

Connah's Quay Low Carbon Power

Preliminary Environmental Information Report
Volume II, Chapter 10: Traffic and Transport

Uniper

The Planning Act 2008
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
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10. Traffic and Transport

10.1 Introduction

Overview

10.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents a preliminary assessment of the likely significant environmental effects of Connah's Quay Combined Cycle Gas Turbine (CCGT) with Carbon Capture Plant (CCP) (hereafter referred to as the Proposed Development) with respect to Traffic and Transport during the construction, operation (including maintenance), and decommissioning phases of the Proposed Development.

10.1.2 This chapter is supported by the following figures in PEIR Volume III:

- **Figure 10-1: Local Highway Network.**

10.1.3 This chapter is supported by the following appendices in PEIR Volume IV:

- **Appendix 2-A: Scoping Opinion Responses;**
- **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics;** and
- **Appendix 10-A: Transport Assessment.**

10.1.4 This chapter is supported by a Transport Assessment (TA), provided at Appendix 10-A. The TA considers relevant planning policy, a review of the existing situation, local collision analysis, the potential trip generation of the Proposed Development, during construction, operation and decommissioning, and the effects on the surrounding highway network. Whilst this chapter has been produced in accordance with Institute of Environmental Management and Assessment (IEMA) Guidelines, the TA solely considers the potential traffic impact of the Proposed Development from a transport policy perspective and is produced to satisfy the requirements of the Local Highway Authority (LHA) and the North and Mid Wales Trunk Road Agent (NMWTRA), at the development consent application stage.

Legislation, Policy and Guidance

10.1.5 Legislation, planning policy, and guidance relating to Traffic and Transport and pertinent to the Proposed Development are listed in **Table 10-1**. Further detail regarding these can be found in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics (PEIR Volume IV)**.

Table 10-1: Legislation, Planning Policy, and Guidance relating to Traffic and Transport

Type	Legislation, Policy and Guidance
Legislation	<ul style="list-style-type: none"> • Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (Ref 10-1); • Well-being of Future Generations (Wales) Act 2015 (Ref 10-2); • Active Travel (Wales) Act 2013 (Ref 10-3).

Type	Legislation, Policy and Guidance
National Planning Policy	<ul style="list-style-type: none"> • The Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 10-4); • NPS for Natural Gas Electricity Generating Infrastructure (EN-2); • The NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 10-5); • The NPS for Electricity Networks Infrastructure (EN-5) (Ref 10-6); • Planning Policy Wales (PPW) (Ref 10-7); • Wales Transport Strategy (2021) (Ref 10-8); • Technical Advice Note 18: Transport, Welsh Government (2007) (Ref 10-9).
Local Planning Policy	<ul style="list-style-type: none"> • Flintshire County Council (FCC) Local Development Plan (LDP) (2015-2030) (Ref 10-10); • North Wales Joint Local Transport Plan (LTP) 2015 (Ref 10-11); • Cheshire West and Chester Council Local Plan 2015-2030 (Ref 10-12).
National Guidance	<ul style="list-style-type: none"> • Institute of Environmental Management and Assessment (IEMA) Guidelines on: Environmental Assessment of Traffic and Movement, July 2023 (IEMA Guidelines (Traffic)) (Ref 10-13). • Department for Transport, 2023; Transport Analysis Guidance (TAG) Unit M4 – Forecasting and Uncertainty (Ref 10-14).

10.2 Consultation and Scope of Assessment

Consultation

- 10.2.1 A request for an EIA Scoping Opinion was sought from the Secretary of State (SoS) through the Planning Inspectorate (PINS) in February 2024 as part of the EIA Scoping Process. The EIA Scoping Opinion was adopted on 20th March 2024 (**Appendix 1-B: Scoping Opinion PEIR Volume IV**).
- 10.2.2 Key issues raised in the Scoping Opinion are summarised and responded to in **Appendix 2-B: Matters Raised in the Scoping Opinion (PEIR Volume IV)**. All issues are being considered during the EIA process.
- 10.2.3 No further engagement has been undertaken outside of the Scoping Opinion at this stage.

Scope of the Assessment

- 10.2.4 Following the scoping process that has been undertaken, the scope of the assessment considered in this chapter of the PEIR is as follows:
- Construction - The construction phase will give rise to an increase in Heavy Goods Vehicles (HGV) (for deliveries) and light vehicle (construction staff) movements on the highway network. The impacts of a temporary increase in traffic during construction has been examined as part of the assessments. The scope of assessment does not include consideration of impacts arising from the use of water transport (i.e. shipping and navigation). This was agreed to be scoped out of the

assessment, as is explained in further detail at Section 2.4 of **Chapter 2: Assessment Methodology and Consultation**.

- Operation - Due to the nature of the scheme, there will be minimal impacts attributed to the operational traffic once the Proposed Development is built. This chapter does however include an assessment of operational traffic impact, albeit there are no significant effects identified. The assessment includes consideration of in-combination / cumulative effects arising as a result of other committed developments within the vicinity of the Proposed Development, as listed at paragraph 10.4.35.
- Decommissioning - A separate assessment of the decommissioning phase has not been undertaken within this PEIR due to the 30-year lifecycle of the Proposed Development, and the uncertainties over the ability to predict future baseline conditions at that time. The emerging policy and needed changes to vehicle use in the United Kingdom (UK) could provide a very different landscape for assessment in 30 years' time. At the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures would be removed from site. Traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase, which will be defined later in this chapter.

10.3 Assessment Methodology

Rochdale Envelope

- 10.3.1 The setting of design parameters using the 'Rochdale Envelope' approach is described in **Chapter 2: Assessment Methodology and Consultation**. Table 4-1 of **Chapter 4: The Proposed Development** sets out the maximum parameters currently envisaged for the principal components of the Proposed Development. These parameters have been used to inform the representative worst-case scenario that has been assessed in this chapter, in order to provide a robust assessment of the impacts and likely significance of environmental effects of the Proposed Development at its current stage of design.
- 10.3.2 In particular, focused use of the Rochdale Envelope has been adopted with regard to the forecasted levels of construction traffic generation.
- 10.3.3 Using Rochdale Envelope principles, the assessment of the impact of the temporary construction phase covers the expected construction programme, working hours and days; potential methods of construction, the resulting broad quantities of materials required, and anticipated labour resourcing; a works phasing strategy with a view to understanding what materials will be required and when, and the number of resulting deliveries throughout the temporary construction period, including consideration of:
- type, size, frequency and number of construction vehicles;
 - construction workforce transport arrangements – to include assumptions on the number of staff and shift patterns and modes of travel; and
 - construction traffic access strategy, in order that routes to the Main Site (and other Site elements) can be determined.

- 10.3.4 Forecasts for construction trip generation have been informed by the expected construction programme. This includes the anticipated average and peak activity daily totals for HGV associated with construction deliveries, as well as average and peak activity daily totals for cars / Light Goods Vehicles (LGV), associated with construction workers attending the Main Site.
- 10.3.5 If the trains were to be constructed in a phased approach, there is forecast to be a daily maximum of approximately 1,000 construction workers during the peak of construction activity. If a single phase of construction is undertaken, whereby both trains are constructed concurrently, this could result in a daily maximum of approximately 1,600 workers.
- 10.3.6 **Table 10-2** sets out the estimated peak daily construction vehicle trip generation for each potential type of construction approach (i.e. phased or single phase). As set out in Table 2-1 (**Chapter 2: Assessment Methodology and Consultation**), a phased approach to construction would comprise construction of Train 1 over a four year duration from 2026. On completion, this would then be followed by construction of Train 2 from 2031 over four years to 2035. For a single-phase construction approach, the Applicant may commence construction later than for phased construction, following the grant of Development Consent Order (DCO) and financial investment decision. Therefore, the single-phase construction scenario assumes the latest possible commencement for construction, which could occur a maximum of five years after DCO Consent. The quantities, as set out below, may be subject to further refinement during the Front End Engineering Design (FEED) stage.

Table 10-2: Estimated Peak Daily Construction Vehicle Trip Generation

Construction Scenario	Construction Duration	Peak Construction Year	Daily HGV Movements (Two-Way)	Daily Car / LGV Movements (Two-Way)	Total Daily Vehicle Movements (Two-Way)
Phased Approach (Trains 1 & 2 separate)	2026-2030 (Train 1) & 2031-2035 (Train 2)	2027 (month 18)	200	816	1,016
Single Phase (Trains 1 & 2 concurrent) – 5 Years Post-Consent	2031-2036	2034 (month 36)	180	1,374	1,554

- 10.3.7 **Table 10-2** indicates that during the peak time of construction (approximately 18 months into the construction programme), if a phased approach was adopted there could be a typical daily maximum of around 1,016 vehicle movements to / from the Main Site including 200 HGV movements and 816 LGV / Car movements. If a single phase is adopted there could be a typical daily maximum of around 1,554 vehicle movements to / from the Main Site including 180 HGV movements and 1,374 LGV / Car movements. These would be spread over a full working day. It is anticipated that typical core construction working hours (07:00 to 19:00 Monday to Friday (except bank holidays) and 07:00 to 13:00 on Saturdays) are likely to be used to avoid construction workers travelling during the AM and PM peak periods.
- 10.3.8 In order to ensure a worst case assessment, the assessment of the construction phase has been undertaken based on a single phase approach,

with construction assumed to commence at the latest possible date, following DCO Consent, this being towards the end of 2031. In this scenario, the peak construction activity of HGVs and light vehicles (i.e. total vehicles) has been forecast to occur in month 36, during 2034. This is associated with the main works phase within the Main Site which follow the initial earthworks phase (months 11 to 17) when the peak daily HGV movements (240 two-way movements) are likely to occur. This is in line with guidance provided within Section 1.2 of the Transport Analysis Guidance (TAG) "TAG Unit M4 – Forecasting and Uncertainty" (Ref 10-14) published by the DfT.

