



# Clachaig Glen Wind Farm

## Environmental Impact Assessment Report

### Volume 2a

### Main Report

# Chapter 14: Traffic, Transport and Access

# 14. Traffic, Transport and Access

## 14.1 Introduction

- 14.1.1 This chapter identifies and assesses the potential environmental effects that the Proposed Development, as described in Chapter 3: Project Description, may have on traffic, transport, and access. Where appropriate, it identifies proposed mitigation measures to prevent, minimise or control potential negative transport effects arising from the Proposed Development, and identifies anticipated residual effects.
- 14.1.2 Potential effects on traffic, transport and access are interrelated with effects on noise receptors and the surrounding forest and its uses. This chapter should therefore be read in conjunction with Chapter 6: Planning and Energy Policy Context, Chapter 8: Noise, Chapter 9: Ecology, Chapter 10: Ornithology, Chapter 13: Socio-economics, Recreation and Tourism, and Chapter 17: Forestry of this EIAR.
- 14.1.3 This transport chapter assumes that all construction materials will be imported to the Development Site. The assessment presented in this chapter deliberately excludes the use of temporary on-site quarries for supply of construction materials. This ensures that a robust worst-case assessment of the potential environmental effects of construction traffic on the public highway is presented for mitigation.
- 14.1.4 The chapter is supported by the following Technical Appendices contained in the EIAR:
- Appendix 14.1: Indicative Construction Traffic Programme (EIAR Volume 3), and
  - Confidential Annex 14.1: Swept Path Analysis (EIAR Volume 4).

## 14.2 Legislation, Policy and Guidance

- 14.2.1 Legislation, policy and technical guidance relevant to this Transport, Traffic and Access chapter are summarised as follows.

### *National Policy*

### *Scottish Planning Policy (SPP)*

- 14.2.2 SPP is a statement of the Scottish Government's policy on nationally important land use planning matters and the latest version was published in June 2014. In respect to transportation, Paragraph 290 of the policy states that:

*“Development proposals that have the potential to affect the performance or safety of the strategic transport network need to be fully assessed to determine their impact. Where existing infrastructure has the capacity to accommodate a development without adverse impacts on safety or unacceptable impacts on operational performance, further investment in the network is not likely to be required. Where*

*such investment is required, the cost of the mitigation measures required to ensure the continued safe and effective operation of the network will have to be met by the developer.”*

- 14.2.3 In relation to wind farms, SPP states in Paragraph 169 that the impacts on road traffic and the impact on the trunk road should be considered. This has been undertaken within this assessment.

### **Draft National Planning Framework 4 (NPF4)**

- 14.2.4 The Draft NPF4 was published in November 2021 for both parliamentary scrutiny and public consultation. On adoption (anticipated summer 2022), NPF4 will replace both National Planning Framework 3 (NPF3) and SPP. Nevertheless, although it is not yet adopted and is subject to change until this time, Draft NPF4 will still be a relevant factor in planning determinations.
- 14.2.5 Policy 19: ‘Green Energy’ of Draft NPF4 refers to specific considerations that must be taken into account in the determination of renewable energy proposals such as Clachaig Glen. In similarity with SPP, this includes impacts on the road network and on adjacent trunk roads.

### **Transport Assessment Guidance (TAG)**

- 14.2.6 Transport Scotland published TAG in 2012 to identify a general approach which should be taken for the preparation of Transport Assessments, Transport Statements and Travel Plans, and to establish when these documents are required to support new planning applications. TAG States

*“Scoping is key to the future development of the Transport Assessment. It is the first opportunity to consider the various transport issues and to create a benchmark for everything that follows. This will enable developers to clarify whether the transport elements of their proposals are likely to be acceptable or whether additional analysis or measures will be required”*

- 14.2.7 The Proposed Development will not generate long-term significant traffic movements and as such a Transport Assessment Report of highway capacity impacts is not deemed necessary. The Scoping Opinion issued by the Scottish Government’s Energy Consents Unit (ECU) included responses from Transport Scotland and from Argyll and Bute Council’s Area Roads Engineer. As described in Paragraph 14.3.1 the responses from these highway authorities endorsed the proposed approach to assessment of environmental effects, and neither highway authority identified the need for a detailed transport assessment of highway capacity.

## **Local Planning Policy**

### **Argyll and Bute Local Development Plan**

- 14.2.8 The Argyll and Bute Local Development Plan (LDP; adopted March 2015) sets out the following local planning policy relevant to this chapter:
- Policy LDP 6 - Supporting the Sustainable Growth of Renewables - which requires assessments of impacts on road traffic and adjacent trunk roads for all wind farm development. This policy also refers to impacts on public access, which are addressed through Chapters 7 (Landscape and Visual) and 13 (Socioeconomics and Tourism) of this EIAR, and

- Policy LDP 11 - Improving our Connectivity and Infrastructure - which seeks to maintain and improve internal and external connectivity and make best use of existing infrastructure.

### ***Argyll and Bute Proposed Local Development Plan 2***

14.2.9 Argyll and Bute Council (ABC) are currently in the process of preparing their new Local Development Plan (LDP2). LDP2 is planned to be adopted in January 2023. As LDP2 is still to be examined, the adopted LDP remains the primary policy consideration. Nevertheless, the key proposed policies of relevance to this chapter include:

- Policy 30 – The Sustainable Growth of Renewables,
- Policy 35 – Design of New and Existing, Public Roads and Private Access Regimes,
- Policy 37 – Development Utilising an Existing Private Access or Existing Private Road,
- Policy 38 – Construction Standards for Public Roads, and
- Policy 39 – Construction Standards for Private Access.

14.2.10 It is not anticipated that the proposed policies of LDP2 would introduce any additional assessment requirements on top of those within the LDP of relevance to this chapter.

### ***Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment 1993***

14.2.11 Guidelines for the Environmental Assessment of Road Traffic were published in 1993 by the Institute of Environmental Assessment (now the Institute of Environmental Management & Assessment; IEMA). The scope of the guidelines (hereafter referred to as '**IEMA Guidelines**') covers the environmental impact of road traffic associated with development (excluding projects such as new trunk roads, for which separate guidance exists within the Department for Transport's Design Manual for Roads and Bridges; DMRB). The IEMA Guidelines provide a basis for the systematic and consistent appraisal of the environmental impacts of road traffic and are referred to in this assessment.

### ***Policy and Guidance Summary***

14.2.12 This chapter takes cognisance of relevant local and national policy and the technical guidelines identified above to ensure that traffic, transport and the delivery of components and materials to the Development Site are handled in a manner in keeping with the requirements of Argyll and Bute Council, Transport Scotland and the Scottish Government. This is achieved through the assessment of site delivery and access methods in terms of safety, impact on local community and sensitive receptors, access from public roads and impact on traffic.

## 14.3 Scope of Assessment

### *Scoping Opinion*

- 14.3.1 A Scoping Opinion was issued by the Scottish Government's Energy Consents Unit (ECU) in October 2020 (see Appendix 5.2; EIAR Volume 3), which included responses from both Argyll and Bute Council and Transport Scotland. Scoping consultation concluded the Proposed Development will not generate long-term significant traffic movements, and as such a detailed transport assessment of highway capacity has not been requested by Argyll and Bute Council or Transport Scotland. A summary of the key consultation findings is shown in Table 14-1.

**Table 14-1 Summary of Consultation Findings**

<b>Consultee</b>	<b>Summary of Consultation</b>
Argyll and Bute Council	Operational and decommissioning transport impacts are scoped out of the EIA. Justification for this scoping out is to be provided within the transport chapter. The Council's Area Roads Engineer advises that they have no objection to the proposal, furthermore that Transport Scotland should be notified as the site entrance connects directly to the A83 Tarbet – Campbeltown Trunk Road.
Campbeltown Port	Confirmation that the port can handle the proposed 77.5m turbine blade lengths.
Transport Scotland	Environmental impacts such as driver delay, pedestrian amenity, severance, safety etc. will be considered and assessed where appropriate, using the Institute of Environmental Management and Assessment Guidelines (IEMA Guidelines). This approach is considered acceptable, and we (Transport Scotland) are content that no further assessment is required if the above thresholds are not exceeded.

- 14.3.2 Through both the Scoping Opinion and the ECU Gatecheck (see Appendix 5.3; EIAR Volume 3), Transport Scotland concluded the proposed assessment of environmental effects using IEMA Guidelines is considered acceptable, and they are content that no further assessment is required if the IEMA thresholds are not exceeded. Transport Scotland also require a full Abnormal Loads Assessment report to be provided. The latter was completed for the Environmental Impact Assessment (EIA) and is reported within this chapter and detailed through Confidential Annex 14.1: Swept Path Analysis (EIAR Volume 4).
- 14.3.3 At this stage it is not possible to forecast traffic that will be generated by the decommissioning of the Proposed Development. Notwithstanding this, prior to decommissioning of the Proposed Development, a further traffic assessment will be undertaken, and traffic management procedures agreed with the Roads Authorities. Traffic associated with the decommissioning will be comparatively lower than that of the construction stage, since the process will mainly involve the removal of above ground infrastructure, excluding roads, which can be comprehensively dismantled. Therefore, the effects of decommissioning traffic have been scoped out of this assessment.

- 14.3.4 The responses from Argyll and Bute Council and Transport Scotland within the EIA Scoping Opinion received in October 2020 (see Appendix 5.2; EIAR Volume 3) indicated that the proposed approach to assessment is acceptable.

