# East Anglia ONE North Offshore Windfarm

# Chapter 26

## Traffic and Transport

### Environmental Statement
### Volume 1

Applicant: East Anglia ONE North Limited
Document Reference: 6.1.26
SPR Reference: EA1N-DWF-ENV-REP-IBR-000363 Rev 01
Pursuant to APFP Regulation: 5(2)(a)

Author: Royal HaskoningDHV
Date: October 2019
Revision: Version 1

| Prepared by: | Checked by: | Approved by: |
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| Revision Summary | | | | |
|---|---|---|---|---|
| **Rev** | **Date** | **Prepared by** | **Checked by** | **Approved by** |
| 01 | 08/10/2019 | Paolo Pizzolla | Ian Mackay | Helen Walker |

| Description of Revisions | | | |
|---|---|---|---|
| **Rev** | **Page** | **Section** | **Description** |
| 01 | N/A | N/A | Final for Submission |

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# Glossary of Acronyms

| | |
|---|---|
| AADT | Annual Average Daily Traffic |
| AILs | Abnormal Indivisible Loads |
| ATC | Automated Traffic Counts |
| CCS | Construction Consolidation Site |
| CIA | Cumulative Impact Assessment |
| DCO | Development Consent Order |
| DfT | Department for Transport |
| DoS | Degree of Saturation |
| EIA | Environment Impact Assessment |
| ES | Environmental Statement |
| ESC | East Suffolk Council |
| ESDAL | Electronic Service Delivery for Abnormal Loads |
| ETG | Expert Topic Group |
| GEART | Guidelines for the Environmental Assessment of Road Traffic |
| HGV | Heavy Goods Vehicle |
| LCV | Light Commercial Vehicle |
| MCTC | Manual Classified Turning Count |
| NPS | National Policy Statement |
| NSIP | Nationally Significant Infrastructure Project |
| NPPF | National Planning Policy Framework |
| OAMP | Outline Access Management Plan |
| OCTMP | Outline Construction Traffic Management Plan |
| OTP | Outline Travel Plan |
| P2W | Powered Two Wheelers |
| PEIR | Preliminary Environmental Information Report |
| PIC | Personal Injury Collision |
| PIDs | Public Information Days |
| PPG | Planning Practice Guidance |
| RFC | Ratio of Flow to Capacity |
| SCC | Suffolk County Council |
| SEGWay | Suffolk's Energy Gateway |
| SPR | ScottishPower Renewables |
| TMA | Traffic Management Act |

# Glossary of Terminology

| | |
|---|---|
| Applicant | East Anglia ONE North Limited. |
| Cable sealing end compound | A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation. |
| Cable sealing end (with circuit breaker) compound | A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation. |
| Construction consolidation sites | Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure. |
| Construction operation and maintenance platform | A fixed offshore structure required for construction, operation, and maintenance personnel and activities. |
| Development area | The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order). |
| East Anglia ONE North project | The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure. |
| East Anglia ONE North windfarm site | The offshore area within which wind turbines and offshore platforms will be located. |
| European site | Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas. |
| Evidence Plan Process (EPP) | A voluntary consultation process with specialist stakeholders to agree the approach to the EIA and the information required to support HRA. |
| Horizontal directional drilling (HDD) | A method of cable installation where the cable is drilled beneath a feature without the need for trenching. |
| HDD temporary working area | Temporary compounds which will contain laydown, storage and work areas for HDD drilling works. |
| Inter-array cables | Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables. |
| Jointing bay | Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts. |
| Landfall | The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables. |
| Link boxes | Underground chambers within the onshore cable route housing electrical earthing links. |
| Meteorological mast | An offshore structure which contains metrological instruments used for wind data acquisition. |

| | |
|---|---|
| Mitigation areas | Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts. |
| Marking buoys | Buoys to delineate spatial features / restrictions within the offshore development area. |
| Monitoring buoys | Buoys to monitor in situ condition within the windfarm, for example wave and metocean conditions. |
| National electricity grid | The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission |
| National Grid infrastructure | A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia ONE North project Development Consent Order but will be National Grid owned assets. |
| National Grid overhead line realignment works | Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid. |
| National Grid overhead line realignment works area | The proposed area for National Grid overhead line realignment works. |
| National Grid substation | The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia ONE North project Development Consent Order. |
| National Grid substation location | The proposed location of the National Grid substation. |
| Natura 2000 site | A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive. |
| Offshore cable corridor | This is the area which will contain the offshore export cables between offshore electrical platforms and landfall. |
| Offshore development area | The East Anglia ONE North windfarm site and offshore cable corridor (up to Mean High Water Springs). |
| Offshore electrical infrastructure | The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall. |
| Offshore electrical platform | A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore. |
| Offshore export cables | The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables. |
| Offshore infrastructure | All of the offshore infrastructure including wind turbines, platforms, and cables. |
| Offshore platform | A collective term for the construction, operation and maintenance platform and the offshore electrical platforms. |
| Onshore cable corridor | The corridor within which the onshore cable route will be located. |
| Onshore cable route | This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas. |

| | |
|---|---|
| Onshore cables | The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables. |
| Onshore development area | The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located. |
| Onshore infrastructure | The combined name for all of the onshore infrastructure associated with the proposed East Anglia ONE North project from landfall to the connection to the national electricity grid. |
| Onshore preparation works | Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations. |
| Onshore substation | The East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure. |
| Onshore substation location | The proposed location of the onshore substation for the proposed East Anglia ONE North project. |
| Platform link cable | Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables. |
| Safety zones | A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004. |
| Scour protection | Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water. |
| Transition bay | Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables. |

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# 26 Traffic and Transport

## 26.1 Introduction

1. This chapter of the Environmental Statement (ES) considers the potential impacts of the proposed East Anglia ONE North project on traffic and transport. The chapter provides an overview of the existing baseline where the onshore development area is located, followed by an assessment of the potential impacts and associated mitigation for the construction, operation, and decommissioning of the onshore infrastructure for the proposed East Anglia ONE North project. This chapter was produced by Royal HaskoningDHV.

2. The assessment considers cumulative impacts of other proposed projects. The proposed methodology adhered to for the Environmental Impact Assessment (EIA) and Cumulative Impact Assessment (CIA) is discussed in ***section 26.7***.

3. No decision has yet been made regarding a preferred base port for the offshore construction and operation of the proposed East Anglia ONE North project. Such facilities would be provided or brought into operation by means of one or more planning applications or as port operations with permitted development rights. This chapter therefore considers the impacts of constructing and operating the onshore infrastructure only.

4. In preparing the traffic and transport ES chapter for the proposed East Anglia ONE North project, reference has been made to the applicable National Policy Statement (NPS) for Energy EN-1, which includes details on the assessment of traffic and transport. EN-1 outlines that if a project is likely to have significant transport implications, the ES should include a transport assessment and where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts.

5. In compliance with national policy, this chapter is supported by an Outline Construction Traffic Management Plan (OCTMP) (document reference 8.9), an Outline Access Management Plan (OAMP) (document reference 8.10) and an Outline Travel Plan (OTP) (document reference 8.11). These documents are secured under the requirements of the draft DCO. Prior to construction commencing, final versions of the CTMP, AMP and CTP will be produced, in consultation with the Local Planning Authority, Highway Authority and Highways England, to discharge requirements of the draft DCO.

6. It should be noted that the East Anglia TWO offshore windfarm project (the proposed East Anglia TWO project) is also in the application stage. The proposed East Anglia TWO project has a separate Development Consent Order (DCO)

process which has been submitted at the same time as the proposed East Anglia ONE North project. This assessment considers the cumulative impact of the proposed East Anglia ONE North project with the proposed East Anglia TWO project (***Appendix 26.2***) and subsequently with other proposed developments (***section 26.7***).

7. Throughout this chapter, the terms Heavy Goods Vehicle (HGV) and Annual Average Daily Traffic (AADT) are regularly used in reference to project deliveries and traffic flow respectively. HGV is the term for any vehicle with a Gross Weight over 3.5 tonnes. This assessment also uses the term HGV as a proxy for HGVs and buses / coaches recognising the similar size and environmental characteristics of the respective vehicle types. AADT is the Department for Transport recognised measurement of annual average daily traffic flows.

## 26.2 Consultation

8. Consultation is a key feature of the EIA process, and continues throughout the lifecycle of a project, from its initial stages through to consent and post-consent.

9. To date, consultation with regards to traffic and transport has been undertaken via the Traffic and Transport Expert Topic Group (ETG), described within ***Chapter 5 EIA Methodology***, with meetings held in April 2018,May 2018, July 2018, September 2018, January 2019 and May 2019 (the Traffic and Transport ETG stakeholder membership includes, East Suffolk Council, Suffolk County Council and Highways England), and through the East Anglia ONE North Scoping Report (ScottishPower Renewables (SPR) 2017) and Preliminary Environmental Information Report (PEIR) (SPR 2019). Feedback received through this process has been considered in preparing the ES where appropriate and this chapter has been updated for the final assessment submitted with the DCO application.

10. The responses received from stakeholders with regards to the ETG process, Scoping Report and PEIR, are summarised in ***Appendix 26.1*** including details of how these responses have been taken account of within this assessment.

11. Ongoing public consultation has been conducted through a series of Public Information Days (PIDs) and Public Meetings. PIDs have been held throughout Suffolk in November 2017, March 2018, June / July 2018 and February / March 2019. A further series of stakeholder engagement events were also undertaken in October 2018 as part of phase 3.5 consultation. Details of the consultation phases are discussed further in ***Chapter 5 EIA Methodology***.

12. Following the submission on the PEIR, The Applicant undertook further consultation with SCC and Highways England to further refine the strategy for

access and impact assessment. Full details of this further engagement are also summarised in ***Appendix 26.1***.

13. ***Table 26.1*** shows public consultation feedback pertaining to traffic and transport. Full details of the proposed East Anglia ONE North project consultation process are presented in the Consultation Report (document reference 5.1), which is provided as part of the DCO application.

**Table 26.1 Public Consultation relevant to Traffic and Transport**

| Topic | Response / where addressed in the ES |
|---|---|
| **Phase 1** | |
| • Increasing road movements<br>• Connection point site selection to consider road access and traffic impacts | Impacts to road movements are considered in ***sections 26.6.1*** and ***26.6.2***<br>Traffic considerations have been considered throughout the site selection process, this is explained further in ***Chapter 4 Site Selection and Assessment of Alternatives*** |
| **Phase 2** | |
| • Impacts from additional traffic on narrow roads<br>• Impacts from works traffic and road disruption<br>• Road improvement opportunities local to the sites<br>• Access for locals on local roads during construction<br>• Upgrade potential of whole road infrastructure (including A12)<br>• Junction improvements at Sizewell C<br>• Construction traffic to use B1122 strengthened lorry route via A12 from north | Impacts to road movements (including construction traffic) are considered in ***sections 26.6.1*** and ***26.6.2***<br>Potential upgrades to road networks are discussed throughout the assessment as additional mitigation measures |
| **Phase 3** | |
| Assessment methodology – lack of full traffic and transport assessment for site selection:<br>• Full traffic demand data required | Assessment methodology detailed in ***section 26.4***<br>Traffic assessment has been taken into consideration in ***Chapter 4 Site Selection and Assessment of Alternatives*** |
| Increased disruption from traffic through and around the local villages:<br>• Additional traffic to the A12<br>• Cumulative traffic disruption with Sizewell C<br>• Pressure on local infrastructure<br>• Impact on trucking route south of Grove Wood | Impacts to road movements (including construction traffic) are considered in ***sections 26.6.1*** and ***26.6.2***<br>Cumulative traffic impacts are considered in ***Appendix 26.2*** and ***section 26.7.2***<br>Impacts on road safety are assessed in ***section 26.6.1.10*** |

| Topic | Response / where addressed in the ES |
|---|---|
| • Impacts on holiday traffic<br>• Impacts on road safety and increasing accidents<br>• Impacts on local schools<br>• Contractors should obey local traffic conditions<br>• Traffic impacts on farmers<br>• Concerns over traffic through Knodishall and cumulative traffic with Sizewell and impacts on emergency vehicles at Leiston/Sizewell Road<br>• Road network already at capacity<br>• Health, fire and security risks associated with construction traffic<br>• Impact of traffic and road construction leading to coastal erosion | |
| Transport improvements and suggestions:<br>• Road widening and improvements<br>• Use more sea-borne traffic to reduce pressure on rural roads<br>• Link should be built from A12 for all construction traffic<br>• Dual carriageway construction of A12 may impact traffic levels<br>• Access point for landfall construction traffic should be field adjacent to Ogilvie pavilion<br>• More suitable transport solution at Sizewell (e.g. train, village bypass scheme)<br>• Direct route built to A12 with connection south of Saxmundham (D2 route) | Potential upgrades to road networks are discussed throughout the assessment as additional mitigation measures<br>Embedded mitigation is given in ***section 26.3.3*** |
| Concern over inadequate roads/ road improvements/ traffic routeing:<br>• Concern over inadequate roads around Zone 7/ Friston and around the cable route which are small and narrow and do not have the capacity for construction traffic<br>• Concerns over road closures<br>• Impacts on other road users such as pedestrians, cyclists and agricultural traffic<br>• Impacts with any potential new housing developments<br>• Damage to verges and hedges through large vehicles on small roads | Potential upgrades to road networks are discussed throughout the assessment as additional mitigation measures<br>Embedded mitigation is given in ***section 26.3.3***<br>Impacts on other road users are assessed in ***section 26.6*** |

| Topic | Response / where addressed in the ES |
|---|---|
| • Concerns that contractors on East Anglia ONE did not follow agreed routes.<br>• Inadequate roads for population increases<br>• Impact on Suffolk Energy Gateway Four Villages Bypass | |
| **Phase 3.5** | |
| • Concerns of traffic accidents<br>• Traffic through Leiston, Benhall Green, Friston and Knodishall<br>• Impacts on cyclists (particularly on the B1353)<br>• Strains on road network, at Aldeburgh from the roundabout towards Leiston<br>• Traffic jams on the A12 and A1220<br>• Impacts during peak tourist times<br>• HGV journeys should be managed to avoid passing problems<br>• Cumulative traffic impacts with Sizewell C, Inter-connectors and National Grid<br>• Significant road widening will be necessary | Potential upgrades to road networks are discussed throughout the assessment as additional mitigation measures<br>Cumulative traffic impacts are considered in ***Appendix 26.2*** and ***section 26.7.2***<br>Impacts on road safety are assessed in ***section 26.6.1.10*** |
| **Phase 4** | |
| • Dangerous for other road users, pedestrians, horse riders and cyclists<br>• Increasing journey times<br>• Concern over impacts on emergency vehicles<br>• HGV movements should be managed safely<br>• Concerns over an increased amount of vehicle collisions<br>• Serious concern over the proposed landfall access from Thorpeness Road (as presented at PEIR) even with the use of a marshalling system along Thorpeness Road. | Impacts on road safety are assessed in ***section 26.6.1.10.*** This includes an assessment of impacts to non-motorised users, such as pedestrians and cyclists<br>Pedestrian amenity is assessed in ***section 26.6.1.8***<br>Impacts to driver delay (journey times) is provided in ***section 26.6.1.11***<br>Impacts to road safety (including safe management of HGVs) are assessed in ***section 26.6.1.10***<br>Embedded mitigation in ***Table 26.4*** explains that to avoid the requirement for HGVs to travel via the B1122 from Aldeburgh and B1353 towards Thorpeness all construction traffic for the landfall would access the landfall location via Sizewell Gap. Vehicles would then travel south on a temporary haul road to the landfall location. |

## 26.3 Scope

### 26.3.1 Onshore Highway Study Area

14. The onshore highway study area has been informed by determining the most probable routes for traffic, for both the movement of materials and employees, during both construction and operational phases of the proposed East Anglia ONE North project.

15. The extent of the onshore highway study area has been agreed with SCC and Highways England through the ETG process. The agreed onshore highway study area is illustrated in ***Figure 26.1*** and is divided into 15 separate highways sections known as links, which are defined as sections of highway with similar characteristics and traffic flows. The onshore development area is shown also on ***Figure 26.1*** for context. The highway network in the vicinity of the onshore development area is further illustrated in ***Figure 26.3***.

16. Routes that extend outside of the onshore highway study area are routes where construction traffic has dissipated and / or include roads with negligible sensitive receptors. When combined these parameters do not represent significant impacts on the highway network.

#### 26.3.1.1 Onshore Development Area Access

17. Road modifications could be required to facilitate the safe ingress and egress from the public highways to the onshore cable route or Construction Consolidation Site (CCSs) through construction accesses. This assessment has identified seven locations where these additional accesses may be required and these are identified as Access IDs in ***Figure 26.2.***, Further detailed design will be undertaken post consent based on the final design of the proposed East Anglia ONE North project. An OAMP (document reference 8.10) has been submitted with the DCO application, secured under the requirements of the draft DCO. Accesses are expected to be located at each CCS and at intersections between the public highway and onshore cable route, where suitable, to facilitate access to the onshore cable route. Further detail is provided in ***Chapter 6 Project Description.***

#### 26.3.1.2 Offsite Highway Improvements

18. In order to facilitate construction traffic and / or construction-related deliveries, temporary alterations may be required at locations on the existing public highway. The purpose of the temporary alterations would be to allow larger vehicles than normal to access certain parts of the public highway. It is anticipated that the works would be concentrated at junctions.

19. It is anticipated that the temporary alterations would be completed prior to construction starting within relevant sections of the onshore cable route.

20. ***Table 26.2*** identifies the location of temporary highway alterations and provides an indication of what these alterations could comprises of. The location of these alterations within the onshore development area shown on ***Figure 26.3***.

**Table 26.2 Offsite Highway Improvements**

| Location | Description of temporary alterations | Where addressed in this chapter |
|---|---|---|
| A12 / A1094 junction | Road safety improvements including a reduction in the posted speed limit and the provision of enhanced warning signage and 'rumble strips'. | ***Section 26.6.1.10*** includes further details and the rationale for these measures. |
| A1094 / B1069 junction | Localised vegetation clearance and creation of temporary overrun areas to facilitate the movement of abnormal load vehicles through this junction. | ***Section 26.4.3.1.5*** provides details of the abnormal load assessment and proposed highway alterations. |
| Marlesford Bridge (A12) | Potential structural alternations to the existing bridge to facilitate the movement of abnormal load vehicles over this bridge. | |

21. Any temporary alterations to roads would be undertaken in accordance with the requirements of the Local Highway Authority and secured through the OCTMP (document reference 8.9) secured under the requirements of the draft DCO.

