

## 9 HIGHWAYS AND TRANSPORTATION

### 9.1 INTRODUCTION

- 9.1.1. This chapter of the Environmental Statement (ES) considers the potential impacts on various means of transport associated with the Proposed Development and the predicated associated effects on sensitive receptors in the area. The assessment follows the methodology set out in the IEMA Guidelines, which is considered the appropriate and acceptable methodology for assessing the environmental impact of traffic upon means of transport.
- 9.1.2 This chapter describes the methods used to assess the effects; the mitigation measures required to prevent, reduce or offset and significant negative (adverse) effects; and any likely residential effects after these measures have been adopted.
- 9.1.3 This chapter of the Environmental Statement [ES] considers the potential impacts on various means of transport associated with the proposed development on land south of Rover Way, Cardiff and the predicted associated effects on sensitive receptors in the area. The assessment follows the methodology set out in the IEMA Guidelines, which is considered the appropriate and accepted methodology for assessing the environmental impact of traffic and upon means of transport.
- 9.1.4 It describes the methods used to assess the impacts: the relevant legislative and policy context; the baseline conditions currently existing at the site; the potential effects during construction and operation; the mitigation measures provided as part of the proposed development; and, the likely residual effects.
- 9.1.5 This chapter should be read in conjunction with the Transport Statement (TS) which contains a description of the development, the conditions of the surrounding highway network and the proposed access arrangements along with the impact of the development on the local highway. This is provided in Appendix 9.1.
- 9.1.6 Whilst assessed afresh, this element of the scheme proposals is common to, and consistent with, the previous (approved) development for the site. The principal conclusions drawn and set out in the consideration and determination (approval) of the previous (bio-mass and related development) scheme for the site record the following:
- the Council's Highways Officers are satisfied with the amended junction design that has been submitted by the applicant and a relevant condition is attached to secure its details to the satisfaction of the Highways Authority;
  - A Section 278 Agreement under the Highways Act would also be required for these works [NB : now obtained];
  - On the basis of assumptions applied, it is considered that the overall additional HGV traffic on Rover Way would be acceptable;
  - The traffic generated during both the four year pre-construction and the operational periods may have a detrimental impact upon the surrounding road network. It is accepted that the additional traffic movements would appear to constitute less than 2%

of the existing daily traffic flow. However, it should also be considered that the existing road network along Rover Way is already operating at its design capacity. It is considered that additional traffic on the local network could be expected to exacerbate the situation [NB : baseline traffic flows now much changed as a result of the pandemic]

- Although Rover Way is identified as being the route for the future extension to the Eastern Bay Link (EBL), no details on the precise route are available. The route will have to avoid private land in any event and therefore the future EBL extension is not considered to be an issue that could reasonably prevent the delivery of this development. Welsh Government Transport Division has not raised this as a concern;
- provision would be provided for commuters in accordance with the Council's adopted guidelines; and
- The Wales Coast Path crosses the site and the application makes a commitment to improve and enhance this important recreational route in accordance with LDP Policy T8. A relevant condition is attached. This enhancement of this route complies with national and local planning policies to encourage active forms of travel.

## **9.2 CONTEXT**

9.2.1 The context for the Proposed Development is set out in national, regional and local planning policy, particularly Cardiff Council's (CC's) Local Development Plan.

### **National Policy**

The key National Policies are contained within:

- Planning Policy Wales (Edition 11, February 2021);
- Technical Advice Note 18 (Transport);
- Wales Transport Strategy (Connecting The Nation);
- Active Travel Act (Wales) 2013;
- Future Wales: The National Plan 2040 (February 2021);

### **Planning Policy Wales (Edition 11, February 2021)**

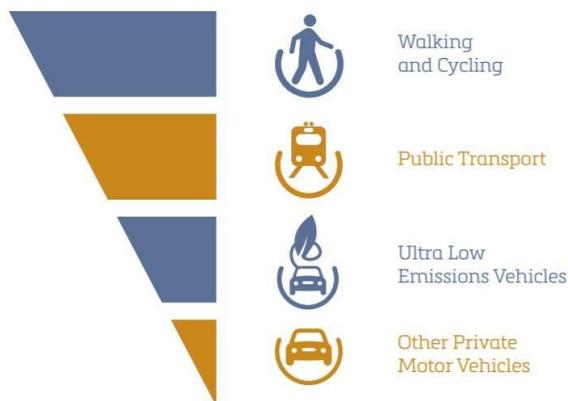
9.2.2 Planning Policy Wales Edition 11 (PPW) sets out the land use planning policies of the Welsh Government.

9.2.3 With regards to sustainable transport, PPW advises that, in the context of active and social places, which also relates to employment, all developments should encourage modal shift and be easily accessible by walking, cycling and public transport, by virtue of their location, design and provision of on and off site sustainable transport infrastructure.