- 10.3.9 As set out in this chapter, traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar to or less than the impacts that are forecast to occur during the construction phase, informed by the construction phase assessment.
- 10.3.10 Operation of the Proposed Development is anticipated to create 66 permanent operational roles (in the event that both Trains are built out) (Phased Construction or Single Phase Construction Scenarios) or up to approximately 56 operational roles (in the event that only Train 1 is developed) (No Investment Train 2 Scenario). The assessment of the operational phase has been based on a scenario where both trains are built and a higher number of permanent roles are undertaken. Staff will be required on a shift basis to be spread over a 24-hour period. Conservatively, this could equate to up to an additional 132 vehicle movements (i.e. 66 vehicles in/ out accessing the Main Site per 24-hour day).
- 10.3.11 It is anticipated that during the operational phase of the Proposed Development, total HGV movements will be up to 75 in and 75 out per week (i.e. an average of 12.5 in and 12.5 out per day based on a typical 6-day week for deliveries). Of these, up to 23 HGV movements in/out will be associated with delivery of consumables and up to 52 HGV movements in/out will be associated with the removal of process wastewater. These figures represent a worst-case scenario in the absence of suitable non-cooling wastewater treatment within the Site. The provision of wastewater treatment within the Site and the corresponding number of HGV tanker movements required will be determined at a later stage of design.

Assessment Criteria

- 10.3.12 The assessment of traffic impacts has been carried out in accordance with the IEMA Guidelines (Traffic) (Ref 10-13).
- 10.3.13 The IEMA Guidelines (Traffic) identify a number of environmental effects, including:
- Severance;
 - Pedestrian Amenity;
 - Fear and Intimidation;
 - Road User and Pedestrian Safety;
 - Hazardous Loads; and
 - Driver Delay.

10.3.14 The IEMA Guidelines (Traffic) suggests two rules which can be used to identify the appropriate extent of the assessment area, as follows:

- rule 1 – Include road links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and
- rule 2 – Include any other specifically sensitive areas where traffic flows will increase by 10% or more.

10.3.15 Effects are classified by the interaction of the sensitivity of receptor and the magnitude of change.

10.3.16 Paragraph 1.30 of the IEMA Guidelines (Traffic) defines sensitive locations as receptors that are sensitive to traffic, which could include, but are not limited to: schools, hospitals, places of worship and historical buildings. **Table 10-3** shows the types of receptors which fall into the different categories of sensitivity based on the potential impact of increases in traffic flows, as set out in the IEMA Guidelines (Traffic).

Table 10-3: Sensitivity of Receptors

Sensitivity	Definition
High	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident blackspots, retirement homes, urban/residential roads without footways that are used by pedestrians.
Medium	Traffic flow sensitive receptors including: congested junctions, doctor's surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, un-segregated cycleways, community centres, parks, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distanced from affected roads and junctions.

10.3.17 Potential traffic impacts are considered to be of high, medium, low or very low magnitude. The magnitude of traffic impacts is defined in **Table 10-4**, and the criteria for fear and intimidation has been amended to reflect the use of the IEMA Guidelines (Traffic) (Ref 10-13).

Table 10-4: Traffic and Transport Assessment Framework – Magnitude of Impacts

Type of Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
Severance	Change in total traffic flow of < 30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 61% to 90%	Change in total traffic flow of >90%
Pedestrian amenity	Changes in traffic flow (or HGV component) less than 50%	Changes in traffic flow (or HGV component) of 50% to 100%	Changes in traffic flow (or HGV component) of 101% to 150%	Change in traffic flow (or HGV component) of >150%
Fear and intimidation	No change in step changes	One step change in level, with <400 vehicle increase in	One step change in level, but with >400 vehicle	Two step changes in level

Type of Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
		average 18hr all vehicle (AV) two-way all vehicle flow; and/or <500 heavy vehicle (HV) increase in total 18hr HV flow	increase in average 18hr AV two-way all vehicle flow; and/or >500 HV increase in total 18hr HV flow Two step changes in level	
Highway safety	Magnitude of impact derived using professional judgment informed by the frequency and severity of recorded collisions within the study area and the forecast increase in traffic.			
Hazardous / Large Loads	Magnitude of impact derived using professional judgment informed by the frequency and routing of hazardous loads within the study area and the forecast increase in traffic.			
Driver delay	Magnitude of impact derived using professional judgment informed by the increase in vehicle delay and whether a junction is at, or close to capacity.			

10.3.18 The magnitude of change and the sensitivity of the receptor has been compared to determine the classification of the effect as per IEMA Guidelines (Traffic). This has been conducted in line with the clarification of effects matrix provided in Table 2-2 (**Chapter 2: Assessment Methodology and Consultation**).

10.3.19 Following the classification of effects, a clear statement is made as to whether any effects are likely to be 'significant' or 'not significant'.

Assessment Assumptions and Limitations

10.3.20 For the purposes of the assessment, the construction phase includes the enabling and demolition works required to facilitate the Proposed Development outlined in **Chapter 4: The Proposed Development**.

10.3.21 At this stage, available information regarding the construction and operational phases of the Proposed Development are commensurate with the application status. As is typical practice, a series of assumptions have been made in order to be able to conduct a robust assessment of the likely impacts of the Proposed Development on traffic and transport.

10.3.22 The assumptions used to inform the assessment are based on good industry practice, site-specific evidence and data (where possible), and professional judgement and experience. Assumptions have been made in regard to the following:

- identification of estimated construction and operational trip generation and distribution. The assessment of the construction phase has been undertaken based on a single phase approach, with construction assumed to commence at the latest possible date, following DCO Consent, this being towards the end of 2031; and
- derivation of future year traffic flow scenarios, as set out in paragraph 10.4.34.

- at the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures would be removed from site. Traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase. The traffic assessment presented for the construction phase will therefore be considered representative (or an overestimate) of the decommissioning phase.

10.4 Baseline Conditions and Study Area

Study Area

- 10.4.1 The study area has been defined to include Traffic and Transport features likely to be at risk from possible direct and indirect impacts that might arise from the Proposed Development. The study area is considered to be comprised of the main highway links set out in this section (and on **Figure 10-1 (PEIR Volume III)**) and the public transport, cycle and walking provision within the immediate vicinity of these of these links. These relate to the Main Site and its surroundings. An initial desk-based baseline assessment has been undertaken to gather information on existing transport infrastructure, construction routes and restrictions to provide an overview of the study area; further information in relation to this is provided in the TA (**Appendix 10-A PEIR Volume IV**).

Existing Baseline

Local Highway Network

- 10.4.2 The following section provides a description of the characteristics of the local highway network within the study area. The roads described are labelled and shown on **Figure 10-1 (PEIR Volume III)**.
- 10.4.3 Access to the existing Connah's Quay Power Station (and access to the Main Site) is provided via Kelsterton Road. Kelsterton Road comprises a single carriageway, which provides a link between two roundabout junctions, these serving the internal site access road network and also the Strategic Road Network (SRN) in the form of the A548.
- 10.4.4 Kelsterton Road has an average total carriageway width of between 7m and 7.5 m, with some localised widening on bends. It is well lit and subject to a speed limit of 20 mph. As well as providing access to the Main Site, Kelsterton Road serves eight private single-dwelling properties situated on the northern side of the A548.
- 10.4.5 The A548 routes directly to the south of the Main Site and comprises the nearest connection to the SRN. The A548 is a dual carriageway in the vicinity of the Main Site and subject to a speed limit of 70 mph. Beyond the locality of the Main Site, the A548 provides a strategic link along the alignment of the North Wales Main Line railway, extending as far west as Pensarn. The A548 bisects (via a bridge) the south-eastern part of the Main Site (across the Alternative Access to the Site and Access to Construction and Indicative

Enhancement Area (C&IEA)), crossing the River Dee via Flintshire Bridge. The A548 connects to the M56 and M53 to the north-east of the Main Site.

- 10.4.6 The B5129 connects to the A548 via a roundabout connection to the south of the Site and delivers access to the nearby urban settlements of Connah's Quay and Shotton. The B5129 provides secondary access to the south-east of the Main Site (entering the Alternative Access to the Main Site and Access to C&IEA), via a priority T-Junction with an unnamed access road, located opposite Coleg Cambria. The B5129 is subject to a 20 mph speed limit, has a carriageway width ranging between 7 m and 10 m, and forms a public transport bus route for services to Hollywell and Flint.
- 10.4.7 Kelsterton Lane is a north-south route that lies between the B5129 and Mold Road. Kelsterton Lane has a 7.5-tonne weight restriction and is signed as being unsuitable for wide vehicles, due to its narrow single carriageway. Kelsterton Lane appears typical of the types of routes that could be used for a rat-run for journeys between the Main Site and the A55 to the south. Kelsterton Lane is subject to a 60 mph speed limit and primarily serves isolated farm properties.
- 10.4.8 Allt-Goch Lane / Coed Onn Road is a single carriageway road that lies approximately 2.5 km to the west of the Main Site. The Proposed CO₂ Connection Corridor is situated on a parcel of land that lies directly to the east of Allt-Goch Lane, between Llwyn Onn and Coed Onn Road. Coed Onn Road comprises a continuation of Allt-Goch Lane (to the north), connecting to the A5119 in Flint. At its southern extent, Allt-Goch Lane connects to Starkey Lane, which in turn provides access to the A5119 to the south. At its northern extent, Coed Onn Road provides access to residential areas, has an average carriageway width between 6 m and 7 m and is subject to a 20 mph speed limit. Approximately 500 m to the south-east of St Mary's Catholic Primary School, Coed Onn Road narrows significantly to a carriageway width of approximately 3 to 4m, is a single track in nature and has an associated speed limit of 60 mph within the vicinity of the Proposed CO₂ Connection Corridor.
- 10.4.9 Golftyn Lane connects to the B5129 via a priority T-Junction, located opposite the entrance of the Alternative Access to the Main Site and Access to C&IEA. Golftyn Lane acts as a key distributor road for the residential areas located to the south-east of the Main Site in Connah's Quay. It has an average carriageway width between 7 m and 8 m and is subject to a speed limit of 20 mph. Golftyn Lane also serves as a bus route and provides access to Deeside Sixth Form and Connah's Quay High School.
- 10.4.10 Mold Road performs a similar distributor function to Golftyn Lane and is accessed from the B5129, approximately 2.5 km south-east of the Main Site. Mold Road functions as one-way only for approximately 120 m in the southbound direction, between the B5129 and Pennant Street. Beyond this point, Mold Road reverts to two-way operation and is limited to 20 mph speeds. It primarily serves residential areas; however, it also provides a longer-distance route south-west towards Northop and the A55 North Wales Expressway.
- 10.4.11 The A5119 is accessed in Flint, approximately 4.5 km to the north-west of the Main Site. The A5119 provides a strategic connection to the A55 North Wales Expressway, which runs in a parallel alignment to the A548 and lies approximately 4 km to the south of Connah's Quay. The A55 North Wales

