14 TRANSPORT

14.1 Introduction

14.1.1 This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development on Transport. In particular it considers the potential for likely significant effects of severance to communities and of delays, amenity and safety of motorised and non-motorised road users.

14.1.2 This Chapter is accompanied by a Transport Statement (TS) which determines the potential transport impacts of the Proposed Development and included as a Technical Appendix to the ES.

14.1.3 Both this chapter and the TS are informed by responses to the Scoping Request report as submitted in November 2023. [in particular from the local highway authority Caerphilly County Borough Council and the Welsh Government's South Wales Trunk Road Agent]. The assessment methodology is in line with Institute of Environmental Management and Assessment (IEMA) Guidance.

14.1.4 This chapter is accompanied by the following drawings and tables:

- Figure 14.1 Study Area
- Figure 14.2 Site Access
- Figure 14.3 Study Area Public Right of Way (PROW)
- Figure 14.4 Personal Injury Accidents 2018-2022
- Table 14.1 Background Traffic Data
- Table 14.2 Construction Works Phases & Traffic Impacts
- Table 14.3 Baseline and Development Related Traffic Comparison

14.1.5 The structure of the chapter is as follows:

- Section 14.2 reviews Welsh and local transport policies
- Section 14.3 presents stakeholder consultation responses following the Scoping Request
- Section 14.4 summarises Scope and Limitations of the Assessment
- Section 14.5 sets out Assessment Methodology
- Section 14.6 sets out the Current Baseline, including sensitive receptor identification and baseline traffic and access conditions
- Section 14.7 sets out the Assessment of Effects, including embedded mitigation, the requirements of the development on the transport network

during construction and operation and the consequent effects on sensitive receptors

- Section 14.8 reviews any additional mitigatory measures
- Section 14.9 sets out any cumulative effects and
- Key conclusions are set out at Section 14.10.

14.2 Policy Context

14.2.1 The policies which set the framework for the assessment of Access and Traffic are detailed below.

Future Wales – the National Plan 2040[1]

14.2.2 Future Wales, the national development framework, sets out South-East Wales as a national priority for regeneration, recognising the vital role of decarbonisation and renewable energy generation and also connectivity, transport infrastructure and services in regeneration and sustainable economic growth.

14.2.3 Policy 18 states that renewable and low carbon energy projects qualifying as Developments of National Significance will be permitted subject to criteria including "*no unacceptable adverse impacts on the transport network*".

Planning Policy Wales - Edition 12 February 2024[2]

14.2.4 Planning Policy Wales (PPW) sits alongside Future Wales in setting out land use planning policies of the Welsh Government. Its primary objective is to ensure that the planning system contributes towards delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.

14.2.5 PPW describes the role of Transport Assessments: "*Transport Assessments are an important mechanism for setting out the scale of anticipated impacts a proposed development, or redevelopment, is likely to have. They assist in helping to anticipate the impacts of development so that they can be understood and catered for appropriately*" (para 4.1.56) and "*They should cover the transport impacts during the construction phase of the development, as well as when built and in use*" (para 4.1.57).

14.2.6 Concerning movement, PPW states that "*Existing infrastructure must be utilised and maximised, wherever possible.*" (paragraph 3.13).

[1] https://www.gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf
[2] https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12.pdf

14.2.7 In considering renewable energy proposals, planning authorities should take into account "*the capacity of, and effects on the transportation network*" (paragraph 5.9.20).

Llwybr Newydd The Wales Transport Strategy 2021[3]

14.2.8 The Wales Transport Strategy sets out:

- the vision for an accessible, sustainable and efficient transport system
- priorities including "*Priority 2: Allow … goods to move easily … by … efficient transport… infrastructure*"
- well-being ambitions including "*Good for the economy and places in Wales – A transport system that contributes to our wider economic ambitions*"

Technical Advice Note 18: Transport (TAN 18)[4]

14.2.9 TAN 18 was published by the Planning Policy Wales on behalf of the Welsh Assembly Government in 2007. The document provides guidance and may be material to decisions on planning applications. It recognises that "*An efficient and sustainable transport system is a requirement for a modern, prosperous and inclusive society. However, transport, in particular road traffic, can also have negative impacts on human health and the environment*" (para 2.1).

14.2.10 Concerning development in rural areas, the Note states: "*Development in rural locations should embody sustainability principles, balancing the need to support the rural economy, whilst maintaining and enhancing the environmental, social and cultural quality of rural areas. Most development should be located in places accessible by a range of travel modes.*" (para 3.13)

14.2.11 Concerning farm diversification, the Note states "*Local authorities should adopt a positive approach to development associated with farm diversification in rural areas, irrespective of whether farms are served by public transport*" (para 3.14).

14.2.12 Considering the needs of walkers and cyclists in development planning is clearly stated (section 6) and similarly public transport provision (section 7). Chapter 8 encourages freight transport by water or other alternatives to roads where feasible for part or all of the journey. Transport assessment aims (to provide information necessary to

[3] https://www.gov.wales/sites/default/files/publications/2021-03/llwybr-newydd-wales-transport-strategy-2021-full-strategy_0.pdf
[4] https://www.gov.wales/sites/default/files/publications/2018-09/tan18-transport.pdf

assess the suitability of an application in terms of travel demand and impact) and processes are set out at section 9. Visibility standards which help determine suitability of development access are set out in Appendix B.

Turning heads … A Strategy for the Heads of the Valleys 2020[5]

14.2.13 The regeneration strategy was published in 2006, within the context of the Wales Spatial Plan, and provided for the upgrading of the A465 Heads of the Valleys (HOV) road (located approximately 200m to the north of the Proposed Development) as an important regeneration opportunity.