9.2.4 Furthermore, the 'active and social' theme within PPW aims to ensure new development is located and designed in a way which minimises the need to travel, reduces dependency on the private car and enables sustainable access to employment, local services and community facilities.

9.2.5 A key theme throughout PPW is the aim of reducing reliance on travel by private car, and the adverse impacts of motorised transport on the environment and people's health, by prioritising and increasing active travel and public transport. Additionally, it states that development proposals must seek to maximise accessibility by walking, cycling and public transport, by prioritising the provision of appropriate on-site infrastructure and, where necessary, mitigating transport impacts through the provision of off-site measures, such as the development of active travel routes, bus priority infrastructure and financial support for public transport services.

9.2.6 These themes of emphasis on sustainable transport and active travel are supported by the 'Sustainable Transport Hierarchy for Planning' included within PPW.



### Technical Advice Note 18: Transport

9.2.7 TAN 18: Transport describes how to integrate land use and transport planning and explains how transport impacts should be assessed and mitigated.

9.2.8 The document states that sustainable development should be achieved by:

- Integration of transport and land use planning;
- Integration between different types of transport;
- Integration of transport policy with policies for the environment, education, social justice, health, economic development and wealth creation;
- Integration of land use planning and development of transport infrastructure can help the Welsh Government achieve its wider sustainable development policy objectives by;
- Promoting resource and travel efficient settlement patterns;
- Ensuring new development is located where there is, or will be, good access by public transport, walking and cycling thereby minimising the need for travel and fostering social inclusion;
- Managing parking provision;
- Ensuring that new development and major alterations to existing developments include appropriate provision for pedestrians (including the with special access and mobility requirements), cycling, public transport, and traffic management and parking/servicing;
- Encouraging the location of development near other related uses to encourage multi-purpose trips;
- Promoting cycling and walking;
- Supporting the provision of high quality, inclusive public transport;
- Supporting provision of a reliable and efficient freight network;
- Encouraging good quality design of streets that provide a safe public realm and a distinct sense of place; and
- Ensuring that transport infrastructure or service improvements necessary to serve new development allow existing transport networks to continue to perform their identified junctions.

### **Wales Transport Strategy (Connecting the Nation)**

9.2.9 The wider agenda of this document is to ensure that transport features strongly in the Welsh Assembly Government's policy spectrum:

- i) 'Getting the most out of our existing transport system;
- ii) Making greater use of more sustainable modes of travel; and
- iii) Reducing demands on the transport system'.

9.2.10 This is a sustainable, permeable, well connected site and hence it is compliant with the Wales Transport Strategy.

### **Active Travel Act (Wales) 2013**

9.2.11 The Welsh Government seeks to enable more people to walk, cycle and generally travel by more active methods, so that:

- i) 'more people can experience the health benefits of active travel;
- ii) we reduce our greenhouse gas emissions;
- iii) we help address poverty and disadvantage, and
- iv) we help our economy to grow by unlocking sustainable economic growth.'

### **Future Wales: The National Plan 2040 (February 2021)**

9.2.12 This document is a National Development Framework for Wales. It influences all levels of the planning system in Wales and will help to shape Strategic and Local Development Plans prepared by councils and national park authorities.

9.2.13 The document highlights the importance of reducing emissions to protect well-being and to demonstrate global responsibility. The planning system needs to focus on delivering a decarbonised and resilient Wales through the places that are created, the energy generated and the natural resources and materials that are used and how people live and travel.

9.2.14 The document recognises that there has been a significant change in the way people live and travel as a result of the COVID-19 pandemic. The pandemic has highlighted the quality and accessibility of people's local areas as being important for people's health and well-being during the pandemic.

9.2.15 Welsh Government have produced a document called 'COVID-19 Reconstructions: Challenges and Priorities'. This document sets out how people are using places differently, travelling less and spending more time working from home. Welsh Government is encouraging an increase in remote working and has set a long-term ambition for 30% of the Welsh workforce to work away from a traditional office. This is intended to help town centres, reduce congestion and cut carbon emissions. The planning system must therefore respond to these changes and contribute to a sustainable recovery, shaping places around a vision for healthy and resilient places.

9.2.16 The Welsh Government will work with Transport for Wales, local authorities, operators and partnersto deliver the following:

- i) Active Travel – Prioritising walking and cycling for all local travel;
- ii) Bus – improve the legislative framework for how local bus services are planned and delivered. Invest in the development of integrated regional and local bus networks to increase modal share of bus travel and improve access by bus to a wider range of trip destinations;
- iii) Metro – Develop the South East Metro, South West Metro and North Wales Metro and createnew integrated transport systems that provide faster, more frequent and joined up services using trains, buses and light rail; and
- iv) Ultra-low Emission Vehicles – Support the roll-out of suitable fuelling infrastructure to facilitatethe adoption of ultra-low emission vehicles, particularly in rural areas.