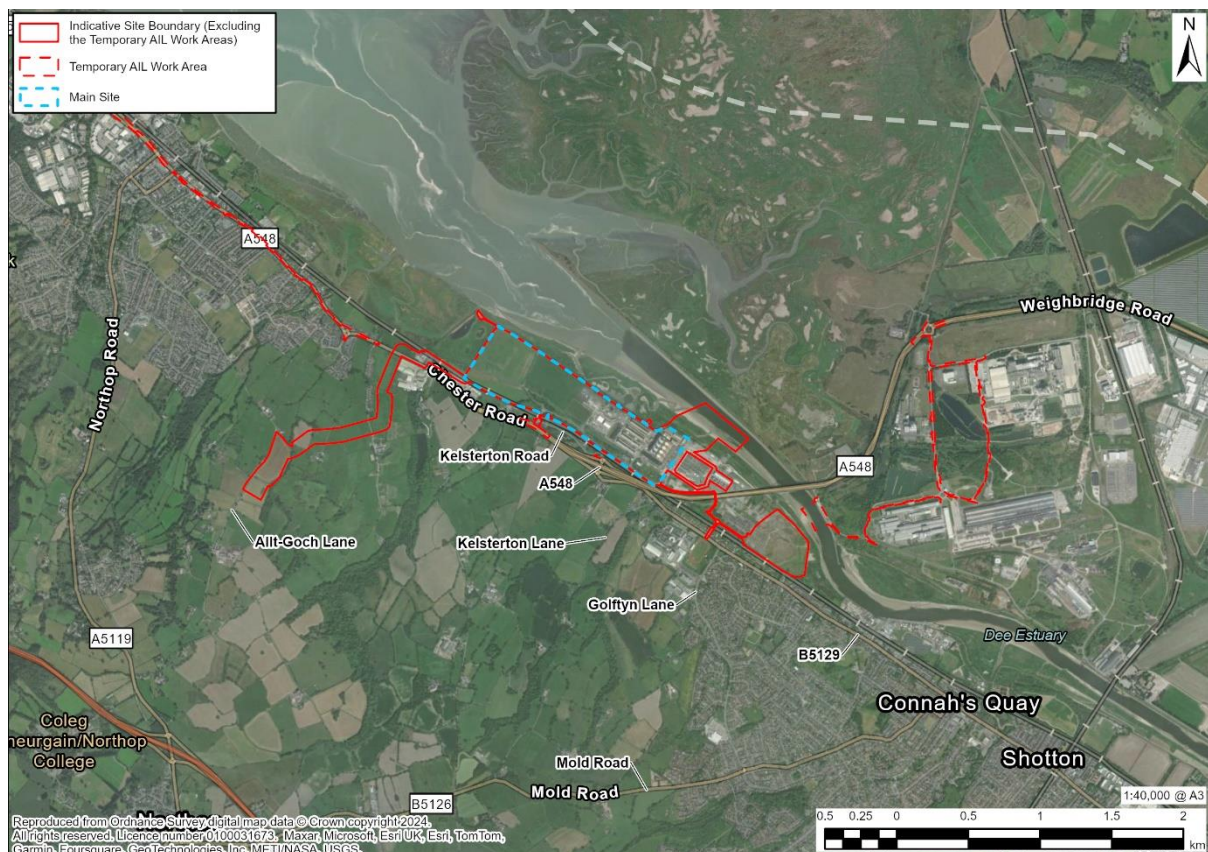
Expressway serves as a key strategic route, both to areas located further west of the Main Site, as well as to the east and beyond into North-West England.

Existing Highway Operation

10.4.12 Automatic Traffic Count (ATC) surveys were commissioned by AECOM to collect traffic data for the local highway network. The ATC data provides a classified count of traffic volumes and speeds for a 7-day period per survey, the majority of these surveys were undertaken between Thursday 14th March 2024 and Wednesday 20th March 2024 and a further survey period was added from Thursday 18th April 2024 to Wednesday 24th April 2024 to accommodate locations which required resurvey due to equipment damage, but avoiding the Easter festive school break. Data has been obtained for the following locations, as shown on **Plate 10-1**:

- Kelsterton Road;
- The A548 (east of the Main Site access);
- The A548 (west of the Main Site access);
- The B5129 (in the vicinity of the Main Site);
- Kelsterton Lane;
- Allt-Goch Lane (in relation to the Proposed CO₂ Connection Corridor);
- Golftyn Lane; and
- Mold Road.

Plate 10-1: Traffic Survey Links



10.4.13 A summary of the average weekday vehicle flows is presented in **Table 10-5** for each of the surveyed locations. The proportion of Heavy Goods Vehicle (HGV) traffic at each location is also shown within the information.

Table 10-5: Summary of Baseline (2024) Traffic Flows

Link	Direction	Mean Speed	85th %ile Speed	2024 Baseline (Average Weekday, 24hr)		
				Total Vehicles	HGVs	HGV %
1. Kelsterton Road	East Bound (EB)	31.0	38.4	190	46	24%
	West Bound (WB)	29.5	35.8	187	29	15%
	Two-Way	30.3	37.2	377	75	20%
2. A548 (West of Main Site Access)	EB	53.6	64.0	7,686	580	8%
	WB	54.0	65.2	7,441	683	9%
	Two-Way	53.8	64.0	15,127	1,263	8%
3. A548 (East of Main Site Access)*	EB	70.0	70.0	7,075	485	7%
	WB	70.0	70.0	7,311	468	6%
	Two-Way	70.0	70.0	14,386	953	7%
4. B5129	EB	24.2	28.4	4,785	624	13%
	WB	24.0	28.0	5,113	646	13%
	Two-Way	24.1	28.2	9,897	1,270	13%
5. Kelsterton Lane	North Bound (NB)	34.7	41.0	616	65	10%
	South Bound (SB)	35.2	41.4	752	85	11%
	Two-Way	35.0	41.3	1,368	149	11%
6. Allt-Goch Lane	NB	19.0	24.7	72	14	19%
	SB	22.0	25.2	68	8	12%
	Two-Way	22.2	25.0	140	22	16%
7. Golftyn Lane	NB	20.5	25.0	3,537	282	8%
	SB	19.8	24.0	3,747	300	8%
	Two-Way	20.2	24.5	7,284	581	8%
8. Mold Road	EB	23.9	29.1	3,866	294	8%
	WB	27.1	32.9	4,012	362	9%
	Two-Way	25.6	31.4	7,878	656	8%

*Link 3 surveyed by CCTV, therefore no speed data available. Speed shown is the current speed limit.

10.4.14 The 2024 surveys indicate that the A548 carries the most daily traffic (circa 15,000 two-way vehicles), whilst Kelsterton Road, which provides access to the Main Site carries the highest proportion of two-way HGVs (20%). The B5129 carries the highest volume of HGVs, with an average of 1,270 daily two-way HGVs. Allt-Goch Lane, which will provide vehicular access to the Proposed CO₂ Connection Corridor works, carries the lowest amount of average weekday traffic across each of the surveyed links.

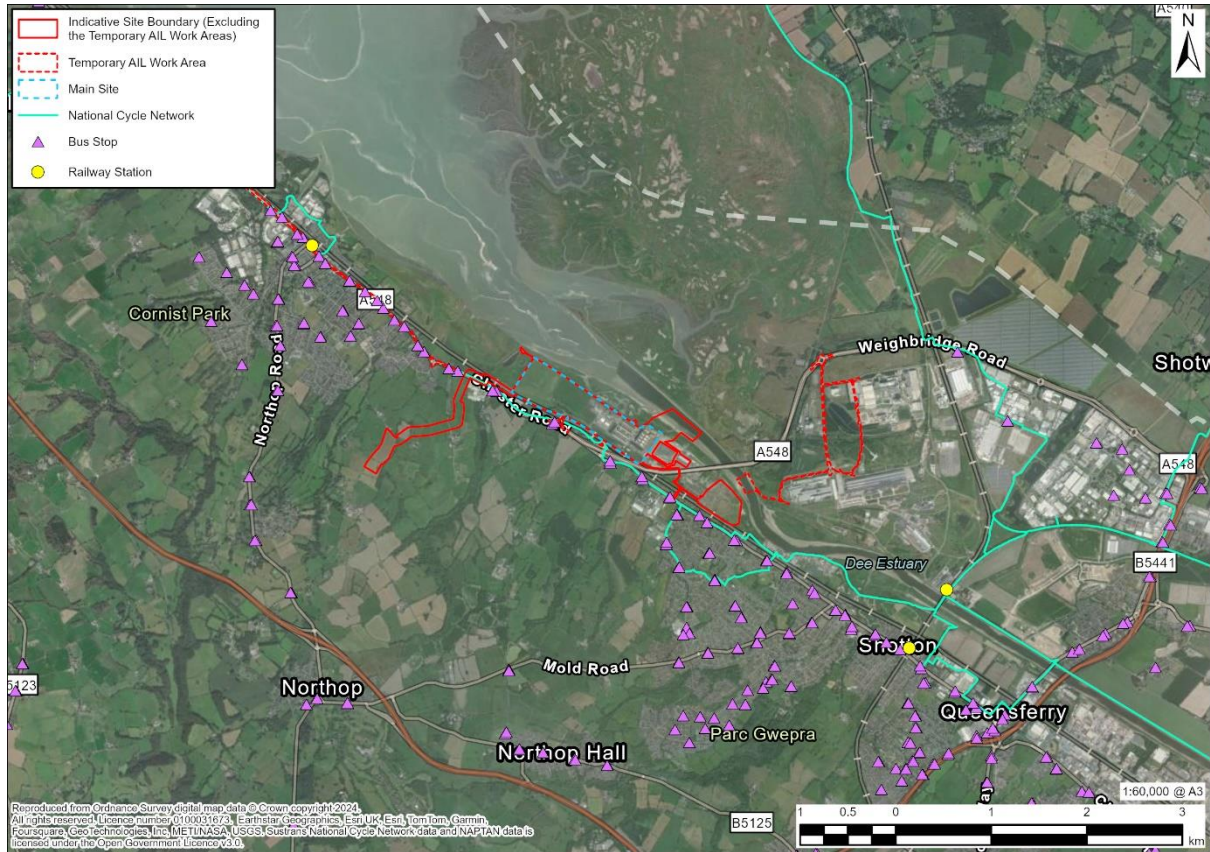
Walking and Cycling

10.4.15 There are varying levels of provision for walking and cycling on Kelsterton Road between the A548 and the access to the Main Site. This includes a 3

