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12 Traffic and Transport

12.1 Introduction

12.1.1 This chapter presents the preliminary assessment of the likely significant effects of the Project with respect to Traffic and Transport. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the Project description provided in **Chapter 4: Description of the Proposed Development** and with respect to relevant parts of the following chapters:

- Chapter 13 Noise - where common receptors have been considered and where there is an overlap or relationship between the assessment of effects.

12.1.2 An Abnormal Indivisible Loads (AIL) access study and a Draft Construction Traffic Management Plan (CTMP) have been prepared to support this chapter. The AIL access study and Draft CTMP are presented respectively in Appendix 12A and 12B.

12.1.3 This chapter describes:

- the legislation, policy and technical guidance that has informed the assessment (**Section 12.2**);
- consultation and engagement that has been undertaken and how comments from consultees relating to Traffic and Transport have been addressed (**Section 12.3**);
- the methods used for baseline data gathering (**Section 12.4**);
- overall baseline (**Section Error! Reference source not found.**);
- embedded measures relevant to Traffic and Transport (**Section 15.2**);
- the scope of the assessment for Traffic and Transport (**Section 12.6**);
- the methodology used within the assessment (**Section 12.7**);
- the preliminary assessment of Traffic and Transport effects (**Section 12.8**);
- preliminary assessment of cumulative (inter-project) effects (**Section 12.9**); and
- a summary of the preliminary significance conclusions (**Section 12.10**).

Limitations and assumptions

12.1.4 The information provided in this Draft ES is preliminary, the final assessment of likely significant effects will be reported in the ES. The Draft ES has been produced to fulfil Pennant Walters's consultation duties and enable consultees to develop an informed view of the likely significant effects of the Project.

12.1.5 There are no limitations relating to Traffic and Transport that affect the robustness of the preliminary assessment of the potential likely significant effects of the Project.

12.2 Relevant legislation, planning policy and technical guidance

12.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to Traffic and Transport. Further information on policies relevant to the Project is provided in **Chapter 5: Legislation and policy overview**.

Legislation

12.2.2 There is no specific legislation that needs to be considered when determining the scope of this assessment.

Planning Policy

12.2.3 A summary of the relevant national and local planning policy is given provided within **Table 12.1**.

Table Error! No text of specified style in document.2.1 Planning policy relevant to the Traffic and Transport assessment

Policy	Policy context
National planning policy	
Planning Policy Wales, Edition 11, Welsh Government (2021)¹	5.3 Transportation Infrastructure This section outlines the need to ensure any new transport infrastructure has minimal adverse impacts including expectation that routing takes into account various impacts including safety and noise. Strategic Road Network This includes policy that development plans should cover the road network hierarchy and any associated network improvements or new schemes. It also states that where possible site access should not be onto a primary road and should be onto a secondary road; and that the type of access should reflect the road and traffic characteristics and incorporate good junction design. Freight This section outlines the expectation that development plans and local authorities should consider the most appropriate routes for freight movements, where this is necessary by road, rather than the encouraged rail and water movements.
Llwybr Newydd The Wales Transport Strategy (2021)²	Priority 2 an efficient, sustainable and accessible transport system including safe and efficient use of current infrastructure. Mini Plan 7.4 This plan outlines priorities and aims for the road and streets including ensuring the Strategic Road Network has minimal environmental impacts, roads work efficiently and with

¹ Welsh Government (2021). Planning Policy Wales (Online). Available at: https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf [Accessed November 2023].

² Welsh Government (2021). The Wales Transport Strategy (Online). Available at: <https://gov.wales/llwybr-newydd-wales-transport-strategy-2021> [Accessed November 2023].

Policy	Policy context
	<p>reduced congestion and that the network is safe, with fewer incidents, for all users.</p> <p>Mini Plan 7.7 This plan covers priorities for freight movements including a desire to shift freight movements away from the road network, decarbonise the sector and contribute to the aim of a safe transport network for all users with reduced impact on the environment.</p>
<p>Future Wales: The National Plan 2040 (2021)³</p>	<p>This document sets out the national development framework for Wales to 2040. One of the desired outcomes is sustainable transport. Another involves achieving efficient transport infrastructure and a third involves investment in public and active travel.</p> <p>Policies 11 and 12 cover national and regional transport connectivity policy.</p>
<p>The Wales Freight Strategy Freight Strategy (2008)⁴</p>	<p>This document sets out the freight strategy for Wales outlining aims and policies across multiple modes. It includes three key themes of measures for reducing demand for freight movements, modal shift from road to rail/sea and making efficient use of the existing network. It outlines that road freight is a less preferred option due to some of the road network not being suited to freight movements. However, the Strategy recognises that sometimes the use of the road network for freight transport is the only option available.</p> <p>The Strategy focuses on 'steps towards delivery' overall and for each mode. There are 9 road steps including the need to improve the efficiency of road freight, consideration of parking and identifying of strategic routes for freight. These 9 road steps are to contribute to various outcomes including those relating to safety, severance/intimidation and environmental impacts along with economic benefits.</p>
<p>Local planning policy</p>	
<p>South East Wales Valleys Local Transport Plan (2015)⁵</p>	<p>Vision: The Plan's vision is a '<i>modern, accessible, integrated and sustainable transport system</i>' through active and sustainable travel including sustainable freight movements.</p> <p>Objectives 1, 2, 7, 8 and 10: These objectives aim to reduce road traffic casualties; improve travelling security; reduce traffic growth and congestion by utilising the road system efficiently; increase sustainable freight transport and reduce the impact of transport on local areas.</p> <p>Issues 12, 13, A and B: The key relevant issue of concern in this plan covers congestion levels, the inadequacy of freight routes on</p>

³ Welsh Government. (2021). Future Wales: The National Plan 2040 (Online) Available at: <https://gov.wales/future-wales-national-plan-2040-0> [Accessed November 2023].

⁴ Welsh Government. (2008). The Wales Freight Strategy. (Online) Available at: <https://gov.wales/wales-freight-strategy> [Accessed November 2023].

⁵ Welsh Government (2015). South East Wales Valleys Local Transport Plan (Online). Available at: <https://www.blaenau-gwent.gov.uk/en/council/policies-plans-strategies/south-wales-valleys-local-transport-plan-2015-2020/> [Accessed November 2023].

Policy	Policy context
	<p>the strategic network, pollutions from transport and highway accident levels.</p> <p>Medium and Long Term Programme: This outlines schemes up to 2030 including highways improvements focusing on network resilience and accessibility, including the A4046, further cycle route expansions and bus rapid transit developments. No design work was specified in the Local Transport Plan.</p>
<p>Caerphilly County Borough Local Development Plan up to 2021 (adopted 2010)⁶</p>	<p>Key Objective 16 to reduce congestion levels, through efficient use of the road network.</p> <p>SP20 Outlines the road network hierarchy to ensure traffic is routed appropriately for environmental and safety reasons.</p> <p>CW1This county wide policy sets out key criteria for proposals for transport with a certain level of trips generated that freight trips are routed along the least environmentally damaging route by the least environmentally damaging mode.</p> <p>CW3 Sets out county wide highway requirements including safety and efficiency on the highway network and appropriately designed access points onto the network.</p> <p>Strategy Area 2: Sets out sub area policies covering the A472's capabilities and efficiency.</p> <p>TR1.11 Covers land requirements for improvements to the cycle network including in the vicinity of Crumlin.</p>
<p>Torfaen County Borough Local Development Plan to 2021 (adopted 2013)⁷</p>	<p>Spatial Strategy outlines the importance of the A472 and A4042 between Cwmbran and Pontypool in achieving strategic development and of the A4051 in connecting these communities to the M4 without the need for tunnel use. Additionally, the Strategy states that “<i>opportunities to improve the efficiency and sustainability of the local transport network</i>” are welcomed, particularly public transport for northern connections corridors.</p> <p>SAA5 identifies that there is a land reclamation scheme for future development located adjacent to the Proposed Development site.</p> <p>LDP Objective 17 is to develop integrated and efficient transport infrastructure, public transport and communication networks which are accessible and attractive to all and encourage a reduction in private car use.</p> <p>Supporting Strategic Policy:</p> <p>S2(b), encouraging sustainable infrastructure and mode choice of transport;</p> <p>S4(c), ensuring that development location and layout integrates and contributes to local accessibility; and</p> <p>S8(d) planning obligations will be required for infrastructure management and improvement, including walking, cycling and public transport facilities.</p>

⁶ Caerphilly County Borough (2010) Caerphilly County Borough Local Development Plan up to 2021 (Online) Available at: [https://www.caerphilly.gov.uk/Business/Planning-and-building-control-for-business/Local-Development-Plan/Local-Development-Plan-2010-\(Adopted\)](https://www.caerphilly.gov.uk/Business/Planning-and-building-control-for-business/Local-Development-Plan/Local-Development-Plan-2010-(Adopted)) [Accessed November 2023].

⁷Torfaen County Borough Council, 2013. Torfaen County Borough Council Local Development Plan (to 2021). Online. Available at: <https://www.torfaen.gov.uk/en/PlanningAndDevelopment/Planningpolicy/LocalDevelopmentPlan/Local-Development-Plan.aspx> [Accessed November 2023].

Policy	Policy context
	<p>Supporting Borough Wide Policy: BW1 (General Policy - Development Proposal) Section E of which outlines favourable Design and Transport criteria for Development Proposals, covering road facility provision, traffic generation, promoting sustainable modes of transport, regard for road safety and regard for choosing the least environmentally damaging freight route wherever possible.</p> <p>Supporting Topic Based Policy: T1, outlines transport improvements for the local roads including the A4043 and B4246 T2, 1a. draws attention to the former railway lines crossing SAA5 that is to be protected for their potential transport use. T3, details the local walking and cycling routes that are safeguarded.</p>
<p>Blaenau Gwent County Borough Council (BGCBC) Local Development Plan up to 2021 (Adopted November 2012)⁸</p>	<p>Challenges 6, 8, 13: The following challenges in the local area include increasing accessibility through improvements to road corridors and encouraging sustainable transport through improvements to the transport network. Spatial Strategy Transport 5.11 this section details the need for transport improvements. SP6 This strategic policy covers accessibility including the acknowledgement of need to facilitate road freight movements but, also, the needs to encourage rail freight use. DM1 This policy covers expectations for new developments including the '<i>safe, effective and efficient use of the transportation network</i>' including that traffic utilises the appropriate routes on the network; that a travel plan and / or transport assessment outlining trip generation and assessing the development impact is provided. DM4 Outlines the expectations of development concerning low and zero carbon energy including the expectation of safe access without adverse impact on public rights of way.</p> <p>T1 Details expansion and improvements to the local cycle network. T6 Details improvements to local roads.</p>

Technical Guidance

12.2.4 A summary of the technical guidance for Traffic and Transport is given in **Table 12.2**.

Table Error! No text of specified style in document.2.2 **Technical guidance relevant to the Traffic and Transport assessment**

Technical guidance document	Context
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⁸Blaenau Gwent County Borough Council (2012) Local Development Plan up to 2021. (Online). Available at: <https://www.blaenau-gwent.gov.uk/en/resident/planning/local-development-plan/adopted-local-development-plan-2006-2021/adopted-ldp/> (Accessed November 2023)

Environmental Assessment of Traffic and Movement (EATM⁹) (Institute of Environmental Management and Assessment, 2023).

Provides the framework for assessment of road traffic on the environment. This framework has been utilised in this assessment.

12.3 Consultation and Engagement

Overview

12.3.1 The assessment will be informed by consultation responses and incoming stakeholder engagement. An overview of the approach to consultation is provided in **Section 2.4 of Chapter 2: Approach to preparing the Environmental Statement**.

Scoping Opinion

12.3.2 A Scoping Direction was issued by the Planning and Environment Decisions Wales (PEDW), on behalf of Welsh Ministers, on 15 June 2021. A summary of the relevant responses received in the Scoping Opinion in relation to Traffic and Transport and confirmation of how these have been addressed within the assessment to date is presented in **Table 12.3**.

Table Error! No text of specified style in document.2.3 Summary of EIA Scoping Direction responses for Traffic and Transport

Consultee	Consideration	How scoping response is addressed in this ES
Planning and Environment Decisions Wales (PEDW)	Data sources: It is not possible to comment on these paragraphs as there is an error.	The data source should have listed Google Earth / Google Maps as an online mapping source used for the creation of the Traffic and Transport Scoping Chapter.
	Abnormal Indivisible Loads: The applicant's attention is drawn to the comments made by the Welsh government Transport Division contained at Appendix 1 which outlines information regarding Abnormal Indivisible Loads and swept paths.	The AIL study is found in Appendix 12A . Swept Path Analysis of the preferred route was undertaken by Pell Frischman.

⁹ Institute of Environmental Management and Assessment, (2023). *Environmental Assessment of Traffic and Movement*. (online) Available at: [IEMA - New IEMA Guidance: Environmental Assessment of Traffic and Movement - July 2023](#) [Accessed November 2023].