9.2.17 In the context of the proposed development, it will be of the utmost importance to promote active travel and public transport for employees wherever possible over travel by private car.

### Local Policy

#### Cardiff Local Development Plan 2006-2026

9.2.18 Cardiff Council’s Local Development Plan (LDP) provides the framework for the development anduse of land within Cardiff over the LDP period and contains the policies and measures that all newdevelopment must adhere to within Cardiff.

9.2.19 Policy T7 of the LDP identifies the site as running adjacent to the Eastern Bay Link. This is defined as “strategic transport infrastructure” which is featured in the South East Wales Transport Alliance (Sewta) Regional Transport Plan (RTP). The road helps complete the peripheral distributor road (PDR) between the M4 Junction 33 in the northwest of Cardiff and Llanedeyrn Interchange in the eastof the city. Additionally, it will provide capacity for road-based access to the Cardiff Enterprise Zone from the east and supporting development in that area.

9.2.20 Construction works commenced in summer 2015 and the completed road opened in June 2017.

9.2.21 Policy T6 makes reference to impact on transport networks and services. It states:

*‘Development will not be permitted which would cause unacceptable harm to the safe and efficient operation of the highway, public transport and other movement networks including pedestrian and cycle routes, public rights of way and bridle routes’.*

9.2.22 Policy T1 of the LDP deals with Transport and specifically Walking and Cycling. The policy states that with a view to enable people to access services, employment and community facilities by walking and cycling, the council supports developments which incorporate:

- Permeable and legible networks of safe, convenient, and attractive walking and cycling routes;

- Connections to the Cardiff Strategic Cycle Network and routes forming part of the Cardiff Walkable Neighbourhood Plan;
- Safe, convenient, and attractive walking and cycling connections to existing developments, neighbourhoods, and services; and
- Supporting facilities including, signing, secure cycle parking.

9.2.18 The Habitats Directive (as implemented by the Regulations) requires the competent authority, which in this case will be the planning authority, to firstly evaluate whether the development is likely to give rise to a significant effect on the European site. Where this is the case, it has to carry out an 'appropriate assessment' in order to determine whether the development will adversely affect the integrity of the site.

## 9.3 METHODOLOGY

### Assessment Methodology

- 9.3.1 To determine the potential environmental impacts of car and non-car traffic associated with the Proposed Development, and the effect the Proposed Development will have on existing levels of car and non-car traffic, a number of methodologies have been applied within this assessment. The methodologies have been informed by the IEMA Guidelines which provide guidance on a range of potential traffic related impacts arising from new development. Where no specific method is defined within the IEMA Guidance alternative means of assessment have been undertaken based on published transportation assessment guidance and best practice. Each of these, as appropriate to this assessment, has been considered in turn in the following paragraphs. In the absence of definitive guidance professional judgement has been applied.
- 9.3.2 The proposed development is for 'The Removal of Fill Material and the Construction of Industrial Accommodation (B8 use Class), New Access Roads and Associated Landscaping Works'. This involves the removal of fill material, 50,000sqm of B8 industrial accommodation, the creation of a new access point on Rover Way to access the site, in addition to the access point from Tide Fields Road and bunding around the site for, amongst other reasons, screening to and from the site.

### Assessment Scenarios

- 9.3.3 The scoping for the Transport Statement was agreed with the officers from Cardiff Council on 2<sup>nd</sup> August 2017, in line with the preparation of the original planning application. With regards to the current proposals, Vectos have been retained by Parc Calon Gwyrdd to provide transport and highways advice in relation to a proposed 50,000 sqm B8 development, a change from the previously consented 9.5MWe Combined Heat and Power Station (CHP) and Industrial Accommodation. The following scenarios have been assessed in the AM (08:00-09:00) and PM (17:00-18:00) weekday peak periods (using network peak and development peak combined), and in traffic terms, an 18hr average annual weekday period, which is reflect of off-peak periods and times of greatest potential impact;
- Scenario 1 – Baseline (2017)
  - Scenario 2 – Baseline (2017) + Development
- 9.3.4 Scenario 1 is informed by the traffic surveys undertaken in 2017, and reflects the baseline position on the local highway network. The traffic surveys comprise of ATC data taken from Rover Way.
- 9.3.5 Scenario 2 is informed by the 2017 traffic surveys, on to which the Proposed Development traffic flows have been added, to quantify the impact of the development.
- 9.3.6 As outlined throughout this document, a previous Transport Statement (TS) was submitted for the approved application. The updated TS, submitted in support of the current proposals, recaps the accessibility of the site, provides an updated review of policy and addresses the

change in proposals from, originally, a 9.5MWe Combined Heat and Power (CHP) Station and 130,000sqft of industrial use, to the latest proposal of 50,000sqm of industrial use. The TS examines the operational effect of the proposed development on the local transport network and considers the overall accessibility of the site and the opportunities to encourage travel by sustainable modes particularly for staff.