metre wide shared cycleway connecting to the roundabout junction with the A548, as well as a segregated footway on the northern side of Kelsterton Road. To the east of the internal roundabout junction, a narrow footway is present on the south side of the carriageway, leading up to the Main Site access junction. A more substantial walking and cycling provision is available on local roads surrounding the Main Site, such as the B5129 through Connah's Quay.

- 10.4.16 Public Rights of Way (PRoW) in the vicinity of the Main Site and the Proposed CO₂ Connection Corridor have been reviewed based on online mapping provided by FCC. The extent of PRoWs in the vicinity of the Main Site and Proposed CO₂ Connection Corridor have been included on **Figure 15-5 (PEIR Volume IV)**, included within **Chapter 15: Landscape and Visual Amenity**. There is a designated footpath (comprised of sections of FCC Footpaths 27, 28, and 42) that lies in close proximity to the south-eastern extent of the C&IEA boundary. The footpath connects to the B5129, approximately 90 m to the east of its junction with Golftyn Lane and continues in a south-east direction, before terminating at Quay Business Park.
- 10.4.17 A designated footpath (FCC Footpath 66) intersects the field parcel containing the Proposed CO₂ Connection Corridor, forming a link between Allt-Goch Lane and the farm access road forming the northern boundary of the field parcel. To the east of Allt-Goch Lane, this footpath connects to two further routes (comprised of sections of FCC Footpaths 66 and 67), which both connect to Leadbrook Drive, passing through the Proposed CO₂ Connection Corridor. An assessment of the impact of the Proposed Development on these routes is provided in Section 10.6 of this Chapter.
- 10.4.18 National Cycle Network (NCN) Route 5 (NCN 5) is located in close proximity to the Main Site, routeing along the A548 to the west of the Main Site, before connecting to Kelsterton Road and, subsequently, the B5129. NCN 5 is conveniently situated to accommodate cycle travel to / from the Main Site and connects to a wider network of routes to the north and north-east of the Main Site.
- 10.4.19 Walking and cycling routes in proximity of the Main Site are shown on **Plate 10-2**.

Plate 10-2: Transport Accessibility



Public Transport

10.4.20 Existing public transport services operating in the vicinity of the Main Site have been identified with reference to current timetable and routing information. The locations of bus stops and rail stations in proximity to the Main Site are shown on **Plate 10-2**.

Bus

10.4.21 Public bus services are available in proximity to the Main Site, with the nearest stops, 'Rockcliffe Lane' (approx. 1.3 km walking distance), 'Cemetery Gates' (approx. 1.8 km walking distance) and 'Kelsterton Lane' (approx. 1.6 km walking distance) located on the A548 and B5129. Services 10A and 11 are available from these stops and provide for journeys between Flint, Chester and Rhyl. These services run at a high frequency throughout the core hours of the weekday, providing a realistic and convenient public transport option between the Main Site and the local area. These services are summarised below in **Table 10-6**.

Table 10-6: Summary of Local Bus Services

Service Number	Bus Stop	Route	First Service	Last Service	Approx. Frequency
10A	Rockcliffe Lane / Cemetery Gates / Kelsterton Lane	Chester – Flint	07:56	18:58	30 minutes
		Flint - Chester	07:19	18:22	30 minutes
11	Rockcliffe Lane / Kelsterton Lane	Rhyl - Chester	07:37	22:36	30 minutes
		Chester - Rhyl	05:49	20:53	30 minutes

Source: Bustimes.org (May 2024)

10.4.22 Additional shuttle services D1, D2 and D3 operate between Flint, Connah's Quay and Deeside Industrial Park, providing an hourly service from stops further away from the Main Site, to the southeast in Connah's Quay.

Rail

10.4.23 The nearest railway stations to the Main Site are located to the north-west in Flint (approximately 4.3 km walking distance via the A548 / NCN 5) and to the south-east in Shotton (approximately 4.1 km walking distance via the B5129). Facilities provided at Flint and Shotton, and services to / from these stations are summarised in **Table 10-7** and **Table 10-8** respectively.

Table 10-7: Summary of Railway Station Facilities

Facility	Flint	Shotton
Car Parking	65 Spaces	29 spaces
Disabled Car Parking	6 Spaces	3 spaces
Taxi Rank	No	Yes
Cycle Storage	8 spaces	20 spaces
Staffing / Ticket Office	Yes	Yes
Self Service Ticket Machines	Yes	Yes
Step Free Access Coverage	Yes	No

Source: National Rail (May 2024).

Table 10-8: Summary of Rail Services at Flint & Shotton

Station	Direction	Days	First Service	Last Service	Approximate Frequency	
Flint	Towards Holyhead	Mon-Fri	07:00	23:12	Hourly	
		Sat	07:00	21:41	Hourly	
		Sun	No direct services			
	Towards Manchester	Mon-Fri	06:25	19:31	Hourly	
		Sat	07:31	20:31	Hourly	
		Sun	No direct services			
	Towards Llandudno	Mon-Fri	07:00	23:12	45-60 minutes	
		Sat	07:00	23:55		
		Sun	06:34	23:18		
		Towards Birmingham	Mon-Fri	09:10	17:16	120 minutes
			Sat	07:01	17:09	
			Sun	20:03	20:03	1 direct service
Shotton	Towards Wrexham	Mon-Fri	06:51	23:23	45-60 minutes	

Station	Direction	Days	First Service	Last Service	Approximate Frequency
		Sat	06:51	23:22	
		Sun	10:25	22:52	
	Towards Bidston	Mon-Fri	06:52	22:26	45-60 minutes
		Sat	06:52	22:27	
		Sun	09:13	21:36	

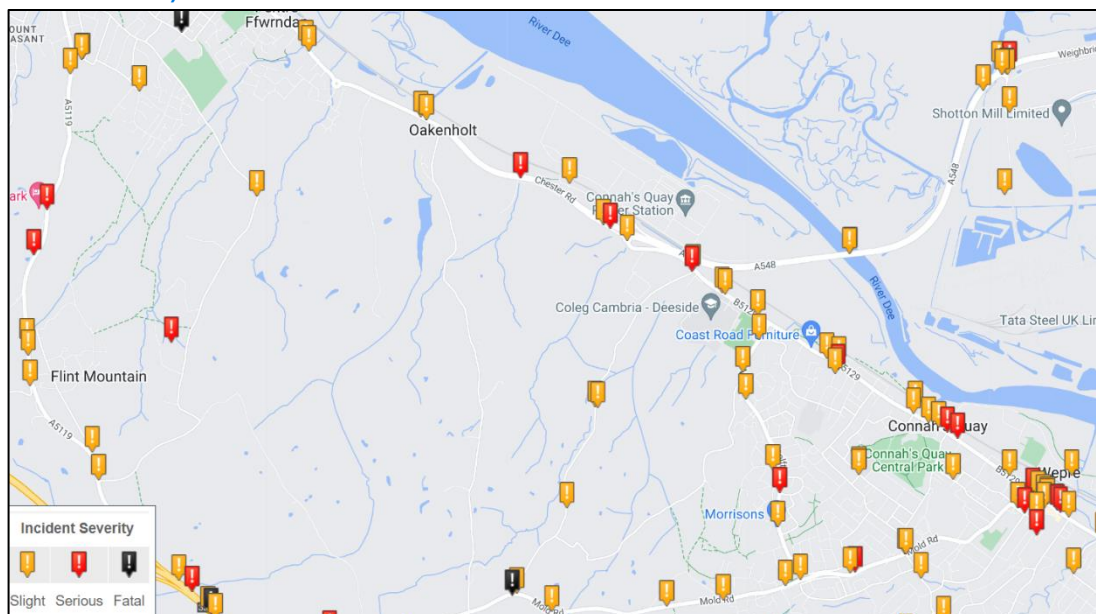
Source: National Rail (May 2024). All services listed are direct.

10.4.24 Overall, there is a good provision of rail services from both stations to key destinations, both locally and regionally. Services begin early in the morning and finish late at night, ensuring a provision to suit a wide range of travel times. Direct connections to Cardiff Central and Manchester Piccadilly provide opportunities to board services covering a number of national destinations. When the options are considered, these suggest a high availability of rail services to / from the Main Site and surrounding area.

Highway Safety

10.4.25 Personal Injury Collision (PIC) data has been assessed using CrashMap for the most recently available 5-year period (2018-2022) in order to assess the road safety along the network in the vicinity of the Main Site. **Plate 10-1** shows the locations of the recorded PICs and their severity.

Plate 10-1: Personal Injury Collisions in the Vicinity of the Main Site (between years 2018 to 2022)



Source: CrashMap, Department for Transport data published by www.crashmap.co.uk. Map Data Copyright Google (2024).

