

CONFIDENTIALITY STATUS

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12. Traffic and Transport

12.1 Introduction

- 12.1.1 This chapter presents the assessment of the likely significant effects of the Project with respect to Traffic and Transport. 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**);
 - Current and Future Baseline Conditions (**Section 12.5**);
 - Embedded measures relevant to Traffic and Transport (**Section 12.6**);
 - The scope of the assessment for Traffic and Transport (**Section 12.7**);
 - The methods used for the assessment (**Section 12.8**);
 - The assessment of Traffic and Transport effects (**Section 12.9**);
 - The assessment of cumulative (inter-project) effects (**Section 12.10**); and
 - A summary of the significance and conclusions (**Section 12.11**).

Limitations and Assumptions

- 12.1.4 The Draft ES has been produced to fulfil the Applicant's consultation duties and enable consultees to develop an informed view of the likely significant effects of the Proposed Development.
- 12.1.5 There are no limitations relating to Traffic and Transport that affect the robustness of the assessment of the potential likely significant effects of the Proposed Development.

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 Proposed Development 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 transport-specific national, regional and local policies and plans is provided below in **Table 12.1**. These policies and plans have been considered to help define the scope of the assessment.

Table 12.1 Planning policy relevant to the Traffic and Transport assessment

Policy	Policy context
National planning policy	
Planning Policy Wales, Edition 11, Welsh Government (2021) ¹	<p>5.3 Transportation Infrastructure Section 5.3 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.</p> <p>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 roads 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.</p> <p>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.</p>
Llwybr Newydd The Wales Transport Strategy (2021) ²	<p>Priority 2 an efficient, sustainable and accessible transport system including safe and efficient use of current infrastructure.</p> <p>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 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>

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 August 2022)

² Welsh Government (2021). The Wales Transport Strategy (Online). Available at: <https://gov.wales/llwybr-newydd-wales-transport-strategy-2021> (Accessed August 2022).

Policy	Policy context
Future Wales: The National Plan 2040 (2021)³	<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>
The Wales Freight Strategy Freight Strategy (2008)⁴	<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>
Local planning policy	
South-East Wales Valleys Local Transport Plan (2015)⁵	<p>Vision: The Plan’s vision is a ‘modern, accessible, integrated and sustainable transport system’ 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 to 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 the strategic network, pollutions from transport and highway accident levels.</p> <p>Short Term Programme This outlines the short-term transport priorities between 2015-2020 and covers schemes to increase road safety and active travel. Specific schemes include cycle route expansion and priority bus corridors improvements, along with a new park and ride in Crumlin and Pontypool.</p> <p>Medium- and Long-Term Programme This outlines schemes up to 2030 including highways improvements focusing on network resilience and accessibility.</p>
Blaenau Gwent County Borough Council	<p>Challenges 6, 8, 13: The following challenges in the local area include increasing accessibility through improvements to road corridors and</p>

³ Welsh Government. (2021). Future Wales: The National Plan 2040 (Online) Available at: <https://gov.wales/future-wales-national-plan-2040-0> (Accessed August 2022).

⁴ Welsh Government. (2008). The Wales Freight Strategy. (Online) Available at: <https://gov.wales/wales-freight-strategy> (Accessed August 2022).

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 August 2022).

Policy	Policy context
(BGCBC) Local Development Plan up to 2021 (Adopted November 2012)⁶	<p>encouraging sustainable transport through improvements to the transport network.</p> <p>Spatial Strategy Transport 5.11 this section details the need for transport improvements.</p> <p>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.</p> <p>DM1 This policy covers expectations for new developments including the ‘safe, effective and efficient use of the transportation network’ 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.</p> <p>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.</p> <p>T6 Details improvements to local roads.</p>
Torfaen County Borough Local Development Plan to 2021 (adopted 2013)⁷	<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: S2(b), encouraging sustainable infrastructure and mode choice of transport; S4(c), ensuring that development location and layout integrates and contributes to local accessibility; and S8(d) planning obligations will be required for infrastructure management and improvement, including walking, cycling and public transport facilities.</p> <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,</p>

⁶Blaenau 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-ldp-allocations/adopted-local-development-plan-2006-2021/> (Accessed August 2022)

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 August 2022)

Policy	Policy context
	<p>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>

Technical Guidance

- 12.2.4 The assessment will be conducted with reference to the guidance contained in **Table 12.2**.

Table 12.2 Technical guidance relevant to the Traffic and Transport assessment

Technical guidance document	Context
<p>Guidelines for the Environmental Assessment of Road Traffic (GEART)⁸ (Institute of Environmental Assessment, 1993).</p>	<p>Provides the framework for assessment of road traffic on the environment. This framework has been utilised in this assessment.</p>

12.3 Consultation and engagement

Overview

- 12.3.1 The applicant has sought pre-application advice from local authorities Torfaen County Borough Council (TCBC) and Blaenau Gwent County Borough Council (BGCBC), consultees and other stakeholders as per the DNS process. Additionally, consultation is ongoing with the Planning and Environment Decisions Wales (PEDW) and key statutory consultees.

Scoping Direction

- 12.3.2 A Scoping Direction was issued by Planning Inspectorate Wales, on behalf of the Welsh Ministers, on 6th August 2021. A summary of the relevant responses received in the Scoping Direction 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**.

⁸ Institute of Environmental Assessment (IEA). (1993). Guidelines for the Environmental Assessment of Road Traffic (GEART). IEA; Lincoln, UK.