Consultee	Consideration	How scoping response is addressed in this ES
	<p>Access widening: Should any paths or access roads need widening, these should be clearly identified within the ES, and should be incorporated into other studies being undertaken (e.g., ecology, hedgerows).</p>	<p>Noted. Proposed alteration required for the preferred AIL route have been identified in the AIL study prepared by Pell Frischman. Proposed mitigation measures related to construction routes have been outlined in the Draft CTMP found in Appendix 12B.</p>
	<p>Decommissioning: PEDW does not agree that the decommissioning of the site will not need to be included in the ES. The ES will need to clearly indicate which parts of the development will remain (e.g., access tracks) once the development has ceased. Alternatively, if the access tracks are to be returned to their previous state, this would need to be clearly and proportionately addressed in the ES.</p>	<p>All assumptions pertaining to traffic generation has been based on a worst-case scenario, which is anticipated to be during the peak period of the construction phase. The decommissioning phase is expected to generate significantly less traffic than the construction period with access tracks remaining in situ for use by the Landowner. Further details regarding the decommissioning phase are presented within Chapter 4: Description of the Development.</p>
	<p>CTMP: PEDW welcomes the fact that a Construction Traffic Management Plan (CTMP) will be provided as part of the EIA.</p>	<p>The Draft CTMP has been provided in Appendix 12B.</p>
	<p>Cumulative Impacts: Proximity to adjoining DNS case: The applicant's attention is drawn to the information available online for DNS application 3276725 Mynydd Maen, which is seeking to install up to 15 wind turbines on land adjoining this potential site. Any cumulative impacts study (e.g., visual) would need to take this scheme into account.</p>	<p>In the Scoping report for Mynydd Maen Wind farm (MMWF), the application uses the Port of Swansea, then A483> M4> A467> Old Pant Road> and Pant Road. Which constitutes similar local roads to the proposed construction movements for Trecelyn Wind farm. Cumulative assessment will consider MMWF traffic flows (when available) in Section 12.10.</p>
	<p>PRoW: The Applicant's attention is drawn to comments made by CCBC's PRoW Officers, and that additional consultation should be undertaken with other interested parties such as the Open Spaces Society. More</p>	<p>The PRoWs nearby the site are identified in Section 12.5, any mitigation required is addressed in the Draft CTMP in Appendix 12B. Assessment of significant effects identified in Section 12.11.</p>

Consultee	Consideration	How scoping response is addressed in this ES
<p>information is contained at Appendix 1 (of Scoping Response).</p>		
<p>Caerphilly County Borough Council (CCBC)</p>	<p>Assessment: For clarity, the following should be considered as part of the traffic and transport assessment:</p> <ul style="list-style-type: none"> ■ Impact on the local highway network during the construction phase; ■ Any short-term junction / highway mitigation to accommodate any abnormal loads; ■ Haul route to be fully considered and agreed; ■ Projected daily vehicle type and numbers; ■ Full access details into the site; ■ Swept path analysis of proposed largest vehicle using route and access; ■ Internal parking / loading and unloading areas; ■ Construction staff numbers; and ■ Provision of a construction traffic management plan. 	<p>Impact on the local highway network during the construction phase is addressed within this assessment (section 12.9)</p> <p>An ALL study has been developed (Appendix 12A) which identifies the preferred route to site for ALL deliveries. The study also provides an overview of mitigation requirements identified by Swept Path Analysis.</p> <p>A CTMP has been prepared for this submission and is provided within Appendix 12B. The CTMP provides details of construction traffic generation and routeing, mitigation proposed to consider the impacts of ALL and general construction traffic and outline detail regarding site access.</p>
<p>Assessment: Focus on construction phase is broadly acceptable, however the potential impacts of the operational and decommissioning phases of the development will also need to be addressed.</p>		
<p>PRoWs: Consideration will also need to be given to how the construction, maintenance and decommissioning phases could directly affect the PRoW network. If the proposal is likely to directly affect a PRoW, consideration should be given to whether the DNS</p>	<p>The PRoWs nearby the site are identified in Section 12.5, any mitigation required is addressed in the CTMP in Appendix 12B. Assessment of significant effects identified in Section 12.11.</p>	

Consultee	Consideration	How scoping response is addressed in this ES
	<p>application needs to include any secondary consent for the diversion of a PRow along with the planning application. In addition, it is advised that the applicant/developer consults the British Horse Society, the Open Spaces Society, the Ramblers and the Green Lane Association in respect of these matters.</p>	
<p>Transport Directorate of the Welsh Government</p>	<p>AIL: Detail needs to be provided to prove access for transporting AILs is achievable from the point of entry to the Welsh trunk road network to the site, that minimises any impact on the safety and free flow of trunk road traffic. Please supply swept paths of the worst case AILs at all potential horizontal and vertical constraints along the access route as well as the likely traveling weights and dimensions of AILs. Refer to:</p> <p>“Pulling Together” – Best Practice for Transporting Abnormal Loads in Wales - Procedures and Advice Guidance (PAG) document.</p>	<p>Swept Path Analysis of the preferred route has been undertaken by Pell Frischman and is appended to the AIL Study provided in Appendix 12A.</p>
	<p>Structural Assessment: No on-site development works shall be undertaken until:</p> <ul style="list-style-type: none"> ■ an assessment of the capacity and impact on all structures along those parts of the highway network which shall be utilised during the construction of the development including bridges, culverts, retaining walls, embankments, and ■ details of any improvement work required to such structures as a result of construction of the development <p>have been submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road</p>	<p>Noted. Any works required are detailed in the AIL and CTMP Study found in Appendix 12A and 12B respectively.</p>

Consultee	Consideration	How scoping response is addressed in this ES
	<p>highway authority or other relevant highway authority (as appropriate). The required improvement works identified in the assessment shall be completed prior to the commencement of any Abnormal Indivisible Load (AIL) deliveries to the development site.</p>	
	<p>Condition Surveys: Condition surveys of all highway features along those parts of the highway network which shall be utilised during the construction of the development shall be undertaken prior to, during and on completion of the construction phase of the development. The survey reports shall be submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) within 28 days of the surveys.</p>	Noted.
	<p>Traffic Management Plan: AILs associated with the development shall be delivered strictly in accordance with a Traffic Management Plan (TMP) as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of any works. The TMP shall include:</p> <ul style="list-style-type: none"> ■ proposals for transporting AILs from their point of entry to the Welsh trunk road network to the site that minimise any impact on the safety and free flow of trunk road traffic; ■ evidence of trial runs that mimic the movement of the worst case AILs along the access route where 	<p>An AIL study has been developed (Appendix 12A) which identifies the preferred route to site for AIL deliveries. The study also provides an overview of mitigation requirements identified by Swept Path Analysis.</p> <p>A draft CTMP has been prepared for this submission and is provided within Appendix 12B. The draft CTMP provides details of construction traffic generation and routeing, mitigation proposed to consider the impacts of AIL and general construction traffic and outline detail regarding site access.</p> <p>A trail run has not yet been undertaken but will be arranged once a haulier is appointed. Appropriate Highways Authorities will be consulted prior to the trail run being undertaken.</p>

Consultee	Consideration	How scoping response is addressed in this ES
	<p>appropriate, at the discretion of the Highway Authority;</p> <ul style="list-style-type: none"> ■ number and size of AILs, including loaded dimensions and weights; ■ number and composition of AIL convoys, including anticipated escort arrangements; ■ methodology for managing trunk road traffic during AIL deliveries, including identification of passing places and holding areas as necessary; ■ convoy contingency plans in the event of incidents or emergencies; ■ estimated convoy journey durations and timings along the route, including release of forecast traffic queues; ■ swept path analysis modelling the movement of the worst case AILs at all potential horizontal and vertical constraints along the access route where appropriate, at the discretion of the Highway Authority; ■ proposals for the temporary or permanent modification of any affected street furniture along the access route and details of how this would be managed; ■ plans for the reinstatement of any temporary works after completion of the construction phase; ■ land ownership must be clarified on all drawings showing proposed highway modifications. The developer shall be responsible for the acquisition and reinstatement of all third-party land including re-instatement of boundary features; ■ proposals to liaise with all relevant stakeholders and members of the public regarding construction traffic and AIL movements; ■ consideration of the cumulative impact of other abnormal load generating schemes proposing to use all or part of the same access route; 	

Consultee	Consideration	How scoping response is addressed in this ES
	<ul style="list-style-type: none"> ■ the appointment and role of a transport coordinator to administer the abnormal indivisible load delivery strategy; ■ means of control of timing of delivery of AIL movements; ■ temporary traffic diversions and traffic hold points ■ details of banksmen and escorts for abnormal loads ■ management and maintenance of layover areas, junctions, passing places, public rights of way and welfare facilities while AIL deliveries take place; ■ details of temporary signage, and; ■ details of any alterations to any works that are carried out to enable AIL movements. <p>AILs associated with the maintenance and decommissioning of the development shall leave the site strictly in accordance with a TMP as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of any removal, replacement or decommissioning works.</p>	
	<p>Highway Works: No development works shall be undertaken until full details of any highway works associated with the construction of layover areas, passing places and highway improvements as agreed with each relevant highway authority including:</p> <ul style="list-style-type: none"> ■ the detailed design of any works ■ geometric layout ■ construction methods ■ drainage, and ■ street lighting 	<p>Noted. Once a haulier is appointed a trial run will confirm the highway works which will be required to accommodate AIL deliveries.</p>

Consultee	Consideration	How scoping response is addressed in this ES
	<p>have been submitted to and approved in writing by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate). The highway works shall be completed in accordance with the approved details prior to the commencement of any AIL deliveries to the development site.</p> <p>No development works shall be undertaken until the developer demonstrates rights of access to all proposed works that are not part of the highway network to the satisfaction of the local planning authority.</p>	
	<p>Road Safety Audit (RSA): The applicant shall undertake a Road Safety Audit of the scheme (Stages 1 – 4) in accordance with the Design Manual for Roads and Bridges GG 119. The applicant shall agree the required measures with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of works on site.</p>	Noted.
<p>Torfaen County Borough Council (TCBC)</p>	No Response.	n/a
<p>Blaenau Gwent County Borough Council (BGCBC)</p>	No response	n/a

Technical Engagement

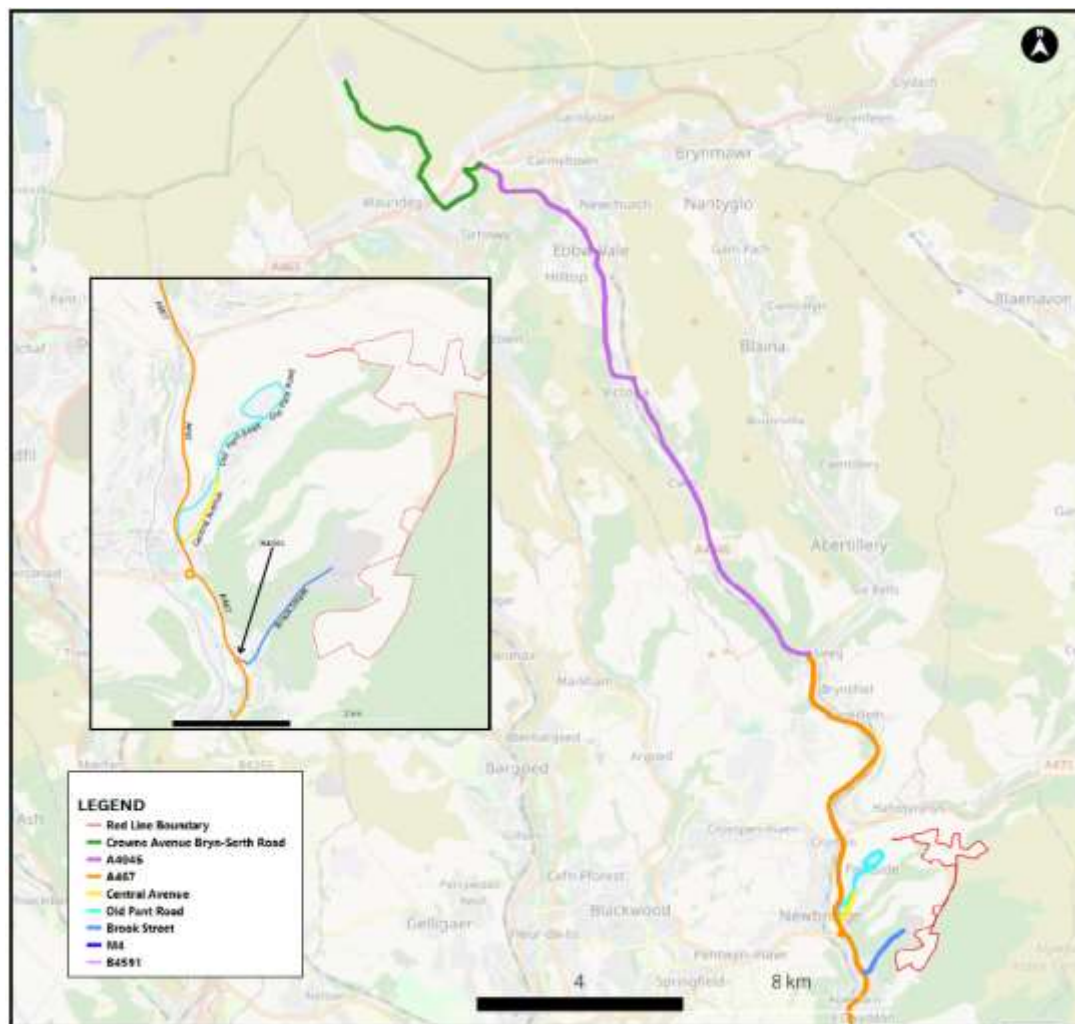
12.3.3 The Draft Environmental Statement has been prepared for the statutory consultation process through November 2023. The process will provide an opportunity for stakeholders to provide comments on this assessment and supporting Abnormal Indivisible Load access study and Construction Traffic Management Plan. Comments provided will be considered and actioned where appropriate for the submission of the final Environmental Statement.

