderate – Significant]**	May-26
	SB	0%	0%	11%	11%	11%	0%	18%	19%	19%	20%	21%	13%	13%	12%	12%	12%	**21% [Moderate – Significant]**	May-26
	Total	0%	0%	11%	11%	11%	0%	18%	19%	19%	20%	21%	13%	13%	12%	12%	12%	**21% [Moderate – Significant]**	May-26
U459n	NB	57%	57%	24%	24%	24%	0%	29%	29%	29%	29%	30%	25%	25%	24%	9%	9%	**57% [Moderate – Significant]**	May-26
	SB	57%	57%	24%	24%	24%	0%	29%	29%	29%	29%	30%	25%	25%	24%	9%	9%	**57% [Moderate – Significant]**	May-26
	Total	57%	57%	24%	24%	24%	0%	29%	29%	29%	29%	30%	25%	25%	24%	9%	9%	**57% [Moderate – Significant]**	May-26
Road Sections	Impact (HGV only) (%) [Significance]																Peak Impact [Significance]	Peak Month

	Direction	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26		
A76 (between New Cumnock & Kirkconnel)	NB	0%	0%	0%	0%	0%	0%	2%	2%	2%	2%	3%	1%	1%	1%	1%	0%	3% [None – Not Significant]	May-26
	SB	0%	0%	0%	0%	0%	0%	2%	2%	2%	2%	3%	1%	1%	1%	1%	0%	3% [None – Not Significant]	May-26
	Total	0%	0%	0%	0%	0%	0%	2%	2%	2%	2%	3%	1%	1%	1%	1%	0%	3% [None – Not Significant]	May-26
C128n (Blackaddie Rd)	NB	0%	0%	0%	0%	0%	0%	17%	20%	20%	24%	28%	11%	11%	7%	7%	4%	**28% [Moderate – Significant]**	May-26
	SB	0%	0%	0%	0%	0%	0%	17%	20%	20%	24%	28%	11%	11%	7%	7%	4%	**28% [Moderate – Significant]**	May-26
	Total	0%	0%	0%	0%	0%	0%	17%	20%	20%	24%	28%	11%	11%	7%	7%	4%	**28% [Moderate – Significant]**	May-26
C125n (between A76 & Access Point D)	NB	0%	0%	0%	0%	0%	0%	47%	52%	52%	57%	62%	15%	15%	10%	10%	5%	**62% [Major – Significant]**	May-26
	SB	0%	0%	0%	0%	0%	0%	47%	52%	52%	57%	62%	15%	15%	10%	10%	5%	**62% [Major – Significant]**	May-26
	Total	0%	0%	0%	0%	0%	0%	47%	52%	52%	57%	62%	15%	15%	10%	10%	5%	**62% [Major – Significant]**	May-26
C125n (between Access Point D & Access Point C)	NB	0%	0%	0%	0%	0%	0%	22%	25%	25%	27%	30%	7%	7%	5%	5%	2%	**30% [Moderate – Significant]**	May-26
	SB	0%	0%	0%	0%	0%	0%	22%	25%	25%	27%	30%	7%	7%	5%	5%	2%	**30% [Moderate – Significant]**	May-26
	Total	0%	0%	0%	0%	0%	0%	22%	25%	25%	27%	30%	7%	7%	5%	5%	2%	**30% [Moderate – Significant]**	May-26
U432n	NB	0%	0%	0%	0%	0%	0%	24%	29%	29%	35%	40%	16%	16%	11%	11%	5%	**40% [Moderate – Significant]**	May-26
	SB	0%	0%	0%	0%	0%	0%	24%	29%	29%	35%	40%	16%	16%	11%	11%	5%	**40% [Moderate – Significant]**	May-26
	Total	0%	0%	0%	0%	0%	0%	24%	29%	29%	35%	40%	16%	16%	11%	11%	5%	**40% [Moderate – Significant]**	May-26
U459n	NB	15%	15%	78%	78%	78%	0%	93%	96%	96%	99%	102%	87%	87%	84%	6%	3%	**102% [Major – Significant]**	May-26
	SB	15%	15%	78%	78%	78%	0%	93%	96%	96%	99%	102%	87%	87%	84%	6%	3%	**102% [Major – Significant]**	May-26
	Total	15%	15%	78%	78%	78%	0%	93%	96%	96%	99%	102%	87%	87%	84%	6%	3%	**102% [Major – Significant]**	May-26

11.101 A number of rural roads have been identified from the quantitative assessment to feature a traffic increase (exceeding IEMA threshold) resulting in **moderate**' significant effects or **major** significant effects and accordingly these route sections have been considered further.

