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Introduction

- 12.1 This Chapter presents 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 mitigation measures forming part of the Proposed Development;
 - describe the potential effects, including cumulative effects;
 - identify any necessary monitoring and/or mitigation measures recommended to prevent, minimise, reduce or offset any likely significant adverse environmental effects;
 - assess the residual effects remaining following the implementation of mitigation measures; and
 - reach a conclusion on the likely significant effects based on the information gathered and the analysis and assessments undertaken.
- 12.2 The chapter is supported by **Technical Appendix 12.1: Turbine Component Delivery Route Feasibility Assessment**, which is a report that considers the feasibility of delivering the turbine components to the Proposed Development.

Scope and Consultation

- 12.3 A Scoping Report was submitted in March 2025 to establish the scope of the EIA including the methodology and approach to the assessment of transport impacts and effects. The Scoping Report records the findings of the scoping exercise and details the technical guidance, standards, best practice and criteria being applied in the assessment to identify and evaluate the likely significant effects of the Proposed Development on transport.
- 12.4 A Scoping Opinion was issued by Dumfries and Galloway Council (D&GC) in July 2025 and **Table 12-1** summaries the transport-related responses in that opinion and how they have been addressed in this chapter.

Effects Assessed in Full

- 12.5 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 to 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.
- 12.6 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: Turbine Component Delivery Route Feasibility Assessment** reviewed the feasibility of delivering the wind turbine components to the Proposed Development and the effects of these movements are considered in the assessment.

Effects Scoped Out

- 12.7 As stated in the Scoping Report, the Proposed Development would generate only the occasional maintenance or inspection vehicle movements once operational and these would be expected to cause no significant traffic and transport-related effects. The assessment of potential effects during operation has therefore been scoped out of the assessment.
- 12.8 The operational period of the Proposed Development is intended to be 40 years after which it would be decommissioned unless consent was granted to extend the operational period or to repower the Proposed Development. Decommissioning of the Proposed Development is likely to generate fewer vehicle movements than construction as some elements of the Proposed Development may remain in place after decommissioning.
- 12.9 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 during decommissioning have therefore been scoped out of this assessment.

Table 12-1: Scoping Responses

| Consultee and Date | Issue Raised | Response / Action Taken |
|---------------------------------|--|--|
| D&GC Roads Planning, 6 May 2025 | <i>"It would be appropriate that Transport Scotland be consulted with regard to any access route utilising the Trunk Road network."</i> | TS was consulted but responded to say that it <i>"will no longer respond to EIA consultations in a statutory capacity."</i> |
| | <i>"No details have yet been provided in respect of the anticipated trip generation by construction traffic or predicted number of AIL's [Abnormal Indivisible Loads] and it is anticipated that these details will be supplied in full to support any future application and transport assessment"</i> | Construction traffic trip generation (including AILVs) is presented in Table 12-13 . |
| | <i>"Routes leading to the site may cross a number of bridges/structures, many of which may be unsuitable for heavy HGVs and larger AILs, and that have limitations on safe axle loadings and/or restricted parapet widths. Where a proposed access route crosses bridges and culverts, the applicant will require to get approvals and safe axle loadings (in respect of those structures) from the Council's Engineering Services (Bridges and Structures) unit."</i> | None of the routes proposed to be used in the vicinity of the Proposed Development have signed weight limits. The proposed route for the AILVs does not use D&GC's Road network but the suitability of structures on the route to cater of the laden AILVs would be checked with the relevant structure owners as part of the AILV approval process. |
| | <i>"The Council's Bridges and Structures unit have advised that Abnormal Loads require to be assessed on an individual basis, proposed axle load configurations should be supplied and agreed at earliest opportunity. Any proposal or requirement to carry out amendments to any bridge or culvert will require to be addressed via an AIP [Approval In Principle] process."</i> | The proposed route for the AILVs does not use D&GC's road network but the suitability of structures on the route to cater of the laden AILVs would be checked with the relevant structure owners as part of the AILV approval process. |
| | <i>"It would be appropriate that any future application confirm the access route(s) and identify the full extent of proposed off-site road accommodation and mitigation works including passing place provision, carriageway strengthening, widening and alterations to road boundaries all along any proposed access route(s) necessary to permit 2-way construction traffic and the passage of cranes and component delivery vehicles (this may require land outwith the public road boundary and a separate planning consent may be required in respect of these works)."</i> | Any mitigation works required to cater for additional vehicle movements are identified in this chapter. Mitigation works required for AILVs are identified in Technical Appendix 12.1 . |

| Consultee and Date | Issue Raised | Response / Action Taken |
|--------------------|---|---|
| | <i>“Proposals for access routes, site access and all accommodation works must be supported by swept path tracks.”</i> | Swept path assessments of AILVs entering the Site are provided in Technical Appendix 12.1 . |
| | <i>“All accommodation works must be designed and constructed to the satisfaction of the Planning Authority in consultation with the Roads Authority and will require appropriate permits and consents to have been issued.”</i> | Any accommodation works would be subject to a separate permit and consent and are therefore not considered further in this chapter. |
| | <i>“Where public road boundaries are to be altered either for the formation of temporary accesses or for accommodation works, these should be reinstated in their original position at the conclusion of construction works (unless prior agreements have been secured with the Planning and Road Authorities).”</i> | Any temporary accommodation works would be reinstated. The proposed access from the A75 would remain in place for the duration of the Proposed Development’s construction, operation and decommissioning.. |
| | <i>“The CTMP [Construction Traffic Management Plan] should include a programme of delivery types/numbers by month, details of all proposed mitigation measures to minimise the impact on local communities and businesses, agreed and excluded access routes and details of measures that will be implemented to ensure that (a) no stacking of delivery vehicles occur on any part of the public road network (b) the safety of the public using ‘core’ paths is maintained; and is to be agreed in writing with the Police, Transport Scotland and Dumfries and Galloway Council Roads Authorities prior to any works commencing onsite. Access and excluded routes should be identified and agreed for all types of vehicles and a system of visible vehicle tagging/badging employed to ensure compliance with agreed routes and driver behaviour standards which should be supported by a Driver Code of Conduct.”</i> | A CTMP has not been produced at this stage but it is expected that one would be required by way of a planning condition should consent be granted for the Proposed Development. Measures that could be included in a CTMP are summarised in paragraph 12.631. |
| | <i>“Whilst it is accepted that the intention is that normal and abnormal loads will take access and egress via an ‘agreed’ route, there is likely to be some increase in traffic using other minor roads. There is also the possibility of other unrelated windfarm projects being constructed in the vicinity concurrently with this project. Therefore, it would be appropriate that the TMP acknowledge that co-</i> | A CTMP has not been produced at this stage but it is expected that one would be required by way of a planning condition should consent be granted for the Proposed Development. This could be stipulated as a requirement of the CTMP. |