22. In addition to the temporary alterations identified in ***Table 26.2***, the requirement for a series of localised footway improvements to address potential impacts upon pedestrian amenity is set out in ***section 26.6.1.8***

### 26.3.2 Worst Case Scenarios

23. This section identifies the realistic worst case parameters associated with the proposed East Anglia ONE North project alone. This includes all onshore infrastructure for the proposed East Anglia ONE North project and the National Grid infrastructure that the proposed East Anglia ONE North project will require for ultimate connection to national electricity grid.

24. ***Table 26.3*** identifies those realistic worst case parameters of the onshore infrastructure that are relevant to potential impacts on traffic and transport during construction, operation and decommissioning phases of the proposed East Anglia ONE North project. Please refer to ***Chapter 6 Project Description*** for more detail regarding specific activities, on and their durations, which fall within the construction phase.

25. As described in ***Chapter 5 EIA Methodology,*** there are two co-located onshore substation locations for either the proposed East Anglia ONE North project or the proposed East Anglia TWO project. It should be noted that the draft DCOs for both the proposed East Anglia ONE North and East Anglia TWO projects have

the flexibility for either project to use either onshore substation location. There is no difference in the scoped in and assessed impacts between the two onshore substation locations, therefore the 'project alone' assessment in ***section 26.6,*** and associated chapter figures***,*** have been presented on the intended development strategy of the proposed East Anglia ONE North project using the western onshore substation location.

**Table 26.3 Realistic Worst Case Scenarios**

| Parameter | Notes |
|---|---|
| **Construction** | |
| Minimum construction duration for onshore works of 36 months (three years). | The minimum realistic duration that the onshore works can be completed in, resulting in the highest traffic demand due to the intensity of activities.<br>This duration has been used as the realistic onshore construction duration date for the purpose of the assessment of environmental impacts in this ES. Refer to ***Table 26.17*** for further details. |
| Minimum duration for individual construction activities. | Minimum durations for individual activities within the 36month programme have been adopted to represent the peak traffic demand for each activity. |
| Full overlap of the peak period for all discrete components of the onshore infrastructure, namely:<br>• Landfall location;<br>• Four onshore cable route sections;<br>• National Grid Infrastructure; and<br>• Onshore Substation. | Represents maximum possible intensity of activities resulting in peak traffic generation. |
| Earliest start of mid 2023 | 2023 has been used as the realistic construction start date for the purpose of the assessment of environmental impacts in this ES. |
| Adoption of an employee to vehicle ratio of 1.5 employees per vehicle. | An employee to vehicle ratio of 1.5 employees per vehicle represents a worst case when considering the industry exemplar of three employees per vehicle.<br>The OTP, secured under the requirements of the draft DCO, includes this ratio as a target and also provides details of how compliance with this target will be measured, monitored and reported upon. |
| No allowance for construction workers travelling by non-car modes (bus, rail, walking and cycling) has been applied to the traffic demand. | Distributes construction employee travel to work by car only resulting in a higher traffic demand for the purpose of a worst case assessment. |
| No allowance for a reduction of HGV traffic due to intermodal freight transfer (rail, maritime). | Transfer of bulk materials by rail or maritime modes would lead to a reduction in HGV traffic on some of the links within the onshore highway study area. However, there would still be a need for local transfer by road, therefore |

| Parameter | Notes |
|---|---|
| | any potential gains have been disregarded for the purpose of this assessment. |
| Haul road to be provided within the onshore cable route for the entire length. | A base assumption to inform the impact assessment. However, as detailed design progresses, any reduction in the length of haul road, through the implementation of construction techniques such as ground stabilisation, or use of tracked vehicles, would result in a reduction in HGV movements. |
| Assumed 50% of surplus excavated material arising from substation excavation to be exported off site (remaining 50% to be used on site for landscaping. All other (landfall and cable route) surplus excavated material to be exported off site. | Although it is convention to spread surplus spoil within the onshore cable corridor, this assessment assumes a worst case that surplus excavated material cannot be spread on site in some locations. |
| Assessment based upon a five day working week. Noting that it is likely that there will be a requirement for Saturday working (7am – 1pm) and Sunday working for critical activities, such as Horizontal Directional Drilling (HDD). | Results in peak traffic generation as vehicle movements associated with transport of employees and deliveries are condensed over five days rather than five and a half. |
| Daily HGV movements derived based upon 22 working days per month (equivalent to five day working). | Results in peak traffic generation as deliveries are condensed over five days rather than five and a half. |
| HGVs deliveries profiled over a 10 hour window. | A 7am to 7pm (12hr) 'delivery window' has been assumed with ten hours delivery time allocated. This results in higher hourly HGV flows (than 12hrs) but allows for breaks in deliveries. |
| Workers arriving for work in the morning and departing for home at night are assumed to overlap with the morning and evening network peak hours. | Ensures the assessment of driver delay impacts considers a worst case of peak construction worker movements overlapping with peak background traffic. |
| An appropriate level of contingency (reflecting the uncertainties in the design) has been applied to all material quantities, full details are contained within ***Appendix 26.13***. | Ensures minor omissions or design changes can be accommodated within the assessed traffic flows. |
| **Operation** | |
| It anticipated that the onshore substation and National Grid substation would not normally be staffed. During the operational phase, vehicle movements would therefore be limited to occasional repair, maintenance and inspection visits at the substation(s) and periodic checks of the onshore cable route. | |
| **Decommissioning** | |
| HGV and Light Commercial Vehicle (LCV) traffic demand as per construction, assuming minimal | Represents peak decommissioning traffic impacts. |

| Parameter | Notes |
|---|---|
| opportunities to leave components in-situ or recycle materials on site. | |

### 26.3.3 Embedded Mitigation and Best Practice

26. Embedding mitigation into the proposed East Anglia ONE North project design is a type of primary mitigation and is an inherent aspect of the EIA process. The following ***Table 26.4*** outlines the key embedded mitigation which has been applied to the traffic impact assessment presented in this chapter. Any further mitigation measures suggested within this chapter are therefore considered to be additional to this embedded mitigation.

**Table 26.4 Embedded Mitigation and Best Practice Measures for Traffic and Transport**

| Parameter | Mitigation Measures Embedded into the Project Design |
|---|---|
| **General** | |
| Strategy for access | The strategy for access applies a hierarchical approach (informed by the SCC HGV route hierarchy, see ***section 26.5.1***) to selecting routes and where possible, seeks to reduce the impact of HGV traffic upon the most sensitive communities (see ***section 26.4.3.2***). This strategy for access includes the following commitments #:<br>• All HGV construction traffic would be required to travel via the A1094 or B1122 from the A12, no HGV traffic would be permitted to travel via alternative routes, such as the B1121 or B1119.<br>• No HGV construction traffic would be permitted to travel via Leiston or Coldfair Green / Knodishall.<br>• No HGV construction traffic would be permitted to travel via the B1121 through Friston, Sternfield or Benhall-Green.<br>• No HGV construction traffic would be permitted to travel via the B1353 towards Thorpeness. |
| Landfall location access | To avoid the requirement for HGVs to travel via the B1122 from Aldeburgh and B1353 towards Thorpeness, all HGV construction traffic for the landfall would access the landfall location via Sizewell Gap. Vehicles would then travel south on a temporary haul road to the landfall location. |
| Adoption of car sharing for construction employees | A target of an average of at least 1.5 employees per vehicle is proposed. The OTP secured under the requirements of the draft DCO, includes this ratio as a target and also provides details of how compliance with this target will be measured, monitored and reported upon. |
| Construction and use of temporary haul roads for the length of the onshore cable route | Reducing trips on the local highway network. |
| Onshore substation and National Grid Substation access. | All HGV traffic to the onshore substation and National Grid Substation to avoid travelling via Friston or Sternfield by accessing from the B1069 (south |

| Parameter | Mitigation Measures Embedded into the Project Design |
|---|---|
| | of Knodishall/ Coldfair Green) and travelling along a temporary haul road and crossing over Grove Road. |
| Removing construction traffic movements via the B1353. | All cable route construction traffic to travel to Sizewell Gap and then travel south along a temporary haul road within the onshore cable route, crossing the B1353 via a traffic signal controlled crossing. |
| No roads to be fully closed to install the proposed East Anglia ONE North project's cables under the public highway | The proposed East Anglia ONE North project onshore cables would need to be installed across the B1353, B1122, B1069 and Grove Road. To ensure that these roads can remain open at all times and minimise disruption it is proposed that:<br>• The road crossings would be completed in two stages maintaining one traffic lane in each direction;<br>• Traffic would be controlled through temporary traffic signals;<br>• A safe route would be maintained for pedestrians through the works area along the B1122;<br>• The Applicant would consult with SCC and local stakeholders to develop the final Travel Plan (TP) as part of the discharge of requirements process. The Outline TP (OTP) has been submitted with this DCO application;<br>• Advanced signing would be implemented to assist drivers in finding alternative routes; and<br>• The works would be staggered, i.e. not closing a lane on the B1122 at the same time as the B1069. |
| Note: *In the event that any of these routes are not available due to road closures, alternative routes will be agreed in advance with SCC.* | |

### 26.3.4 Monitoring

27. The OCTMP (document reference 8.9) and OTP (document reference 8.11) which have been submitted with this DCO application and secured under the requirements of the draft DCO include the standards and procedures for managing the impact of construction traffic.

28. The OCTMP and OTP contain a commitment to monitoring and enforcement measures to ensure the proposed East Anglia ONE North project's HGV and employee traffic is within the bounds of the worst case impacts assessed. This is then secured through the final CTMP and CTP that would be submitted to the Local Highway Authority prior to commencement of construction and following the appointment of a Contractor, ensuring contractor design led information is incorporated. These would be submitted to discharge the requirements of the draft DCO.

## 26.4 Assessment Methodology

### 26.4.1 Guidance and Policy

29. This section sets out the salient traffic and transport policy and guidance that has informed the development of the ES and identifies how the application has been shaped by the relevant policy and guidance.

#### 26.4.1.1 National Policy Statements

30. The assessment of potential traffic and transport impacts has been made with specific reference to the UK Government's National Policy Statements (NPSs). NPSs set out policies or circumstances that UK Government consider should be taken into account in decisions on Nationally Significant Infrastructure Project's (NSIPs). Those relevant to the proposed East Anglia ONE North project are:

- Overarching NPS for Energy (EN-1) (DECC 2011a);
- NPS for Renewable Energy Infrastructure (EN-3) (DECC 2011b); and
- NPS for Electricity Networks Infrastructure (EN-5) (DECC 2011c).

31. The specific assessment requirements for traffic and transport, as detailed in the NPSs, are summarised in ***Table 26.5***, together with an indication of where each stipulation is addressed. Where any part of the NPS has not been followed within the assessment, an explanation as to why the requirement was not deemed relevant, or has been met in another manner, is provided.

**Table 26.5 NPS Assessment Requirements**

| NPS Requirement | NPS Reference | ES Response |
|---|---|---|
| If a project is likely to have significant transport implications, the applicant's ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT) guidance, or any successor to such methodology. | EN-1 Section 5.13.3 | This chapter of the ES has been produced in accordance with current transport guidance (referenced later in this chapter) and this is evidenced throughout. This includes, but is not limited to, NPS EN-1, NPS EN-3, NPPF 2019, Traffic Management Act 2004, GEART and DMRB. Full details are provided in ***section 26.4.1*** and guidance is referenced where relevant throughout the chapter. |
| Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the | EN-1 Section 5.13.4 | ***Section 26.3.3*** outlines the embedded mitigation measures for construction, such as car-share and HGV controls. An OTP is provided in support of the DCO application, secured under the requirements of the draft DCO, and includes travel plan measures to be adopted.<br>The National Planning Policy Framework (NPPF) notes that all developments that generate significant amounts of transport movements should be supported by a Travel |

| NPS Requirement | NPS Reference | ES Response |
|---|---|---|
| proposal and to mitigate transport impacts. | | Plan. ***Section 26.6.2*** details a small operational workforce, and therefore an operational travel plan has not been prepared. |

### 26.4.1.2 National Planning Policy Framework (2019)

32. The National Planning Policy Framework (NPPF) contains the UK Government's strategies for economic, social and environmental planning policies in England and it is designed to be a single, tightly focused document.

33. At the heart of the NPPF (Paragraph 11) is a "*presumption in favour of sustainable development*", which for decision making means:

- *"c) Approving development proposals that accord with an up-to-date development plan without delay; or*
- *d) Where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:*

  *i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*

  *ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole."*

34. Under the heading 'Promoting Sustainable Transport' paragraph 103 of the NPPF requires the planning system to actively manage patterns of growth in order to address the potential impacts of development on transport networks.

35. Paragraph 109 of the NPPF states that *"development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

36. Paragraph 111 of the NPPF states that "*all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."* This chapter provides the required level of detail that would be contained within a standalone 'Transport Assessment'.

### 26.4.1.3 Local Planning Policy

37. NPS EN-1 states that the Planning Inspectorate will also consider Development Plan Documents or other documents in the Local Development Framework relevant to its decision making.

38. The onshore highway study area falls within the administrative area of Suffolk County Council (SCC) as the Local Highway Authority and East Suffolk Council (ESC) as the Local Planning Authority. East Suffolk Council (ESC) is the merger of Suffolk Coastal District Council (SCDC) and Waveney District Council (WDC), which became effective from 1st April 2019.

39. Due to the merger there are currently two parts of the Local Plan pertinent to the onshore highway study area, the Suffolk Coastal Local Plan and the Waveney Local Plan. These plans set out strategic planning policies within East Suffolk and how the Local Planning Authorities address the NPPF on a local basis.

40. On 29th March 2019, the Suffolk Coastal Local Plan was submitted to the Secretary of State for examination, under Regulation 22 of the Town and Country Planning (Local Planning) (England) Regulations 2012.

41. ***Table 26.6*** provides details of the local planning policy documents and the policies contained within these which are relevant to traffic and transport.

**Table 26.6 Relevant Local Planning Policies**

| Document | Policy / guidance | Policy / guidance purpose |
|---|---|---|
| **Suffolk County Council** | | |
| Local Transport Plan 2011 - 2031 | The Council wants to maintain and, over time, improve Suffolk's transport networks, reduce congestion, and improve access to jobs and markets. | ***Section 26.6*** and ***26.7*** contain an assessment of the proposed East Anglia ONE North project's impact on the transport network. |
| **Suffolk Coastal District Local Plan** | | |
| Local Plan - Core Strategy and Development Management Policies<br><br>July 2013 | Construction management:<br><br>Transport issues such as the routeing of vehicles during construction, improvements to the road system (including the A12), and use of rail and sea for access all having regard to such factors as residential amenity; and<br><br>Social issues – local community issues during long construction period and the housing of workers in the local area." | ***Section 26.6*** and ***26.7*** contain an assessment of the proposed East Anglia ONE North project on the transport network.<br><br>Details of impacts upon local communities and housing workers is addressed within ***Chapter 30 Tourism Recreation and Socio Economics***. |

| Document | Policy / guidance | Policy / guidance purpose |
|---|---|---|
| | (Note this is from Policy SP13 – Nuclear Energy This is considered relevant) | |
| | DM20 – Travel Plans:<br><br>"Proposals for new development that would have significant transport implications should be accompanied by a 'green travel plan'. It is not necessarily the size of the development that would trigger the need for such a plan but more the nature of the use.<br><br>The travel plans should seek to reduce the use of private cars by:<br><br>• encouraging car sharing;<br>• provide links to enable the use of public transport;<br>• improve road safety for pedestrians and cyclists; and<br>• identify any mitigation works to be funded by the developer in conjunction with the proposal, such as improvements of facilities at the nearest transport interchanges." | The OTP submitted with this DCO application and secured under the requirements of the draft DCO includes travel plan measures to manage the impact of construction traffic. |
| Emerging Suffolk Coastal Local Plan (2018 to 2036) | Pertinent emerging policy:<br><br>Policy SCLP7.1: Sustainable Transport<br><br>Development proposals should be designed from the outset to incorporate measures that will encourage people to travel using non-car modes to access home, school, employment, services and facilities.<br><br>Proposals for new development that would have significant transport implications should be accompanied by a Travel Plan.<br><br>In consultation with the Highway Authority, the scale, location and nature of development will be considered in determining how the transport impacts of development should be assessed.<br><br>Policy SCLP3.4: Proposals for Major Energy Infrastructure Projects<br><br>Proposals for Major Infrastructure Projects across the District and the need to mitigate the | The OTP submitted with this DCO application and secured under the requirements of the draft DCO includes travel plan measures to manage the impact of construction traffic. |

| Document | Policy / guidance | Policy / guidance purpose |
|---|---|---|
| | impacts arising from these will be considered against the following policy requirements:<br><br>h) Appropriate road and highway measures are introduced (including diversion routes) for construction, operational and commercial traffic to reduce the pressure on the local communities. | |
| **Waveney District Council** | | |
| Waveney Local Plan | WLP8.21 – Sustainable Transport<br><br>"Development proposals should be designed from the outset to incorporate measures that will encourage people to travel using non-car modes to access home, school, employment, services and facilities.<br><br>Developments should connect into the existing pedestrian and cycle network. Where possible, proposals are to include measures set out in the Waveney Cycle Strategy (2016 and subsequent updates) and demonstrate they have considered how the scheme will encourage people to walk and cycle to access services and facilities where practical.<br><br>Subject to design considerations under Policies WLP8.29, WLP8.30 and WLP8.31, new developments will be required to provide parking that meets the requirements set out in the Suffolk Guidance for Parking issued by Suffolk County Council (2014 and subsequent updates).<br><br>In consultation with the Local Highway Authority, the scale, location and nature of development will be considered in determining how the transport impacts of development should be assessed. | Noting that construction employees are unlikely to be based within walking or cycling distance of the construction consolidation sites it has been agreed with SCC that it would not be proportionate to provide footway and cycleway connections. However, in order to reduce single occupancy car trips the OTP secured under the requirements of the draft DCO includes a target of least 1.5 people per vehicle.<br><br>The OTP includes details of the numbers of parking spaces that would be proposed for each CCS in order to ensure that the car-share ratio can be achieved whilst reducing the potential for overspill parking on the public highway.<br><br>***Section 26.6*** *and* ***26.7*** contain an assessment of the proposed East Anglia ONE North project's impact on the transport network. |

### 26.4.1.4 Traffic Management Act 2004

42. The Traffic Management Act (TMA) 2004 was introduced to deal with congestion and disruption on the road network. The TMA places a duty on Local Traffic Authorities to ensure the expeditious movement of traffic on their road network and those networks of surrounding Local Planning Authorities.

