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Introduction

Background

12.1 This Chapter considers the potential effects on traffic and the transport network that could arise from the construction, operation and decommissioning of the proposed development. The objectives of the Chapter are to:

- describe the current baseline, established from desk studies, site-specific surveys and feedback obtained during technical engagement with stakeholders.
- describe the assessment methodology and significance criteria used in completing the assessment.
- describe the potential effects, including direct, indirect and cumulative effects.
- describe the mitigation measures proposed to address any likely significant effects.
- assess the residual effects remaining following the implementation of mitigation measures.
- reach a conclusion on the likely significant effects based on the information gathered and the analysis and assessments undertaken.
- highlight any necessary monitoring and/or mitigation measures recommended to prevent, minimise, reduce or offset any likely significant adverse environmental effects.

12.2 The assessment in this chapter has been based on the guidance in the document 'Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement' of July 2023. This document provides "*practitioners with good practice advice on how to carry out the assessment of traffic and movement of people as part of a statutory EIA or non-statutory environmental assessment*".

12.3 This Chapter has been prepared by SLR Consulting Ltd.

Scope and Consultation

12.4 A Scoping Report was submitted by SLR to the Energy Consents Unit (ECU) in March 2023. This included reference to the transport assessment methodology, abnormal load assessment, Construction Traffic Management Plan (CTMP) and impact on the trunk road network.

Consultation

12.5 A summary of the key points from the relevant scoping response and details of how comments have been addressed in the EIA Report are provided in **Table 12-1**.

Table 12-1: Key Issues

Consultee	Summary of Issues	Where Addressed in Chapter
Transport Scotland (Roads Directorate), dated 25/05/2023	Measured flows should be used where available and new surveys commissioned by agreement where such data does not exist.	Traffic data presented in **Table 12-5** and **Table 12-7**.
	Base traffic should be factored to the construction year using NRTF low growth	No growth has been applied, which results in a robust assessment as explained in paragraph 12.62.
	A9(T) road link to be further assessed in detail if the impact of development-generated traffic exceeds the IEMA threshold	Threshold assessment of A9(T) shown in **Table 12-13** and also assessed in **Technical Appendix 12.2**
	To ensure size of turbines proposed can negotiate the turbine delivery route and that their transportation will not have any detrimental effect on structures within the trunk road route path	This matter is covered in the Abnormal Loads Assessment report in **Technical Appendix 12.1**
	ALRA required to identify key pinch points on the trunk road network, with swept path analysis undertaken and details provided with regard to any required changes to street furniture or structures along the route.	This matter is covered in the Abnormal Loads Assessment report in **Technical Appendix 12.1**
	It should be ensured that the size of turbines proposed will be able to negotiate the selected turbine delivery route and their transportation would not have any detrimental effect on the trunk road route.	This matter is covered in the Abnormal Loads Assessment report in **Technical Appendix 12.1**
	Any proposed changes are to be discussed and approved by the appropriate Area Managers via a technical approval process prior to the movement of any abnormal load	This matter is covered in the Abnormal Loads Assessment report in **Technical Appendix 12.1**
Perth and Kinross Council	A CTMP with an associated Abnormal Load Management Plan will be adequate for assessing impacts	An Abnormal Loads Assessment is presented in **Technical Appendix 12.1** and **Technical Appendix 12.3** contains an outline CTMP**.**
Dunblane Community Council	The junction at the A9 will require significant upgrade to cope with the very long loads of turbine blades	This matter is covered in the Abnormal Loads Assessment report in

Consultee	Summary of Issues	Where Addressed in Chapter
		Technical Appendix 12.1
ScotWays	Cumulative impact of sites in the general area should be taken into account.	Potential cumulative impacts are considered in paragraphs 12.91 to 12.97.

12.6 Where relevant, the issues raised by each consultee have been used to develop the scope of assessment and identify any specific matters that warrant more detailed analysis.

Effects Scoped In

12.7 The proposed development would generate demand for transport during its construction and this demand would have the potential to impact users of the transport network and potentially have an effect on those users. Transport demand would be generated during construction by staff travelling to and from the site and plant, components, materials and supplies being delivered or removed from the site. This transport demand would lead to additional movements of cars, vans, Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs) on the road network and the effects of these movements are considered in the assessment.

12.8 The delivery of the turbine components during construction would require Abnormal Indivisible Load Vehicle (AILV) movements as some of the vehicles carrying the components would have at least one dimension that exceeds the maxima in The Road Vehicles (Construction and Use) Regulations 1986. The report in **Technical Appendix 12.1: Abnormal Loads Assessment** reviewed the feasibility of delivering the turbine components to the proposed development and the potential for effects from these movements are considered in the assessment.

Effects Scoped Out

Operational Effects

12.9 Transport demand during operation would be lower than during construction, since during operation there would be only occasional visits from maintenance or inspection vehicles. These would be unlikely to amount to more than a handful of trips per day and would therefore not be significant. The transport impacts of the proposed development during operation have therefore been scoped out of this assessment.

Decommissioning Effects

12.10 The operational period of the proposed development is intended to be 40 years after which it would be decommissioned or a separate application submitted in order to extend its lifetime. The number of vehicle movements generated during decommissioning would likely be lower than the number generated during construction. Mitigation measures which may need to be implemented during decommissioning would be agreed with the key stakeholders in line with best practice

measures at that time and would be secured through a decommissioning, restoration and aftercare plan.

12.11 However, decommissioning would take place too far into the future for any meaningful assessment to be made at the time of writing (baseline traffic flows, for example, would be hard to predict that far into the future). The transport impacts of the proposed development during decommissioning have therefore been scoped out of this assessment (as was detailed in the Windburn Wind Farm Scoping Report).

Approach and Methodology

Study Area

12.12 The study area defined for this assessment is shown in **Figure 12.1**. It has been defined by using professional judgement to identify the sections of the road network likely to be used by vehicles travelling to and from the proposed development. The study area comprises the C468 (Sheriffmuir Road) between Carim Lodge and the A9 and sections of the A9 on each side of the junction with the C468.