### **Significance Criteria**

9.3.7 In all instances the significance of the proposed development's residual effects have been recorded as either 'beneficial', 'adverse' or 'neutral'. Where an effect has been recorded as:

- 'beneficial', the overall effect would be positive to sensitive receptors;
- 'neutral', the overall effect would result in no material change to sensitive receptors;
- 'adverse', the overall effect would be negative to sense receptors.

9.3.8 There is no formal or published guidance for the assessment of a number of criteria assessed in the following section. Where this is the case, professional judgement has been used to determine the level of significance.

#### Pedestrian Environment

9.3.9 Professional judgement has been applied to estimate the significance of the Proposed Development's effect on the pedestrian network, based on the additional number of walking trips forecast to occur as a result of the Proposed Development.

#### Cycling Environment

9.3.10 Professional judgement has been applied to estimate the significance of the Proposed Development's effect on the cycling network, based on the additional number of cycling trips as a result of the Proposed Development.

#### Public Transport Network Environment

9.3.11 Professional judgement has been applied to estimate the significance of the Proposed Development's effect on the public transport network based on the additional number of bus trips and the additional number of rail trips as a result of the Proposed Development.

#### Traffic Impact

9.3.12 The IEMA Guidelines provide two 'rules of thumb' as a screening process to limit the scale and extent of assessment of traffic impacts and to determine which traffic links require assessment. The rules are as follows:

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

- Rule 2: include any other specifically sensitive areas where traffic flows have increased by more than 10%.

9.3.13 To assist with assigning the magnitude of the impact, the IEMA Guidelines sets out consideration, and in some cases thresholds, in respect to changes in the volume and composition of traffic to facilitate judgement on the significance of traffic effects. Table 3.1 details the assessment framework adapted from the guidance used in this assessment.

**Table 9.1 - Magnitude of Impact Criteria**

Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
Severance	Change in hourly traffic flows of less than 30%	Change in hourly traffic flows of 30% - 60%.	Change in hourly traffic flows of 60%-90%.	Change in hourly traffic flows of over 90%
Pedestrian Delay	Two way traffic flow <1,400 vehicles per hour	A judgement based on the routes with two-way traffic flow exceeding 1,400 vph in the context of their individual characteristics.		
Pedestrian Amenity	Change in hourly traffic flow/HGV flows < 100%	A judgement based on the routes with > 100% change in hourly traffic /HGV flows in context of their individual characteristics.		

9.3.14 To help define the value and sensitivity of receptors IEMA advice on affected groups and special interests has been reviewed. Table 9.2 details the assessment framework adapted from the advice.

**Table 9.2 – Receptor Sensitivity Criteria**

Receptor Type	Receptor Sensitivity
Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians	High
Traffic flows sensitive receptors: congested junctions/links, doctors surgeries, hospitals, shopping area with roadside frontage, roads with narrow footways, recreation facilities	Medium
Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision	Low
Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions	Very Low

9.3.15 Table 9.3 describes the significance criteria adopted based on receptor sensitivity and impact magnitude.

**Table 9.3 Significance Criteria Matrix**

Receptor Sensitivity	Magnitude of Impact			
	Very Low	Low	Medium	High
Very Low	None	Negligible	Minor	Minor-Moderate
Low	Negligible	Minor	Minor-Moderate	Moderate
Medium	Minor	Minor-moderate	Moderate	Moderate-major
High	Minor-moderate	Moderate	Moderate-major	Major

Severance

9.3.16 The IEMA Guidelines set out a range of indicators for determining the significance of impact on severance. Changes in Traffic flow of 30%, 60% and 90% (Table 9.1) are regarded as producing 'slight', 'moderate' and 'substantial' changes respectively. These indicators have been used to determine the significance of impact on severance.

Junction Delay/Driver Delay

9.3.17 Two-way traffic flows and the results of the PICADY transport models, including junction performance, queue lengths and delay, have been used to determine the significance of impact on junction delay / driver delay.

9.3.18 There is no formal or published guidance for the assessment of junction delay/driver delay, therefore professional judgement has been used to assess the significance of impact, as detailed in the Transport Statement in ES Appendix 9.1.

Pedestrian Delay

9.3.19 There is no formal or published guidance for the assessment of pedestrian delay. However, the IEMA Guidelines recommend assessors use their professional judgement to determine the significance of effects, and that is what has been done in the assessment.

9.3.20 A range of local factors need to be considered, when considering the significance of the likely effects of the Proposed Development on pedestrian delay, including the provision of new routes, two-way traffic flows, and the provision of crossing facilities.

Fear and Intimidation

9.3.21 In the absence of commonly agreed thresholds for judging the significance of likely fear and intimidation effects, Halcrow Fox & Associates (HFA et al (1990) – Assessment Methodology Report, The West London Assessment Studies (HMSO)) have put forward thresholds as summarised in table 9.4.