Table 12.3 Summary of EIA Scoping Direction responses for Traffic and Transport

Consultee	Consideration	How addressed in this Draft ES
Torfaen County Borough Council (TCBC) via The Planning Inspectorate	<p>“TCBC advise that the route indicated in the SR is not appropriate and that an alternative route should be chosen. If the route is changed then this should be reflected in all other relevant ES chapters.</p> <p>The applicant should liaise with the relevant LPAs over this matter. If any alternative route is likely to result in a material increase in the volume of / material change in the character of traffic entering or leaving a trunk road, or using a level crossing over a railway, the applicant should consult the Welsh Government’s Transport Directorate.</p> <p>When the route is finalised, the applicant should consider whether there are any likely air quality impacts on sensitive receptors; this should be addressed in a proportional fashion in the ES.”</p>	<p>This Traffic and Transport chapter has been prepared in accordance with the principle outlined during the consultation process. The route indicated in the SR has been assessed further within this ES Chapter, the CTMP and AIL study documents. Any alternative route as set out in this chapter are also assessed in greater detail.</p>

Technical engagement

- 12.3.3 An assessment of the potential Abnormal Indivisible Loads (AIL) delivery routes has been undertaken within an AIL access study (**Appendix 12A**) to understand if any improvements to the highway will be needed to accommodate the delivery of abnormal loads to the Site. The assessment identified temporary structural improvements were required at a number of junctions. All relevant permits for abnormal load transportation will be arranged prior to commencement of deliveries. The wind turbine component supplier and transporter are yet to be identified.
- 12.3.4 A Section 278 Agreement of the Highways Act 1980 will be secured between the relevant local highways authorities and the Applicant for the associated highway works needed to facilitate the delivery of the abnormal loads. The appropriate officer at each highways authority will be contacted in due course.

12.4 Data gathering methodology

Study area

- 12.4.1 The study area that has been used for this assessment is the public highway network in the vicinity of the Site which it is anticipated would be used during the construction and operation of the Proposed Development. For the purposes of assessment, this includes the roads which may be affected by the construction traffic of the Proposed Development. These roads are as follows:
- A472 (Griffithstown);
 - A4043 (Abersychan); and

- B4246 (Talywain).

Site access

12.4.2 Access to the Proposed Development would be taken from an existing tarmacked road called British Road / Farm Road off the B4246 to the east of the Site.

12.4.3 Widening / mitigation works will be required to the existing access from the B4246 to ensure it is suitable to accommodate all general construction traffic (site staff) and concrete, stone and turbine deliveries which will enter the Site.

The existing Farm Road track up to the Site will additionally require upgrade works at certain points to allow sufficient space for larger construction and transport vehicles to reach the Site. The route will also need to be properly managed including the measures set out in the CTMP (**Appendix 12B**) during the construction phase and particularly during the delivery of larger turbine components including blades.

12.4.4 The access from the B4246 is situated at:

- B4246 (Grid Ref: 325958 (Easting), 204283 (Northing)).

Route options for construction HGVs

12.4.5 As stated in **Chapter 4**, at this stage it is assumed that construction materials would be sourced from one of the local quarries – e.g. Trefil Quarry (Tredegar) to the north or Hafod Quarry (Abercarn) to the south.

12.4.6 Likely HGV routes are identified as follows and illustrated within Figure 12.1:

- HGV Route 1 (north): Trefil Road – A465 – A467 – B4248 – Estate Road – B4246 – Unnamed Road / Farm Road – Site; and
- HGV Route 2 (south): Brook Street – A467 – A472 – A4043 – B4246 – Unnamed Road / Farm Road – Site.

12.4.7 It is assumed that construction vehicles would use one of the above routes. However, a combination of the above routes may be used for construction traffic subject to the location of material suppliers and aggregate from local quarries.

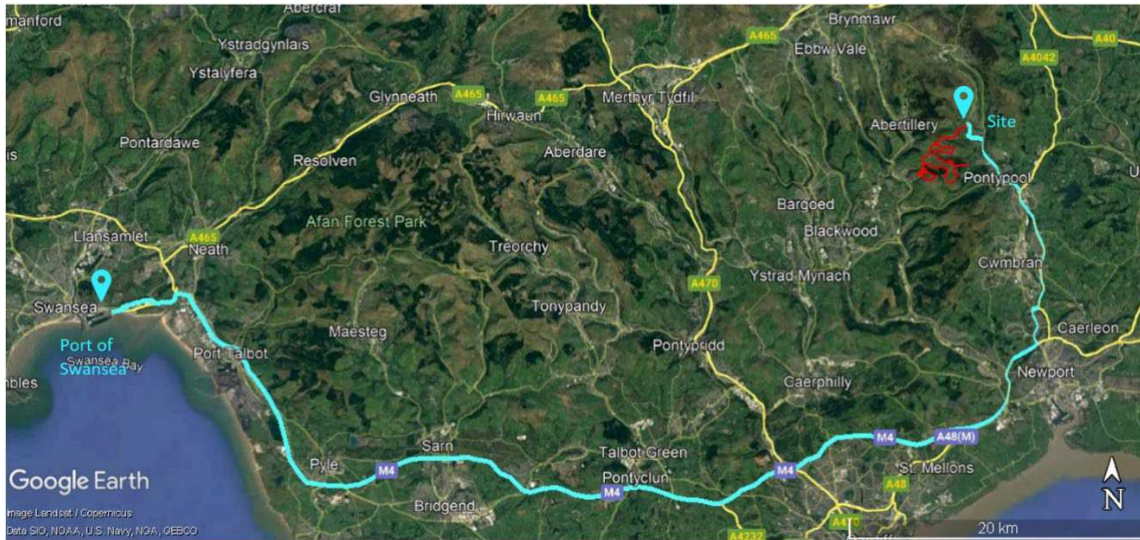
Route options for abnormal loads

12.4.8 At this stage, it is assumed that Swansea seaport would be used to deliver abnormal loads. The Port of Swansea is one of South Wales's major ports, located in Swansea, the port is well connected to the M4, offering great connectivity to the Strategic Road Network (SRN). It is 71 kilometres to junction 42 of the M4.

12.4.9 Based on the AIL Access Study, the following, illustrated in **Figure 12.1** is the preferred route for AIL deliveries:

- M4 - A4051 - A4042 - A4042 Turnpike Road - A472 - A467 - A4043 – B4246 – Unnamed Road / Farm Road - Site.