43. The TMA directs effective communication between Local Highway Authorities and parties interested in carrying out street work. The TMA encourages a disciplined approach and advance communication to plan the street works. The ETG has provided a vehicle for a collaborative approach to planning road works in line with the requirements of this act.

#### 26.4.1.5 The Strategic Road Network and the Delivery of Sustainable Development

44. The DfT Circular 02/2013 entitled 'The Strategic Road Network and the Delivery of Sustainable Development' sets out the ways in which the Highways Agency (now Highways England) will engage with communities and developers to deliver sustainable development and, thus economic growth, whilst safeguarding the primary function and purpose of the Strategic Road Network.

45. Under the heading of Environmental Impact 02/2013 notes that:

> *"…developers must ensure all environmental implications associated with their proposals, are adequately assessed and reported so as to ensure that the mitigation of any impact is compliant with prevailing policies and standards. This requirement applies in respect of the environmental impacts arising from the temporary construction works and the permanent transport solution associated with the development, as well as the environmental impact of the existing trunk road upon the development itself".*

46. The Circular 02/2013 details access requirements specifically for wind turbines and states that:

> *"The promoter of a wind farm should prepare a report covering the construction, operation and de-commissioning stages of the development. From this, the acceptability of the proposal should be determined and any mitigating measures should be identified"*
>
> *Access to the site for construction, maintenance and de-commissioning should be obtained via the local road network and, normally, there should be no direct connection to the strategic road network"*
>
> *Swept path analyses should be provided by the developer for the abnormal load deliveries to the site."*

47. Circular 02/2013 requirements are addressed within this ES.

#### 26.4.1.6 The Guidelines for the Environmental Assessment of Road Traffic

48. The Guidelines for the Environmental Assessment of Road Traffic (GEART) (Published in January 1993 by the Institute of Environmental Assessment) are guidelines for the assessment of the environmental impacts of road traffic

associated with new developments, irrespective of whether the developments are to be subject to formal EIAs.

49. The purpose of the guidelines is to provide the basis for systematic, consistent and comprehensive coverage for the appraisal of traffic impacts arising from development projects. Impacts that may arise include: pedestrian severance and amenity, driver delay, accidents and safety and noise, vibration and air quality.

50. GEART is the guidance that informs this assessment and ***section 26.4.3*** of this chapter contains full details of how the guidance has been applied.

#### 26.4.1.7 DfT Transport Assessment Guidance and Successors

51. The DfT Transport Assessment guidance referred to in NPS EN-1, was withdrawn in October 2014 and was replaced with DCLG Planning Practice Guidance (PPG). For the purpose of assessing the impact of the proposed East Anglia ONE North project, the relevant PPG is 'Travel Plans, Transport Assessment and Statements' (henceforth referred to as the Transport PPG).

52. The Transport PPG sets out the key principles to be adopted when developing a Transport Assessment as follows:

- Proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
- Established at the earliest practicable possible stage of a development proposal;
- Be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally); and
- Be brought forward through collaborative ongoing working between the Local Planning Authority / transport authority, transport operators, rail network operators, Highways Agency (now Highways England) where there may be implications for the strategic road network and other relevant bodies.

53. The Transport PPG key principles have shaped the development of this ES and can be seen throughout this chapter.

#### 26.4.1.8 Design Manual for Roads and Bridges

54. The Design Manual for Roads and Bridges (DMRB) is a series of 15 volumes published by Highways England that provides standards, documentation relating to the design, assessment and maintenance of trunk roads in the United Kingdom.

55. The DMRB has been prepared for trunk roads and motorways and in agreement with SCC the DMRB has been adopted as best practice within this ES for the design of all access and to augment the GEART assessment of severance and amenity impacts.

### 26.4.2 Data Sources

56. The following data sources were used to inform the assessment (***Table 26.7***).

**Table 26.7 Data Sources**

| Data | Date | Coverage | Confidence | Notes |
|---|---|---|---|---|
| Classified * Automatic Traffic Counts | June 2018 | 13 of the 14 links within the onshore highway study area | High | Traffic counts commissioned by the Applicant which provide classified hourly and daily count and speed data. |
| Classified * Automatic Traffic Counts | Multiple:<br>9 May to 22 May 2017<br>6 April to 25 April 2016<br>11 April to 24 April 2016<br>6 April 2016 to 6 May 2016<br>9 April to 26 April 2016 | 8 of the 14 links within the onshore highway study area | High | Traffic counts obtained from Suffolk County Council which provide classified hourly and daily count data. |
| Manually Classified * Turning Count | 07:00 to 19:00, 18 May 2017 | Junction of the A12 and A1094 | High | Traffic counts obtained from Suffolk County Council which provide classified hourly turning count data. |
| Personal Injury Collision Data | Latest five year period available, February 2013 to February 2018 | All links within the onshore highway study area | High | Details of all recorded personal injury collisions within the onshore highway study area obtained from Suffolk County Council. |
| Manually Classified * Turning and Queue Length Counts | June 2019<br>07:00 – 10:00 and 16:00 – 19:00 | All sensitive junctions within the onshore highway study area | High | Traffic counts commissioned by the Applicant which provide classified hourly turning and queue length data. |
| Classified * Automatic Traffic Counts | 25 – 27 June 2019 | Three sites close to Farnham Bends. | High | Traffic counts commissioned by the Applicant which provide classified hourly and daily count and speed data, at and in the vicinity of Farnham Bends. |

| Data | Date | Coverage | Confidence | Notes |
|---|---|---|---|---|
| * | Classified counts include classification of the vehicle type, e.g. cars, motorbikes, buses, HGVs, etc. | | | |

57. Further detail regarding the location of the traffic surveys is provided in ***section 26.5.2***.

58. In addition to the data sources listed in ***Table 26.7***, a desk-based assessment supported by site visits was undertaken to provide information with regard to the existing baseline highway network.

### 26.4.3 Impact Assessment Methodology

59. This section describes the assessment methodology, including data collation, impacts and impact assessment criteria that were used in the traffic and transport assessment.

60. The traffic and transport assessment methodology follows the principles set out in ***Chapter 5 EIA Methodology*** and adopts the 'project wide' significance evaluation. However, these principles have been augmented by traffic and transport specific methodologies (as prescribed in GEART) to inform a significance evaluation.

#### 26.4.3.1 Scale of Assessment

61. The following rules, taken from the GEART, have informed the screening process and thereby defined the extent and scale of this assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more (or where the number of HGVs is predicted to increase by 10% or more).

62. In justifying these rules GEART examines the science of traffic forecasting and states:

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

*…a 30% change in traffic flow represents a reasonable threshold for including a highway link within the assessment."*

63. Therefore, changes in traffic flows below the GEART Rules (thresholds) are assumed to result in no discernible or negligible environmental effects and have therefore not been assessed further as part of this assessment.

64. The exception to the GEART Rule 1 and 2 is the consideration of the effects of driver delay and road safety. These effects can be potentially significant when high baseline traffic flows are evident, and a lower change in traffic flow can be potentially significant. Full details of the methodology adopted for these effects are set out later in this chapter (***section 26.4.3.1.1*** to ***section 26.4.3.4***).

65. Following initial screening, GEART, sets out considerations and, in some cases, thresholds in respect of changes in the volume and composition of traffic to facilitate a subjective judgement of traffic impact and significance.

66. The following environmental effects have been identified as being susceptible to changes in traffic flow and are appropriate to the local area.

#### 26.4.3.1.1 Severance

67. Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself. It can also relate to relatively minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians.

68. GEART suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate and substantial respectively. However, GEART notes that these figures should be used cautiously, and the assessment should pay full regard to specific local conditions.

69. In addition to the GEART guidance, Volume 11, Section 3 Part 8 of the DMRB, provides guidance to both the direct effects of a new scheme, and to effects caused by increases in traffic levels on existing roads. The guidance provides example definitions of where severance could be experienced and notes that for pedestrians crossing at grade (i.e. on the same level), AADT flows of 8,000 or less, 8,000 to 16,000 and 16,000 plus can be considered slight, moderate and severe respectively.

70. In addition, the DMRB guidance notes that:

*"Given that relief of severance is not significant where traffic flows are already relatively low, the guidelines do not apply to roads with an existing AADT flow of less than 8,000 vehicles"*

71. In this context where traffic flows on a road are less than 8,000 vehicles AADT severance is considered unlikely to manifest.

#### 26.4.3.1.2 Pedestrian / Cycle Amenity

72. Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and footway width and separation from traffic. This definition also includes pedestrian fear and intimidation and can be considered to be a much broader category including consideration of the exposure to noise and air pollution, and the overall relationship between pedestrians and traffic.

73. GEART suggests a tentative threshold for judging the significance of changes in pedestrian amenity would be where the total traffic flow or the HGV component is halved or doubled. With regards to the fear and intimidation component of amenity, whilst GEART recognises that there is an absence of commonly agreed thresholds, the degree of fear and intimidation experienced is generally dependent on traffic volumes, composition and the presence of protection such as wide footways or guardrails. GEART suggests the use of degree of hazard thresholds (as set out in ***Table 26.8***) in order to assess fear and intimidation in the first instance.

**Table 26.8 Fear and Intimidation Assessment Criteria**

| Degree of hazard | Average traffic flow over 18 hour day (vehicles/hour) | Total 18 hour HGV 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 |

#### 26.4.3.1.3 Road Safety

74. The salient GEART guidance on road safety is as follows:

*"Where a development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to assess*

*the implications of local circumstances, or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts."*

75. In this context, an examination of the existing collisions occurring within the onshore highway study area will be undertaken to identify any areas of the highway with concentrations of collisions with similar patterns, or roads with collision rates that are higher than national averages. These sites are considered to be sensitive to changes in traffic flows (sensitive receptors) and therefore a more detailed analysis of significance has been undertaken in the context of the proposals.

76. In addition to considering existing patterns of collisions that could be exacerbated by the development proposals, the road safety assessment also considers the potential for introduction of new risks associated with the formation of new junctions.

#### 26.4.3.1.4 Driver Delay

##### *26.4.3.1.4.1 Capacity*

77. During consultation with SCC and Highways England sensitive junctions have been identified that require an assessment of potential delays for drivers during peak hours. The assessment therefore seeks to disaggregate the peak hour traffic movements for these junctions to enable a judgement of the potential significance of the driver delays effect.

78. GEART recommends the use of proprietary software packages to model junction delay and therefore estimate increased vehicle delays. However, it is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to, capacity.

##### *26.4.3.1.4.2 Highway Geometry*

79. In addition to considering the potential for delays associated with increases in traffic, SCC have requested that the potential for delays associated with HGVs attempting to pass at locations where the existing highway width is constrained be assessed. To test if these delays are likely to be significant 'swept path analysis' vehicle simulation has been used at these locations to understand if highway geometry and vehicle manoeuvrability would lead to delays.

#### 26.4.3.1.5 Abnormal Indivisible Loads

80. The importing of large Abnormal Indivisible Loads (AILs) may lead to delays on the highway network. The construction of the onshore substation would require the delivery of up to two transformers, each of which would be classified as an AIL delivery. An AIL study has been undertaken in June 2018 by Wynns Ltd

(consulting engineers specialising in the transportation of AILs) to inform the management measures required to deliver AILs to the onshore substation site. The AIL study is provided within ***Appendix 26.3*** and details the management measures to be employed to minimise the disruption to baseline traffic.

81. The AIL study has identified that the load could come from either Felixstowe or Lowestoft ports, travelling via the A12. Both Highways England and SCC have advised that the preferred route should be from Lowestoft due to this route being shorter and avoiding a tight bend on the A12 at the village of Farnham (known locally as 'Farnham Bends'). However, at the time of this DCO application there is uncertainty regarding the long-term availability of abnormal load facility at Belvedere Yard in Lowestoft, as such the option for vehicles to travel via Felixstowe remains.

82. To understand if the bend on the A12 at Farnham can be negotiated, swept path analysis using a topographical survey of the existing road has been undertaken by Wynns and is provided as ***Appendix 26.4***. This swept path analysis highlights that the bend at Farnham is negotiable by the AIL vehicle, with full carriageway occupation and some kerb overrunning, and as such, the option to deliver loads from Felixstowe (if Lowestoft were not available) is retained.

83. Network Rail have advised that a rail bridge over the A1094 should be avoided and as such, the study has considered that the impact of travelling via the B1122 from Yoxford and passing through Leiston along the B1069 to the junction with the A1094. A copy of Network Rail's response is provided within ***Appendix 26.3***.

84. The AIL study identifies the requirement for localised widening at the junction of the A1094 and the B1069. An outline design for this widening is provided within ***Appendix 26.5***. From this point the vehicle would then travel along the A1094 and B1121 through Friston to access the onshore substation site.

85. Upon completion of construction works, in the unlikely event that any of the transformers need to be replaced during the operational life of the proposed East Anglia ONE North project, the Applicant would seek agreement with the relevant highway authorities regarding the timing and routeing of any abnormal loads.

86. To ensure that delays are managed and co-ordinated, prior to the movement of any AIL, the contractor would be required to submit notifications to the relevant authorities (police, highway authorities and bridge / structure owners) through ESDAL (Electronic Service Delivery for Abnormal Loads). The ESDAL process would ensure the timing of AIL movements would be co-ordinated and (including the issuing of the required advanced notification to stakeholders and residents) potential impacts would not be significant.

87. Details of the proposed AIL routes and indicative vehicle / trailer combinations to be used to transport the AIL have been submitted to SCC for comment. Through this consultation process, SCC have identified a number of structures (bridges, culverts and pipes) along the proposed AIL routes that require further review. This review would be undertaken post-consent, in consultation with SCC, to develop the final CTMP and discharge the requirements of the draft DCO.

#### 26.4.3.1.6 Other Impacts

88. Traffic borne noise and vibration effects and air quality effects informed by the traffic data outlined in this chapter are assessed in ***Chapter 19 Air Quality*** and ***Chapter 25 Noise and Vibration***, respectively.

### 26.4.3.2 Sensitivity

89. The sensitivity of a highway (link) can be defined by the type of user groups who may use it, e.g. elderly people or children and the level of protection afforded to them by the existing highway network. A sensitive area may be a village environment or where pedestrian or cyclist activity may be high, for example in the vicinity of a school. ***Table 26.9*** provides broad definitions of the different sensitivity levels which have been applied to the assessment.

**Table 26.9 Example Definitions of the Different Sensitivity Levels for a Highway Link**

| Sensitivity | Definition |
|---|---|
| High * | High concentrations of sensitive receptors (e.g. hospitals, schools, areas with high tourist footfall etc.) and limited separation provided by the highway environment. |
| Medium | A low concentration of sensitive receptors (e.g. residential dwellings, pedestrian desire lines, etc.) and limited separation from traffic provided by the highway environment. |
| Low | Few sensitive receptors and / or highway environment that can accommodate changes in volumes of traffic. |
| Negligible | Links that fall below GEART Rule 1 and 2 screening thresholds. |
| * High sensitivity links are considered to be 'specifically sensitive areas' for the purpose of GEART Rule 2 | |

#### 26.4.3.2.1 Other Receptors

90. In addition to the consideration of the sensitivity of highway links, areas with existing road safety issues and congested junctions (as advised by SCC and Highways England) have also been assigned a degree of sensitivity.

91. With regards to highway safety, areas with existing road safety concerns are considered to be highly sensitive to changes in traffic and are outlined further in ***section 26.5.4***.

92. With regards to driver delay, discussions with the Local Highway Authority, SCC and Highways England have identified locations considered to be highly sensitive to changes in traffic. These locations are discussed further in ***section 26.5.5***.

### 26.4.3.3 Magnitude

93. ***Table 26.10*** details the assessment framework for magnitude thresholds adapted from GEART. These thresholds are guidance only and provide a starting point by which transport data will inform a local analysis augmented by professional judgment of the impact magnitude.

**Table 26.10 Traffic and Transport Assessment Framework**

| Effect | Magnitude of Effect | | | |
|---|---|---|---|---|
| | **Negligible** | **Low** | **Medium** | **High** |
| Pedestrian and cycle amenity* | Change in traffic flows (or HGV component) less than 100%. | | Greater than 100% increase in traffic (or HGV component) and a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall. | |
| Severance* | Changes in total traffic flows of less than 30%. | Changes in total traffic flows of 30 to 60%. | Changes in total traffic flows of 60 to 90%. | Changes in total traffic flows of over 90%. |
| Road Safety | Informed by a review of existing collision patterns and rates based upon the existing personal injury collision records and the forecast increase in traffic. | | | |
| Driver delay (capacity) | Informed by projected traffic increases through sensitive junctions within the onshore highway study area and further detailed junction modelling analysis as required. | | | |
| Driver delay (highway geometry) | Informed by swept path analysis at critical locations. | | | |
| * | Effects not assessed for the operational phase as agreed at scoping | | | |

### 26.4.3.4 Impact Significance

94. ***Table 26.11*** sets out the assessment matrix adapted from GEART which combines the initial impact assessment derived from the assessment framework presented in ***Table 26.10*** with the receptor sensitivity to determine the magnitude of impact.