10.4.26 The majority of PICs were recorded on the B5129 to the southeast of the Main Site, including the section between Mold Road and Brook Road, on which three 'serious' PICs occurred. A further two 'serious' PICs were recorded on the B5129, in the vicinity of the entrance to Connah's Quay Central Park.

- 10.4.27 The majority of PICs to occur on the A548 are located to the northwest of the Main Site towards Flint, including two 'incidents' which resulted in 'serious' PICs.
- 10.4.28 One incident resulting in a 'slight' PIC occurred on Kelsterton Road, which provides access to the Main Site. This occurred in 2020 and involved two vehicles. No other PICs have been recorded on Kelsterton Road over the five year period.
- 10.4.29 One incident resulting in a 'slight' PIC was recorded on Allt-Goch Lane, which will provide access for works to the Proposed CO₂ Connection Corridor. The PIC occurred in 2020 and involved two vehicles. This can be interpreted as an isolated incident with no other PICs recorded in the vicinity, over the five year period.
- 10.4.30 One incident resulting in a fatal PIC occurred within the study area on Mold Road, approximately 2.3 km to the south of the Main Site access point on the A548. The PIC took place at the priority T-Junction with Kelsterton Lane in 2019 and involved two vehicles.
- 10.4.31 Overall, the study area within the vicinity of the Main Site is not considered to have experienced an excessive number of PICs over the course of the five year period and would not suggest there to be existing highways issues on these routes. The vast majority of PICs have been classified as 'slight' or 'serious', with the exception of one fatal incident on Mold Road. Further investigation into the causation factors of the above identified clusters may be required, through obtaining Police accident data records. However, the initial details obtained do not suggest that these are linked or indicate that there is any existing specific issue with the highway network.

Summary of Sensitive Receptors

- 10.4.32 **Table 10-9** identifies the links that form part of the study area, the assigned sensitivity rating and the justification.

Table 10-9: Sensitive Receptors within the Existing Baseline

Link	Sensitivity	Rationale
Kelsterton Road	Low	<ul style="list-style-type: none"> Provides access to a small number of residential properties. Designated active travel route with segregated walking / cycling provision.
A548 (West of Main Site Access)	Low	<ul style="list-style-type: none"> Positioned away from sensitive receptors. Minimal to no pedestrian demand, intermittent footway provision.
A548 (East of Main Site Access)	Low	<ul style="list-style-type: none"> Positioned away from sensitive receptors. Minimal to no pedestrian demand, very little footway provision.
B5129	High	<ul style="list-style-type: none"> Provides access to a college, shopping areas and residential areas with frontage. Designated active travel route with continuous footway provision and on-road cycle lanes. PIC clusters present along this link, based on previous five years' safety record.

Link	Sensitivity	Rationale
Kelsterton Lane	Low	<ul style="list-style-type: none"> Provides access to a small number of residential properties. Positioned away from sensitive receptors. Minimal to no pedestrian demand, very little footway provision.
Allt Goch Lane	Low	<ul style="list-style-type: none"> Positioned away from sensitive receptors. Minimal to no pedestrian demand, very little footway provision.
Golftyn Lane	Medium	<ul style="list-style-type: none"> Designated active travel route with both segregated and roadside walking / cycling provision. Provides access to a school, college and shopping area.
Mold Road	Medium	<ul style="list-style-type: none"> Provides access to a school and leisure facilities. Direct access to areas of residential frontage.

Future Baseline

10.4.33 The future baseline scenarios are set out in **Chapter 2: Assessment Methodology and Consultation**.

TEMPro

10.4.34 The 2024 baseline traffic flows for the local highway network, presented in **Table 10-5** of this report, have been 'growthed' up to 2034 (peak construction year) and 2036 (opening year of operation) using TEMPro (Version 7.2). TEMPro is an industry standard tool that provides forecasts for growth in background traffic, based on planning projections for growth in housing, employment and car ownership. This is in line with guidance provided within Section 1.2 of the Transport Analysis Guidance (TAG) "TAG Unit M4 – Forecasting and Uncertainty" (Ref 10-14) published by the DfT. Growth factors have been derived using an average of the 'Flintshire 004' and '007' Middle Super Output Areas (MSOAs). The average growth factors are presented in **Table 10-10**.

Table 10-10: TEMPro Growth Factors

Growth Period	AM Peak	PM Peak	Average Weekday
2024-2034	1.0865	1.0860	1.0882
2024-2036	1.1005	1.0995	1.1019

Committed Development

10.4.35 An analysis of committed developments has been undertaken as part of the development of the future year assessments traffic flows to accurately forecast future growth and traffic. A review has been undertaken on the FCC planning application portals to determine what committed developments are present within or near the study area that are forecast to increase traffic on the links contained within the study area. The following committed developments have been considered for inclusion within the future year assessments:

- HyNet Carbon Dioxide Pipeline, Cheshire to Flintshire;

- FUL/000034/22 – Residential development up to 141 dwellings, Land off Highmere Drive, Connah's Quay;
- FUL/000209/24 – Retail development, Deeside;
- FUL/000195/24 – Residential development up to 300 dwellings, Ash Lane, Mancot, Flintshire;
- 23/03825/FUL – Residential development up to 331 dwellings, Dunkirk Way, Backford Cross, Ellesmere Port; and
- 24/00777/FUL – HyNet Protos Carbon Dioxide Spur Pipeline.

10.4.36 Following a review of development traffic information, relating to each of the above schemes, committed development traffic flows for 'FUL/000034/22' and 'FUL/000195/24' were extracted and incorporated into the future baseline assessments of 2034 and 2036. These were selected to be of relevance to the proposals. The remaining schemes identified above have not been included as the forecasted development traffic does not intercept the transport study area for assessment. As set out at the start of this section, calculations in growth factors take account of local uplift in housing. Therefore, through analysis of committed developments outline above, some element of growth and the factors or uplifts applied are in effect double counting, and it is therefore a robust approach.

10.5 Development Design and Embedded Mitigation

10.5.1 The Proposed Development has been designed, as far as possible, to avoid or minimise impacts and effects on Traffic and Transport through the process of design development, and by embedding measures into the design of the Proposed Development.

10.5.2 The following embedded mitigation measures have been incorporated into the Proposed Development design through:

- Construction Traffic Management Plan (CTMP); and
- Construction Worker Management Plan (CWMP).

10.5.3 Framework CTMP and CWMP documents will be prepared as part of the Application.

10.5.4 The CTMP will set out measures to control construction HGV traffic, to potentially include the following:

- detailed construction routes for all HGVs;
- restrictions on HGVs during certain times of the day such as at school drop off and pick up times;
- application of the waste hierarchy (as illustrated in **Chapter 23: Materials and Waste**) which seeks to reduce the quantity of materials required to be transported off-site onto the local highway network through prioritising reuse and recycling;
- measures to reduce impacts on the local community during construction, including communications such as letter and notices to residents and businesses that lie in close proximity to the Main Site and surrounding construction routes; and

- procedures for ALLs and Hazardous Loads.
- 10.5.5 The CWMP will be aimed at construction workers and will set out measures to reduce the impact of workers travelling to and from Main Site, to potentially include the following:
- targets for achieving a minimum level of car sharing amongst workers;
 - minibuses which would pick up workers from key local accommodation centres;
 - measures to manage the level of car parking on site; and
 - measures to encourage workers to travel by more sustainable mode of travel, wherever possible.
- 10.5.6 This will provide a framework of measures and principles to be taken forward and developed further by the appointed contractor.
- 10.5.7 There are no embedded measures proposed during the operational and decommissioning phases of the Proposed Development. There will be minimal impacts attributed to the operational traffic once the Proposed Development is built. This chapter provides an assessment of operational traffic impact, identifying no significant effects during this period. Traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase, and would be mitigated similarly to the measures set out in the CTMP and CWMP.

10.6 Preliminary Assessment of Likely Impacts and Effects

- 10.6.1 Taking into account the embedded mitigation measures as detailed in Section 10.5, the potential impacts and effects of the Proposed Development have been assessed using the methodology as detailed in Section 10.3 of this chapter and **Chapter 2: Assessment Methodology and Consultation**.
- 10.6.2 The assessment of impact during construction and operation of the Proposed Development is based on a comparison of 'Base' and 'Base + Development' scenarios for a single future assessment year, which in order to ensure a worst-case assessment, corresponds with the peak year of a single-phased construction (2034) and also the opening year of operation (2036), assuming construction were to begin five years after the grant of development consent. The scenarios include traffic growth derived from analysis of TEMPro, specifically for the 'Flintshire 004' and '007' MSOAs, within which the Main Site is located.
- 10.6.3 With regard to the decommissioning phase, at the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures would be removed from site. Traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase. The traffic assessment presented for the construction phase will therefore be considered representative (or an overestimate) of the decommissioning phase.

Construction Phase

- 10.6.4 Construction of the proposed development will require deliveries of materials and products by a range of vehicle types including HGVs, and waste material will be removed from the site in HGVs.
- 10.6.5 A quantitative assessment of the construction traffic impacts has been undertaken, in line with the 'Rochdale Envelope' approach, as set out in Section 10.3 and the quantities of traffic outlined in **Table 10-2**, associated with a single phase approach to construction. This includes the identification of the likely percentage changes in traffic flows on the local highway network (for surveyed locations, as set out in Section 10.4). This is considered appropriate given the effects will be temporary during construction.

Distribution of Construction Traffic

Heavy Vehicles

The distribution of HGV construction traffic onto the local highway network has been informed by likely routing arrangements to / from the strategic road network. As the exact location of the construction raw materials is currently unknown at this time, HGVs would be routed to avoid more sensitive residential locations and would be assumed for the purposes of assessment to travel to and from the Main Site via the A548. The anticipated assignment of peak two-way daily HGV traffic generated onto the local highway network is shown in **Table 10-11**.