Figure 12.1 AIL Delivery Route Option



Source: Google

Desk study

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

Table 12.4 Data sources used to inform the Traffic and Transport assessment

Organisation	Data source	Data provided
Department for Transport (DfT)	Road traffic statistics ⁹	Baseline traffic data of the roads within study area
Agilysis	CrashMap Pro ¹⁰	Personal Injury Accident data
Google	Google Traffic ¹¹	Indication of traffic conditions on the road network
Google	Google Street View ¹¹	Desk study

12.5 Baseline Conditions

Current baseline

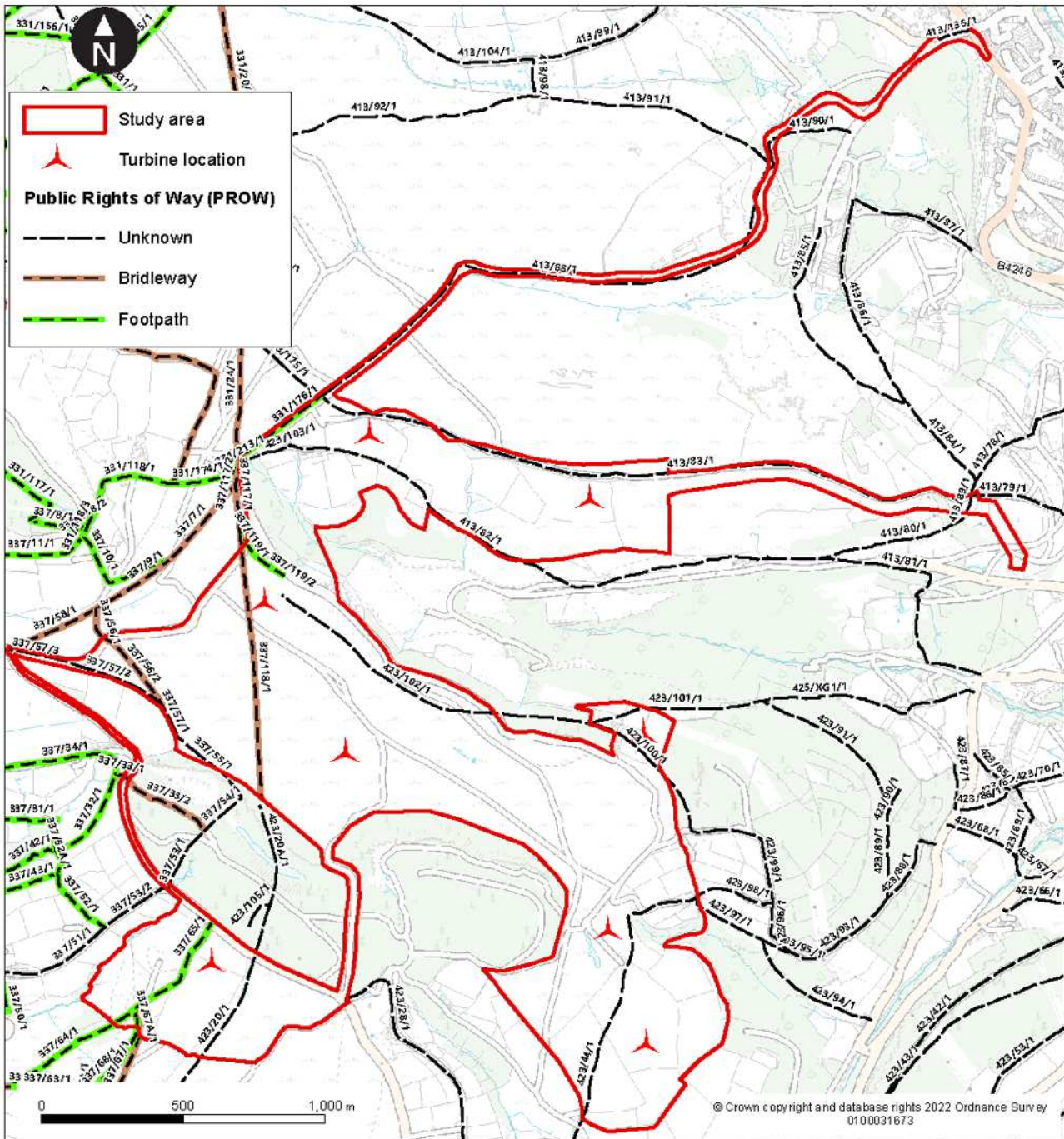
12.5.1 Several Public Rights of Way (PRoW) cross the Site as shown in **Figure 12.2**.

⁹ Department for Transport. (2022). Road Traffic Statistics. (Online) Available at: <https://roadtraffic.dft.gov.uk/#10/51.1974/0.7423/basemap-localauthorities-countpoints> (Accessed August 2022).

¹⁰ Crashmap. (2022). Crash maps. (Online) Available at: <https://www.crashmap.co.uk/> (Accessed August 2022)