Table 11.14: Road Sections where Traffic or HGV Traffic % Increase is Significant

Road Section	Peak % Increase (All Traffic)	Significance (All Traffic)	% Increase (HGV)	Significance (HGV)
A76 (between New Cumnock & Kirkconnel)	7%	Minor (Not Significant)	16%	Moderate (Significant)
C128n (Blackaddie Rd)	14%	Moderate (Significant)	28%	Moderate (Significant)
C125n (between A76 & Access Point D)	37%	Moderate (Significant)	62%	Major (Significant)
C125n (between Access Point D & Access Point C)	15%	Moderate (Significant)	30%	Moderate (Significant)
U432n	21%	Moderate (Significant)	40%	Moderate (Significant)
U459n	57%	Moderate (Significant)	102%	Major (Significant)

11.102 As noted above, for the purpose of the detailed assessment, it has been assumed that embedded mitigation measures and operational procedures as proposed in the CTMP (**Appendix 11.1**) will be in place during construction of the GGRP and therefore have been used to inform the judgement of significance of effects.

Driver Delay

11.103 The public road route sections where the 10% significance threshold has been met or exceeded operate notably below their theoretical capacity[6]. **Table 11.15** provides a comparison of forecast traffic flows on roads during the 'Peak Period' and associated theoretical road capacities.

11.1 Furthermore, the CTMP, a preliminary version of which is provided in **Appendix 11.1**, will promote interventions that will ensure the safe and efficient transportation of materials to site to reduce the likelihood of driver delay.

Table 11.15: Baseline Traffic + Traffic Generated by Construction of the GGRP

Road Section	Two-way peak hour movements (2026 Future Baseline Traffic + Traffic Generated by Construction of the GGRP)	Capacity (vph)
A76 (between New Cumnock & Kirkconnel)	<400	2400
C128n (Blackaddie Rd)	<220	1600
C125n (between A76 & Access Point D)	<70	Not Specified
C125n (between Access Point D & Access Point C)	<60	Not Specified
U432n	<60	Not Specified
U459n	<60	Not Specified

[6] DMRB does not define theoretical capacities for single track roads

11.104 The A76 (between New Cumnock & Kirkconnel) and C128n (Blackaddie Road) have the residual capacity (see **Table 11.15**) to readily accommodate the expected additional traffic flow. On this basis, the significance of effect of driver delay for users of the A76 (between New Cumnock & Kirkconnel) and C128n (Blackaddie Road) is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.105 The C125n, U432n and U459n all currently have very low traffic flow and as such show a relatively large traffic increase which would represent a moderate or major effect. The CTMP will promote interventions that will ensure the safe and efficient transportation of materials to site to reduce the likelihood of driver delay. On this basis, the significance of effect of driver delay for users of the C125n, U432n and U459n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.106 The C125n, U432n and U459n all generally experience low HGV traffic and as such shows a relatively large HGV traffic increase which would represent a moderate or major effect. The CTMP will promote interventions that will ensure the safe and efficient transportation of materials to site to reduce the likelihood of driver delay. On this basis, the significance of effect of driver delay for users of the C125n, U432n and U459n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

Road Safety

11.107 The NESA Manual suggests that where traffic flow doubles, it can be expected that road traffic collisions will double (i.e. the increase in collisions is likely to be approximately proportional to the increase in traffic). Accordingly, if the number of collisions were to increase proportionally with the increase in traffic, the impact of the construction traffic on road safety per route section can be forecast. The results of this analysis are summarised in **Table 11.16.**