### *Study Area*

- 14.3.5 The Proposed Development is situated in a predominantly rural area, situated east of the A83, 28 kilometres (km) north of Campbeltown. The following roads are included in the study area:
- A83 trunk road between Campbeltown and Lochgilphead: This section of the A83 is single carriageway with one lane in each direction. Land uses along this stretch of road are primarily agricultural or commercial forestry land, with some residential properties present. South of the site access, the A83 will be used for turbine deliveries and will be required to accommodate abnormal loads delivering turbine components,
  - A83 trunk road east of Lochgilphead toward Tarbert: This section of the A83 is single carriageway with one lane in each direction. Land use along this stretch of road includes commercial forestry and agricultural areas, with some residential properties present. This part of the A83 will be used by general construction traffic only, and will not be used by abnormal loads delivering turbine components, and
  - A816 between its junction with the A83 trunk road at Lochgilphead north towards Oban: This section of the A816 is single carriageway with one lane in each direction. Land uses along this stretch of road includes commercial forestry and agricultural land, with several residential properties. The A816 will be used by general construction traffic only and will not be used by abnormal loads delivering turbine components.

### *Abnormal Load Route*

- 14.3.6 The route for delivery of turbine equipment to the Development Site is from Campbeltown Port via the A83 trunk road. The route from the port will involve egressing onto Kinloch Road, and travelling northwest through Campbeltown along the A83. From Campbeltown, the abnormal load route to the Development Site would be along the A83 northwards approximately 28 km to Killean, where an overrun and laydown area would be provided to the west of the A83 to assist with the manoeuvring required to leave the A83 carriageway. This area would also be used as a turning area for turbine components and potentially to accommodate the transfer of blades from traditional blade transporter vehicles to blade lifter vehicles (if that is deemed the best way to deliver turbine blades to site following discussions with the turbine manufacturer, who are responsible for turbine equipment deliveries).
- 14.3.7 The proposed access route to the Development Site extends from the A83 at Killean to the Development Site via an existing unclassified road along the route of the Kintyre Way. The boundary of the Development Site extends, for the most part, to a 10m buffer around the existing unclassified road from the A83 to the main Development Site to accommodate localised widening to support abnormal and construction traffic access, with the ability to put in passing bays along the route where required. Within the Development Site, a series of access tracks would be provided, as illustrated

through Figure 1.3: Site Location Plan (EIAR Volume 2b). These vary slightly from the internal tracks associated with the Consented Development.

14.3.8 Post-delivery, abnormal load vehicles typically used for wind turbine components can retract at the rear trailer, allowing the total vehicle length to be reduced below maximum legal length for a standard HGV. As a result, only inbound construction traffic would involve the movement of abnormal loads.

14.3.9 An abnormal load assessment has been carried out for the route from Campbeltown Port to the Development Site. This includes a swept path analysis of the route. The abnormal load assessment report is presented in Confidential Annex 14.1: Swept Path Analysis (EIAR Volume 4). The assessment identified risks associated with the transportation of wind turbine components and classified the magnitude of those risks as:

- High, where there are environmental, planning, or technical issues which are considered to offer a significant constraint to development, and which may prove difficult to overcome,
- Medium, where, through the design process, the risk could feasibly be overcome, and
- Low, where the risk would require no work other than what is accepted as good practice for wind farm development.

14.3.10 The salient findings of the abnormal load assessment report are as follows:

- Campbeltown is a suitable port to accommodate the proposed maximum turbine blade length of 77.5m (overall maximum length of transportation, 80.6m) and other turbine components,
- Along the A83 from Campbeltown to the Development Site, most of the route is perceived as low risk for the delivery of the wind turbine blades,
- Along the vast majority of the A83 route, abnormal load vehicle wheels and loads remain within the highway boundary, and is considered low risk,
- A limited amount of abnormal load oversail occurs at bends along the A83. This is primarily the tail of the turbine blade, which has sufficient ground clearance to clear low lying oversail objects, and is considered low risk, and
- A limited amount of abnormal load vehicle overrun (wheels and bodywork) occurs at bends along the rural part of the A83. This overrun is primarily the beam that connects the front and tail of the vehicle. The ability to rear wheel steer allows the vehicle to keep its wheels on the carriageway for the vast majority of the route. However, the connecting beam can cut across the inside of some tighter corners on rural sections of the A83. The clearances required at vehicle overrun locations are deliverable through appropriate mitigation measures and are considered medium risk.

### *Construction Traffic Route.*

- 14.3.11 The volume and route of construction traffic will largely be determined by the amount of construction material which can be 'won' on-site using the proposed temporary quarries (borrow pits).
- 14.3.12 Theoretically, all required aggregate can be won on-site using the six temporary quarries indicated on Figure 1.3, EIAR Volume 2b. The use of these temporary on-site quarries could reduce forecast construction HGV traffic on the public highway by up to 75% (see Paragraph 14.3.34).
- 14.3.13 It is worth noting the majority of borrow pits on Forestry and Land Scotland (FLS) sites provide aggregates of sufficient quality for road construction. It is a reasonable assumption that aggregates from the proposed temporary quarries will be of similar quality and as such will be suitable for all Proposed Development construction purposes, thus reducing construction traffic on the public highway.
- 14.3.14 Should an alternative to the temporary on-site quarries be needed, there are at least three potential off-site quarry locations where construction materials could be sourced from. The locations of these off-site quarries and the routes that HGVs would take between to the Development Site, are:
- Oban, 85 km north. There are several quarries near Oban, and the route to the Development Site would include the A816 from Oban and then the A83,
  - Furnace, 62 km northeast. The route to the Development Site would include the A83 South from Furnace, and
  - Cairndow, 80 km northeast. The route to the Development Site would include the A83 south from Cairndow.
- 14.3.15 It should be noted that the above list of off-site quarries is not exhaustive and considers only a selection from the main quarry operators. The quarry locations at Oban, Furnace and Cairndow are representative of maximum distances potentially travelled to extract quarry materials for the Proposed Development. They therefore present a robust scenario for assessment within this chapter. There may be smaller local suppliers who could also be used during the construction phase, which would significantly reduce the distance travelled on the public highway by Proposed Development construction traffic extracting quarry materials.
- 14.3.16 For the purpose of this transport chapter it is assumed that all construction materials will be imported to the Development Site. This ensures a robust assessment of the potential environmental effects of construction traffic on the public highway is presented in this chapter.
- 14.3.17 The robust assessment presented in this chapter is considered a worst-case scenario. It excludes the use of temporary on-site quarries (borrow pits) which could reduce forecast construction HGV traffic on the public highway by up to 75% (see Paragraph 14.3.34).



## Construction Personnel

14.3.18 Construction personnel traffic will largely be influenced by the proximity to nearby towns. Construction personnel may live locally or could potentially travel from settlements between Glasgow and Tarbet north along the A82, west along the A83 and south on the A83 to the Development Site. Construction personnel may also travel south from Oban along the A816, join the A83 at Lochgilphead and continue south towards the Development Site. Construction personnel may also travel north along the A83 from Campbeltown. There are also several smaller settlements on these routes where construction personnel may travel from. Construction personnel living in those locations furthest from the Development Site may stay at local accommodation closer to the Development Site during construction.

## Baseline Traffic Conditions

14.3.19 Baseline traffic counts for the study area have been obtained from Department for Transport (DfT) records. Annual Average Daily Traffic (AADT) data is recorded by permanent traffic counters located on the road network. Table 14-2 shows the AADT data from permanent counters relevant to the study area. The count point is the DfT reference that pinpoints the location of the permanent traffic counter on the road network. Count points are selected to provide relevant traffic data over the extent of study area roads; on the A83 between Campbeltown and Lochgilphead; and the A816 between Lochgilphead and Oban.

**Table 14-2 DfT Traffic Count Points and 2017 Baseline Traffic Flows**

Link Relating to Count Point	Road	Count Point	Motor Cycle	Car	Bus	LGV	HGV	Total Vehicles
Campbeltown to Site	A83 (T)	40845	19	1529	68	505	176	2297
Site to Lochgilphead	A83 (T)	77107	0	1435	42	551	218	2246
Site to Lochgilphead	A83 (T)	80363	19	1892	34	674	263	2881
Lochgilphead to Tarbet	A83 (T)	40767	75	3912	91	842	365	5285
Lochgilphead to Tarbet	A83 (T)	50771	122	4635	226	710	419	6111
Lochgilphead to Oban	A816	30797	19	1564	12	379	151	2124
Lochgilphead to Oban	A816	792	36	1130	15	271	89	1540
Lochgilphead to Oban	A816	40794	15	1950	48	487	159	2660

14.3.20 National Road Traffic Forecast (NRTF) low growth assumptions (DfT, 1997) have been applied to the 2017 traffic flows to provide a forecast traffic baseline for the construction commencement year of 2024. Table 14-3 shows the forecast 2024 baseline traffic flows.

**Table 14-3 DfT Traffic Count Points and 2024 Baseline Traffic Flows (NRTF Low Growth = 1.049)**

Link Relating to Count Point	Road	Count Point	Motor Cycle	Car	Bus	LGV	HGV	Total Vehicles
Campbeltown to Site	A83 (T)	40845	20	1598	71	528	184	2400
Site to Lochgilphead	A83 (T)	77107	0	1500	44	576	228	2347
Site to Lochgilphead	A83 (T)	80363	20	1977	36	704	275	3011
Lochgilphead to Tarbet	A83 (T)	40767	78	4088	95	880	381	5523
Lochgilphead to Tarbet	A83 (T)	50771	127	4844	236	742	438	6386
Lochgilphead to Oban	A816	30797	20	1634	13	396	158	2220
Lochgilphead to Oban	A816	792	38	1181	16	283	93	1609
Lochgilphead to Oban	A816	40794	16	2038	50	509	166	2780

### *Baseline Accident Data*

14.3.21 Baseline accident data for the most recent 5-year period (2016 to 2020) has been sourced from published DfT accident data. Table 14-4 summarises the location, severity, and number of recorded injury accidents within the study area. A review of this accident data (Crash Map) does not support evidence of accident clusters or causations that would require specific investigation in this environmental assessment.

