



High Grove Solar

Preliminary Environmental Information Report

Chapter 13 Traffic and Transport

April 2025

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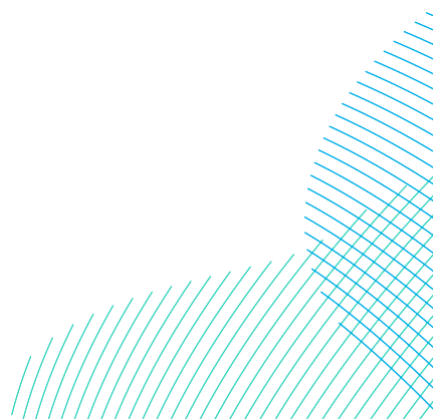
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13 Traffic and Transport

13.1 Introduction

- 13.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the findings of the preliminary assessment of the likely significant effects arising from the construction and operation of the Proposed Development on Traffic and Transport.
- 13.1.1.2 This chapter sets out the relevant legislation, policy, standards and guidance applied to the assessment process; consultation undertaken to inform the assessment; assessment methodology; the relevant baseline conditions upon which the assessment is based; embedded and good practice mitigation considered in place before the assessment is undertaken; the likely significant effects that may arise as a result of the Proposed Development considering embedded and good practice mitigation; and any further mitigation requirements to avoid or reduce the likely significant effects; the remaining residual effects following further mitigation; and any monitoring required for remaining significant effects.
- 13.1.1.3 The following matters have been preliminarily assessed as part of this chapter:
- Severance;
 - Pedestrian (non-motorised user) delay;
 - Non-Motorised user amenity;
 - Fear and intimidation; and
 - Road Safety and Accidents.
- 13.1.1.4 The following matters have not been addressed as part of this chapter, but will be assessed in the ES:
- Driver delay; and
 - Hazardous/ large loads.
- 13.1.1.5 Understanding intra-project effects between topics is an integral part of the Environmental Impact Assessment (EIA) process and have been considered within this chapter. The conclusions of the following topic assessments are considered relevant to the receptors considered within this assessment, and as such are taken into account in the overall assessment for Traffic and Transport:
- Chapter 7: Climate Change;
 - Chapter 11: Noise and Vibration; and
 - Chapter 15: Cumulative Effects Assessment.
- 13.1.1.6 This chapter is supported by the following figures:
- Figure 13.1 – Indicative HGV Routes to Construction Compounds

13.1.1.7 This chapter is supported by the following appendices:

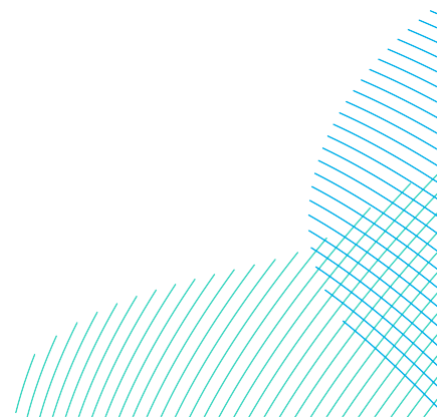
- Appendix 13.1: Baseline and Future Year Traffic Flows;
- Appendix 13.2: Future Year Traffic Flows with Construction Traffic; and
- Appendix 13.3: Personal Injury Accident (PIA) Data Summary.

13.2 Relevant legislation, policy, standards and guidance

13.2.1.1 This section identifies the relevant legislation, planning policy, standards and guidelines which have informed this assessment, including the methodology and identification of mitigation.

13.2.2 Legislation

13.2.2.1 There is no legislation specifically relevant to the assessment of Traffic and Transport in relation to the Proposed Development.



13.2.3 Policy

Table 13-1 Traffic and Transport - Policy

Policy	Relevance to assessment
Overarching National Policy Statement for Energy (NPS EN-1), 2024 [1] Sets broad national policy approach. Section 5.14 addresses traffic and transport outlining approach to assessment of impacts and determining requirement for mitigation (if required). Paragraph 5.14.6 states: <i>“National Highways and Highways Authorities are statutory consultees on NSIP applications including energy infrastructure where it is expected to affect the strategic road network [SRN] and / or have an impact on the local road network. Applicants should consult with National Highways and Highways Authorities as appropriate on the assessment and mitigation to inform the application to be submitted.”</i> Paragraphs 5.14.7 – 5.14.9 provides detail of what should be included as part of this assessment, which includes; that Travel Plans are prepared; to provide good quality non-motorised user facilities as part of any new infrastructure proposed; assess any potential disruption to services and infrastructure; Paragraphs 5.14.11 – 5.14.12 provides a description of potential mitigation measures to be considered, including: implement demand management measures to reduce travel before new infrastructure is proposed; ensure satisfactory arrangements for reasonably foreseeable abnormal disruption; and encourage a modal shift of freight from road to more environmentally sustainable alternatives.	National Highways (NH) and Highways Authorities have been consulted and are part of a continuous engagement process. Their comments following scoping have been considered within this PEIR chapter. Assessment of effects examines potential disruption to sensitive receptors. Staff to be encouraged to car share. Sustainable mode travel for both freight and staff limited by rural nature of Proposed Development. Mitigation proposed for foreseeable abnormal disruption generated by construction traffic.
NPS for Renewable Energy Infrastructure (EN-3) ,2024 [2] Establishes policy specific to renewable energy schemes, including solar in Section 2.10. EN-3 aims to streamline the consenting process for large-scale solar developments by allowing decisions on solar applications to be made under section 104 of the Planning Act 2008. Solar energy is considered low carbon infrastructure and crucial for achieving net-zero goals, therefore designated Critical National Priority infrastructure under 2.17, 2.18, and Section 3. Therefore, provided assessment principles and legal requirements are met, and the mitigation hierarchy has been	The assessment of effects and corresponding proposed mitigation will be applied to avoid, reduce and mitigate significant adverse effects, including volumes of construction traffic and corresponding noise. Road transport will be used to transport materials in absence of any other feasible modes.

Policy	Relevance to assessment
applied to avoid, reduce and mitigate significant adverse effects, the benefits [of the infrastructure] will generally be considered to outweigh residual effects.	
Section 2.7.8 to 2.7.12 details the transport infrastructure required to support renewable energy infrastructure which may influence site selection and designs. It is stated that government policy encourages multi-modal transport and it is expected that applications will transport materials by water or rail routes where possible, with road transport expected where this is not feasible or for shorted journeys.	
Section 2.10.120 to 2.10.127 is relevant to this chapter as details of construction traffic and transportation noise are discussed.	
NPS for Electricity Networks Infrastructure (EN-5), 2024 [3] NPS EN-5 addresses policy for energy transmission. EN-5 includes general requirements for ‘good design’ for the routing of new overhead lines and design and siting of substations in accordance with the Holford and Horlock Rules (paragraphs 2.9.16 – 2.9.19). Paragraph 2.9.19 also states that the design of access roads should be an integral part of the site design, so as to fit in with the surroundings.	Design of access routing considered in this chapter and work continuing to refine the access strategy further, including an assessment of access point (AP) constraints.
NPPF [4] and associated Planning Policy Guidance on Travel Plans, Transport Assessments and Statements (2023) [5] Section 14 gives detail of the ambition to decrease the impact of climate change. Solar farm developments, such as the Proposed Development will help achieve this. Section 9 is relevant to this chapter of the scoping report as details on promoting sustainable transport are outlined here. This section outlines that transport issues should be considered from the earliest stages of plan-making and development proposals to ensure that potential impacts of development on the transport network, opportunities from existing or proposed transport infrastructure can be realised, opportunities to promote sustainable modes of travel can be encouraged and that the environmental impacts of traffic and transport can be identified. This section also identifies that applications for development should: follow transport hierarchy, address the needs of people with disabilities, create safe secure and attractive places, allow for the efficient delivery of goods and	Transport issues have been considered from the earliest stages of decision-making and work is continuing to identify optimal routes that mitigate potential impacts on the highway network. Proposed mitigation and assignment of receptor sensitivity accounts for transport hierarchy and other sensitive receptors such as care homes, health facilities and education centres.

Policy	Relevance to assessment
access by service and emergency vehicles and be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.	
Breckland Local Plan (2023) [6] Section 4, Transport, states that development should; seek to minimise the need to travel; promote opportunities for sustainable transport modes; not adversely impact on the operation or safety of the SRN; support the transition to a low carbon future; mitigate impacts on the local or strategic highway networks; protect, and where possible enhance, access to public rights of way; and avoid inappropriate traffic generation and do not compromise highway safety.	Car sharing will seek to minimise the need for individual private vehicle travel. Assessment of effects and proposed mitigation considers impact on operation and safety on local and SRN. Draft outline Public Rights of Way Management Plan (oPRoWMP) considers interfaces with Proposed Development; also outlined in this chapter and informs definition of receptor sensitivity.

13.2.4 Standards and guidance

Table 13-2 Traffic and Transport - Standards and guidance

Standards	Relevance to assessment
Guidelines for the Environmental Assessment of Traffic and Movement, IEMA, 2023 [7] This guidance is the industry standard document for which traffic and transport related EIA assessments are undertaken.	The IEMA [7] guidelines have been followed and considered throughout this PEIR chapter.
Design Manual for Roads and Bridges (DMRB) [8] Current national standards for road design, relevant for APs.	DMRB standards are informing the AP assessment and will be reflected in the final proposed APs and ES.
Department for Levelling Up, Housing and Communities (DLUHC) Guidance: Transport Evidence Bases in Plan Making and Decision Taking (2015) [9] Guidance to help local planning authorities assess and reflect strategic transport needs in Local Plan making. The existing transport situation and likely generation of trips should be assessed alongside the impact on the locality in social, economic and environmental terms. Facilities that support sustainable modes of travel in proximity to the site and opportunities to reduce the need for travel should be promoted where appropriate. Considerations should also be made regarding the cumulative impacts of existing and proposed developments on the transport network and the quality and capacity of transport infrastructure	This chapter establishes baseline conditions and possible trip generation from peak construction of the Proposed Development. Opportunities to reduce the need for travel are considered through workforce car sharing. Other development considered in the future base are described in section 13.6.2 of this assessment. Cumulative effects are considered in Chapter 15 of this PEIR.