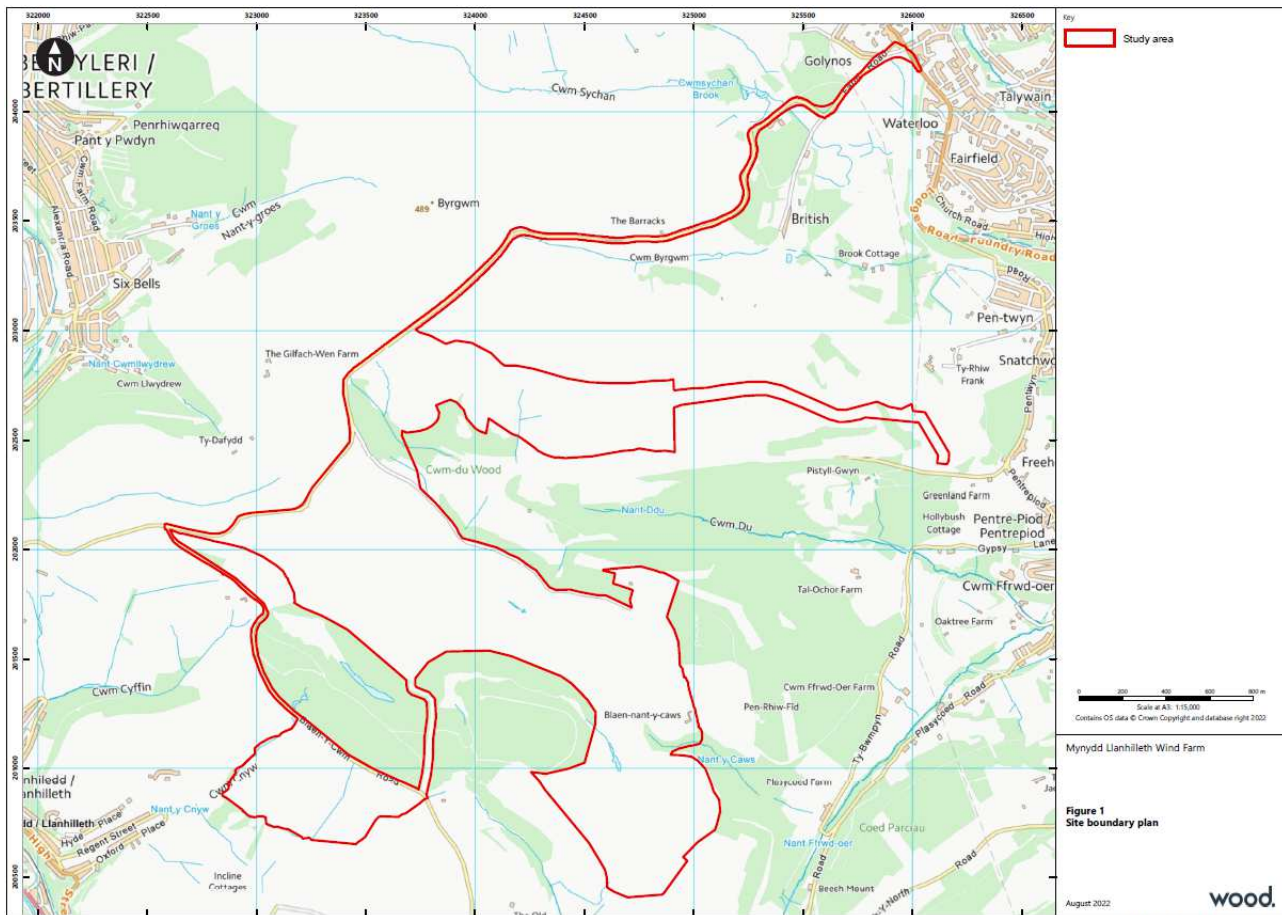
¹¹ Google. (2022). Google maps. (Online) Available at: <https://maps.google.com/> (Accessed August 2022)

Figure 12.2 Shows the PRow across the site



- 12.5.2 The Proposed Development Site boundary is illustrated in **Figure 12.3**.
- 12.5.3 The Site is surrounded to the west and south by the A467 to the east by the A4043. The Site is accessed from an existing tarmacked road called Farm Road off the B4246 to the north-east of the Site.
- 12.5.4 The A4043 connects the Site to the strategic road network north to the A465 via the B4246, and M4 to south via the A4042.

Figure 12.3 Proposed Development Site Boundary



Source: WSP (Previously Wood)

Local road network

B4246

- 12.5.5 The B4246 is a single-carriageway road and provides access to the Site. The B4246 routes from a T-Junction near the mid length of the A4043 (Broad Street) connecting directly to the B4246 (Union Street). The B4246 travels north-west from this junction on a slight incline onto Foundry Road to Lodge Road, to Church Road, to Commercial Road, the Site access point is at the crossroads of Commercial Road, Pigsaw Road, Albert Road, and Farm Road. Along the B4246 the speed limit is 30mph in the vicinity of the existing Site access onto Farm Road.
- 12.5.6 Footways are provided on both sides of the carriageway from the A4043/B4246 junction. Along the B4246 there is regular street lighting and pedestrian crossings with tactile paving.

A4043

- 12.5.7 The A4043 is a single-carriageway road within the study area. The A4043 has a north-west/south-east orientation, and it passes through multiple settlements to the north of the Site including Cwmavon, Blaenavon, and Govilon. It forms a roundabout junction with the A472 at its southern extent and then heads east to another roundabout connecting with

the A4042 which in turn connects to the M4 to the south. This is a key road for accessing the A465 to north and M4 to the south. The A4043 operates under the national speed limit. Routing north of the Site the speed limit varies between 30mph/40mph.

12.5.8 There are footways and street lighting provided on the A4043 in the vicinity of the B4246.

Strategic road network

12.5.9 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.

12.5.10 The A465 and M4 are the strategic roads in the vicinity of the Site. The A4043 via the B4246 and A4042 via the A4043/A472 provide a route from the Site to the A465 (north) and M4 (south). The A465 runs between Llandarcy, Swansea Bay (M4 junction 43) and Hereford, England. The M4 is a long-distance route between Swansea and London. These routes provide a route from the Site to major settlements and Swansea seaport.

Traffic flows

12.5.11 The assessment of likely significant effects requires a comparison to be made between the likely environmental conditions in the presence of the Proposed Development (during the construction phase) and baseline situation.

12.5.12 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. This study uses data pre-covid. The data from 2019 count is presented in **Table 12.5**.

12.5.13 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. It is proposed that construction will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. The factor 0.80719 for all vehicles and 0.749958 for HGVs have been derived from Table TRA0307 'Motor Vehicle Traffic Distribution by time of day and day of the week on all roads, Great Britain: 2019'.

Table 12.5 2019 baseline traffic flow (two-way)

Road Name	2019 Baseline AADT (24hr)		2019 Baseline (12hr adjusted)	
	Total Vehicles	HGVs	Total Vehicles	HGVs
B4246 (Talywain, DfT ID: 805036)	6443	40	5201*	30*
A4043 (Pontnewynydd, DfT ID: 78457)	23334	293	18835*	220*
A472 (Pontypool, DfT ID: 569)	35183	744	28399*	578*

Source: Department for Transport (<https://roadtraffic.dft.gov.uk/#12/51.7030/-3.0516/basemap-countpoints>)

*Rounded to nearest whole number

- 12.5.14 Current 2022 Baseline traffic flows have been calculated by applying growth factors from the National Trip End Model (NTEM) forecasts. NTEM is designed by the DfT and provides traffic growth forecasts for use in local and regional transportation models.
- 12.5.15 A growth factor of 1.0386 was applied to the 2019 base flows to forecast traffic for the current baseline year 2022. This growth factor was calculated using the Trip End Model Presentation Program (TEMPro), which determines growth factors based upon the NTEM forecasts. These factors were determined by using the Torfean Geographic Area due to all three roads that are considered within the assessment being located within this Highway Authority.
- 12.5.16 **Table 12.6** summarises the 2022 Current Baseline traffic flows (two-way).