Table 10-11: Summary Construction Traffic Distribution (HGV)

Link	Proportion of Trips Routed onto Link	Daily Two-Way Traffic
1. Kelsterton Road	100%	180
2. A548 (West of Main Site Access)	0%	0
3. A548 (East of Main Site Access)	100%	180
4. B5129	0%	0
5. Kelsterton Lane	0%	0
6. Allt Goch Lane	0%	0
7. Golftyn Lane	0%	0
8. Mold Road	0%	0

- 10.6.6 As detailed in the above table, all HGV traffic will be routed to and from the Main Site via the A548 (East of Main Site Access), before accessing the Main Site via Kelsterton Road. As a result, all (100%) HGV traffic has been assigned onto these links for the subsequent impact assessment.

Light Vehicles

- 10.6.7 The distribution of development traffic associated with the construction staff has been based on analysis of the 2021 Census Journey to Work data. Data relating to respondents who answered 'Working from home' during the Census survey period, which occurred during the COVID-19 Pandemic, has been removed to ensure the analysis only considers those of working age, who travel regularly between their home address and place of work. The analysis has been undertaken for both the 'Flintshire 004' and '007' MSOAs, which

include the extent of the highway network, local to the Proposed Development. Light vehicle trips have been distributed across the local network taking account of the 2021 Census origin / destination MSOA and route choice, as determined from online journey planner tools. The assignment of peak two-way daily light vehicle traffic across the local highway network is shown in **Table 10-12**.

Table 10-12: Summary Construction Traffic Distribution (Light Vehicles)

Link	Proportion of Trips Routed onto Link	Daily Two-Way Traffic
1. Kelsterton Road	100%	1,374
2. A548 (West of Main Site Access)	35%	478
3. A548 (East of Main Site Access)	21%	290
4. B5129	44%	607
5. Kelsterton Lane	34%	472
6. Allt Goch Lane*	Trips manually assigned	8
7. Golftyn Lane	0%	0
8. Mold Road	0%	0

*8 two-way vehicle trips allocated to Allt Goch Lane associated with construction of the Proposed CO₂ Connection Corridor.

10.6.8 All (100%) of light vehicle traffic has been assigned to Kelsterton Road as the final link between the Main Site and the wider highway network. Prior to reaching Kelsterton Road, 56% of light vehicle traffic is forecast to arrive from the A548 (35% from the west and 21% from the east), with the remaining 44% anticipated to route directly onto Kelsterton Road from the B5129. Of this remaining 44%, 34% of light vehicle trips are anticipated to use Kelsterton Lane, prior to reaching the B5129. The remaining 10% of light vehicle trips are forecast to originate from the B5129 only, attributed to local commuting trips from Connah's Quay, Shotton and beyond to the east of the Main Site.

10.6.9 Aside from the construction worker traffic associated with the Main Site, an additional 8 two-way trips have been assigned to Allt Goch Lane, from which access will be taken for construction of the Proposed CO₂ Connection Corridor.

Impact Assessment

10.6.10 **Table 10-13** presents a percentage impact assessment for the 2034 'Baseline + Committed Development + Construction Traffic' scenario, which corresponds with the peak period of construction.

10.6.11 For each link, the significance of effect has been determined with reference to the magnitude of change and sensitivity of the link, with reference to **Table 10-9**. This information is presented in **Table 10-13** and summarised in the subsequent paragraphs.

Table 10-13: 2034 Baseline + Construction – Percentage Impact Assessment

Link	Direction	2034 Baseline (24hr Average Annual Daily Traffic (AADT), 5-Day)			2034 Baseline + Construction (24hr AADT, 5-Day)			Difference		2034 Baseline + Construction: % Change (Relative to 2034 Baseline)	
		Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	Total Vehicles	HGVs
1. Kelsterton Road	Eastbound	206	50	24%	983	140	14%	777	90	377%	181%
	Westbound	204	32	15%	981	122	12%	777	90	381%	285%
	Two-Way	410	81	20%	1,964	261	13%	1,554	180	379%	221%
2. A548 (West of Main Site Access)	Eastbound	8,363	632	8%	8,602	632	7%	239	0	3%	0%
	Westbound	8,097	743	9%	8,336	743	9%	239	0	3%	0%
	Two-Way	16,461	1,375	8%	16,938	1,375	8%	478	0	3%	0%
3. A548 (East of Main Site Access)*	Eastbound	7,699	528	7%	7,934	618	8%	235	90	3%	17%
	Westbound	7,956	509	6%	8,191	599	7%	235	90	3%	18%
	Two-Way	15,655	1,037	7%	16,125	1,217	8%	470	180	3%	17%
4. B5129	Eastbound	5,243	679	13%	5,546	679	12%	303	0	6%	0%
	Westbound	5,612	703	13%	5,915	703	12%	303	0	5%	0%
	Two-Way	10,854	1,382	13%	11,461	1,382	12%	607	0	6%	0%
5. Kelsterton Lane	Northbound	670	70	10%	906	70	8%	236	0	35%	0%
	Southbound	818	92	11%	1,054	92	9%	236	0	29%	0%
	Two-Way	1,489	162	11%	1,960	162	8%	472	0	32%	0%
6. Allt Goch Lane	Northbound	79	15	19%	83	15	18%	4	0	5%	0%
	Southbound	74	9	12%	78	9	12%	4	0	5%	0%
	Two-Way	153	24	16%	161	24	15%	8	0	5%	0%
7. Golftyn Lane	Northbound	3,920	306	8%	3,920	306	8%	0	0	0%	0%
	Southbound	4,149	326	8%	4,149	326	8%	0	0	0%	0%

Link	Direction	2034 Baseline (24hr Average Annual Daily Traffic (AADT), 5-Day)			2034 Baseline + Construction (24hr AADT, 5-Day)			Difference		2034 Baseline + Construction: % Change (Relative to 2034 Baseline)	
		Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	Total Vehicles	HGVs
	Two-Way	8,068	632	8%	8,068	632	8%	0	0	0%	0%
8. Mold Road	Eastbound	4,244	319	8%	4,244	319	8%	0	0	0%	0%
	Westbound	4,403	394	9%	4,403	394	9%	0	0	0%	0%
	Two-Way	8,648	713	8%	8,648	713	8%	0	0	0%	0%

* Link 3 surveyed by CCTV, therefore no speed data available. Speed shown is the current speed limit.

Table 10-14: 2034 Baseline + Construction – Magnitude of Impact

Link	Direction	2034 Baseline + Construction - % Change		Link Sensitivity	Magnitude of Impact					
		Total Vehicles	HGVs		Severance	Pedestrian Amenity	Fear & Intimidation	Highway Safety	Hazardous / Large Loads	Driver Delay
1. Kelsterton Road	Eastbound	377%	181%	Low	High	High	Medium	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	381%	285%							
	Two-Way	379%	221%							
2. A548 (West of Main Site Access)	Eastbound	3%	0%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	3%	0%							
	Two-Way	3%	0%							
3. A548 (East of Main Site Access)*	Eastbound	3%	17%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	3%	18%							
	Two-Way	3%	17%							

Link	Direction	2034 Baseline + Construction - % Change		Link Sensitivity	Magnitude of Impact					
		Total Vehicles	HGVs		Severance	Pedestrian Amenity	Fear & Intimidation	Highway Safety	Hazardous / Large Loads	Driver Delay
4. B5129	Eastbound	6%	0%	High	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	5%	0%							
	Two-Way	6%	0%							
5. Kelsterton Lane	Northbound	35%	0%	Low	Low	Very Low	Medium	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	29%	0%							
	Two-Way	32%	0%							
6. Allt Goch Lane	Northbound	5%	0%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	5%	0%							
	Two-Way	5%	0%							
7. Golftyn Lane	Northbound	0%	0%	Medium	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	0%	0%							
	Two-Way	0%	0%							
8. Mold Road	Eastbound	0%	0%	Medium	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	0%	0%							
	Two-Way	0%	0%							

- 10.6.12 The impact assessment demonstrates the largest amount of impact would be experienced on Kelsterton Road, which is forecasted to generate a two-way HGV increase of 221%. In absolute terms, this equates to a daily increase of 180 two-way HGVs. This temporary increase would be expected given Kelsterton Road will provide access to / from the Main Site for all construction traffic. The majority of remaining links do not experience an increase of greater than 10%, both in terms of total vehicles and HGVs. The exception to this is the A548 (East of the Main Site access), which is forecast to experience a temporary increase of 17% in relation to two-way HGVs. Kelsterton Lane is also forecast to experience a temporary increase in terms of total vehicles, equating to 32% (472 vehicles in absolute terms) in both directions. There are no forecast increases in HGV usage of this link.
- 10.6.13 The ability for HGV construction traffic to route to / from the Main Site directly from the strategic road network removes the possibility of a material traffic impact on the surrounding local roads, instead containing the HGV traffic to the strategic road network, which has the greatest resilience to increases in traffic of this magnitude.
- 10.6.14 The magnitude of change and the sensitivity of the receptor have been compared for each type of impact, to determine the classification of the effect as per IEMA Guidelines (Traffic). This is summarised in **Table 10-15**.