13.3 Consultation

13.3.1 Scoping opinion

13.3.1.1 An EIA Scoping Report was submitted to PINS on 6 September 2024, and a Scoping Opinion was published by the Planning Inspectorate on 17 October 2024. A summary of the key comments received and how these have been addressed in this assessment or will be addressed in the Environmental Statement (ES) is presented below:

- The Planning Inspectorate confirmed that On the basis that hazardous loads would not be required, the Inspectorate agrees that impacts from hazardous loads can be **scoped out** of the ES.
- The Planning Inspectorate confirmed that the ES should assess the potential for increased congestion and increased journey times/distance to road users due to road closures or diversions required for AILs during construction, considering the rural nature of some of the access roads. The cumulative effects with other developments in the vicinity should be considered. Impact from AILs is scoped into the assessment but are not assessed further in this chapter as the size and configurations of AILs is not known at this stage. AILs will be assessed as part of the ES and are Additionally, the draft outline Construction Traffic Management Plan (oCTMP) considers the management and mitigation measures that may be required for AIL delivery, which a subsequent full CTMP will finalise with confirmation of the routing and access strategy and any associated mitigation.
- The Planning Inspectorate noted that the ES should confirm the operational vehicle types and numbers (with reference to thresholds within relevant guidance). Indicative numbers for operational vehicles (both heavy goods vehicles [HGV] and staff) are presented in this chapter of the PEIR, with the caveat that these numbers may change subject to further traffic data collection, feasibility work and consultation. Vehicle types and numbers (with reference to relevant thresholds) will then be confirmed in the ES.
- The Planning Inspectorate confirmed that the ES should provide information on traffic and transport impacts during decommissioning based on reasonable assumptions where likely significant effects may occur. If the ES can demonstrate that decommissioning vehicle movements would not exceed the assessment thresholds set out in IEMA Guidelines for the Environmental Assessment of Traffic and Movement (2023), the Inspectorate is content that this matter can be scoped out. As a worst-case scenario, it is assumed that decommissioning of the Proposed Development could give rise to the same level of forecast trip generation as the construction stage; therefore the construction stage will be used as a proxy to determine the potential impacts of the decommissioning stage. Management and mitigation measures will also be incorporated within the Decommissioning Environmental Management Plan (DEMP). A draft outline DEMP (oDEMP) is available at statutory consultation.

- The Planning Inspectorate noted that the Applicant should ensure that the Traffic and Transportation chapter assesses potential impacts on access to health facilities, where significant effects are likely. Health facilities are regarded as sensitive receptors and this has therefore been considered during the initial desk-based assessment of link sensitivity in Section 13.5.3.
- Anglian Water advised that water demands are served by tanker. The ES should take any such vehicle movements into account. Water tanker movements will be treated as HGVs and therefore will adhere to the same access and routing and mitigation measures to be set out in the draft oCTMP.
- The Local Highway Authority [LHA] of Norfolk County Council (NCC) requested that the DCO is supported by an assessment of traffic and transport within the EIA to assess the effects of the anticipated traffic upon driver delay, severance, pedestrian delay, pedestrian amenity, accidents, road safety and impact from AILs. NH has similarly advised that this should be provided. An assessment of these effects is scoped into the Traffic and Transport chapter. It was initially agreed through engagement with NCC that a Transport Assessment (TA) would not be required to support the Traffic and Transport chapter, with a Transport Statement (TS) being adequate. It is therefore proposed to prepare a TS as an appendix to the ES Chapter to consider effects relating to Driver Delay and Road Safety and Accidents. The scope of this document is subject to further data collection and liaison with NCC and NH.

13.3.1.2 Full responses to comments received as part of the Scoping Opinion will be provided as part of the ES submitted with the application for development consent.

13.3.2 Stakeholder engagement

13.3.2.1 The following stakeholders have been engaged with regards to Traffic and Transport as part of the assessment process so far:

- Norfolk County Council Highways

13.3.2.2 The outputs of the engagement undertaken are presented in Table 13-3.

Table 13-3 Traffic and Transport - Engagement undertaken

Stakeholder	Date engaged	Matters raised	Response
Norfolk County Council Highways	22 August 2024	Information requests and scope of assessment	Agreed to continue engagement with NCC around construction traffic routes (CTRs) once further information is known.
Norfolk County Council Highways	5 February 2025	Proposed routes and APs for construction vehicles.	NCC agreed with the routes discounted as part of the assessment to date and requested Stage 1 Road Safety Audits be carried out at all proposed APs NCC advised that the Applicant should discuss proposed access locations on the SRN with NH.

13.4 Study area

- 13.4.1.1 Construction activities will generate movements of HGVs and light goods vehicles (LGVs), and private vehicles for construction staff working on the Proposed Development. A wide variety of vehicle types will be used for the construction of the Proposed Development. Vehicles will be required to transport people, equipment and materials.
- 13.4.1.2 For the purposes of the EIA and TS the construction vehicles have been classified as follows, in accordance with the Driver and Vehicle Standards Agency Lorry types and weights guide [10]:
- LGV: vehicle 7.5 tonnes or below in gross weight; and
 - HGV: defined as any vehicle exceeding 7.5 tonne gross weight.
- 13.4.1.3 Construction traffic will need to access working areas and the construction compounds using roads on the surrounding highway network. All roads and junctions within the study area fall under the control of NCC and NH.
- 13.4.1.4 This preliminary assessment has used a reasonable worst-case scenario in terms of the quantity of construction traffic to the highway network in the study area considering daily traffic during 'Peak Month' of construction activity, anticipated to be during 2028. This is considered to ensure that a robust, yet plausible, scenario for construction traffic impacts and environmental effects are considered as part of the assessment based on the information available at the time of writing.
- 13.4.1.5 The study area for this assessment has been identified by reference to the IEMA [7] guidelines, which sets out two broad rules as follows:
- Rule 1 – include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGV is predicted to increase by more than 30%); and
 - Rule 2 – include any other specifically sensitive areas where the traffic flow (or HGV component) are predicted to increase by more than 10%.
- 13.4.1.6 To define the study area, a network of road links has been identified with consideration of the above rules. This preliminary study area is subject to consultation and agreement with NCC and NH and further refinement of the access and routing strategy for the Proposed Development.
- 13.4.1.7 At this stage the study area is assumed to comprise the strategic road network (SRN) and local road network (LRN) forming CTRs to APs for the Proposed Development that could be used by HGV and LGV traffic.
- 13.4.1.8 The SRN comprises the A47, running in an east west alignment at the north of the study area, and is the only road maintained by NH. NCC are responsible for the management and maintenance of the LRN. All roads on the LRN are the responsibility of NCC.

- 13.4.1.9 In total, 60 road links have been initially defined, noting that these links may be altered (e.g. in length, description, or discarded for use) during further assessment. Links are listed in Section 13.5 when discussing assignment of link sensitivity.
- 13.4.1.10 Figure 13.1 illustrates the potential APs (numbered AP01 to AP21) and potential CTRs. It should be noted that further work is underway to confirm these potential routes, APs and the overall construction approach, including further baseline traffic data collection, feasibility work, and consultation with NCC and NH.
- 13.4.1.11 The proposed CTRs for each AP and Panel Area is as follows (as presented on Figure 13.1):
- **Western Panel Area:** HGVs travel from the A47, then south down the A112, accessing the Panel Area at AP14.
 - **Central Panel Area:** HGVs travel to the following APs:
 - AP01 and AP02, directly from the A1065;
 - AP03a, directly from the A47, and AP03b, from N Pickenham Road just off the A47;
 - AP15, via Procession Lane off the A47; and
 - Sporle Road, off the A47, is being proposed as a potential alternative route if required.
 - **Northern Panel Area:** HGVs travel from the A47 to the following APs:
 - AP04, via Dereham Road off the A47, then via Hulver Street, Bradenham Lane, and then via an unnamed road immediately south of the junction with Hulver Street;
 - AP05a and AP05b, from Beeston Road just off the A47;
 - AP16, via Dereham Road off the A47; and
 - Dale Road, off the A47 and leading to Dereham Road, is being proposed as a potential alternative route if required. Using Dale Road would avoid sensitive portions of Wendling on Dereham Road, but Dale Road would require additional mitigation to accommodate construction traffic.
 - **Southern Panel Area:** HGVs travel to the following APs:
 - AP10, via the A1065, then via the B1108, then via Swaffham Road / Richmond Road / Watton Road, and then via Dunnetts Close.
 - AP11, via the A1075, then via Long Road, and then via an unnamed road at the Long Road / Hills Road junction;
 - AP12, via the A1075 and then Bradenham Road;
 - AP13, via the A1075, then via Bradenham Road, and then via Comar Lane;
 - AP17, via the A47, then via Tuns Road / Hale Road, then via Lower Road, and then via Hale Road;
 - AP18 and AP21, via the A1065, then via the B1108, then via Swaffham Road / Richmond Road / Watton Road, then via Dunnetts Close and its subsequent unnamed road;

- AP19, via the A1065, then via the B1108, and then via Swaffham Road / Richmond Road / Watton Road;
- AP20, via the A47, then via Tuns Road / Hale Road, then via Lower Road, and then via Station Road; and
- Routeing via Bradenham Road / Church Street is being proposed as a potential alternative route for AP17 if required.
- **Eastern Panel Area:** HGVs travel to the following APs:
 - AP06, via Dale Road off the A47 and then Dereham Road;
 - AP07 and AP09, via A47, then Dereham Road, and then Shipdham Lane;
 - AP08, via Dale Road off the A47, then via Bradenham Lane, and then via Shipdham Lane; and
 - Dale Road, off the A47 and leading to Dereham Road, is being proposed as a potential alternative route if required. Using Dale Road would avoid sensitive portions of Dereham Road but would require additional mitigation on Dale Road to accommodate construction traffic.