**Table 9.4 - Criteria for Fear and Intimidation**

Degree of Hazard	Average Traffic Flow over 18 Hour Day – Vehicle/Hour	Total 18 hour Heavy Goods Vehicle Flow	Average Speed Over 18 hour Day (mph)
Extreme	1,800+	3,000+	20+
Great	1,200 – 1,800	2,000 – 3,000	15 - 20
Moderate	600 – 1,200	1,000 – 2,000	10 - 15

9.3.22 The key criteria are volume of traffic, percentage of HGVs and the proximity of pedestrians to traffic. In addition, the speed of traffic, the number of turning movements, the proximity of schools and the level of vulnerable groups also have to be considered, and a professional judgement made.

Hazardous Loads

9.3.23 To assess the significance of the Proposed Development in terms of the transportation of hazardous loads the probability of an accident has been assessed based on the number of daily movements carrying hazardous loads.

Parking

9.3.24 The proposed level of car parking has been assessed in the context of CC’s car parking standards, as set out in the SPG ‘Managing Transportation Impacts (Incorporating Parking Standards), July 2018’.

Accident Safety

9.3.25 Professional judgement has been applied to assess the potential impact of the Proposed Development on accidents and safety.

Assumptions

9.3.26 For the purposes of this assessment, the following assumptions have been made:

- Total trip rates for the proposed B8 development have been derived from TRICS using total vehicle trip rates; and
- Construction trips have been derived as part of the pre-construction site preparation phase.

9.3.27 The key highway link will be Rover Way and the development access that is located on Rover Way to the east of the Seawall Road junction.

9.3.28 The Proposed Development would not result in the transportation of hazardous loads with the exception of hazardous materials found on site and removed.

9.3.29 It is noted that the IEMA Guidelines additionally require consideration of the effects of development traffic on other traffic related issues. Accordingly, the scope of assessment presented in this ES Chapter considers the effects as described in the Transport Statement included in Appendix 9.1.

## 9.4 BASELINE CONDITIONS

### Baseline Characterisation

- 9.4.1 This section sets out the methods used to characterise the existing baseline conditions, and goes on to describe the existing baseline conditions.
- 9.4.2 The key public highways links in the vicinity of the site is Rover Way.
- 9.4.3 The pedestrian and cycling study areas are considered within this assessment and included in the TS which is included in ES Appendix 9.1. The study area includes the immediate areas in close proximity to Rover Way and Tide Fields Road which contain existing formal footways along with routes for cyclists as described in Cardiff's Local Cycle Network Plan.
- 9.4.4 To characterise the existing baseline public transport conditions at the site and within the study area:
- A review of published timetable and route information has been completed.
- 9.4.5 The public transport study areas includes bus routes along Willows Avenue and Mercia Road serving the wards of Splott, Rumney and Adamsdown along with rail services at Cardiff Central and Cardiff Queen Street Stations.
- 9.4.6 To characterise the existing baseline highway conditions at the proposed development and in the study area, traffic surveys on Rover Way were undertaken on the 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> October 2017.

### Pedestrian Facilities

- 9.4.7 Rover Way serves the site and connects with Ocean Way in the south and Lamby Way / Southern Way in the north. There are no footways in the immediate vicinity of the proposed site access on Rover Way. There are footways present on Rover Way from Seawall Road heading south west. Heading north west of the development, Seawall Road has footways on both sides of the carriageway.
- 9.4.8 Dropped kerbs and tactile paving are provided to assist pedestrians to cross Rover Way.
- 9.4.9 The Welsh Coastal Path which forms part of the Public Rights of Way (ProW) Network runs to the east of the site.

### Cycling Facilities

- 9.4.10 The Local Cycle Network, which comprises of on and off-road routes, signed routes and shared use routes. Details are provided in Figure 2.5 – Cardiff Council Cycle map contained in the TS, which is included in ES Appendix 9.1.
- 9.4.11 The Local Cycle Network provides routes across Cardiff, and comprises traffic free paths, sign-posted cycle routes, advisory cycle routes and main road routes.

### Bus Services

- 9.4.12 Cardiff Bus and New Adventure Travel operate one bus each in the vicinity of the Proposed Development routing along Willows Avenue and Mercia Road.
- 9.4.13 A total of 2 bus services operate in the vicinity of the Proposed Development. The study area is served by 3 buses an hour in both directions during the weekday.
- 9.4.14 A summary of the existing bus services is provided in the TS, which is included in the ES Appendix 9.1.
- 9.4.15 There are two main rational stations within Cardiff, Cardiff Central and Cardiff Queen Street. Cardiff Central offers services to Newport, Bristol, Manchester and London, as well as services for the Valley Lines Network and stations to Penarth and the Vale of Glamorgan.