| Consultee and Date | Issue Raised | Response / Action Taken |
|--------------------|---|--|
| | <i>ordination phasing may be required to mitigate against the cumulative traffic impact."</i> | |
| | <i>"In the event that suitable and sufficient aggregate not be available from on-site Borrow Pits, any future submission/ES/TMP should also identify worst case scenario that 100% of the aggregate required for construction shall be imported to site and identify the potential number of movements in that event, so that the potential impact of importing aggregate from elsewhere via the public road network be assessed."</i> | No borrow pits are proposed hence the assessment in this chapter is based on all aggregate being imported. |
| | <i>"Roads within Dumfries and Galloway [...] have been assessed relative to use by forestry extraction vehicles by in partnership with the Forestry Industry and this is reflected in the Agreed Routes Map. It should be noted that the B6357 is identified as a Consultation Route between the A75(T) and the C43a junction and its use for HGV traffic may be subject to restriction. It is likely that strengthening will be required in order to accommodate wind farm traffic. The C43a between B6357 and A75(T) has not been identified on the Agreed Routes Map."</i> | The stated sections of the B6357 and C43A would be used by only some HGVs, cars and LGVs travelling to or from the Proposed Development. No AILVs would use those sections of road. |
| | <i>"Creation of windfarm access tracks and turbine placements will likely generate accelerated timber extraction. All extracted timber must only travel agreed haulage routes."</i> | It is estimated that fewer than 75 trees would need to be felled and extracted during the construction of the Proposed Development. The resulting number of HGV movements is considered to be immaterial to this assessment, but they would travel on agreed haulage routes. |
| | <i>"It would be appropriate that there should be consultation with nearby forest managers and timber hauliers through the office of the South of Scotland Timber Transport Officer to co-ordinate timber haulage operations that may use the access route(s) during the construction period to minimise the cumulative impact on communities and road users."</i> | This could be stipulated via a planning condition attached to any consent granted for the Proposed Development. |
| | <i>"The developer will be held responsible for the immediate execution of any repairs and will be required to meet the cost of above average maintenance to the public road network arising from</i> | This could be stipulated in a condition attached to any consent granted for the Proposed Development, but is not considered |

| Consultee and Date | Issue Raised | Response / Action Taken |
|--------------------|--|--|
| | <i>the concentration of heavy traffic associated with this development. This to be secured by legal agreement (Section 96) “</i> | relevant to the EIA process and therefore is not considered further in the EIA Report. |
| | <i>“The installation of the grid connection will have an impact upon public roads where the route follows a road, crosses a road or crosses a bridge on the road.”</i> | The grid connection would be subject to a separate application. It has therefore not been considered in this chapter, but would be considered in any subsequent application for a grid connection. |
| Transport Scotland | <i>“The Scottish Government has taken the opportunity to streamline EIA consultation arrangements such that Transport Scotland will no longer respond to EIA consultations in a statutory capacity.”</i> | Noted. |

Approach and Methods

Study Area

- 12.10 The study area has been defined by using professional judgement to identify the sections of the road network likely to be used by construction-related vehicles travelling to and from the Site.
- 12.11 As described in **Chapter 3: Description of Development**, Site access, during construction, for the Proposed Development, would be taken from a new access constructed on the A75 along the southern frontage of the Site and immediately east of an existing field access. The new access would be a 'left-in, left-out' arrangement meaning that vehicles could not turn right into it (other than AILVs under escort) or turn right from it.
- 12.12 The 'left-in, left-out' arrangement would mean that vehicles approaching the Site from the east would drive past the Site access, leave the A75 at its junction with the B6357, then use the C43A road to rejoin the A75 heading eastwards. Vehicles wishing to leave the Site and head west would initially leave heading eastwards along the A75, then leave the A75 at its junction with the B7076 to rejoin the A75 heading westwards.
- 12.13 The study area therefore comprises the:
- A75 between the B6357 and the B7076;
 - B6357 between the A75 and the C43A; and
 - C43A between the B6357 and the A75.
- 12.14 The study area is shown in **Figure 12.1** and the routes that vehicles would take are shown in **Figure 12.2**. The report in **Technical Appendix 12.1** considers the feasibility of delivering the wind turbine components to the Site. It considers a wider area than that shown in **Figure 12.1** and identifies the following route for the delivery of the wind turbine components (shown in **Figure 12.3**):
- leave King George V dock in Glasgow onto Kings Inch Drive;
 - turn left from Kings Inch Drive onto the slip road to the eastbound M8 at Junction 25A;
 - leave the eastbound M8 at Junction 21 to join the southbound M74;
 - leave the M6 at Junction 42 to turn around and rejoin the M6 northbound;
 - leave the A74(M) at Junction 22 to join the westbound A75; and
 - leave the A75 at the access to the Site.

Desk Based Research and Data Sources

- 12.15 Online mapping was consulted to understand the general nature of the surrounding transport network. Data on accidents on the roads within the study area was collated from the Crashmap website.

Field Surveys

- 12.16 Vehicle movement data was extracted for all of 2024 from TS's National Traffic Database System for site '115042 A75 East Riggs (Core 723)(WiM)' the location of which is shown on **Figure 12.1**.

- 12.17 Automatic Traffic Counters (ATCs) were installed at the following locations in the study area (shown on **Figure 12.1**):
- the B6357 between the A75 and the C43A; and
 - the C43A between the B6357 and the A75.
- 12.18 These ATCs counted and classified vehicles for a week from Saturday 26 April 2025.
- 12.19 The roads in the study area were visited by a member of the project team. This visit reviewed the surrounding roads, noting matters such as their configuration, presence of footways, speed limits, any restrictions on the passage of vehicles, and the presence and nature of any sensitive receptors.

Assessment Methods

Overview

- 12.20 The potential effects on traffic and the transport network have been assessed following the IEMA Guidelines referred to in **Technical Appendix 4.1**. This involved establishing a 'baseline', which establishes the characteristics of the existing transport network in the study area, including the existing number of vehicle movements on the roads therein.
- 12.21 Construction would be expected to commence in 2028 (should consent be granted). The existing vehicle movements have been factored to represent estimated 2028 vehicle movements that could be expected to occur in the absence of the Proposed Development (referred to as the 'future baseline').
- 12.22 The number of typical daily vehicle movements that would be generated during each month of construction have been estimated. These estimates have been based on material volumes informed by the design and professional judgement. Judgement has also been used to estimate the routes that these vehicles would take to and from the Site.
- 12.23 The Proposed Development does not include search areas for borrow pits. Therefore, the number of construction vehicle movements has been estimated based on all the aggregate required during construction being imported from offsite sources. Vehicle movements arising from the import of aggregate would come from local quarries. The exact quarries that would be used would not be known until later in the construction process (should consent be granted).
- 12.24 The number of staff likely to be present at the Site during each working day in each month of construction has been estimated based on professional judgement and experience and understanding of other similar developments.
- 12.25 The additional vehicle movements that could be expected to be generated during construction (based on all the required aggregate needing to be imported) have been compared to the future baseline vehicle movements. The percentage increase in total vehicle movements (and in HGV movements only) arising from those additional vehicle movements compared to the future baseline has been calculated for each section of road within the study area. These percentage increases 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"

12.26 Construction working hours would be expected to be 07:00 to 19:00 Monday to Friday and 07:00 to 16:00 on Saturdays. However, for the purposes of this assessment, all the construction-related vehicle movements have been concentrated into the period 07:00 to 19:00 Monday to Friday, which ensures a robust assessment against the above two rules as the percentage increases in vehicle movements are higher than if the estimates were spread over a longer period.