Table 10-15: 2034 Baseline + Construction– Classification of Effect

Link	Link Sensitivity	Severance		Pedestrian Amenity		Fear & Intimidation		Highway Safety		Hazardous / Large Loads		Driver Delay	
		Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect
1. Kelstert on Road	Low	High	Moderate (Not Significant)	High	Moderate (Not Significant)	Medium	Minor (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
2. A548 (West of Main Site Access)	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
3. A548 (East of Main Site Access)	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
4. B5129	High	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Minor (Not Significant)

Link	Link Sensitivity	Severance		Pedestrian Amenity		Fear & Intimidation		Highway Safety		Hazardous / Large Loads		Driver Delay	
		Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect
5. Kelsterton Lane	Low	Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Medium	Minor (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
6. Allt Goch Lane	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
7. Golftyn Lane	Medium	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
8. Mold Road	Medium	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)

Severance

- 10.6.15 In relation to severance, the impact assessment demonstrates that majority of links will experience either minor or a negligible adverse effects during the temporary construction phase of the Proposed Development. Kelsterton Road will provide access to the Main Site for all construction traffic and is predicted to experience a moderate effect during this temporary period.
- 10.6.16 As part of the embedded mitigation during the construction phase, a full CTMP and CWMP will be prepared by the contractor(s) which will set out precise details of construction traffic management measures, including management of the local highway in the vicinity of any temporary road closures, in order to further minimise the impacts of construction on the study area. In particular, the CTMP will outline specific measures proposed for Kelsterton Road, in order to ensure the impacts of increased traffic, associated with the temporary construction phase, are mitigated.
- 10.6.17 The predicted worst-case daily increase in traffic on Kelsterton Road, during the temporary construction phase is 1,554 vehicles, including 180 two-way HGVs. Assuming a 12-hour working day, this could equate to an hourly increase of approximately 130 vehicles, including 15 HGVs. This is the equivalent of an additional two vehicles every minute and one HGV every four minutes. Based on professional judgement, these quantities are not considered to be perceptible when compared to the baseline traffic on Kelsterton Road, and as such, it is considered this will be sufficiently mitigated by the CTMP. Therefore, considering the embedded mitigation measures outlined above, the impact of the temporary construction phase on Kelsterton Road will be downgraded from 'High' to 'Medium', resulting in a minor adverse effect, which is **not significant**.
- 10.6.18 The impact assessment, in relation to severance, has considered the effect of potential temporary diversions to PRowS during the construction phase. The PRowS identified to intersect the Proposed Development are identified in Section 10.4. Two PRow (sections of FCC Footpaths 66 and 67) form part of the network around Little Leadbrook Farm linking Leadbrook Drive to Allt Goch Lane. Temporary disruption to users of these footpaths will occur during construction. It is anticipated that one temporary closure (comprising both footpaths) would be required. It is assumed that a temporary diversion will be put in place; with alternative routes likely possible via existing roadways/tracks or within the same field, limited to the construction period for the Proposed CO₂ Connection, and no permanent changes to the PRow will be required.
- 10.6.19 Given that there is a large network of PRowS within the study area that could be used as substitutes in the case of PRow closure, effects on PRow are assessed to have low sensitivity. While the scale of impact may not be extensive, factors such as potential disruptions to access, usage patterns, or environmental considerations are still considered, therefore magnitude is assessed to be medium, which results in a temporary minor adverse effect. This is considered to be **not significant**.

Pedestrian Amenity

- 10.6.20 In relation to pedestrian amenity, the impact assessment demonstrates that majority of links will experience either minor or a negligible adverse effect during the construction phase of the Proposed Development. Kelsterton Road

will provide access to the Main Site for all construction traffic and is predicted to experience a moderate effect during this temporary period. As stated above in relation to severance, it is considered that embedded mitigation, in the form of a CTMP and CWMP will sufficiently mitigate the impacts of construction traffic on Kelsterton Road. The impact of the construction phase on Kelsterton Road will be downgraded from 'High' to 'Medium', which is **not significant**.

Fear and Intimidation

10.6.21 In relation to fear and intimidation, the impact assessment demonstrates that all of the links will experience either minor or a negligible adverse effect during the construction phase of the Proposed Development, which is **not significant**.

Highway Safety

10.6.22 PIC data for the most recent five years has been acquired for the study area and is summarised in Section 10.4. The statistics provide information on the location and severity of each PIC. The level of increase in traffic flows resulting from the construction of the Proposed Development on the majority of road links is negligible or minor, with the exception of Kelsterton Road, which will provide access to the Main Site for all construction traffic during this temporary period. Over the most recent five year period, only one PIC was recorded on Kelsterton Road, and this was classified as 'slight'. This temporary impact as a result of increased levels of construction traffic on Kelsterton Road is not considered likely to materially impact PIC records on this link, and as such the effect on highway safety is also considered to be negligible or minor adverse, which is **not significant**).

Hazardous / Large Loads

10.6.23 Information and quantities in relation to hazardous loads are still being considered as part of the EIA and through ongoing design development. These impacts will be reported and assessed within the ES.

10.6.24 At this stage, a number of routes are under consideration to be used for the shipborne delivery of large plant and equipment. It is anticipated that the largest AILs will be received at one or more local ports in North Wales or north-west England. The options identified at this stage are the Port of Mostyn (PoM), located within the FCC administrative area, or Ellesmere Port (Manchester Ship Canal) located within the Cheshire West and Chester (CWaC) Council administrative area. Loads would either be offloaded using existing portside cranes, or via temporary mobile cranes onto vehicles for onward road transport to the Main Site. Alternatively, depending on their dimensions, certain loads arriving at PoM could be transported along the River Dee/ Dee Estuary towards Site by vessel, being offloaded onto vehicles at the existing Connah's Quay North (CQN) jetty (formerly known as the 'Corus Jetty') and transported via the local road network to the Main Site.

10.6.25 The exact number and size / weight of AILs is not known at this stage and is based on specific construction methodologies that will be confirmed during the Front End Engineering Design (FEED) stage. The ES will include an indication of the anticipated number of AIL movements during the construction period and provide a separate assessment of the impact of those movements on the receptors listed above.

Driver Delay

10.6.26 In relation to driver delay, the increases in traffic during the peak construction period are considered to represent a temporary worst-case scenario. As such, no further assessment of driver delay has been undertaken, such as in the form of junction capacity modelling, the effect is considered to be negligible or minor adverse, which is **not significant**.

Additional Considerations – Vehicle Emissions

10.6.27 Prior to construction of the Proposed Development, the Applicant will consider opportunities for zero/low emission construction/plant vehicles. This will include investigation of potential opportunities for alternative fuels in the required vehicles to reduce the impact of road haulage during the construction phase.

Additional Considerations – Connah's Quay Power Station Nature Reserve

10.6.28 The Applicant will provide alternative temporary access to the nature reserve and Site of Specific Scientific Interest (SSSI) for users during the construction phase of the Proposed Development, when practicable. The current access to the nature reserve including bird hides is described in **Chapter 3: Description of the Existing Environment**. Further information on access proposed for Deeside Naturalists' Society (DNS) members will be provided in the ES and secured via the draft DCO and accompanying Rights of Way and Access Plans.

Operational Phase

10.6.29 The earliest year of operation for the Proposed Development is anticipated to be 2030, under a phased construction approach beginning in 2026 for a period of five years. If construction was to be undertaken in a single phased approach, the earliest year of operation is anticipated to be 2035. If a single phased construction approach was undertaken at the latest possible time, five years after DCO Consent, operation would be anticipated to occur in late 2036.

10.6.30 Once operational, it is anticipated that 66 permanent Full Time Equivalent (FTE) roles will be created once Trains 1 and 2 are operating. Staff will be required on a shift basis to be spread over a 24-hour period. Applying a Census car driver mode share of 83% (based on those who currently work in 'Flintshire 004' & 'Flintshire 007'), this could equate to around 55 additional cars accessing the Main Site per day (110 two-way vehicle movements in a 24 hour period). Approximately 25 two-way HGV movements are estimated to and from the Main Site each day, associated with deliveries.

Distribution of Operational Traffic

10.6.31 For the purposes of a basic and informative assessment, operational traffic has been distributed as per the methodology used for the assessment of construction impact, for both heavy and light vehicles.

Heavy Vehicles

10.6.32 HGV traffic associated with the operation of the Proposed Development has been distributed as per the HGV construction traffic. The assignment of predicted two-way daily HGV traffic is shown in **Table 10-16**.

Table 10-16: Summary Operational Traffic Distribution (HGV)

Link	Proportion of Trips Routed onto Link	Daily Two-Way Traffic
1. Kelsterton Road	100%	25
2. A548 (West of Main Site Access)	0%	0
3. A548 (East of Main Site Access)	100%	25
4. B5129	0%	0
5. Kelsterton Lane	0%	0
6. Allt Goch Lane	0%	0
7. Golftyn Lane	0%	0
8. Mold Road	0%	0

10.6.33 As detailed in the above table, all HGV traffic will be routed to and from the Main Site via the A548 (East of Main Site Access), before accessing the Main Site via Kelsterton Road. As a result, all (100%) HGV traffic has been assigned onto these links for the subsequent impact assessment.

Light Vehicles

10.6.34 The distribution of light vehicle development traffic associated with the operation of the Proposed Development has been based on analysis of the 2021 Census Journey to Work data, as per the construction traffic. The assignment of forecast two-way daily light vehicle traffic across the local highway network is shown in **Table 10-17**.

Table 10-17: Summary Operational Traffic Distribution (Light Vehicles)

Link	Proportion of Trips Routed onto Link	Daily Two-Way Traffic
1. Kelsterton Road	100%	110
2. A548 (West of Main Site Access)	35%	38
3. A548 (East of Main Site Access)	21%	23
4. B5129	44%	48
5. Kelsterton Lane	34%	38
6. Allt Goch Lane	0%	0
7. Golftyn Lane	0%	0
8. Mold Road	0%	0

10.6.35 All (100%) of light vehicle traffic has been assigned to Kelsterton Road as the final link between the Main Site and the wider highway network. Prior to reaching Kelsterton Road, 56% of light vehicle traffic is forecast to arrive from the A548 (35% from the west and 21% from the east), with the remaining 44% anticipated to route directly onto Kelsterton Road from the B5129. Of these 44%, 34% of light vehicle trips are anticipated to use Kelsterton Lane, prior to reaching the B5129. The remaining 10% of light vehicle trips are forecast to

originate from the B5129 only, attributed to local commuting trips from Connah's Quay, Shotton and beyond to the east of the Main Site.

Impact Assessment

10.6.36 **Table 10-18** presents a percentage impact assessment for the 2036 'Baseline + Committed Development + Operational Traffic' scenario, which corresponds with the opening year of operation.

10.6.37 For each link, the significance of effect has been determined with reference to the magnitude of change and sensitivity of the link, with reference to **Table 10-9** within Section 10.4. This information is presented in **Table 10-19** and summarised in the subsequent paragraphs.