**Table 26.11 Impact Significance Matrix**

| | | Negative Magnitude | | | | Beneficial Magnitude | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | High | Medium | Low | Negligible | Negligible | Low | Medium | High |
| Sensitivity | High | *Major* | *Major* | *Moderate* | *Minor* | *Minor* | *Moderate* | *Major* | *Major* |
| | Medium | *Major* | *Moderate* | *Minor* | *Minor* | *Minor* | *Minor* | *Moderate* | *Major* |
| | Low | *Moderate* | *Minor* | *Minor* | *Negligible* | *Negligible* | *Minor* | *Minor* | *Moderate* |
| | Negligible | *Minor* | *Negligible* | *Negligible* | *Negligible* | *Negligible* | *Negligible* | *Negligible* | *Minor* |

95. Note that for the purposes of the EIA, major and moderate impacts are deemed to be significant. In addition, whilst minor impacts are not significant in their own right, it is important to distinguish these from other non-significant impacts as they may contribute to significant impacts cumulatively or through interactions.

### 26.4.4 Cumulative Impact Assessment

96. The proposed East Anglia ONE North project CIA initially considers the cumulative impact with only the proposed East Anglia TWO project against two different construction scenarios (i.e. construction of the two projects concurrently and sequentially). The worst case scenario of each impact is then carried through to the full CIA which considers other developments which have been screened into the CIA.

97. For a general introduction to the methodology used for the CIA, please refer to ***Chapter 5 Environmental Impact Assessment Methodology***.

98. This chapter will assess those cumulative impacts that are specific to traffic and transport (see ***section 26.7***).

### 26.4.5 Transboundary Impact Assessment

99. There are no transboundary impacts with regard to traffic and transport as the onshore development area is entirely within the UK and would not be sited in proximity to any international boundaries. Transboundary impacts are therefore scoped out of the assessment and are not considered further.

## 26.5 Existing Environment

100. Characterisation of the existing environment in relation to traffic and transport has been informed through a number of sources, including:

- Desktop studies and site visits;
- Personal injury collision data sourced from SCC;
- Traffic count information sourced from SCC; and
- Traffic surveys commissioned for the proposed East Anglia ONE North project.

### 26.5.1 Existing Highway Network

101. The highway network in the vicinity of the onshore development area is illustrated in ***Figure 26.3***. Within the onshore development area, the principal highway network (managed by SCC) includes the A12 and A1094.

102. A route hierarchy for the whole of Suffolk has been developed by SCC to encourage HGV drivers to use the most appropriate route according to their destination. These routes have been classified by the following categories and are shown in ***Appendix 26.6***:

- Strategic Lorry Routes – all movements crossing Suffolk should use these routes;
- Zone distributor routes – roads within a zone serving as a route directly to a location or as a route to local access routes; and
- Local access routes – roads or parts of roads servicing as access to a specific location.

#### 26.5.1.1 A-roads

103. The A12 trunk route provides one of the key strategic connections within Suffolk and is identified within the Suffolk Lorry Route Network as a Strategic Lorry Route.

104. The A12 provides the main north-south road connection between Great Yarmouth and Lowestoft to the north and Ipswich and the A14 to the south (to Felixstowe). Heading north from the A14 the A12 is predominantly dual carriageway to Wickham Market (except for a short section around Woodbridge). North of Wickham Market the A12 continues as a single carriageway road passing through a number of small villages prior to its junction with the A1094.

105. The first settlement that the A12 passes through between Wickham Market and the A1094 is Marlesford, where the speed limit is 40mph before reducing to

30mph through Little Glemham. Through these villages there is a footway along at least one side of the road. Upon leaving Little Glemham the speed limit then increases to 50mph before reducing to 30mph upon the entrance to the villages of Stratford St Andrew and Farnham. Through these villages there is a footway along at least one side of the road.

106. As the A12 passes through the village of Farnham there is a tight bend (known locally as Farnham Bends). In this location, due to the road alignment and position of existing properties adjacent to the edge of the road, larger vehicles are required to slow significantly to complete the turn without encroaching into the oncoming lane.

107. Travelling north from its junction with the A1094 the A12 continues as a dual carriageway before again returning to a single carriageway at the junction with the B1119 for Saxmundham. North of this junction the A12 is predominantly a single carriageway to Lowestoft. To the north of the junction with Saxmundham the A12 passes through the village of Yoxford, where it intersects with the A1120 and B1122.

108. As the A12 passes through the village of Yoxford the speed limit reduces to 30mph and there is a footway along at least one side of the road.

109. The A1094 is identified by SCC as a zone distributor route in the Suffolk Lorry Route Network and provides a key link from the A12 in the west to the town of Aldeburgh to the east. East of the junction with the A12, the A1094 rural single carriageway road is subject to the national speed limit (60mph) until it reaches the Church Common in the parish of Snape. Through Church Common the speed limit reduces to 30mph and a footway is provided along the southern side of the road for a short distance. Upon leaving Church Common, the A1094 continues as a rural single carriageway road subject to the national speed limit (60mph) providing links to the B1121 towards Friston and B1069 towards Knodishall, Coldfair Green and Leiston.

110. Upon entering the built-up area of Aldeburgh, the speed limit reduces to 30mph and footways are provided along both sides of the road linked by a zebra crossing close to the junction with the B1122.

#### 26.5.1.2 B-roads

111. A number of strategically important B class roads are located within the onshore highway study area, providing access to the onshore development area, these include the B1069, B1122 and B1353. These roads are also illustrated within ***Figure 26.3***.

112. The B1122 is a single carriageway road that provides a link from the A12 at Yoxford to Leiston. The link is designated as a zone distributor route within the Suffolk Lorry Route Network. The link is a predominantly rural 'B' road subject to the national speed limit (60mph) except through the settlements of Middleton Moor and Theberton where the speed limit reduces to 30mph. Through the village of Theberton, a footway is provided along at least one side of the road, although this does not extend to the northern extents of the built-up area.

113. To the south of the junction with Lover's Lane as the B1122 enters Leiston, the road becomes more urban in character with street lighting, and footways along both sides of the road. This section of the B1122 is also subject to a 30mph speed limit.

114. Within Leiston, the B1122 intersects with the B1119 (towards Saxmundham) and the B1069 (which heads south towards Knodishall and Coldfair Green) at a traffic signal controlled junction.

115. The B1069 heads south from Leiston and provides a link to the A1094 to the south. The link is designated as a zone distributor route within the Suffolk Lorry Route Network. Travelling south through Leiston and the village of Knodishall / Coldfair Green the B1069 is an urban 'B' road, subject to 30mph speed limit with footways along at least one side of the road and street lighting. Between Leiston and village of Knodishall / Coldfair Green the speed limit increases to 40mph and there is an off-road shared use footway / cycleway.

116. To the south of Knodishall / Coldfair Green the character of the road changes to a more rural 'B' road subject to the national speed limit (60mph) with the exception of a short 40mph section upon leaving Knodishall.

117. Within Knodishall / Coldfair Green, the B1069 intersects with the B1353 at a priority junction. The B1353 provides an east west link from Thorpeness to the east and the B1069 to the west. The B1353 also intersects with the B1122 at Aldringham.

118. Between the B1069 and the B1122, the B1353 Aldringham Lane is a 'B' road with a footway along one side of the road. Aldringham Lane is subject to a 30mph speed limit through the built-up sections and 40mph in-between.

119. The B1353 (which continues east towards Thorpeness) intersects with the B1122 at a staggered priority cross roads. The B1122 provides a north south link from Leiston in the north to Aldeburgh to the south. To the south of its junction with the B1353 at Aldringham, the road is a predominantly rural 'B' road subject to a 40mph speed limit with intermittent sections of footway. Upon entering the more built up area of Aldeburgh, the speed limit reduces to 30mph and there are

footways along both sides of the road. On-street parking is also present on the approach to the junction with the A1094.

120. The B1121 provides a north south link between the A12 and Saxmundham, the B1121 also spurs off east at Benhall Green and provides an east west link passing through the settlements of Sternfield and Friston before linking to the A1094.

121. Heading north from the A1094, the B1121 continues as a rural 'B' road subject to the national speed limit (60mph). Upon entering the built-up area of Friston, the speed limit reduces to 30mph and a footway is provided along one side of the road. Upon leaving Friston, the B1121 continues towards Sternfield, this section of the road has a number of localised areas where the carriageway width prevents two HGVs from passing. Through Sternfield, the speed limit reduces again to 30mph, a footway is provided through the northern part of the village only.

#### 26.5.1.3 Other Roads

122. In addition to the main 'A' and 'B' roads within the onshore highway study area, Lover's Lane / Sizewell Gap also provides a strategically important link from the B1122 to the onshore development area which avoids the need for vehicles to travel through Leiston and along the B1353 to Thorpeness. These roads are also illustrated within ***Figure 26.3***.

123. Lover's Lane / Sizewell Gap provides the main signed route for HGVs traveling to the Sizewell B nuclear power station and the industrial estates to the east of Leiston. The road also provides access to Sizewell Beach and Sizewell Village. The road is subject to a 60mph speed limit and from its junction with Sandy Lane there is a narrow footway[1] south to the junction with King Georges Avenue. At the junction with King Georges Avenue (which links to Leiston) there is a shared use cycle / footway towards the Sizewell nuclear power stations.

124. Historically Lover's Lane / Sizewell Gap was the main access for the construction of Sizewell B nuclear power station and more recently has provided access for construction traffic associated with the construction of the Sizewell B Dry Fuel Store and the Galloper offshore windfarm substation.

#### 26.5.1.4 Heavy Load Routes

125. Within the onshore highway study area, the links between Lowestoft and the Sizewell nuclear power stations (A12, B1122 and Lover's Lane / Sizewell Gap) are identified by Highways England as a 'Heavy Route' (HR100). The route is also depicted graphically with ***Appendix 26.6***. This HR100 designation (as

[1] A narrow footpath is deemed to be less 1.5m in width. DfT 2005 Inclusive Mobility

defined by Highways England) identifies routes that have been historically assessed as being suitable for carrying abnormal loads. HR100 is designated as weight group D, equivalent to a trailer weight of ~264tonnes across 12 axels or ~299tonnes across 14 axels.

### 26.5.2 Traffic Flow Data

126. Traffic flow data for all the key links (sections of road with similar characteristics and traffic flows) within the onshore highway study area has been captured from a number of sources, namely:

- Automatic Traffic Counts (ATCs) commissioned by the Applicant for 14 links within the onshore highway study area (Commissioned ATCs);
- ATCs from SCC for eight links within the onshore highway study areas (SCC ATCs);
- Manually Classified turning Counts (MCTC) for the A12 / A1094 junction provided by SCC (SCC MCTC); and
- Daily forecast baseline traffic counts provided by EDF Energy within the proposed Sizewell C nuclear power station Stage 2 consultation document for key links (Sizewell C baseline forecasts).

127. Baseline traffic flow data for the four data sets including the date and type of survey is summarised in ***Table 26.12***, the survey locations and Link IDs are also depicted graphically within ***Figure 26.4***. ***Table 26.12*** provides details of the total AADT and the HGV component. This assessment uses the term HGV as a proxy for HGVs and buses / coaches recognising the similar size and environmental characteristics of the respective vehicle types.

**Table 26.12 Existing Annual Average Daily Traffic Flows and Associated Data Sources**

| Link ID | Link Description | Commissioned ATCs | | Sizewell C baseline forecasts | | SCC ATCs | | SCC MCTC | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total Flow | HGVs | Total Flow | HGVs | Total Flow | HGVs | Total Flow | HGVs |
| 1 | A12 north of the B1122 | 12,598 | 999 | 14,000 | 810 | | | | |
| 2 | A12 between the B1122 and A1094 | 11,279 | 976 | | | 11,248 | 301 | 12,938 | 857 |
| 3 | A12 south of the A1094 | | | 18,700 | 900 | 17,703 | | 17,023 | 1,034 |

| Link ID | Link Description | Commissioned ATCs | | Sizewell C baseline forecasts | | SCC ATCs | | SCC MCTC | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total Flow | HGVs | Total Flow | HGVs | Total Flow | HGVs | Total Flow | HGVs |
| 4 and 14 | B1122 from the A12 to Leiston | 2,589 | 190 | | | | | | |
| 5 | B1121 from the A12 to Friston | 1,169 | 46 | | | 1,118 | 32 | | |
| 6 | A1094 from the A12 to the B1121 / B1069 | 7,523 | 397 | 7,400 | 190 | 7,499 | 93 | 7,605 | 361 |
| 7 | B1122 from Friston to the A1094 | 1,190 | 53 | | | | | | |
| 8 | A1094 from the B1121 / B1069 to Aldeburgh | 5,499 | 203 | 5,300 | 200 | 4,806 | 130 | | |
| 9 and 15 | B1069 from the A1094 to Leiston | 4,525 | 185 | | | 4,304 | 126 | | |
| 10 | B1122 from Aldeburgh to the B1353 | 3,159 | 139 | 3,500 | 110 | | | | |
| 11 | Lover's Lane | | | 1,900 | 170 | | | | |
| 12 | Sizewell Gap | 2,655 | 82 | 1,900 | 170 | 2,069 | 49 | | |
| 13 | Aldringham Lane | 2,393 | 89 | | | | | | |
| | Link not surveyed or no data available | | | | | | | | |

128. It can be observed from ***Table 26.12*** that with regards to total traffic flows there is generally a good correlation between the four datasets. With regards to HGVs it can be noted that there is generally good correlation between the Commissioned ATCs, Sizewell C forecast and SCC MCTC datasets, however, the SCC ATCs do not correlate as a different vehicle classification scheme was adopted.

129. It has been agreed with SCC (through an ETG meeting) that the traffic counts commissioned by the Applicant are representative of existing traffic flows and is therefore suitable for assessing impacts. It is noted that no counts were undertaken for link 3 by the Applicant and as such the SCC MCTCs have been adopted for this link.

130. ***Appendix 26.7*** provides a summary of all Applicant commissioned traffic counts.

131. Data from the ATCs has been assessed to identify the network weekday peak hours as 08:00 – 09:00 and 16:00 – 17:00 across the onshore highway study area.

### 26.5.3 Link Based Sensitive Receptors

132. A desktop exercise augmented by site visits has been undertaken to identify the sensitive receptors in the onshore highway study area utilising the definitions outlined in ***Table 26.9***. All 15 links within the onshore highway study area have been assessed and assigned a sensitivity.

133. Recognising that the characteristics of a link may change along its length, the 15 links have been sub-divided to reflect the varying concentration of receptors. For example, a road passing through a village providing access to a school could be considered highly sensitive, whilst the same road passing between the villages where there is no frontage development could be considered a low sensitive receptor.

134. ***Table 26.13*** details the routes and the rationale for the applied link sensitivity and ***Figure 26.5*** illustrates these routes graphically.

**Table 26.13 Link Based Sensitive Receptors**

| Link ID | Link Description | | | Link sensitivity | Comments |
|---|---|---|---|---|---|
| 1 | A12 north of the B1122 | | | **Low** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>North of the B1122 there is sporadic frontage development. |
| 2 | A12 between the B1122 and A1094 | 2a | A12 through Yoxford | **High** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>Through Yoxford the A12 is fronted by residential properties and a public house. |
| | | 2b | A12 south of Yoxford | **Low** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>South of Yoxford there is sporadic frontage development. |

| Link ID | Link Description | | | Link sensitivity | Comments |
|---|---|---|---|---|---|
| 3 | A12 south of the A1094 | 3a | A12 though Farnham and Stratford St Andrew | **High** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>The A12 through Farnham and Stratford St Andrew is fronted by residential properties with little separation from the road. |
| | | 3b | A12 south of Farnham to Little Glemham | **Low** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>South of Farnham there is sporadic frontage development. |
| | | 3c | A12 through Little Glemham / Marlesford | **High** | The link is a main 'A' Road and forms part of the SCC Strategic Lorry Route.<br>The A12 through Little Glemham / Marlesford is fronted by residential properties with little separation from the road. |
| 4 | B1122 from the A12 to Leiston | 4a | B1122 from the A12 to Theberton | **Low** | The link forms part of the SCC Zone distributor routes for HGVs. South of A12 there is sporadic frontage development. |
| | | 4b | B1122 through Theberton | **High** | The link forms part of the SCC Zone distributor routes for HGVs. Through the village of Theberton there are residential properties, a public house and church along the road. |
| | | 4c | B1122 south of Theberton to Lover's Lane | **Medium** | The link forms part of the SCC Zone distributor routes for HGVs. South of Theberton to the junction with Lover's Lane there is sporadic frontage development. Regional Cycle Route 42 runs along the B1122, between Abbey Lane and an unnamed road to the Eels Foot Inn. |
| 5 | B1121 from the A12 to Friston | 5a | B1121 Main Road | **Low** | The link forms part of the SCC Zone local access routes for HGVs. Between the A12 and Church Hill Road there is sporadic frontage development. |
| | | 5b | B1121 Church Hill Road through Sternfield | **High** | Through the village of Sternfield there are residential properties and church along the road with minimal separation from traffic. |
| | | 5c | B1121 Sternfield to Friston | **Low** | South of Sternfield to Friston there is sporadic frontage development. |

| Link ID | Link Description | | | Link sensitivity | Comments |
|---|---|---|---|---|---|
| 6 | A1094 from the A12 to the B1121 / B1069 | 6a | A1094 from the A12 to Snape | **Low** | The link forms part of the SCC Zone distributor routes for HGVs. South of A12 there is sporadic frontage development. |
| | | 6b | A1094 through Snape | **High** | The link forms part of the SCC Zone distributor routes for HGVs. Through the village of Snape there are residential properties and church along the road. |
| | | 6c | A1094 from Snape to the B1121 / B1069 | **Medium** | The link forms part of the SCC Zone distributor routes for HGVs. South of Snape there is sporadic frontage development. Regional Cycle Route 42 runs along the A1094 between Priory Road and Mill Road. |
| 7 | B1121 Friston to the A1094 | | | **High** | Through the village of Friston there are residential properties, a public house and play area that front directly on to the road. |
| 8 | A1094 from the B1121 / B1069 to Aldeburgh | 8a | A1094 from the B1121 / B1069 to Aldeburgh | **Low** | The link forms part of the SCC local access routes for HGVs. From the junction with the B1121 / B1069 there is sporadic frontage development. |
| | | 8b | A1094 through Aldeburgh | **High** | The link forms part of the SCC local access routes for HGVs. Upon entering Aldeburgh there are a number of residential properties and shops that front the road. |
| 9 | B1069 from the A1094 to south of Knodishall / Coldfair Green | | | **Low** | The link forms part of the SCC Zone distributor routes for HGVs. North of the A1094 there is sporadic frontage development. |
| 10 | B1122 from Aldeburgh to the B1353 | 10a | B1122 through Aldeburgh | **High** | Through the built-up area of Aldeburgh there are residential properties and a public house that front directly on to the road. |
| | | 10b | B1122 from Aldeburgh to the B1353 | **Medium** | Between Aldeburgh and the B1353 there are a number of residential properties. |
| 11 | Lover's Lane | | | **Medium** | The link forms part of the SCC local access routes for HGVs. From the junction with the B1122 there is sporadic frontage development. Pedestrians using existing public rights of way are however required to walk a short distance in the road. |

| Link ID | Link Description | Link sensitivity | Comments |
|---|---|---|---|
| 12 | Sizewell Gap | **Low** | The link forms part of the SCC local access routes for HGVs. There is sporadic frontage development and the link is served by a shared use footway cycleway. |
| 13 | B1353 Aldringham Lane | **High** | There are residential properties and a public house that front directly on to the road. |
| 14 | B1122 south of Lover's Lane to Leiston | **High** | The link forms part of the SCC Zone distributor routes for HGVs. Through Leiston there are residential properties and a public house along the road. |
| 15 | B1069 through Knodishall, Coldfair Green and Leiston | **High** | The link forms part of the SCC Zone distributor routes for HGVs. Through the villages of Knodishall and Coldfair Green and town of Leiston there are residential properties, a public house, shops and park / play area alongside the road. |

### 26.5.4 Road Safety

135. To understand whether the proposed East Anglia ONE North project would have a significant road safety impact, it is necessary to establish a baseline and identify any inherent road safety issues within the onshore highway study area. This review utilises historic STATS19[2] obtained from SCC for the period, February 2013 to February 2018 inclusive. A graphical plot of all Personal Injury Collisions (PICs) within the onshore highway study area is provided as ***Appendix 26.8***. Collision data has been source for a five-year period as there can be significant variations in trends from year to year.