Heads of the Valleys Regeneration Area Masterplan[6]

14.2.14 The Masterplan was published in June 2020 by Caerphilly County Borough Council. It sets out strengths of the Heads of the Valleys area (which includes Rhymney) notably "*Excellent connectivity by road via the A465 Heads of the Valleys Road to the West Midlands, West Wales and Ireland*". Moreover, the "*good strategic location on the A469 and very close to the A465*" is acknowledged for future development of the Heads of the Valleys Industrial Estate. Improved Rhymney Valley rail services post 2023, the South Wales Metro and an A465/A469 Transport Hub are identified for better local public transport connectivity. Active travel routes are also proposed to encourage walking and cycling in Rhymney.

South East Wales Valleys Local Transport Plan[7]

14.2.15 The South East Wales Valleys Local Transport Plan, which has been jointly produced by Blaenau Gwent, Caerphilly, Merthyr Tydfil, Rhondda Cynon Taf and Torfaen County Borough Councils, sets out the local authorities' priorities for transport schemes up to 2030. The Plan includes proposals for improvements to the A469 New Tredegar to Pointlottyn (at feasibility stage) located south of the Proposed Development to benefit regeneration.

Caerphilly County Borough Council Adopted Local Development Plan (LDP)[8]

14.2.16 The current Local Development Plan (LDP) was adopted on the 23 November 2010. Relevant transport policies include:

[5] https://www.blaenau-gwent.gov.uk/media/imahhdtt/sd119.pdf
[6] https://democracy.caerphilly.gov.uk/documents/s38796/Uwchgynllun%20Blaenaur%20Cymoedd.pdf?LLL=1
[7] https://www.torfaen.gov.uk/en/Related-Documents/Roads-Highways-and-Pavements/Local-Transport-Plan/South-East-Wales-Valleys-Local-Transport-Plan.pdf
[8] https://www.caerphilly.gov.uk/caerphillydocs/ldp/written-statement.aspx

- *SP1 Development Strategy in the HOV Regeneration Area which seeks to build on past transport investment to attract private sector investment for a wide variety of land uses.*
- *SP11 Countryside Recreation promotes enjoyment of local rural environments*
- *CW3 Design Considerations: Highways sets out highways requirements:*

  A The proposal has regard for the safe, effective and efficient use of the transportation network

  B The proposal ensures that new access roads within development proposals are designed to a standard that:

  i Promotes the interests of pedestrians, cyclists and public transport before that of the private car, and

  ii Safely and effectively accommodates the scale and nature of traffic, which those roads are intended to serve

  C Parking, appropriate servicing and operational space have been provided in accordance with the CSS Wales Parking Standards 2008

  D Where access onto a highway is required the proposal takes account of the restrictions relevant to the class of road as designated in the road hierarchy ensuring movements and speeds are controlled through appropriate design, in order to ensure highway safety and amenity.

Caerphilly County Borough Council Rights of Way Improvement Plan[9]

14.2.17 The plan was published in 2007. It sets out the rights of way strategy and aims to provide local communities and visitors with sustainable opportunities to enjoy the countryside in their close locality.

14.3 Consultation Findings

14.3.1 A Scoping Request report was submitted to Caerphilly County Borough Council in November 2023. Responses to the report relevant to transport are summarised below.

[9] https://www.caerphilly.gov.uk/caerphillydocs/roads-and-pavements/rights-of-way-improvement-plan.aspx

Caerphilly County Borough Council

14.3.2 Caerphilly County Borough Council Arboricultural Officer raised "*access issues for construction traffic and how many trees would be affected*" and the "need to understand the various haul / transport routes".

Welsh Water

14.3.3 Welsh Water advised that the access road to the Ffos y Fran Water Pumping Station located in the northwest corner of the site must not be disrupted with access required in perpetuity.

South Wales Fire and Rescue Service

14.3.4 The Fire and Rescue Service provided information about access requirements to and within the site. Because of the potential for electrical fires and difficulties with their extinguishment pedestrian access to electrical installations within the site is important. The Service also provide vehicle access route requirements. These include a minimum road width of 3.7m, a minimum gate width of 3.1m and a minimum turning circle between kerb of 26.9m.

14.4 Scope and Limitations of the Assessment

14.4.1 The traffic study network is bounded by the following study junctions and shown at Figure 14.1:

- Interchange 1 - Site Access/Heads of Valleys Industrial Estate access road;
- Interchange 2 - A469/Heads of Valleys Industrial Estate road/B4257 Carno St; and
- Interchange 3 - A469/Heads of Valleys A465.