12.13 The C468 is a single-track road (with passing places) and subject to a 60mph speed limit in the vicinity of the proposed development. It meets the A9 in a priority junction approximately 1.5km south west of Blackford.

12.14 The A9 is a trunk road and hence under the control of Transport Scotland (TS). In the vicinity of the proposed development it is a dual carriageway road with two lanes in each direction and is subject to a speed limit of 70mph. There are a limited number of properties fronting the A9 in the vicinity of the site.

Information and Data Sources

12.15 Vehicle movement information was collected by undertaking surveys at several locations in the study area. These surveys used Automatic Traffic Counters (ATCs) to count and classify vehicle movements and speeds for one week from 20 April 2023. The ATCs were installed on the C468 close to its junction with the A9 and on the close to its junction with B8081. The location of the ATCs are shown in **Figure 12.1**.

12.16 A Road Safety Risk Assessment (RSRA) was undertaken, in December 2023, by road safety specialists, Drummond Black Consulting Ltd, using baseline data including collision data for the five-year period from 2019 to 2022 obtained from Crashmap. This was done in order to ascertain the safety performance of the A9 in view of the proposed development and its associated traffic. The RSRA is in **Technical Appendix 12.2: Road Safety Risk Assessment**.

12.17 2022 was the latest full year for which data was available at the time the RSRA was prepared. Data for 2023 has since become available but this shows that no injury-causing accidents within 350m of the junction of the A9 and C468 Sheriffmuir Road occurred in 2023 (350m being the distance referred to in the RSRA).

Desk Study / Field Survey

12.18 An understanding of the existing situation and baseline conditions within the study area has been established through a visual inspection of the road network using Google Earth Pro.

Assessment Methods

12.19 The potential effects of the proposed development on traffic and the transport network have been assessed following the IEMA Guidelines referred to in paragraph 12.2. Estimates have been made of the number of typical daily construction-related vehicle movements that would be generated during each month of the construction of the proposed development.

12.20 Consent is being sought for construction activities to take place during the period 07:00 – 19:00 Monday to Friday and 07:00 – 16:00 on Saturdays. For the purposes of this assessment, however, all construction-related vehicle movements have been assumed to occur during only the period 07:00-19:00 Monday to Friday. This ensures a more robust assessment than assuming they would occur over a longer period.

12.21 The vehicle movement estimates have been based on material volumes informed by the design of the proposed development and professional judgement. Judgment has also been used to estimate the routes that construction-related vehicles would take to and from the site. The number of staff likely to be present at the site during each working day in each month of the construction programme has been estimated based on professional judgement. Staff numbers have been translated to vehicle movements assuming an average of 1.5 staff members per vehicle based on experience from similar projects.

12.22 The vehicle movement estimates assume that all stone required during the construction of the proposed development is delivered from offsite, which represents a 'worst-case' assessment in terms of impacts on the road network. However, the proposed development includes two search areas for borrow pits. The amount of stone required to be delivered from offsite (and hence vehicle movements) would be lower than estimated in this assessment, should the investigation of those borrow pits show that they can provide stone suitable for use in the construction of the proposed development.

12.23 The additional vehicle movements that could be expected to be generated by the construction of the proposed development have been compared to the baseline vehicle movements and the percentage increase calculated for all vehicles and for HGVs only. These percentage increases for each section of road within the study area have been reviewed against the IEMA Guidelines, which state:

"Following the determination of a study area, it is recommended that the competent traffic and movement expert applies two broad rules of thumb as criteria to assist in delimiting the scale and extent of the environmental assessment:

Rule 1 *Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)*

Rule 2 *Include highway links of high sensitivity where traffic flows have increased by 10% or more"*

12.24 The IEMA Guidelines also state *"It should also be noted that the day-to-day variation of traffic on a road is frequently at least + or -10%. At a basic level, it should therefore be assumed that projected changes in traffic of less than 10% create no discernible environmental impact.".*

12.25 Where the estimated increase in vehicle movements arising from the proposed development does not breach the relevant threshold for any section of road, the

significance of any effects has been considered to be not significant in EIA terms. No further assessment work has been undertaken on such sections.

Identification of Potential Effects

12.26 Where the estimated increase in vehicle movements arising from the construction of the proposed development breaches the relevant threshold for any section of road, the potential effects have been assessed on the topics described below.

Severance

12.27 Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure and the separation of people from places and other people. The IEMA Guidelines say "*Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively*" and "*caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.*".

Road Vehicle Driver and Passenger Delay

12.28 The IEMA Guidelines say "*Traffic delays to non-development traffic can occur at several points on the network surrounding a development site*". Regarding the significance of effects, the Guidelines say "*These delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*".

Non-Motorised User Delay

12.29 The IEMA Guidelines say "*Pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site*.".

12.30 Regarding the significance of effects, the Guidelines say "*Given the range of local factors and conditions that can influence pedestrian delay (e.g. a discrete delay may have a lesser impact in an urban environment than a rural setting), it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect*.".

Non-Motorised User Amenity

12.31 The IEMA Guidelines define this as "*the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic.*" The IEMA Guidelines also say "*a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled*" and "*Thresholds are expressed as a starting point for any assessment and typically have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any*

assessment. The assessment of amenity should pay full regard to specific local conditions.".

Fear and Intimidation of and by Road Users

12.32 This considers the effects that moving vehicles have on people. It considers matters such as the volume of traffic, the proportion of heavy vehicles, the speed of vehicles and the proximity of traffic to people. The IEMA Guidelines set out a means to calculate a 'Degree of hazard score' based on the amount, composition and speed of traffic. That score is then used to identify which one of four levels of fear and intimidation is applicable. The magnitude of impact is based on the degree of change in that level compared to the baseline.