13.5 Assessment methodology

13.5.1.1 This section describes the methodology for identifying environmental effects relating to Traffic and Transport.

13.5.1.2 The following are considered to be the key parameters for the Traffic and Transport assessment:

- Baseline and future baseline HGV and LGV traffic flows for CTRs;
- Forecast LGV and HGV Proposed Development peak year traffic flows;
- CTRs and access locations; and
- Sensitivity of highway links along CTRs.

13.5.1.3 The process for the PEIR assessment is summarised as below:

- Undertake a desktop assessment to identify the most suitable routes for construction traffic to Panel Area APs, forming CTRs;
- Utilise existing publicly available sources of traffic data to establish baseline traffic volumes and transport conditions on road links comprising proposed CTRs within the study area;
- Forecast future baseline traffic flows on link by assigning construction traffic to identified routes;
- Forecast percentage increases arising from construction traffic movements on affected links to identify magnitude of impacts;
- Identify receptors on road links to determine link sensitivities; and
- Determine significant effects based on magnitude of impacts and each link's sensitivity.

13.5.1.4 In line with IEMA [7] the following effects have been identified as having the potential to be significantly impacted by the traffic flows associated with the Proposed Development:

- Severance;
- Driver delay;
- Pedestrian (non-motorised user) delay;
- Non-motorised user amenity;
- Fear and intimidation;
- Road safety; and
- Hazardous/large loads.

13.5.1.5 Table 13-4 outlines the effects included for further assessment in the ES in the construction phase, along with the IEMA [7] description of each effect.

Table 13-4 Effects and receptors

Effect	Example receptors	Effect Description
Severance	Non-motorised users, People at Home, People at Work	IEMA [7] state that: <i>“Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure”.</i> The primary example given is the difficulty in crossing a heavy trafficked road. IEMA [7] notes the difficulty in measuring and predicting severance, with the extent of severance informed by complex factors and the presence of vulnerable groups.
Driver delay	Vehicle Drivers/ Passengers, Public Transport users	Regards delays to non-development traffic on the surrounding network. IEMA [7] suggest that: <i>“These delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system”.</i> Values for delay are determined through junction modelling software.
Pedestrian (non-motorised user) delay	Non-motorised users	IEMA [7] state that: <i>“The assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads. Pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads”.</i>
Non-motorised user amenity	Non-motorised users	IEMA [7] state that: <i>“Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic</i>

Effect	Example receptors	Effect Description
		<i>composition and pavement width/separation from traffic".</i>
Fear and intimidation	Non-motorised users, People at Home, People at Work	IEMA [7] state that the extent of fear and intimidation created by all moving objects is dependent on the volume, composition and speed of traffic, as well as the proximity to people or their lack of protection. IEMA [7] also state that: "While this is recognised as an important environmental impact, there are no commonly agreed thresholds for estimating these levels of danger".
Road user and pedestrian safety	Vehicle Drivers/Passengers, Public Transport users, Non-motorised users	IEMA [7] state that: "The calculation of collision rates [advocated in previous guidance] is still considered a relevant approach to scale a road safety assessment; however, it is more common for stakeholders to request a 'collision cluster' assessment to identify potential impacts at a more detailed level". Collision clusters are assessed by examining STATS19 collision data.
Hazardous/large loads	Vehicle Drivers/Passengers, Public Transport users, Non-motorised users	IEMA [7] state that: "Some developments may involve the transportation of dangerous or hazardous loads by road and this should be recognised within any traffic and movement assessment. Such movements should include specialist loads that might be involved in the construction or decommissioning phases of the development, in addition to movements associated with the operation of the establishment".

- 13.5.1.6 Of these effects, the assessment of non-motorised user amenity and fear and intimidation are based on changes to total traffic and HGV volumes while severance and pedestrian delay are assessed considering the changes in total traffic flow on the roads within the study area. However, IEMA [7] suggests the assessment methodology for fear and intimidation uses a weighting system to assess the degree of hazard on a highway link and provides a scoring system. The magnitude of impact is then approximated based on the changes in the level of fear and intimidation from baseline conditions.
- 13.5.1.7 Road safety impacts are assessed through a review of STATS19 collision data to identify collision clusters and any patterns that could be exacerbated by changes to traffic flow. At this stage, road safety has been preliminarily assessed by extracting collision data for each link. This information is presented in PEIR Appendix 13.3. Full collision data records will be obtained and analysed for each CTR as part of the ES and supporting TS.
- 13.5.1.8 The Proposed Development has the potential for significant effects due to the impact of increase traffic flows associated with the Proposed Development on the

highway network within the study area. Driver delay is subject to a separate methodology which will be presented in the TS as part of the ES.

- 13.5.1.9 Large loads (AILs) will be required to serve the Proposed Development. The number, location, and configuration of AILs are not known at this stage. They will therefore be subject to a separate assessment as part of the ES and as such are not assessed within this chapter.

13.5.2 Baseline sources of information

Desktop sources

- 13.5.2.1 The following desktop sources have been used to inform the existing baseline conditions of the study area:

- Google Maps [11] for identification of the study area;
- Department for Transport traffic count data [12]; and
- Crashmap Collision Data [13].

- 13.5.2.2 Other baseline data sources that inform the EIA include:

- Highway boundary information;
- OS Mapping; and
- Topographical data.

Survey

- 13.5.2.3 Automatic Traffic Count (ATC) and/or Classified Traffic Count (CTC) surveys at select locations within the study area will be undertaken to inform the ES to be submitted with the DCO application. These surveys will consider the following requirements:

- Traffic surveys are expected to commence in Spring 2025;
- ATCs would involve count strips (or potentially radar units for the A47) being installed across the road surface for a minimum of 7 days;
- CTCs would involve most likely cameras installed over 24 hours on a neutral weekday; and
- Any surveys would be undertaken during 'neutral' conditions, avoiding any periods of roadworks or local events to ensure the assessment is representative of typical conditions.

13.5.3 Sensitive receptors

- 13.5.3.1 The potential receptors are those people making journeys on networks within the study area by all modes of transport.
- 13.5.3.2 Vulnerable road users are non-motorised users, and in those groups particularly sensitive groups include children, older people, people on low incomes,

those at a social disadvantage, and disabled people are all identified as being susceptible to changes in traffic conditions.

- 13.5.3.3 The sensitivity of receptors within the study area have been defined with regard to Table 13-5 which lists example sensitive locations where receptors (people) may travel to/from. These examples are informed by IEMA [7].

Table 13-5 Example Sensitive Locations

Example Sensitive Locations	Sensitivity
Schools, colleges, playgrounds, accident black spots, retirement homes, urban/residential roads without footways that are used by pedestrians.	High
Congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, un-segregated cycleways, community centres, places of worship, parks and recreation facilities.	Medium
Sites of tourist/visitor attraction, residential areas set back from the highway with screening.	Low
Public open spaces, nature conservation areas and residential areas with adequate footway provision.	Negligible

13.5.4 Assigning receptor sensitivity

- 13.5.4.1 An initial assessment of link sensitivity has been undertaken against all identified links within the study area. The assessment has been undertaken as a desktop exercise and using professional judgement, for example, a link has been assigned a higher sensitivity due to the presence of vulnerable users. Similarly, if the route went through the middle of a town or village, it would have a higher sensitivity than if there was limited frontage development along the road/link in question.
- 13.5.4.2 The sensitivity assigned to each link in the study area and the rationale in assigning that sensitivity is provided in Table 13-6.

Table 13-6 *Assigned sensitivity of study area links*

Ref.	Link	Sensitivity	Rationale
1	A47 Links from Magpie Farm to Dereham	Low	Limited/no frontage development; Interface with PRow
2	A47 (A1122 to A1065)	Low	Limited/no frontage development; Interface with PRow
3	A47 (A1065 to Tuns Road)	Low	Limited/no frontage development; Interface with PRow
4	A47 (Tuns Road to Dereham Road)	Low	Limited/no frontage development; Interface with PRow
5	A47 (Dereham Road to A1075)	Low	Limited/no frontage development; Interface with PRow
6	A47 (A1075 to B1147)	Negligible	Limited/no frontage development
7	A1075 (Yaxham Road to Hillcrest Avenue)	Medium	Local facilities/frontage development in Dereham
8	A1075 (Hillcrest Avenue to Bradenham Road)	Medium	Local facilities/frontage development in Shipdham
9	A1075 (Bradenham Road to B1108)	Medium	Local facilities/frontage development in Watton
10	A1075 (B1108 to Watton Road)	Medium	Local facilities/frontage development in Watton
11	A1075 (Watton Road to Thompson Road)	Low	Limited/no frontage development; Interface with PRow
12	A1065 (A47 to Cley Road)	Medium	Frontage development present
13	A1065 (Cley Road to Watton Road)	Medium	Frontage development present
14	A1065 (Watton Road to Water End)	Medium	Frontage development present
15	A1065 (Water End to B1108)	Medium	Frontage development present
16	A1065 (A47 to AP02)	Negligible	Limited/no frontage development
17	A1065 (AP02 to Newton Road)	Low	Interface with PRow and visitor attraction (Peddars Way)
18	A1065 (Newton Road to Rougham End)	Medium	Limited/no frontage development; Historic fatal collision
19	A1122 (A47 to AP14)	Low	Interface with PRow