136. In consultation with SCC it has been agreed that the road safety review should examine the baseline collision data to identify those areas that are potentially sensitive to changes in traffic. This review includes:

- Examining the rate of collisions per length of road in miles (known as collision rates); and
- Reviewing the types of collisions at defined clusters to understand any patterns or trends, especially those involving HGVs and vulnerable road users (namely cyclists, pedestrians and motorcyclists).

[2] Accidents on the public highway that are reported to the police and which involve injury or death are recorded by the police on a STATS19 form. The form collects a wide variety of information about the accident (such as time, date, location, road conditions).

### 26.5.4.1 Collision Rates

137. Collision rates have been calculated in billion vehicle miles to enable direct comparison with national road safety statistics provided within Road Casualties Great Britain[3]. The following formula has been utilised to calculate the collision rate, where 1,826 is the sample size in number of days over which the collision data has been sourced (i.e. there are 1,826 between February 2013 to February 2018).

$$\text{Collision Rate} = \frac{\text{Number of recorded PICs (per road)} \times 1 \text{ billion}}{1{,}826 \times \text{AADT} \times \text{length of road}}$$

138. A summary of the results of the analysis is presented in ***Table 26.14***, whilst details of the derivation are included as ***Appendix 26.9***.

**Table 26.14 Baseline PIC Analysis**

| Link | No. of PICs and Severity | | | | No. of PICs Involving Vulnerable Road Users and HGVs | | | | Collision Rates | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Fatal | Serious | Slight | P2W* | Pedal Cycles | Peds ** | HGVs | National Average | Calculated |
| A12 (Links 1, 2 and 3) | 85 | 1 | 10 | 74 | 1 | 0 | 1 | 1 | 813 | 348 |
| B1122 (Links 4 and 14) | 17 | 0 | 3 | 14 | 0 | 2 | 1 | 3 | 760 | 654 |
| B1122 (Link 10) | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 760 | 133 |
| B1121 (Link 5 and 7) | 6 | 1 | 2 | 3 | 0 | 2 | 0 | 0 | 760 | 819 |
| A1094 (Links 6 and 8) | 36 | 0 | 4 | 32 | 4 | 3 | 1 | 3 | 487 | 466 |
| B1069 (Links 9 and 15) | 9 | 0 | 0 | 9 | 0 | 2 | 1 | 3 | 760 | 403 |
| Lover's Lane / | 3 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 760 | 248 |

[3] Road Casualties Great Britain, prepared by Department for Transport, September 2017.

| Link | No. of PICs and Severity | | | | No. of PICs Involving Vulnerable Road Users and HGVs | | | | Collision Rates | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Fatal | Serious | Slight | P2W* | Pedal Cycles | Peds ** | HGVs | National Average | Calculated |
| Sizewell Gap (Link 11 and 12) | | | | | | | | | | |

| | |
|---|---|
| * | Powered two-wheelers (e.g. motorcycles and scooters) |
| ** | Pedestrians |

139. It is evident from ***Table 26.14*** that the B1121 (links 5 and 7) has a collision rate that is higher than the national average for a comparable road type and may be particularly sensitive to changes in traffic flow / type. In addition, the A1094 (links 6 and 8) has a collision rate that is just below the national average.

140. These links (links 5, 6, 7 and 8) are considered potentially sensitive to changes in traffic flow and are therefore assessed further in ***section 26.6.1.10***. The remaining links have collision rates below the national average and are therefore not considered further.

### 26.5.4.2 Collision Clusters

141. During consultation with SCC, five collision cluster sites were identified. The following section provides a review of the types of collisions occurring at these five cluster sites to understand any emerging patterns or trends that could potentially be exacerbated by an increase in traffic. The location of the five clusters are depicted graphically within ***Figure 26.6***.

#### 26.5.4.2.1 Cluster 1 – A12 / B1119 Rendham Road Junction

142. Cluster 1 is located at the junction of the A12 and B1119 to the west of Saxmundham. The junction comprises of a staggered priority junction with right turn lanes.

143. During the five year study period (February 2013 to February 2018), a total of nine collisions have been recorded at this staggered junction, resulting in seven slight injuries, one serious injury and one fatal injury. Five of these collisions, including a fatal collision involving a motorcyclist, occurred at the B1119 Rendham Road north junction and four occurred at the B1119 Rendham Road south junction.

144. The five collisions at the B1119 Rendham Road north junction were the result of vehicles turning right out of the minor road. All of the collisions were attributed to emerging drivers failing to look properly or to judge the speed of traffic on the A12.

145. The four collisions recorded at the B1119 Rendham Road south junction included one collision resulting in serious injury and three resulting in slight injury. Three of the collisions at the B1119 Rendham Road south junction were the result of vehicles turning out of the minor road. The remaining collision was a rear end shunt within the centre of the junction. The majority of these collisions were attributed to a failure to look properly or to judge traffic speeds on the A12.

146. It is considered that there is a pattern of collisions involving vehicles right turning from Rendham Road to the A12. This junction is considered to be potentially sensitive to changes in traffic flow and is therefore assessed further in ***section 26.6.1.10***.

#### 26.5.4.2.2 Cluster 2 – A1094 / B1069 Junction

147. Cluster 2 is located at the junction of the A1094 and B1069 to the south of Knodishall. The junction comprises of a simple priority junction.

148. A total of six collisions have been recorded at this crossroads during the five-year study period (February 2013 to February 2018), all resulting in slight injury. Five of the six collisions took place in 2013 between March and November with the remaining collision recorded in August 2015. No collisions have been recorded at the junction between August 2015 and the end of the study period.

149. Of the five collisions that occurred in 2013, one was as a result of junction overshoot from the B1069 onto the A1094 due to failing to see the give way signs. Two collisions were attributed to vehicles turning right out of the B1069 across the path of oncoming traffic on the A1094. The final two collisions were a rear end shunt collisions on the minor road at the give way line and an intoxicated driver swerving to avoid collision with a deer. Since 2013 there has only been one collision, and this was attributed to a junction overshoot due to gravel deposits on the carriageway surface.

150. It is considered that as five of the six collisions occurred within 2013 and there has only been one collision since (that is not attributable to the highway layout) there is not an emerging pattern of collisions at this junction. This junction is therefore not assessed further.

#### 26.5.4.2.3 Cluster 3 – A12 / A1094 Junction

151. Cluster 3 is located at the junction of the A12 and A1094 to the north of Farnham. The junction comprises of a priority junction with central right turn lane and westbound deceleration lane.

152. A total of 17 collisions have been recorded at this junction during the study period, resulting in 16 slight injuries and one serious injury. Eleven of the collisions involved vehicles turning across the path of traffic on the A12; nine of these involved vehicles turning right into the A1094 from the A12, including the serious collision, with the remaining two collisions occurring as vehicles turned right out of the A1094. Six of the collisions were rear end shunt type collisions; three within the central reserve, and three on the A1094 approach to the A12.

153. It is considered that there is a pattern of right turning collisions between the A12 and A1094. This junction is considered to be potentially sensitive to changes in traffic flow and is therefore assessed further in ***section 26.6.1.10***.

#### 26.5.4.2.4 Cluster 4 – A1094 / B1069 / Unnamed Road Junction

154. Cluster 4 is located at the junction of the A1094, B1069 and an unnamed road at Snape. The junction comprises of a staggered priority junction with central right turn lanes and a westbound deceleration lane.

155. A total of seven collisions have occurred at, or on the approach to the staggered junction within the five year study period. Five of these collisions resulted in slight injury with the remaining two collisions leading to serious injuries.

156. Three of the collisions were due to vehicles pulling out of the minor roads onto the A1094 across the path of oncoming vehicles. Two of these were recorded as drivers pulled out of the unnamed road to the north.

157. Two of the collisions were due to a loss of control, one of which was due to icy surface conditions, and the other was due to excessive speed. Both resulted in serious injury to the vehicle occupants.

158. One collision involved a pedestrian who was struck from behind by a car during the hours of darkness. The final collision occurred as an agricultural vehicle towing a trailer turned north off the main road. As the trailer swung into the westbound carriageway it was struck by a car, resulting in slight injury to the driver.

159. The causation factors indicate that there is no emerging pattern of collisions at this location. This junction is therefore not considered further.

#### 26.5.4.2.5 Cluster 5 – A12 / B1122 Junction

160. Cluster 5 is located at the junction of the A12 and the B1122 at Yoxford. The junction comprises of a priority junction with right turn lane.

161. A preliminary review of the plotted collisions locations has identified that six collisions have been recorded at the junction of A12 and B1122. A detailed review of the descriptions however, has confirmed that just four collisions actually occurred at this junction. The remaining two collisions having been plotted incorrectly in the dataset made available to the Applicant to be used for this assessment.

162. All four of the collisions occurring at the junction of the A12 and B1122 resulted in slight injuries. Two of the collisions were as a result of single vehicles losing control whilst negotiating the A12, one collision involved a rear end shunt as a driver approached the A12 from the B1122. The final collision appears to be a result of a collision between two vehicles turning between the A12 and B1122.

163. The causation factors indicate there is no emerging pattern of collision types, and therefore this junction is not assessed further.

164. The following ***Table 26.15*** provides a summary of the collision cluster analysis.

**Table 26.15 Summary of Collision Cluster Analysis**

| Cluster notation | Location | Emerging Pattern of Collisions (Y / N) | Further Assessment (Y / N) |
|---|---|---|---|
| Cluster 1 | A12 / B1119 Rendham Road Junction | Yes | Yes |
| Cluster 2 | A1094 / B1069 Junction | No | No |
| Cluster 3 | A12 / A1094 Junction | Yes | Yes |
| Cluster 4 | A1094 / B1069 / Unnamed Road Junction | No | No |
| Cluster 5 | A12 / B1122 Junction | No | No |

### 26.5.5 Sensitive Junctions (Capacity)

165. During consultation with SCC and Highways England, the junctions that are potentially sensitive to the changes in traffic (due to capacity constraints) have been identified. The location and form of these junctions are detailed within ***Table 26.16*** (and depicted graphically on ***Figure 26.7***).

166. Within the onshore highway study area, SCC and Highways England identified junctions 1 to 5 as being sensitive to the proposed East Anglia ONE North projects traffic. Following further consultation with SCC and Highways England (at the May 2019 ETG), SCC also raised the potential for additional junctions

(junction 6 to 15) to be sensitive to changes in traffic when considered cumulatively with the proposed Sizewell C New Nuclear Power Station.

167. The peak traffic numbers through junction 4 (A12, A14 and A1156, junction 58) and junction 5 (A12, A14 and A1114, junction 55) were shared with Highways England within the PEIR (SPR 2019). As part of their Section 42 response (***Appendix 26.1***), Highways England have confirmed that they were content with the levels of traffic proposed and did not wish to see further junction modelling. Therefore, no further assessment is undertaken and the impact on these junctions is considered to be **negligible**.

168. Junctions 1 to 3 are subject to further assessment in ***section 26.6*** (Potential Impacts). Noting that SCC considered that junctions 6 to 15 would only be sensitive to changes when considered cumulatively with the proposed Sizewell C New Nuclear Power Station further assessment of the driver delay impacts upon these junctions is presented in ***section 26.7***. (Cumulative Impacts).

169. SCC also noted (at the May 2019 ETG) that the junction of the A12/ A144 and A12/ A145 north of Yoxford could be sensitive to changes in traffic if HGV traffic were to turn off at these locations. A review of the potential supply chain to the north has been undertaken and it is considered that any HGV traffic heading north on the A12 would have a destination within the Lowestoft area, these two junctions are therefore not considered further within this assessment. This detail is contained within the OCTMP, submitted with this DCO application and secured under the requirements of the draft DCO.

**Table 26.16 Junctions Identified as Sensitive to Changes in Traffic**

| Junction notation | Location | Junction Description |
|---|---|---|
| Junction 1 | Junction of the A12 and A1094 | Major / Minor priority junction with single lane dualling |
| Junction 2 | Junction of the A12, B1122 and A1120 | Staggered major / minor priority junction with a ghost island for the A12 to B1122 turn |
| Junction 3 | Junction of the A1094 and B1069 | Major, minor priority junction |
| Junction 4 | Junction of the A12, A14 and A1156 (A14 Junction 58) | Grade separated roundabout junction |
| Junction 5 | Junction of the A12, A14 and A1214 (A14 Junction 55) | Signalised grade separated roundabout junction |
| Junction 6 | Junction of the A12 Ufford Road near to Suffolk Yurt Holidays | Major, minor priority junction with right turn ghost island |
| Junction 7 | Junction of the A12 and A1152 | Three arm roundabout junction |
| Junction 8 | Junction of the A12 and B1079 | Four arm roundabout junction |

| Junction notation | Location | Junction Description |
|---|---|---|
| Junction 9 | Junction of the A12 and B1438 | Three arm roundabout junction |
| Junction 10 | Junction of the A12 and A1214 | Five arm roundabout junction |
| Junction 11 | Junction of the A12, Anson Road and Eagle Way | Four arm roundabout junction |
| Junction 12 | Junction of the A12 and Adastral Park | Four arm roundabout junction |
| Junction 13 | Junction of the A12, Foxhall Road and Newbourne Road | Four arm roundabout junction |

170. In addition to the junctions identified within ***Table 26.16***, SCC have also identified (at the May 2019 ETG) potential links that are operating at 'link capacity'. These include the A12 near Woodbridge between B1079 and B1438 (link 1) and the A12 at Farnham Bends (link 2). The location of these links is depicted graphically on ***Figure 26.7***.

171. SCC have identified that link capacity on the A12 near Woodbridge (link 1) would only be sensitive to changes when considered cumulatively with the proposed Sizewell C New Nuclear Power Station. This link is subject to further assessment in ***section 26.7***.(Cumulative Impacts) Farnham Bends (link 2) is subject to further assessment in. ***section 26.6***.(Potential Impacts)

### 26.5.6 Sensitive Locations (Highway geometry)

172. During consultation with SCC, the following two locations were identified as posing a potential constraint to two HGVs passing and are subject to further assessment in ***section 26.6,*** and shown on ***Figure 26.7***:

- Major / Minor priority junction of the A1094 and B1069; and
- Roundabout junction of the A1094 and B1122.

### 26.5.7 Anticipated Trends in Baseline Condition

173. It is considered that the earliest date that construction could commence would be 2023; as such a baseline year for background traffic of 2023 has been derived for the purpose of the assessment. This assumed construction start date has been used for the assessment presented in this ES.

174. To take account of sub-regional growth in housing and employment, a proportionate approach to forecasting future traffic growth has been agreed with SCC. The baseline flows have been factored to the future year baseline traffic demand (year 2023) using growth factors supplied by WSP (consultants working

on behalf of SCC). The factors have been derived from the Suffolk Coastal Development Plan process taking into account the forecasts for committed and emerging development trajectories. A summary of the factors is presented in ***Appendix 26.10***.

175. There is also the requirement to consider planned events such as Sizewell B outages or the Latitude Festival (an annual music festival held near Southwold). Adopting a proportionate approach to assessment, it has been agreed with SCC to not undertake sensitivity tests of these temporary 'spikes' in baseline traffic. It is considered that potential impacts are better mitigated by the CTMP (for which an OCTMP has been submitted with this DCO application). The OCTMP, submitted with this DCO application and secured under the requirements of the draft DCO, contains details of measures to manage construction traffic demand during planned events through robust communication plans.

## 26.6 Potential Impacts

### 26.6.1 Potential Impacts during Construction

#### 26.6.1.1 Trip Generation and Assignment

176. This section forecasts the traffic generated by the proposed East Anglia ONE North project and distributes vehicle trips to the highway network to establish a basis for assessing the potential transport impacts.