12.4 Data gathering methodology

Study area

12.4.1 The full extent of the Study area reviewed is shown below in **Plan 12-1**.

Plan 12-1 Study Area



12.4.2 The study area above has been reviewed and narrowed down for the purposes of assessment and includes roads which are anticipated to be used during the construction, operation and decommissioning of the Proposed Development. For the purposes of assessment, this includes the roads which are set out below.

- A467;
- A4046;
- Central Avenue;
- Old Pant Road; and
- An Unclassified Road.

12.4.3 This study area has been defined as a result of a route scoping process. Previously there were 5 other routes considered to access the site, however four of these routes have now been scoped out due to client preference. The following section discusses the scoping process.

ROUTE OPTIONS FOR CONSTRUCTION HGV'S

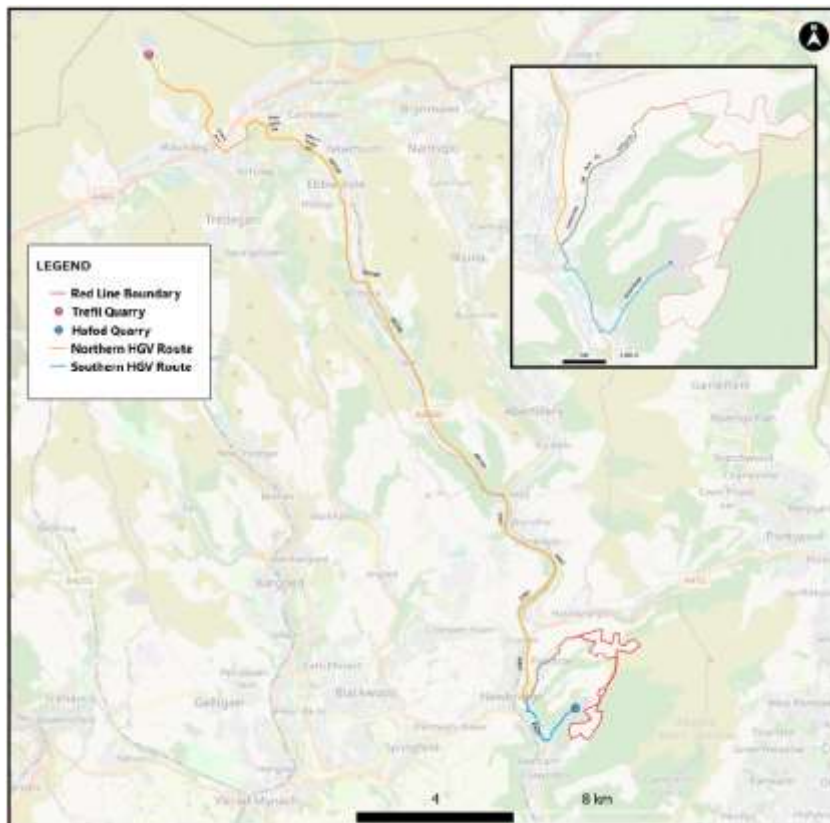
12.4.4 As stated in **Chapter 4**, it is expected that stone for the Proposed Development would be delivered from quarries and batching plants in the local area.

12.4.5 As stated in **Chapter 4: Description of the Proposed Development**, it is anticipated that stone will be imported from one, two or more of these existing quarries identified below:

- ▶ Route 1: Hafod Quarry, Abercarn, Newbridge; and
- ▶ Route 2: Gryphonn Quarry, Trefil, Tredegar.

12.4.6 For purposes of assessment this ES assumes that 50% of aggregate will be sourced from Hafod Quarry and 50% of aggregate will be sourced from Gryphon Quarry at Trefil. The routes from the quarries to the site is shown in **Plan 12-2**.

Plan 12-2 Quarry Locations and Routing Options



12.4.7 **Sections 12.5.5 to Error!** Reference source not found. describe the key local roads that form part of the Study Area.

12.4.8 A similar scoping process has been outlined below for the AIL routing.

ROUTE OPTIONS FOR ABNORMAL INDIVISIBLE LOADS

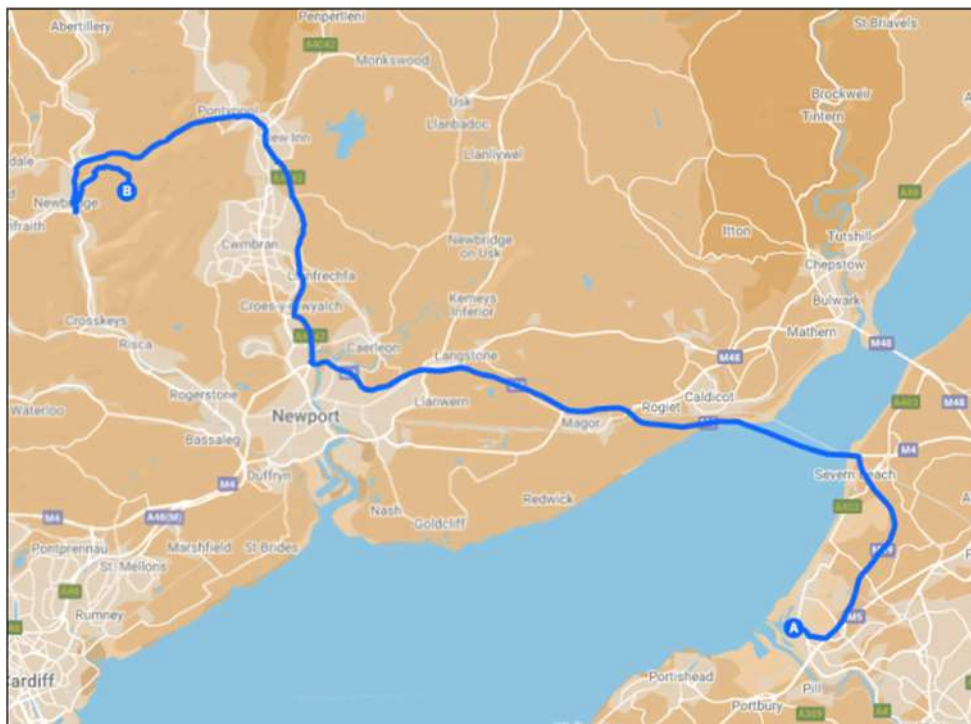
12.4.9 At this stage, there are two potential ports to the Site. Firstly, the Port of Swansea to the West and secondly, at Avonmouth, west of Bristol. Both Ports are known for receiving wind turbine blades and both are well connected to the Strategic Road Network (SRN). There are currently 2 routes considered:

- ▶ **Route Option 1** – Routing on the A467 northbound via the M4 from the south.
- ▶ **Route Option 2** – Routing on the A472 via the A4042, M4 and M49 from the east.

12.4.10 The AIL Access Study (**Appendix 12A**) identified Route Option 2 from Avonmouth as the preferred route for AIL deliveries. The route is set out in **Plan 12-3**:

- **Route Option 2:** Avonmouth Port > M49 > M4 > A4042 > A472 > A467 > Central Avenue > Old Pant Road > Unclassified Road > Site Access.

Plan 12-3 Quarry Locations and Routing Options



Source: Abnormal Indivisible Load Route Survey Report, 2023

12.4.11 The AIL Access Study **Appendix 12A** discusses the routing selection and key local roads that form part of the AIL Study Area in further detail.

SITE ACCESS

- 12.4.12 Access to the Proposed Development is expected to be taken from an Unclassified Road which routes north/south through the Site. It is envisaged that four access points will be provided at locations adjacent to proposed infrastructure.
- 12.4.13 Access 1 will provide access to the proposed substation site, while accesses 2, 3 and 4 will provide access to Wind Turbine Generators 1, 2, and 3+4 respectively.
- 12.4.14 Further details regarding site access are provided within the Construction Traffic Management Plan (**Appendix 12B**).

Desk Study

- 12.4.15 The sources of information used for the Traffic and Transport assessment are listed below in **Table 12.4**.

Table Error! No text of specified style in document.2.4 Data sources used to inform the Traffic and Transport assessment

Organisation	Data source	Data provided
Department for Transport (DfT)	Road traffic statistics ¹⁰	Baseline traffic data of the roads within study area
Agilysis	CrashMap Pro ¹¹	Personal Injury Accident data
Google	Google Traffic ¹²	Indication of traffic conditions on the road network
Google	Google Street View ¹²	Desk study
Stagecoach Bus and Traveline	Stagecoach Bus Timetables ¹³ Traveline ¹⁴	Bus Timetable Information
National Rail and Trainline	National Rail ¹⁵ Trainline ¹⁶	Rail Timetable Information

¹⁰ Department for Transport. (2022). *Road Traffic Statistics*. (Online) Available at: <https://roadtraffic.dft.gov.uk/#10/51.1974/0.7423/basemap-localauthorities-countpoints> [Accessed November 2023].

¹¹ Crashmap. (2023). *Crash maps*. (Online) Available at: <https://www.crashmap.co.uk/> [Accessed November 2023].

¹² Google. (2023). *Google maps*. (Online) Available at: <https://maps.google.com/> [Accessed November 2023].

¹³ Stagecoachbus.com, (2023). *Bus Times & Timetables*. Available at: [Live Bus Times & Timetables | Stagecoach \(stagecoachbus.com\)](https://www.stagecoachbus.com/live-bus-times-timetables) [Accessed November 2023].

¹⁴ Traveline, (2023). *Public Transport Information*. Available at: [Traveline Scotland |](https://www.traveline.co.uk/) [Accessed November 2023].

¹⁵ National Rail, (2023). *National Maps*. Available at: [Maps of the National Rail Network | National Rail](https://www.nationalrail.gov.uk/maps) [Accessed November 2023].

¹⁶ Trainline, (2023). *Stations – Newbridge*. Available at: [Newbridge Station | Trains to Newbridge | Trainline \(thetrainline.com\)](https://www.thetrainline.com/newbridge) [Accessed November 2023].

Organisation	Data source	Data provided
Sustrans	South East Wales NCN ¹⁷	The National Cycle Network in Wales

Survey Work

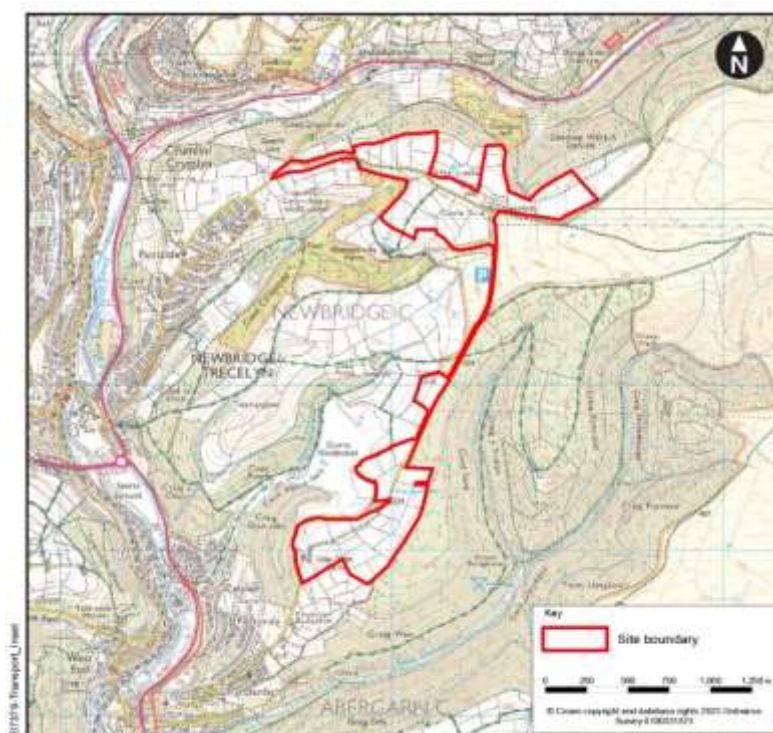
12.4.16 No survey works associated with the traffic and transport assessment for wind farm development have been undertaken.