Ref.	Link	Sensitivity	Rationale
20	B1108 (A1065 to Fairstead Lane)	Medium	Historic fatal collision
21	B1108 (Fairstead Lane to Swaffham Road)	High	Frontage development present; Historic fatal collision
22	Procession Lane (A47 to AP15)	Low	Interface with PRoW and visitor attraction (Peddars Way)
23	N Pickenham Road (A47 to AP03a)	Negligible	Limited/no frontage development
24	Beeston Road (A47 to Liberator Barn)	Negligible	Limited/no frontage development
25	Sporle Road (A47 to Little Dunham)	Low	Interface with PRoW and visitor attraction (Peddars Way)
26	Dereham Road (A47 to Hulver Street)	Medium	Local facilities/frontage development in Wendling
27	Dereham Road (Hulver Street to Dale Road)	Medium	Historic fatal collision
28	Dereham Road (Dale Road to Chapel Lane)	Negligible	Limited/no frontage development
29	Dale Road (A47 to Dereham Road)	Negligible	Limited/no frontage development
30	Chapel Lane (A47 to Dereham Road)	High	Frontage development present; no footway
31	Bradenham Lane (Dereham Road to Unnamed Road junction)	Low	Local facilities/frontage development in Scarning
32	Hulver Street (Dereham Road to Bradenham Lane)	Low	Limited frontage development with no footway
33	Unnamed road (West of Bradenham Lane) to AP04	Negligible	Limited/no frontage development
34	Bradenham Lane (AP04 to School Road)	Negligible	Limited/no frontage development
35	School Road (Bradenham Lane to Hale Road)	Medium	Some frontage development with no footway
36	Hale Road (School Road [east] to Lower Road)	Low	Limited frontage development with no footway
37	Shipdham Lane (Bradenham Ln to AP08)	Medium	Visitor attraction with NCN13, unsegregated cycleway
38	Shipdham Lane (Dereham Road to AP07)	High	Local facilities/frontage development in Scarning

Ref.	Link	Sensitivity	Rationale
39	Shipdham Lane (AP07 to AP09)	Medium	Visitor attraction with NCN13, unsegregated cycleway
40	Comar Lane (Bradenham Road to AP13)	Negligible	Limited/no frontage development
41	Bradenham Road (A1075 to Comar Lane)	Medium	Frontage development present
42	Un-named roads at Mill Farm (A1075 to Bradenham Road)	Medium	Limited frontage development with no footway
43	St Andrews Lane (Tuns Road to Ivy Todd Road)	High	Local facilities/frontage development with no footway
44	Ramms Lane (Ivy Todd Road to Hale Road)	Medium	Limited frontage development with no footway
45	Tuns Road/Hale Road (A47 to N Pickenham Road)	High	Local facilities/frontage development in Necton; playground
46	Hale Road (N Pickenham Road to Lower Road)	High	Local facilities/frontage development in Necton
47	Lower Road (Cook Road to Hale Road)	Medium	Limited frontage development with no footway
48	Cook Road/ School Road (Lower Road to Station Road)	High	Frontage development with no footway
49	N Pickenham Road/Browns Lane (Hale Road to Station Road)	Medium	Local facilities/frontage development in Necton
50	Station Road (Browns Lane to Lower Road)	Medium	Frontage development set back
51	Hale Road (Station Road to Dunnetts Close)	High	Frontage development with no footway; playground in Ashill
52	Dunnetts Close (Hale Road to AP10)	High	Frontage development with no footway; near PRoW
53	Unnamed road off Dunnetts Close	Low	Limited/no frontage development; near PRoW and scheduled monument
54	Hale Road / Watton Road (Dunnetts Close to Swaffham Road)	High	Frontage development/school in Ashill
55	Richmond Road (Swaffham Road to Watton Road)	Medium	Frontage development present, narrow footway

Ref.	Link	Sensitivity	Rationale
56	Watton Road (Richmond Road to Cressingham/Swaffham Road)	High	Frontage development present; care home
57	Water End/The Street/Watton Rd/Cressingham Rd/Swaffham Rd	Medium	Frontage development set back; Cressingham unsuitable for HGVs
58	Long Road (A1075 to Hills Road)	Low	Limited frontage development with no footway
59	Unnamed road (Long Road to AP11)	Medium	Visitor attraction with NCN13, unsegregated cycleway
60	Church Street/Hale Road (School Road to Bradenham Road)	Medium	Frontage development set back

13.5.5 Assigning magnitude of impact

13.5.5.1 Each impact identified has been assigned a magnitude using the criteria described in Table 13-7.

Table 13-7 *Magnitude of impact*

Impact	Description
Large	Changes which are likely to be perceptible and which would substantially change conditions which would otherwise prevail to the extent that it would significantly affect travel behaviour (such as the night time closure of a road or the introduction of a new controlled pedestrian crossing on a busy road).
Medium	Changes which are likely to be perceptible and which would materially change conditions which would otherwise prevail to the extent that it may affect travel behaviour to some degree (such as a change in road network capacity which may lead to some rerouting or retiming of journeys, or creation of a secondary supplementary route servicing a similar function as an existing route)
Small	Changes which are likely to be perceptible but not the extent that it would materially change conditions which would otherwise prevail (such as the introduction of a new site access junction or resurfacing of a footway)
Negligible	Changes which are unlikely to be perceptible (such as a low change in traffic or pedestrian volumes)

13.5.5.2 For the purposes of provisional assessment, the thresholds applied to assess the magnitude of each potential effect broadly follow those outlined in IEMA [7] guidelines, and are detailed in Table 13-9 for the following impacts:

- Severance;
- Pedestrian (non-motorised user) delay;
- Non-motorised user amenity; and
- Fear and intimidation.

13.5.5.3 It should be noted that driver delay impacts are also scoped in for the construction stage. However, assessment of this impact is highly dependent on survey collection and any requisite traffic/junction modelling. As such, the criteria thresholds are also not presented at this stage but will be presented alongside the assessment of effects in the ES.

13.5.5.4 Whilst traffic data collection is ongoing to enable assessment of driver delay in the ES, IEMA [7] suggest the following locations of a development could be more likely to experience driver delay:

- At the site entrance where there will be additional turning movements;
- On the highways passing the development site where there is likely to be additional traffic and the flow might be affected by additional parked cars;

- At other key intersections along the highway which might be affected by increased traffic; and
- At side roads where the ability to find gaps in the traffic may be reduced, thereby lengthening delays.

13.5.5.5 Consequently, a high-level assumption of where driver delay effects may be expected in the study area could include the following:

- Near APs located on or just off the A47, such as AP03a, AP03b, AP05a and AP05b;
- At the A47 / A1075 interchange, where construction traffic may need to travel in all directions; and
- On roads near APs where existing on-street parking takes place, such as on Dunnetts Close.

13.5.5.6 Impact from AILs is also scoped in. AILs are anticipated to be required to enable construction of seven on-site 132kV substations. AIL delivery vehicles are expected to reach the relevant Panel Areas via the same proposed access routes outlined in Section 13.4. Proposed mitigation, detailed within the draft oCTMP, would ensure that interaction between the local community and AIL delivery vehicles are minimised. The IEMA [7] state that:

“The traffic and movement assessment needs to clearly outline the number and composition of such loads ”

13.5.5.7 As the exact number and composition of such loads is not yet confirmed, this chapter of the PEIR does not assess AILs further.

Fear and intimidation

13.5.5.8 Whilst severance, pedestrian delay and non-motorised user amenity are all calculated in a similar manner (i.e. change in total or HGV traffic flows), IEMA [7] advise calculating a baseline fear and intimidation ‘degree of hazard’, using:

- Average Hourly traffic flow over an 18-hour day - all vehicles/hour two-way (a);
- Total 18-hour heavy vehicle flow (b); and
- Average vehicle speed (c).

13.5.5.9 To obtain average vehicle speeds in the absence of collected data, a combination of speed limit(s) on that link and professional judgement has been applied.

13.5.5.10 Shown in Table 13-8, metrics of each criteria correspond to a bracketed score, which is then totalled to give an overall Degree of Hazard score (and hence a baseline for fear and intimidation).

13.5.5.11 The construction traffic from the Proposed Development can then be added to the baseline. The magnitude of impact is then calculated depending on the extent to which this changes the baseline level (e.g. two step changes from a baseline small

Degree of Hazard to a with development great Degree of Hazard would correspond to a large magnitude of impact). This is shown in Table 13-8.