177. The realistic worst case traffic demand scenarios have been developed by examining:

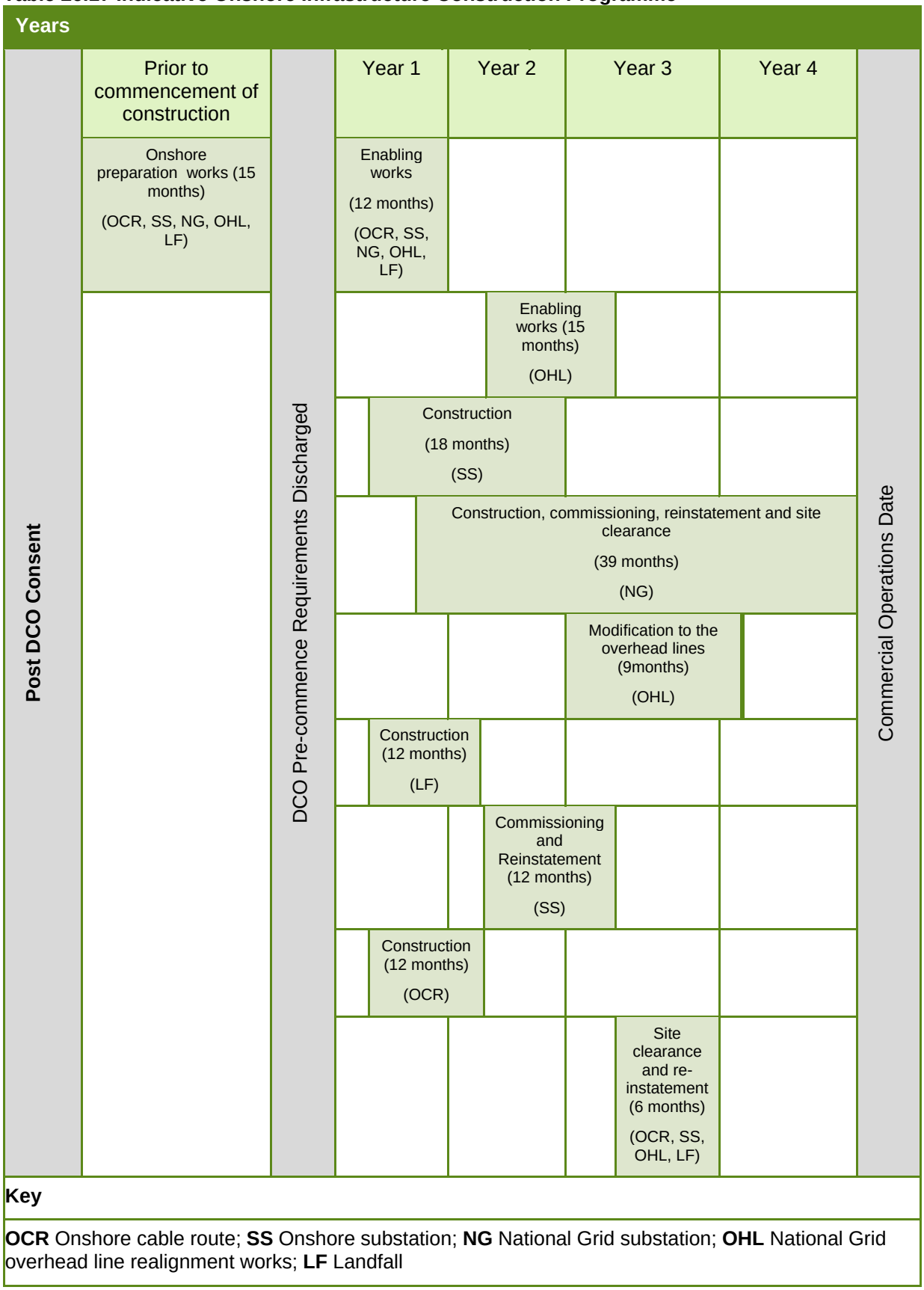
- The likely minimum construction programme;
- The earliest commencement date;
- Demand for materials and personnel;
- Likely mode share;
- Likely shift patterns;
- Likely delivery windows; and
- The distribution of traffic.

178. The assumptions that underpin the worst case scenario are discussed below and have been developed with the input from a specialist construction consultant (Wardell Armstrong) and are augmented with experience gained through the construction of the East Anglia ONE project.

#### 26.6.1.2 Construction Programme

179. ***Table 26.17*** provides an overview of the indicative construction programme for the proposed East Anglia ONE North project as used in this assessment.

**Table 26.17 Indicative Onshore Infrastructure Construction Programme**



180. Further details of construction activities are contained within ***Chapter 6 Project Description***.

181. The construction programme (contained within ***Chapter 6 Project Description***) represents a realistic minimum duration for each construction activity and therefore the worst case in terms of traffic intensity. Any lengthening of the construction duration would reduce the intensity of daily traffic and therefore the associated impacts.

182. The construction timeframe presented for assessment is provided in the format of month 1, 2, etc. and is representative of the duration and dependency of each activity. It is considered that the earliest date that construction could commence would be 2023; as such a baseline year for background traffic of 2023 has been derived for the purpose of the assessment.

#### 26.6.1.3 Trip Distribution

183. At the time of DCO submission, the supply chain for materials and workforce cannot be informed by early contractor involvement as the procurement process has not commenced. Therefore, for the purpose of the assessment, traffic distribution is based upon worst case assumptions for HGV distributions and refined socio economics data for employees (***Chapter 30 Tourism, Recreation and Socio-Economics***).

184. For the purpose of a worst case HGV assessment, HGVs have been distributed to the A12 south (100%) and the A12 north (100%) to an origin/destination outside the study area. In applying this 'sensitivity test' it should be noted:

- The traffic flow data presented for the A12 links is the maximum flow that could occur from either the north or the south. The data does not represent double counting of HGV demand; and
- HGV distribution on the local network bounded by the A12 does not change for a north or south scenario.

185. To inform the potential distribution of construction employees for the proposed East Anglia ONE North project, the availability of local labour and rented accommodation has been reviewed as part of the socio economics study to inform the potential employee distribution.

186. The types of specialist skills required for projects such as the proposed East Anglia ONE North project, means that construction personnel often have to be drawn from across the country and not necessarily from local labour sources. This is addressed within ***Chapter 30 Tourism Recreation and Socio Economics*** which estimates that 34% of the workforce would be drawn from the

local area (known as 'resident' labour). The remaining (66%) of the workforce would be beyond a daily commute (known as 'in-migrant' labour).

187. Those personnel who are not local (in-migrant labour) i.e. beyond a reasonable daily commute are likely to base themselves within temporary local accommodation. To inform the distribution of in-migrant labour, the availability of local rented accommodation within a 45 minute commute of the proposed East Anglia ONE North project has been captured.

188. ***Table 26.18*** provides a summary of likely distribution, point of entry into the onshore highway study area and origin for in-migrant labour. The distribution set out in ***Table 26.18*** includes for 'distance decay' i.e. those areas closest to the onshore development area are likely to be most attractive, even though areas further away may have a greater provision of accommodation.

189. The distance decay approach divides the number of bed spaces by the journey time (taken from a route planner) from the centre of the postcode cluster to the centre of the onshore development area, near Leiston. Further details of the distribution of local rented accommodation and the application of distance decay are provided within ***Appendix 26.11***.

**Table 26.18 Distribution of In-migrant Labour**

| Point of entry to onshore highway study area | % distribution (in-migrants) | Incorporating the areas of |
|---|---|---|
| Link 1 (A12 north of the B1122) | 31.9 | Halesworth, Bungay, Beccles, Southwold and Lowestoft |
| Link 2 (A12 between the B1122 and A1094) | 13.0 | Saxmundham |
| Link 3 (A12 south of the A1094) | 28.7 | Ipswich, Felixstowe, Framlingham and Woodbridge |
| Link 8 and 10 (A1094 and B1122 through Aldeburgh) | 17.2 | Aldeburgh |
| Link 14 and 15 (B1122 and B1069 through Leiston) | 9.0 | Leiston |

190. To inform the distribution of the 34% of employees who could potentially be drawn from the local area (resident workers), the socio economics study has examined the distribution of residents within the local area (a 60 minute drive of Leiston) with the relevant skill sets.

191. The following ***Table 26.19*** provides a summary of likely distribution, point of entry onto the onshore highway study area and origin for resident workers. Similar to

the distribution of in-migrants, the distribution of resident workers set out in ***Table 26.19*** includes for distance decay.

192. Further detail of the distribution of resident workers is provided within ***Appendix 26.12***.

**Table 26.19 Distribution of Resident Workers**

| Point of entry to onshore highway study area | % distribution (residents) | Incorporating the areas of |
|---|---|---|
| Link 1 (A12 north of the B1122) | 31.0 | Halesworth, Harleston, Long Stratton, Bungay, Norwich, Great Yarmouth, Lowestoft, Beccles and Southwold |
| Link 2 (A12 between the B1122 and A1094) | 8.3 | Saxmundham |
| Link 3 (A12 south of the A1094) | 42.4 | Manningtree, Colchester, Ipswich, Felixstowe, Framlingham, Woodbridge and Bury St. Edmunds |
| Link 4 (B1122 from the A12 to Leiston) | 10.9 | Stowmarket, Diss and Eye |
| Link 8 and 10 (A1094 and B1122 through Aldeburgh) | 1.6 | Aldeburgh |
| Link 14 and 15 (B1122 and B1069 through Leiston) | 5.8 | Leiston |

### 26.6.1.4 Material and Personnel Demand

193. The traffic generation that has informed this assessment was derived and undertaken by way of a 'first principles' approach. The first principles approach generates traffic volumes from an understanding of material quantities and personnel numbers required for the proposed East Anglia ONE North project and converts these metrics into vehicle movements.

194. Following an approach established for the East Anglia THREE DCO application, (August 2017) construction consultants (Wardell Armstrong) were commissioned to provide additional industry expertise to develop the methodologies and quantities that underpin the assessment for the proposed East Anglia ONE North project. This advice has been augmented with data provided by National Grid for the construction of the National Grid infrastructure.

195. ***Appendix 26.13*** details the forecast quantity of materials and plant movements that could be expected for each of the construction activities.

196. It is typical for construction projects that employees will travel to work together and in contractor provided vehicles. The established industry exemplar of Heathrow Terminal 5 (BAA 2003, Terminal 5 Construction Workers Public Transport Strategy 2003 / 04) established that a car-share ratio of 3 employees per vehicle was achievable.

197. However, during the development of the East Anglia THREE project, SCC expressed concerns regarding the suitability of adopting an employee to vehicle ratio close to the industry exemplar and required a sensitivity test utilising a value of 1.5 employees per vehicle. This employee to vehicle ratio is therefore adopted for the purposes of screening impacts for the proposed East Anglia ONE North project.

198. It has been discussed through consultation with SCC, that should mitigation of employee vehicle movements be required, a higher employee to vehicle ratio may be adopted (and if so, would be justified by the Applicant).

199. This assessment therefore assumes all employee trips have been reduced by a factor of 1.5 at entry point to the onshore highway study area (as shown in ***Appendix 26.14***). This approach simulates multi pick up of employees prior to entering the onshore highway study area typically by crew-van or car-share syndicates.

#### 26.6.1.5 Peak Construction Demand

200. The onshore infrastructure includes works at the following seven discrete sites:

- Landfall location;
- Onshore cable route section 1;
- Onshore cable route section 2;
- Onshore cable route section 3;
- Onshore cable route section 4;
- Onshore substation; and
- National Grid infrastructure.

201. The location of these seven discrete sites in relation to the proposed access locations is depicted graphically within ***Figure 26.2***.

202. To develop the construction programme, industry guidance for productivity has been utilised to forecast the shortest realistic construction duration for individual activities for each of the seven discrete sites (and therefore maximum intensity).

203. ***Appendix 26.14*** disaggregates the proposed East Anglia ONE North project traffic demand (contained within ***Appendix 26.13***) by activity over time to provide total one-way (deliveries) and two-way HGV and employee movements per day. ***Table 26.20*** and ***Table 26.21*** provide an extract showing the peak daily HGV and LCV movements per discrete site respectively. The two-way employee movements presented within ***Appendix 26.14*** have been reduced by an employee to vehicle ratio of 1.5 to derive the two-way LCV movements detailed within ***Table 26.21***.

**Table 26.20 Peak Daily Two-Way HGV Movements per Month (Extract)[4]**

| Discrete sites | Months | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | | **30** | **31** | **32** | **33** | **34** | **35** | **36** |
| Landfall location | 0 | 0 | 17 | 15 | 30 | 17 | 15 | 15 | 15 | 22 | | 0 | 0 | 0 | 0 | 25 | 23 | 12 |
| Onshore cable route section 1 | 46 | 42 | 4 | 0 | 14 | 10 | 20 | 27 | 18 | 22 | | 0 | 0 | 0 | 0 | 31 | 27 | 31 |
| Onshore cable route section 2 | 15 | 15 | 13 | 36 | 27 | 39 | 17 | 22 | 17 | 22 | | 0 | 0 | 0 | 0 | 36 | 32 | 36 |
| Onshore cable route section 3 | 0 | 0 | 0 | 0 | 30 | 36 | 10 | 15 | 13 | 18 | | 0 | 0 | 0 | 0 | 27 | 23 | 27 |
| Onshore cable route section 4 | 37 | 52 | 35 | 35 | 5 | 3 | 10 | 15 | 13 | 17 | | 3 | 3 | 3 | 3 | 44 | 40 | 44 |
| Onshore substation | 0 | 0 | 0 | 43 | 55 | 53 | 51 | 45 | 40 | 43 | | 3 | 5 | 3 | 3 | 20 | 18 | 20 |
| National Grid Substation and Infrastructure | 60 | 58 | 47 | 45 | 45 | 45 | 42 | 30 | 28 | 9 | | 18 | 33 | 33 | 33 | 27 | 27 | 27 |
| Total two-way * daily HGV movements accessing all discrete sites | **158** | **167** | **116** | **174** | **206** | **203** | **165** | **169** | **144** | **153** | | **24** | **41** | **39** | **39** | **210** | **190** | **197** |
| | Peak period | | | | | | | | | | | | | | | | | |
| * | Total two-way movements represent the inbound and outbound trip, i.e. 210 two-way movements equates to 105 arrivals and 105 departures | | | | | | | | | | | | | | | | | |

[4] Complete profiles for each month are provided in ***Appendix 26.14***

**Table 26.21 Peak Daily Two-Way LCV Movements per Month (Extract)[5]**

| | Months | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Discrete sites** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
| Landfall location | 0 | 0 | 36 | 36 | 36 | 8 | 8 | 8 | 8 | 26 | 34 | 30 | 44 | 44 | 0 | 0 | 0 | 0 | 0 | 0 |
| Onshore cable route section 1 | 48 | 48 | 0 | 0 | 40 | 40 | 58 | 42 | 42 | 46 | 42 | 50 | 50 | 46 | 54 | 54 | 54 | 38 | 26 | 18 |
| Onshore cable route section 2 | 34 | 34 | 34 | 50 | 30 | 38 | 48 | 42 | 42 | 46 | 42 | 50 | 50 | 46 | 54 | 54 | 50 | 38 | 26 | 18 |
| Onshore cable route section 3 | 0 | 0 | 0 | 0 | 44 | 48 | 34 | 40 | 40 | 44 | 42 | 46 | 46 | 46 | 46 | 46 | 38 | 38 | 26 | 18 |
| Onshore cable route section 4 | 60 | 76 | 72 | 72 | 62 | 62 | 58 | 62 | 62 | 66 | 64 | 68 | 68 | 68 | 68 | 68 | 60 | 60 | 48 | 42 |
| Onshore substation | 0 | 0 | 0 | 54 | 74 | 74 | 66 | 82 | 80 | 74 | 74 | 52 | 52 | 70 | 70 | 82 | 82 | 88 | 62 | 62 |
| National Grid Substation and Infrastructure | 58 | 58 | 28 | 14 | 14 | 14 | 60 | 64 | 64 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |
| Total two-way * daily LCV movements accessing all discrete sites | 200 | 216 | 170 | 226 | 300 | 284 | 332 | 340 | 338 | 336 | 334 | 334 | 350 | 362 | 336 | 350 | 332 | 312 | 240 | 212 |

| **Key** | |
|---|---|
| | Peak period |
| * | Total two-way movements represent the inbound and outbound trip i.e. 362 two-way movements equates to 181 arrivals and 181departures |

[5] Complete profiles for each month are provided in ***Appendix 26.14***

204. It can be observed from ***Table 26.20*** and ***Table 26.21*** that construction traffic demand fluctuates according to the intensity of activities that are occurring at any point in the programme.

205. The seven discrete sites have then been assigned to the overarching construction programme for the proposed East Anglia ONE North project informed by understanding which sites (and associated activities) can realistically be implemented concurrently.

206. This approach results in all seven sites of the onshore infrastructure being constructed concurrently, albeit with peak activity occurring at different times during the construction programme. This means that for any particular month, the seven sites would display different peak demand with unique traffic assignments and impacts on discrete parts of the highway network. Noting this, it would be incorrect to select a discrete time period as being representative of the peak impact on the entire highway network.

207. To address this issue and develop a worst case impact upon the local highway network, the peak traffic demand for each of the seven sites has been added together to create a theoretical 'combined worst case' month whereby the peak construction activity for all seven sections would occur concurrently. This method has the advantage of assessing the peak impact on all links and is therefore appropriate for applying GEART (Rule 1 and 2) screening.

208. However, there is a drawback in that the potential combined traffic flows on the A12 are unrealistically over estimated by assigning traffic flows for seven sites of peak activity concurrently. It has therefore been agreed with SCC and Highways England that for the A12, a worst case month period (of 210 two way movements per day) is adopted for this assessment.

#### 26.6.1.6 Construction Traffic Assignment

209. Having derived a combined worst case, it is necessary to assign the construction traffic to the highway network. The traffic assignment on the highway network will be determined by where access is provided to the onshore development area.

210. The following ***Table 26.22*** describes the proposed access strategy, the location of the proposed accesses and associated infrastructure components which are served. This information is also depicted graphically within ***Figure 26.2***.