12.5 Baseline Conditions

Current baseline

12.5.1 The Proposed Development Site Boundary is illustrated in **Plan 12-4**..

Plan 12-4 Site Boundary



12.5.2 The Site is located on the upper slopes (between approximately 340m and 400m AOD) of ridges that extend to the west and south-west of the massif formed by Mynydd Llwyd, Mynydd Twyn-glas and Mynydd Maen. The southern and central parts of the Site are separated from Mynydd Maen, to the east, by the deeply incised and afforested valleys of Nant Gwyddon, which also extends to the immediate south of the Site before joining the Ebbw River at Abercarn.

12.5.3 To the north, the Site is separated from the Cefn Crib/Mynydd Llanhilleth massif by Cwm y Glyn, which runs eastward toward Pontypool, and by the valley of a minor tributary of the Ebbw River to the west. To the west of the Site, several

¹⁷ Sustrans, (2023). *South-East Wales National Cycle Network*. Available at: [Find a route on the National Cycle Network - Sustrans.org.uk](https://www.sustrans.org.uk) [Accessed November 2023].

tributaries of the Ebbw River have created a complex of ridges and valleys that reduce in elevation westward toward the valley of the Ebbw River. The most southerly of these, adjacent to the southern and central parts of the Site, is the steep-sided Cwm Hafod-fach, the northern end of which is occupied by the Hafod sandstone quarry. The northern part of the Site extends westward as far as the much more open valley of Nant Gawni.

- 12.5.4 There are several residential properties within or within close proximity to the Site. Glan Shon Farm is located within the southern part of the Site and Cil-lonydd is located approximately 300m to the west of the central part of the Site. In relation to the northern part of the Site, Pen-y-Caeau farmstead is located to the immediate north, Blaengwrney Farm to the immediate south and Cefn-rhos-y-bedd-uchaf approximately 300m to the west. The nearest settlements to the Site are Hafodyrynys approximately 400m to the north, Pantside and Swffryd Bronawelon approximately 700m to the north-west and west respectively, the northern and eastern parts of Abercarn (Llanfach, Persondy, Celynen and High Meadow) between approximately 450m and 900m to the south-west. Other parts of Abercarn and parts of Newbridge/Trecelyn and Crumlin are all located in the Ebbw valley within 2km to the west of the site.

Local Road Network

- 12.5.5 The Local Road Network is illustrated in **Plan 12-1** and described below.

A4046

- 12.5.6 The A4046 is a single-carriageway road. The A4046 has a north-west/south-east orientation, and it passes through multiple settlements to the north of the Site including Cwm, Waun-Lwyd and Ebbw Vale. It forms a roundabout junction with the A467/B4471 at its southern extent. This is a key road for accessing the A465 to north and M4 to south. The A4046 operates under the national speed limit in the vicinity of the site access. Routing north of the Site the speed limit varies (30mph/40mph/60mph).
- 12.5.7 There are no footways or street lighting provided on the A4046 in the vicinity of the Site access. However, footways and street lighting are in place further north towards Cwm, Waun-Lwyd and Ebbw Vale. Through Waun-Lwyd and Ebbw Vale there are signalised pedestrian crossings and multiple bus stops in place along the A4046.

A467

- 12.5.8 Within the scope of assessment, the A467 routes in a north/south alignment between Junction 28 of the M4 and the A467/A472 junction at Crumlin. The road is a dual carriageway between Junction 28 of the M4 and the A467/B4251 junction at Crosskeys and is a single carriageway for the remaining route through Abercarn, Newbridge and Crumlin to the A472 junction. The road is subject to various speed limits along its route but is predominantly subject to the National speed limit along the dual carriageway section. The speed limit on the single carriageway section is reduced to 30mph as the A467 enters Crumlin.
- 12.5.9 The A467 is a single-carriageway road within the study area. The A467 routes from the roundabout junction A467/A4046/Aberbeeg Road/B471 in Aberbeeg to the junction A467/A472 after which point it continues routing southbound to the M4 Junction 28. The A467 passes to the east of the settlement of Crumlin at its junction with the A472. At its northern extent, the speed limit is 30mph. The speed limit changes to the national speed limit approximately 90m south of the

A467/A4046/Aberbeeg Road/B471 junction. The speed limit reduces to 30mph on entering Crumlin, approximately 320m north of the A467/A472 junction.

- 12.5.10 Footways are provided on both sides of the carriageway from the A467/A4046/Aberbeeg Road/B471 roundabout routing southwards only until a point where the speed limit changes to the national speed limit. From this point there is regular street lighting and a pedestrian bridge over the carriageway approximately 800m south from the A467/A4046/Aberbeeg Road/B471 roundabout. After this point there is footway located on the west side of the carriageway.

Brook Street

- 12.5.11 Brook Street is a single-track unmarked road that served as an access to Hafod Quarry and as a PRow, the northern extent of the road is used exclusively by the Quarry operator. Several Restricted Byways are accessed by Brook Street and wayfinding signs positioned at the left-hand side of the carriageway indicate access to RBW: 339, 338, 328, and 325. At its southern extent Brook Street has traffic calming signs indicating children's movements and a 30mph speed limit.
- 12.5.12 For the majority of the route there are no footways along this street and industrial land use along its length.

Central Avenue

- 12.5.13 Central Avenue is a single carriageway road approximately 6m wide, subject to a 30mph speed limit and approximately 620m long in a south to north alignment from A467/Central Avenue junction to Central Avenue/ Old Pant Road roundabout. There is streetlighting and footways on both sides of the road. For the majority of its route, Central Avenue is fronted by residential properties on either side of the road accessed through dropped kerb driveways and private accesses. There are buildouts at sections along the road and on street-parking provisions. There are two southbound bus stops are provided approximately 70 meters and 265m from A467 Pant Road/ Central Avenue junction.

Old Pant Road

- 12.5.14 Old Pant is a single carriageway road which is approximately 6m in width. The road routes between the site access and Central Avenue in a northeast/southwest alignment. Between the site access and residential properties at Panside, the road is subject to the National Speed Limit. Where Old Pant Road passes through residential sections of road through Panside to Central Avenue the road is subject to a 30-mph speed limit.
- 12.5.15 Throughout the residential section of Old Pant Road streetlighting is provided and footways are located on both sides of the carriageway. Residential properties and driveways front onto the road and bus stops are located intermittently along the road. A short section of Old Pant Road routes along the eastern boundary of Panside Primary School, this section is subject to a 20-mph speed limit and traffic calming measures are provided within the carriageway including speed humps and a buildout with priority control of traffic.

Unclassified Road

- 12.5.16 The Unclassified Road included within the scope of this assessment includes a section of highway between Old Pant Road and a potential access to WTGs 3 and 4. The road is subject to the National Speed limit and is rural in nature. The carriageway width is typically 3m wide and constraints including hedgerow and dry-stone walling are located in proximity to the edge of the carriageway at

various sections of the road. A cattle grid is located adjacent to an agricultural property.

Strategic Road Network

12.5.17 The Strategic Road Network (SRN) comprises the routes of national strategic importance (motorways and trunk roads), which are operated and maintained by South Wales Trunk Road Agency in the vicinity of the Site and by National Highways on the potential route from Avonmouth Dock.

12.5.18 The A4042 and M4 are the strategic roads in the vicinity of the Site, and within Wales are maintained by the South Wales Trunk Road Agency. Within England, the M4 and M49 are strategic roads on the potential route from Avonmouth Dock and are maintained by National Highways

12.5.19 The M4 is a long-distance route between Swansea and London and the M49 is a strategic link between Avonmouth Dock and the M4 at Piling Interchange. The A4042 provides a north-south connection between Newport and the A465 Heads of Valleys Road.

Pedestrian and Cycling Provision

Pedestrian

12.5.20 Footpaths are present both side of Central Avenue between the T-junction with A467 and Old Pant Road Roundabout. On Old Pant Road footways are present at the southern extent of the route on either one side or both sides of the carriageway, as the route bends to the west and back to the east. The only other footway provision is along the A4046, where footways and street lighting are in place further north towards Cwm, Waun-Lwyd and Ebbw Vale. Through Waun-Lwyd and Ebbw Vale there are signalised pedestrian crossings and multiple bus stops in place along the A4046. Additionally, some sections of the A467 within the urban areas of Newbridge in the vicinity of the site provide footway one side of the carriageway.

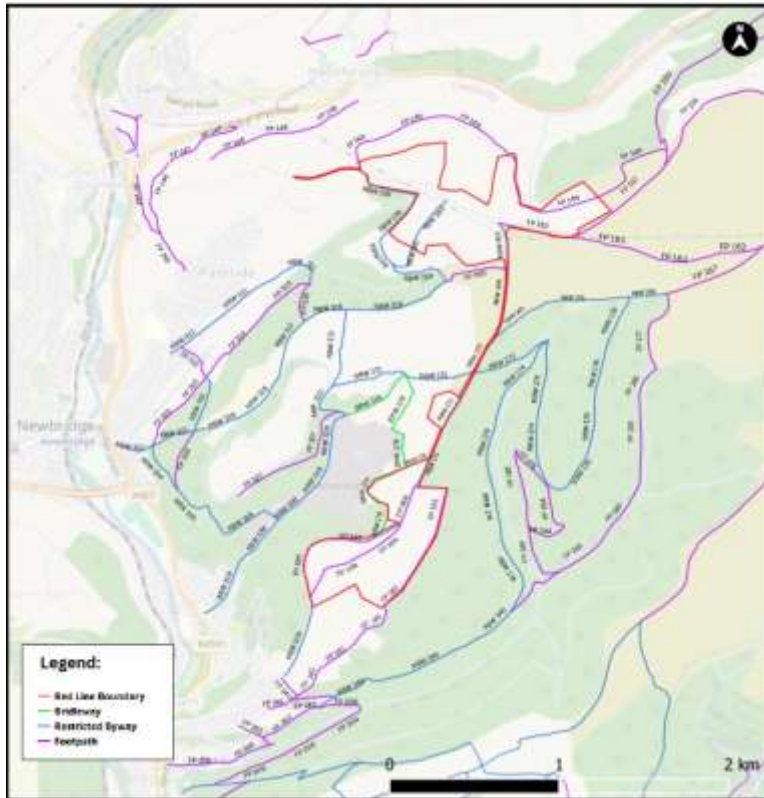
Cycle

12.5.21 There is no known cycle infrastructure near the site. However, on the A4046 at Ebbw Vale Sports Centre there is an intersection with cycle lanes at the intersection only. This intersection is approximate 12 km from the Proposed Site Access.

Public Rights of Way (PRoW)

12.5.22 **Plan 12-5** shows that there are numerous PRoWs across the Site including Footpaths (FP), Bridleways (BRW) and Restricted Byways (RBW). Below is a summary of the PRoW and their location related to the Site.

Plan 12-5 Public Rights of Way



RBW:

- RBW 171- runs between midpoint of Site on internal road south to hedgerow within southern parcel across from treeline edge.
- RBW 180 – runs between FP 333 and FP 388 and FP 334, within southern parcel on internal road.
- RBW 169 – joins Site boundary from internal access road between northern and central parcels heading east.
- RBW 173- forms a crossroad with RBW route 172, joining Site boundary above central parcel heading east.
- RBW 72 – forms a crossroad with RBW route 173, joining Site boundary above central parcel heading west.
- RBW 366 - forms junction with RBW route 170 between northern and central parcels heading north forming junction with FP 365. The route beings again at the southern portion of the southern parcel on internal road heading south.
- RBW 161 – begins at the juncture of FP365 and RBW route 170 heading north until reaching juncture with FP 162.
- RBW 160 - forms eastern portion of U-shaped route across northern parcel.
- RBW 158 – forms Western portion of U-shaped route following western Red Line Boundary of the northern parcel from access path on southern side of carriageway and joining RBW route 160 in the south.
- RBW 336 – begins at the juncture of FP 335 and FP 334 on the western edge of southern parcel southbound to reach Cemetery Road in Llanfach.

FP:

- FP 149 – runs along northern parcel boundary, from north-west to north-east, crossing over the northern parcel where WTG 1 is positioned.
- FP 157 – runs along northern parcel in east, south of WTG 1 towards the internal track running east to west.
- FP 162 – from the juncture of FP 157 runs east to west along internal track of northern parcel.
- FP 365 runs between RBW 366 and RBW 161 and RBW 159 heading west away from access track.
- FP 388 – runs north to south at RBW 180 within southern parcel from hedgerow across from treeline edge and FP 181.
- FP 181 – runs from Treeline edge on eastern boundary of southern parcel, along the boundary southbound to FP 340 out with study area.
- FP 334 – begins in southern parcel at juncture of RBW 180 with FP 388 southbound across fields and a property to join FP 355.
- FP 333 – begins at the juncture of RBW 180 and BRW 179 westbound via internal access track meeting FP 335 on the bend in the track.
- FP 335 – begins on internal access track continuing from FP 333 southbound to meet FP 334 and RBW 336.