Table 13-8 Degree of Hazard Criteria

Criteria	Degree of Hazard (Level)			
	Small	Moderate	Great	Extreme
Average Hourly traffic flow over an 18-hour day - all vehicles/hour two-way (a)	<600 (0)	600-1200 (10)	1200-1800 (20)	>1800 (30)
Total 18-hour heavy vehicle flow (b)	<1000 (0)	1000-2000 (10)	2000-3000 (20)	>3000 (30)
Average vehicle speed (c)	<20mph (0)	20-30mph (10)	30-40mph (20)	>40mph (30)
Total score (a+b+c)	<0-20	21-40	41-70	71+

Table 13-9 Impact thresholds

Impact	Description			
	Negligible	Small	Medium	Large
Severance -	Little or no hindrance to pedestrian movement. Change in total traffic flows of <30%.	All people wishing to make pedestrian movements will be able to do so, but there may be hindrance to movement. Change in total traffic flows of 30-60%.	Some people, particularly elderly people and children may be dissuaded from making a journey on foot. For others, pedestrian journey will be longer or less attractive. Change in total traffic flows of 60-90%.	People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. Those who do make the journey on foot will experience considerable hindrance. Change in total traffic flows of 90% or above.
Pedestrian (non-motorised user) delay	Little or no change in delays to pedestrians. Change in total traffic flows of <30%.	A measurable and perceptible change in pedestrian delay. Change in total traffic flows of 30-60%.	Delay may have a noticeable effect on journey times but is unlikely to cause pedestrians to choose alternative route or time for their journey. Change in total traffic flows of 60-90%.	Delay may have a major effect on journey times. The magnitude of delay is such that pedestrians may choose alternative route or time for their journey or may decide not to make journey at all. Change in total traffic flows of >90%.
Non-motorised user amenity -	Little or no change in the pleasantness of journeys made by foot or cycle. Change in total traffic flows (or HGVs) of <25%	A measurable and perceptible change in the pleasantness of journeys made by foot or cycle. Change in total traffic flows (or HGVs) of 25-<50%.	Change in the pleasantness of journeys made by foot or cycle may have a noticeable effect but is unlikely to cause pedestrians or cyclists to choose alternative route for their journey.	The magnitude of change in the pleasantness of journeys made by foot or cycle is such that pedestrians and cyclists may choose alternative route or may decide not to make journey at all.

			Change in total traffic flows (or HGVs) of 50-<100%%	Change in total traffic flows (or HGVs) of >100% (Doubled)
Fear and intimidation	Little or no change in the level of intimidation experienced by pedestrians due to road traffic, particularly HGVs. No step change in level, in line with IEMA guidelines process.	A measurable and perceptible change in level of intimidation experienced by pedestrians due to road traffic, particularly HGVs. One step change in level, with • <400 vehicle increase in average 24hr AV two-way all vehicle flow; and/or • <500 HV increase in total 24hr HV flow	Change in the level of intimidation experienced by pedestrians due to road traffic, particularly HGVs may have a noticeable effect but is unlikely to cause pedestrians to choose alternative route for their journey. One step change in level, but with • >400 vehicle increase in average 24hr AV two-way all vehicle flow; and/or • >500 HV increase in total 24hr HV flow	Change in the level of intimidation experienced by pedestrians due to road traffic, particularly HGVs may be such that pedestrians choose alternative route or may decide not to make journey at all. Two step changes in level

13.5.6 Significance criteria

- 13.5.6.1 The significance of effect is determined through the combination of sensitivity of receptor and magnitude of impact. Table 13-10 below sets out how these categorisations are combined to define the resulting effect; where more than one conclusion is provided, professional judgment is used to select the single conclusion on effect.

Table 13-10 Significance of effects criteria

Sensitivity	Magnitude of Impact (Degree of Change)				
	No change	Negligible	Small	Medium	Large
High	Neutral	Slight	Slight or Moderate	Moderate or Major	Major
Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Major
Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

- 13.5.6.2 Generally, a significant effect in EIA terms is one which is moderate beneficial/adverse or above. An effect which is neutral or slight beneficial/adverse is generally considered to be 'not significant' in EIA terms; however, professional judgment has been employed with appropriate justification.
- 13.5.6.3 Where an effect has two possible significance options, professional judgment would typically be employed; however, due to the lack of survey data, caution has automatically been exercised in these scenarios and the more significant of the two options chosen.

13.5.7 Assumptions and limitations

- 13.5.7.1 The assessment is limited to the analysis of data readily available through the sources listed above and any information that is provided by stakeholders as a result of ongoing engagement.
- 13.5.7.2 This includes assumptions around construction traffic predicated on data from other UK-based solar farms being developed by the Applicant. These assumptions are detailed in the following section but include:
- Construction traffic volumes have been estimated based upon the Proposed Development design and based on the Applicant's working experience of other solar projects;
 - All HGV and LGV construction traffic is assumed to originate from the SRN and will route along prescribed CTRs;

- All vehicle movements quoted are assumed to be two-way; i.e., 40 movements will consist of 20 inbound and 20 outbound trips;
- The assessment assumes as a reasonable worst-case scenario a maximum number of 212 daily two-way HGV movements, i.e. 106 daily HGV trips;
- For worker travel it is assumed that there will be a worker car sharing rate of 2.0 (i.e. two workers to one car); and
- For worker travel, 4/5-seater vehicles will also be used to transport staff to working areas. It has been assumed these vehicles are fully occupied by staff.
- This results in an average worker vehicle occupancy of 2.7 staff per vehicle.

13.5.7.3 All future traffic flow forecasts include a degree of uncertainty. The assessors will take appropriate account of the reasonably conceivable uncertainty when assessing potential likely significant effects.

13.5.8 Assessment Scenarios

13.5.8.1 The assessment scenarios for the preliminary assessment, which will be replicated in the ES chapter are as follows:

- A baseline/no nothing scenario (at peak construction year); and
- With development scenario (at peak construction year).

13.6 Baseline conditions

13.6.1 Existing baseline conditions

13.6.1.1 The Proposed Development is located in a rural area close to villages and towns including, for example Swaffham, Dereham, and Shipdham.

Highways

13.6.1.2 At the time of writing, the only traffic data available is from the Department for Transport (DfT) Road traffic statistics countpoints, with the most recent and available data generally focused on the SRN. A summary of this baseline traffic data is presented in PEIR Appendix 13.1.

13.6.1.3 Work is being undertaken to consider an appropriate construction routing strategy which will include further traffic data collection, feasibility work, and engagement with relevant stakeholders. The strategy will aim to utilise the SRN as far as possible, but potentially utilise local roads to access the Panel Areas during construction. For local roads that will form part of the strategy, baseline traffic data will be collected and presented in the ES.

13.6.1.4 To help provide an initial understanding of where potentially significant effects may be experienced, the available traffic flow countpoint data in PEIR Appendix 13.1 has been sourced and uplifted to act as interim baseline data. PEIR Appendix 13.1 shows the relevant countpoints (their DfT reference) with their

corresponding study area link, year of most recent available data, the annual average daily traffic (AADT) in that year, and the HGV AADT in that year.

- 13.6.1.5 In total, suitable countpoint data is only available to represent and assess 19 of the 60 study area links. Traffic survey data will be collected and used to update the baseline and future traffic forecasts presented in this PEIR for the ES Chapter. Collision Data
- 13.6.1.6 Personal Injury Accident (PIA) summary (STATS19) data has been collected from Crashmap for the most recent five-year period available and are presented in PEIR Appendix 13.3.
- 13.6.1.7 The data demonstrates relatively few collisions on the local roads but higher numbers on the SRN, as expected due to higher traffic flows. It is noted that one fatality occurred on Dereham Road in the period assessed. At this stage, PIA data has been used to inform the identification of CTRs for the Proposed Development.
- 13.6.1.8 Full collision data records will be obtained and analysed for each construction route as part of the ES and supporting TS.

Public Transport

- 13.6.1.9 Public transport is limited in the study area and includes:
- **Rail:** No National Rail stations or lines exist in the vicinity of the Proposed Development. The closest National Rail stations are 'Harling Road' which is c.18km south of the southernmost point of the draft Order Limits, and 'Downham Market', which is c.18km west of the westernmost point of the draft Order Limits. The Mid Norfolk Heritage Railway passes through Yaxham, 2.5km to the east of the draft Order Limits, however, this is unlikely to be affected by any Traffic and Transport related effects of the Proposed Development.
 - **Bus:** Various bus services exist in within the study area including routes; 6, 10, 11A, 13, 31, 32, 52, 60, 111, 113 and A, B, and C "Excel" services. Destinations served include Swaffham, Dereham, Shipdham, and Kings Lynn.

Walking/Cycling

- 13.6.1.10 Public Rights of Way (PRoW) exist across the study area including within the draft Order Limits. For further information on PRoW, see PEIR Chapter 12: Socio-economics. Proposed diversions, management and mitigation measures are detailed within the oPRoWMP. A draft version of the oPRoWMP is also provided as part of the consultation documents.
- 13.6.1.11 Key walking and cycling routes that pass through the study area and the draft Order Limits include:
- Peddars Way and Norfolk Coast Path National Trail ('National Trail'); and
 - National Cycle Network (NCN) Route 13.

- 13.6.1.12 Where PRoW and cycling routes interface with the Proposed Development, this informs the sensitivity of the relevant link(s) and corresponding measures proposed to mitigate any adverse effects Table 13-11 lists PRoW that require specific management measures due to their interface with Panel Areas, ordered west – east – south for ease of the reader alongside their associated link reference. The following PRoW will also require management through the PRoWMP but are not on construction route links and are therefore not considered in Table 13-11, Beachamwell FP4, Swaffham RB60, Swaffham RB40, and Ashill FP7.
- 13.6.1.13 Full descriptions and proposed management measures of PRoW in the study area are contained within the oPRoWMP.
- 13.6.1.14 A wider review of all PRoW in the study area has also been undertaken when assigning link sensitivity.