12.27 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."*

12.28 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 *"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"*

12.29 Where the estimated increase in vehicle movements 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.

12.30 Where the estimated increase in vehicle movements breaches the relevant threshold for any section of road, the potential effects have been assessed on the topics described below.

Severance

12.31 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

- 12.32 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

- 12.33 The IEMA Guidelines say:

"The assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads.

Pedestrian delay and severance are closely related effects and 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."

- 12.34 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

- 12.35 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

- 12.36 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 change is based on the degree of change in that level compared to the baseline.

- 12.37 The 'degree of hazard score is calculated from the average hourly traffic flow over 18 hours, the total number of heavy vehicles over 18 hours and the average vehicle speeds over 18 hours. A score is awarded for each element based on the thresholds shown in **Table 12-2** and the three scores are then added to calculate a degree of hazard score. For example, a section of road with an average 18-hour traffic flow of 700 vehicles per hour, 1,500 HGVs over an 18-hour period and an average vehicle speed of 35mph would have a degree of hazard score of 40, comprising an 'a' value of 10, a 'b' value of 10 and a 'c' value of 20.

Table 12-2: Degree of Hazard Score

| Average Traffic Flow Over 18-Hour Day – All Vehicles/Hour 2-Way (a) | Total 18-Hour Heavy Vehicle Flow (b) | Average Vehicle Speed (c) | Degree Of Hazard Score (a+b+c) |
|---|--------------------------------------|---------------------------|--------------------------------|
| >1,800 | >3,000 | >40 | 30 |
| 1,200–1,800 | 2,000–3,000 | 30–40 | 20 |
| 600–1,200 | 1,000–2,000 | 20–30 | 10 |
| <600 | <1,000 | <20 | 0 |

- 12.38 The degree of hazard score is equated to a level of fear and intimidation using the thresholds shown in **Table 12-3**.

Table 12-3: Level of Fear and Intimidation Thresholds

| Level of Fear and Intimidation | Degree of Hazard Score (a) + (b) + (c) |
|--------------------------------|--|
| Extreme | 71+ |
| Great | 41–70 |
| Moderate | 21–40 |
| Small | 0–20 |

- 12.39 The degree of hazard score (and hence the level of fear and intimidation) is calculated for the future baseline and for the future baseline including the number of vehicle movements estimated to be generated during construction. The change in the level of fear and intimidation between the two calculations is used to inform the magnitude of change based on the thresholds shown in **Table 12-4**.

Table 12-4: Fear and Intimidation Magnitude of Change

| Magnitude of change | Change in Step/Traffic Flows (Annual Average Daily Traffic (AADT)) from Baseline Conditions |
|---------------------|--|
| High | Two step changes in level [for example a change from a 'small' level of fear and intimidation to 'Great' would equate to two step changes] |
| Medium | One step change in level, but with: >400 vehicle increase in average 18 hour average two-way all vehicle flow; and/or >500 Heavy Vehicle (HV) increase in total 18hr HV flow |
| Low | One step change in level, with: <400 vehicle increase in average 18 hour average two-way all vehicle flow; and/or |

| Magnitude of change | Change in Step/Traffic Flows (Annual Average Daily Traffic (AADT)) from Baseline Conditions |
|---------------------|---|
| | <500 HV increase in total 18hr HV flow |
| Negligible | No change in step changes |

Hazardous / Large Loads

- 12.40 The Proposed Development would require AILV movements to deliver some wind turbine components, and a report on the feasibility of delivering those components is included as **Technical Appendix 12.1**.
- 12.41 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.
- 12.42 A risk or catastrophe analysis as described in paragraph 3.50 of the IEMA Guidelines is not considered to be required.

Sensitivity of Receptors

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

Table 12-3 – Receptor Sensitivity Definitions

| Impact | Negligible | Low | Medium | High |
|--|---|---|--|--|
| Severance | No presence of existing communities severed by road | Presence of existing communities with a low level of existing severance (subjective assessment) | Presence of existing communities with a medium level of existing severance (subjective assessment) | Presence of existing communities with a high level of existing severance (subjective assessment) |
| Road Vehicle Driver and Passenger Delay | Road network not experiencing congestion | Road network occasionally experiencing congestion at peak times | Road network commonly experiencing congestion at peak times | Road network experiencing congestion at peak times and some other times |
| Non-Motorised User Delay | Negligible levels of non-motorised activity | Little non-motorised activity or sufficient facilities for such users. | Some non-motorised user activity with few facilities for such users. | Substantial non-motorised user activity with few 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 a cluster of accidents. | | | |

| Impact | Negligible | Low | Medium | High |
|-------------------------|---|--|--|---|
| Hazardous / Large Loads | No hazardous or dangerous loads on the road network | Some hazardous or dangerous loads on the road network or road network capable of handling AILVs with minimal works or effects. | Some hazardous or dangerous loads on the road network or road network capable of handling AILVs with some works or temporary closures. | Several hazardous or dangerous loads on the road network road network requires substantial works or road closures to accommodate AILVs. |

Magnitude of Change

12.44 Thresholds for the magnitude of change have been identified by reference to the IEMA Guidelines and professional judgement. These thresholds are summarised in **Table 12-5**.

Table 12-5: Categorisation of Magnitude of Change by Potential Impact

| Impact | Magnitude of Change | | | |
|--|--|--|---|---|
| | High | Medium | Low | Negligible |
| Severance | Change in road link traffic flow of over 90% | Change in road link traffic flow of 60% to less than 90% | Change in road link traffic flow of 30% to less than 60% | Change in road link traffic flow of less than 30% |
| Road Vehicle Driver and Passenger Delay | Judgement based on the individual characteristics of sections of road | | | |
| Non-Motorised User Delay | Judgement based on the individual characteristics of sections of road | | | |
| Non-Motorised User Amenity | Judgement based on the individual characteristics of sections of road with change in total traffic flows or HGV | | | 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 vehicle flow or >500 Heavy Vehicles (HV) increase in total 18 hour HV flows | One change in level of fear and intimidation with <400 vehicle increase in average 18 hour vehicle flow or <500 HV increase in total 18 hour HV flows | No change in Level of fear and intimidation |
| Road User and Pedestrian Safety | Judgement based on accident data. Low or negligible impact likely if section of road under consideration has not been identified by the relevant roads authority as having an atypically high accident rate. | | | |
| Hazardous / Large Loads | Judgement based on number of such movements and nature of affected road network. | | | |

Significance of Effect

12.45 An effect significance matrix based on the magnitude of change and receptor sensitivity is set out in **Table 12-6**.

Table 12-6: Effect Significance Matrix based on the Magnitude of Change and Receptor Sensitivity

| Receptor Sensitivity | Impact Magnitude of Change | | | |
|----------------------|----------------------------|-----------------|-----------------|------------|
| | High | Medium | Low | Negligible |
| High | Major | Major | Moderate | Negligible |
| Medium | Major | Moderate | Minor | Negligible |
| Low | Moderate | Minor | Negligible | Negligible |
| Negligible | Negligible | Negligible | Negligible | Negligible |

12.46 Effects of 'Major' significance are considered to be 'significant' in terms of the EIA Regulations. Effects of 'Moderate' significance are considered to be either 'significant' or 'not significant' in terms of the EIA Regulations and professional judgment is used to determine the level of significance. Effects of 'Minor' or 'Negligible' significance are considered to be 'not significant' in terms of the EIA Regulations.