Road User and Pedestrian Safety

12.33 The assessment of accidents relates to the potential for the traffic generated by a development to change accident rates on the road network. The IEMA Guidelines discuss a 'Safe System' approach but also state that it "*is recommended that the traffic and movement expert engages with the relevant authorities to determine the best approach for determining the significance of road safety effects.*"

Hazardous / Large Loads

12.34 The proposed development would require some AILV movements to deliver some turbine components and a report on the feasibility of delivering those components is included as **Technical Appendix 12.1: Abnormal Loads Assessment**. The number of such movements has been determined, and their potential significance considered based on the extent of works, if any, required to accommodate the vehicles, their number and the sections of road that they would use. There are, however, established procedures in place to manage such movements as described in The Road Vehicles (Authorisation of Special Types) (General) Order 2003.

12.35 A risk or catastrophe analysis as described in paragraph 3.50 of the IEMA Guidelines is not considered to be required as the loads that would be transported are not considered to be hazardous.

Application of Rule 1 and Rule 2

12.36 All sections of road within the study area have been assessed against Rule 1. All sections of road have also been reviewed to identify if any could be considered as being of 'high sensitivity' and should be subject to an additional assessment against Rule 2. This review was informed by the IEMA Guidelines which state that the "the IEMA Guidelines which state that the "*following list identifies special interests that should be considered when defining sensitive receptor geographic locations*".

- *"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*
- *junctions and highway links at (or over) capacity".*

Magnitude of Impact

12.37 Thresholds for the magnitude of impact have been identified by reference to the IEMA Guidelines and professional judgement. These thresholds are summarised in **Table 12-2**.

Table 12-2: Categorisation of Impact Magnitude by Potential Effect

Impact	Impact Magnitude			
	Major	**Moderate**	**Minor**	**Negligible**
Severance	>60% increase in traffic	<60% increase in traffic	<30% increase in traffic	<10% increase in traffic
Road Vehicle Driver and Passenger Delay	Judgement based on the individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Non-Motorised User Delay	Judgement based on the individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Non-Motorised User Amenity	Judgement based on the individual characteristics of sections of road subject to a change in total traffic flows or HGV flows of more than 100%.			Change in total traffic flows or HGV flows of less than 100%.
Fear and Intimidation of and by Road Users	Two changes in 'Level of fear and intimidation'.	One change in level of fear and intimidation with >400 vehicle increase in average 18 hour (hr) vehicle flow or >500 Heavy Vehicle (HV) increase in total 18hr HV flows.	One change in level of fear and intimidation with <400 vehicle increase in average 18hr vehicle flow or <500 HV increase in total 18hr HV flows.	No change in Level of fear and intimidation.
Road User and Pedestrian Safety	Judgement based on accident data and individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Hazardous / Large Loads	Judgement based on number of such movements and nature of affected road network.			

12.38 However, there may be instances where, for example, a relatively low increase in vehicle movements results in a relatively large percentage increase simply because

the baseline vehicle movements are low. Such a relative increase in vehicle movements may breach one of the thresholds in **Table 12-2**, but in absolute terms may not give rise to any significant effects. Judgment has been used in the application of the thresholds in **Table 12-2**.

Sensitivity of Receptors

12.39 Definitions of receptor sensitivity have been developed and are shown in **Table 12-3**.

Table 12-3: Receptor Sensitivity Definitions

Impact	High Sensitivity	Medium Sensitivity	Low Sensitivity
Severance	Presence of existing communities with a moderate level of existing severance (subjective assessment)	Presence of existing communities with low existing severance (subjective assessment)	No presence of existing communities severed by road
Road Vehicle Driver and Passenger Delay	Road network experiencing congestion at peak times and some other times	Road network experiencing congestion at peak times	Road network not experiencing congestion
Non-Motorised User Delay	Substantial non-motorised user activity with few facilities for such users.	Some non-motorised user activity with few facilities for such users.	Little non-motorised activity or sufficient facilities for such users.
Non-Motorised User Amenity			
Fear and Intimidation of and by Road Users			
Road User and Pedestrian Safety	Highly sensitive receptor although judgment applied if locations in question have not been identified as having an accident record requiring mitigation measures by the road authority.		
Hazardous / Large Loads	Abnormal and oversized loads to use road network	Some hazardous or dangerous loads on the road network	No hazardous or dangerous loads on the road network

Assumptions, Limitations and Confidence

12.40 The assessment of the potential impacts to the baseline traffic relies on the accuracy of the traffic flow data. The traffic counts have been undertaken by traffic survey specialists, Kestrel Surveys. As noted in paragraph 12.24, the number of vehicle movements on the same section of road vary continuously. However, there is no reason to believe that the traffic data that has been collected for the roads within the study area represent atypical conditions.

12.41 The traffic surveys were undertaken in April, which is considered to be a neutral month (i.e. one not impacted by seasonal variation in traffic flows) according to the 'CA 185 Vehicle speed measurement' forming part of the Design Manual for Roads and Bridges (DMRB). The potential effects of seasonality have therefore not been included as part of this Chapter's assessment due to the timing of the traffic surveys.

12.42 The road safety assessment relies on the accuracy of data obtained from Crashmap[1]. Crashmap is a widely accepted online resource tool in the highways and transport planning industry and only provides official data published by the Department for Transport (DfT).

Significance of Effect

12.43 Sensitivity and magnitude of change as assessed under the criteria detailed above have been considered collectively to determine the significance of effect, as described in **Table 12-4**. The collective assessment is a considered assessment by the assessor, based on the likely sensitivity of the receptor to the change (e.g. is a receptor present which would be affected by the change), and then the magnitude of that change. Effects of 'major' and 'moderate' significance are considered to be 'significant' in terms of the EIA Regulations and additional mitigations may be required.

Table 12-4: Transport and Access Significance of Effects

Significance of Effects					
Sensitivity of Receptor	**Magnitude of Impact**				
	No Change	**Negligible**	**Minor**	**Moderate**	**Major**
Low	**Negligible**	**Negligible**	**Minor**	**Minor**	**Moderate**
Medium	**Negligible**	**Minor**	**Minor**	**Moderate**	**Major**
High	**Negligible**	**Minor**	**Moderate**	**Major**	**Major**

Potential Cumulative Effects

12.44 The potential for cumulative effects to arise from the proposed development in combination with other developments has been considered. Schedule 4, Paragraph 5 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 states that EIA Reports provide "*A description of the likely significant effects of the development on the environment resulting from, inter alia:* […] *(e)the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;*".