Table 11.16: Projected Collisions for the GGRP

Road Section	Average No. of Collisions (2025 Average Baseline)	Average No. of Collisions (2025 Average Baseline + Traffic Generated by Construction of the GGRP)	Average No. of Collisions (2026 Average Baseline)	Average No. of Collisions (2026 Average Baseline + Traffic Generated by Construction of the GGRP)
Blackaddie Road (C128n)	0	0	0	0
Euchan Water Road (U432n)	0	0	0	0
C125n	1	1	1	1
Lagrae Road (U459n)	0	0	0	0

Road Section	Average No. of Collisions (2025 Average Baseline)	Average No. of Collisions (2025 Average Baseline + Traffic Generated by Construction of the GGRP)	Average No. of Collisions (2026 Average Baseline)	Average No. of Collisions (2026 Average Baseline + Traffic Generated by Construction of the GGRP)
A76 (Sanquhar, Blackaddie Road to New Cumnock, B741)	3	3	3	3

11.108 Using this basis of assessment, there would be a negligible increase in PICs in the Study Area as a consequence of the increased traffic generated by GGRP and the significance of the effect would be **none** and therefore **not significant** in the context of the EIA Regulations.

Community Impacts (severance, pedestrian amenity / fear and intimidation, and pedestrian delay)

11.109 The IEMA Guidelines define severance as 'the perceived division that can occur within a community when it becomes separated by a major traffic artery'. Severance may result from a road carrying large traffic flows or a physical barrier created by the road itself, and the IEMA guidelines suggest that consideration is given to the severity of existing severance and how this might be exacerbated by proposed construction traffic generated by a development. As shown in **Table 11.13**, the roads within the GGRP Study Area will continue to operate below capacity, even with the addition of traffic generated by construction of the GGRP. Severance should not occur when there is residual road capacity and traffic generated by the GGRP will be low (relative to the theoretical capacity of the road).

11.110 Using the above rationale, pedestrian delay is not considered to be an existing problem on any of the route sections within the GGRP, nor one that shall be created by the addition of proposed construction traffic to these routes.

11.111 Pedestrian amenity is broadly defined by the IEMA as the 'relative pleasantness of a journey', and this definition also takes into account 'fear and intimidation'. The IEMA Guidelines suggest that 'a tentative threshold for judging the significance of changes in pedestrian amenity would be where traffic flows (or its lorry component) are halved or doubled. The construction of the GGRP is predicted to generate less than double HGV flows on the majority of road sections within the GGRP Study Area and therefore the effect on pedestrian amenity on these road sections is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.112 HGV flows on the U459n are predicted to double in April and May 2026. However, the U459n is a rural road, only providing access to three dwellings and agricultural buildings. The road does not form part of any recreational route and therefore the effect on pedestrian amenity on the U459n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.113 Several construction access routes overlap and/or intersect with existing recreational routes; these include the following route sections:

- Blackaddie Bridge on C128n (Blackaddie Road) overlaps part of the Southern Upland Way
- The U432 (Euchan Water Road) provides access to the Euchan Fall Core Path
- The C125n provides access to the Kirkconnel to Mynwhirn Hill Core Path

11.114 As such, the CTMP will include a commitment to provide signage to warn drivers to the presence of public paths and cycling routes and appropriate signage advising of dates and hours of working will be installed on the 'core path network' in advance of road crossing points to warn users of the potential of construction traffic. On this basis, the significance of the effect on pedestrian amenity, specifically on the amenity of users of the Southern Upland Way, Euchan Fall Core Path and the Kirkconnel to Mynwhirn Hill Core Path is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.115 Overall, based on professional judgement, the construction traffic generated by GGRP Study Area will have a **minor** effect upon community receptors and is therefore **not significant** in the context of the EIA Regulations.

Proposed Additional Mitigation

11.116 No further mitigation is proposed in addition to the embedded mitigation measures and operational procedures as proposed in the CTMP.

11.117 The CTMP provides preliminary details of proposed traffic management measures and associated interventions to be implemented during the construction phase of the GGRP to minimise disruption and improve safety. The CTMP will be enhanced and expanded upon as appropriate by SPEN's appointed contractor(s) in consultation with Roads Authorities and the Police prior to commencement of construction activities and as necessary during the construction phase; the CTMP is considered a 'live' document.