Table 12.6 2022 baseline traffic flow (two-way)

Road Name	2019 Baseline (12hr adjusted)		2022 Baseline (12hr)	
	Total Vehicles	HGVs	Total Vehicles	HGVs
B4246 (Talywain, DfT ID: 805036)	5201	30	5402*	31*
A4043 (Pontnewynydd, DfT ID: 78457)	18835	220	19562*	229*
A472 (Pontypool, DfT ID: 569)	28399	578	29495*	600*

*Rounded to nearest whole number

Personal injury accident

- 12.5.17 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.
- 12.5.18 Records have been obtained over a five-year period between 2017 and 2022. It should be noted however, that in 2021 only half a year's work of data was collected, and so the number of years work of data is 4.5.
- 12.5.19 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;
 - 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.
- 12.5.20 **Table 12.7** summaries the PIA records on the B4246, A4043 and A472 which form construction routes. Accident records have been presented in **Appendix 12C**.

Table 12.7 Summary of recorded PIAs in proximity of the Site

Junction/Link	Slight	Serious	Fatal	Total	Accident Rate Per Annum
B4246/Emlyn Road/Green Way Junction	1	0	0	1	0.2
B4246 (between Emlyn Road and Farm Road)	3	1	0	4	0.8
B4246/ Bell Lane Junction	1	0	0	1	0.2
A4043/ Snatchwood Road	2	0	0	2	0.2
A4043/B4246/High Street	1	0	0	1	0.2
A4043/Cwmavon Road (between Abersychan and Cwmavon)	2	3	0	5	1
A4043/ Osborne Road (Between Abersychan and Pontewynydd)	3	1	0	4	0.8
A4043/George Street Junction	2	0	0	2	0.4
A4043/High Street/ Pontypool Roundabout	2	1	0	3	0.6
A4043/Albion Road / Pontypool Roundabout	2	1	0	3	0.6
A472 between Pontypool and A4042	3	1	0	4	0.8
A472/A4042 Roundabout	20	3	0	23	4.6
Total	19	7	0	26	5.2

Base Data Source: Department for Transport data published by www.crashmap.co.uk

- 12.5.21 **Table 12.7** shows there are a total of 26 accidents in the study area. Clusters or links which exhibit an annual accident rate of greater than one accident per annum could be considered significant.
- 12.5.22 This accident data shows that there are approximately 4.6 accidents per annum at the A472/A4042 Roundabout, however this higher rate of accidents is typical for a junction with very high traffic flows. It is noted that the B4246 in the vicinity of the Site access onto Farm Road experiences relatively low accident rates.

Future baseline

- 12.5.23 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 2025) have been calculated by applying growth factors from the National Trip End Model (NTEM) forecasts.

- 12.5.24 A growth factor of 1.0582 was applied to the 2019 Baseline flows to forecast traffic for the year 2025, assumed to be the year of construction peak phase. (However, it is noted that construction is proposed to be carried out during 2025 and 2026.) Therefore, the growth factor assumed for 2026 is 1.0653. **Table 12.8** details growth from 2019 to 2025 and **Table 12.9** details growth from 2019 until 2026.

Table 12.8 2025 Future Baseline traffic flow (two-way) – 12hr

Road Name	Total Vehicles	HGV
B4246 (Talywain)	5504*	32*
A4043 (Pontnewynydd0)	19931*	233*
A472 (Pontypool)	30052*	612*

*Rounded to nearest whole number

Table 12.9 2026 Future Baseline traffic flow (two-way) – 12hr

Road Name	Total Vehicles	HGV
B4246 (Talywain)	5541*	32*
A4043 (Pontnewynydd)	20065*	234*
A472 (Pontypool)	30253*	616*

*Rounded to nearest whole number

12.6 Embedded measures

- 12.6.1 A range of environmental measures have been embedded into the Proposed Development as discussed in **Section 4.8**. **Table 12.10** outlines how the embedded measures of relevance to the Traffic and Transport assessment.

Table 12.10 Summary of the embedded environmental measures relevant to Traffic and Transport

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

12.6.2 In addition to the measures mentioned in **Table 12.9**, a Draft CTMP has been developed to recognise the requirement to manage construction traffic movement. 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; and
- 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.

12.7 Scope of the assessment

The Proposed Development

- 12.7.1 The Proposed Development is to construct and operate a wind farm of up to eight turbines and associated infrastructure including access tracks, foundation, cabling, substation, and underground connection to grid distribution system.

Construction

- 12.7.2 The construction period for the wind farm is anticipated to last approximately 87 weeks. 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 underground.
- 12.7.3 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

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

Decommissioning

- 12.7.5 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.
- 12.7.6 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.

- 12.7.7 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

- 12.7.8 The spatial scope of the assessment of Traffic and Transport covers the area of the Proposed Development Site, together with the highways links that have formed the basis of the study area described in **Section 12.4**.
- 12.7.9 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.
- 12.7.10 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

- 12.7.11 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 2025 and 2026.

Potential receptors

- 12.7.12 Receptors are the users or beneficiaries of the highways network assets and facilities such as pedestrians, cyclists, equestrian, and drivers who travel within the vicinity of the Proposed Development.
- 12.7.13 The scope of the assessment provides comprehensive coverage of the routes surrounding the Proposed Development and it will consider of the implications of construction and operational traffic.
- 12.7.14 GEART⁸ identifies the following groups and special interest groups that may be affected:
- People at home;
 - People at work;
 - Sensitive groups including children, elderly and disabled;
 - Sensitive locations such as hospitals, churches, schools and historical buildings;
 - Pedestrians;
 - Cyclists;
 - Open spaces, recreational areas, and shopping areas;
 - Sites of ecological and nature conservation value; and
 - Sites of tourist/visitor attractions.