**Table 14-4 Accident Data (5 Year Period 2016-2020)**

Link Relating to Count Point	Road	Count Point	Link Length (Km)	Accidents Slight	Accidents Serious	Accidents Fatal
Campbeltown	A83 (T)	40845	2	3	1	0
Site to Lochgilphead	A83 (T)	77107	49	11	7	1
Site to Lochgilphead	A83 (T)	80363	20	23	7	0
Lochgilphead to Tarbet	A83 (T)	40767	85	58	27	5
Lochgilphead to Tarbet	A83 (T)	50771	26	15	15	1
Lochgilphead to Oban	A816	30797	62	53	14	4
Lochgilphead to Oban	A816	792	5	0	2	0
Lochgilphead to Oban	A816	40794	33	8	7	2

### Forecast Construction Traffic

- 14.3.22 The duration of the construction period for the wind farm is expected to be between 12 to 18 months. For the purposes of determining the potential environmental effects of construction traffic the minimum 12-month period has been used. Adopting the minimum 12-month construction period concentrates the forecast construction traffic into the smallest temporal window, and as such provides the most robust forecast of daily construction traffic movements for assessment purposes.
- 14.3.23 An indicative construction programme has been developed to forecast construction traffic flows. Appendix 14.1: Indicative Construction Traffic Programme (EIAR Volume 3) provides the forecast monthly and daily construction traffic for each element of the adopted 12-month construction process. It should be noted that this construction programme is indicative, and has been developed for the purposes of estimating sufficiently robust traffic flows for environmental assessment. The appointed contractor will be responsible for the preparation of a detailed construction programme in due course.
- 14.3.24 Table 14-5 summarises the forecast daily construction traffic across the 12-month construction period. The numbers provided are total vehicle movements, which for the avoidance of doubt is the sum of all inbound and outbound vehicle movements.

**Table 14-5 Daily Construction Traffic (Total Vehicle Movements)**

Month	1	2	3	4	5	6	7	8	9	10	11	12
Daily HGV*	162	94	152	152	140	140	54	54	60	30	14	14
Daily Car	60	60	60	60	60	60	60	60	60	60	60	60
Daily HGV Concrete**	-	-	222	222	222	222	222	228	228	6	6	-
<b>Total Daily Vehicles</b>	<b>222</b>	<b>154</b>	<b>434</b>	<b>434</b>	<b>422</b>	<b>422</b>	<b>336</b>	<b>342</b>	<b>348</b>	<b>96</b>	<b>80</b>	<b>74</b>
<b>Total Daily HGV</b>	<b>162</b>	<b>94</b>	<b>374</b>	<b>374</b>	<b>362</b>	<b>362</b>	<b>276</b>	<b>282</b>	<b>288</b>	<b>36</b>	<b>20</b>	<b>14</b>

- 14.3.25 For assessment purposes the construction traffic forecast conservatively assumes that all material will be imported to the Development Site. This assumption ensures a robust assessment of the potential environmental effects of construction traffic.
- 14.3.26 However, aggregate required for construction of new access tracks, passing places, turning heads, compounds, crane pads and substations could be sourced on-site from the temporary quarries indicated on Figure 1.3: Site Location Plan (EIAR Volume 2b). The use of temporary quarries on-site could reduce forecast construction traffic HGV numbers by up to 75% (see Paragraph 14.3.34).
- 14.3.27 *Daily HGV\**: Table 14-5 shows *Daily HGV\** movements are higher during the first 6 months of construction. It is considered appropriate to base the assessment of potential environmental effects on the average *Daily HGV\** movements during this 6-month period. This equates to an average of 140 *Daily HGV\** movements (162+94+152+152+140+140 divided by 6 months = 140). For comparison, the equivalent average across the entire 12-month construction period would be 89 *Daily HGV\**

movements. The identified *Daily HGV\** average of 140 vehicle movements is considered robust for the assessment of the potential environmental effects of construction traffic, particularly given the potential for temporary quarries to reduce *Daily HGV\** traffic by up to 75% (see Paragraph 14.3.34).

- 14.3.28 *Daily HGV Concrete\*\**: The construction programme includes delivery of ready mixed concrete for turbine foundations and for other permanent structures. Table 14-5 shows concrete will be delivered during months 3 to 11 inclusive. During months 3 to 9 turbine foundation concrete deliveries will only occur on 2 days per month (due to continuous pour requirements) which will require 222 vehicles movements each day. Additionally, during months 8 to 11, a further 6 vehicle movements per day are scheduled for other permanent structure concrete deliveries. As such, Table 14-5 shows a maximum *Daily HGV Concrete\*\** delivery of 228 vehicle movements is forecast to occur during months 8 and 9.
- 14.3.29 For assessment purposes the forecast conservatively assumes that all ready-mixed concrete will be imported to the Development Site. This provides for a robust assessment of the potential environmental effects of construction traffic. However, a concrete batching plant may be provided on-site that would significantly reduce the forecast number of daily HGV concrete vehicle movements.
- 14.3.30 Table 14-5 shows that the *Daily HGV\** forecast is markedly highest during months 1 to 6 inclusive, for this reason this period will be used for assessment purposes. A daily average of 200 vehicle movements (140 *Daily HGV\** and 60 *Daily Car*) will be used to assess the environmental effect of construction traffic.
- 14.3.31 A sensitivity test during this initial 6 month HGV forecast peak will assess days when concrete delivery occurs. For the sensitivity test, a daily average of 422 vehicle movements will be used. This equates to the above 140 *Daily HGV\** and 60 *Daily Cars*, plus the allowed maximum of 222 *Daily HGV Concrete\*\** vehicle movements. The assessment assumes that **all** construction traffic travels along **all** road links in the study area. These assumptions ensure a robust assessment of the potential environmental effects of construction traffic.

### *Operational Traffic*

- 14.3.32 During the operational phase of the Proposed Development, a small number of staff will visit the Development Site to undertake inspections or maintenance activities; however, the operation of the Proposed Development is not expected to generate many vehicular trips other than occasional maintenance trips. Operational traffic effects have therefore been scoped out of this assessment.

### *Decommissioning Period*

- 14.3.33 At this stage it is not possible to forecast quantitatively the traffic impact during the decommissioning of the Proposed Development. This is due to the baseline data not being valid in 25 years' time. Notwithstanding this, prior to decommissioning of the Proposed Development, a further traffic assessment will be undertaken, and traffic management procedures agreed with the Roads Authorities. The levels of traffic associated with the decommissioning will be comparatively lower than those during the construction phase since the process will mainly involve the removal of above ground infrastructure. Decommissioning traffic effects have therefore been scoped out of this assessment.

## Temporary Quarries (Borrow Pits)

14.3.34 No allowance has been made for the recovery of suitable construction materials on-site from temporary quarries. Potentially, up to 142,732 m<sup>3</sup> of stone could be obtained from temporary quarries (depending on the quality of stone obtained), which is more stone than the 82,754 m<sup>3</sup> required for the Proposed Development. Imported stone would be required at an early stage in the project to facilitate a construction compound and an access track to the temporary quarry prior to material being available from the Development Site. Aside from this, the temporary quarries could potentially reduce the number of two-way trips over the construction period by up to approximately 18,206 (75%)<sup>1</sup>. In simplistic terms this equates to 76 two-way trips by HGVs per day which would significantly reduce the potential environmental effects of Proposed Development construction traffic on study areas roads.

## 14.4 Assessment Methodology and Significance Criteria

14.4.1 The methodology detailed in the Chartered Institution of Highways and Transportation's (IHT) 'Guidelines for Traffic Impact Assessments', recommends that the environmental impact of the traffic generated by a Proposed Development should be assessed using the IEMA Guidelines. The assessment methods employed in this chapter conform with those set out in the IEMA Guidelines and are focussed on:

- Potential impacts on local roads and the users of those roads, and
- Potential impacts on land uses and environmental resources fronting those roads, including the relevant occupiers and users.

14.4.2 Reference has also been made to the Scottish Government's, 'Transport Assessment Guidance (TAG) 2012' which outlines the necessary considerations in the preparation of a Transport Assessment.

14.4.3 The IEMA Guidelines state that the following criteria are adopted to assess whether road links on the network are to be the subject of 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%), and
- **Rule 2:** Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

14.4.4 The IEMA Guidance is based upon knowledge and experience of environmental effects of traffic and acknowledges that traffic forecasting is not an exact science. The 30% threshold is based upon research and experience of the environmental effects of traffic, with less than a 30% increase generally resulting in imperceptible changes in the environmental effects of traffic apart from within specifically

<sup>1</sup> Assume that stone from borrow pits could be used for all required construction purposes. Total volume of stone obtained from temporary quarries used for construction is 82,754 m<sup>3</sup>. Assuming density of stone = 2.2 tonnes per m<sup>3</sup> and the capacity of an HGV for stone is 20 tonnes, then 82,754 m<sup>3</sup> of stone would equate to 9,103 one-way HGV trips and 18,206 two-way HGV trips. The total number of two-way HGV trips for the entire construction programme is 24,072, therefore an 18,206 HGV trips reduction represents a potential reduction in HGV traffic of 75%.

sensitive areas. The guidance considers that forecast changes in traffic flow of less than 10% create no discernible environmental effect, hence the second threshold set out in Rule 2.