12.45 The Scottish Government's document Circular 1/2017 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 states regarding this issue:

[1] https://www.crashmap.co.uk/Home/How_It_Works

"*Generally, it would not be feasible to consider the cumulative effects with other applications which have not yet been determined, since there can be no certainty that they will receive planning permission. However, there could be circumstances where 2 or more applications for development should be considered together. Such circumstances are likely to be where the applications in question are not directly in competition with one another so that both or all of them might be approved, and where the overall combined environmental impact of the proposals might be greater or have different effects than the sum of the separate parts*."

12.46 Any cumulative assessment of other developments and the proposed development would be based on the sum of the traffic generation of the individual developments. It is unlikely that they would, when considered together, have effects that were different or greater than the sum of the separate parts.

12.47 The traffic generated by any potential cumulative developments which were under construction or operational during the period for which traffic data has been collected would be included in the baseline vehicle movements. Hence the cumulative assessment has considered only those developments which have planning consent (i.e. can be considered 'approved' as per the above extract from the 2017 regulations and 'determined' as per the extract from Circular 1/2017) but were not under construction or operational during the period for which traffic data has been collected.

Embedded Mitigation

12.48 The proposed development has been designed to include a range of measures to mitigate potential effects and the assessment accounts for general good practice that would be deployed, with a detailed Construction Traffic Management Plan (CTMP) being secured by a condition attached to any consent for the proposed development prior to the commencement of development. An outline CTMP has been prepared and is in **Technical Appendix 12.3** of this EIA Report.

Residual Effects

12.49 Following consideration of mitigation measures, an assessment of the residual effects has been made. Residual impacts are those likely to occur after mitigation measures have been incorporated into the scheme. Potential residual impacts include general wear and tear to roads and verges as a result of increased traffic, and temporary road closures caused by abnormal load deliveries.

Statement of Significance

12.50 A statement of significance is provided at the end of the Chapter which provides a summary of the complete assessment for each receptor, taking into consideration any proposed mitigation measures, and it reports the significance of the residual effects in compliance with the EIA Regulations.

Environmental Baseline

12.51 This section details the baseline conditions that exist in the study area in relation to the existing road network, existing traffic flows and the current safety of the study area.

Current Baseline

Existing Road Network

12.52 The study area for this assessment has been defined as the A9 extending westbound from Blackford to its junction with C468 and then the C468 southbound to the area around Carim Lodge.

12.53 The section of the C468, within the site boundary, passes through an area of mainly open farmland with only the occasional residential dwelling. It has no footways and does not form part of Perth and Kinross Council's Core Path network but Core Path BLFD/118 crosses it around 1.9km to the north of the access to the proposed development.

12.54 The A9 in the vicinity of the proposed development also passes through an area of mainly open farmland with only the occasional residential properties fronting the road. It has no footways (expect for the occasional short stretch allowing access to bus stops) and does not form part of Perth and Kinross Council's Core Path network.

Existing Traffic Flows

C468 (Sheriffmuir Road)

12.55 Baseline traffic flows were obtained as described in paragraph 12.15. The data from the surveys is in **Technical Appendix 12.4** and summarised in **Table 12-5**. HGVs numbers are those identified in in Classes 6 – 13 of the survey report.

Table 12-5: C468 Average Weekday Traffic Flows

Period	Northbound			Southbound			Both Directions		
	Total	HGVs	%HGV	Total	HGVs	%HGV	Total	HGVs	%HGV
24 Hour	17	0	0%	26	0	0%	43	0	0%
12 Hour	11	0	0%	22	0	0%	33	0	0%

12.56 **Table 12-6** shows a summary of the speed measurements of vehicles on the C468 for a weekday average traffic flow.

Table 12-6: C468 Vehicle Speeds

	Northbound	Southbound
85th Percentile Speed (mph)	37.5	40.2
Average Speed (mph)	29.4	32.9

A9

12.57 Baseline traffic flows were obtained as described in paragraph 12.15. The data from the surveys is in **Technical Appendix 12.4** and summarised in **Table 12-7**. The data includes directional and two-way flows. For the purpose of making a robust

assessment, HGVs have been identified as Classes 3 and 4 of the survey report which includes all vehicles that are at least 8.4m in length.

Table 12-7: A9 Average Weekday Traffic Flows

Period	Eastbound			Westbound			Both Directions		
	Total	HGVs	%HGV	Total	HGVs	%HGV	Total	HGVs	%HGV
24 Hour	12,652	2,440	19%	12,225	2,420	20%	24,877	4,860	20%
12 Hour	9,951	1,713	17%	10,056	1,904	19%	20,007	3,617	18%

12.58 **Table 12-8** shows a summary of the weekday speed measurements of vehicles on the A9.

Table 12-8: A9 Vehicle Speeds

	Eastbound Traffic	Westbound Traffic
85th Percentile Speed (mph)	72.7	72
Average Speed (mph)	64.9	63.9

Road Safety Review

12.59 The RSRA report (in **Technical Appendix 12.2**) concluded that the available collision data does not indicate any existing road safety problem but nevertheless recommended some mitigation measures. A Designer's Response to the RSRA is also provided in **Technical Appendix 12.2**.

Sensitivity of Road Network

12.60 Given the nature of the sections of the C468 and the A9 in the vicinity of the proposed development, neither road is considered to be 'sensitive' for the purposes of applying the IEMA Guidelines mentioned in paragraph 12.36. Hence both sections of road would be subject to further assessment only if the additional vehicle movements arising from the construction of the proposed development would represent an increase of more than 30% compared to the baseline.

Sensitivity of Receptors

12.61 Based on the baseline situation described above, the sensitivity of receptors to each type of effect has been estimated and is shown in **Table 12-9**.