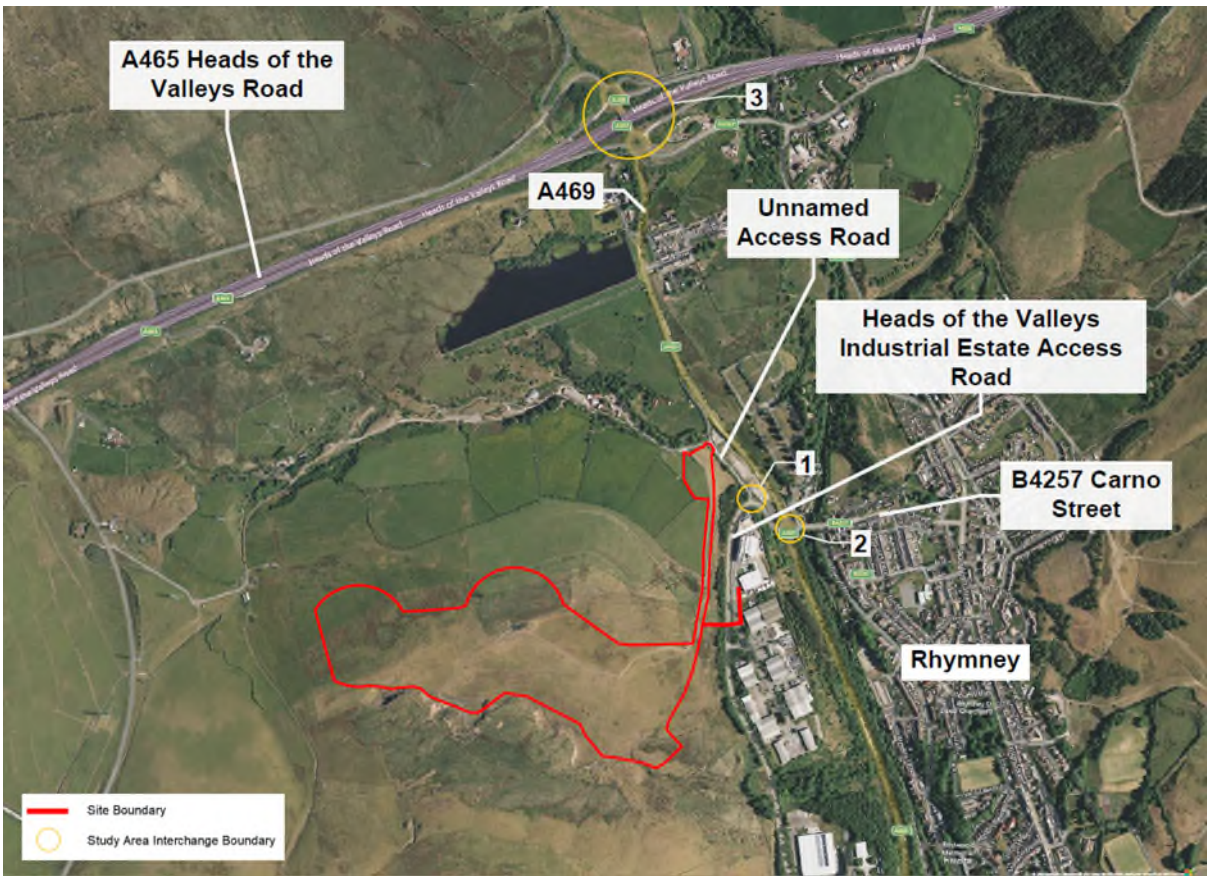

Figure 14.1: Study Area

14.4.2 The assessment addresses the impacts of traffic during:

- The construction phase and
- the operation phase.

14.4.3 Operation phase traffic is quantified, but is very unlikely to be significant, given that people are likely to travel to the site for technical equipment and for landscape and ecology maintenance purposes only during this phase.

14.4.4 Traffic impacts during decommissioning are not addressed. This is because there is sufficient uncertainty of baseline traffic conditions during decommissioning, 30 years after commissioning of the project, that meaningful assessment of the magnitude of change due to the project is not possible. In any case, it is likely that the net traffic impact will be less than during construction.

14.5 Assessment Methodology

14.5.1 As above, the ES is supported and informed by a TS which has been undertaken in accordance with National Planning Policy Guidance (NPPG Travel Plans, Transport Assessments and Statements, March 2014) and included as a Technical Appendix to the ES.

14.5.2 The assessment methodology is in accordance with the IEMA's 2023 'Environmental Assessment of Traffic and Movement'[10]. The assessment focuses on the degree of significance and consequences of changes within the study area for sensitive receptors. The method of baseline data collection and assessment is also in accordance with current guidance and industry best practice, for example the Department for Transport's Transport Appraisal Guidance.

14.5.3 The IEMA guidance sets out two rules to delimit the scale and extent of the environmental assessment:

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

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

14.5.4 The IEMA guidance (paragraph 2.18) states:

"It is generally accepted that accuracies greater than 10% are not achievable. It should also be noted that the day-to-day variation of traffic on a road is frequently at least + or -10%. At a basic level, it should therefore be assumed that projected changes in traffic of less than 10% create no discernible environmental impact."

14.5.5 The assessment will therefore adopt 30% change in traffic flow and give consideration of the 10% increase in traffic in sensitive areas.

14.5.6 The guidance also identifies potential sensitive receptors:

- People at home;
- People at work;

[10] https://www.iema.net/resources/blog/2023/07/12/new-iema-guidance-environmental-assessment-of-traffic-and-movement

- 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 highways links at (or over) capacity.

14.5.7 In accordance with IEMA guidance, the assessment will consider:

- Construction;
- Severance;
- Driver stress and delay;
- Pedestrian amenity and delay;
- Cyclist and equestrian amenity and delay;
- Fear and intimidation; and
- Accidents and safety.

14.5.8 The effects will be considered in most detail for the construction phase.

14.5.9 IEMA guidance references the Department for Transport's (DfT's) 'Manual of Environmental Appraisal'[11] which sets out that changes in traffic flow of 30%, 60% and 90% would be likely to produce 'slight', 'moderate' and 'substantial' impacts respectively, when assessing severance.

14.5.10 The nature of each residual transport impact will be established, and the significance of each effect is assessed as:

- Beneficial - Meaning that they produce environmental benefits in transportation terms, i.e. where overall traffic flows or percentage HGV decrease, where the performance of the local highway network is predicted to improve or there are improved facilities for pedestrians, cyclists or public transport users.

[11] https://www.gov.uk/government/publications/tag-unit-a3-environmental-impact-appraisal

- Negligible - Meaning that changes are too small to meaningfully measure.
- Adverse - Meaning that they produce environmental dis-benefits in transportation terms, i.e. where overall traffic flows or percentage HGV increase, where the performance of the local highway network is predicted to decline or there are reductions in facilities for pedestrians, cyclists or public transport users.

14.5.11 Beneficial and adverse effects will be further characterised as:

- Slight - Very short or highly localised changes of no significance.
- Moderate - Limited change by extent, duration or magnitude.
- Substantial - Considerable change by extent, duration or magnitude of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

14.5.12 Substantial and moderate effects will be considered significant in EIA terms.

14.6 Current Baseline

14.6.1 This section identifies sensitive receptors and their locations then describes (with quantification where possible) current traffic and transport conditions within the site and study area.