Mitigation

12.47 The assessment assumes that general good practice would be observed during construction and a detailed CTMP being agreed prior to the commencement of construction and implemented and observed during construction.

Residual Effects

12.48 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.

Cumulative Effects

12.49 The potential for cumulative effects to arise from the Proposed Development in combination with other developments has been considered using the same method as described above.

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 and reports the significance of the residual effects in compliance with the EIA Regulations.

Assumptions, Limitations and Confidence

12.51 As noted above, the number of vehicle movements on a road vary continuously. However, there is no reason to believe that the vehicle movement data collected represents atypical conditions. The construction programme has been estimated based on experience of similar projects. The routes that construction-related vehicles would take to and from the Proposed Development would vary depending on the location of the exact suppliers chosen and of staff but reasonable estimates have been made. The construction vehicle movement estimates have been averaged over a month and there would be some daily variation in vehicle movement numbers around that average.

Baseline Conditions

Existing Baseline

- 12.52 The existing baseline information for the sections of road within the study area is summarised in **Table 12-7**.

Table 12-7: Summary of Existing Baseline

| Section of Road | Length of Section (km Unless Stated) | Adjoining Land Uses | Facilities for Non-motorised Users | Road Configuration | Injury-Causing Accidents (2022 – 2024) | Rule to be Assessed Against |
|-----------------------------|--------------------------------------|--|--|--|--|-----------------------------|
| A75 between B7076 and B6357 | 11 | <ul style="list-style-type: none"> Generally open farmland with occasional direct access to fields, farms and other developments. | <ul style="list-style-type: none"> No footways. No Core Paths interact with this section. National Cycle Network (NCN) crosses this section but via an underpass. | <ul style="list-style-type: none"> Single carriageway with one lane in each direction, although easternmost 1.7km or so a dual carriageway with two lanes in each direction. 60mph speed limit on single carriageway section, 70mph speed limit on dual carriageway section (lower for some vehicle types)¹. 'Agreed Route' in Timber Transport Forum's Agreed Route Map for Timber Transport.² | <ul style="list-style-type: none"> 24 February 2022 – At junction with B721. Involved two vehicles and caused injuries categorised as serious. 24 February 2023 – Around 725m east of Kirtle Water. Involved two vehicles and caused injuries categorised as slight. 20 October 2023 – Around 800m east of Kirtle Water. Involved one vehicle and caused injuries categorised as slight. 18 November 2023 – Around 1km east of junction with C43A. Involved two vehicles and caused injuries categorised as slight. 29 November 2023 – Around 650m east of Kirtle Water. Involved one vehicle and caused injuries categorised as serious. 23 January 2024 – At junction with B6357. Involved two vehicles and caused injuries categorised as slight. 21 June 2024 – At junction with B6357. Involved two vehicles and caused injuries categorised as slight. 12 September 2024 – Around 1.75km east of junction with C43A. Involved four vehicles and caused injuries categorised as slight. 18 November 2024 – At junction with B721. Involved two vehicles and caused injuries categorised as slight. 27 November 2024 – Around 500m west of junction with C43A. Involved two vehicles and caused fatal injuries. 16 December 2024 – At junction with B721. Involved two vehicles and caused fatal injuries. | 1 |
| B6357 between A75 and C43A | 2.25 | <ul style="list-style-type: none"> Generally open farmland with occasional direct access to fields, farms and other developments. | <ul style="list-style-type: none"> No footways. No Core Paths interact with this section. | <ul style="list-style-type: none"> Single carriageway with one lane in each direction. | <ul style="list-style-type: none"> None | 1 |

¹ [Speed limits - GOV.UK](https://www.gov.uk/speed-limits)

² [Agreed Route Map for Timber Transport Forum](#). Map produced by regional timber transport groups which categorises the roads leading to forests in terms of their capacity to sustain the likely level of timber haulage as follows:

- Agreed Route: roads which can be used for timber haulage without restriction other than as regulated by the Road Traffic Act 1988.
- Consultation Road: roads which are key to timber extraction but, for a variety of reasons, are not up to Agreed Route Standard.
- Severely restricted: roads which are particularly fragile or sensitive and should only be used for timber transport under a carefully supervised management regime agreed with the Local authority.
- Excluded route: roads which should not be used for timber transport in their present condition.

| Section of Road | Length of Section (km Unless Stated) | Adjoining Land Uses | Facilities for Non-motorised Users | Road Configuration | Injury-Causing Accidents (2022 – 2024) | Rule to be Assessed Against |
|----------------------------|--------------------------------------|--|---|---|--|-----------------------------|
| | | | <ul style="list-style-type: none">Does not form part of NCN. | <ul style="list-style-type: none">60mph speed limit (lower for some vehicle types)¹.'Consultation Route' in Timber Transport Forum's Agreed Route Map for Timber Transport². | | |
| C43A between B6357 and A75 | 1.6 | <ul style="list-style-type: none">Generally open farmland with occasional direct access to fields, farms and other developments. | <ul style="list-style-type: none">No footways.No Core Paths interact with this section.Does not form part of NCN. | <ul style="list-style-type: none">Single carriageway with one lane in each direction.60mph speed limit (lower for some vehicle types)¹.Not classified in Timber Transport Forum's Agreed Route Map for Timber Transport². | <ul style="list-style-type: none">None | 1 |

- 12.53 Data was extracted from the traffic surveys referred to in paragraph 12.17 and TS's database referred to in paragraph 12.16. The average vehicle movements during the weekday period 07:00 to 19:00 for the sections of road referred to above are summarised in **Table 12-8**.

Table 12-8: Observed Vehicle Movements

| Section of Road | Average 07:00 – 19:00 Weekday Vehicle Movements | | Year of Observation |
|-----------------------------|---|-----------|---------------------|
| | All Vehicles | HGVs Only | |
| A75 between B7076 and B6357 | 9,790 | 1,806 | 2024 |
| B6357 between A75 and C43A | 1,176 | 169 | 2025 |
| C43A between B6357 and A75 | 789 | 174 | 2025 |

Future Baseline

- 12.54 It would be reasonable to expect that the number of vehicle movements on the road network would increase as a result of traffic growth. Hence 'low' growth factors of 1.021 (for 2024 observations) and 1.015 (for 2025 observations) from the National Road Traffic Forecasts (NRTF) traffic dataset (as stated in the scoping Report) have been applied to the observed vehicle movements to make them representative of 2028, the year when it is estimated that construction would commence should the Proposed Development receive consent. The resulting future baseline vehicle movements are shown in **Table 12-9**.