Table 10-18: 2036 Baseline + Operation – Percentage Impact Assessment

Link	Direction	2036 Baseline (24hr AADT, 5-Day)			2036 Baseline + Operation (24hr AADT, 5-Day)			Difference		2036 Baseline + Operation: % Change (Relative to 2036 Baseline)	
		Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	Total Vehicles	HGVs
1. Kelsterton Road	Eastbound	209	50	24%	276	63	23%	67	13	32%	25%
	Westbound	206	32	15%	274	44	16%	67	13	33%	39%
	Two-Way	415	82	20%	550	107	20%	135	25	32%	30%
2. A548 (West of Main Site Access)	Eastbound	8,468	640	8%	8,487	640	8%	19	0	0%	0%
	Westbound	8,199	752	9%	8,218	752	9%	19	0	0%	0%
	Two-Way	16,667	1,392	8%	16,705	1,392	8%	38	0	0%	0%
3. A548 (East of Main Site Access)*	Eastbound	7,795	534	7%	7,819	547	7%	24	13	0%	2%
	Westbound	8,056	515	6%	8,080	528	7%	24	13	0%	2%
	Two-Way	15,851	1,050	7%	15,899	1,075	7%	48	25	0%	2%
4. B5129	Eastbound	5,308	688	13%	5,332	688	13%	24	0	0%	0%
	Westbound	5,682	712	13%	5,706	712	12%	24	0	0%	0%
	Two-Way	10,989	1,399	13%	11,038	1,399	13%	48	0	0%	0%
5. Kelsterton Lane	Northbound	679	71	10%	698	71	10%	19	0	3%	0%
	Southbound	829	93	11%	847	93	11%	19	0	2%	0%
	Two-Way	1,507	164	11%	1,545	164	11%	38	0	2%	0%
6. Allt Goch Lane	Northbound	80	15	19%	80	15	19%	0	0	0%	0%
	Southbound	75	9	12%	75	9	12%	0	0	0%	0%
	Two-Way	155	24	16%	155	24	16%	0	0	0%	0%
7. Golftyn Lane	Northbound	3,968	310	8%	3,968	310	8%	0	0	0%	0%
	Southbound	4,200	330	8%	4,200	330	8%	0	0	0%	0%
	Two-Way	8,168	640	8%	8,168	640	8%	0	0	0%	0%

Link	Direction	2036 Baseline (24hr AADT, 5-Day)			2036 Baseline + Operation (24hr AADT, 5-Day)			Difference		2036 Baseline + Operation: % Change (Relative to 2036 Baseline)	
		Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	HGV %	Total Vehicles	HGVs	Total Vehicles	HGVs
8. Mold Road	Eastbound	4,297	324	8%	4,297	324	8%	0	0	0%	0%
	Westbound	4,458	399	9%	4,458	399	9%	0	0	0%	0%
	Two-Way	8,755	722	8%	8,755	722	8%	0	0	0%	0%

* Link 3 surveyed by CCTV, therefore no speed data available. Speed shown is the current speed limit.

Table 10-19: 2036 Baseline + Operation – Magnitude of Impact

Link	Direction	2036 Baseline + Operation - % Change		Link Sensitivity	Severance	Magnitude of Impact				
		Total Vehicles	HGVs			Pedestrian Amenity	Fear & Intimidation	Highway Safety	Hazardous / Large Loads	Driver Delay
1. Kelsterton Road	Eastbound	32%	25%	Low	Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	33%	39%							
	Two-Way	32%	30%							
2. A548 (West of Main Site Access)	Eastbound	0%	0%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	0%	0%							
	Two-Way	0%	0%							
3. A548 (East of Main Site Access)*	Eastbound	0%	2%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	0%	2%							
	Two-Way	0%	2%							
4. B5129	Eastbound	0%	0%	High	Very Low	Very Low	Very Low			

Link	Direction	2036 Baseline + Operation - % Change		Link Sensitivity	Magnitude of Impact					
		Total Vehicles	HGVs		Severance	Pedestrian Amenity	Fear & Intimidation	Highway Safety	Hazardous / Large Loads	Driver Delay
	Westbound	0%	0%					Very Low	To be reported / assessed within the ES	Very Low
	Two-Way	0%	0%							
5. Kelsterton Lane	Northbound	3%	0%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	2%	0%							
	Two-Way	2%	0%							
6. Allt Goch Lane	Northbound	0%	0%	Low	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	0%	0%							
	Two-Way	0%	0%							
7. Golftyn Lane	Northbound	0%	0%	Medium	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Southbound	0%	0%							
	Two-Way	0%	0%							
8. Mold Road	Eastbound	0%	0%	Medium	Very Low	Very Low	Very Low	Very Low	To be reported / assessed within the ES	Very Low
	Westbound	0%	0%							
	Two-Way	0%	0%							

- 10.6.38 The impact assessment demonstrates that the largest permanent traffic impact will be seen on Kelsterton Road, as a result of all operational traffic using the northern access. In terms of total vehicles, there is an impact of 32% (equating to an absolute increase of 135 two-way vehicles per day). In terms of HGVs, the impact is 30%, equating to an absolute increase of 25 vehicles daily. Although this represents a permanent increase in the percentage of HGVs of the total traffic, this is not considered to represent a perceptible change on Kelsterton Road, which due to its proximity to the Main Site and existing access function between the Main Site and the Strategic Highway Network, is not considered to be sensitive to this magnitude of increase.
- 10.6.39 The magnitude of change and the sensitivity of the receptor have been compared for each type of impact, to determine the classification of the effect as per IEMA Guidelines (Traffic). This is summarised in **Table 10-20**.

Table 10-20: 2036 Baseline + Operation – Significance of Effect

Link	Link Sensitivity	Severance		Pedestrian Amenity		Fear & Intimidation		Highway Safety		Hazardous / Large Loads		Driver Delay	
		Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect
1. Kelstert on Road	Low	Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
2. A548 (West of Main Site Access)	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
3. A548 (East of Main Site Access)	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
4. B5129	High	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	Very Low	Minor (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Minor (Not Significant)

Link	Link Sensitivity	Severance		Pedestrian Amenity		Fear & Intimidation		Highway Safety		Hazardous / Large Loads		Driver Delay	
		Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect	Magnitude of Impact	Classification of Effect
5. Kelsterton Lane	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
6. Allt Goch Lane	Low	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
7. Golftyn Lane	Medium	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)
8. Mold Road	Medium	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	Very Low	Negligible (Not Significant)	To be reported / assessed within the ES	To be reported / assessed within the ES	Very Low	Negligible (Not Significant)

Severance

10.6.40 In relation to severance, the impact assessment demonstrates that all of the links will experience either minor or a negligible adverse effects during the operational phase of the Proposed Development, which is **not significant**.

Pedestrian Amenity

10.6.41 In relation to pedestrian amenity, the impact assessment demonstrates that all of the links will experience either minor or a negligible adverse effect during the operational phase of the Proposed Development, which is **not significant**.

Fear and Intimidation

10.6.42 In relation to fear and intimidation, the impact assessment demonstrates that all of the links will experience either minor or a negligible adverse effect during the operational phase of the Proposed Development, which is **not significant**.

Highway Safety

10.6.43 PIC data for the most recent five years has been acquired for the study area and is summarised in Section 10.4. The statistics provide information on the location and severity of each PIA. Given that the level of increase in traffic flows resulting from the operation of the Proposed Development on road links is minor or negligible, the effect on highway safety is also considered to be minor or negligible adverse, which is **not significant**.

Hazardous / Large Loads

10.6.44 Information in relation to likely hazardous loads are set out in **Chapter 23: Materials and Waste**. Quantities in relation to vehicle trips during operation of the Proposed Development are still being considered as part of the EIA and through ongoing design development. These impacts will be reported and assessed within the ES.

Driver Delay

10.6.45 In relation to driver delay, the increases in traffic during the operational phase of the Proposed Development are shown to be minor or negligible, which is **not significant**. As such, no further assessment of driver delay has been undertaken.

Decommissioning Phase

10.6.46 At the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures would be removed from site. As set out in this chapter, traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase. An assessment of potential environmental impacts during the single phase construction scenario demonstrates the greatest amount of construction traffic impact would be experienced on Kelsterton Road, which is forecasted to generate a two-way HGV increase of 221%. In absolute terms, this equates to a daily increase of 180 two-way HGVs. This temporary increase would be expected given Kelsterton Road will provide access to / from the Main Site for all construction traffic. The majority of remaining links do not experience an increase of greater than 10%, both in terms of total vehicles and HGVs.

10.6.47 Therefore, decommissioning is not anticipated to present any significant environmental effects beyond those assessed for the construction phase of the Proposed Development.

10.7 Additional Mitigation and Enhancement Measures

Construction Phase

10.7.1 As set out in this chapter, there are no significant transport effects arising from the construction phase of the Proposed Development. Therefore, no additional mitigation in the construction phase is anticipated to be needed.

Operational Phase

10.7.2 As set out in this chapter, there are no significant transport effects arising from the operational phase of the Proposed Development. Therefore, no additional mitigation in is anticipated to be needed, once the Proposed Development is complete and operational.

Decommissioning Phase

10.7.3 As set out in this chapter, traffic impacts which could arise during the decommissioning phase of the Proposed Development are likely to be similar or less than impacts during the construction phase. There are no significant transport effects arising from the construction phase of the Proposed Development. Therefore, no additional mitigation in the decommissioning phase is anticipated to be needed.

10.8 Summary of Likely Significant Residual Effects

10.8.1 There are no significant residual effects anticipated to arise as a result of the construction phase, operational phase, or decommissioning phase of the Proposed Development.

10.8.2 An assessment of cumulative effects with other proposed developments that could interact with the effects of this Proposed Development will be carried out in the final ES, when the short-list of other developments has been finalised, as detailed in **Chapter 24: Cumulative and Combined Effects**. **Chapter 24: Cumulative and Combined Effects** will also assess the in-combination effects of multiple aspects on one receptor.

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