- 14.4.5 Although the construction and decommissioning traffic movements will only be temporary in duration, an increase in traffic during that period could adversely affect the users of those roads, and the land uses that front them, including the relevant occupiers and users. Consequently, the receptors that have been assessed are those roads that are to be used by construction and decommissioning traffic.

### *Potential Effects*

- 14.4.6 The potential effects considered in this assessment for the construction phase of the Proposed Development are:

- Severance,
- Fear and Intimidation,
- Accidents and Road Safety,
- Pedestrian and Cycle Amenity,
- Pedestrian and Cycle Delay,
- Driver Delay, and
- Hazardous Loads.

- 14.4.7 **Severance** is the perceived division that can occur within a community when it becomes separated by a major traffic route (existing or proposed). In general, marginal changes in traffic flow are unlikely to cause material severance effects. Three main indicators for the assessment of segregation have been formulated from studies in changes of traffic flow on observed links and are discussed in the IEMA Guidelines. These are:

- Change in flow up to 30% - slight segregation effect,
- Change in flow up to 60% - moderate segregation effect, and
- Change in flow up to 30% - substantial segregation effect.

- 14.4.8 **Fear and Intimidation** is the effect on the perceived vulnerability of pedestrians. IEMA Guidelines suggest thresholds for fear and intimidation to pedestrians relate to traffic flow composition and average speed. Thresholds that can be used to estimate the likelihood of pedestrian fear and intimidation are suggested at Table 14-6.

**Table 14-6 Fear and Intimidation Thresholds**

Fear & Intimidation	Change in Traffic (Vehicles per Hour)	Change in HGV (Vehicles per 18hrs)	Change in Average Speed
Extreme	1,800	3,000 HGV	+20 mph
Moderate	1,200 – 1,800	2,000 – 3,000 HGV	+10 to +20 mph
Slight	600 – 1,200	1,000 – 2,000 HGV	+5 to +10 mph

14.4.9 Notwithstanding the thresholds set out above, IEMA Guidelines suggest they should be approached with a degree of caution, as individual factors could be weighed by local circumstances in determining any levels of fear and intimidation.

14.4.10 **Accidents and Road Safety:** Potential effects on accidents and road safety may arise from construction traffic. The assessment of accident risk and road safety will be based on a review of accident rates per annual vehicle kilometres on study areas roads. The forecast increase in annual vehicle kilometres on study area roads resulting from the Proposed Development construction traffic will be used to produce a simple arithmetic forecast of potential accidents resulting from any development related change in vehicle flow or composition on study area roads.

14.4.11 **Pedestrian and Cycle Amenity** is broadly defined as the ‘relative pleasantness’ of a pedestrian or cycle journey. It may be affected by traffic flow, traffic composition and footway width / separation from traffic. The determination of what constitutes a material effect on pedestrian amenity is suggested to be where traffic flow (or its HGV component) is halved or doubled.

14.4.12 **Pedestrian and Cycle Delay** is created by increases in the volume, or changes in the composition, of traffic that may affect the ability of pedestrian and cycle traffic to make progress. This can affect an individual’s desire to make a walking or cycle journey. Changes in the volume, speed or composition of traffic are most likely to affect delay, with the level of severity dependent on the general level of pedestrian and cycle activity and the physical conditions encountered when crossing vehicle traffic streams. The IEMA Guidelines do not suggest any thresholds for judging absolute or actual levels of delay, and suggest assessors use their professional judgement to determine whether pedestrian and cycle delay is a significant effect.

14.4.13 **Driver Delay** is governed by traffic capacity and demand on the highway network. Driver delay may be affected by construction traffic generated by the Proposed Development. As highway capacity assessments have not been undertaken as part of this assessment, driver delay thresholds have been assumed to be the same as pedestrian and cycle delay thresholds i.e. related to increases in traffic flow.

14.4.14 **Hazardous Loads** have been scoped out of this assessment in accordance with the 2020 Scoping Opinion (see Appendix 5.2; EIAR Volume 3).

## *Magnitude of Change Thresholds*

- 14.4.15 The assessment of potential effects from the Proposed Development considers the construction stage. Significance criteria are established for potential effects based on magnitude of change due to the Proposed Development, and the sensitivity of the affected receptor. Magnitude of change is assessed on a scale of; High, Medium, Low and Negligible (as described in Chapter 2 of this EIAR: Approach to EIA).
- 14.4.16 For this assessment magnitude of change is defined as follows:
- **High** – considerable effect by extent, duration, or magnitude of more than local significance or in breach or recognised acceptability, legislation, policy or standards,
  - **Medium** – limited effect by extent, duration, or magnitude which may be considered significant,
  - **Low** – slight, very short or highly localised effect, and
  - **Negligible** – imperceptible effects on the study area.
- 14.4.17 Magnitude of change is classified as positive or negative:
- **Positive** – changes that produce benefits in terms of transportation and access – such as reductions in vehicle numbers, travel time or crowding, or the provision of a new service or facility,
  - **Negative** – changes that produce dis-benefit in terms of transportation and access – such as increases in vehicle numbers, travel time or crowding, or the loss of service, access or facility.
- 14.4.18 Magnitude of change is also classified as temporary or permanent. Temporary effects are those associated with demolition or construction stages. Permanent effects are those associated with complete, occupied and operational stages of development.
- 14.4.19 For the Proposed Development, the magnitude of change thresholds set out in Table 14-7 are adopted, based on IEMA Guidelines, knowledge of the study area and professional judgement.

## *Sensitivity of Receptors*

- 14.4.20 Receptors are locations or land uses categorised by their degree of sensitivity (or Environmental Value) with guidance provided in the DMRB, Volume 11, Section 2 (Part 5, HA 205/08).
- 14.4.21 Table 14-8 provides guidance used in this assessment to quantify the sensitivity of the receptors to the effect of the predicted traffic associated with the Proposed Development.
- 14.4.22 The receptors defined for this assessment are the A83 and A816 highway corridors. Based on the criteria set out in Table 14-8, the A83 and A816 are considered to have sensitivity levels corresponding to Medium level of sensitivity.



**Table 14-7 Magnitude of Change Thresholds**

Potential Effects	Magnitude of Change (Change in Traffic)			
	High	Medium	Low	Negligible
Severance	Up to 90%	Up to 60%	Up to 30%	Up to 10%
	1800 vph or	1200-1800 vph or	600-1200 vph or	<600 vph or
Fear & Intimidation	3000 HGV 18hrs or	2-3000 HGV 18hrs or	1-2000 HGV 18hrs or	<1000 HGV 18hrs or
	+20 mph	+10 to +20 mph	+5 to +10 mph	<+5 mph
Accidents & Road Safety (Per link, per annum, any severity)	+3 Accidents	+2 Accidents	+1 Accidents	+0 Accidents
Pedestrian & Cycle Amenity	Up to 90%	Up to 60%	Up to 30%	Up to 10%
Pedestrian & Cycle Delay	Up to 90%	Up to 60%	Up to 30%	Up to 10%
Driver Delay	Up to 90%	Up to 60%	Up to 30%	Up to 10%

**Table 14-8 Sensitivity of Receptors**

Sensitivity	Description
Very High	The receptor is nationally or internationally important with special sensitivity to increases in road traffic and is of very high environmental value.
High	The receptor has little or no ability to absorb change without fundamentally altering its present character and/or is of high environmental value.
Medium	The receptor has moderate capacity to absorb change without significantly altering its present character and has some environmental value and local importance.
Low	The receptor is tolerant of change without detriment to its character, is of low environmental value and low local importance.
Negligible	The receptor is resistant to change and is of little environmental value.

### *Matrix for Classifying Effects*

14.4.23 Based on Magnitude of Change and Sensitivity of Receptor criteria, the matrix for classifying effects adopted by this assessment is shown in Table 14-9.

**Table 14-9 Matrix for Classifying Effects**

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

14.4.24 Effects are considered Significant when they are assessed as either Moderate or Major.

## 14.5 Assessment of Effects – Construction Stage

### *Approach to Assessment*

14.5.1 This traffic and transport chapter uses the following approach to identify any likely significant effects of the Proposed Development on the study area in terms of transportation and access:

- An assessment of forecast development construction traffic against baseline traffic conditions to establish all road links within the study area that qualify for environmental assessment,
- An assessment of qualifying road links against the potential effects described in this chapter, identification of any required mitigation measures, and an assessment of any anticipated residual effects, and
- A cumulative assessment of qualifying road links against the potential effects described in this chapter, identification of any required mitigation measures, and an assessment of any anticipated residual effects.

### *Study Area Roads Included in Assessment*

14.5.2 Study area roads have been reviewed against IEMA Guidelines to identify which should be included in the assessment. For assessment, it is assumed all forecast construction vehicles will route on all study area roads. This assumption ensures a robust assessment of the potential environmental effects of construction traffic. Roads to be included in the assessment are identified as follows:

- Identify highway links where traffic flows will increase by more than 30%, and
- Identify highway links where the number of HGV will increase by more than 30% on an average construction day.

14.5.3 The above review was undertaken for an average construction traffic day, and a sensitivity test for maximum ready mixed concrete delivery. Table 14-10 to Table 14-13 summarise the review.