Sensitive Receptors

14.6.2 There are no residential properties with direct highway access in the study area. Therefore, local residents are not directly impacted by the Proposed Development. An agricultural building is identified to the west of and with direct highway access onto the A469 north of Rhymney but does not appear well used so that impacts are likely to be negligible. Therefore, traffic associated with the Proposed Development has no effect on people living in the study area and a negligible effect on people working in the study area.

14.6.3 People using study area roads may be impacted by development traffic. As above, the significance of impacts will depend on the background levels of use. Impacts are more likely due to the passage of abnormal load vehicles than the volume of HGV and light vehicles travelling to the Proposed Development. There is no evidence to suggest that junctions within the study area are over capacity; rather, the Heads of the Valleys

regeneration strategies reviewed above suggest additional development capacity. Therefore, no road links or junctions of high sensitivity are identified.

14.6.4 People walking, cycling and riding horses on PROW in the study area are considered vulnerable road users[12]. Particularly in the vicinity of the site access, there is potential for conflicting manoeuvres between people and development related traffic, which includes HGVs and some abnormally large HGVs. PROW in the study area are detailed below, the alignment of a bridleway (sections of which are referenced as RHYM/BR93/1 and 2 and RHYM/BR92/1 and 2) crosses the proposed Site access. People using these PROW are therefore considered of high sensitivity. Similarly, people using the informal pedestrian crossing of the A469 to the immediate north of the roundabout junction with the B4257/Carno St and the Heads of the Valleys Industrial Estate access road may be sensitive to severance from additional traffic on the A469.

14.6.5 Cyclists using the NCN 468 may be sensitive to changes in amenity and fear and intimidation from any increase in traffic using the A469. Because the cycle route is located to the east of the A469 and fully segregated from the main carriageway there are however no potential effects of delay or severance.

14.6.6 Potential sensitive receptors therefore comprise:

- Road users on the A469, including cyclists on the adjacent NCN 468;
- Road users on the Heads of the Valleys Industrial Estate access road; and
- People (walking, cycling and equestrians) using PROW within the site and using the crossing over the A469 north of the B4257 roundabout, some of whom in the vicinity of the site access are considered of high sensitivity.

Traffic and Transport Baseline Conditions

<u>On site traffic and transport</u>

14.6.7 The site is at present agricultural (grazing) land. It has frontage to the east onto the Heads of the Valley Industrial Estate access road and an unnamed lane running parallel to the A469 and leading to the private access road to Cwm Carno Farm. The A469 is a principal single carriageway road which in turn leads north to the Heads of the Valley A465 dual carriageway trunk road. The A469/A465 is a major grade separated

[12] https://www.gov.uk/government/news/the-highway-code-8-changes-you-need-to-know-from-29-january-2022#Overtaking%20When%20Driving%20Or%20Cycling

interchange with two roundabouts and dedicated slip roads to the A465. Site access strategy is shown at Figure 14.2 below.

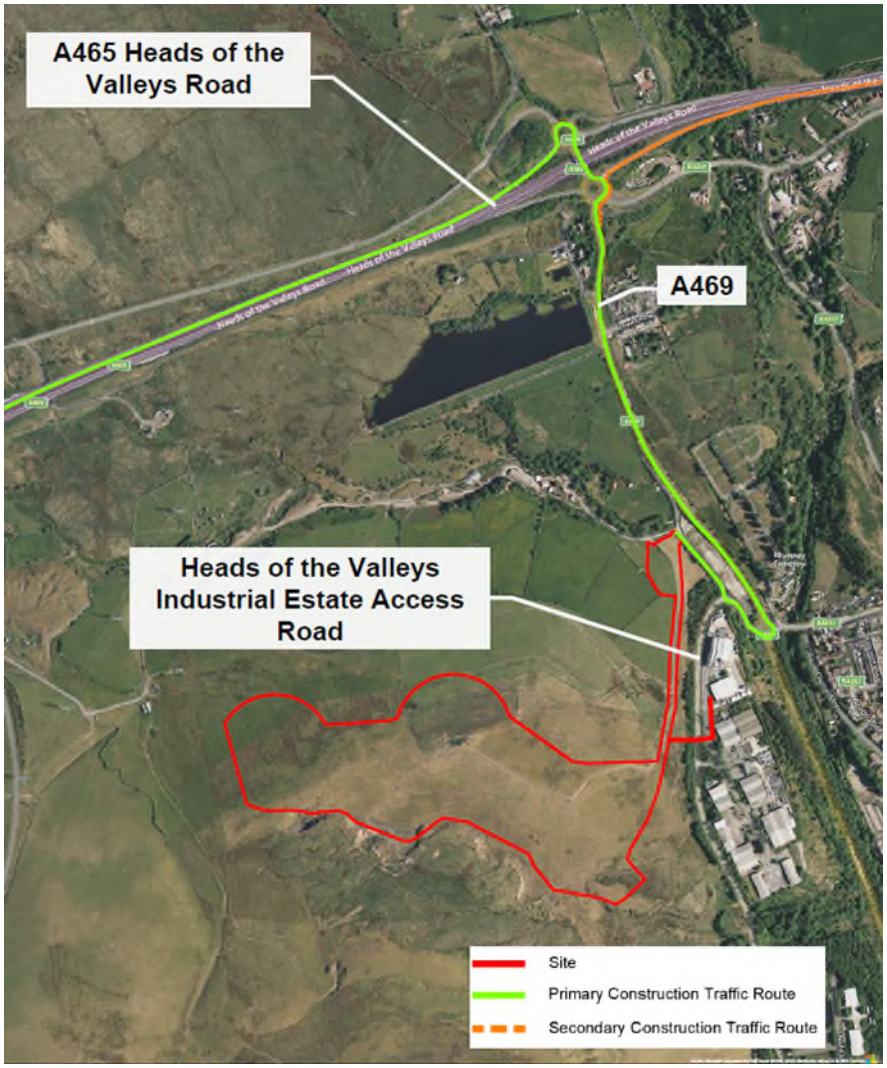

Figure 14.2: Site Access

14.6.8 Within the site are minor access roads and tracks. The nearest residential property is Cwm Carno Farm, 530m north of the site (owned by the project Landowner). Further residential properties are located 640m east of the site, on the edge of the settlement of Rhymney, and 650m northwest of the site at Blaencarno Farm.