Table 12-9: Comparison of Additional Vehicle Movements Arising from the Proposed Development During Busiest Month Against Baseline

Receptors on Section of Road	Receptor Sensitivity by Potential Effect						
	Severance	Road Vehicle Driver and Passenger Delay	Non-Motorised User Delay	Non-Motorised User Amenity	Fear and Intimidation of and by Road Users	Road User and Pedestrian Safety	Hazardous / Large Loads
C468 between access to Proposed Development and A9	Low since there is little frontage development and little demand to cross the road	Low since much of the traffic to and from the proposed development would be spread out during a working day and not concentrated at peak times and road network generally not experiencing congestion at peak times.	Low since there is little frontage development and little demand to walk along or cross the road.			Low since RSRA report (in **Technical Appendix 12.2**) did not indicate that there is an existing highway safety problem at the junction of the C468 and A9.	Low as there are established procedures for the movement of abnormal loads such as turbine components.
A9 west of C468	Low since there is little frontage development and little demand to cross the road	Low since much of the traffic to and from the proposed development would be spread out during a working day and not concentrated at peak times and road network generally not experiencing congestion at peak times.	Low since there is little frontage development and little demand to walk along or cross the road.			Low since RSRA report (in **Technical Appendix 12.2**) did not indicate that there is an existing highway safety problem at the junction of the C468 and A9.	Low as there are established procedures for the movement of abnormal loads such as turbine components.

Receptors on Section of Road	Receptor Sensitivity by Potential Effect						
	Severance	**Road Vehicle Driver and Passenger Delay**	**Non-Motorised User Delay**	**Non-Motorised User Amenity**	**Fear and Intimidation of and by Road Users**	**Road User and Pedestrian Safety**	**Hazardous / Large Loads**
A9 east of C468	Low since there is little frontage development and little demand to cross the road	Low since much of the traffic to and from the proposed development would be spread out during a working day and not concentrated at peak times and road network generally not experiencing congestion at peak times.	Low since there is little frontage development and little demand to walk along or cross the road.			Low since RSRA report (in **Technical Appendix 12.2**) did not indicate that there is an existing highway safety problem at the junction of the C468 and A9.	Low as there are established procedures for the movement of abnormal loads such as turbine components.

Future Baseline

12.62 It would be reasonable to consider that the number of vehicle movements on the road network would increase as a result of traffic growth. However, no traffic growth factor has been applied to the observed traffic flows which means that the proportional increases arising from the additional vehicle movements estimated to be generated by the construction of the proposed development may be higher than would otherwise be the case and hence the assessment can be considered to be a worst case assessment.

Potential Sources of Impact

General Construction Vehicles

12.63 The proposed development would generate demand for transport during its construction and this demand would have the potential to impact users of the transport network and potentially have an effect on those users. Transport demand would be generated during construction by staff travelling to and from the site and plant, components, materials and supplies being delivered or removed from the site. This transport demand would lead to additional movements of cars, vans, Light Goods Vehicles (LGVs) and HGVs on the road network.

12.64 An indicative programme for the construction of the proposed development is provided in **Chapter 3** and shows that construction is expected to last for 24 months. The amount of material required to be delivered to the site has been calculated for each of the tasks shown in the programme in **Chapter 3**. The calculation assumes a worst case that all the stone required for construction of the project is imported to the site. The number of HGV movements (including AILVs) for each task in the construction programme is shown in **Table 12-10**.

12.65 **Table 12-10** also provides estimated car and light van movements related to staff during construction. The number of staff involved in the construction of the proposed development would vary depending on the activity, but there would be some supervisory and managerial staff present throughout the construction period. It has been assumed that there would be an average of 1.5 staff members per vehicle.

Table 12-10: Vehicle Movements by Construction Programme Task

Task	Starts in Month	Duration (Months)	Total HGV Movements[2]	Total Car and Light Van Movements[2]	Total Movements[2]
Mobilisation & Site set up (Inc. Access Road improvements, Site	1	1	6,377	853	7,230

[2] A movement is an arrival or a departure. For example a laden vehicle arriving, unloading and departing would represent one load and two movements.

Task	Starts in Month	Duration (Months)	Total HGV Movements[2]	Total Car and Light Van Movements[2]	Total Movements[2]
Establishment and Tree Clearance)					
Onsite Site Track Construction	1	1	13,172	1,867	15,039
Crane Pads / Hardstandings Construction	9	1	10,881	1,067	11,948
Turbine Foundation Construction	11	8	8,236	1,493	9,729
On Site Cabling (Laying and Bedding)	17	8	1,915	960	2,875
Substation Compound	12	1	128	107	235
Turbine Delivery & Erection	13	11	234	2,053	2,287
Site Reinstatement	21	4	38	533	571

12.66 The data in **Table 12-10** shows that construction of the onsite tracks is the activity which would be expected to generate the most HGV movements. The peak number of HGV movements during each month of the construction of the proposed development depends on the overlap of construction activities. Hence the HGV movements shown in **Table 12-10** have been allocated to the construction programme shown in **Chapter 3** and the resultant number of HGVs during each month of the construction programme is shown in **Table 12-11.**

12.67 The data in **Table 12-11** also shows the estimated daily number of vehicle movements and that calculation is based on 20 working days per month (i.e. four weeks of Monday to Friday working per month). Some activities may take place on Saturdays and hence the vehicle movements may be spread over more days per month than has been assumed. Basing the calculation on only 20 working days per month therefore produces a conservative assessment.

12.68 The data in **Table 12-11** shows that month nine of the construction programme would be the busiest month for vehicle movements. It is estimated that during that month, there would be an average of 240 vehicle movements each working day, of which on average 222 would be HGVs. There is estimated to be an average of 104 vehicle movements each working day over the entire construction programme, of which 86 would be HGVs. Only 10 of the 24 months of the construction programme would be expected to have daily HGV movements greater than the average.

12.69 The proposed development includes search areas for two borrow pits. The estimates of the traffic generation during the construction of the proposed development assume that all stone required during the construction of the proposed development is delivered from offsite. However, the amount of stone required to be delivered from offsite (and hence vehicle movements) would be less than estimated in this assessment if investigation of those borrow pits shows that they can provide stone suitable for use in the construction of the proposed development.