**Table 14-10 Average Construction Traffic – Forecast Daily Traffic Increase (All Vehicles)**

Road	Count Point	Baseline AADT 2024	Daily Construction Vehicles	Baseline + Construction Vehicles	% Increase	Detailed Assessment Required (+30%)
A83	40845	2400	200	2600	+8.3%	No
A83	77107	2347	200	2547	+8.5%	No
A83	80363	3011	200	3211	+6.6%	No
A83	40767	5523	200	5723	+3.6%	No
A83	50771	6386	200	6586	+3.1%	No
A816	30797	2220	200	2420	+9.0%	No
A816	792	1609	200	1809	+12.4%	No
A816	40794	2780	200	2980	+7.2%	No

14.5.4 Table 14-10 indicates that **no** roads in the study area would experience increases in total daily traffic above the +30% threshold because of construction traffic activity.

**Table 14-11 Average Construction Traffic – Forecast Daily Traffic Increase (HGV Only)**

Road	Count Point	Baseline HGV 2024	Daily Construction HGV	Baseline + Construction HGV	% Increase HGV	Detailed Assessment Required (+30%)
A83	40845	184	140	324	+76%	Yes
A83	77107	228	140	368	+61%	Yes
A83	80363	275	140	415	+51%	Yes
A83	40767	381	140	521	+37%	Yes
A83	50771	438	140	578	+32%	Yes
A816	30797	158	140	298	+89%	Yes
A816	792	93	140	233	+151%	Yes
A816	40794	166	140	306	+84%	Yes

14.5.5 Table 14-11 indicates that **all** roads in the study area would experience increases in daily HGV traffic above the +30% threshold because of construction traffic activity. Accordingly, all roads within the study area must be considered in this environmental assessment of road traffic.

**Table 14-12 Sensitivity Construction Traffic – Forecast Daily Traffic Increase (All Vehicles)**

Road	Count Point	Baseline AADT 2024	Daily Construction Vehicles (+ Concrete)	Baseline + Construction Vehicles (+ Concrete)	% Increase	Detailed Assessment Required (+30%)
A83	40845	2400	422	2822	+17.6%	No
A83	77107	2347	422	2769	+18.0%	No
A83	80363	3011	422	3433	+14.0%	No
A83	40767	5523	422	5945	+7.6%	No
A83	50771	6386	422	6808	+6.6%	No
A816	30797	2220	422	2642	+19.0%	No
A816	792	1609	422	2031	+26.2%	No
A816	40794	2780	422	3202	+15.2%	No

14.5.6 Table 14-12 indicates that **no** roads in the study area would experience increases in total daily traffic above the +30% threshold because of construction traffic activity on the one day per month when maximum ready mixed concrete delivery occurs.

**Table 14-13 Sensitivity Construction Traffic – Forecast Daily Traffic Increase (HGV Only)**

Road	Count Point	Baseline HGV 2024	Daily HGV (Construction + Concrete)	Baseline + Construction HGV	% Increase HGV	Detailed Assessment Required (+30%)
A83	40845	184	362	546	197%	Yes
A83	77107	228	362	590	159%	Yes
A83	80363	275	362	637	132%	Yes
A83	40767	381	362	743	95%	Yes
A83	50771	438	362	800	83%	Yes
A816	30797	158	362	520	229%	Yes
A816	792	93	362	455	389%	Yes
A816	40794	166	362	528	218%	Yes

14.5.7 Table 14-13 indicates that **all** roads in the study area would experience increases in daily HGV traffic above the +30% threshold because of construction traffic on the one day per month when maximum ready mixed concrete delivery occurs. Accordingly, all roads within the study area must be considered in this environmental assessment of road traffic.

## Construction Stage – Potential Effects

14.5.8 Consideration is given to the following potential effects for the construction stage.

- Severance,
- Fear and Intimidation,
- Accidents and Road Safety,
- Pedestrian and Cycle Amenity,
- Pedestrian and Cycle Delay, and
- Driver Delay.

### Severance

14.5.9 The presence of construction traffic can increase severance for pedestrians. The routes to be utilised by construction traffic are well established roads with established traffic flows. There are several minor settlements on the A83 and A816 through which construction traffic will pass. These settlements do not have high footfall, and the settlements tend to be predominantly located to one side of the road therefore reducing the pedestrian crossing requirements.

14.5.10 There are larger settlements such as Campbeltown, Tarbert, Ardrishaig and Lochgilphead where pedestrian footfall is greater. With the A83 being the main vehicular route to and from Campbeltown and its various associated industries (farming, fishing and timber haulage), these settlements have established vehicular traffic flows including HGV traffic. Pedestrian traffic in these locations encounters some degree of existing severance as a result.

14.5.11 For an average construction day, the maximum forecast increase in traffic on any study area road is +12.4%. For the concrete delivery sensitivity test, the maximum forecast increase in traffic on any road is +26.2%. These traffic increases correspond to a low magnitude of change. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on severance prior to the implementation of mitigation measures.

### Fear and Intimidation

14.5.12 For an average construction day, the maximum forecast increase in daily traffic on any study area road is +200 vehicles, of which 140 will be HGV. For the concrete delivery sensitivity test the maximum forecast increase in daily traffic on any road is +422 vehicles, of which 362 will be HGV. These traffic increases correspond to a negligible magnitude of change. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix

classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Negligible (Not Significant)** effect on fear and intimidation prior to the implementation of mitigation measures.

**Accidents and Road Safety**

14.5.13 An assessment of recorded accidents and traffic data established an accident rate by severity, per vehicle kilometre, for roads included within this assessment. A forecast of the annual vehicle kilometres travelled by construction traffic was applied to the accident rates previously described. This produces a forecast of annual accidents by severity for construction traffic. Table 14-14 summarises this annual accident forecast.

**Table 14-14 Construction Stage Accident Forecast**

Road	Count Point	Annual Accident Rates (per vehicle km)			Construction Stage Accident Forecast per Annum			
		Slight	Serious	Fatal	Construction Vehicle km per annum	Slight	Serious	Fatal
A83	40845	4.76E-07	4.76E-07	0.00E+00	93,175	0.04	0.04	0.00
A83	77107	7.15E-08	4.76E-08	2.38E-08	1,902,327	0.14	0.09	0.05
A83	80363	2.23E-07	8.92E-08	0.00E+00	791,989	0.18	0.07	0.00
A83	40767	7.04E-08	3.52E-08	5.86E-09	3,284,426	0.23	0.12	0.02
A83	50771	5.03E-08	5.03E-08	1.68E-08	993,869	0.05	0.05	0.02
A816	30797	2.20E-07	6.01E-08	2.00E-08	2,391,497	<b>0.53</b>	0.14	0.05
A816	792	0.00E+00	3.78E-07	0.00E+00	174,704	0.00	0.07	0.00
A816	40794	166	368	534	1,288,924	0.08	0.08	0.04

14.5.14 Increases in traffic may affect accidents and road safety, potentially increasing the number and severity of accidents involving pedestrians and drivers. From Table 14-14, the maximum accident forecast per annum, per link, associated with development construction traffic is:

- 1 slight accident ((A816 Count Point 30797)),
- 0 serious accidents, and
- 0 fatal accidents.

14.5.15 For this annual accident forecast, the magnitude of change is considered low. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on accidents and road safety prior to the implementation of mitigation measures.

### *Pedestrian and Cycle Amenity*

- 14.5.16 For an average construction day, the maximum forecast increase in traffic on any study area road is +12.4%. For the concrete delivery sensitivity test the maximum forecast increase in traffic on any road is +26.2%. These traffic increases correspond to a low magnitude of change. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle amenity prior to the implementation of mitigation measures.

### *Pedestrian and Cycle Delay*

- 14.5.17 For an average construction day, the maximum forecast increase in traffic on any study area road is +12.4%. For the concrete delivery sensitivity test the maximum forecast increase in traffic on any road is +26.2%. These traffic increases correspond to a low magnitude of change. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle delay prior to the implementation of mitigation measures.

### *Driver Delay*

- 14.5.18 HGV traffic by its nature may travel slower than other vehicles on the public highway and can delay general traffic resulting in increased journey times. It is not uncommon for a 'convoy' effect to occur when suitable overtaking opportunities for other vehicles is limited. Increased journey times can lead to driver frustration. Abnormal Indivisible Loads (AILs) carrying items such as wind turbine blades also have the potential to cause delays or localised road closures for short periods of time.
- 14.5.19 For an average construction day, the maximum forecast increase in traffic on any study area road is +12.4%. For the concrete delivery sensitivity test the maximum forecast increase in traffic on any road is +26.2%. These traffic increases correspond to a low magnitude of change. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on driver delay prior to the implementation of mitigation measures.

## 14.6 Mitigation

- 14.6.1 Whilst no significant effects have been identified through the assessment of construction effects, the following mitigation measures are proposed to further reduce the potential effects of the Proposed Development.

## *Severance*

- 14.6.2 The proposed routes that construction traffic will take are for the most part through rural areas where there is no existing pedestrian infrastructure. However, there are settlements located on the proposed routes that HGV traffic may take, for example: Campbeltown, Tarbert, Ardrishaig and Lochgilphead.
- 14.6.3 A Construction Traffic Management Plan (CTMP) will be agreed with the planning and highway authorities, and secured by Condition, to ensure that construction traffic is managed and routed to the site to ensure HGV movements are in accordance with forecast. The CTMP will include a requirement for construction vehicles to give particular attention to locations where pedestrian traffic and crossing points are present, to ensure effects on severance are minimised.

## *Fear and Intimidation*

- 14.6.4 As above, a CTMP will be produced to ensure construction traffic activities will be mindful of vehicle speeds and manoeuvring / proximity to vulnerable road users in all locations and instances within the study area where potential exposure to fear and intimidation could result.