Table 12-9: Estimated 2028 Baseline Vehicle Movements

| Section of Road | Average 07:00 – 19:00 Weekday Vehicle Movements | |
|-----------------------------|---|-----------|
| | All Vehicles | HGVs Only |
| A75 between B7076 and B6357 | 9,996 | 1,844 |
| B6357 between A75 and C43A | 1,194 | 171 |
| C43A between B6357 and A75 | 800 | 177 |

- 12.55 Approximately 130 homes are planned, some of which are under construction at the time of writing, on land on the eastern side of Easttriggs around 1km to the south west of the Site boundary. Occupation of these homes would add some additional vehicle movements to the future baseline vehicle movements on the A75. However, the number is likely to be modest and accounted for by the application of the traffic growth factors. Therefore, no specific allowance has been made in the future baseline to account for vehicle movements generated by these homes.

Receptor Sensitivity

- 12.56 The sensitivity of receptors on the sections of road within the study area has been assessed and is shown in **Table 12-10**.

Table 12-10: Sensitivity of Receptors by Potential Impact

| Section of Road | Receptor Sensitivity by Potential Impact | | | | | | |
|-----------------------------|--|--|---|----------------------------|--|---|--|
| | 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 |
| A75 between B7076 and B6357 | Negligible since there is little frontage development and little demand to cross the road. | Low since no capacity problems observed. | Low since there is little frontage development and little demand to walk along or cross the road. | | | Medium as there have been several accidents along this section. | Low as there are established procedures for the movement of AILVs. |
| B6357 between A75 and C43A | Negligible since there is little frontage development and little demand to cross the road. | Low since no capacity problems observed. | Low since there is little frontage development and little demand to walk along or cross the road. | | | Low as no injury-causing accidents have been recorded on this section in the period 2022 to 2024. | Negligible as no AILVs are anticipated to use this section. |
| C43A between B6357 and A75 | Negligible since there is little frontage development and little demand to cross the road. | Low since no capacity problems observed. | Low since there is little frontage development and little demand to walk along or cross the road. | | | Low as no injury-causing accidents have been recorded on this section in the period 2022 to 2024. | Negligible as no AILVs are anticipated to use this section. |

Cumulative Situation

- 12.57 **Chapter 5: Environmental Impact Assessment** lists several potential developments that could cause cumulative effects with the Proposed Development. However, vehicle movements 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 and therefore no specific allowance has been made for them.
- 12.58 Insufficient information is available at the time of writing about potential cumulative developments that are at the scoping stage. Such developments have therefore not been included as potential cumulative developments in this assessment.
- 12.59 Therefore, only the potential cumulative developments listed in **Chapter 5: Environmental Impact Assessment** which are the subject of undetermined applications or consented but not under construction, have been considered as potential cumulative developments. However, cumulative effects would arise from the Proposed Development and these developments only if vehicle movements to and from them affected the same sections of the road network as the Proposed Development.
- 12.60 **Table 12-11** shows the potential cumulative developments listed in **Chapter 5: Environmental Impact Assessment** which are the subject of undetermined applications or consented but not under construction. The information submitted with the applications for each of those developments was reviewed to identify if any vehicles to and from each of them would use the same sections of the road network as the Proposed Development. That information is also summarised in **Table 12-11**.

Table 12-11: Potential Cumulative (Consented or Application) Wind Farms

| Name / Status | Potential for Cumulative Effects with Proposed Development? |
|------------------------|--|
| Consented | |
| Hopsrig | No. Accessed from B709 to the northwest of Langholm. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Little Hartfell | No. Accessed from a road to the east of the A74(M) east of Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Plascow Farm Extension | No. Accessed from road to the east of Dalbeattie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Application / Appeal | |
| Bloch | No. Accessed via B7068 between Langholm and Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Callisterhall | No. Accessed via B7068 between Langholm and Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Loganhead Resub | No. Accessed via B709 northwest of Langholm. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Hopsrig Resub | No. Accessed via B709 northwest of Langholm. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Hopsrig | No. Accessed via B709 northwest of Langholm. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |

| Name / Status | Potential for Cumulative Effects with Proposed Development? |
|-----------------------|--|
| Little Hartfell Resub | No. Accessed from a road to the east of the A74(M) east of Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Balgray | No. Located to the north east of Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Scoop Hill | No. Located to the north east of Lockerbie. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Teviot | No. Located to the east of the A7 between Langholm and Hawick. Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Harestanes South | Yes. Accessed from A701 between Beattock and Dumfries. Some vehicles may use section of A75 as it passes the Proposed Development. |
| Harestanes West | Yes. Accessed from A701 between Beattock and Dumfries. Some vehicles may use section of A75 as it passes the Proposed Development. |
| Rivox | No. Accessed via A701 and A74(M). Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |
| Daer | No. Accessed via A701 and A74(M). Would not use the same sections of the road network as the Proposed Development hence no potential for cumulative effects. |

- 12.61 Planning consent 21/2491/FUL was granted in November 2022 for a proposed solar development at Jockstown Farm near Creca, around 6km to the north west of the Proposed Development. However, the information submitted with that development shows that the route for construction vehicles would be along the B722 and A74(M) and so would not affect the roads within the study area considered in this chapter.
- 12.62 The information in **Table 12-11** shows that only the Harestanes South and Harestanes West projects would have the potential to affect the same the section of the A75 within the study area of the Proposed Development. Potential cumulative effects are considered later in this chapter (from paragraphs 12.90 to 12.92).

Assessment of Effects

Embedded Mitigation Measures

- 12.63 A CTMP would be prepared, which would describe measures that would be implemented to control construction-related vehicles travelling to and from the Proposed Development. The submission of a CTMP could be made a condition of any consent granted for the Proposed Development. The types of matters that are envisaged to be covered in the CTMP are:
- Project Information:
 - details of type and number of vehicle movements expected;
 - details of the routes expected to be taken by HGVs (i.e. the routes described in paragraph 12.13 and shown in **Figure 12.2**); and
 - details of AILV movements (including timing, routes, escorts, notification proposals and extent of any accommodation works).
 - Physical measures:
 - arrangements for onsite temporary parking areas;
 - arrangements for wheel cleaning prior to entering public road;

- sheeting of HGVs to prevent dust; and
- temporary speed reductions at any sensitive locations along with measures (such as vehicle activated signs) to encourage compliance.
- Communication measures:
 - arrangements for communicating with interested parties, including elected representatives and community councils;
 - arrangements to agree protocol with emergency services; and
 - arrangements for disseminating project information, including weekly updates of expected vehicle movements and work locations.
- Enforcement measures:
 - measures to encourage compliance with the identified routes;
 - timing of deliveries to avoid any sensitive times (e.g. school start and finish times);
 - code of conduct for HGV drivers;
 - 'tool box talks' on relevant subjects;
 - a requirement that all HGVs operated by the Principal Contractor (PC) must have Global Positioning System (GPS) trackers, allowing their speed and routeing to be recorded;
 - contingencies for unobstructed access for emergency services; and
 - procedures for dealing with non-compliance with the CTMP.
- Maintenance measures:
 - arrangements for liaison regarding winter maintenance;
 - arrangements for cleaning any sections of public road affected by material deposited from vehicles related to the construction of the Proposed Development;
 - arrangements for before-construction and after-construction road condition surveys, including an agreement under Section 96 of the Roads (Scotland) Act 1984; and
 - arrangements for remediation measures.
- Management of CTMP:
 - arrangements for monitoring and updating the CTMP;
 - confirmation of a named person with responsibility for implementation of the CTMP (including contact details); and
 - development of a Travel Plan for staff, aimed at reducing the number of single-occupant car movements to and from the Proposed Development.