12.70 Any stone that would be required to be delivered to the proposed development would be sourced from existing operational quarries. Vehicle movements to and from these quarries may already be on some of the roads within the study area delivering stone to other customers and may have been captured in the baseline traffic surveys.

Hence deliveries of stone to the proposed development may not necessarily result in all the relevant HGV movements shown in **Table 12-10** being additional movements on all parts of the road network in the study area. No allowance has been made for such existing vehicle movements however, and hence the assessment can be considered to be robust.

Table 12-11: Number of Vehicle Movements Per Month in Construction Programme

Activity	Vehicle type	Vehicle Movements (Sum of Arrivals and Departures) Per Month During Construction Programme																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mobilisation & Site set up (Inc. Access Road improvements, Site Establishment and Tree Clearance)	HGV	180	184	250	300	900	1,363	1,500	1,300	400															
Onsite Site Track Construction	HGV	510	700	590	1,090	1,775	1,887	2,050	2,060	1,380	1,130														
Crane Pads / Hardstandings Construction	HGV									2,667	2,512	2,167	1,567	867	667	367	67								
Turbine Foundation Construction	HGV											1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029						
On Site Cabling (Laying and Bedding)	HGV																	239	239	239	239	239	239	239	239
Substation Compound	HGV												128												
Turbine Delivery & Erection	HGV													21	21	21	21	21	21	21	21	21	21	21	
Site Reinstatement	HGV																					10	10	10	10
Staff Movements	Car and LGVs	102	216	356	356	375	326	359	340	353	203	320	427	507	507	507	507	493	493	307	307	440	440	440	253
Total Vehicle Movements During Month		**792**	**1,100**	**1,196**	**1,746**	**3,050**	**3,576**	**3,909**	**3,700**	**4,800**	**3,845**	**3,516**	**3,151**	**2,424**	**2,224**	**1,924**	**1,624**	**1,783**	**1,783**	**567**	**567**	**710**	**710**	**710**	**502**
Total HGV Movements During Month		690	884	840	1,390	2,675	3,250	3,550	3,360	4,447	3,642	3,196	2,724	1,918	1,718	1,418	1,118	1,290	1,290	261	261	270	270	270	249
Total Car and LGV Movements During Month		102	216	356	356	375	326	359	340	353	203	320	427	507	507	507	507	493	493	307	307	440	440	440	253
Average Vehicle Movements per Working Day		**40**	**55**	**60**	**87**	**153**	**179**	**195**	**185**	**240**	**192**	**176**	**158**	**121**	**111**	**96**	**81**	**89**	**89**	**28**	**28**	**35**	**35**	**35**	**25**
Average HGV Movements per Working Day		35	44	42	70	134	163	178	168	222	182	160	136	96	86	71	56	65	65	13	13	14	14	14	12
Average Car and LGV Movements per Working Day		5	11	18	18	19	16	18	17	18	10	16	21	25	25	25	25	25	25	15	15	22	22	22	13

AILVs

12.71 The 'Turbine Delivery' task in **Table 12-10** includes AILVs delivering the turbine components. There would be nine AILV movements per turbine, hence a total of 117 movements. These movements would deliver the turbine blades (three movements per turbine), turbine tower sections (up to four per turbine), transformer and nacelle (each one per turbine).

12.72 These vehicles would be classed as AILVs only on their journey carrying the components to the site and they would not be classed as AILVs for their return journey unladen from the site to the port where the turbine components arrive. There would therefore be 117 movements of the unladen turbine component vehicles returning to the port from the site.

12.73 The ALA report in **Technical Appendix 12.1** considers a route from the Port of Rosyth to the proposed development using the M90 and A9 to reach the C468 / site entrance. The report concludes that such a route would be feasible, subject to minor works related to removal of street furniture and construction of a new access track linking the A9 with the C468 (as described in **Chapter 3**).

12.74 It is common that AILVs travel in convoys of up to three vehicles. The exact timing of the movement of these convoys would be a matter to be agreed with the relevant roads authorities and the police. Paragraph 6 of Schedule 5 of The Road Vehicles (Authorisation of Special Types) (General) Order 2003 gives the police the power to vary the time, date or route of a proposed AILV movement and halt the AILV in place on, or adjacent to, the road on which the AILV is travelling in the interests of road safety or to avoid undue traffic congestion.

12.75 The 117 AILV movements would translate to 39 AILV convoys over the 11 months of turbine component deliveries, which equates to an average of three to four convoys per month. The movement of such convoys may take place at times outwith typical working days and hours, and so there could be a convoy around every seven to ten days on average. Signage would be erected at points along the entire route warning of the AILV movements and giving other road users the chance to alter their journey to avoid any chance of being affected by the AILV movements.

Construction Vehicle Routes

12.76 All construction vehicles would enter and exit the site from the C468 and would use the section of the C468 between Carim Lodge and the A9. No construction vehicles would be allowed to use the section of the C468 to the south / south west of the access to the proposed development.

12.77 Construction related vehicles would use the A9 to the east and west of its junction with the C468. The number of vehicles that would use the A9 to the east and to the west of the junction would depend on the location of suppliers and staff and those locations would be uncertain until much later in the construction process. For the purposes of this assessment, however, it has been assumed that there would be an equal split of vehicles between the two directions on the A9.

12.78 The Designer's Response to the RSRA in **Technical Appendix 12.2** states that vehicles travelling to the proposed development would be prohibited from turning right

into the C468 from the A9 and vehicles travelling from the proposed development would be prohibited from turning right from the C468 on to the A9. The effect of this restriction means that vehicles would have to take the routes shown in **Figure 12.2** and summarised as follows:

- arrivals from the east: would use the westbound A9 to the east of the C468 and turn left into the C468
- departures to the east: would turn left from the C468 onto the westbound A9, leave the A9 at the B8033 junction and join the eastbound A9 at that junction.
- arrivals from the west: would use the A9 to the west of the C468, continue past the C468, leave the A9 at the A823 junction and join the westbound A9 at that junction to then turn left onto the C468.
- departures to the west: would turn left onto the westbound A9 at the C468 junction.