## *Accidents and Road Safety*

- 14.6.5 As per Paragraph 14.6.3, a CTMP will be produced to ensure construction traffic activities will be mindful of vehicle speeds and manoeuvring when in proximity to all other road users in all locations and instances within the study area. The CTMP will promote best practice for commercial vehicle operators in terms of road safety to limit the potential for road traffic accidents.

## *Pedestrian and Cycle Amenity*

- 14.6.6 As per Paragraph 14.6.3, a CTMP will be produced. The CTMP will include a requirement for construction vehicles to give particular attention to locations where pedestrian and cycle traffic are present, to ensure effects on pedestrian and cycle amenity are minimised.
- 14.6.7 The CTMP will include details on maintaining access to the Kintyre Way during construction of the Proposed Development. Access to the Kintyre Way will be maintained during construction, and any temporary closures and diversion routes will be agreed in advance with Council Access Officers, including appropriate advanced notification and signage. Diversion routes are likely to be localised temporary paths adjacent to the route of the Kintyre Way. These will allow pedestrian and cycle traffic to safely negotiate locations on the Kintyre Way where the potential for interaction with construction traffic may affect pedestrian and cycle amenity.

## *Pedestrian and Cycle Delay*

- 14.6.8 As per Paragraph 14.6.3, a CTMP will be produced. The CTMP will include a requirement for construction vehicles to give particular attention to locations where pedestrian and cycle traffic is present, to ensure effects on pedestrian and cycle delay are minimised.



## *Driver Delay*

- 14.6.9 As per Paragraph 14.6.3, a CTMP will be produced. Abnormal Indivisible Loads (AIL) carrying items such as wind turbine blades will be escorted and can be scheduled to travel when roads are quieter. ALL vehicle escorts can enact rolling traffic management control to address any localised queuing and delay resulting from the presence of slow-moving construction traffic, to ensure effects on driver delay are minimised.

## *Summary of Mitigation*

- 14.6.10 Environmental effects relating to construction traffic will be mitigated throughout the construction period by an appropriately focused CTMP. The CTMP will promote, implement, and monitor the safe and efficient transportation of components and materials to the Development Site. It will aim to minimise congestion, disruption and maintain road safety. The CTMP will be produced during the post planning stage and approved in consultation with Police Scotland, Argyll and Bute Council and Transport Scotland.
- 14.6.11 The CTMP will apply to all sections of the public road network, however it will be enhanced with locally specific measures as appropriate. It will include but not be limited to:
- The proposed route for construction traffic including abnormal loads,
  - The necessary agreements and timing restrictions for construction traffic. This may include the restriction of the number of daily HGV vehicle movements, if deemed necessary by the planning authority,
  - Details of proposed Condition Survey on access routes,
  - Proposals for abnormal maintenance of these routes during (and attributable to) construction,
  - Proposals for monitoring and agreeing (abnormal maintenance) costs attributable to construction of the Proposed Development,
  - Escort arrangements for abnormal loads,
  - Details on mitigation to be provided for maintaining access to, and along, the Kintyre Way during construction,
  - Route signing,
  - Details of advanced notification to the public, warning of turbine component transport movements, including on the Kintyre Way,
  - Details of informative road signage warning other users of forthcoming turbine component transport and construction traffic movements, including signing of alternative localised paths adjacent to the Kintyre Way serving as diversion routes for pedestrian traffic,
  - Arrangements for regular road cleaning, e.g., road sweeping in the vicinity of the Development Site access point as necessary, wheel cleaning / dirt control arrangements,
  - Specific timing of deliveries outside peak traffic hours on the A83,

- The briefing of drivers on pulling over to the side of the road at suitably safe locations to allow other road users to overtake safely,
- Contractor speed limits,
- Community and emergency services liaison details, and
- Details of potential impact with timber haulage routes and mitigation.

### *Planning Obligations*

- 14.6.12 The CTMP will be developed in consultation with Argyll and Bute Council, Transport Scotland, Police Scotland and other stakeholders as was required under the Consented Development. The provision and implementation of the CTMP will be Conditioned to any planning approval, in the same way it was for the Consented Development.

## 14.7 Residual Effects

- 14.7.1 Following the implementation of the mitigation established in Section 14.6, the likely residual effects are set out below.

### *Severance*

- 14.7.2 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on severance following the implementation of mitigation measures.

### *Fear and Intimidation*

- 14.7.3 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain negligible. Therefore, there is likely to be a direct, temporary, **Negligible (Not Significant)** effect on fear and intimidation following the implementation of mitigation measures.

### *Accidents and Road Safety*

- 14.7.4 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on accidents and road safety following the implementation of mitigation measures

### *Pedestrian and Cycle Amenity*

- 14.7.5 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain low. Therefore, there is likely to be a direct, temporary,

**Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle amenity following the implementation of mitigation measures.

### *Pedestrian and Cycle Delay*

- 14.7.6 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle delay following the implementation of mitigation measures.

### *Driver Delay*

- 14.7.7 The sensitivity of carriageway receptors in the study area is medium, and the magnitude of change following CTMP mitigation will remain low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on driver delay following the implementation of mitigation measures.

## 14.8 Summary of Assessment – Construction Stage

- 14.8.1 The construction traffic vehicle forecasts for the Development Site presented in this chapter provide a robust basis for the assessment of environmental effects. The assessment has conservatively assumed that all Proposed Development construction traffic uses all study areas roads. In addition, the construction traffic vehicle forecast makes no allowance for the use of on-site temporary quarries, nor on-site concrete batching plant, both of which would significantly reduce Proposed Development construction traffic on the public highway. Finally, it does not make any allowance in the 2017 DfT baseline data for temporary traffic which may no longer be present on study area roads (e.g. construction traffic from other sites under construction in 2017 which are now built / operational).
- 14.8.2 Temporary effects are predicted for road users on the A83 and A816 during the construction stage when forecast Development Site traffic exceeds the plus 30% threshold. This exceedance is partly due to the relatively low traffic (HGV) flows recorded in DfT baseline data for the type of A-class roads to be used by construction traffic within the study area.
- 14.8.3 A CTMP would be Conditioned and approved by Police Scotland, Argyll and Bute Council and Transport Scotland. It would confirm the routing proposals for the delivery of turbine components by abnormal loads, and construction materials, timing of deliveries, route condition surveys and mitigation measures as necessary.
- 14.8.4 Post mitigation residual environmental effects associated with construction traffic are forecast to be direct, temporary, **Negligible or Minor to Moderate Negative (Not Significant)**. Table 14-15 provides a summary of the potential effects, mitigation and residual effects identified in this chapter.

**Table 14-15 Construction Stage - Summary of Effects for Traffic, Transport, and Access**

Effects	Receptor	Prior to Mitigation					Mitigation Summary	Residual Effects (Post-Mitigation)				
		Sig. Effects	Category	Duration	Type	Interval		Sig. Effects	Category	Duration	Type	Interval
Severance	Pedestrian Traffic	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short		Minor to Moderate (not significant)	Negative	Temporary	Direct	Short
Fear & Intimidation	Pedestrian Traffic	Negligible	Negligible	Temporary	Direct	Short		Negligible	Negligible	Temporary	Direct	Short
Accidents & Road Safety	Pedestrian, Cycle & Vehicle Traffic	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short		Minor to Moderate (not significant)	Negative	Temporary	Direct	Short
Pedestrian & Cycle Amenity	Pedestrian & Cycle Traffic	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short	CTMP	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short
Pedestrian & Cycle Delay	Pedestrian & Cycle Traffic	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short		Minor to Moderate (not significant)	Negative	Temporary	Direct	Short
Driver Delay	Vehicle Traffic	Minor to Moderate (not significant)	Negative	Temporary	Direct	Short		Minor to Moderate (not significant)	Negative	Temporary	Direct	Short

## 14.9 Cumulative Assessment

### *Consented and Committed Development*

14.9.1 Committed development for inclusion in the cumulative assessment of the Proposed Development has been identified as shown in Table 14-16.

**Table 14-16 Committed Development**

<b>Planning Reference and Development Description</b>	<b>Construction Details</b>	<b>Potential for Cumulative Effect</b>
20/00500/PNFOR Prior Notification for formation of forest track and upgrading of existing track	Not available. Timescales for this are unknown. There is potential for construction overlap, however at this stage the extent of this is unknown.	No
21/01721/FDP Long term forest plan	Not available. However, there is potential for overlap in construction. It is not considered that the vehicle generation of a site for forestry will be significant.	No

14.9.2 In addition to Table 14-16, account is taken of the presence of other consented and committed wind farm developments in the area, and the potential cumulative transportation impacts of these. It is assumed that operational wind farms generate negligible vehicular traffic as only maintenance vehicles will visit the sites. Table 14-17 highlights the surrounding schemes included within the assessment.

**Table 14-17 Committed and Consented Wind Farms for Cumulative Assessment**

<b>Scheme Name</b>	<b>Status</b>	<b>Details</b>	<b>Potential for Cumulative Effect</b>
Airigh	Consented	No entries in National Grid Electricity System Operator (ESO) registers for grid connection date.	No
Auchadaduie	Operational	-	No
Beinn an Tuirc	Operational	-	No
Beinn an Tuirc Extension	Operational	-	No
Beinn an Tuirc Phase III	Under construction	-	No
Blary Hill	Under construction	-	No
Cour	Operational	-	No

Scheme Name	Status	Details	Potential for Cumulative Effect
Deucheran Hill	Operational	-	No
Eascairt	Consented	No entries in National Grid ESO registers for grid connection date.	No
Freasdail	Operational	-	No
Gigha	Operational	-	No
High Constellation	Consented	Entry in National Grid ESO Transmission Entry Capacity (TEC) Register for grid connection by 30/04/2025.	Yes
Leim Farm (Gigha)	Operational	-	No
Narachan	Application	No entries in National Grid ESO registers for grid connection date	No
Sheirdrim	Public Inquiry 22 November to 02 December 2021	Entry in National Grid ESO TEC Register for grid connection by 30/04/2025. Public Inquiry EIAR states grid connection offer not received from National Grid ((document Oct 2019)). Assume grid connection to upgraded Carradale substation ((upgrade works due to be completed to substation by end 2022)).	Yes
Tangy I & II	Operational	-	No
Tangy IV	Consented	Entry in National Grid ESO TEC Register for grid connection by 31/10/2026 ((some 17 months post Clachaig Glen connection date)).	No

14.9.3 As the committed and consented development for cumulative assessment is comprised of other wind farms, only the construction stage will be considered. The forecast construction traffic for the Proposed Development and those sites to be cumulatively assessed is summarised in Table 14-18.