BRW:

- BRW 179 – begins at the juncture of RBW 180 and FP 333 northbound along the eastern and northern edges of Hafod Quarry and southern parcel to meet RBW 328 towards Lower Brook Street in Abercarn. The BRW also forms a junction with RBW 171 along the internal access track.

Activity

12.5.23 Heatmaps provided by Strava.com identifies that the surrounding roads and tracks of the Site are used for walking, running, cycling and equestrian use. This data is presented below in **Plan 12-6**, where the heatmap shows 'heat' made by aggregated, public activities of Strava.com users over the last year 2022-2023. White represents a heavily used route and purple – a route in use where there isn't as much activity.

Plan 12-6 Outdoor Access Activity Heatmap



12.5.24 As shown in **Plan 12-6**, and whilst there are many PRow across the site, there is only some activity across the farm access track running through the site in northeast to southwest direction towards Abercarn, and in particular the northwest to north-east of the site across the Site Access location and connecting PRow.

Car Parks

12.5.25 The Site currently has no car parking nearby the Site. The nearest parking available is at Newbridge Train station where there are approximately 58 standards spaces and 3 blue badge parking spaces. Google arial view suggests an occupancy of 57%.

12.5.26 Bus services that route nearby the station are the 95 A, B, and C, the 151, and the 5 which routes directly 400m south of the Site access.

Public Transport Access

Bus Access

12.5.27 There are several Bus services that use the roads mentioned in the local road network Section are summarised below in **Table 12.5**.

Table 12.5 Bus Service Summary

Service	Operator	Route	Approximate Service Frequency		
			Weekday	Saturday	Sunday
95 A, B, C	Stagecoach	Aberbeeg Square – Llanhilleth – Newbridge School	Passing Newbridge at 08:20 and 14:45.	Not operational	Not operational
5	Stagecoach	Pantside – Newbridge Coop – Martins Field – Crumlin – Byron Place – Oakdale - Blackwood	Passing through Central Avenue 1-2 times per hour between 07:00 and 17:38 then once every 2 hours until 21:00.	Passing through Central Avenue 1-2 times per hour between 07:00 and 17:38 then 1 time every 2 hours until 21:00.	Not operational
X15	Stagecoach	Brynmawr - Abertillery - Swffrydd - Newbridge - Rogerstone - Newport	Passing Newbridge once per hour between 07:00 and 15:00 then 1-2 times per hour until 18:00.	Passing Newbridge once per hour between 08:00 and 18:00 then 1-2 times every 2 hours until 23:20.	Passing Newbridge once per hour between 10:47 and 19:47.
151	Stagecoach	Blackwood to Newbridge, Risca and Newport	Passing Newbridge 3-4 times per hour between 5:41 and 18:52, then once per hour until 23:00.	Passing Newbridge 2-4 times per hour between 05:41 and 18:31, then once per hour until 23:00.	Passing Newbridge once per hour between 08:11 and 22:50.

Source: <https://www.stagecoachbus.com/>

12.5.28 The nearest bus service to the Site is at Pen-y-Caeau Court on Old Pant Road. This bus stop offers one service (Number 5 by Stagecoach). Two other wider services can be accessed on the main road through Newbridge at Pantside Cottages, and the X15 specifically can be accessed at Crumlin which routes to the Site Access via the main forestry track up Mynydd Maen.

Rail Access

12.5.29 The nearest railway station is Newbridge Station, situated 1.9km southwest from the western most part of the site. The Station is accessed via Bridge Street next to Newbridge School west of the A467 and accessed via the A467/A472 roundabout south of Central Avenue.

12.5.30 Newbridge Station is part of the Ebbw Vale Line (a single-track railway) which connects Cardiff Central with Ebbw Vale Town and Newport. The station services the Transport for Wales (AW) service on the 128 timetable which schedules 1 train in each direction per hour from 06:56am until 11:44pm.

12.5.31 Rail access for construction traffic is scoped out due to the highly urban nature of the rail station which next to a primary school, and the complexity of meeting aggregate demands on a single track with conflicting service provision.

Traffic Flows

12.5.32 The assessment of likely significant effects requires a comparison to be made between the likely environmental conditions in the presence of the Proposed Development and baseline situation.

12.5.33 Baseline traffic flow data has been established using publicly available traffic counts published by the Department for Transport (DfT). These counts detail the annual average daily traffic (AADT) (24-hour), and the proportion of HGVs and other types of vehicles, at appropriate locations on each road within the study area.

12.5.34 A factor has been applied to this count to reduce the AADT 24-hour flow to a 12-hour traffic flow to coincide with the typical 12-hour working days as it is assumed that construction will take place between 07:00 to 19:00 hours. The factor was derived from Table TRA0308: '*Traffic distribution on all roads by time of day and day of the week, for selected vehicle types in Great Britain*'¹⁸ for the latest data available, 2022.

Table 12.6 2019 baseline traffic flow 12hr (two-way)

<i>Road Link Name, Count ID and (location)</i>	<i>Light Vehicles</i>	<i>HGVs</i>	<i>Total</i>
A4046, Count ID: 86052, (Ebbw Vale) - (North of Central Avenue)	12768	155	12923
A467, Count ID: 73077, (Swffryd) - (North of Central Avenue)	10685	354	11039
A467, Count ID: 78421, (Pantside) - (South of Central Avenue)	16522	625	17147

Source: Department for Transport

Personal Injury Audit (PIA)

12.5.35 Records of personal injury accidents (PIAs) have been obtained from the CrashMap database (<https://www.crashmap.co.uk>) which uses information collected from the Police. This data is approved by the National Statistics Authority and reported on by the Department for Transport (DfT) each year.

12.5.36 Records have been obtained over a five-year period between 2017 and 2021.

12.5.37 The impact of casualties differs according to the severity of the injuries sustained. Three groups are usually differentiated as follows:

- Fatal: any death that occurs within 30 days from causes arising out of an accident;

¹⁸ Department for Transport, (2023). [TRA0308: Traffic distribution on all roads by time of day and day of the week, for selected vehicle types in Great Britain, annual from 2006](#) [Accessed 18th October 2023].

- Serious: casualties who require hospital treatment and have lasting injuries, but who do not die within 30 days of an accident; and
- Slight: where casualties have injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.

12.5.38 The accident data for Route Option 1 to Hafod Quarry is summarised within **Table 12.7** below and for construction traffic Route Option 2 to Trefil Quarry is summarised in **Table 12.8**. Full accident spatial data and records are presented in **Appendix 12C**.

Table Error! No text of specified style in document.2.7 Route Option 1 (Southbound to Hafod Quarry)

Direction/Junction/Link	Slight	Serious	Fatal	Total	Accident Rate Per Annum	Vulnerable Road Users	Accidents Per Km	Approximate Link Length (km)	PIA per Annum per million vehicle km	Estimated AAYT for Link	Annual PIA Rate per Million Veh KM	National Average RAS10002
From DfT ID: 78421 to Hafod Quarry.	6	1	0	7	1.4	1	4.5	1.56	12	7807350	0.11	0.42
Total	6	1	0	7	1.4	1	4.5	1.56	-	-	-	-

Table 12.8 Route Option 2 (Northbound to Trefil)

Direction/Junction/Link	Slight	Serious	Fatal	Total	Accident Rate Per Annum	Vulnerable Road Users	Accidents Per Km	Approximate Link Length (km)	PIA per Annum per million vehicle km	Estimated AAYT for Link	Annual PIA Rate per Million Veh KM	National Average RAS10002
From Trefil Quarry to DfT ID: 88075, (Rhyd Y Blew)	2	0	0	2	0.4	0	0.3	5.86	14	2340380	0.03	0.33
From DfT ID: 88075, (Rhyd Y Blew) to 20622, (Ebbw Vale Cemetary)	10	0	0	10	2	1	11.5	0.87	3	3886155	0.59	0.33
From DfT ID: 20622, (Ebbw Vale Cemetary) to 86052, (Ebbw Vale)	4	1	0	5	1	1	4.5	1.1	6	5862265	0.16	0.42
From DfT ID: 86052, (Ebbw Vale) to 564, (Brynithel)	11	12	2	25	5	7	1.9	12.9	76	5862265	0.07	0.42
From DfT ID: 564, (Brynithel) to 73077, (Swffryd)	0	0	0	0	0	0	0.0	0.92	5	5022035	0.00	0.19

From DfT ID: 73077, (Swffryd) to 30578, (Newbridge)	8	2	0	10	2	1	5.7	1.75	9	5022035	0.23	0.42
From DfT ID: 30578, (Newbridge) to Site Access	5	1	0	6	1.2	2	2.3	2.64	20	7729970	0.06	0.42
Total	40	16	2	58	11.6	12	2.2	26.04				

Route Option 1 Analysis (Southbound to Hafod)

12.5.39 The southern route contains 7 accidents total with 1 serious (14%) and the rest slight. There is 1 accident occurring with a vulnerable road user, a cyclist at the A472/A467 roundabout with Bridge Street, the accident occurred in 2017. 2 of the 7 accidents occurred in wet road conditions (1 serious) and 3 out of the 7 occurred in darkness (including 1 serious). All but 2 slight accidents occurred at roundabout junctions along route. 4 accidents involved young car drivers (all but one was slight).

Route Option 2 Analysis (Northbound to Trefil)

12.5.40 There are 3 out of 59 accidents with pedestrians, which are all serious of nature, including 1 child casualty which took place during a pedestrian phase at Ebbw Vale McDonalds at a junction with The Walk/A4046. 2 out of 3 of the pedestrian accidents occurred in darkness. All 3 occurred at crossings, 1 accident occurred at a pelican style crossing, another at a signalised pedestrian junction and the other at a central refuge island crossing.

12.5.41 There were 6 out of 59 accidents with children (or 10%), 4 were serious in nature occurred in 2017, 2019 and 2 occurred in 2021. These accidents took place in daylight (apart from 1) and 4 out of the 6 took place at junctions at between 30-40mph speed restrictions in place. Again 4 out of 6 were under good road conditions, the carriageway was not wet, nor did it have a hazard in it. All accidents were with cars only and took place between Autumn/Winter months of August until March. 1 slight accident took place in 2018 where a car was involved with a child cyclist casualty at the A467/A472 junction with signal control, during a pedestrian phase. Another accident involving a child casualty took place during a pedestrian phase at Ebbw Vale McDonalds at a junction with The Walk/A4046.

12.5.42 4 out of 59 accidents that took place (7%), involved cyclists, and in all accidents, the cyclist was the only person injured each time. 2 out of the 4 accidents were serious in nature in 2017 and 2019, both at junctions and both on the A467 at 30mph and 50mph respectively. The 2017 accident took place in darkness, with streetlights unlit at the Abercarn A4046/A467 roundabout junction in good road conditions, and the 2019 accident was at 50mph on single carriageway 300m north of A467 junction with Glandwr Industrial Estate along the Ebbw River and was in conjunction with a goods vehicle.

12.5.43 It is observed that accidents occurred mostly in 30mph zones, this is likely because 30mph zones tend to be urbanised setting with more conflicting traffic movements than dual or single carriageways.

12.5.44 24 out of 59 or 24% of accidents took place in darkness. To analyse further, 3 accidents took place with no streetlight available, 16 or 27% where there was lit streetlighting present, 3 where streetlighting that was present but was not lit, and a further 2 where it was not known if streetlight was available. Of the 24 accidents occurring in darkness 22 happened in 30-40mph speed enforcement zones,

suggesting higher population concentration of the area or urban zones. Of the proportion of the accidents occurring in darkness that were lit by streetlight (16), 9 of these are in 30mph zones, designated for areas of high foot traffic. 8 of these are at a junction of some kind. 18 out of 24 accidents are within Blaenau Gwent, this is likely due to the fact that most of the study area is within Blaenau Gwent.