12.64 A trial run would be undertaken of the AILVs transporting the wind turbine components, which would confirm the accommodation works needed (such as removal of street furniture).

Potential Construction Effects

Number of Construction Vehicle Movements

- 12.65 Potential effects would arise during construction from HGVs delivering or removing plant, components, materials and supplies. The number and amount of such items have been estimated based on the layout of the Proposed Development.
- 12.66 An indicative 16-month long construction programme is provided in **Chapter 3: Description of Development**. The amount of material required to be delivered to the Site has been calculated for each of the tasks shown in the programme and the corresponding number of HGV movements (including ALLVs) for each task in the construction programme is shown in **Table 12-12**. As stated in paragraph 12.23, the number of HGV movements assumes that all of the required aggregate would have to be delivered from offsite quarries.
- 12.67 **Table 12-12** also includes estimated car and light van movements associated with construction staff. Staff numbers would vary depending on the activity, although some supervisory and managerial staff would be present throughout the construction period. Staff numbers have been translated to vehicle movements assuming an average of 1.5 staff per vehicle, which allows for a mix between staff arriving in single occupancy cars or vans, cars or vans with one or more staff members and mini-buses with several staff.

Table 12-12: Vehicle Movements by Construction Programme Task

| Task | Starts in Month | Duration (Months) | Total HGV Movements | Total Car and Light Van Movements | Total Movements |
|----------------------------------|-----------------|-------------------|---------------------|-----------------------------------|-----------------|
| Site set-up | 1 | 1 | 888 | 268 | 1,156 |
| Site tracks | 2 | 3 | 2,258 | 1,440 | 3,698 |
| Substation construction compound | 3 | 1 | 862 | 268 | 1,130 |
| Crane Hardstandings | 4 | 6 | 7,898 | 2,240 | 10,138 |
| Substation | 5 | 11 | 2,192 | 2,934 | 5,126 |
| Solar | 5 | 10 | 2,686 | 2,668 | 5,354 |
| Turbine Foundations | 7 | 5 | 2,368 | 2,134 | 4,502 |
| On Site Cabling | 10 | 1 | 340 | 160 | 500 |
| Turbine Delivery and Erection | 13 | 3 | 78 | 800 | 878 |
| Reinstatement | 15 | 2 | 44 | 480 | 524 |
| Total | | | 19,614 | 13,392 | 33,006 |

- 12.68 **Table 12-12** shows that construction of crane hardstandings would be expected to generate the highest number of HGV movements. The peak number of vehicle movements during each month of construction would depend on the overlap of construction activities. Hence the vehicle movements shown in **Table 12-12** have been allocated to the construction programme shown in **Chapter 3: Description of Development**. The resulting monthly vehicle movement estimates are presented in **Table 12-13**.

Table 12-13: Number of Vehicle Movements Per Month in Construction Programme

| Activity | Vehicle Type | Number of Vehicle Movements (Sum of Arrivals and Departures) Per Month in Construction Programme* | | | | | | | | | | | | | | | |
|--|--------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Site set-up | HGV | 888 | | | | | | | | | | | | | | | |
| Site tracks | HGV | | 753 | 753 | 753 | | | | | | | | | | | | |
| Substation construction compound | HGV | | | 862 | | | | | | | | | | | | | |
| Crane Hardstandings | HGV | | | | 1,316 | 1,316 | 1,316 | 1,316 | 1,316 | 1,316 | | | | | | | |
| Substation | HGV | | | | | 199 | 199 | 199 | 199 | 199 | 199 | 199 | 199 | 199 | 199 | 199 | |
| Solar | HGV | | | | | 269 | 269 | 269 | 269 | 269 | 269 | 269 | 269 | 269 | 269 | | |
| Turbine Foundations | HGV | | | | | | | 474 | 474 | 474 | 474 | 474 | | | | | |
| On Site Cabling | HGV | | | | | | | | | | 340 | | | | | | |
| Turbine Delivery and Erection | HGV | | | | | | | | | | | | | 26 | 26 | 26 | |
| Reinstatement | HGV | | | | | | | | | | | | | | | 22 | 22 |
| Staff Movements | Car and LGVS | 268 | 480 | 748 | 853 | 907 | 907 | 1,334 | 1,334 | 1,334 | 1,120 | 960 | 534 | 800 | 800 | 773 | 240 |
| | | | | | | | | | | | | | | | | | |
| Total Vehicle Movements per Month | | 1,156 | 1,233 | 2,363 | 2,922 | 2,691 | 2,691 | 3,591 | 3,591 | 3,591 | 2,402 | 1,902 | 1,001 | 1,294 | 1,294 | 1,021 | 262 |
| Total HGV Movements per Month | | 888 | 753 | 1,615 | 2,069 | 1,784 | 1,784 | 2,258 | 2,258 | 2,258 | 1,281 | 941 | 468 | 494 | 494 | 247 | 22 |
| Total Car and LGV Movements per Month | | 268 | 480 | 748 | 853 | 907 | 907 | 1,334 | 1,334 | 1,334 | 1,120 | 960 | 534 | 800 | 800 | 773 | 240 |
| Average Vehicle Movements per Working Day | | 58 | 62 | 118 | 146 | 135 | 135 | 180 | 180 | 180 | 120 | 95 | 50 | 65 | 65 | 51 | 13 |
| Average HGV Movements per Working Day | | 44 | 38 | 81 | 103 | 89 | 89 | 113 | 113 | 113 | 64 | 47 | 23 | 25 | 25 | 12 | 1 |
| Average Car and LGV Movements per Working Day | | 13 | 24 | 37 | 43 | 45 | 45 | 67 | 67 | 67 | 56 | 48 | 27 | 40 | 40 | 39 | 12 |

*Please note that minor variations due to rounding may occur.

- 12.69 **Table 12-13** also shows the estimated number of daily vehicle movements based on an assumption of 20 working days per month (i.e. four weeks of Monday to Friday working per month). In reality, most months will have more than 20 working days and some activities may occur on Saturdays, hence the monthly vehicle movements may be spread over more working days than assumed. Using a 20-day month therefore provides a conservative assessment.
- 12.70 The data in **Table 12-13** shows that months seven, eight and nine would be the busiest months for vehicle movements. During those months, there would be an estimated average of 180 vehicle movements each working day, of which on average 113 would be HGVs. Across the entire construction programme, there is estimated to be an average of 103 vehicle movements each working day, of which 61 would be HGVs.

Route of Construction Vehicle Movements

- 12.71 The exact routes taken by construction vehicles would depend on the locations of suppliers and staff, which would remain uncertain until later in the procurement process. However, for the purposes of this assessment, it has been assumed that there would be an equal split of vehicles between the A75 to the east and the A75 to the west.
- 12.72 The effect of the 'left-in, left-out' arrangement at the access from the A75 would be that vehicles would have to take the following routes (shown in **Figure 12.2**):
- arrivals from the east: would leave the westbound A75 at its junction with the B6357, then use the C43A road to rejoin the A75 heading eastwards to the Site access;
 - departures to the east: would turn left from the Site access onto the eastbound A75;
 - arrivals from the west: would turn left from the eastbound A75 into the Site access; and
 - departures to the west: would turn left from the Site access onto the eastbound A75, then leave the A75 at its junction with the B7076, then use the B7076 to cross the A75 and then rejoin the A75 heading westwards.
- 12.73 **Table 12-14** shows the additional daily vehicle movements during months seven and eight of the construction period on the A75, B6357 and C43A.