14.6.9 Also within the site there is a network of public rights of way, both footpaths and a bridleway[13] as shown at Figure 14.3 below.

[13] https://www.caerphilly.gov.uk/things-to-do/green-spaces/public-rights-of-way

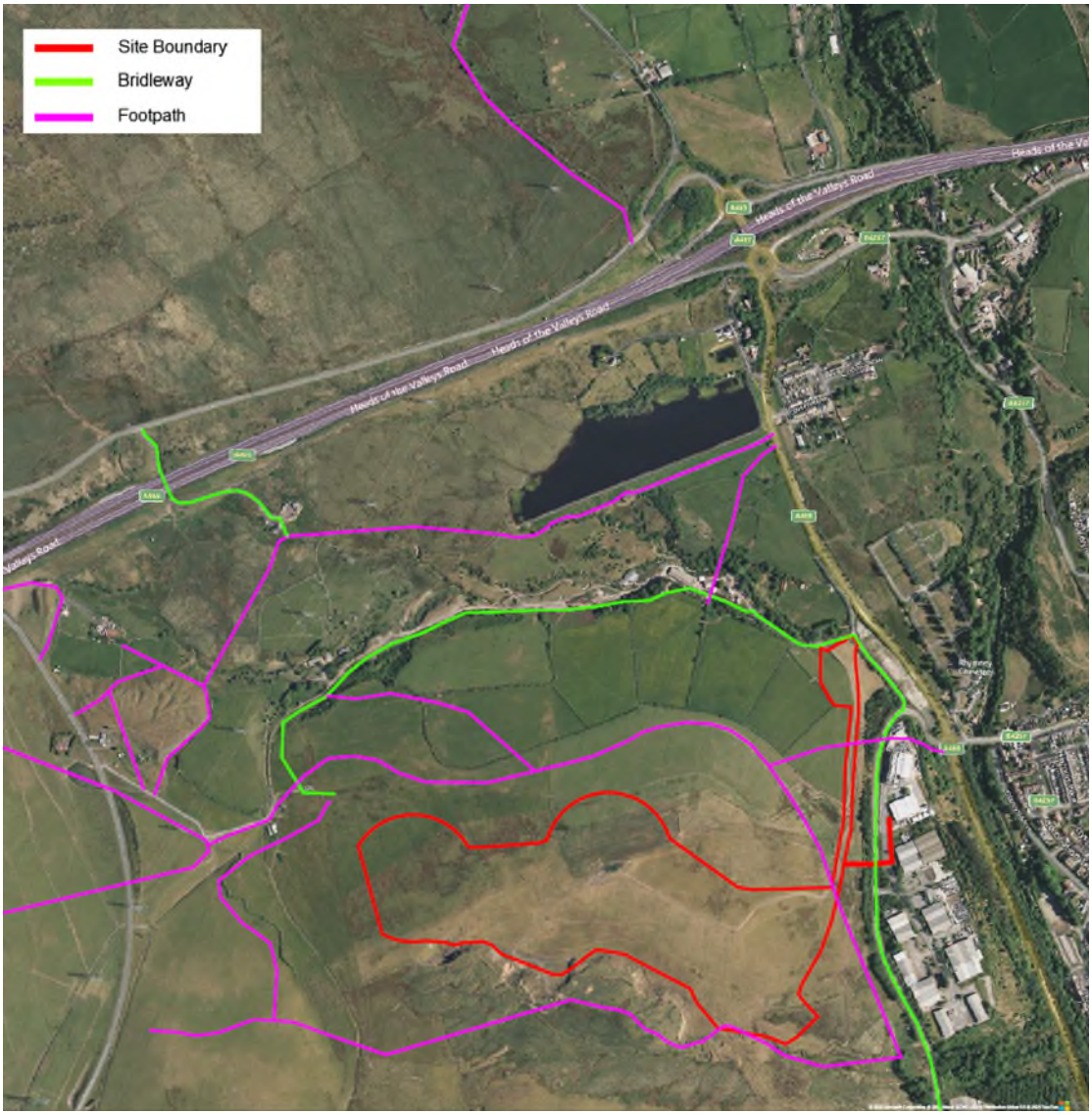

Figure 14.3: Local PROW Network

14.6.10 PROW in the vicinity of the proposed site access are shown in more detail at Figure 5 below.

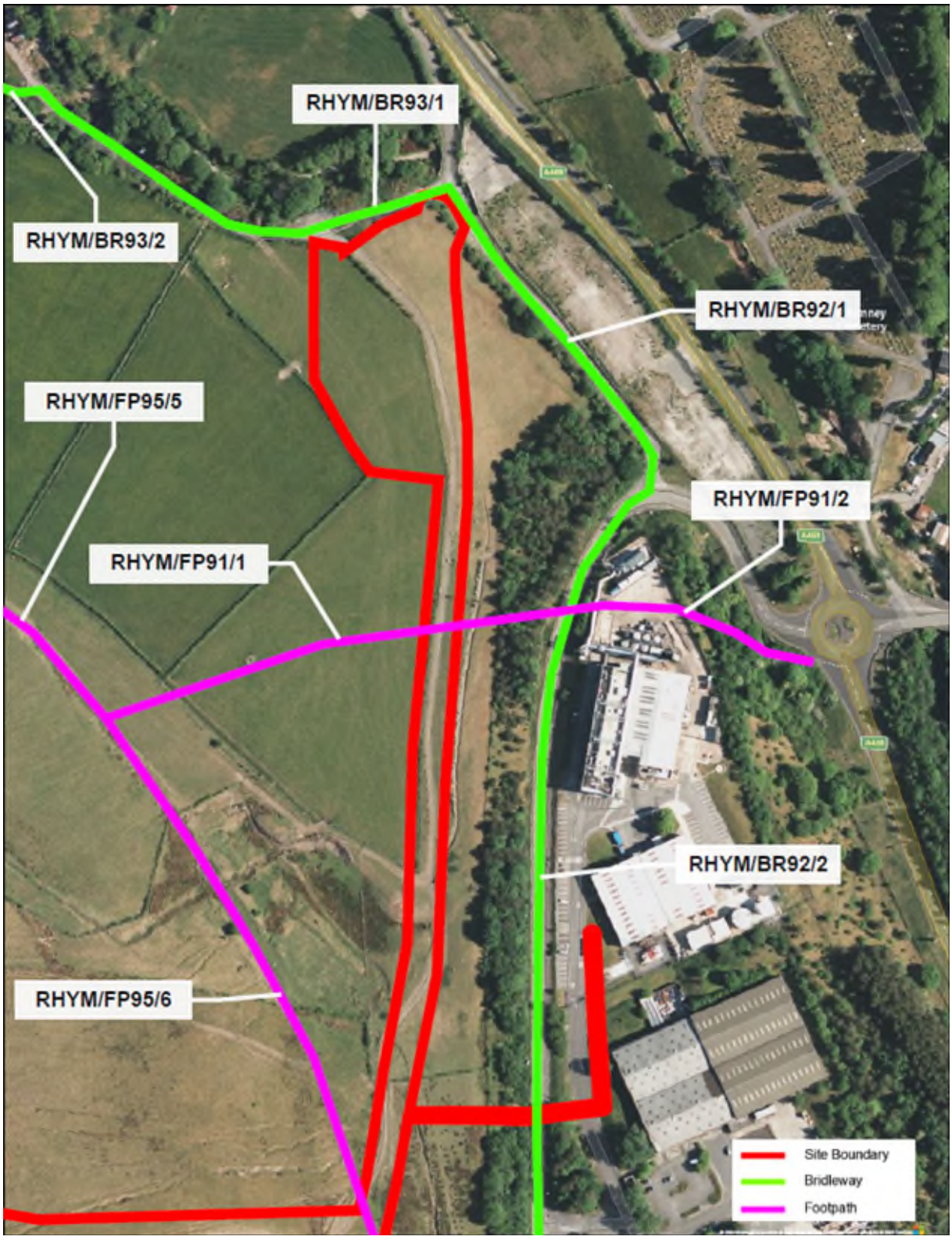

Figure 14.4: PROW in the vicinity of the proposed site access

Study Area Traffic & Transport

14.6.11 National Cycle Network Route (NCN) 468 runs the length of the Rhymney Valley (bar a gap to the south), through Rhymney town centre and up to the A465 via the A469. Within the study area NCN 468 comprises a segregated and lit cycle track of approximately 2m width alongside the eastern side of the A469. There is also an informal pedestrian crossing of the A469 north of the interchange with the B4257 signed Rhymney and the Heads of the Valleys Industrial Estate access road.

14.6.12 Traffic data relevant to the study area is available from UK Department of Transport and from traffic counts commissioned from professional traffic count company (Streetwise Ltd) for this Proposed Development. The data is described in more detail below and then summarised at the following Table 14.1.

14.6.13 Traffic data for the Heads of the Valleys Industrial Estate access road is available from an automatic count (ATC) undertaken by Streetwise for this Proposed Development over the seven days from 16 to 22 January 2024, shown at Figure 14.5 below.

14.6.14 Traffic data for the A469 is available from another ATC located between the A465 and the Heads of the Valleys Industrial Estate, also shown at Figure 14.5. The count was undertaken by Streetwise for this Proposed Development again over the seven days from 16 to 22 January 2024.

Figure 14.5: Traffic counts