14.9.4 Table 14-18 indicates that total daily vehicle traffic generated by cumulative assessment development only exceeds the +30% threshold identified in the IEMA Guidelines on the A816 (Count Point 792). However, all roads within the study area are forecast to be over the +30% threshold for HGV traffic. Accordingly, all road links in the study area are included within the cumulative assessment of environmental effects.

**Table 14-18 Cumulative Assessment Daily Traffic<sup>2</sup>**

Road (Count Point)	2024 Baseline		Clachaig Glen		High Constellation		Sheirdrim		Sub-Total		% Increase on 2024 Baseline		Cumulative Assessment Required	
	All Vehs	HGV	All Vehs	HGV	All Vehs	HGV	All Vehs	HGV	All Vehs	HGV	All Vehs	HGV	All Vehs	HGV
A83 (40845)	2400	184	200	140	144	72	223	109	567	321	+24%	+174%	No	Yes
A83 (77107)	2347	228	200	140	144	72	223	109	567	321	+24%	+141%	No	Yes
A83 (80363)	3011	275	200	140	144	72	223	109	567	321	+19%	+117%	No	Yes
A83 (40767)	5523	381	200	140	144	72	223	109	567	321	+10%	+84%	No	Yes
A83 (50771)	6386	438	200	140	144	72	223	109	567	321	+9%	+73%	No	Yes
A816 (30797)	2220	158	200	140	144	72	223	109	567	321	+26%	+203%	No	Yes
A816 (792)	1609	93	200	140	144	72	223	109	567	321	+35%	+345%	Yes	Yes
A816 (40794)	2780	166	200	140	144	72	223	109	567	321	+20%	+193%	No	Yes

<sup>2</sup> Calculated using worst-case scenario for robust assessment, see Paragraphs 14.9.5 and 14.10.1 to 14.10.3 for further detail.  
Prepared for: RWE Renewables UK Onshore Wind Ltd

- 14.9.5 It must be noted that the cumulative assessment assumes all construction traffic appears on all road links within the study area. This provides a robust assessment of potential environmental impacts, particularly given turbine component AIL vehicles for the Proposed Development will originate from Campbeltown and will not use the A83 north of the site access junction.

## *Cumulative Assessment – Potential Effects*

### *Severance*

- 14.9.6 For cumulative assessment daily traffic, the forecast increase of +35% on the A816 (Count Point 792) is the only exceedance of the IEMA +30% threshold in the study area. This forecast traffic increase corresponds to a medium magnitude of change in terms of severance. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of cumulative construction traffic is a direct, temporary, **Moderate Negative (Significant)** effect on severance prior to the implementation of mitigation measures.

### *Fear and Intimidation*

- 14.9.7 For an average construction day, the maximum forecast increase in cumulative assessment daily traffic on any study area road is +567 vehicles, of which 321 are forecast to be HGV. These traffic increases correspond to a negligible magnitude of change in terms of fear and intimidation. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of cumulative construction traffic is a direct, temporary, **Negligible (Not Significant)** effect on fear and intimidation prior to the implementation of mitigation measures.

### *Accidents and Road Safety*

- 14.9.8 An assessment of recorded accidents and traffic data established an accident rate by severity, per vehicle kilometre, for roads included within this assessment. A forecast of the annual vehicle kilometres travelled by cumulative assessment construction traffic was applied to the accident rates previously described. This produced a forecast of annual accidents by severity for the cumulative assessment. Table 14-19 summarises this annual accident forecast.



**Table 14-19 Cumulative Assessment Accident Forecast<sup>3</sup>**

Road	Count Point	Annual Accident Rates (per vehicle km)			Cumulative Assessment Accident Forecast per Annum			
		Slight	Serious	Fatal	Construction Vehicle km per Annum	Slight	Serious	Fatal
A83	40845	4.76E-07	4.76E-07	0.00E+00	304,567	0.14	0.14	0.00
A83	77107	7.15E-08	4.76E-08	2.38E-08	6,218,247	0.44	0.30	0.15
A83	80363	2.23E-07	8.92E-08	0.00E+00	2,588,821	0.58	0.23	0.00
A83	40767	7.04E-08	3.52E-08	5.86E-09	10,735,994	0.76	0.38	0.06
A83	50771	5.03E-08	5.03E-08	1.68E-08	3,248,717	0.16	0.16	0.05
A816	30797	2.20E-07	6.01E-08	2.00E-08	7,817,225	1.72	0.47	0.16
A816	792	0.00E+00	3.78E-07	0.00E+00	571,064	0.00	0.22	0.00
A816	40794	5.94E-08	5.94E-08	2.97E-08	4,213,180	0.25	0.25	0.13

14.9.9 Increases in traffic may affect accidents and road safety, potentially increasing the number and severity of accidents involving pedestrians and drivers. From Table 14-19, the maximum accident forecast per annum, per link, associated with cumulative development construction traffic is:

- 2 slight accidents ((A816 Count Point 30797))
- 0 serious accidents
- 0 fatal accidents.

14.9.10 For this annual accident forecast, the magnitude of change is considered medium. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of construction traffic is a direct, temporary, **Moderate Negative (Significant)** effect on accidents and road safety prior to the implementation of mitigation measures. Mitigation and residual effects are considered in Paragraphs 14.9.19 to 14.9.21 and 14.9.33 respectively.

***Pedestrian and Cycle Amenity***

14.9.11 For cumulative assessment daily traffic, the forecast increase of +35% on the A816 (Count Point 792) is the only exceedance of the IEMA +30% threshold in the study area. This forecast traffic increase corresponds to a medium magnitude of change in terms of pedestrian and cycle amenity. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without

<sup>3</sup> Calculated using worst-case scenario for robust assessment, see Paragraphs 14.9.5, 14.9.19 to 14.9.21, 14.9.33 and 14.10.1 to 14.10.3 for further detail.

significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of cumulative construction traffic is a direct, temporary, **Moderate Negative (Significant)** effect on severance prior to the implementation of mitigation measures. Mitigation and residual effects are considered in Paragraphs 14.9.22 to 14.9.24 and 14.9.34 respectively.

### *Pedestrian and Cycle Delay*

- 14.9.12 For cumulative assessment daily traffic, the forecast increase of +35% on the A816 (Count Point 792) is the only exceedance of the IEMA +30% threshold in the study area. This forecast traffic increase corresponds to a medium magnitude of change in terms of pedestrian and cycle delay. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of cumulative construction traffic is a direct, temporary, **Moderate Negative (Significant)** effect on severance prior to the implementation of mitigation measures. Mitigation and residual effects are considered in Paragraphs 14.9.25 to 14.9.27 and 14.9.35 respectively.

### *Driver Delay*

- 14.9.13 HGV traffic by its nature may travel slower than other vehicles on the public highway and can delay general traffic resulting in increased journey times. It is not uncommon for a 'convoy' effect to occur when suitable overtaking opportunities for other vehicles is limited. Increased journey times can lead to driver frustration. AILs carrying items such as wind turbine blades also have the potential to cause delays or localised road closures for short periods of time.
- 14.9.14 For cumulative assessment daily traffic, the forecast increase of +35% on the A816 (Count Point 792) is the only exceedance of the IEMA +30% threshold in the study area. This forecast traffic increase corresponds to a medium magnitude of change in terms of driver delay. Roads in the study area are medium sensitivity receptors, as they have moderate capacity to absorb change without significantly altering their present character and have some environmental value and local importance. Applying matrix classification; prior to mitigation the likely effect of cumulative construction traffic is a direct, temporary, **Moderate Negative (Significant)** effect on severance prior to the implementation of mitigation measures. Mitigation and residual effects are considered in Paragraphs 14.9.28 to 14.9.30 and 14.9.36 respectively.

### *Mitigation for Cumulative Effect*

#### **Severance**

- 14.9.15 The Proposed Development will benefit from the provision of on-site temporary quarries and concrete batching plant. This will significantly reduce the forecast amount of construction traffic travelling on the public highway to and from the Development Site and reduce any potential effect on severance. Furthermore, Proposed Development turbine component deliveries will not route via the A816 (Count

Point 792) which is the only road identified within the study area where cumulative development traffic may potentially effect severance.

- 14.9.16 The proposed routes that construction traffic will take are for the most part through rural areas where there is no existing pedestrian infrastructure. However, there are settlements located on the proposed routes that HGV traffic may take, for example: Campbeltown, Tarbert, Ardrishaig and Lochgilphead.
- 14.9.17 A CTMP will be agreed with the planning and highway authorities, and secured by condition, to ensure that construction traffic is managed and routed to the site to ensure HGV movements are in accordance with forecast. In practice, bespoke CTMP operating for each cumulative assessment site will assign, route, and manage development traffic to meet their specific needs. The CTMP for the Proposed Development will include a requirement for construction vehicles to give particular attention to locations where pedestrian traffic and crossing points are present, to ensure effects on severance are minimised.