Table 12-14: Additional Daily Vehicle Movements During Busiest Months of Construction

| Movement | All Vehicles | | | | HGVs Only | | | |
|------------------------|---------------------|---------------------|-------|------|---------------------|---------------------|-------|------|
| | A75 to East of Site | A75 to West of Site | B6357 | C43A | A75 to East of Site | A75 to West of Site | B6357 | C43A |
| Arrivals from the east | 45 | 90 | 45 | 45 | 28 | 57 | 28 | 28 |
| Departures to the east | 45 | 0 | 0 | 0 | 28 | 0 | 0 | 0 |
| Arrivals from the west | 0 | 45 | 0 | 0 | 0 | 28 | 0 | 0 |
| Departures to the west | 90 | 45 | 0 | 0 | 57 | 28 | 0 | 0 |

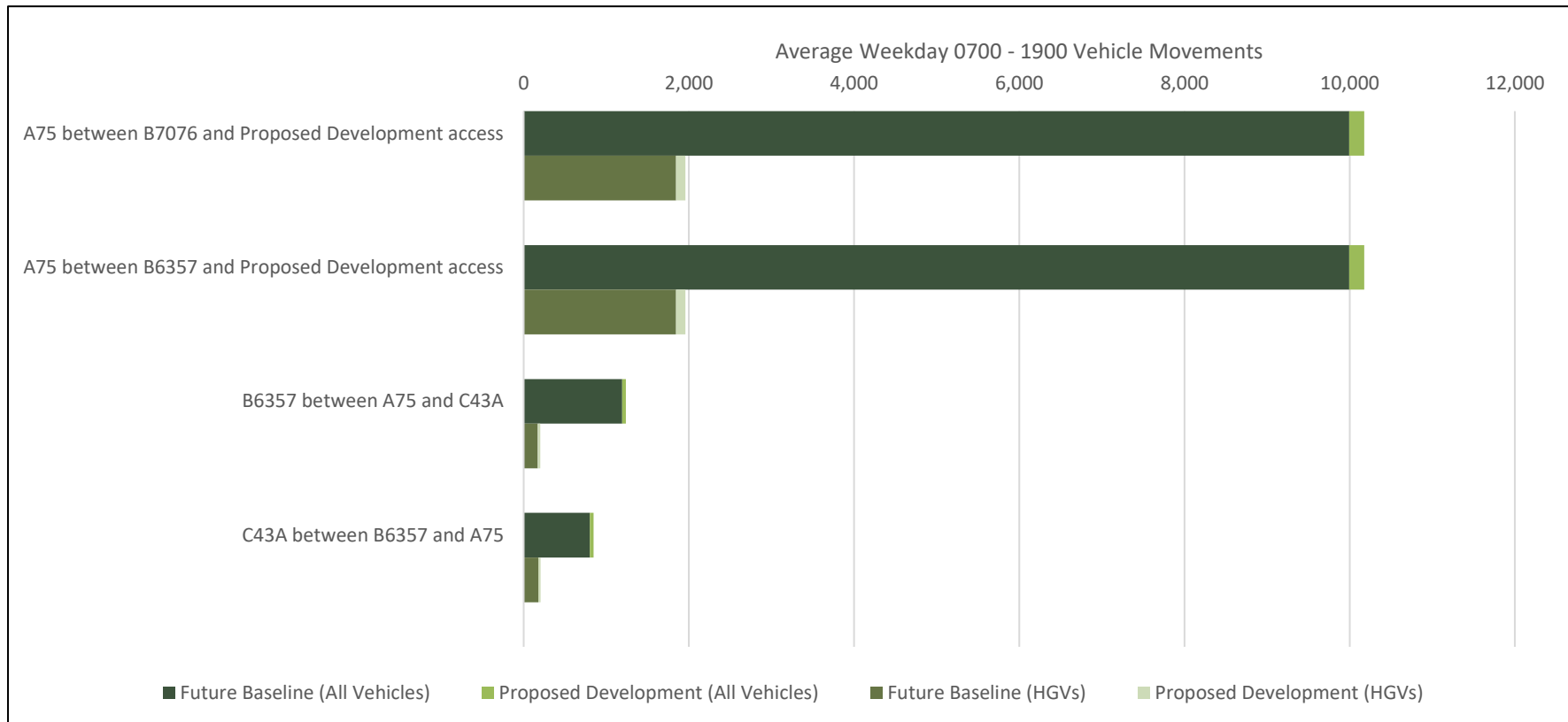
Comparison Against Future Baseline

- 12.74 The additional vehicle movements during the busiest months of construction shown in **Table 12-14** were compared to the future baseline vehicle movements (shown in **Table 12-9**) The resulting percentage increase in vehicle movements on each section of road within the study area was calculated.
- 12.75 That comparison and calculation is shown in **Table 12-15** (and in **Graph 12-1** below along with relevant 'Rule 1' or 'Rule 2' threshold (as described in **Table 12-10**). **Table 12-15** also identifies which sections of road are estimated to experience an increase in vehicle movements during construction above the appropriate threshold and hence be subject to further assessment.

Table 12-15: Comparison of Additional Vehicle Movements Against Future Baseline

| Location | 2028 Future Baseline Average 0700 – 1900 Weekday Vehicle Movements | | Additional Vehicle Movements per Working Day During Busiest Months | | Increase in Vehicle Movements | | Rule 1 Breached? | Rule 2 Breached? (if Applicable) | Subject to Further Assessment? |
|---|---|--------------|---|--------------|-------------------------------------|--------------|---------------------|---|--------------------------------------|
| | All Vehicles | HGVs Only | All Vehicles | HGVs Only | All Vehicles | HGVs Only | | | |
| A75 between B7076 and Proposed Development access | 9,996 | 1,844 | 180 | 113 | 2% | 6% | No | Not applicable | No |
| A75 between B6357 and Proposed Development access | 9,996 | 1,844 | 180 | 113 | 2% | 6% | No | Not applicable | No |
| B6357 between A75 and C43A | 1,194 | 171 | 45 | 28 | 4% | 16% | No | Not applicable | No |
| C43A between B6357 and A75 | 800 | 177 | 45 | 28 | 6% | 16% | No | Not applicable | No |

Graph 12-1: Comparison of Additional Vehicle Movements Against Future Baseline



Sections of Road to be Assessed

- 12.76 The data in **Table 12-15** shows that no sections of road within the study area would be expected to experience an increase in vehicle movements during construction large enough to warrant further assessment. The increases in vehicle movements during the busiest months are all expected to be no greater than 6%. The IEMA Guidelines states that “*projected changes in traffic of less than 10% create no discernible environmental impact.*” The impacts on traffic and the transport network are therefore considered to be negligible and not significant and no mitigation is required beyond the measures listed in paragraph 12.61.
- 12.77 The increases in vehicle movements shown in **Table 12-15** apply only to the busiest months during construction and the increases during the other months would be lower.
- 12.78 The IEMA Guidelines state “*It should be noted that the Rule 1 and Rule 2 ‘criteria’ process may not be appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not be applied to assessments of air quality, noise, road safety and driver delay.*” **Chapter 13: Noise** considers noise issues and air quality has been scoped out of this EIA Report.
- 12.79 As stated in paragraph 12.74, the increase in vehicle movements during the busiest months would be of a level that would create no discernible environmental impact and are therefore considered not to warrant further assessment on the matters of road safety and driver delay.