Likely significant effects

- 12.7.15 The effects on Traffic and Transport receptors which have the potential to be significant and have been taken forward for detailed assessment are summarised in **Table 12.11**.

Table 12.11 Likely significant effects

Activity	Effect	Receptor
Additional road traffic on local routes generated by the construction of the Proposed Development	<p>Potential increase in traffic flows on the local road network and impact on:</p> <ul style="list-style-type: none"> • severance; • driver delay; • pedestrian delay; • pedestrian amenity; • fear and intimidation; and • accident and safety. 	Occupants (residents, workers, schools, shopping areas, etc – groups identified in GEART8) alongside the roads used by construction traffic and users of the roads such as drivers, pedestrians, and cyclists.

Effects scoped out

- 12.7.16 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. 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.

12.8 Assessment methodology

Methodology for the prediction of effects

- 12.8.1 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 2.8. 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.

- 12.8.2 The assessment compares the traffic flows for the 2025 Future Baseline with those for the 2025 Future Baseline with the Proposed Development construction traffic.

General approach

- 12.8.3 The guidance that is followed when assessing the potential significance of road traffic effects is summarised in GEART⁸ (IEA, 1993), 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).

- 12.8.4 To assess the impact, the percentage increase in traffic will be determined by comparing the Proposed Development traffic flows with the baseline traffic flows on the highway links identified in **Section 12.4**.

- 12.8.5 GEART⁸ 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.

- 12.8.6 It should be noted that, according to GEART⁸, predicted traffic flow increases below 10% are generally not considered to be significant as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed not to result in significant environmental effects and have therefore not been assessed further as part of this chapter.

Environmental effects assessed

- 12.8.7 GEART⁸ sets out the following environmental effects that should be considered:

Severance

- 12.8.8 There are no predictive formulas which give simple relationships between traffic factors and levels of severance. GEART⁸ states that changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance. In general, marginal (slight) changes in traffic flow are, by themselves, unlikely to create or remove severance.

Driver delay

- 12.8.9 GEART⁸ 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).

Pedestrian delay

- 12.8.10 Given the range of local factors and conditions which can influence pedestrian delay, GEART⁸ does not recommend that thresholds be used as a means to establish the significance of pedestrian delay but recommend that reasoned judgements be made instead.

Pedestrian amenity

- 12.8.11 GEART⁸ notes that changes in pedestrian 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

- 12.8.12 There are no commonly agreed thresholds by which to determine the significance of this effect. GEART⁸ 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.

Accidents and safety

- 12.8.13 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.

Receptor sensitivity

- 12.8.14 As set out in GEART⁸, 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). 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;
 - Land-use activities adjacent to the route; and
 - Ambient conditions of adjacent land-uses
- 12.8.15 Each highway link included in the assessment has been assigned a sensitivity in accordance with GEART⁸ based on the above the groups identified in paragraph 12.7.14.
- 12.8.16 This is based on the proximity of sensitive receptors to the highway link and the highway environment. **Table 12.12** summarises the rationale used to determine the sensitivity against the corresponding receptors as part of the assessment as contained in GEART⁸. Professional judgement is also used to determine the sensitivity of the receptor.

Table 12.12 Receptor sensitivity

Sensitivity	Description / Reason	Receptor
High	Highway links with a high sensitivity to changes in traffic flows include routes with sensitive receptors alongside them such as schools and colleges, and/or where there are land-uses which result in high volumes of pedestrian/cycle users and the road is narrow and/or footway provision is poor, existing traffic volumes are high for the type of road resulting in congestion and road safety issues.	Occupants of land-uses alongside the highway link and users of the highway link
Medium	Highway links with a medium sensitivity to changes in traffic flows include routes with some sensitive receptors alongside them, and/or where there are land-uses which result in some pedestrian/cyclist users, road design and footway provision is adequate/appropriate, existing traffic volumes can be accommodated for the type of road but approaching capacity.	Occupants of land-uses alongside the highway link and users of the highway link
Low	Highway links with low sensitivity to changes in traffic flows include routes with no sensitive receptors and some land uses alongside and no/very limited pedestrian/cyclist users, road design and footway provision is appropriate, existing traffic volumes can be accommodated for the type of road.	Occupants of land-uses alongside the highway link and users of the highway link
Negligible	Highway links with negligible sensitivity to changes in traffic flows include routes with no sensitive receptors and very few land uses alongside them, which have no direct access and no/very limited pedestrian/cyclist users and existing traffic volumes can be accommodated for the type of road	Users of the highway link

12.8.17 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

12.8.18 GEART⁸ recognises that professional judgement should be used as part of the assessment and states the following:

"For many effects there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources." (Paragraph 4.5).

12.8.19 Based on the Rule 1 and Rule 2 and the sensitivity of the receptors, **Table 12.13** 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 GEART⁸ and professional judgement.

Table 12.13 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%.
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.
Pedestrian amenity and delay and fear and intimidation	Based on general level of pedestrian activity, visibility, and physical conditions such as traffic flow, traffic composition, crossing points and pavement width/separation from traffic.			
Accident and safety	Informed by a review of existing collision patterns and trends based upon the existing personal injury accident records and the forecast increase in traffic.			

Significance criteria

12.8.20 The classification of a likely traffic and transport effect is derived by considering the sensitivity of the receptor (derived from **Table 12.12**) against the magnitude of change (derived from **Table 12.13**) as defined in **Table 12.14** below. The shading indicates those significance ratings that are deemed to be ‘significant’ effects.

Table 12.14 Significance evaluation matrix

		Magnitude of change			
		High	Medium	Low	Negligible
Receptor sensitivity	High	Major (Significant)	Major (Significant)	Moderate (Significant)	Negligible (Not significant)
	Medium	Major (Significant)	Moderate (Significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Moderate (Significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)

	Negligible	Magnitude of change			
		Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

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

12.9 Assessment of Traffic and Transport effects

12.9.1 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

12.9.2 **Table 12.15** 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 GEART⁸ rule that applies.