Residual Construction Effects

11.118 Due to the embedded mitigation measures and operational procedures as proposed in the CTMP, the significance of the residual effects associated with the levels of traffic anticipated during the construction of the GGRP is considered to be **minor** and accordingly **not significant** in the context of the EIA Regulations.

Cumulative Construction Effects

Predicted Cumulative Effects during Construction

11.119 An assessment of the likely construction effects of the GGRP and other committed developments has been undertaken to take account of the likely interrelation of overlapping construction programmes and the resultant cumulative effects upon the local road network.

11.120 The overall approach for the cumulative assessments, including a list of developments considered, is outlined in **Chapter 6: Landscape and Visual Amenity**. These developments have been reviewed and scoped in or out of the cumulative assessment accordingly in **Table 11.8**.

11.121 The following wind farm developments have been included with GGRP for the cumulative traffic and transport assessment:

- Sandy Knowe Wind Farm Extension (*Sandy Knowe Wind Farm Extension, EIA Chapter 9: Transport and Access*, Jul 2022);
- Lethans Wind Farm Extension *(Lethans Wind Farm Extension, Volume 1 EIAR, Chapter 9 Traffic and Transportation*, Jan 2022);
- Euchanhead Renewable Energy Development (*Euchanhead Renewable Energy Development, EIA Report, Chapter 12 Access, Traffic and Transport*, Oct 2020);
- Sanquhar II Community Wind Farm (*Sanquhar II Community Wind Farm, EIA Report, Section 12 – Transport Assessment, Jul 2019 & Sanquhar II Community Wind Farm, EIA Report, Section 12 – Traffic and Transport*, Jul 2020);
- Glenmuckloch Wind Farm *(Glenmucklock Wind Farm, Environmental Statement, Volume 2: Main Report, Chapter 10: Traffic and Transport, June 2015);* and
- Sanquhar "Six" Community Wind Farm *(Sanquhar "Six" Community Wind Farm, Environmental Statement, Section 12-Transport Assessment,2015).*

Total Cumulative Construction Effects

11.122 This section assesses the maximum development case, assuming that all the developments being considered as part of the cumulative assessment will proceed to construction and that the cumulative effects are the total likely effects created by the construction of the GGRP in combination with the wind farm developments.

11.123 It is uncertain if and when the construction phases of the wind farms and the GGRP might overlap. To robustly assess cumulative traffic generation, the cumulative assessment has been undertaken for route sections within the GGRP Study Area that are utilised by other committed developments. This is based on the sum of the average traffic generation of the developments listed above and the GGRP peak traffic generation. This is considered to represent a maximum case scenario as, in reality, it is considered highly improbable that peak traffic generation for all developments will align.

11.124 **Table 11.17** presents a summary of predicted traffic volume increases over the entire construction phase of GGRP and during the peak month of construction activity (May 2026). The table below shows the proportional increase in traffic generated for route sections within the GGRP Study Area that are utilised by other committed developments.

Table 11.17: Summary of Predicted Traffic Volume Increase – Total Likely Cumulative Impact for GGRP

Route Section	Average Vehicle Movements per day over the entire construction phase		Average Vehicle Movements per day during the month of peak construction activity	
	[% Increase]		[% Increase]	
	{Significance}		{Significance}	
	Total Traffic Movements	HGV Traffic Movements	Total Traffic Movements	HGV Traffic Movements
A76 (between New Cumnock & Kirkconnel) [2026 AADT = 4321]	**543**	**210**	**644**	**262**
	13%	**37%**	**15%**	**46%**
	Moderate	**Moderate**	**Moderate**	**Moderate**
A76 (between Kirkconnel & Sanquhar) [2026 AADT = 4321]	**543**	**210**	**644**	**262**
	13%	**37%**	**15%**	**46%**
	Moderate	**Moderate**	**Moderate**	**Moderate**
C128n (Blackaddie Rd) [2026 AADT = 416]	**275**	**167**	**300**	**170**
	66%	**307%**	**72%**	**311%**
	Major	**Major**	**Major**	**Major**
C125n (between A76 & Access Point D) [AADF = 306]	**186**	**27**	**232**	**34**
	61%	**67%**	**76%**	**83%**
	Major	**Major**	**Major**	**Major**
C125n (between Access Point D & Access Point C) [AADF = 306]	**86**	**22**	**105**	**26**
	28%	**56%**	**34%**	**65%**
	Moderate	**Moderate**	**Moderate**	**Major**
U432n (Euchan Water Road) [AADF = 285]	**275**	**167**	**300**	**170**
	96%	**447%**	**105%**	**453%**
	Major	**Major**	**Major**	**Major**
	112	**36**	**121**	**30**
U459n [AADF = 255]	**44%**	**107%**	**47%**	**88%**
	Moderate	**Major**	**Moderate**	**Major**