Number of AILV Movements

- 12.80 The ‘Turbine Delivery and Erection’ task in **Table 12-13** includes AILVs delivering the wind turbine components. There would be nine AILV movements per turbine, hence a total of 36 movements. These movements would deliver the wind turbine blades (three movements per wind turbine), turbine tower sections (four per wind turbine), transformer and nacelle (each one per wind turbine).
- 12.81 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 journey unladen from the Site to the port where the wind turbine components arrive. There would therefore be 36 movements of the unladen wind turbine component vehicles (HGVs) returning to the port from the Site.
- 12.82 A main crane and two assembly / support cranes would be required. These would likely be classed as AILVs too and would account for six movements (three to the Site and three from it).

Route of AILV Movements

- 12.83 The report in **Technical Appendix 12.1** identified the route described in paragraph 12.14 and shown in **Figure 12.3** for the delivery of the wind turbine components. The report identified that the route was considered to be feasible, subject to minor works to remove street furniture.

Timing of AILV Movements

- 12.84 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 Police Scotland. 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.

- 12.85 The 36 AILV movements delivering the wind turbine components would translate to 12 AILV convoys over the three months of wind turbine component deliveries, which equates to an average of around 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 eight days on average.
- 12.86 There would be some disruption to other road users as each AILV convoy passed. However, any disruption from each convoy would be relatively short-lived – for example, pedestrians would be prevented from crossing the road at a particular point only for the length of time it would take for a convoy to pass. Signage would be erected at points along the entire route warning of the AILV movements and advance notice of their movements would be publicised, which would give other road users the chance to alter their journey to avoid any chance of being affected by the AILV movements.

Summary

- 12.87 Potential effects during construction are summarised in **Table 12-16**.

Table 12-16: Summary of Construction Effects

| Receptor | Potential Impact on | Magnitude of Change | Significance of Effect | Comments |
|--|--|---------------------|------------------------|----------|
| Users of transport network in study area | Severance | Negligible | Not significant | None |
| | 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 | | | |

Potential Operational Effects

- 12.88 As stated in paragraph 12.7, assessment of potential effects during operation has been scoped out of the assessment.

Potential Decommissioning Effects

- 12.89 As stated in paragraph 12.9, assessment of potential effects during decommissioning has been scoped out of the assessment.

Potential Cumulative Effects

- 12.90 As stated in paragraph 12.62, only the Harestanes South and Harestanes West wind farms would cause additional vehicles movements on the sections of the A75 within the study area. The information submitted with the consent applications for those developments was reviewed and the following peak number of additional vehicle movements identified:
- Harestanes South: 116 vehicles, of which 78 would be HGVs; and
 - Harestanes West: 191 vehicles, of which 146 would be HGVs.
- 12.91 Potential cumulative effects would occur from the Proposed Development, Harestanes South and Harestanes West only if the construction periods for all three overlapped. Even if they did, it is unlikely that the peak months for vehicle movements at all three developments would coincide. Nonetheless, the peak increases in vehicle movements from the Proposed Development, Harestanes South and Harestanes West have been compared to the future baseline and that comparison is shown in **Table 12-17**.

Table 12-17: Comparison of Additional Vehicle Movements from Proposed Development, Harestanes South and Harestanes West Against Future Baseline

| Location | 2028 Future Baseline Average 0700 – 1900 Weekday Vehicle Movements | | Additional Vehicle Movements per Working Day: Proposed Development | | Additional Vehicle Movements per Working Day: Harestanes South and Harestanes West developments | | Increase in Vehicle Movements | | Rule 1 Breached? | Rule 2 Breached? (if Applicable) | Subject to Further Assessment? |
|---|--|-----------|--|-----------|---|-----------|-------------------------------|-----------|------------------|----------------------------------|--------------------------------|
| | All Vehicles | HGVs Only | All Vehicles | HGVs Only | All Vehicles | HGVs Only | All Vehicles | HGVs Only | | | |
| A75 between B7076 and Proposed Development access | 9,996 | 1,844 | 180 | 113 | 307 | 224 | 5% | 18% | No | Not applicable | No |
| A75 between B6357 and Proposed Development access | 9,996 | 1,844 | 180 | 113 | 307 | 224 | 5% | 18% | No | Not applicable | No |

- 12.92 The data in **Table 12-17** shows that no sections of road within the study area would be expected to experience an increase in vehicle movements large enough to warrant further assessment when the Proposed Development is considered in combination with the Harestanes South and Harestanes West developments.

Further Survey Requirements and Monitoring

- 12.93 The CTMP may require road condition surveys to be undertaken before and after construction of the Proposed Development. The AILV movements would be preceded by a trial run to confirm the feasibility of delivering the components.

Mitigation

- 12.94 The preceding assessments have shown that no additional mitigation is required beyond that described in paragraphs 12.63 and 12.64.

Residual Construction Effects

- 12.95 No significant residual effects are expected on traffic and the transport network during the construction, operation and decommissioning of the Proposed Development.

Statement of Significance

- 12.96 The increase in vehicle movements arising from the construction of the Proposed Development would not be large enough to warrant further assessment, based on the IEMA Guidelines. The increases in vehicle movements during the busiest months are all expected to be no greater than 6%. The IEMA Guidelines state that “*projected changes in traffic of less than 10% create no discernible environmental impact.*” No significant effects are expected on traffic and transport during the construction, operation and decommissioning of the Proposed Development, both individually and in combination with other considered developments.
- 12.97 Potential effects during construction, operation and decommissioning are summarised in **Table 12-18**.

Table 12-18: Summary of Effects

| Potential Impact | Mitigation | Effect | Additional Mitigation | Residual Effect |
|--|--|-----------------|-----------------------|-----------------|
| Construction | | | | |
| Severance | <ul style="list-style-type: none"> Preparation and implementation of CTMP. Potential use of onsite borrow pits should they prove suitable. | Not significant | None required. | Not significant |
| Road Vehicle Driver and Passenger Delay | | | | |
| Non-Motorised User Delay | | | | |
| Non-Motorised User Amenity | | | | |
| Fear and Intimidation of and by Road Users | | | | |

| Potential Impact | Mitigation | Effect | Additional Mitigation | Residual Effect |
|--|------------|--------|-----------------------|-----------------|
| Road User and Pedestrian Safety | | | | |
| Hazardous / Large Loads | | | | |
| Operation | | | | |
| <ul style="list-style-type: none"> • Scoped out of assessment | | | | |
| Decommissioning | | | | |
| <ul style="list-style-type: none"> • Scoped out of assessment | | | | |

References

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