Table 12.15 Sensitivity of highway links (baseline situation)

Highway link	Rational	Receptor sensitivity	Assessment (Rule 1/2)
B4246 (Talywain)	Local road (30mph) with pedestrian crossing facilities, footways, intermittent sideroads to serve properties, properties are close to carriageway, however entryways are protected by a barrier of parked cars along the edge of the carriageway. Active land use only to north side of the carriageway.	Medium	Rule 2
A4043 (Pontnewynydd)	60mph A road Land use both sides of carriageway with pedestrian crossing facilities, footways in parts.	Low	Rule 1
A472 (Pontypool)	60mph dual carriageway	Negligible	Rule 1

Construction traffic

12.9.3 Where possible, construction operations would be carried out concurrently, thus minimising the overall length of the construction programme. An 87- week construction programme (commencing in 2025) has been assumed for the purposes of this assessment.

Wind farm

12.9.4 As a worst-case scenario, it is assumed that 100% of all aggregate would be sourced from off-site sources via road. **Table 12.16** shows the predicted traffic generation during construction phase of wind farm.

Table 12.16 Predicted traffic generation during total 87- week construction phase - wind farm

Activity	Total loads	Total trips (two-way)
Delivery of Plant and Equipment	30	60
Delivery of Stone for Construction Compound	135	270
Delivery of Compound General Equipment	17	34
Delivery of Stone for Access Tracks	1,646	3,292
Delivery of Geogrid	8	16
Delivery of Culvert Materials	30	60
Delivery of Stone for Areas of Crane Operation	1080	2160
Delivery of Backfill Stone for Turbines	504	1008
Delivery of Concrete for Turbines	240	480
Concrete for transformer foundations	150	300
Delivery of Base Rings	4	8
Delivery of Shuttering	8	16
Delivery of Form work and reinforcing steel	10	20
Delivery of Stone for substation	135	270

Activity	Total loads	Total trips (two-way)
Delivery of Fibre Optic Cabling	3	6
Delivery of Sand for cable trench	133	266
Delivery of Cabling	5	10
Delivery and Removal of Mobile Crane	24	48
Delivery of Turbines	80	160
Delivery of Concrete for Control Building Base	12	24
Delivery of Electrical Equipment	60	120
Delivery of External Transformers	3	6
Delivery of HV Plinth Concrete	90	180
Delivery of Met Mast	4	8
Removal of Plant and Equipment	30	60
Total	4411	8822

Grid connection

12.9.5 The Site will be connected to the grid at Pontnewynydd between the Site Substation and a point to the east of the Site, near Tal-Ochor Farm. The 66kV cables will be laid underground over a length between 1.5km and 2km, with a tee-off structure connecting the cable to the existing overhead network. As the details of installation are dependent on further feasibility assessments by WPD, a worst-case scenario is assumed, laying the 66kV cables underground. The calculation for this connection excavation, cabling and filling works is included in **Table 12.16**.

Peak Traffic

12.9.6 As a worst-case scenario, it is assumed that construction of the compound, access track and internal tracks to Wind turbine Generator (WTG) hardstanding points would be carried out within 8 weeks which constitutes the peak traffic of the wind farm.

12.9.7 Based on the construction program this construction traffic results in an approximate peak of 77 HGV movements per 24 hours two-way. This peak is predicted to occur during month 2 (April 2025) of the total 87- week construction programme because there are

considerable stone deliveries during this time. After April there is anticipated to be some overlap of deliveries for foundations for the WTG and for the internal access roads as they are being built on the way to each WTG location. These deliveries have been incorporated with the WTG foundation deliveries.

Construction traffic distribution

- 12.9.8 It is important to note that the assessment assumes 100% of aggregate would be sourced off-site from one quarry. A definite construction route is subject to the final sources of aggregate and routing agreement with TCBC and BGCBC. Therefore, at this stage the assessment assumes that 100% of HGV traffic would route on one construction route.
- 12.9.9 **Table 12.17** shows the worst-case distribution of the construction traffic on the local road network.

Table 12.17 Distribution of construction traffic

Activity	Construction traffic (two-way)
B4246 (Talywain)	77
A4043 (Pontnewynydd)	77
A472 (Pontypool)	77

Construction effects

- 12.9.10 **Table 12.18** shows the worst-case percentage change in traffic flows in 2025, with construction traffic on the local road network. The GEART⁸ screening exercise is also presented within this table. Percentage increases that exceed the relevant GEART⁸ threshold of assessment rule would be subject to further assessment. Any increase that is below the GEART⁸ threshold would not be taken forward for further assessment.

Table 12.18 Forecast baseline traffic 2025 with predicted construction traffic

Highway link	GEART ⁸ screening rule	2025 Base		Construction traffic	2025 + construction traffic		% change		Further assessment required
		Total	HGVs	Total/HGVs	Total	HGVs	Total	HGVs	
B4246 (Talywain)	Rule 2	5503	32	77	5580	108	1.4 %	241.0 %	Exceeds 10% in HGV traffic only - assessment required
A4043 (Pontnewynydd)	Rule 1	1993	233	77	2000	309	0.4 %	32.9%	Exceeds 30% - assessment required

A472 (Pontypool)	Rule 1	3005 2	590	77	3012 9	667	0.3 %	13.0%	Below 30% - no assessment required
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12.9.11 Given the potential receptors described in **Table 12.11**, **Table 12.18** identifies the highway links that are taken forward for further assessment based on the percentage impacts on these links exceeding the 10% threshold (Rule 2) or 30% HGV threshold (Rule 1) when considering the worst-case scenario whereby all aggregate is imported to site.

12.9.12 A further assessment of environmental effects on the following link will be undertaken:

- B4246 (Talywain); and
- A4043 (Pontnewynydd).

B4246 (Talywain)

12.9.13 The GEART⁸ threshold is exceeded due to the 241% increase in HGVs movements when compared to baseline HGV traffic on this highway link. The threshold is not exceeded considering the increase in total traffic.

Severance

12.9.14 The B4246 is part of the primary network and there is land use on only 1 side limiting need for pedestrians to cross the carriageway. Segregated pedestrian footways are present on only one side of the B4246 for most of the route and then wide footways to the northern section of the route. A signalised pedestrian crossing can be found, suitable crossing points, and pedestrian refuge islands at key locations are provided to aid crossing of the road. The carriageway is suitably wide to accommodate two-way traffic and there is good pedestrian visibility for crossing in either direction.