Driver Delay

11.125 From a review of **Table 11.17**, it is evident that threshold significance criteria have been exceeded on the A76 (between New Cumnock & Kirkconnel), the C128n, the C125n, the U459n and the U432n throughout the duration of the entire construction phase.

11.126 The A76 and C128n have the residual capacity to readily accommodate the expected additional traffic flow. On this basis, the significance of effect of driver delay for users of the A76 and C128n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.127 The C125n, U432n and U459n all currently have very low traffic flow and as such show a relatively large traffic increase which would represent a **moderate** or **major** effect. The CTMP will promote interventions that will ensure the safe and efficient transportation of materials to site to reduce the likelihood of driver delay. On this basis, the significance of effect of driver delay for users of the C125n, U432n and U459n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.128 The C125n, U432n and U459n all generally experience low HGV traffic and as such shows a relatively large HGV traffic increase which would represent a moderate or major effect. The CTMP will promote interventions that will ensure the safe and efficient transportation of materials to site to reduce the likelihood of driver delay. On this basis, the significance of effect of driver delay for users of the C125n, U432n and U459n is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

Road Safety

11.129 The NESA Manual suggests that where traffic flow doubles, it can be expected that road traffic collisions will double (i.e. the increase in collisions is likely to be approximately proportional to the increase in traffic). Therefore, if the number of collisions were to increase proportionally with the increase in traffic volume, then the impact of the construction traffic on road safety per route section can be forecast. The results of this analysis are summarised in **Table 11.18**.

Table 11.18: Projected Collisions – Total Likely Cumulative Impacts

Route Section	Average No. of collisions	Route Section
Blackaddie Road (C128n)	0	0
Euchan Water Road (U432n)	0	0
C125n	1	2
Lagrae Road (U459n)	0	0

Route Section	Average No. of collisions	Route Section
A76 (Sanquhar, Blackaddie Road to New Cumnock, B741)	3	3

11.130 Using the basis of assessment set out above, there would be a small increase (1 collision) in PICs for the C125n as a consequence of the increased traffic generated cumulatively. Professional judgment suggests that the peak cumulative traffic, which would be temporary (five months duration), would result in a **minor** effect (**not significant**) upon road safety if unmitigated (in the context of the EIA Regulations).

11.131 On the other route sections within the Study Area, there would be a negligible (and therefore **not significant)** increase in PICs as a consequence of the increased traffic generated cumulatively by the developments and the significance of the effect would be **none** and therefore **not significant** in context of the EIA Regulations.

Community Impacts (severance, pedestrian amenity / fear and intimidation, and pedestrian delay)

11.132 The roads within the GGRP Study Area will continue to operate below capacity, even with the addition of traffic generated cumulatively. Severance and pedestrian delay should not occur when there is such a notable level of residual road capacity.

11.133 Cumulatively, the road sections where HGV flows are expected to double, or more are the C128n, the U432n and the U459n.

11.134 The CTMP, an outline of which is provided as **Appendix 11.1**, will promote interventions that will minimise the effect of construction traffic on local communities, measures include but are not limited to:

- temporary construction site signage will be erected on the local road network in advance of local communities to warn people of construction activities and associated construction vehicles;
- SPEN shall nominate a Community Liaison Officer (CLO); the CLO will be responsible for keeping the local community informed of progress on the site and warning them of upcoming activities which may give rise to increased construction vehicle movements; and
- all site staff will be informed about traffic management arrangements and procedures via the site induction.