### **Highway Network**

#### Junction Delay / Driver Delay

- 9.4.16 Junction delay / driver delay is assumed to be at its maximum in the commuter peak periods and therefore it is this period that has been assessed. Baseline junction delay / driver delay has been derived from observed traffic flows and the PICADY model. The model can demonstrate that the junction is operating within capacity during the AM and PM periods. Detail of the existing junction capacities are contained in the TS, which is included in ES Appendix 9.1.

#### Accident Data

- 9.4.17 Following the data collected for the original ES, an updated study period has been assessed using CrashMap, which indicates three collisions from 2016-2020 in the vicinity of the site. These are outlined in the appended TS.

#### Existing Sensitive Receptors

- 9.4.18 The following receptor would be sensitive to any change in transport aspects on account of the Proposed Development and are therefore considered within the EIA:
- Highway network including junctions;
  - Pedestrian Routes (footways and footpaths);
  - Cycle Facilities and Routes.

### **Identification of Impacts**

#### Pedestrian Environment

- 9.4.19 To identify the impact of the Proposed Development on the pedestrian environment, the number of additional pedestrian trips has been considered in the context of the existing pedestrian environment.

#### Cycling Environment

- 9.4.20 To identify the impact of the Proposed Development on cycle environment, the number of additional cycling trips has been considered in the context of the existing cycle environment.

#### Public Transport Environment

- 9.4.21 To identify the impact of the Proposed Development on the public transport environment the additional number of bus passengers and rail passengers has been considered in the context of the existing level of service.

#### Highway Network Capacity

- 9.4.22 The starting point of assessment for highway network capacity was a percentage impact assessment of Rover Way within the study area.

#### Junction Delay / Driver Delay

- 9.4.23 The potential impact of the Proposed Development on two-way traffic flows on Rover Way has been considered to assess junction delay / driver delay. In addition, a judgement has been made about the impact on junction delay/driver delay in the context of the new junction on Rover Way to serve the development.

#### Severance, Pedestrian Amenity, Pedestrian Delay, Fear and Intimidation

- 9.4.24 Pedestrian severance, amenity, delay, fear and intimidation has been assessed by considering the potential impact of the Proposed Development in terms of change in traffic flow on Rover Way. The effect has been considered in peak and off-peak periods. Professional judgement has been applied to interpret the results.

#### Accidents

- 9.4.25 Following the data collected for the original ES, an updated study period has been assessed using CrashMap, which indicates three collisions from 2016-2020 in the vicinity of the site. These are outlined in the appended TS.

## 9.5 POTENTIAL IMPACTS

9.5.1 This section sets out how the potential effects have been identified, includes a prediction of impact magnitude, and provides an assessment of impact significance prior to mitigation.

### During Construction

9.5.2 To enable an assessment of likely environmental effects within this Chapter, an estimate of the predicted level of construction traffic has been made relating to construction activities and related traffic.

9.5.3 An indicative construction programme assumes that the development will have a 2 year pre-construction phase and a 3 year build period.

9.5.4 All construction traffic would access and egress the land to the site from Tide Fields Road.

9.5.5 During the construction phases of the Proposed Development, the following potential direct impacts are likely:

- HGV vehicle trips to deliver and remove materials;
- Dirt and mud on road surfaces within the immediate vicinity and
- Construction workers accessing the site.

9.5.6 Indirect or secondary impacts as noise, dust and vehicle emissions are also likely.

9.5.7 Construction vehicle trips have been generated using the construction programme provided by the applicant, which has been calculated based on the anticipated volumes of excavation and construction material required over the course of the construction period, converted into HGV journeys.

9.5.8 For the purposes of this assessment, as outlined in the Transport Statement, it is expected that within the AM peak period of 08:00 – 09:00, a total of 1,929 vehicles pass along Rover Way, and within the PM peak period of 17.00 – 18.00, a total of 1,690 vehicles pass along Rover Way. In the AM peak period HGVS comprise 11% of the total traffic and 5% in the PM peak period. Similarly, the Transport Statement notes how the HGV peak hour is 09:00-10:00. During this hour 16% of vehicles on Rover Way are classified as Heavy Goods vehicles. 12% of all daily movements along Rover Way comprise of HGV movements.

### Pedestrian Environment

9.5.9 The proposed construction related traffic will access the development using Rover Way and Tide Fields Road via the existing site access.

9.5.10 In line with the findings from the transport statement which assessed the previous (approved) scheme, the change in movements is defined as very low impact magnitude and low on receptor sensitivity. The construction traffic will have an overall negligible impact.

### Cycling Environment

9.5.11 The construction traffic is likely to have an overall negligible adverse impact.

#### Public Transport Environment

- 9.5.12 There will be negligible impact on public transport based upon additional HGV movements associated with the development.