14.6.15 Two relevant UK DfT count sites are available for the Heads of the Valleys Road, the A465. South-west of the A465 junction with the A469 (count reference 99664[14]) the most recent count was undertaken on 29 April 2021. At this time COVID related lockdowns were being eased, so that traffic flows could have been suppressed. This data therefore could show some suppression of traffic, and in this context represents a worst-case situation (because the greater the background traffic flows the lower the proportional development related traffic impact). The April 2021 data shows an estimated AADT of 27,408 of which 4.8% were HGVs. This compares well with a

[14] https://roadtraffic.dft.gov.uk/manualcountpoints/99664

previous traffic count undertaken in 2017 which estimated an AADT of 28,865 of which 4.6% were HGVs.

14.6.16 The second relevant DfT count site is located on the A465 north-east of the A465/A469 junction (count reference 99666[15]) and depends on a neighbouring counted link. The most recent count was undertaken in 2019 and shows an estimated AADT of 26884 with 4.7% HGVs. Again, this data compares well with the 2017 and 2021 counts south of the A465/A469 junction. Information such as the actual date counted concerning the "neighbouring counted link" is not apparent, so this data is considered less reliable than that for the site to the south-west (site reference 99664).

Table 14.1: Background Traffic Data

Location	Date of Count	AADT (veh)	HGV (%)
A465 Heads of Valleys Road to SW of A469 junction	29 April 2021	27,408	4.8%
A465 Heads of Valleys Road to SW of A469 junction	19 October 2017	28,865	4.6%
A465 Heads of Valleys Road to NE of A469 junction	2020	26,884	4.7%
A469 south of A465	16-22 January 2024	7,360	12.2%
Heads of Valleys Industrial Estate Access Road	16-22 January 2024	587	21%

14.6.17 For the traffic analysis, our estimate of the baseline AADT on the A465 is taken as 27,408 vehicles with 4.8% HGV. This is a worst-case assumption because the proportional impact of the Proposed Development is greatest where the background traffic is low. AADT estimates elsewhere on the road network are taken directly from count data.