11.135 The C128n (Blackaddie Road) features footway on one side of the carriageway for its section within Sanquhar. Based on professional judgement the existing provision is considered adequate to accommodate potential pedestrian effects as a result of construction traffic generated cumulatively. On this basis, it is considered that construction traffic generated cumulatively will have a **minor** and therefore **not significant** effect (in the context of EIA Regulations) to the amenity of users of the C128n (Blackaddie Road).

11.136 The U432n and the U459n are both rural roads only providing access to a limited number of dwellings and agricultural buildings. The roads do not form part of any recreational route and therefore the effect on pedestrian amenity on the U459n and U432n is considered to be **minor** and therefore **not significant** in the context of the EIA Regulations.

11.137 Several construction access routes overlap and/or intersect with existing recreational routes; these include the following route sections:

- Blackaddie Bridge on C128n (Blackaddie Road) overlaps part of the Southern Upland Way;
- The U432 (Euchan Water Road) provides access to the Euchan Fall Core Path; and
- The C125n provides access to the Kirkconnel to Mynwhirn Hill Core Path.

11.138 As such, the CTMP will include a commitment to provide signage to warn drivers to the presence of public paths and cycling routes and appropriate signage advising of dates and hours of working will be installed on the 'core path network' in advance of road crossing points to warn users of the potential of construction traffic. On this basis, the significance of the effect on pedestrian amenity, specifically on the amenity of users of the Southern Upland Way, Euchan Fall Core Path and the Kirkconnel to Mynwhirn Hill Core Path is considered to be **minor** and accordingly considered to be **not significant** in the context of the EIA Regulations.

11.139 Overall based on professional judgement the construction traffic generated cumulatively will have a **minor** effect upon community receptors which is therefore **not significant** in the context of the EIA Regulations.

Proposed Additional Mitigation

11.140 As recorded in the CTMP, if another development, such as a wind farm considered in the cumulative assessment appears likely to undergo construction at the same time as the GGRP SPEN will liaise with the other developer regarding the scheduling of deliveries and potential means of reducing the impact of combined construction.

Residual Cumulative Effects During Construction

11.141 Due to the embedded mitigation measures and operational procedures as proposed in the CTMP and the proposed additional requirement for SPEN to liaise with other developers regarding the scheduling of deliveries and potential means of reducing the effect of combined construction, the significance of the residual effects associated with the levels of traffic generated cumulatively are considered to be **minor** and accordingly **not significant** in the context of the EIA Regulations.

Further Survey Requirements and Monitoring

11.142 The requirement for construction monitoring will be agreed with SPEN, Roads Authority representatives and other relevant stakeholders prior to commencement of works.

11.143 If deemed necessary, SPEN will enter into a legal agreement under Section 96 of the Roads (Scotland) Act 1984 to formalise an inspection and maintenance regime with the Roads Authority to contribute to maintenance of those roads impacted by HGV movements associated with the GGRP.

Summary of Significant Effects

11.144 A summary of effects before and after proposed mitigation measures for the GGRP is provided in **Table 11.19.**

Table 11.19: Summary of Significant Effects

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Construction Effects			
Driver Delay On all Study Area route sections	Minor	No additional mitigation is proposed beyond the embedded measures and operational procedures as proposed as good practice in the CTMP. The CTMP provides preliminary details of proposed traffic management measures and associated interventions to be implemented during the construction phase of the GGRP to minimise disruption and improve safety. The CTMP will be enhanced and expanded as appropriate by SPEN's appointed contractor(s) in consultation with Roads Authorities and the Police prior to commencement of construction activities and as necessary during the construction phase; the CTMP is considered a 'live' document.	Minor (at worst)
Road Safety On all Study Area route sections	None		None
Community Impacts On all Study Area route sections	Minor		Minor (at worst)

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Cumulative Effects			
Driver Delay On all Study Area route sections	Minor	If the construction of any notably sized development(s), e.g. wind farm development(s) (as considered in the cumulative assessment) appears likely to overlap with the GGRP, SPEN will liaise with the appropriate developer organisation regarding the scheduling of deliveries and potential means of reducing the impact of combined construction.	Minor (at worst)
Road Safety On all Study Area route sections	Minor (at worst)		Minor (at worst)
Community Impacts On all Study Area route sections	Minor		Minor (at worst)