#### Pedestrian Severance

- 9.5.12 During the construction phase the impact from construction related traffic will be negligible.

#### Junction Delay / Driver Delay

- 9.5.13 The number of movements on the surrounding network, as outlined in the Transport Statement, is considered to have negligible impact on junction or driver delay.

#### Pedestrian Delay

- 9.5.13 The number of movements on the surrounding network, as outlined in the Transport Statement, is considered to have negligible impact.

#### Pedestrian Amenity

- 9.5.14 The number of movements on the surrounding network, as outlined in the Transport Statement, is considered to have negligible impact.

#### Fear and Intimidation

- 9.5.15 The number of movements on the surrounding network is considered to have negligible impact.

#### Hazardous Loads

- 9.5.16 The chance of a vehicle carrying hazardous material is low. Therefore it is considered to have negligible impact.

#### Parking

- 9.5.17 Parking for site operatives will be provided on site during the construction period therefore there is no reason for any construction workers to park off-site. The construction traffic and parking demand is considered to have negligible impact.

#### Accidents and Safety

- 9.5.18 The number of movements, as outlined in the Transport Statement, are considered to have negligible impact.

## **Operational Phase**

9.5.19 Once complete the Proposed Development is likely to give rise to the following direct impact:

- The daily vehicle movements associated with an increase in B8 development.

### Highway Network Capacity

9.5.20 As outlined in the Transport Statement, the additional daily vehicle movements associated with the increase in B8 development are much lower than the reduction associated with recent and predicted long term effects on travel behaviour and road traffic levels as a consequence of the Covid-19 pandemic. Most recent DfT data suggests daily traffic flows could be between 10-25% lower than pre-Covid flows.

9.5.21 Therefore, the cumulative highways impacts are considered to be lower than those already approved and accepted in the context of the capacity of the surrounding highway network.

## **Assessment of Impact Significance – Operational Phase**

### Pedestrian Environment

9.5.22 The impact of the proposed development on pedestrian environment is negligible.

### Cycling Environment

9.5.23 The impact of the Proposed Development on cycle environment has been assessed as negligible.

### Public Transport Environment

9.5.24 The impact of the Proposed Development on the public transport environment is assessed as being negligible impact.

### Pedestrian Severance

9.5.25 Based on IEMA Guidelines the impact of the Proposed Development on pedestrian severance at Rover Way is negligible.

### Junction Delay/Driver Delay

9.5.26 The level of junction/driver delay on Rover Way in the vicinity of the site is detailed in the TS, which is included in Appendix A.

9.5.27 The findings from the junction assessment included in the TS indicate that there is negligible impact.

Pedestrian Delay

9.5.28 The impact of the Proposed Development on Rover Way is negligible impact.

Fear and Intimidation

9.5.29 The proposed development is considered to have a negligible impact on Rover Way.

Hazardous Loads

9.5.30 The proposed development is considered to have negligible impact in relation to hazardous loads.

Parking

9.5.31 The Proposed Development will have a negligible impact on parking given the proposed level of on-site parking provision will accord with CC's parking standards as prescribed in their SPG.

Accidents and Safety

9.5.32 The Proposed Development will have a negligible effect on accidents and safety. The data collected utilising Crashmap does not identify any trends or patterns in the accidents recorded and the pedestrian, cycle and vehicle movements generated by the development does not give cause for concern.

9.5.33 A summary of impact significance for each area of assessment is provided in Table 9.4 below.

**Table 9.4 - Summary of Impact Significance**

<b>Area of Assessment</b>	<b>Impact</b>	<b>Impact Significance</b>
Pedestrian and Cycle Environment	Additional trips in the AM and PM peak	Negligible.
Public Transport Environment	Additional bus and trips in the AM AND PM peak PM peak	Negligible.
Pedestrian Severance	Rover Way – change in hourly traffic flows	Negligible.
Junction Delay/Driver Delay	Rover Way 26 additional vehicles in AM and 20 additional vehicles in PM for the industrial use	Negligible.
Pedestrian Delay	Rover Way – change in hourly traffic	No adverse impact
Pedestrian Amenity	Rover Way – change in hourly traffic	No adverse impact.
Fear and Intimidation	Rover Way – change in AAWT traffic flows	No adverse impact.
Hazardous Loads	A max of 20 two way HGV movements	No adverse impact
Parking	To accord with standards	No adverse impact
Accidents and Safety	No trends or patterns	No adverse impact

## **9.6 PROPOSED MITIGATION AND ENHANCEMENT**

### **Mitigation by Design**

9.6.1. The proposed development will provide the following:

- A new priority junction will be provided off Rover Way;
- Pedestrian footway along Rover Way will be extended to meet the new priority junction into the site, with dropped kerbs and tactile paving to aid pedestrian movement into the site.