[15] https://roadtraffic.dft.gov.uk/manualcountpoints/99666

Road Safety

14.6.18 Analysis of the Crashmap dataset[16] shows that over the five years 2018 to 2022 inclusive a total of four slight personal injury accidents took place within the study area. The locations are shown at Figure 14.6 below and reveal that there were no persistent locations or common patterns.

Figure 14.6: Personal Injury Accidents 2018-2022

[16] https://www.crashmap.co.uk/Search

14.7 Assessment of Effects

14.7.1 This section looks at embedded mitigation measures, the requirements of the Proposed Development on the transport network during construction and operation and then the traffic and transport related effects of the Proposed Development on sensitive receptors.

14.8 Embedded Mitigation

14.8.1 All construction traffic will be the subject of a Construction Traffic Management Plan (CTMP), which will form part of the Construction Environmental Management Plan (CEMP) and set out suitable measures:

- to ensure safe management and monitoring of construction traffic, particularly for delivery of good and equipment and for efficient travel to site for construction workers;
- for minimal disruption to people using PROW; and
- to maintain highway safety and the free flow of traffic on the public highway.

14.8.2 Mitigation of impacts on PROW users during construction will be discussed with Caerphilly County Borough Council. Temporary closures and diversions may be the most effective way forward to maintain safety and enable the development but other ongoing management and communication measures would also play a role. Amenity, safety and convenient passage for people walking and cycling and riding horses in the vicinity of the proposed site access (which cuts across bridleway reference RHYM/BR93/1) is of particular importance.

14.8.3 The CTMP will provide for minibus travel to the Site for contractor staff. Car trips will be minimised to reduce traffic and environmental effects of the Proposed Development. Again, preliminary proposals are detailed in the TS.

14.8.4 The CTMP will also include a Delivery Management Plan (DMP), setting out all traffic management and mitigation measures required to ensure safe and efficient transport of construction loads (via HGV and AIL vehicles). A suitably qualified and experienced specialist abnormal load contractor will determine suitable abnormal load routes and appropriate standard safety mitigation measures, such as:

- Night-time or off-peak movement of abnormal loads to minimise impact on other road users;
- Rolling road closures (where necessary) to ensure safety; and
- Escort vehicles and signage.

14.8.5 Preliminary proposals of the above will be included within the TS, and the experience of the relevant authorities following neighbouring wind turbine construction would be helpful. All abnormal load movements are regulated by the South Wales Trunk Road Agent and will be subject to separate agreement with the relevant highway authorities and police through the ESDAL system. It is assumed that the DMP process will ensure any effects on local communities and road users are minimal.

Transport and Effects during Construction

14.8.6 People using PROW (as walkers, cyclists or equestrians) may directly cross all traffic (light vehicles, HGVs and AILs) accessing the Proposed Development during construction. Because of this direct conflict and their inherent vulnerability, the potential for severance, disamenity and delay, fear and intimidation and accidents and poor safety is considered adverse and substantial. The preliminary CTMP includes suggested measures to protect PROW users and to limit their exposure to risk from interaction with construction traffic. These measures include, but are not limited to temporary closures or diversions, warning signage, local communications, weekend traffic bans and the use of banksmen.

14.8.7 Assuming the design and implementation of the preliminary CTMP, as set out in the TS, is effective and continuous during construction, the level of risk to PROW users will be low, and the severance impacts of closures/diversions will be minimised to affect relatively small numbers of users for limited periods of time. Therefore, via implementation of a CTMP, the magnitude of these potential impacts reduce to **adverse** and **moderate** and the timescale is limited.

14.8.8 Equipment and materials are expected to be transported to site from the A465, the A469 and the Industrial Estate access road. New tracks will be required within the Site to access the turbines and PV panels. A deer fence approximately 2.4m high will be installed around the perimeter of the PV panels to improve security; otherwise, access to the site is generally open, limited only as required to preserve health and safety.

14.8.9 Around 25 people are expected to work on site generally during construction, five days per week. In addition, specialist input is anticipated comprising:

- 10 staff during civils operations;
- five staff during substation works; and
- 15 staff during turbine erection.

14.8.10 Therefore, at most some 40 people are anticipated to be working on site. Assuming construction workers use four minibuses from local points of departure with some supervisory/inspection access by light vehicle, this element of traffic generated by the development amounts to 10 light vehicle movements per day. Or, converted to the Annual Average Daily Traffic (AADT) (seven day rather than five day average) this becomes six vehicles per day.

14.8.11 On site construction is estimated to have a duration of approximately five months. Preliminary details of construction activities and traffic movements by month are summarised at Table 14.2 below. Traffic loads and movements are estimated from recent experience of renewable energy schemes in the UK.

Table 14.2: Construction Works Phases & Traffic Impacts

Works Phase	Traffic Impact (loads)	Traffic Impact (Two-way Traffic Movements	Indicative Programme
Site Establishment	13 HGVs	26 HGVs	Weeks 1-2
Track Construction	240 HGVs	480 HGVs	Weeks 2-8
PV Modules & Mounting Structures	35 HGVs	70 HGVs	Weeks 3-16
Transformer Centres/Switchgear Cabins	9 HGVs	18 HGVs	Weeks 11-15
Turbine Foundations	127 HGVs	254 HGVs	Weeks 10-13
Turbine Erection	13 AILs	26 AIL vehicles	Weeks 12 & 15
Cable Laying	18 HGVs	36 HGVs	Weeks 6-10
Substation	206 HGVs	412 HGVs	Weeks 2-19
Reinstatement	6 HGVs	12 HGVs	Weeks 19-20
Total	654 HGVs and 13 AILs	1308 HGVs and 26 AILs	
Peak Week	93 HGVs	186 HGVs	Week 6

14.8.12 The peak week of construction is estimated to require 186 2-way heavy goods vehicle movements. During this specific week the AADT impact would amount to 27 HGV movements. The average week of construction meanwhile would require a total of 65 HGV movements, resulting in a much lower AADT impact of nine HGV movements (around one third of the peak construction week). Total AADT traffic impact includes construction worker travel to the site, amounting to six light vehicle movements, discussed above. Baseline traffic flows on the A469 and the Heads of the Valleys Industrial Estate access road were shown at Table 14.1 above. The comparison of baseline and worst-case development traffic flows is set out below at Table 14.3. Traffic on the A465 Heads of the Valleys road and interchange are not considered, because Table 14.1 shows that baseline flows on the A469 are lower – the analysis focuses on the worst case scenario.