- 12.5.45 10% or 6 out of 59 accidents happened in the rain. Where accidents happened in the rain, they were also in darkness 100% of the time. 4 out of 6 or 66% of accidents in rain in darkness involving young drivers; 1 motorcycle accident, not a young driver, 2 at roundabouts and 2 at T junctions. 2 x 30mph accidents, 3x 40mph accidents, and 1x 60mph accident. The 60mph accident in 2017 was fatal and occurred along A4046 between Aberbeeg and Cwm at Llan-Dafel, involving a young driver on a bend in the carriageway. The area is covered by trees with eastern side of carriageway cutting inland to create the road and western edge sloping down to railway line.
- 12.5.46 16 out of 59 or 27% accidents occurred where the carriageway was wet or icy. There was 1 accident occurred where the carriageway had evidence of frost and ice. These accidents took place mostly from September through to March, with 1 occurring in July. 5 of these accidents in total were serious in nature, and 1 fatality as previously mentioned that took place in the dark, on a bend in the road. 7 of the 16 accidents took place at a junction such as a roundabout or T-Junction with 30-40mph speed limits in place, while 5 took place not at junction in daylight at 30-40mph, 2 in darkness, and further 2 took place at 60mph, in darkness not near a junction.
- 12.5.47 7 out of 59 accidents or 12% of accidents involved, goods vehicles, 5 out of 59 or 8% involving motorcyclists and 2 out of 59 (2%) involving a bus.

Summary

12.5.48 Sections of road assessed are relational to AADF DfT Count ID's. The following sections of roads and junctions have an annual accident rate per annum greater than 1;

- From DfT ID: 88075, (Rhyd Y Blew) to 20622, (Ebbw Vale Cemetary);
- From DfT ID: 86052, (Ebbw Vale) to 564, (Brynithel);
- From DfT ID: 30578, (Newbridge) to Site Access; and,
- From DfT ID: 78421 to Hafod Quarry.

12.5.49 The above highway links record an annual accident rare in excess of 1. The DfT (2019) reported road casualties for Great Britain 2019 presented in, RAS10002, the national accident rate per billion vehicle kms by road classification which were for 2019 (the last year of data prior to Covid-19):

- Urban A road: 0.42
- Rural A road: 0.11
- Urban other roads: 0.33, and;
- Rural other roads: 0.19.

12.5.50 Within the study area of the above it is considered that between 88075 and 20622, the link is considered 'urban other roads' while all others are considered to the 'urban A roads'.

~~12.5.48~~12.5.51 Comparing the links, in **Table 12.7** and **Table 12.8**, where there was count data available from the last valid year of data prior to covid, it can be seen that although the link accident rates are above 1 per annum, the majority of the rates are below the national averages for the same type of highway link. This is with the exception of 88075, (Rhyd Y Blew) to 20622, (Ebbw Vale Cemetery) link which is 0.26 above the national average. However, the majority of accidents reported were slight and substantial patterns/accident clusters exist.

Conclusions

~~12.5.49~~12.5.52 Although there are 4 highway links above 1 per annum, by comparing the Annual Average Yearly Flows with the national accident rates per million vehicle kms on comparable roads, the results are mostly lower than the national average. As such, the accident rates are low, and it is concluded that the study area does not exhibit any severe accident hot spots which need to be targeted with specific casualty reduction measures as part of the development proposal.

Future baseline

- 15.1.1 Background traffic growth will occur on the local road network irrespective of whether or not the Proposed Development is constructed. Projected baseline traffic growth flows for the expected year of construction peak (anticipated to be 2026) have been calculated by applying growth factors from the National Trip End Model (NTEM) and National Transport Model (NTM) forecasts.
- 15.1.2 Baseline traffic flow data has been established using publicly available traffic counts published by the Department for Transport (DfT). These counts detail the annual average daily traffic (AADT) (24-hour), and the proportion of HGVs, at appropriate locations on each road within the study area.
- 15.1.3 Future 2026 Baseline flows have been developed by applying growth factors to the baseline 2019 data. A growth factor (1.0526) derived from the TEMPro forecasts has been applied to light vehicles and a growth factor (1.0707) from the National Transport Model forecasts (NTM) has been applied to HGVs. Future 2026 flows are presented in **Table 12.9**.

Table Error! No text of specified style in document.2.9 2026 future Baseline traffic flow (two-way) – 12hr

Road Link Name, Count ID and (location)	Light Vehicles	HGVs	Total
A4046, Count ID: 86052, (Ebbw Vale) - (North of Central Avenue)	13440	166	13605
A467, Count ID: 73077, (Swffryd) - (North of Central Avenue)	11246	379	11625
A467, Count ID: 78421, (Pantside) - (South of Central Avenue)	17390	669	18059

15.2 Embedded measures

~~12.5.50~~12.5.53 A range of environmental measures have been embedded into the Proposed Development. **Table 12.10** outlines how these embedded measures will influence the Traffic and Transport assessment.

Table 12.10 Summary of the embedded environmental measures

Receptor	Potential changes and effects	Embedded measures	Compliance mechanism
Construction			
All	Vehicles could carry mud and debris onto the carriageway	Wheel washing facilities will be installed on site. Sheeting installed prior to leaving site.	DNS Planning condition/Draft CTMP
All	Changed traffic flows on local roads	Specific travel routes to and from site are defined for delivery vehicles.	DNS Planning condition/Draft CTMP
All	Possible impact on Road Safety due to increased traffic flows on highway network	No existing accident problem identified. HGVs to use identified route.	DNS Planning condition

~~12.5.51~~12.5.54 In addition to the measures mentioned in **Table 12.10**, a CTMP has been developed which recognises the requirement to manage construction traffic movement. The CTMP is presented in **Appendix 12B**. The following measures have been incorporated within the CTMP to manage the daily delivery profiles and control construction vehicle movements and routing of HGVs to/from the Site:

- Upon commencement, all deliveries, operatives and visitors to the Site will report to the security gate. This will be communicated to all early works contractors at their pre-start meeting.
- The main contractor will develop a logistics plan highlighting the access point for the project, loading bay, pedestrian/vehicular segregation, welfare, storage, security and material handling that would be enforced following full site establishment.
- Approved haul routes to the Site will be identified and protocols put in place to ensure that HGV drivers adhere to these routes.
- All contractors will be provided with a Site induction pack containing information on delivery routes and restrictions on routing.
- Temporary signage will be erected along the identified construction routes to warn people of construction activities and associated construction vehicles.
- An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors will be required to give details of proposed timing of material deliveries to the Site.
- A CTMP and compliance monitoring therein will be included within all trade contractor tender enquiries to ensure early understanding and acceptance/compliance with the rules that would be enforced on this project.

- Under no circumstances will HGVs be allowed to lay-up in surrounding roads. All personnel in the team will be in contact with each other and Site management, who in turn, will have a mobile and telephone contact with sub-contractors.
- Roads will be maintained, and road sweeper deployed as required.
- A wheel wash facility will be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.
- Given the rural location of the Site in relation to the public transport network, the opportunity for contractors to travel to work by public transport is not a viable choice. The distance of the Site from the established cycle network and lack of footway connections to local amenities and establishments also means that travel by alternative sustainable modes is unlikely to be chosen by contractors. However, car-sharing is something that can be promoted. To identify and support travel choice initiatives, a site travel information pack such as existing public transport information and car-sharing club could be developed and distributed to construction staff.

12.6 Scope of the assessment

The Proposed Development

12.6.1 The Proposed Development is a wind farm consisting of up to four wind turbine generators (WTGs) each with a three-bladed rotor with a diameter of up to 117m, a hub height of up to 84m and maximum height to blade tip of 145m. The application also comprises associated infrastructure including access improvements, new and improved internal wind farm tracks, crane pads, temporary construction compound, laydown and storage areas and grid connection infrastructure, including an on-site substation.

12.6.2 The wind farm will be designed with an operational life of 30 years. At the end of this period the Applicant has three options; to decommission the wind farm and dismantle and remove the turbines; to apply for an extension to the operating period using existing equipment; or apply to install new equipment on the site. For the purposes of this assessment, it is assumed that the wind farm would be decommissioned.

CONSTRUCTION

12.6.3 The construction period for the wind farm is anticipated to approximately 24 months in length. The construction process would consist of the following principal activities:

- upgrading of existing tracks and construction of new access tracks and passing places inter-linking the turbine locations and substation; this will require import of suitable roadstone;
- potential remedial works to public highway to facilitate delivery of turbines which will be confirmed following discussion with the Highways Authority;
- formation of site compound including hard standing and temporary site office facilities;
- construction of crane hardstanding areas to facilitate erection of turbines;
- construction of turbine foundations and transformer bases where required;

- construction of site substation and transformer building;
- excavation of trenches and cable laying adjacent to site roads;
- connection of on-site distribution and signal cables;
- delivery and erection of wind turbines; and
- Connection to national grid distribution system via Overhead Line (OHL).

12.6.4 Many of these operations would be carried out concurrently to minimise the overall length of the construction programme. Development would be phased such that at different parts of the Site, the civil engineering works will be continuing whilst wind turbines are being erected.

OPERATION

12.6.5 The Proposed Development would operate autonomously and would only be visited for inspection on a monthly basis or should a fault occur.

DECOMMISSIONING

12.6.6 The wind farm will be designed with an operational life of 30 years. When dismantling and removing the turbines the bases would be broken out to below ground level and all cables cut at depth below ground level and left in the ground. Roads would either be left for use by the landowner or covered with topsoil. No stone would be removed from the Site. The decommissioning works are estimated to take six months, and no more than 12 months. This approach is considered to be less environmentally damaging than seeking to remove foundations and cables entirely.

12.6.7 The turbine components themselves will be taken to an appropriate recycling facility where applicable. It is not possible to identify a specific facility at this time.

12.6.8 It is anticipated that the number of vehicle movements related to decommissioning would be significantly less than the number of vehicle movements related to construction.

Spatial Scope

12.6.9 The spatial scope of the assessment of Traffic and Transport covers the area of the Proposed Development contained within the red line boundary, together with the Zones of Influence (ZoIs) that have formed the basis of the study area described in **Section 12-4**.

12.6.10 These highway links provide comprehensive coverage of the routes surrounding the Site. Beyond these roads, traffic from the Proposed Development would access the wider road network where its effect would be diluted by existing traffic on these routes or would distribute to a point where the effects from traffic would be minimal.

12.6.11 The receptors along the highways identified in **Section 12-4** form the scope of the assessment in relation to potentially traffic-related effects.

Temporal Scope

12.6.12 The temporal scope of the assessment of Traffic and Transport is consistent with the period over which the construction of Project would be carried out and therefore covers the period 2026 and 2027.

Potential Receptors

12.6.13 Transport Receptors are the users or beneficiaries of the highways network assets and facilities such as pedestrians, cyclists, equestrians, and drivers who travel within the vicinity of the Proposed Development.

12.6.14 The Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (EATM) identifies the following key user groups: Non-Motorised Users (NMU), Public Right of Way (PRoW) users, motorists/freight vehicles, public transport and emergency services. It further identifies sensitive locations/users that following groups that may be affected:

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

Likely significant effects

12.6.15 The effects on Traffic and Transport receptors which have the potential to be significant with additional road traffic on local routes generated by the construction of the Proposed Development and have been taken forward for detailed assessment are summarised in **Table 12. 11**.

Table 12.11 Summary of likely significant effects

Likely Significant Effects	Description	Receptor
Severance of communities	The separation of people from places and other people/places or impeding pedestrian access to essential facilities	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM ^{Error! Bookmark not defined.}) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.
Road vehicle driver and passenger delay	Traffic delays to non-development traffic resulting from: additional turning movements at Site access;	Road vehicles and passengers of road vehicles, including emergency vehicles, public transport and freight transport.

Likely Significant Effects	Description	Receptor
	additional parked cars narrowing effective road width; increased flows at key intersections; or at side roads where gaps in traffic may be reduced, lengthening delays.	
Non-motorised user delay	The impact on the ability of people to cross roads resulting from changes in traffic volume, composition and speed, the level of pedestrian activity, visibility and the general physical conditions of the Proposed Development.	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.
Non-motorised user amenity	The effect on the relative pleasantness of a pedestrian journey resulting from changes in traffic flow and composition and separation from traffic (including pavement width).	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.
Fear and intimidation on and by road users	Fear and intimidation experienced by receptor groups resulting from change in traffic volume and proximity, including due to narrow pavement widths and lack of protection, traffic composition and speed.	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.
Road user and pedestrian safety	Any impact on the risk of accidents occurring.	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.
Hazardous/large loads	The impact of transportation of hazardous or abnormal loads relating to the nature of the load and number of trips.	Occupants (residents, workers, users of the roads such as drivers, pedestrians, and cyclists, including sensitive and/or vulnerable groups identified in EATM) alongside sensitive locations identified in EATM and the junctions and highway links used by construction traffic that may be at (or over) capacity, and collision clusters and routes with road safety concerns.

EFFECTS SCOPED OUT

12.6.16 The following potential effects have been scoped out of further assessment because the potential effects are not considered to be significant.