**Table 26.22 Proposed East Anglia ONE North Accesses and Associated Infrastructure Components**

| Infrastructure component | Access | Route |
|---|---|---|
| Landfall | 1 (link 12) | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap. |
| Onshore cable route section 1 | 1 (link 12) | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap. |
| Onshore cable route section 2 | 2 (link 12) | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap. Vehicles wishing to access south of B1353 would cross the B1353 at access 3 and 4. |
| Onshore cable route section 3 | 10 (link 9) | Vehicles to travel from the A12 via the A1094 before heading north on the B1069 to the CCS via access 10. From the CCS vehicles would then cross over the B1069 from access 10 to 9 to access section 3 of the onshore cable route.<br>Works to the east of Sloe Lane would cross Sloe Lane at access 7 and 8.<br>A small part of section 3 of the onshore cable route (section 3B) is located either side of the B1122 to the south of Aldringham. Works in section 3B would be directly from access 2 or 9 (via 10) or providing two new accesses from the B1122 (accesses 5 and 6). |
| Onshore cable route section 4 | 10 (link 9) | Vehicles to travel from the A12 via the A1094 before heading north to access 10 on the B1069. Works to the west of Grove Road would cross Grove Road at access 11 and 12. |
| Onshore Substation | 10 (link 9) | Vehicles to travel from the A12 via the A1094 before heading north to access 10 on the B1069, vehicles would then travel via the haul road and crossing Grove Road at access 11 and 12. |
| National Grid Substation and Infrastructure | | |

211. There is a small part of section 3 of the onshore cable route (section 3B) that is located either side of the B1122 to the south of Aldringham (***Figure 26.2***). At this stage, three options are being investigated for serving section 3B. These include serving section 3B directly from access 2 or 9 (via 10) or providing two new accesses from the B1122 (accesses 5 and 6).

212. In order to consider a worst case, that includes all three options for serving section 3B described above, it has been assessed that all traffic for Section 3B would initially travel to the CCS at access 10 before being consolidated and sent onwards via public roads to accesses 5 and 6.

213. The proposed access strategy (set out in ***Table 26.22***) is promoted for all employees with the exception of the National Grid employees. These employees

would instead access from access 13, the B1121 link 5 (to the north of Friston) once this access is available.

214. ***Appendix 26.15*** details the assignment of HGV and employees traffic to highway network.

### 26.6.1.7 Traffic Impact Screening

215. In accordance with the GEART (Rule 1 and Rule 2), a screening process has been undertaken for the onshore highway study area to identify routes that are likely to have sufficient changes in traffic flows and therefore require further impact assessment.

216. ***Table 26.23*** summarises the assigned daily peak two-way vehicle movements (i.e. arrivals and departures) of all materials, personnel and plant during the peak combined month when distributed across the highway network. ***Appendix 26.16*** graphically depicts this demand on the highway network.

217. ***Table 26.23*** also provide a comparison of the peak daily construction flows with the forecast background daily traffic flows in 2023 and identifies the links exceeding the GEART screening thresholds.

**Table 26.23 Existing and Proposed Daily Traffic Flows**

| Link ID | Link Description | Link sensitivity | Background 2023 flows (24Hr AADT) | | Forecast Construction Vehicle Movements (two-way) | | Percentage Increase | |
|---|---|---|---|---|---|---|---|---|
| | | | All vehicles | HGVs | All Vehicles | HGVs | All Vehicles | HGVs |
| 1 | A12 north of the B1122 | Low | 13,529 | 1,058 | 349 | 210 | 3% | 20% |
| 2 | A12 between the B1122 and A1094 | Low to High | 12,111 | 1,033 | 285 | 210 | 2% | 20% |
| 3 | A12 south of the A1094 | Low to High | 18,485 | 1,107 | 357 | 210 | 2% | 19% |
| 4 | B1122 from the A12 to Lover's Lane | Low to High | 2,772 | 201 | 276 | 115 | 10% | 57% |
| 5 | B1121 from the A12 to Friston | Low to High | 1,252 | 49 | 67 | 0 | 5% | 0% |
| 6 | A1094 from the A12 to the | Low to High | 8,082 | 420 | 339 | 205 | 4% | 49% |

| Link ID | Link Description | Link sensitivity | Background 2023 flows (24Hr AADT) | | Forecast Construction Vehicle Movements (two-way) | | Percentage Increase | |
|---|---|---|---|---|---|---|---|---|
| | | | All vehicles | HGVs | All Vehicles | HGVs | All Vehicles | HGVs |
| | B1121 / B1069 | | | | | | | |
| 7 | B1121 Friston to the A1094 | High | 1,274 | 56 | 37 | 0 | 3% | 0% |
| 8 | A1094 from the B1069 to B1122 | Low to High | 5,909 | 215 | 69 | 7 | 1% | 3% |
| 9 | B1069 from the A1094 to south of Knodishall / Coldfair Green | Low | 4,846 | 196 | 524 | 213 | 11% | 109% |
| 10 | B1122 from Aldeburgh to the B1353 | Medium to High | 3,383 | 147 | 69 | 7 | 2% | 5% |
| 11 | Lover's Lane | Medium | 1,993 | 168 | 271 | 115 | 14% | 68% |
| 12 | Sizewell Gap | Low | 2,844 | 87 | 271 | 115 | 10% | 132% |
| 13 | Aldringham Lane | High | 2,563 | 94 | 0 | 0 | 0% | 0% |
| 14 | B1122 south of Lover's Lane to Leiston | High | 2,772 | 201 | 151 | 0 | 5% | 0% |
| 15 | B1069 through Knodishall, Coldfair Green and Leiston | High | 4,846 | 196 | 132 | 0 | 3% | 0% |
| | Exceeds GEART screening thresholds | | | | | | | |

218. In accordance with GEART only those links that are showing greater than 10% increase in total traffic flows (or HGV component) for sensitive links, or greater than 30% increase in total traffic or HGV component for all other links, are considered when assessing the traffic impact upon receptors.

219. It is noted from ***Table 26.23*** that links 1, 5, 7, 8, 10, 13, 14 and 15 are below the GEART screening thresholds and are therefore not considered further in this assessment. The remaining links (highlighted within ***Table 26.23***) are all above the GEART screening thresholds and are therefore considered further.

220. The following paragraphs summarise the assessment of construction traffic impacts on the effects identified as being susceptible to changes in flow. These are:

- Impact 1 – Pedestrian Amenity
- Impact 2 – Severance
- Impact 3 – Road Safety
- Impact 4 – Driver Delay (capacity)
- Impact 5 – Driver Delay (highway geometry)

#### 26.6.1.8 Impact 1: Pedestrian Amenity

##### 26.6.1.8.1 Impacts Prior To Mitigation

221. GEART suggest adverse amenity impacts may be experienced where the peak daily change in total flows or HGV component is greater than the 100%. GEART also suggest that in addition to considering traffic flows and composition, the assessment should also have regard to the relationship between pedestrians and traffic and should consider factors such as traffic speeds, footway width and separation from traffic.

222. It is considered that there would not be a material increase in baseline speed associated with proposed East Anglia ONE North project's traffic and therefore this variable has not been considered further.

223. The following section considers the remaining amenity parameters and augments the sensitive receptor audit presented in ***section 26.5.3*** by reviewing the local pedestrian attractors in the context of the proposed changes in total and HGV traffic flows.

###### *26.6.1.8.1.1 Link 2*

224. Link 2 forms the A12 north from its junction with the A1094 to its junction with the B1122 at Yoxford. The link is identified by SCC as a Strategic Lorry Route within their Lorry Route Network.

225. Heading north from its junction with the A1094, the A12 is a modern A road that provides a bypass to the communities of Benhall, Saxmundham and Carlton before continuing north to Yoxford. There is some sporadic residential development along this section of the A12 but no significant trip attractors and as

such a low baseline of pedestrian activity. Therefore, this part of the A12 (link 2b) is assessed as having low sensitivity.

226. Upon entering the built-up area of the Yoxford, the speed limit reduces to 30mph and a footway is provided along the eastern side of the road. Within Yoxford, there is an extensive range of local amenities including a primary school, church, shop, village hall and public house. All of these facilities are located to the north of the A12 and would therefore not be impacted by the proposed East Anglia ONE North project's traffic. However, there are a number of residential properties and a public house that are located off the A12. To access the amenities, residents living along the A12 have to cross the road, and likewise, residents living within the main part of Yoxford wishing to access the public house need to cross the A12.

227. Within Yoxford, a footway is provided on at least one side of the road, however there are no crossing points and the footway is of a substandard width (below 1.8m) in some places. This part of the link (link 2a) is therefore assessed as a high sensitive receptor.

228. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 2% and HGV flows by 20%. The review of baseline conditions has identified a shortfall in existing crossing facilities within Yoxford and that residents of Yoxford need to walk along narrow footways adjacent to the A12 to reach key local amenities.

229. It is considered that a change in total traffic of up to 2% would not materially impact upon the ability of pedestrians to cross the road when compared to existing conditions. With regards to the impacts upon amenity from increases in traffic (and HGVs) passing pedestrians walking along footways on the A12, GEART suggests that HGV flows over 18 hours of 1,000 to 2,000 vehicles could lead to moderate impacts (***Table 26.8***). It can therefore be concluded that an increase from 1,045 HGVs a day to 1,255 HGVs per day would not change the assessed level. It is therefore concluded that the impact upon link 2 would be negligible.

230. A negligible magnitude of effect would result in a **minor adverse** impact upon link 2a (assessed as having high sensitivity) and a **negligible** impact upon link 2b (assessed as having low sensitivity).

231. Noting impacts are assessed as no greater than minor adverse for link 2, no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

#### *26.6.1.8.1.2 Link 3*

232. Link 3 forms the A12 south from its junction with the A1094 to its junction with B1116 north of Wickham Market. The link is identified by SCC as a Strategic Lorry Route within their Lorry Route Network.

233. Heading south from the A1094 the A12 initially passes through Farnham and Stratford St Andrew (link 3a). The majority of the community live to the north of the A12 and would therefore not be impacted by the proposed East Anglia ONE North project's traffic. However, a convenience store (within the petrol filling station) and antique centre are located off the A12 and would potentially serve as trip attractors for residents. In addition, there are trip attractors away from the A12 such as churches and the Riverside Centre that would attract residents living along the A12 to walk to these receptors.

234. Footways are currently provided along the A12 to link residents with the local amenities, these footways are however of substandard width (below 1.8m) and exceptionally narrow at a bend in the A12 known locally as 'Farnham Bend'. This section of the A12 (link 3a) is therefore assessed as having high sensitivity.

235. Heading south from Farnham and Stratford St Andrew there is some sporadic development until the village of Little Glemham, but no significant trip attractors. It is considered that therefore that there is a low baseline of pedestrian activity. Therefore, this part of the A12 (link 3b) is assessed as having low sensitivity.

236. Within Little Glemham there are a number of residential properties located off the A12 and also a public house. The footway continues south to Marlesford although is in a poor state of repair and has narrowed significantly. There is however the potential to walk between Marlesford and Little Glemham.

237. Within Marlesford there is a farm shop with café and antiques centre located off the A12 along with a small number of residential dwellings. Footways are also provided within Marlesford.

238. Footways are currently provided along the A12 at Marlesford and Little Glemham to link residents with the local amenities, these footways are however of substandard width (below 1.8m) and no facilities are provided to assist residents crossing the road. This section of the A12 (link 3c) is therefore assessed as a high sensitive receptor.

239. ***Table 26.23*** identifies that total traffic flow along link 3 could be expected to increase by up to 2% and HGV flows by up to 19%. The review of baseline conditions has noted a shortfall in existing crossing facilities within the settlements along the A12 and that residents need to walk along narrow footways adjacent to the A12 to reach key local amenities.

240. It is considered that a change in total traffic of up to 2% would not materially impact upon the ability of pedestrians to cross the road when compared to existing conditions. With regards to the impacts upon amenity from increases in traffic (and HGVs) passing pedestrians walking along footways on the A12, GEART suggests that HGV flows over 18 hours of 1,000 to 2,000 vehicles could lead to moderate impacts (***Table 26.8***). It can therefore be concluded that an increase from 1,120 HGVs a day to 1,330 HGVs per day would not change the assessed level. It is therefore concluded that the impact upon link 3 would be negligible.

241. A negligible magnitude of effect would result in a **minor adverse** impact upon link 3a and 3c (assessed as having high sensitivity) and a **negligible** impact upon link 3b (assessed as having low sensitivity).

242. Noting impacts are assessed as no greater than minor adverse for link 3 no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

*26.6.1.8.1.3 Link 4*

243. Link 4 forms the B1122 south from its junction with the A12 to its junction with Lover's Lane to the north of Leiston. The link is identified by SCC as a Zone Distributor Route within their Lorry Route Network.

244. Heading south from the A12, there are a number of properties along the B1122 near Middleton Moor, however, there are no footways to link these properties to wider communities and services. It is therefore considered that there would be minimal pedestrian activity along this part of the link and existing journeys would be completed by other modes. This part of the B1122 (link 4a) is therefore assessed as low sensitivity.

245. Heading south, the B1122 then continues as a rural B road before passing through the community of Theberton. Within Theberton, there are a number of local amenities including a church, public house and village hall. The church and public house front on to the B1122. There is a footway along at least one side of the road for the majority of the village, however, the footway is truncated to the north and as such pedestrians living to the north of the village wishing to access the community facilities would currently either have to walk in the road or drive. This section of the B1122 (link 4b) is therefore assessed as a high sensitive receptor.

246. To the south of Theberton there is no frontage development for the remainder of the link. However, cycle route 42 follows the B1122 for a short distance. In addition, there is a section of footway that provides access to Leiston Abbey, an

English Heritage property. It is therefore considered that residents of Leiston may walk along this footpath to access the abbey. Noting the presence of pedestrian and cyclists, this section of the B1122 (link 4c) is assessed as medium sensitivity.

247. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 10% and HGV flows by 57%. The review of baseline conditions has noted a shortfall in existing crossing facilities and that residents within Theberton need to walk along narrow footways and occasionally within the road to reach key local amenities.

248. It is considered that a change in total traffic of up to 10% would not materially impact upon the ability of pedestrians to cross the road when compared to existing conditions.

249. With regards to the impacts upon amenity from increases in traffic (and HGVs) passing pedestrians walking along footways on the B1122 it is considered that a change in background of HGV flows of 57% would have a low impact upon amenity.

250. A low magnitude of effect would result in a **minor adverse** impact upon link 4a (assessed as having low sensitivity) a **moderate adverse** impact upon link 4b (assessed as having high sensitivity) and a **minor adverse** impact upon link 4c (assessed as having medium sensitivity).

251. Noting the potential for significant amenity impacts upon residents within Theberton (link 4b) additional mitigation measures are therefore required and discussed further in ***section 26.6.1.8.2***.

#### *26.6.1.8.1.4 Link 6*

252. Link 6 forms the A1094 east from its junction with the A12 to its junction with the B1069 to the east of Friston. The link is identified by SCC as a Zone Distributor Route within their Lorry Route Network.

253. Heading east from the A12, there is sporadic development along the A1094, there are however no footways to link these properties to wider communities and services. It is therefore considered that there would be minimal pedestrian activity along this part of the link and existing journeys would be completed by other modes. This part of the A1094 (link 6a) is therefore assessed as having low sensitivity.

254. Heading east, the A1094 then passes through the community of Snape. The majority of the built up area of Snape and amenities (including a primary school and public house) are located to the south of the A1094 and would therefore not be impacted by the proposed East Anglia ONE North project's traffic.

255. However, there are a number of local amenities including a church and local convenience store (located within the petrol filling station) that are located off the A1094. There is a footway that provides a link from these amenities and the majority of residents to the south of the A1094. Along the A1094, there is a footway along at least one side of the road for the majority of the built-up area, however, the footway is truncated and as such pedestrians living off the A1094 to the west of the village wishing to access the community facilities would either have to walk in the road or drive. This section of the A1094 (link 6b) is therefore assessed as a high sensitive receptor.

256. Heading east of Snape village, there is sporadic development along the A1094 and there are no footways to link these properties to wider communities and services. It is therefore considered that there would be minimal pedestrian activity along this part of the link and existing journeys would be completed by other modes. However, regional Cycle Route 42 routes on carriageway along the A1094 between Priory Road and Mill Road. This part of the A1094 (link 6c) is therefore assessed having medium sensitivity.

257. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 4% and HGV flows by 49%. The review of baseline conditions has noted a shortfall in existing crossing facilities and that residents within the village of Snape currently need to walk along narrow footways and occasionally within the road to reach key local amenities.

258. It is considered that a change in total traffic of up to 4% would not materially impact upon the ability of pedestrians to cross the road when compared to existing conditions.

259. With regards to the impacts upon amenity from increases in traffic (and HGVs) passing pedestrians walking along footways on the A1094 it is considered that a change in background of HGV flows of 49% could potentially have a low impact upon amenity.

260. A low magnitude of effect would result in a **minor adverse** impact upon link 6a (assessed as having low sensitivity) a **moderate adverse** impact upon link 6b (assessed as having high sensitivity) and a **minor adverse** impact upon link 6c (assessed as having medium sensitivity).

261. Noting the potential for significant amenity impacts upon residents within Snape, (link 6b) additional mitigation measures are therefore required and discussed further in ***section 26.6.1.8.2***.

#### *26.6.1.8.1.5 Link 9*

262. Link 9 comprises of the B1069 from the junction of the A1094 to the south of Knodishall/ Coldfair Green. The link is identified by SCC as a Zone Distributor Route within their Lorry Route Network.

263. Heading north from the A1094, there is sporadic development along the A1094, there are however no footways to link these properties to wider communities and services. It is therefore considered that there would be minimal pedestrian activity along this part of the link an-d existing journeys would be completed by other modes. This link is therefore assessed as having low sensitivity.

264. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 11% and HGV flows by 109%. It is considered that a change in background HGV flows of 109% could have a medium magnitude of effect on a low sensitivity link resulting in a **minor adverse** impact.

265. Noting impacts are assessed as no greater than minor adverse for link 9, no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

#### *26.6.1.8.1.6 Link 11*

266. Link 11 comprises of Lover's Lane from its junction with the B1122 south to its junction with King George's Avenue. The link is signed as the route for HGVs to the Leiston Industrial Estate and is also identified as a local access route by SCC in their Lorry Route Network.

267. Along the link, there is minimal residential development near to Sandy Lane, this residential development is linked to the community facilities in Leiston by a narrow footway alongside Lover's Lane. SCC have advised that there is an existing public right of way heading east from Leiston to access Leiston Common on the opposite side of the road. However, there is a stagger in the rights of way and pedestrians are therefore required to walk 140m south on road or verge. Therefore, the link is assessed as a medium sensitivity receptor.

268. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 14% and HGV flows by 68%. It is considered that a change in background of HGV flows of 68% could potentially result in a low impact upon amenity, therefore the magnitude of effect is assessed as low on a medium sensitivity link resulting in a **minor adverse** impact.