12.79 The data in **Table 12-11** shows that month 10 would be expected to the be the busiest month for vehicle movements during the construction of the proposed development, when 240 vehicle movements could be expected on a typical day during that month. For the purposes of this assessment it is assumed that half of those 240 vehicle movements would have an origin or destination accessed via the A9 to the west of the C468, while the other half would have an origin or destination accessed from the A9 to the east of the C468.

12.80 **Table 12-12** shows the additional daily vehicle movements during month 10 of the construction of the proposed development on the sections of the A9 to the east and west of the C468. These additional vehicle movements account for the routeing restrictions mentioned in paragraph 12.78.

Table 12-12: Additional Daily Vehicle Movements on A9 to West and East of C468 During Busiest Month of Construction Programme of Proposed Development

Movement	All Vehicles		HGVs Only	
	A9 to West of C468	A9 to East of C468	A9 to West of C468	A9 to East of C468
Arrivals from the east	0	60	0	56
Departures to the east	120	60	111	56
Arrivals from the west	60	120	56	111
Departures to the west	60	0	56	0

Comparison Against Baseline

12.81 The additional vehicle movements arising from the construction of the proposed development during the busiest month shown in **Table 12-11** were compared to the baseline vehicle movements for the C468 and A9 (shown in **Table 12-5** and **Table 12-7**) and the percentage increase in vehicle movements on each section of road within the study area calculated.

12.82 That comparison and calculation is shown in **Table 12-13**, which also identifies which sections of road are estimated to experience an increase in vehicle movements arising from the construction of the proposed development sufficiently large to warrant further assessment.

Table 12-13: Comparison of Additional Vehicle Movements Arising from the Proposed Development During Busiest Month Against Baseline

Section of Road	Estimated Baseline Average 0700 – 1900 Weekday Vehicle Movement		Additional Vehicle Movements per Working Day Arising from the Proposed Development During Busiest Month		Increase in Vehicle Movements Arising from the Proposed Development		Subject to Further Assessment?
	All Vehicles	HGVs Only	All Vehicles	HGVs Only	All Vehicles	HGVs Only	
C468	33	0	240	222	727%	-	Yes
A9 to west of C468	20,007	3,617	240	222	1%	6%	No
A9 to east of C468	20,007	3,617	240	222	1%	6%	No

12.83 The data in **Table 12-13** shows that only the C468 could be expected to experience in an increase in traffic arising from the busiest month of the construction of the proposed development sufficiently large to warrant further assessment. The magnitude of increase in vehicle movements on the two sections of the A9 each side of its junction with the C468 would not warrant further assessment. The increases shown in **Table 12-13** apply only to the busiest month during the construction of the proposed development and the increases during the other months would be lower than those shown in that table.

Assessment of Potential Effects

12.84 This section assesses the effects on the C468 of the additional vehicle movements estimated to be generated during the busiest month of the construction of the proposed development. The assessment assumes that some mitigation measures would be in place. These are referred to as embedded mitigation measures and are described below.

Embedded Mitigation Measures

12.85 The assessment has been undertaken based on good construction practice being deployed, including the following:

- all vehicles delivering plant and materials to the site would be roadworthy, maintained and sheeted as required;
- suitable traffic management would be deployed for the movement of HGVs and other site traffic;
- banksmen and police escort would be deployed for the movement of abnormal loads as required; and
- HGV loads would be managed to ensure that part load deliveries would be minimised where possible, to limit the overall number of loads.
- the additional measures in the CTMP in **Technical Appendix 12.3.**

12.86 A trial run would be undertaken of the AILVs transporting the turbine components, which would identify any accommodation works needed.

12.87 The proposed development includes search areas for two borrow pits (see **Technical Appendix 10.3: Borrow Pit Appraisal**). Should the borrow pits prove useable, then use of them would reduce the relevant number of vehicle movements shown in **Table 12-13**.

Potential Effects - Construction

12.88 An assessment is presented in **Table 12-14** of the effects of the increase in vehicle movements during the busiest month of the construction of the proposed development on the C468.

Table 12-14: Assessment of Effects of Additional Vehicle Movements Arising from Proposed Development

Severance	Road Vehicle Driver and Passenger Delay	Non-Motorised User Delay	Non-Motorised User Amenity	Fear and Intimidation of and by Road Users	Road User and Pedestrian Safety	Hazardous / Large Loads	Overall Significance
• The C468 has a low sensitivity to severance as per **Table 12-9**. • The increase in vehicle movements would equate to a major adverse impact as per **Table 12-2**. However, this reflects the low baseline flows and caution needs to be applied in such circumstances as described in the extract from the IEMA Guidelines in paragraph 12.27. The additional 240 vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development equates to an additional vehicle movement every three minutes on average and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Road Vehicle Driver and Passenger Delay as per **Table 12-9**. • The additional 240 vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development equates to an additional vehicle movement every three minutes on average and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Non-Motorised User Delay as per **Table 12-9**. • The additional 240 vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development equates to an additional vehicle movement every three minutes on average and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Non-Motorised User Amenity as per **Table 12-9**. • The additional 240 vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development equates to an additional vehicle movement every three minutes on average and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Fear and Intimidation of and by Road Users as per **Table 12-9**. • As shown in **Table 12-15**, there would be no change in the level of fear and intimidation due to the additional vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development, which represents an impact of negligible adverse magnitude as per **Table 12-2**. • A negligible impact on a receptor of low sensitivity is considered to be an effect of negligible significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Road User and Pedestrian Safety as per **Table 12-9**. • The additional 240 vehicle movements over the period 07:00 – 19:00 arising from the construction of the proposed development equates to an additional vehicle movement every three minutes on average and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• The C468 has a low sensitivity to Hazardous / Large Loads as per **Table 12-9**. • The additional AILV movements arising from the construction of the proposed development would be expected to equate to three to four convoys per month and is considered to represent a minor adverse impact as per **Table 12-2**. • A minor impact on a receptor of low sensitivity is considered to be an effect of minor significance as per **Table 12-4** and is therefore considered to be not significant.	• Negligible (not significant) for Fear and Intimidation of and by Road Users. • Minor (not significant) for all others.