- Potential effects on users of the road network as a result of operational traffic from the Proposed Development:
 - The Proposed Development would operate autonomously and would only be visited for inspection on a monthly basis or should a fault occur.
- In the event of inspection or fault, it is anticipated the four 4x4 vehicles will be used to access the site. Given the baseline traffic this is not expected to be significant and therefore is scoped out.
 - Given that receptors would not be significantly affected during the operational period they are therefore scoped out of further assessment.
- Potential effects on users of the road network as a result of decommissioning traffic from the Proposed Development:
 - The effects during the decommissioning of the Proposed Development have not been considered in detail given the unknown conditions of the highway following the 30-year life cycle of the Proposed Development. Furthermore, fewer traffic movements would be generated during decommissioning than during construction as below ground infrastructure and access tracks will remain in situ and therefore the magnitude of any change is likely to be less than during construction. Decommissioning effects are therefore scoped out of further assessment. However, a separate assessment of effects could be conducted nearer time should there be any concerns in respect of decommissioning.
- Hazardous loads – No hazardous loads are anticipated in relation to the Proposed Development.

12.7 Assessment methodology

12.7.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 2: Approach to Preparing the Environmental Impact Assessment**, and specifically in **Sections 2.5 to 2.9**. However, whilst this has informed the approach that has been used in this Traffic and Transport assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this Traffic and Transport assessment.

Methodology for the prediction of effects

12.7.2 The generic project-wide approach to the assessment methodology is set out in **Chapter 2**, and specifically in **Sections 2.5 to 2.9**. However, whilst this has informed the approach that has been used in this Traffic and Transport assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this Traffic and Transport assessment.

12.7.3 The assessment will be based on EATM and will provide a comparison (in percentage terms) between estimated future baseline traffic flows on potentially affected roads within the study area (receptors) with and without the predicted traffic generated by the Proposed Development.

General approach

12.7.4 The guidance that is followed when assessing the potential significance of road traffic effects is summarised in EATM (IEMA, 2023), which states the following.

“At an early stage, it is useful to identify particular groups or locations which may be sensitive to changes in traffic conditions.” (Paragraph 2.5).

“The detailed assessment of impacts is...likely to concentrate on the period during which the absolute level of an impact is at its peak, as well as the hour at which the greatest level of change is likely to occur.” (Paragraph 3.10).

12.7.5 EATM provides two rules that are used to establish whether an environmental assessment of traffic effects should be carried out on receptors:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include sensitive areas where traffic flows are predicted to increase by 10% or more.

12.7.6 EATM outlines that predicted traffic flow increases which are below 10% are generally not considered to be significant as daily variations in background traffic flow may fluctuate by this amount. Therefore, changes in traffic flows below this level will not be assessed. Consideration will, also, be given to the duration of the impact within the assessment. The assessed traffic movement volumes generated by the Proposed Development are expected to be the worst-case scenario.

Environmental Effects Assessed

12.7.7 EATM sets out the following environmental effects that should be considered:

Severance of communities

12.7.8 The EATM states that when assessing severance, the assessor should:

- Consider the highway characteristics and features;
- Consider the traffic flow and composition;
- Define the facilities to which access is potentially impaired;
- Define the facility catchment areas from which users may be drawn; and
- Estimate the populations within those areas - both in total, and vulnerable groups (by which severance may be more impactful).

12.7.9 There is no predictive formula which give simple relationships between traffic factors and levels of severance. EATM states that while not prescriptive, the thresholds for changes in traffic flow of 30%, 60% and 90% can be regarded as a starting point to estimate corresponding ‘slight’, ‘moderate’ and ‘substantial’ changes in severance. In general, marginal (slight) changes in traffic flow are, by themselves, unlikely to create or remove severance.

Road vehicle driver and passenger delay

12.7.10 EATM states that delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system. The capacity of a road or a particular junction can be determined by establishing the ratio of flow to capacity (RFC).

12.7.11 Delay might be found more commonly at Site entrances, passing development sites, where parked cars may share road space, at key intersections along a route, and at side roads where the ability to find gaps in traffic may be reduced.

Non-motorised user delay

- 12.7.12 Given the range of local factors and conditions which can influence non-motorised users, EATM does not recommend that thresholds be used as a means to establish the significance of non-motorised user delay but recommend that reasoned judgements be made instead.
- 12.7.13 Generally, increases in traffic may lead to greater delay, though is dependent on the level of non-motorised users' activity in the area, their visibility at crossings, and wider physical conditions of the site. In densely populated areas it may be necessary to quantify the number of non-motorised users impacted via survey.

Non-motorised amenity

- 12.7.14 The EATM states that non-motorised user amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, composition, and separation from traffic, which includes consideration to exposure to noise and air pollution.
- 12.7.15 EATM notes that changes in pedestrian, cyclist and equestrian amenity may be considered significant where the traffic flow is halved or doubled, with the former leading to a positive effect and the latter a negative effect.

Fear and intimidation on and by road users

- 12.7.16 The EATM notes that the extent of fear and intimidation is dependent on:
- The total volume of traffic;
 - The heavy vehicle composition;
 - The speed these vehicles are passing; and,
 - The proximity of traffic to people – and/or the feeling of the inherent lack of protection created by factors such as a narrow pavement median, a narrow path or a constraint (such as a wall or fence) preventing people stepping further away from moving vehicles.
- 12.7.17 The EATM instructs that assessment should be defined by the degree of hazards to pedestrians by average traffic flow over an 18-hour heavy vehicle flow and average speed over an 18-hour day in miles per hour.
- 12.7.18 A weighting system is applied to the guidelines to assign scores for each highway link of consideration.
- 12.7.19 **Table 1** Error! No text of specified style in document..12 provides an example of a scoring system that can be adapted to reflect local conditions.

Table 1 Error! No text of specified style in document..12 - Fear and intimidation degree of hazard

<i>Average traffic flow 18-hour day - all vehicles/hour 2-way (a)</i>	<i>Total 18-hour heavy vehicle flow (b)</i>	<i>Average vehicle speed (c)</i>	<i>Degree of Hazard score</i>
+1800	+3000	->40	30
1200-1800	2000-3000	30-40	20
600-1200	1000-2000	20-30	10

<600

<1000

<20

0

12.7.20 The total score from all three elements is combined to provide a 'level' of fear and intimidation for all three elements. **Table 1**Error! No text of specified style in document..13 provides an example.

Table 1Error! No text of specified style in document..13 - Level of Fear and Intimidation

<i>Level of Fear and Intimidation</i>	<i>Total hazard score (a)+(b)+(c)</i>
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

12.7.21 The magnitude of impact is approximated with reference to the changes in the level of fear and intimidation from baseline conditions, see **Table 1**Error! No text of specified style in document..14.

Table 1Error! No text of specified style in document..14 - Fear and Intimidation Magnitude of Impact

<i>Magnitude of Impact</i>	<i>Change in step/traffic flows (AADF) from Baseline conditions</i>
High	Two step changes in level
Medium	One step change in level, but with: <400 veh increase in average 18hr AV two-way all vehicle flow; and/or <500 HV increase in total 18hr HV flow.
Low	One step change in level, with: <400 veh increase in average 18hr AV two-way all vehicle flow; and/or <500 HV increase in total 18hr HV flow.
Negligible	No change in step changes

12.7.22 EATM notes that special consideration should be given to areas where there are likely to be particular problems, such as high-speed sections of road, locations of turning points and accesses. Consideration should also be given to areas frequented by school children, the elderly and other vulnerable groups.

Road user and pedestrian safety

12.7.23 This is informed by a review of existing collision patterns and trends based upon the existing personal injury collision records and the forecast increase in traffic.

12.7.24 The EATM guidance suggest that in addition to collision analysis of STATS19 data, that the 'Safe System' approach should be adopted. The approach is broadly as follows:

- Identify the study area using historic crash data.
- Undertake evidence-led, objective modelling techniques to establish a baseline road safety level for the roads within the study area on which the impact thresholds are exceeded in relation to either non-motorised users or motorised user traffic. This analysis can be carried out using tools such as the iRAP Star Ratings protocols or similar tools produced by individual highways authorities.
- Assess the effects of additional development traffic for all users (including vulnerable groups¹⁹), across the whole width of the highway corridor. This model should also assess the effect of any changes to the baseline road network, such as the provision of access junctions.

Road user and pedestrian safety

12.7.25 The IEMA Guidance also refer to visual effects, noise and hazardous loads. Visual effects and noise are addressed in **Chapter 6 Landscape and Visual Amenity** and **Chapter 3 Noise and Vibration** respectively.

Receptor sensitivity

12.7.26 As set out in EATM, the impact of traffic is dependent upon a wide range of factors which include the volume of traffic, traffic speeds and operational characteristics and traffic composition (such percentage of HGVs) and future cumulative development traffic. The perception of changes in traffic varies according to factors such as:

- Existing traffic levels;
- The location of traffic movements;
- The time of day;
- Temporal and seasonal variation of traffic;
- Design and layout of the road and pavement;
- Crossing points;
- Landscape/townscape character, designated status, land use activities adjacent to the route; and
- Ambient conditions of adjacent land-uses.

12.7.27 Each highway link included in the assessment has been assigned a sensitivity in accordance with EATM on the sensitivity groups based on professional judgement.

12.7.28 This is based on the proximity of sensitive receptors to the highway link and the highway environment. **Table 12.15** summarises the rationale used to

¹⁹ [iRAP - International Road Assessment Programme](#)

determine the sensitivity against the corresponding receptors as part of the assessment as contained in EATM. Professional judgement is also used to determine the sensitivity of the receptor.

Table Error! No text of specified style in document.2.15 - Receptor Sensitivity

Sensitivity	Description / Reason	Receptor
High	Schools, colleges, playgrounds, accident cluster areas, retirement homes, urban/residential roads without footways that are used by pedestrians and cyclists.	Occupants of land-uses alongside the highway link and users of the highway link
Medium	Congested junctions/highway links, places of worship, doctors' surgeries, hospitals, retail with highway frontage, roads with narrow footways, unsegregated cycleways, tourist attractions, community centres, parks and recreation facilities.	Occupants of land-uses alongside the highway link and users of the highway link
Low	Places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.	Occupants of land-uses alongside the highway link and users of the highway link
Negligible	Receptors with negligible sensitivity to traffic flows and receptors sufficiently distant from affected roads and junctions and no/very limited numbers of pedestrians/cyclists.	Users of the highway link

12.7.29 Sensitivity judged as 'High' or 'Medium' results in Rule 2 (sensitive areas where traffic flows are predicted to increase by 10% or more) being considered for that link. Sensitivity judged as 'Low' or 'Negligible' results in Rule 1 being considered for that link where traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%.

Magnitude of Change

12.7.30 EATM recognises that professional judgement should be used as part of the assessment and states the following:

"There are no simple rules or formulae that define appropriate assessment thresholds and therefore there is a need for interpretation and judgement on the part of the competent traffic and movement expert, backed up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing an impact and the sensitivity of those people, as well as the assessment of the damage to various natural or cultural resources." (Paragraph 3.12).

12.7.31 Based on the Rule 1 and Rule 2 and the sensitivity of the receptors, **Table 12.16** shows the magnitude of change applied to the environmental effects to help identify levels of significance. The indicators to assess the magnitude of change are based on advice included within EATM⁹ and professional judgement.

Table 12.16 - Magnitude of Change

Transport effect	Magnitude of change			
	High	Medium	Low	Negligible
Severance	Change in total traffic or HGV flows over 91%.	Change in total traffic or HGV flow of 61-90%.	Change in total traffic or HGV flows of 31-60%.	Change in total traffic or HGV flows of less than 30%.
Context should also be considered including population and facilities impacts. EATM states caution should be applied with applying these thresholds to highway links with low baseline flows.				
Driver delay	High increase in queuing at junctions and/or congestion on road links.	Medium increase in queuing at junctions and/or congestion on road links.	Low increase in queuing at junctions and/or congestion on road links.	Low or no increase in queuing at junctions and/or congestion on road links.
Non-Motorised users	A halving or doubling of traffic flow (of HGV flow) can be used as a broad threshold when considered in the local context and applied with caution. Assignment based on a variety of factors including general level of pedestrian activity, visibility and physical conditions such as traffic flow, traffic composition, crossing points and pavement width/separation from traffic. EATM also advises consideration of factors included in the Transport for London's Healthy Streets Indicators.			
Non-motorised user delay	Assessed based on pedestrian delay experienced when crossing highways links considering a range of factors including crossing type, pedestrian flows, traffic levels, visibility and general highway condition.			
Fear and Intimidation	Assigned based on the levels scoring systems provided in EATM (which is dependent on 18hr average traffic flow; 18hr average HGV traffic flow and vehicle speed) extreme 71+; great (41-70); moderate (21-40) and small (0-20)			
	Two step change in level score of fear and intimidation	change in level score of fear and intimidation and >400 average 18hr vehicle increase or >500 HGV 18hr vehicle increase.	One step change in level score of fear and intimidation and <400 average 18hr vehicle increase or <500 HGV 18hr vehicle increase.	No change to step in level score of fear and intimidation
Road safety	Assignment informed by a review of existing collision patterns and trends based upon the existing personal injury accident records and the forecast increase in traffic.			
Hazardous/Large Loads	Assigned based on the nature of the load and number of trips and the result of hazard and accident assessment.			