Table 13-11 PRoW with proposed management and link reference

PRoW Reference	Associated Link Reference	Link Description
Beachamwell BR1	19	A1122 (A47 to AP14)
Beachamwell BR2	19	A1122 (A47 to AP14)
Swaffham RB3	1	A47 (Magpie Farm to A1122)
	19	A1122 (A47 to AP14)
Narborough RB9	19	A1122 (A47 to AP14)
Narborough RB10	1	A47 (Magpie Farm to A1122)
Swaffham RB2	1	A47 (Magpie Farm to A1122)
Narborough RB7a	1	A47 (Magpie Farm to A1122)
Swaffham FP13	16	A1065 (A47 to AP02)
Swaffham FP14	16	A1065 (A47 to AP02)
Sporle with Palgrave BR5	17	A1065 (AP02 to Newton Road)
Sporle with Palgrave BR4	25	Sporle Road (A47 to Little Dunham)
National Trail	17	A1065 (AP02 to Newton Road)
	3	A47 (A1065 to Tuns Road)
	22	Procession Lane (A47 to AP15)
	25	Sporle Road (A47 to Little Dunham)
	57	Water End/The Street/Watton Rd/Cressingham Rd/Swaffham Rd
	21	B1108 (Fairstead Lane to Swaffham Road)

PRow Reference	Associated Link Reference	Link Description
Swaffham RB54	22	Procession Lane (A47 to AP15)
	25	Sporle Road (A47 to Little Dunham)
Swaffham RB55	16	A1065 (A47 to AP02)
	25	Sporle Road (A47 to Little Dunham)
Swaffham RB68/39b	25	Sporle Road (A47 to Little Dunham)
Sporle with Palgrave BR9	23	N Pickenham Road (A47 to AP03a)
Scarning BOAT8	39	Shipdham Lane (AP07 to AP09)
NCN 13	59	Unnamed road (Long Road to AP11)
	39	Shipdham Lane (AP07 to AP09)
Ashill RB11	53	Unnamed road off Dunnetts Close
Ashill FP8	52	Dunnetts Close (Hale Road to AP10)

13.6.2 Future baseline

- 13.6.2.1 Future baseline traffic flows on road links to be used as part of CTRs have been factored up to the peak construction year using growth factors obtained from the industry standard TEMPro software, and considering additional traffic from committed developments.
- 13.6.2.2 To aid the initial identification and assessment of potential construction traffic effects, 2028 has been designated as the peak construction year. This is solely for the purposes of demonstrating potential effects and does not represent confirmation of the Applicant's intended start date or programme.
- 13.6.2.3 Consequently, to establish the future baseline conditions on highways, traffic growth factors have been extracted from the TEMPro database [14] to estimate the traffic growth within the study area, first uplifting the countpoint data to a 2025 baseline, and then a future year baseline. The following parameters have been applied when extracting growth factors:

- Geographical Area(s): Breckland;
- Time Period: Average weekday;
- Transport Mode: Car driver; and
- Trip end type: Origin / Destination.

Table 13-12 presents the extracted growth factors applied to A Roads and Minor (Local) Roads.

Table 13-12 TEMPro Growth Factors

Period (Base Year-Forecast Year)	Road Type	Growth Factor Value
2019-2025	A Road	1.0184
	Minor	1.0207
2021-2025	A Road	1.0150
	Minor	1.0165
2023-2025	A Road	1.0075
	Minor	1.0082
2025-2028	A Road	1.0302
	Minor	1.0286

- 13.6.2.4 For future stages of assessment, any committed developments which could add traffic, change or upgrade roads in the study area in the future will also be identified through engagement with NCC and NH and considered in the EIA where appropriate. Information on other developments which could result in cumulative effects has been gathered as part of the cumulative assessment described in Chapter 15 of this PEIR. A short list of development to be considered in that cumulative assessment is provided as Appendix 15.2 of this PEIR.

13.6.3 Traffic estimates

Construction

- 13.6.3.1 An initial estimate of construction traffic has been generated based on experience from other UK-based solar farms being developed by the Applicant.
- 13.6.3.2 The data and information regarding the volume of construction traffic, the number and direction of routing, and the distribution of movements around the Panel Areas are preliminary at this stage and are subject to further traffic data collection, feasibility work and consultation.

HGV Traffic

- 13.6.3.3 Based upon the trip generation from these previous solar developments, and the size of the Proposed Development, a maximum of HGV trips per day during peak construction periods will provide a 'worst-case scenario' for the purposes of assessment. It is anticipated that there will be a maximum of 106 HGV trips per day (212 two-way movements) during peak construction periods when there could be two Panel Areas under construction simultaneously, distributed across the network and APs around the Proposed Development.
- 13.6.3.4 This is currently anticipated to be distributed around the Panel Areas as follows:

- **Western and Central Panel Areas** – 93 HGV trips per day (186 two-way movements);
- **Northern and Eastern Panel Areas** - 106 HGV trips per day (212 two-way movements); and
- **Southern Panel Area** - 54 HGV trips per day (108 two-way movements).

13.6.3.5 At this stage, for the purposes of assessment it is assumed that two-way movements are distributed evenly across each AP of a Panel Area; for example, 16 daily two-way movements would be expected at each of the seven Southern Panel Area APs (movements are rounded up to the nearest whole number).

Staff Vehicles

13.6.3.6 Employee numbers have also been estimated based on experience from other solar farms being developed by the Applicant. It is anticipated that during the peak, when there could be two Panel Areas under construction simultaneously, there is estimated to be demand for approximately 350 construction workers per day as a worst-case scenario at the height of construction activity. These workers are currently anticipated to travel to site via the following means:

- 200 car sharing assuming average two workers per vehicle = 100 vehicles (200 two-way movements); and
- 150 by 4/5 seater vehicles to/from sites and nearby towns/villages = 30 vehicles (60 two-way movements).

13.6.3.7 It is therefore anticipated that there will be 130 staff trips (260 two-way movements) added onto the network each day during limited peak periods.

13.6.3.8 On average, 265 construction workers on site each day are expected to travel via the following means:

- 145 car sharing assuming average two workers per vehicle = 73 vehicles (200 two-way movements); and
- 120 by 4/5-seater vehicles to/from sites and nearby towns/villages = 24 vehicles (48 two-way movements).

Operation

13.6.3.9 Operational traffic is expected to be minimal, with occasional visits taking place by a handful of operatives. The majority of these trips will be by cars or vans, rather than HGVs.

13.6.3.10 Replacement of some project components will be required during the life of the Proposed Development, either due to their service life or potential faults. In terms of service life, it is anticipated that each BESS unit will be replaced once during the 40-year life of the Proposed Development. Each substation transformer may also be replaced once. This replacement is likely to take place over a period of 12-18 months, resulting in approximately 2-3 HGV trips per day. Any additional trips associated with replacing faulty components would be minimal and spread across the life of the Proposed Development.

- 13.6.3.11 Consequently, additional trips to the network during operation will be so minimal as to not reach beyond a 'Negligible' degree of change (e.g., a >30% increase in total traffic AADT), and so no significant effects will arise.
- 13.6.3.12 The ES will confirm details of the Proposed Development operational traffic, however, it is expected that any operational impacts on Traffic and Transport will be minimal.

Decommissioning

- 13.6.3.13 Decommissioning is expected to take 12-24 months and could be undertaken in phases.
- 13.6.3.14 Decommissioning of the Proposed Development could give rise to the same or lower levels of forecast trip generation as the construction phase; therefore, the construction assessment provides a worst-case scenario for potential effects, and decommissioning does not require further separate assessment and is scoped out (as agreed through the Planning Inspectorate's Scoping Opinion).

13.7 Design Principles, Embedded and good practice measures

13.7.1 Design Principles

- 13.7.1.1 The Proposed Development is being designed with regard to a set of design principles, as described in the draft Design Approach Document (DAD).

13.7.2 Embedded and good practice measures

- 13.7.2.1 Embedded measures are modifications to the design of a scheme, made during the pre-application phase, that are an inherent part of the design and do not require additional action to be taken. Good practice measures are standard approaches and actions undertaken to avoid or reduce environmental impacts in line with best practice guidance and legislative requirements.
- 13.7.2.2 The Proposed Development is currently evolving through an iterative design process. Measures for the Proposed Development relevant to Traffic and Transport already committed to include:
- Construction
 - HGVs will be required to follow prescribed CTRs between the SRN and the APs. These routes will be identified based on their suitability to cater for HGVs, avoiding sensitive receptors as far as reasonably practicable;
 - Where required to mitigate potentially significant effects, site management may be required to schedule the arrival and departure times of deliveries to minimise the number of HGVs travelling to the Panel Areas during the network peak hours on CTRs.

- Temporary Traffic Management will be used along CTRs and at APs where required;
- Passing places or localised widening of the highway will be undertaken where required; and
- Car sharing to minimise trips on the network associated with construction.
- Operation
 - During operation the Proposed Development will utilise APs on the SRN and LRN. These will be subject to Road Safety Audit and designed to ensure that they are safe and suitable for operational traffic. Due to the expected minimal operational traffic, no additional mitigation is anticipated to be required.
- Decommissioning
 - Management and mitigation measures will be incorporated into the oDEMP, in line with measures for the construction stage.

13.7.2.3 In addition, a suite of management plans will be in place for the Proposed Development, those relevant to Traffic and Transport include:

- oCTMP;
- oDEMP; and
- oPRoWMP.

13.7.2.4 These management plans incorporate embedded and good practice measures, as well as any further mitigation identified during the EIA.

13.7.2.5 Draft outline versions of these management plans are provided with this PEIR for review during statutory consultation. These will be updated and submitted with the DCO application to secure the commitments contained within. Appropriate Requirements will be included in the DCO application to ensure these management plans will be developed to full versions and submitted to the relevant planning authority for approval. This will take place prior to the commencement of relevant works and measures described in them are implemented.

13.7.2.6 A draft oCTMP will support the DCO application and include measures such as appropriate traffic planning and HGV management, including a requirement to minimise the number of HGVs routing through Swaffham town centre which has been designated as an Air Quality Management area by Breckland Council.