Table 14.3 Baseline and Development Related Traffic Comparison

	A496	**Heads of the Valleys Industrial Estate access road**
Baseline HGV AADT	898	124
Baseline AADT	7360	587
Construction Deliveries (HGV)	27	27
Construction Traffic (vehicles)	33	33
Peak week construction traffic impact (HGV)	3%	22%
Peak week construction traffic impact (vehicles)	>1%	6%

14.8.13 Table 14.3 shows that the peak week traffic impacts of the development are in all cases estimated below the 30% significance threshold. The average traffic impact over the 20-week construction duration is well below this level (as above, around one third of the peak week). Therefore, development related traffic is likely to be imperceptible to road users, on the A469 and the Heads of the Valleys Industrial Estate access road including cyclists on the NCN 468.

14.8.14 Proposed AIL traffic is quantified in Table 14.2 above, with a total of 13 loads over two weeks. Discussions with the South Wales Trunk Road Agent and other local authorities concerning proposed DMP measures are essential to avoid potential safety and severance effects on local road users. Effects of AIL on local road users depend on design and implementation of effective mitigation through the DMP. The DMP will

include standard mitigation measures such as night-time or off-peak movement of abnormal loads to minimise impact on other road users, rolling road closures (where necessary) to ensure safety, and escort vehicles and signage.

14.8.15 The above measures limit the impacts on safety, severance and delay to road users by reducing exposure. Furthermore, AIL movement is undertaken for relatively short periods. Assuming the DMP is in place, and recognising that much depends on detail including site access, effects of the development construction on local road users are therefore **adverse** and **moderate**, and the timescale is limited.

Transport and Effects during Operation

14.8.16 General maintenance of panels will be undertaken annually to clean and check the solar panels. Maintenance crews visiting the site will use small vehicles (e.g. 4x4 or small van) to access the site. Teams of two people with a 4x4/van would undertake the servicing. It takes two people (on average) up to 2 days to service each turbine. Routine maintenance or servicing of turbines is carried out twice a year, with a main service generally taking place in the summer and a minor service in the 6 months following. In year 1, there is commonly an initial 3-month service after commissioning. The turbine being serviced will be switched off for the duration of its service.

14.8.17 Travel to the site related to agricultural purposes and for ground and ecological management is also anticipated, as for the baseline, on an occasional basis.

14.8.18 In summary, travel to the site during operation is unlikely to exceed one 4x4 vehicle/van per day on an occasional basis. This is likely to be unchanged compared to the current agricultural land use. However, land required for the PV panels and currently accessible for recreational use would be inaccessible due to the new secure fence during the project lifetime. Effects of the development on local road and PROW users are therefore **adverse** and **negligible**.

14.9 Additional Mitigation

14.9.1 No additional mitigation beyond measures identified above are considered necessary.

14.10 Cumulative Effects

14.10.1 No neighbouring developments with cumulative effects on the traffic study area are identified.

14.11 Summary and Conclusions

14.11.1 A preliminary assessment of the likely significant effects of the Proposed Development on Transport has been prepared. Particularly considering the potential for likely significant effects of severance to communities and of delays, amenity and safety of motorised and non-motorised road users.

14.11.2 The chapter also considers the requirements of national and local transport policies, in parallel with stakeholder consultation responses. The current baseline transport situation was outlined and potential sensitive receptors was identified, alongside the likely impacts of the proposed development.

14.11.3 Key conclusions are:

- No effects on people living in the study area are anticipated, because there are no residential properties with direct highway access.
- Negligible effects on people working in the study area are anticipated, because there is just one agriculture related property with direct access to the A469.
- No safety effects are identified on roads in the study area, with just 4 personal injury accidents on roads over the five years including 2022, and no recurring patterns.
- With the exception of AILs, effects on road users are considered **adverse** and **negligible**, because the scale of traffic related to construction is both time limited and imperceptible, within the daily fluctuation of baseline traffic. Similarly, no effects are anticipated for cyclists using the NCN 468 because the cycle route is fully segregated from the A469 and because construction traffic is imperceptible.
- A DMP is considered essential to minimising the effects of HGVs and AILs on road user severance and safety. Some 13 AILs are planned over two specific weeks. Safe and convenient access is likely to be achievable, for example through restricting delivery times to overnight periods and through rolling road blocks. Discussions with the South Wales Trunk Road Agent, Caerphilly County Borough Council and the police concerning preliminary proposals set out in the TS would be essential in taking this forward. Effects depend on details of the access strategy but at this stage are considered **adverse** and **moderate**.

- During the operation phase traffic to the Proposed Development is likely to be limited and occasional and the effects are likely to be similar to the current agricultural land use. The area occupied by solar panels will be fenced off and therefore accessibility reduced for recreational users. Effects are therefore considered **adverse** and **negligible**.
- People walking, cycling and equestrians using the bridleway and footpath near the site access are vulnerable to adverse and substantial effects of amenity, delay, fear and intimidation and accidents and safety. Overcoming these effects relies on ongoing care and attention during the 20 weeks of construction. With mitigatory measures set out in the TS for the preliminary CTMP, such as weekend access restrictions and presence of qualified banksmen during all vehicle manoeuvres at the site access and where onsite access tracks cross footpaths, these effects are reduced to **adverse** and **moderate**.