Significance criteria

12.7.32 The classification of a likely Traffic and Transport effect is derived by considering the sensitivity of the receptor (derived from **Table 12.15**) against the magnitude of change (derived from **Table 12.16**) as defined in **Table 12.17** below.

The shading indicates those significance ratings that are deemed to be 'significant' effects.

Table Error! No text of specified style in document.2.17 - Significance Evaluation Matrix

		Receptor sensitivity				
		Very High	High	Medium	Low	Negligible
Nature of Impact (Magnitude / Probability / Reversibility etc)	Very High	Substantial (Significant)	Substantial (Significant)	Substantial (Significant)	Moderate (Significant)	Minor (Not significant)
	High	Substantial (Significant)	Substantial (Significant)	Substantial (Significant)	Moderate (Significant)	Negligible (Not significant)
	Medium	Substantial (Significant)	Substantial (Significant)	Moderate (Significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Moderate (Significant)	Moderate (Significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)
	Negligible	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

12.7.33 Major and Moderate effects are considered to be significant, whilst Minor and Negligible effects are considered to be not significant.

12.8 Preliminary Assessment of Traffic and Transport effects

12.8.1 This section provides an assessment of the likely significant environmental effects arising from the traffic predicted to be generated by the Proposed Development.

Sensitivity of Highway Links

12.8.2

12.8.3 **Table** Error! No text of specified style in document.**2.18** identifies the sensitivity of the relevant highway links (in vicinity of the count point and general nature of highway link as a whole) and the EATM Rule that applies.

Table Error! No text of specified style in document.2.18 - Sensitivity of highway links (baseline situation)

<i>Highway Link</i>	<i>Rationale</i>	<i>Recepto r sensitivity</i>	<i>Assessm ent (Rule 1/2)</i>	<i>Changes with Proposed Developmen t</i>
A4046, Count ID: 86052, (Ebbw Vale)	30mph two-way single carriageway road, part of the trunk road network. Urban area with footways (in parts) either side of the carriageway, separated by guardrails. Pedestrian crossing infrastructure across priority junctions. Land use either side of the carriageway including housing (well set back from carriageway), places of worship, retail centres and petrol station. Housing is connected across carriageway with underpass. Petrol station is connected by drop kerb crossings across entrance and over carriageway via signalised pedestrian crossing and a refuge island. No accident clusters along the route.	Low	Rule 1	No change
A467, Count ID: 73077, (Swffryd)	60mph A class rural two-way single carriageway road. Through most of the route land use is rural forest, though approaching Crumlin footways are present either side of the carriageway. No significant facilities, or land use that prompts crossing of the carriageway. Highway link passes through two traffic signal junctions through Crumlin, one with pedestrian phases. Laybys	Low	Rule 1	No Change

present for bus stops along route, not expected to block traffic. Through Crumlin 3 lane dual carriageway.

A467, Count ID: 78421, (Pantside)	30-40mph A road two lane single carriageway travelling between Pantside and Newbridge. Road link has no significant land use either side of the carriageway and is mostly forest. At most receptive location opposite Central Avenue, this highway link is 30mph and has residential land use either side of the carriageway including approximately 2m wide footpaths, and wide parking bays for cars either side. The road features traffic calming measures such as red road surfacing, radar speed signs and speed reduction messaging. At the junction with Central Avenue, there is guardrail bounding the footway and pedestrian bridge to allow safe passage. There is no ramp - only stairs. There is a signalised crossing with refuge island for non-motorised users.	Medium	Rule 1	No Change
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Construction traffic

12.8.4 Where possible, construction operations would be carried out concurrently, thus minimising the overall length of the construction programme. An indicative construction programme approximately 24 months in length (commencing in 2026) has been assumed for the purposes of this assessment.

Wind farm

12.8.5 As a worst-case scenario, it is assumed that 100% of all aggregate would be sourced from off-site sources via road. shows the predicted traffic generation

during construction phase of wind farm. **Table 12.19** shows the predicted traffic generation during construction phase of wind farm.

Table 12.19 - Predicted traffic generation during construction phase

Activity	Total Loads	Total Trips (Two-Way)
Site Mobilisation		
Delivery of Pant and Equipment	30	60
Construction compound and Access Point		
Delivery of Tarmac for Access	3	6
Delivery of Compound General Equipment	20	40
Track and Hardstanding Areas		
Delivery of Road Stone for Access Tracks	965	1,930
Delivery of Road Stone for Areas of Crane Operation	638	1,276
Turbine Foundations		
Delivery of Backfill Stone for Turbines	30	60
Delivery of Concrete for Turbines	195	390
Substation Construction		
Delivery of Road Stone for Substation	97	194
Delivery of concrete for substation	6	12
Trenches, cabling		
Delivery of Sand for cable trench	53	106
Turbine Delivery and Install		
Delivery and Removal of Mobile Crane	24	48

Activity	Total Loads	Total Trips (Two-Way)
Delivery of Turbines	40	80
Site Restoration Turbine Fit and Commission		
Removal of Plant and Equipment - phases throughout construction	30	60
Removal of Plant and Equipment and Commission Equipment	30	60
Total	2,161	4,322

Construction traffic distribution

12.8.6 Based on the construction program there would be a peak of 48 HGV movements two-way during a 12-hour weekday. This peak is predicted to occur during month 2 (April 2026) and therefore only for 4 weeks of the total 104-week construction programme.

12.8.7 The final construction route is subject to agreements to source of aggregate, route selection identified by the appointed contractor and agreement by relevant local highways authorities. For purposes of assessment, it has been assumed that construction traffic would be distributed using a 50% split between Trefil Quarry and Hafod Quarry. This results in 24 HGVs routing northbound along the A467 and the A4046 to Trefil Quarry and 24 HGVs routing southbound on the A467 towards Hafod quarry.

12.8.8 **Table 12.20** shows the 50:50 split distribution of the construction traffic on the local road network.

Table 12.20 – Distribution of construction traffic

Access Tracks	Construction traffic (two-way)
A4046, Count ID: 86052, (Ebbw Vale) – (North of Central Avenue)	24
A467, Count ID: 73077, (Swffryd) – (North of Central Avenue)	24
A467, Count ID: 78421, (Pantside) – (South of Central Avenue)	24

CONSTRUCTION EFFECTS

12.8.9 **Table** shows the worst-case percentage change in traffic flows in 2026, with construction traffic on the local road network. The EATM screening exercise is also presented within this table. Percentage increases that exceed the relevant EATM threshold of assessment rule would be subject to further assessment. Any

increase that is below the EATM threshold would not be taken forward for further assessment.

Table 12.22 – Forecast baseline traffic 2026 (12hr) with predicted construction traffic

Highway link	EATM screening rule	2026 Base		2026 + construction traffic		% change		
		Total	HGVs	Total	HGVs	Total	HGVs	
A4046, Count ID: 86052, (Ebbw Vale) – (North of Central Avenue)	Rule 1	13605	166	13630	190	0.18%	14.54%	Below 30% - no assessment required
A467, Count ID: 73077, (Swffryd) – (North of Central Avenue)	Rule 1	11625	379	11649	403	0.21%	6.37%	Below 30% - no assessment required
A467, Count ID: 73077, (Swffryd) – (North of Central Avenue)	Rule 1	18059	669	18083	693	0.13%	3.61%	Below 30% - no assessment required

12.8.10 **Table 12.21** identifies the highway links that are taken forward for further assessment based on the percentage impacts on these links exceeding the 10% threshold (Rule 1) or 30% HGV threshold (Rule 2) when considering the worst-case scenario whereby all aggregate is imported to site.

12.8.11 There are no links taken forward for further assessment of environmental effects.

12.9 Preliminary assessment of cumulative (inter-project) effects

12.9.1 A preliminary cumulative effects assessment (CEA) will be undertaken for the Project which considers the combined impacts with other developments on the same single receptor or resource (inter-project effects). The detailed method followed in identifying and assessing potential cumulative effects is set out in **Section 2.8 of Chapter 2**.

Cumulative Transport Effects

12.9.2 It was found that there was minimal vehicle trip information available for the identified Mynydd Maen Wind Farm development because the development is in the pre-application stage. This will be further reviewed following completion of the technical consultation.

12.9.3 As a result of the above it has been determined that the cumulative effects within the study area have been covered by the application of traffic growth factors

calculated with reference to National Transport Model (NTM)/local TEMPro data. This has formed the basis for the future baseline.

12.10 Preliminary Significance Conclusions

12.10.1 A summary of the results of the preliminary Traffic and Transport assessment is provided in **Table 12.22**.

Table Error! No text of specified style in document.2.23 Preliminary summary of significance of effects

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
A4046 (Ebbw Vale)				
Severance: The separation of people from places and other people.	Low	Negligible	Not Significant	Severance would not occur, as the sensitivity of the receptor is low, and the magnitude of change is negligible.
Driver delay: Traffic delays as a result of development traffic.	Low	Negligible	Not Significant	Section of the road is standard carriageway with 40mph speed limit. Increase in traffic due to the Proposed Development is negligible.
Pedestrian delay and amenity: The ability to people to cross roads and the effect on the relative pleasantness of a pedestrian journey	Low	Negligible	Not Significant	Good pedestrian provisions and negligible increase in traffic.
Fear and intimidation: The levels experienced by pedestrians and cyclists, its proximity to people or the lack of protection caused by such factors as narrow pavement widths.	Low	Negligible	Not Significant	The assessment of the pedestrian amenity environmental effect mentioned above is also applicable here.
Accident and safety: The risk of accidents occurring where development is expected to	Low	Negligible	Not Significant	No accident hot spot identified on this link. As such there are no existing highway safety issues that could be exacerbated by the construction vehicle movements associated with the construction of the proposed wind farm.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
produce a change in the character of traffic				
A4046 (Aberbeeg)				
Severance: The separation of people from places and other people.	Negligible	Negligible	Not Significant	Severance would not occur, as the sensitivity of the receptor is negligible, and the magnitude of change is negligible.
Driver delay: Traffic delays as a result of development traffic.	Negligible	Negligible	Not Significant	Section of the road is standard carriageway with 60mph speed limit. Increase in traffic due to the Proposed Development is negligible.
Pedestrian delay and amenity: The ability to people to cross roads and the effect on the relative pleasantness of a pedestrian journey	Negligible	Negligible	Not Significant	Baseline pedestrian activity and proposed increase in traffic are both negligible.
Fear and intimidation: The levels experienced by pedestrians and cyclists, its proximity to people or the lack of protection caused by such factors as narrow pavement widths.	Negligible	Negligible	Not Significant	The assessment of the pedestrian amenity environmental effect mentioned above is also applicable here.
Accident and safety: The risk of accidents occurring where development	Negligible	Negligible	Not Significant	No accident hot spot identified on this link. As such there are no existing highway safety issues that could be exacerbated by the construction vehicle movements associated with the construction of the proposed wind farm.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
is expected to produce a change in the character of traffic				
A467 Newbridge				
Severance: The separation of people from places and other people.	Medium	Negligible	Not Significant	Severance would not occur, as the sensitivity of the receptor is low, and the magnitude of change is negligible.
Driver delay: Traffic delays as a result of development traffic.	Medium	Negligible	Not Significant	30mph single carriageway road very few junctions interface with the link. Sensitivity of the receptor is low, and the magnitude of change is negligible.
Pedestrian delay and amenity: The ability to people to cross roads and the effect on the relative pleasantness of a pedestrian journey	Medium	Negligible	Not Significant	Pedestrian footway provided on one side both sides of the carriageway. No formal pedestrian crossings are provided on this link. Sensitivity of the receptor is low, and the magnitude of change is negligible.
Fear and intimidation: The levels experienced by pedestrians and cyclists, its proximity to people or the lack of protection caused by such factors as narrow pavement widths.	Medium	Negligible	Not Significant	Footway on both sides of the carriageway, only a small number of residential properties are located nearby so pedestrian flows are likely to be low. Sensitivity of the receptor is medium, and the magnitude of change is negligible.
Accident and safety: The risk of accidents occurring where	Medium	Negligible	Not Significant	No accident hot spot identified on this link. As such there are no existing highway safety issues that could be exacerbated by the construction vehicle movements associated with the construction of the proposed wind farm.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
development is expected to produce a change in the character of traffic				
				<ol style="list-style-type: none"> 1. The sensitivity/importance/value of a receptor is defined using the criteria set out in Table 12.16 and is defined as negligible, low, medium and high. 2. The magnitude of change on a receptor resulting from activities relating to the development is defined using the criteria set out in Table 12.18 and is defined as negligible, low, medium and high. 3. The significance of the environmental effects is based on the combination of the sensitivity/importance/value of a receptor and the magnitude of change and is expressed as major (significant), moderate (potentially significant) or minor/negligible (not significant), subject to the evaluation methodology outlined in Section 12.8.