13.8 Assessment of effects

13.8.1 Introduction

13.8.1.1 Having assigned construction traffic along proposed CTRs and considered the magnitude of impacts (Table 13-13) against the sensitivity of each link, there are a range of potential traffic effects that could be caused by the Proposed Development prior to mitigation, all of which are considered to be adverse. On this basis potential significant effects have been identified and shown in Table 13-14.

13.8.1.2 The links shown in Table 13-13 and Table 13-14 are those only with suitable available DfT Countpoint data to assess, as outlined in Section 13.6.

13.8.1.3 Therefore, it is again important to caveat the preliminary nature of this assessment, and that the results presented are subject to further refinement, and subject to changes in design, routing strategy, and the collection of baseline traffic flows across the study area.

13.8.2 Construction traffic assessment

13.8.2.1 This section describes the potential Traffic and Transport effects that could occur as a result of the Proposed Development in the absence of mitigation. There is the potential for environmental effects where affected parties will experience an increase in LGV and HGV traffic through their proximity to a CTR. The presence of affected parties has determined the link sensitivities presented earlier in this chapter.

13.8.2.2 DfT Countpoint data was used to establish the baseline traffic volumes of the highway network.

13.8.2.3 The impact of Proposed Development traffic on the surrounding highway network was then determined by calculating percentage increases in vehicular traffic routes compared to baseline and future baseline traffic flows. Peak construction traffic flows were derived by analysing construction traffic data and anticipated construction programmes and distributed along identified CTRs to calculate the resultant percentage increase on each link.

13.8.2.4 Having assigned construction traffic along proposed CTRs and considered the magnitude of impacts against the sensitivity of each link, there are a range of potential traffic effects that could be caused by the Proposed Development prior to mitigation, all of which are considered to be adverse.

13.8.2.5 Based on the percentage increases on each link (the magnitude of effects) and each link's sensitivity, the level of effects has been determined (Table 13-14). Where the combination of magnitude and sensitivity returned a significance of two option levels (e.g. large magnitude and medium sensitivity returning Moderate/Major), the higher significance level has been chosen to add further robustness in the absence of collected data.

13.8.2.6 It should be noted that whilst HGV movements have been indicatively distributed for each Panel Area, an estimate has not yet been made for distribution of staff traffic. Consequently, a 'flat' number of 260 daily two-way staff vehicle movements has been added for each link. This is a worst-case and therefore robust scenario for the purposes of the PEIR which will be refined in the subsequent assessment for the ES chapter.

13.8.2.7 Additionally, as noted in the IEMA [7] guidelines, the EIA Regulations also require consideration of the permanence of anticipated effects. Given the nature of construction of the Proposed Development, potential effects regarding construction traffic would be likely to be relatively short-term.

- 13.8.2.8 Given that the ES is based on percentage increases in traffic, even a small increase in absolute numbers of vehicles and HGVs can result in seemingly high magnitudes of impacts. Where a low baseline of traffic exists on a link this is discussed in determining residual effects in Section 13.10.
- 13.8.2.9 Therefore, although the level of effect is initially reported for peak month traffic, the methodology set out in the IEMA guidelines [7] assumes this is a permanent increase. As such professional judgement has been applied in considering the influence shorter durations may have on the overall significance of effects.

Table 13-13 Magnitude of impact

Ref.	Link	Severance	Pedestrian (non-motorised user) delay	Non-motorised user amenity	Fear and intimidation
1	A47 (Magpie Farm to A1122)	Negligible	Negligible	Negligible	Negligible
2	A47 (A1122 to A1065)	Negligible	Negligible	Negligible	Negligible
3	A47 (A1065 to Tuns Road)	Negligible	Negligible	Negligible	Negligible
4	A47 (Tuns Road to Dereham Road)	Negligible	Negligible	Negligible	Negligible
6	A47 (A1075 to B1147)	Negligible	Negligible	Negligible	Negligible
7	A1075 (Yaxham Road to Hillcrest Avenue)	Negligible	Negligible	Small	Negligible
8	A1075 (Hillcrest Avenue to Bradenham Road)	Negligible	Negligible	Small	Negligible
12	A1065 (A47 to Cley Road)	Negligible	Negligible	Negligible	Negligible
15	A1065 (Water End to B1108)	Negligible	Negligible	Negligible	Negligible
16	A1065 (A47 to AP02)	Negligible	Negligible	Negligible	Negligible
26	Dereham Road (A47 to Hulver Street)	Small	Small	Large	Negligible
31	Bradenham Lane (Dereham Road to Unnamed Road junction)	Small	Small	Large	Negligible
36	Hale Road (School Road [east] to Lower Road)	Small	Small	Large	Negligible

Ref.	Link	Severance	Pedestrian (non-motorised user) delay	Non-motorised user amenity	Fear and intimidation
41	Bradenham Road (A1075 to Comar Lane)	Negligible	Negligible	Medium	Negligible
45	Tuns Road/Hale Road (A47 to N Pickenham Road)	Negligible	Negligible	Large	Negligible
50	Station Road (Browns Lane to Hale Road)	Negligible	Negligible	Large	Negligible
54	Hale Road / Watton Road (Dunnetts Close to Swaffham Road)	Negligible	Negligible	Large	Negligible
57	Water End/The Street/Watton Rd/Cressingham Rd/Swaffham Rd	Small	Small	Negligible	Negligible
58	Long Road (A1075 to Hills Road)	Large	Large	Large	Negligible

Table 13-14 Significance of effect

Ref.	Link	Severance	Pedestrian (non-motorised user) delay	Non-motorised user amenity	Fear and intimidation
1	A47 (Magpie Farm to A1122)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
2	A47 (A1122 to A1065)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
3	A47 (A1065 to Tuns Road)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
4	A47 (Tuns Road to Dereham Road)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
6	A47 (A1075 to B1147)	Neutral	Neutral	Neutral	Neutral
7	A1075 (Yaxham Road to Hillcrest Avenue)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
8	A1075 (Hillcrest Avenue to Bradenham Road)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
12	A1065 (A47 to Cley Road)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
15	A1065 (Water End to B1108)	Slight adverse	Slight adverse	Slight adverse	Slight adverse
16	A1065 (A47 to AP02)	Neutral	Neutral	Neutral	Neutral
26	Dereham Road (A47 to Hulver Street)	Slight adverse	Slight adverse	Major adverse	Slight adverse
31	Bradenham Lane (Dereham Road to Unnamed Road junction)	Slight adverse	Slight adverse	Moderate adverse	Slight adverse
36	Hale Road (School Road [east] to Lower Road)	Slight adverse	Slight adverse	Moderate adverse	Slight adverse
41	Bradenham Road (A1075 to Comar Lane)	Slight adverse	Slight adverse	Moderate adverse	Slight adverse

Ref.	Link	Severance	Pedestrian (non-motorised user) delay	Non-motorised user amenity	Fear and intimidation
45	Tuns Road/Hale Road (A47 to N Pickenham Road)	Slight adverse	Slight adverse	Major adverse	Slight adverse
50	Station Road (Browns Lane to Hale Road)	Slight adverse	Slight adverse	Major adverse	Slight adverse
54	Hale Road / Watton Road (Dunnetts Close to Swaffham Road)	Slight adverse	Slight adverse	Major adverse	Slight adverse
57	Water End/The Street/Watton Rd/Cressingham Rd/Swaffham Rd	Slight adverse	Slight adverse	Slight adverse	Slight adverse
58	Long Road (A1075 to Hills Road)	Moderate adverse	Moderate adverse	Moderate adverse	Slight adverse

13.8.3 Operation

- 13.8.3.1 Operational traffic is expected to be minimal, with occasional visits taking place by a handful of operatives. The majority of these trips will be by cars or vans, rather than HGVs.
- 13.8.3.2 Replacement of some project components will be required during the life of the Proposed Development, either due to their service life or potential faults. In terms of service life, it is anticipated that each BESS unit will be replaced once during the 40-year life of the Proposed Development. Each substation transformer may also be replaced once. This replacement is likely to take place over a period of 12-18 months, resulting in approximately 2-3 HGV trips per day. Any additional trips associated with replacing faulty components would be minimal and spread across the life of the Proposed Development.
- 13.8.3.3 Consequently, additional trips to the network during operation will be so minimal as to not reach beyond a 'Negligible' degree of change (e.g., a >30% increase in total traffic or HGV AADT), and so no significant effects will arise.
- 13.8.3.4 The ES will confirm details of the Proposed Development operational traffic, however, it is expected that any operational impacts on Traffic and Transport will be minimal.

13.8.4 Decommissioning

- 13.8.4.1 Decommissioning is expected to take 12-24 months and could be undertaken in phases.
- 13.8.4.2 Decommissioning of the Proposed Development could give rise to the same or lower levels of forecast trip generation as the construction phase; therefore, the construction assessment provides a worst-case scenario for potential effects, and decommissioning does not require further separate assessment
- 13.8.4.3 Management and mitigation measures will be incorporated into the DEMP, which will set out the general principles to be followed in the decommissioning of the Proposed Development.
- 13.8.4.4 The DEMP will set out how vehicle access to and from the Proposed Development will be managed, and it is expected that the principles agreed to minimise disruption during construction will be reviewed and applied during decommissioning.

13.9 Additional mitigation

- 13.9.1.1 Further mitigation are actions that require further activity to achieve a reduction in significance of effect, and/or anticipated outcome.
- 13.9.1.2 At the time of writing only indicative additional mitigation measures have been identified, due to work continuing to define access routes and strategy through

baseline traffic data collection and interrogation. Potentially significant effects will then again be assessed in the ES.