Table 12-15: Calculation of Level of Fear and Intimidation on C468

Future Baseline								Future Baseline and Proposed Development								Impact Magnitude
Average 18-hour Traffic Flow (All Vehicles, Per Hour) (a)	Total 18-Hour HGVs (b)	Average Vehicle Speed (mph) (c)	Degree of Hazard Score				Level of Fear and Intimidation	Average 18-hour Traffic Flow (All Vehicles Per Hour) (a)	Total 18-Hour HGVs (b)	Average Vehicle Speed (mph) (c)	Degree of Hazard Score				Level of Fear and Intimidation	
			a	b	c	Total					a	b	c	Total		
43	0	31	0	0	20	20	Small	283	240	31	0	0	20	20	Small	Negligible

Mitigation

12.89 The preceding assessments have shown that no additional mitigation is required beyond that described in paragraphs 12.85 to 12.87.

Residual Construction Effects

12.90 No significant residual effects are expected on traffic and the transport network during the construction of the proposed development.

Assessment of Cumulative Effects

12.91 Paragraphs 12.44 to 12.47 of this Chapter describe the approach to assessing the potential for cumulative effects from vehicle movements arising from the construction of the proposed development and other consented but unbuilt developments.

12.92 **Chapter 5** lists other developments that could have cumulative effects with the proposed development. Only those which are consented but not under construction at the time of writing have been considered as having the potential to cause cumulative effects with the proposed development on traffic and the transport network. The following of those listed in **Chapter 5** meet those criteria:

- Strathallan Wind Farm Phase 2, which comprises five turbines and is located approximately 12.5km to the north west of the proposed development;
- Drumduff Wind Farm Extension which comprises three turbines and is located approximately 32km to the south of the proposed development; and
- Dewshill Wind Farm which comprises two turbines and is located approximately 36.1km to the south of the proposed development.

12.93 Drumduff Extension is located to the north of Blackridge in West Lothian and Dewshill Wind Farm is located near Salsburgh in North Lanarkshire. Given the distance between these developments and the proposed development, few vehicle movements generated by the construction of either of those developments could reasonably be expected to be on the road network around the proposed development.

12.94 Strathallan Wind Farm has consent for nine turbines. Four have been constructed at the time of writing (referred to as Phase 1) but it is unclear when the remaining five (which would form Phase 2) would be constructed. The wind farm is accessed from the B827, which meets the A822 to the north of Braco. The A822 meets the A9 around 5.5km to the west of the junction of the A9 and the C468.

12.95 The Environmental Statement submitted with the consent application for Strathallan Wind Farm estimated an additional 78 daily vehicle movements (of which 48 would be HGVs) during the construction of the Strathallan Wind Farm. That estimate reflected the entire nine turbine layout. As four of those turbines have been constructed, it would be reasonable to estimate that construction of the remaining five turbines would generate around 43 daily vehicle movements of which around 27 would be HGVs.

12.96 It has been assumed that these additional vehicle movements would be on the sections of the A9 to the west and east of its junction with the C468 (in reality some

of these movements may not use these sections of the A9). The additional vehicle movements arising from the construction of the proposed development during the busiest month (shown in **Table 12-11)** and those arising from the construction of Strathallan Wind Farm Phase 2 were compared to the baseline vehicle movements for the A9 (shown in **Table 12-7**) and the percentage increase in vehicle movements on the sections of the A9 in the study area calculated.

12.97 That comparison and calculation is shown in **Table 12-16** which also identifies if any sections of road are estimated to experience an increase in vehicle movements arising from the construction of the proposed development and Strathallan Wind Farm Phase 2 sufficiently large to warrant further assessment.

Table 12-16: Comparison of Additional Vehicle Movements Arising from the Construction of the Proposed Development and Strathallan Wind Farm Phase 2 During Busiest Month Against Baseline

Section of Road	Estimated Baseline Average 0700 – 1900 Weekday Vehicle Movement		Additional Vehicle Movements per Working Day Arising from Proposed Development During Busiest Month		Additional Vehicle Movements per Working Day Arising from Strathallan Wind Farm Phase 2 During Busiest Month		Increase in Vehicle Movements Arising from the Proposed Development and Strathallan Wind Farm Phase 2		Subject to Further Assessment?
	All Vehicles	HGVs Only	All Vehicles	HGVs Only	All Vehicles	HGVs Only	All Vehicles	HGVs Only	
A9 to west of C468	20,007	3,617	240	222	43	27	1%	7%	No
A9 to east of C468	20,007	3,617	240	222	43	27	1%	7%	No

12.98 The data in in **Table 12-16** shows that the increase in vehicle movements arising from the construction of the proposed development and Strathallan Wind Farm Phase 2 would be too small to warrant any further assessment of the sections of the A9 in the study area. The cumulative effect of the proposed development and Strathallan Wind Farm Phase 2 on the sections of the A9 in the study area can therefore be said to be negligible and not significant.

Summary

12.99 The effects on traffic and the transport network associated with the construction of the proposed development are summarised in **Table 12-17.**

Table 12-17: Summary of Residual Effects

Effect	Receptor	Mitigation / Monitoring Measures	Residual Effect (Proposed Development Alone)	Residual Effect (Cumulative)
Severance	Users of C468 and A9	CTMP Good construction practices	No significant negative effects	No significant negative effects
Road Vehicle Driver and Passenger Delay	Users of C468 and A9		No significant negative effects	No significant negative effects
Non-Motorised User Delay	Users of C468 and A9		No significant negative effects	No significant negative effects
Non-Motorised User Amenity	Users of C468 and A9		No significant negative effects	No significant negative effects
Fear and Intimidation of and by Road Users	Users of C468 and A9		No significant negative effects	No significant negative effects
Road User and Pedestrian Safety	Users of C468 and A9		No significant negative effects	No significant negative effects
Hazardous / Large Loads	Users of C468 and A9		No significant negative effects	No significant negative effects

Statement of Significance

12.100 No significant effects are expected on transport during the construction, operation and decommissioning of the proposed development, both individually and in combination with other proposed developments.

References

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