### ***Fear and Intimidation***

- 14.9.18 As per Paragraph 14.9.17, a CTMP will be produced. The CTMP will ensure construction traffic activities will be mindful of vehicle speeds and manoeuvring / proximity to vulnerable road users in all locations and instances within the study area where potential exposure to fear and intimidation could result.

### ***Accidents and Road Safety***

- 14.9.19 As per Paragraph 14.9.17, a CTMP will be produced. The CTMP will ensure construction traffic activities will be mindful of vehicle speeds and manoeuvring when in proximity to all other road users in all locations and instances within the study area. The CTMP will promote best practice for commercial vehicle operators in terms of road safety to limit the potential for road traffic accidents.
- 14.9.20 In practice, bespoke CTMP operating for each cumulative assessment site will assign, route, and manage development traffic to meet their specific needs. In the case of the Proposed Development temporary quarries, concrete batching plant and routing of turbine components will significantly reduce the number of construction vehicle movements on the A816 (Count Point 30797), which is the only road identified in the study area where a medium magnitude of change in accidents and road safety is forecast for cumulative development traffic.
- 14.9.21 Accordingly, in practice the A816 is very unlikely to receive the level of cumulative development traffic adopted for this assessment. The reduced volume of cumulative assessment development traffic likely to be present on the A816, combined with the road safety measures within respective CTMP, will mitigate forecast environmental effects on accidents and road safety on the A816.

### ***Pedestrian and Cycle Amenity***

- 14.9.22 The Proposed Development will benefit from the provision of on-site temporary quarries and concrete batching plant. This will significantly reduce the forecast amount of construction traffic travelling on the public highway to and from the Development Site and reduce any potential effect on pedestrian and cycle amenity. Furthermore, Proposed Development turbine component deliveries will not route via the

A816 (Count Point 792) which is the only road identified within the study area where cumulative development traffic may potentially affect pedestrian and cycle amenity.

- 14.9.23 The proposed routes that construction traffic will take are for the most part through rural areas where there is no existing pedestrian infrastructure. However, there are settlements located on the proposed routes that HGV traffic may take, for example: Campbeltown, Tarbert, Ardrishaig and Lochgilphead.
- 14.9.24 As per Paragraph 14.9.17, a CTMP will be produced. In practice, bespoke CTMP operating for each cumulative assessment site will assign, route, and manage development traffic to meet their specific needs. The Proposed Development CTMP will include a requirement for construction vehicles to give particular attention to locations where pedestrian and cycle traffic are present, to ensure effects on pedestrian and cycle amenity are minimised.

### ***Pedestrian and Cycle Delay***

- 14.9.25 The Proposed Development will benefit from the provision of on-site temporary quarries and concrete batching plant. This will significantly reduce the forecast amount of construction traffic travelling on the public highway to and from the Development Site and reduce any potential effect on pedestrian and cycle delay. Furthermore, Proposed Development turbine component deliveries will not route via the A816 (Count Point 792), which is the only road identified within the study area where cumulative development traffic may potentially affect pedestrian and cycle delay.
- 14.9.26 The proposed routes that construction traffic will take are for the most part through rural areas where there is no existing pedestrian infrastructure. However, there are settlements located on the proposed routes that HGV traffic may take, for example: Campbeltown, Tarbert, Ardrishaig and Lochgilphead.
- 14.9.27 As per Paragraph 14.9.17, a CTMP will be produced. In practice, bespoke CTMP operating for each cumulative assessment site will assign, route, and manage development traffic to meet their specific needs. The CTMP for the Proposed Development will include a requirement for construction vehicles to give particular attention to locations where pedestrian and cycle traffic are present, to ensure effects on pedestrian and cycle delay are minimised.

### ***Driver Delay***

- 14.9.28 The Proposed Development will benefit from the provision of on-site temporary quarries and concrete batching plant. This will significantly reduce the forecast amount of construction traffic travelling on the public highway to and from the Development Site and reduce any potential effect on driver delay. Furthermore, Proposed Development turbine component deliveries will not route via the A816 (Count Point 792), which is the only road identified within the study area where cumulative development traffic may potentially affect driver delay.
- 14.9.29 The proposed routes that construction traffic will take are for the most part through rural areas where there is no existing pedestrian infrastructure. However, there are settlements located on the proposed routes that HGV traffic may take, for example: Campbeltown, Tarbert, Ardrishaig and Lochgilphead.

- 14.9.30 As per Paragraph 14.9.17, a CTMP will be produced. In practice, bespoke CTMP operating for each cumulative assessment site will assign, route, and manage development traffic to meet their specific needs. AIL carrying items such as wind turbine blades will be escorted and can be scheduled to travel when roads are quieter. AIL vehicle escorts can enact rolling traffic management control to address any localised queuing and delay resulting from the presence of slow-moving construction traffic, to ensure effects on driver delay are minimised.

### *Cumulative Residual Effects*

#### *Severance*

- 14.9.31 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites is considered to be low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on severance following the implementation of mitigation measures.

#### *Fear and Intimidation*

- 14.9.32 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites will remain negligible. Therefore, there is likely to be a direct, temporary, **Negligible (Not Significant)** effect on fear and intimidation following the implementation of mitigation measures.

#### *Accidents and Road Safety*

- 14.9.33 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites is considered to be low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on accidents and road safety following the implementation of mitigation measures.

#### *Pedestrian and Cycle Amenity*

- 14.9.34 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites is considered to be low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle amenity following the implementation of mitigation measures.

#### *Pedestrian and Cycle Delay*

- 14.9.35 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites is considered to be low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on pedestrian and cycle delay following the implementation of mitigation measures.

### *Driver Delay*

- 14.9.36 The sensitivity of footway and carriageways receptors in the study area is medium, and the magnitude of change following CTMP mitigation across all cumulative assessment sites is considered to be low. Therefore, there is likely to be a direct, temporary, **Minor to Moderate Negative (Not Significant)** effect on driver delay following the implementation of mitigation measures.

## 14.10 Summary - Cumulative Assessment

- 14.10.1 The cumulative assessment vehicle forecast presented in this chapter provides a robust basis for the assessment of environmental effects. The cumulative assessment has conservatively assumed that all Proposed Development construction traffic uses all study areas roads.
- 14.10.2 In addition, the construction traffic vehicle forecast makes no allowance for the use of on-site temporary quarries, nor on-site concrete batching plant, both of which would significantly reduce Proposed Development construction traffic on the public highway.
- 14.10.3 Finally, it does not make any allowance in the 2017 DfT baseline data for temporary traffic which may no longer be present on study area roads (e.g., construction traffic from other sites under construction in 2017 which are now built / operational).
- 14.10.4 Temporary effects are predicted for road users on the A83 and A816 during the construction stage when forecast cumulative assessment traffic exceeds the plus 30% threshold. This exceedance is partly due to the relatively low traffic flows recorded in DfT baseline data for the type of A-class roads to be used by cumulative assessment traffic within the study area.
- 14.10.5 A CTMP would be Conditioned and approved by Police Scotland, Argyll and Bute Council in consultation with Police Scotland and Transport Scotland that would confirm the routing proposals for the delivery of turbine components by abnormal loads, and construction materials, timing of deliveries, route condition surveys and mitigation measures as necessary.
- 14.10.6 Bespoke CTMP operating for each cumulative assessment site will assign, route and manage development traffic to meet their specific needs. Accordingly, it will not be the case that all traffic appears on all study areas road links, and as such this cumulative assessment represents a very robust forecast of potential environmental effects.
- 14.10.7 Post mitigation residual environmental effects associated with construction traffic are forecast to be direct, temporary, **Negligible or Minor to Moderate Negative (Not Significant)**. Table 14-20 provides a summary of the potential cumulative effects, mitigation and residual effects identified in this chapter.

**Table 14-20 Cumulative Assessment – Summary of Effects for Traffic, Transport, and Access**

Effects	Receptor	Prior to Mitigation					Mitigation Summary	Residual Effects (Post-Mitigation)				
		Sig. Effects	Category	Duration	Type	Interval		Sig. Effects	Category	Duration	Type	Interval
Severance	Pedestrian Traffic	<b>Moderate (significant)</b>	Negative	Temporary	Direct	Short	CTMP	Minor to Moderate (Not Significant)	Negative	Temporary	Direct	Short
Fear & Intimidation	Pedestrian Traffic	Negligible (Not Significant)	Negligible	Temporary	Direct	Short		Negligible (Not Significant)	Negligible	Temporary	Direct	Short
Accidents & Road Safety	Pedestrian, Cycle & Vehicle Traffic	<b>Moderate (significant)</b>	Negative	Temporary	Direct	Short		Minor to Moderate (Not Significant)	Negative	Temporary	Direct	Short
Pedestrian & Cycle Amenity	Pedestrian & Cycle Traffic	<b>Moderate (significant)</b>	Negative	Temporary	Direct	Short		Minor to Moderate (Not Significant)	Negative	Temporary	Direct	Short
Pedestrian & Cycle Delay	Pedestrian & Cycle Traffic	<b>Moderate (significant)</b>	Negative	Temporary	Direct	Short		Minor to Moderate (Not Significant)	Negative	Temporary	Direct	Short
Driver Delay	Vehicle Traffic	<b>Moderate (significant)</b>	Negative	Temporary	Direct	Short		Minor to Moderate (Not Significant)	Negative	Temporary	Direct	Short

## 14.11 References

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