- 13.9.1.3 This will allow necessary mitigation measures to be agreed and secured. Some measures may be incorporated into the design of the Proposed Development and be considered embedded mitigation, this will be considered appropriately in the ES.
- 13.9.1.4 Indicative additional mitigation is laid out below and structured by each effect type, although where affected links are identical for both impact type, they have been grouped together.

Severance; Pedestrian (non-motorised user) delay

- 13.9.1.5 Potentially significant effects have been identified on Link Ref. 58 for both Severance and Pedestrian (non-motorised user) delay. These forecasts are anticipated due to high increases in HGV and LGV construction traffic flows on high sensitivity links. Proposed additional mitigation measures are described in Table 13-15.

Table 13-15 Severance; Pedestrian (non-motorised user) delay – effects and mitigation

Ref.	Link	(Respective) Effect before Mitigation	Potential proposed mitigation
58	Long Road (A1075 to Hills Road)	Moderate adverse; Moderate adverse	Target higher vehicle occupancy for staff travelling to Southern Panel Areas

Non-motorised user amenity

- 13.9.1.6 Potentially significant effects have been identified on a number of links for Non-motorised amenity and Fear and Intimidation. These forecasts are anticipated due to high increases in HGV traffic flows. Proposed additional mitigation measures are described in Table 13-16.

Table 13-16 Non-motorised user amenity – effects and mitigation

Ref.	Link	(Respective) Effect before Mitigation	Potential proposed mitigation
26	Dereham Road (A47 to Hulver Street)	Major adverse	Temporary traffic management through Wendling; Dale Road as an alternative CTR
31	Bradenham Lane (Dereham Road to Unnamed Road junction)	Moderate adverse	Temporary traffic management on Bradenham Lane; Hulver St as an alternative CTR

Ref.	Link	(Respective) Effect before Mitigation	Potential proposed mitigation
36	Hale Road (School Road [east] to Lower Road)	Moderate adverse	Target higher vehicle occupancy for staff travelling to Southern Panel Area. Temporary traffic management on Hale Road
41	Bradenham Road (A1075 to Comar Lane)	Moderate adverse	Temporary traffic management through Shipdham
45	Tuns Road/Hale Road (A47 to N Pickenham Road)	Major adverse	Traffic to avoid Necton primary school pick-up/drop-off hours; temporary traffic management; community engagement
50	Station Road (Browns Lane to Hale Road)	Major adverse	Currently only an alternative CTR to Hale Road/ Lower Road. If used, target higher vehicle occupancy for staff travelling to Southern Panel Area.
54	Hale Road / Watton Road (Dunnetts Close to Swaffham Road)	Major adverse	Temporary traffic management through Ashill
58	Long Road (A1075 to Hills Road)	Moderate adverse	Target higher vehicle occupancy for staff travelling to Southern Panel Area. Temporary traffic management

13.10 Residual effects

13.10.1 Construction

- 13.10.1.1 A range of potential significant effects exist that may be caused by the Proposed Development prior to identified mitigation measures. These potential effects are identified to be limited to the construction and decommissioning period of the Proposed Development, and would therefore, by definition, be exclusively temporary in nature, with no permanent effects likely.
- 13.10.1.2 Some temporary effects would be likely to last longer than others and it is considered appropriate to reflect the predicted duration of effects when determining the likelihood of significant effects.
- 13.10.1.3 It should also be noted that the links identified in this section as having potential moderate adverse effects are road links with very low levels of baseline traffic, and that the assessment has considered a robust 'peak month' scenario. It should again be noted that when presented with an option Nonetheless, mitigation has been identified to reduce potential effects.

13.10.1.4 Following application of the embedded and potential additional mitigation as identified in Section 13.7 and Section 13.9, residual effects of the Proposed Development are summarised in Table 13-17.

Table 13-17 Residual effects summary

Ref.	Link	Impact type	Effect after Mitigation
26	Dereham Road (A47 to Hulver Street)	Non-motorised user amenity	Minor Adverse, Not Significant
31	Bradenham Lane (Dereham Road to Unnamed Road junction)	Non-motorised user amenity	Minor Adverse, Not Significant
36	Hale Road (School Road [east] to Lower Road)	Non-motorised user amenity	Minor Adverse, Not Significant
41	Bradenham Road (A1075 to Comar Lane)	Non-motorised user amenity	Minor Adverse, Not Significant
45	Tuns Road/Hale Road (A47 to N Pickenham Road)	Non-motorised user amenity	Minor Adverse, Not Significant
50	Station Road (Browns Lane to Hale Road)	Non-motorised user amenity	Minor Adverse, Not Significant
54	Hale Road / Watton Road (Dunnetts Close to Swaffham Road)	Non-motorised user amenity	Minor Adverse, Not Significant
58	Long Road (A1075 to Hills Road)	Severance; Pedestrian (non-motorised user) delay; non-motorised user amenity	Minor Adverse, Not Significant

13.10.1.5 All effects have a magnitude that does not, initially, consider the duration over which the effect is likely to be experienced. Duration is considered when assessing the overall significance of residual effects. DMRB LA104 [15] states that:

"The assessment of the significance of environmental effects shall cover the following factors:

The duration (long or short term); permanence (permanent or temporary) and changes in significance (increase or decrease)"

13.10.1.6 All of the Traffic and Transport effects associated with the Proposed Development would be temporary effects. In order to present a reasonable worst-case scenario, this assessment has considered the effects during the peak month of construction activity. Effects experienced outside of this period throughout the construction programme would therefore be less than those reported.

13.10.1.7 On this basis, and considering the mitigation embedded into the Proposed Development design and additional mitigation proposed through the draft oCTMP

there are not anticipated to be significant environmental effects arising from the Proposed Development relating to Traffic and Transport.

13.10.1.8 Following the identification of additional mitigation, it is considered that calculated significant effects can be addressed such that the residual effect would be **Not Significant**.

13.10.1.9 It should again be noted that the assessment of effects is not yet based on collected traffic data and / or confirmed routes. As such, the location, type, and extent of significant effects will be confirmed in the ES.

13.10.2 Operation

13.10.2.1 Traffic levels associated with the Proposed Development during the operational phase are anticipated to result in a Negligible effect, which is **Not Significant**.

13.10.3 Decommissioning

13.10.3.1 Traffic levels associated with the Proposed Development during decommissioning are anticipated to be comparable to those experience during construction. As a consequence, environmental effects are expected to be similar to those identified for the construction phase. However, given the project life, and likelihood in changes in future baseline conditions relating to Traffic and Transport, it is considered that it will be necessary to identify necessary mitigation in consultation with the LHA at the time of decommissioning. This requirement is included in the oDEMP.

13.11 Monitoring

13.11.1.1 No monitoring is considered to be required relating to Traffic and Transport. The Applicant will comply with the CTMP as approved, during construction of the Proposed Development.

13.12 Opportunities for enhancement

13.12.1.1 Road links forming part of CTRs for the Proposed Development are likely to require physical works to facilitate construction traffic during the construction phase. These are anticipated to include for example, localised road widening and the installation of passing places. Initial discussion with NCC has identified that where these are shown to be of benefit to local traffic conditions and communities, these may be retained permanently.

13.13 Summary

13.13.1.1 Table 13-18 presents a summary of the Traffic and Transport assessment, detailing further mitigation requirements and residual effects.

Table 13-18 Summary

Receptor/aspect and sensitivity/value/importance	Embedded and good practice measures	Description of impact and magnitude	Significance of effect	Additional mitigation	Residual effect
Construction					
Link 26 / Medium Sensitivity	Draft oCTMP; oPRoWMP; restricted timings; advanced signage	Non-motorised user amenity: large	Major adverse	Temporary traffic management through Wendling; Dale Road as an alternative CTR	Minor Adverse, Not Significant
Link 31 / Low Sensitivity	As above	Non-motorised user amenity: large	Moderate adverse	Temporary traffic management on Bradenham Lane; Hulver St as an alternative CTR	Minor Adverse, Not Significant
Link 36 / Low Sensitivity	As above	Non-motorised user amenity: large	Moderate adverse	Target higher vehicle occupancy for staff travelling to Southern Panel Area. Temporary traffic management on Hale Road	Minor Adverse, Not Significant
Link 41 / Medium Sensitivity	As above	Non-motorised user amenity: medium	Moderate adverse	Temporary traffic management through Shipdham	Minor Adverse, Not Significant
Link 45 / High Sensitivity	As above	Non-motorised user amenity: large	Major adverse	Traffic to avoid Necton primary school pick-up/drop-off hours; Temporary traffic management; community engagement	Minor Adverse, Not Significant
Link 50 / Medium Sensitivity	As above	Non-motorised user amenity: large	Major adverse	Currently only an alternative CTR to Hale Road/ Lower Road. If used, target higher vehicle occupancy for staff travelling to Southern Panel Area.	Minor Adverse, Not Significant
Link 54 / High Sensitivity	As above	Non-motorised user amenity: large	Major adverse	Temporary traffic management through Ashill	Minor Adverse, Not Significant
Link 58 / Low Sensitivity	As above	Severance: medium Pedestrian delay: medium Non-motorised user amenity: large	Moderate adverse	Target higher vehicle occupancy for staff travelling to Southern Panel Area. Temporary traffic management	Minor Adverse, Not Significant
Operation					

Receptor/aspect and sensitivity/value/importance	Embedded and good practice measures	Description of impact and magnitude	Significance of effect	Additional mitigation	Residual effect
Traffic impacts considered to not meet IEMA rule of thumb thresholds due to expected minimal operational traffic. Therefore, scoped out of ES.					
Decommissioning					
Traffic impacts considered to be less than construction phase which therefore represents a reasonable worst case and decommissioning does not require further separate assessment. Management and mitigation measures will also be incorporated within the oDEMP.					

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