### **During Construction**

9.6.2. Mitigation during construction will be set out in a Construction and Environmental Management Plan (CEMP). This will include a Construction Traffic Management Plan. The CEMP will cover the following:

- Access Arrangements for Vehicles;
- Access Route;
- Vehicle Size and Schedule of Use;
- Necessary Highway Works;
- Parking and Loading Arrangements;
- Pedestrian and Cyclist Safety;
- Proposed Working Hours; and
- Proposed Start and End Dates for each Phase of Construction.

### **During Construction**

9.6.3. No further mitigation measures are required following completion.

## 9.7 RESIDUAL IMPACTS

9.7.1 This section considers the residual effects as a result of the mitigation proposed during the construction period and during the operational phase of the Proposed Development.

### During Construction

9.7.2 The maximum predicted number of daily-two-way HGV movements during the construction period is not expected to exceed 100. The movement of all construction HGVs will be managed through the CEMP. This will also cover pedestrian and cycle access to the construction site.

9.7.3 Given the number and control of HGV movements during the construction phase, and the management of pedestrian and cycle movements, it is not expected that construction traffic will have a material impact on key receptors. The residual effect is therefore assessed as negligible.

### After Completion

#### Pedestrian Environment

9.7.4 The impact of the proposed development on the pedestrian environment before mitigation was negligible. The proposed development will include extending the existing pedestrian footway along Rover Way. The overall impact will be negligible.

#### Pedestrian Severance

9.7.5 The proposed development includes a new section of footway along Rover Way connecting into the site. The residual effect is negligible.

#### Junction Delay / Driver Delay

9.7.6 The proposed development includes a new junction that provides access to the site on Rover Way. This will assist in mitigating the increased traffic flows on Rover Way. The residual effect upon Rover Way is negligible.

#### Pedestrian Delay

9.7.7 The proposed development includes new sections of footway and improved crossing facilities provide pedestrians with direct routes to the site. The residual effect of the Proposed Development on pedestrian delay on Rover Way is negligible.

#### Pedestrian Amenity

9.7.8 The Proposed Development includes enhancements to the existing pedestrian infrastructure on Rover Way. The residual effect of the Proposed Development on pedestrian delay on Rover Way is negligible.

Fear and Intimidation

9.7.9 The Proposed Development incorporates new pedestrian routes through the development and enhancements to existing pedestrian routes on Rover Way. The residual effect of the Proposed Development on pedestrian amenity on Rover Way is negligible.

Hazardous Loads

9.7.10 The impact of the Proposed Development on hazardous loads was negligible, and the residual effect will be unchanged.

Parking

9.7.11 The impact of the Proposed Development on parking was negligible and the residual effect will be unchanged given the level of parking provided within the development will accord with the relevant SPG.

Accidents and Safety

9.7.12 The impact of the Proposed Development on accidents and safety was negligible and the residual effect will be unchanged.

Summary

9.7.13 A summary of the residual effects for each area of assessment is provided in the following table for Construction.

**Table 9.5 - Assessment of Residual Effects – Construction**

<b>Area of Assessment</b>	<b>Impact Significance</b>	<b>Mitigation</b>	<b>Residual Effect</b>
Pedestrian Environment	Negligible impact to Pedestrian routes	(CTMP)	negligible
Public Transport Environment	Negligible impact to Pedestrian routes		negligible
Pedestrian Severance	Negligible impact to Pedestrian routes		negligible
Junction Delay/Driver Delay	Negligible impact	(CTMP)	No adverse impact
Pedestrian Delay			
Pedestrian Delay	Negligible impact		
Pedestrian Amenity	Negligible impact	(CTMP)	No adverse impact
Fear and Intimidation	Negligible impact to Pedestrian routes	(CTMP)	No adverse impact
Hazardous Loads	Negligible impact to Pedestrian routes		No adverse impact
Parking	Negligible impact to Pedestrian routes		No adverse impact
Accidents and Safety	Negligible impact	(CTMP)	No adverse impact

## **9.8 CONCLUSION**

### **Summary**

- 9.8.1 The methodology as set out in the IEMA guidelines has been followed in the assessment of the potential impacts of the Proposed Development, with professional judgement made where appropriate.
- 9.8.2 The impact of the Proposed Development has been judged to be negligible and not eligible for further assessment according to both the first and second rule of thumb (30% and 10% impact) as set out in the IEMA guidelines.

### **Conclusion**

- 9.8.3 There is a negligible effect during construction, and in the completed/operational development stage on pedestrian environment, cycle environment, hazardous loads, parking and accidents and safety.
- 9.8.4 To mitigate the effects of the Proposed Development the mitigation measures proposed will create an extension to the existing pedestrian footpath enabling the development to connect into the existing all-encompassing pedestrian network.
- 9.8.6 The CTMP will contribute towards mitigating the impact of the development and therefore there are negligible residual effects as a result of the Proposed Development.