12.9.15 The highway link has a medium receptor sensitivity (**Table 12.15**) due to sections of narrow road with housing on one side, however this is protected by a barrier of parked cars. Increases in HGV traffic are more than 90% resulting in high change (**Table 12.13**), however, this % change is a result of the negligible baseline HGV traffic volume. The increase in traffic flows is up to 77 in 12 hours which equates to an average of one vehicle every 9 minutes which will not impact on severance. This change is also only temporary, therefore considering this, the magnitude of change is low. The level of the effect is therefore considered minor overall and therefore not significant (**Table 12.14**).

Driver delay

12.9.16 This section of the B4246 has relatively low traffic flows, 30mph speed limit appropriate road markings and has adequate space for all manoeuvres such as right turn lanes and bus stops. Increases in traffic of seven vehicles every 60 minutes would not affect driver delay. The magnitude of change is therefore considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Pedestrian delay and amenity

12.9.17 There is good pedestrian provision along the B4246 and increases in traffic of one vehicle every 9 minutes on a road, where there is only land use predominantly on one side, would not affect pedestrian delay and amenity. The magnitude of change is therefore

considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Fear and intimidation

- 12.9.18 The assessment of the pedestrian amenity environmental effect mentioned above is also applicable here. The magnitude of change will therefore be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Accident and safety

- 12.9.19 The study area does not exhibit severe accident hot spots which need to be targeted with specific casualty reduction measures. The magnitude of change is considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

A4043 (Pontnewynydd)

- 12.9.20 The GEART⁸ threshold is exceeded due to the 32.9% increase in HGVs movements when compared to baseline HGV traffic on this highway link. The threshold is not exceeded considering the increase in total traffic.

Severance

- 12.9.21 The change in the total traffic and HGV is minimal at 1.4% (<30%) so the magnitude of change overall is considered to be low (**Table 12.13**). The road has appropriate crossings where necessary. This change is also only temporary, therefore considering this, the sensitivity is negligible, and overall, the level of the effect is negligible and not significant (**Table 12.14**).

Driver delay

- 12.9.22 The A4043 is a 60mph high standard road and part of the strategic road network. It has sufficient road markings and has adequate space for all manoeuvres such as right turn lanes and bus stops. Therefore, the sensitivity of this receptor is negligible. Increases in traffic of seven vehicles every 60 minutes would not affect driver delay. The magnitude of change is therefore considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Pedestrian delay and amenity

- 12.9.23 There is good pedestrian provision along the A4043 in this area, and properties are well back from the carriageway, no sensitive land use and there are not many cyclist users, the sensitivity of this receptor is therefore low. Therefore, increases in traffic of one vehicle every 9 minutes would not affect pedestrian delay and amenity. The magnitude of change is therefore considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Fear and intimidation

- 12.9.24 The assessment of the pedestrian amenity environmental effect mentioned above is also applicable here. The magnitude of change is considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

Accident and safety

- 12.9.25 The study area does not exhibit severe accident hot spots which need to be targeted with specific casualty reduction measures. The magnitude of change is considered to be negligible. The level of the effect is therefore considered negligible overall and therefore not significant.

12.10 Assessment of cumulative (inter-project) effects

- 12.10.1 A cumulative effects assessment (CEA) typically accounts for any other developments located within the study area to be included in the cumulative effects assessment to be analysed and the potential cumulative effects assessed. For the purposes of this CEA the list of other developments identified in **Chapter 2, Section 2.8** has been reviewed for any vehicle trip information to be considered in this assessment. It was found that there was minimal vehicle trip information available for the identified developments, either because the development is in too early stage of the planning process, or the scale of development precluded any vehicle trip assessment being submitted or readily available in the public domain.
- 12.10.2 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 Traffic Model (NTM)/local TEMPro data. This has formed the basis for the future baseline.
- 12.10.3 The traffic assessment presented in this chapter provides a worst-case scenario in terms of percentage change in traffic flows. This is because 2025 Baseline Future year flows are lower without the addition of committed development traffic.

12.11 Significance conclusions

- 12.11.1 A summary of the results of the Traffic and Transport assessment is provided in **Table 12.19**.

Table 12.19 Summary of significance of effects

Receptor and summary of predicted effects	Sensitivity receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
B4246 (Talywain)				
Severance: The separation of people from places and other people.	Medium	Low	Minor - Not Significant	Severance would not occur, as the sensitivity of the receptor is medium, and the magnitude of change is low.
Driver delay: Traffic delays as a result of development traffic.	Low	Negligible	Negligible - Not Significant	Section of the road is standard carriageway with 30mph speed limit. Increase in traffic due to the proposed development is negligible. 1 vehicle every 9 minutes will not affect driver delay.

Receptor and summary of predicted effects	Sensitivity receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Pedestrian delay and amenity: The ability of people to crossroads, and the effect on the relative pleasantness of a pedestrian journey	Negligible	Negligible	Negligible - Not Significant	Good pedestrian provisions and negligible increase in traffic. Quiet location with low pedestrian movement.
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	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 produce a change in the character of traffic	Negligible	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.
A4043 (Pontnewynydd)				
Severance: The separation of people from places and other people.	Low	Negligible	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.	Negligible	Negligible	Negligible - Not Significant	Section of the road is standard carriageway with 30-60mph speed limit. Increase in traffic due to the proposed development is negligible. 1 vehicle every 9 minutes will not affect driver delay.
Pedestrian delay and amenity: The ability of people to crossroads, and the effect on the relative pleasantness of a pedestrian journey	Low	Negligible	Negligible - Not Significant	Good pedestrian provisions and negligible increase in traffic overall.

Receptor and summary of predicted effects	Sensitivity receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
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	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 produce a change in the character of traffic	Negligible	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.

1. The sensitivity/importance/value of a receptor is defined using the criteria set out in **Section 12.8** 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 **Section 12.8** 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 12.8**.