269. Noting impacts are assessed as no greater than minor adverse for link 11, no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

#### *26.6.1.8.1.7 Link 12*

270. Link 12 comprises of Sizewell Gap from its junction with King George's Avenue to Sizewell B Nuclear Power Station. The link is identified as a local access route by SCC in their Lorry Route Network.

271. Along the link there is minimal residential development, and this is linked to the community facilities in Leiston by a shared use footway/ cycleway. This footway/ cycleway also provides a local route between Leiston (to the west) and Sizewell Beach and Sizewell A and B power stations to the east. Noting that there are minimal receptors along the link and that pedestrians and cyclists are accommodated off road, the link is assessed as a low sensitivity.

272. ***Table 26.23*** identifies that total traffic flows would be expected to increase by up to 10% and HGV flows by 132%. It is considered that a change in background of HGV flows of 132% could result in a medium magnitude of effect on a low sensitivity link resulting in a **minor adverse** impact.

273. Noting impacts are assessed as no greater than minor adverse for link 12 no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

### 26.6.1.8.2 Additional Mitigation Measures

274. The following additional mitigation measures are proposed to address potentially moderate adverse impacts upon links 4b and 6b.

#### *26.6.1.8.2.1 Link 4b*

275. The impact assessment noted potentially significant impacts upon the amenity of pedestrians trying to access services within Theberton. A review of the baseline network identified a number of gaps in footway provision and therefore, where possible, a series of permanent footway improvement are proposed within the existing highway boundary:

- Extend the existing footway on the eastern side of the road near to Manor Cottage to align with Ivy Cottages on the northern side of the road;
- Provide a pedestrian dropped crossing (a dropped kerb where the pavement is gently slopped to the same level as the road) to facilitate pedestrians crossing from the extended footway near Manor Cottage to Ivy Cottages; and
- Provide a short section of footway on the western side of Church Road (outside the church) to allow pedestrians to cross from one side of the road to the other and stand outside the church off the highway.

276. An outline concept sketch for these improvements is provided within ***Appendix 26.17***.

#### *26.6.1.8.2.2 Link 6b*

277. The impact assessment noted potentially significant amenity impacts upon pedestrians trying to access services within Snape. A review of the baseline highway conditions identified a number of gaps in footway provision and therefore, where possible, a series of footway improvements are proposed within the existing Local Highway Authority boundary:

- Provision of a pedestrian dropped crossing and short section of footway outside the church to allow pedestrians to cross A1094 and wait outside the church off the highway;
- An extension of the existing footway along the front of the petrol filling station to reduce the distance residents living to the west of the village have to walk in the road; and
- Provide a footway opposite the petrol filling station near the post box and village notice board and associated pedestrian dropped crossing to access the southern side of the road.

278. An outline concept sketch for these improvements is provided within ***Appendix 26.17***.

### 26.6.1.8.3 Impacts Following Mitigation

279. The implementation of the additional mitigation measures along the B1122 through Theberton (link 4b) and A1094 through Snape (link 6b) would reduce the distance that some residents would need to walk in the road and assist pedestrians crossing between footways, which may be beneficial if left in place.

280. With the implementation of the additional mitigation measures, the sensitivity of the links would still be expected to remain high, however, the magnitude of effect would be reduced from low to negligible resulting in a **minor adverse** residual impact which is not significant in EIA terms.

### 26.6.1.9 Impact 2: Severance

281. It can be noted from ***Table 26.10*** that total traffic flows along links 4, 9, 11 and 12 (with and without the proposed East Anglia ONE North project's traffic) are significantly below 8,000 vehicles per day where the DMRB suggests severance is unlikely to manifest. The magnitude of effect upon these links is therefore assessed as negligible on low to high sensitivity links giving a maximum impact of **negligible** to **minor adverse**.

282. The links with traffic flows above 8,000 vehicles AADT are links 2, 3 and 6. Link 3 has total traffic flows in excess of 16,000 vehicles per day and therefore in accordance the DMRB it can be assessed the receptors along the link would currently experience 'severe' levels of severance. Links 2 and 6 have total traffic flows of between 8,000 – 16,000 vehicles AADT and therefore in accordance with the DMRB it can be assessed that the receptors along the links would currently experience moderate levels of severance.

283. It can the noted from ***Table 26.23***that the peak daily change in total traffic flow for links 2, 3 and 6 is significantly less than a 30% change in total traffic, therefore, applying the GEART severance threshold (***Table 26.10***) the magnitude of effect is assessed as negligible on low to high sensitivity links giving a maximum impact of **negligible** to **minor adverse.**

284. Noting impacts are assessed as no greater than minor adverse for all screened links, no mitigation further to that embedded within the design of the proposed East Anglia ONE North project is considered necessary.

#### 26.6.1.10 Impact 3: Road Safety

##### 26.6.1.10.1 Impacts Prior To Mitigation

285. ***Table 26.24*** provides a summary of collision clusters and links with a collision rate higher than the national average for comparable roads identified in ***section 26.5.4. Table 26.24*** also includes details of the peak increase in daily construction flows in comparison to the forecast background daily traffic flows in 2023 (being the assumed worst case realistic start of construction).

**Table 26.24 Collision Analysis**

| Sensitive Links | Description | % increase | | Summary |
|---|---|---|---|---|
| | | All vehicles | HGVs | |
| Cluster 1<br>(Link 2) | A cluster of nine collisions at the junction of the junction A12 and B1119 Rendham Road that demonstrates a pattern of collisions involving vehicles right turning from Rendham Road on to the A12. | 2% | 20% | No construction traffic is projected to turn from the B1119 to A12. This routeing strategy would be secured through controls and measures (such as direction signing and delivery instructions) embedded within the OCTMP, submitted with this DCO application and secured under the requirements of the draft DCO.<br>It is therefore considered that an increase in total traffic of 2% through the junction represents a negligible magnitude of effect on a potentially high sensitive receptor. Therefore, the impact is assessed |

| Sensitive Links | Description | % increase | | Summary |
|---|---|---|---|---|
| | | All vehicles | HGVs | |
| | | | | as **minor adverse and further assessment is not required**. |
| Cluster 3<br>(Link 2, 3 and 6) | A cluster of 17 collisions at the junction of the A12 and A1094 that demonstrates a pattern of collisions between vehicles turning between the A12 and A1094. | 4% | 49% | It is considered that the change in HGV traffic could potentially lead to significant impacts. Further assessment is outlined in paragraphs 26.6.1.10.1.2 to 294. |
| B1121<br>(Links 5 and 7) | It has been identified that the number of collisions along the B1121 is higher than the national average for comparable roads. | 5% | 0% | It is considered that a peak change in total traffic of 5% represents a negligible magnitude of effect on a potentially high sensitive receptor. Therefore, the impact is assessed as **minor adverse and further assessment is not required**. |
| A1094<br>(Links 6 and 8) | It has been identified that the number of collisions along the A1094 is just below the national average for comparable roads. | 4% | 49% | It is considered that the change in HGV traffic could potentially lead to significant impacts. Further assessment is outlined in paragraphs 288 to 289. |

286. ***Table 26.24*** identifies that of the two potentially sensitive collision clusters within the onshore highway study area, Cluster 1 would experience a negligible magnitude of effect on a potentially high sensitive receptor resulting in a **minor adverse** impact. The remaining Cluster 3 would experience increases in HGV traffic, which could potentially result in significant impacts and is therefore considered further in the assessment.

287. In addition to the collision clusters, ***Table 26.24*** identifies that of the two potentially sensitive links within the onshore highway study area, the B1121 would experience a negligible magnitude of effect on a potentially high sensitive receptor, resulting in a **minor adverse** impact. The links along the A1094 would experience increases in HGV traffic which could potentially result in significant impacts and is therefore considered further in the assessment.

*26.6.1.10.1.1 A1094*

288. In order to understand if the projected increases in traffic on the A1094 (Links 6 and 8) could have a potentially adverse impact upon road safety, it is necessary to consider the types, times, and locations of the collisions in detail. The A1094

is identified as having a collision rate (per billion vehicle miles) of 466. This is just below the national average collision rate for comparable roads of 487 and has experienced 36 collisions within the last five years (equivalent to 7.2 collisions per year). However, a review of the annual trend in collisions has identified that of the 36 collisions, 12 occurred in 2013, eight in 2014, six in 2015, five in 2016 and five in 2017. It is therefore reasoned that there is a downward trend in collision rates and if this trend continued, the link would have a collision rate significantly below the national average for comparable roads.

289. Noting that the link has a collision rate similar to national averages, between 2013 to 2018, there has been a significant reduction in collisions, the link is reassessed as having a low sensitivity. An increase in total traffic of 4% and HGV traffic of 49% is considered to represent a medium magnitude of effect on a low sensitivity receptor. Therefore, the impact is assessed as **minor adverse**.

*26.6.1.10.1.2 Cluster 3*

290. In order to understand if the projected increase in traffic through Cluster 3 (the junction of the A1094 and A12) could have a potentially significant impact, a further, more detailed investigation of the 17 collisions has been undertaken. It has been established that of the 11 collisions involving vehicles turning between the A12 and A1094, nine are attributed to vehicles turning right from the A12 onto the A1094 and colliding with vehicles travelling south on the A12. All of these 11 collisions were between cars.

291. Typically, such collisions are the result of either poor visibility of oncoming vehicles or poor gap acceptance. A review of the existing highway environment has established that forward visibility at this location is not constrained and in addition, all the collisions occurred during daylight conditions. It is therefore reasoned that the collisions are the result of car drivers taking unnecessary risks and crossing in gaps in the traffic.

292. The remaining eight collisions involved three rear end shunts, one the A1094 approach, three on the A12 approach and two collisions between vehicles turning right from the A12 on the A1094. These collisions are considered to be more ‘typical’ for a junction of this type.

293. A review of the baseline highway conditions, has identified that a number of road safety measures have already been introduced, specifically for drivers on the A12 travelling south, these include:

- Advanced signing warning of an ‘accident site’;
- A safety camera to enforce the 50mph speed limit; and
- High friction road surfacing on the approach to the junction.

294. It is considered that an increase in HGV traffic of 49% represents a medium magnitude of effect on a receptor of high sensitivity. Therefore, the impact is assessed as **major adverse**. Noting the potential for significant road safety impacts at the junction of the A12 and A1094 additional mitigation measures are required and discussed further in ***section 26.6.1.10.2***.

### 26.6.1.10.2 Additional Mitigation Measures

295. It is understood that EDF Energy have proposed to replace the junction of the A12 and A1094 with a roundabout as part of the proposals for Sizewell C, a New Nuclear Power Station (detailed further within ***section 26.7.2***).

296. The replacement of the existing junction would help to alleviate the existing road safety issues and provide a modern standard compliant junction. However, it is unclear at this stage whether the Sizewell C New Nuclear Power Station proposals would come forward or be delivered prior to the commencement of construction of the proposed East Anglia ONE North project.

297. It is therefore necessary to develop a package of mitigation measures appropriate to the proposed East Anglia ONE North project that allows the proposed East Anglia ONE North project to proceed independently of the Sizewell C New Nuclear Power station proposals whilst also not compromising the potential deliverability of the roundabout by EDF.

298. The PEIR (SPR 2019) proposed a series of highway improvements including:

- A reduction in the posted speed limit in advance of the junction from 50mph to a 40mph;
- Provision of enhanced warning signage to better highlight the junction to approaching drivers; and
- Provision of ‘rumble strips’ and associated slow markings, to provide an audible and visual warning of the hazard to approaching drivers.

299. In their Section 42 response to the PEIR (***Appendix 26.1***), SCC have indicated that the mitigation measures proposed may not be sufficient and noted that the increased traffic associated with the proposed East Anglia ONE North project could decrease gaps on the A12 leading to increased driver frustration and potentially drivers accepting smaller gaps. Noting the identified pattern of collisions involving drivers failing to give way, SCC have requested further consideration of the mitigation measures at this junction.

300. Subsequent to the submission of the PEIR, detailed capacity modelling has been undertaken. This modelling indicates that the project’s traffic could lead to

significant driver delay impacts in the network peak hour and therefore it follows that the gap acceptance collisions could be exacerbated. The OTP (as secured under the requirements of the draft DCO) therefore includes details of how employee traffic movements would be controlled within peak hours to ensure that delays are managed to low magnitude levels. Full details are provided at ***section 26.6.1.11*.**

301. In summary for Cluster 3, it is forecast that the PEIR package of highway improvements augmented with measures to manage employee traffic movements during peak hours (as defined within the OTP) would result in a predicted magnitude of effect of negligible on a high sensitive receptor with an assessed residual impact of **minor adverse**.

302. Consideration has also been given to road safety impacts at new temporary points of access and crossings of the highway network. It is considered that at these locations, the intensification of slow moving construction traffic aligned to high speed rural roads could have the potential to lead to significant adverse road safety impacts.

303. Therefore, a package of mitigation measures has been developed to reduce the risk to the travelling public and construction employees at these locations. Preliminary access and crossing concepts are detailed within ***Appendix 26.18***, with the key mitigation measures also outlined below:

- Temporary direction and warning signs to advise of turning vehicles would be provided for all accesses. This signage would highlight the proposed accesses to drivers to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles;
- Temporary warning signs to advise of crossing vehicles would be provided for all crossings. This signage would highlight to the travelling public the potential for crossing vehicles;
- All accesses constructed to facilitate two-way HGV movements to prevent vehicles having to give way on the highway;
- All crossings constructed to prevent access from the highway, ensuring vehicles do not attempt to access or egress at these locations;
- All accesses and crossings provided with appropriate visibility splays to allow vehicles to safely access and exit from the junctions;
- All accesses and crossings to incorporate a bound (concrete or asphalt) surface to prevent dust and dirt being tracked on to the highway, reducing the potential for vehicles to lose control on loose material; and
- Temporary reduction in the existing speed limit in the vicinity of all accesses and crossings to reduce the speed of vehicles in the vicinity of these locations.

304. In addition, an independent Stage 1 Road Safety Audit has been undertaken for each access and crossing and is included as an annex of the OAMP, submitted with this DCO application and secured under the requirements of the draft DCO.

305. Full details of the proposed accesses, including details of junction geometry, signage and swept path analysis are provided within ***Appendix 26.18***.

#### 26.6.1.10.3 Impacts Following Mitigation

306. The implementation of the additional mitigation measures at the junction of the A12 and A1094 would reduce the traffic speed on the A12 and help highlight the junction to drivers. It is reasoned therefore that these measures would consequently assist in reducing the number and potential severity of the collisions at this location.

307. With the implementation of the additional mitigation measures the sensitivity of the junction would be expected to reduce to low. The magnitude of effect remains medium upon a low sensitive receptor, resulting in a **minor adverse** residual impact.

308. Following the provision of a package of measures to mitigate the potential impact of the slow-moving construction traffic at the proposed accesses, the magnitude is assessed as low on low sensitivity receptors resulting in a **minor adverse** residual impact.

### 26.6.1.11 Impact 4: Driver Delay (Capacity)

#### 26.6.1.11.1 Impacts Prior To Mitigation

309. The GEART screening thresholds do not apply to this effect as the potential impact is defined as significant when the highway network surrounding the development under consideration is at or close to capacity.

310. The most sensitive time for Driver Delay could be if the construction shift starts or finishes at the same time as the morning or evening network peak hours.

311. To assess if this has the potential for significant impacts, the traffic generation associated with all construction employees arriving/ departing work and peak hourly HGV demand (daily HGV demand profiled across ten hours) has been considered.

312. The PEIR (SPR 2019) detailed peak increases in traffic flows through junctions and links identified as potentially being susceptible to increases in traffic flow by SCC and Highways England. As part of their Section 42 response (***Appendix 26.1***), SCC have requested detailed junction modelling for all junctions identified as being susceptible to increases in traffic flow. This modelling has been undertaken by the Applicant, results of which are presented below.

313. The following ***Table 26.25*** provides a summary of the modelled impacts for the peak construction period compared to background traffic flows.

314. When assessing priority and roundabout junction capacity, reference has been made to the Ratio of Flow to Capacity (RFC). RFC is the standard recognised threshold for priority and roundabout junctions in the UK and is typically reported by junction approach arm. When values for RFC are above 0.85 a junction is considered to be operating beyond its desirable capacity and mitigation measures may be required.

315. In assessment terms, the baseline RFC gives an indication of a junction's sensitivity to changes in traffic throughput, whereas, junction delay gives an indication of the magnitude of effect.

316. Modelling of the priority and roundabout junction has been undertaken with the use of industry standard software (Junctions 8). Full modelling outputs including flow diagrams for each junction are provided within ***Appendix 26.19***.

317. To inform the potential for delays at Farnham Bends, a survey of measured speeds has been undertaken to establish baseline vehicle speeds through the bends for different vehicle types (Copies of the speed surveys are provided within ***Appendix 26.7***). Two further surveys were also conducted either side of Farnham Bends to establish 'normalised' speeds away from the bends with which to benchmark traffic delays.

318. The measured speeds were then input in to a VISSIM model for the different vehicle types. The model has then forecast baseline delays associated with vehicles slowing for the bend and the likely increase in delays associated with the proposed East Anglia ONE North project. Full modelling outputs including link flow diagrams are provided within ***Appendix 26.20***.

**Table 26.25 Summary of Impacts on Sensitive Junctions and Links**

| Junction/ link notation | Location | All Vehicles | HGVs | Summary of junction modelling |
|---|---|---|---|---|
| Junction 1 | Junction of the A12 and A1094 | 94 | 21 | The detailed junction model indicates the from both am and pm peak hours that all arms currently operating within capacity with a maximum RFC of 0.62, with average queues of no more than two vehicles and maximum delay of 21 seconds. The junction is therefore considered to be operating with spare capacity as if therefore considered to be of low sensitivity.<br><br>With the addition of the proposed East Anglia ONE North projects traffic the model indicates that the junction would continue to operate with spare capacity (with a maximum RFC of 0.81) |

| Junction/ link notation | Location | All Vehicles | HGVs | Summary of junction modelling |
|---|---|---|---|---|
| | | | | and with queues of up to four vehicles. Delays would be expected to increase to a maximum of 40 seconds (from 21 seconds).<br><br>It is considered that with the addition of the proposed East Anglia ONE North project traffic the junction would be operating close to capacity with potentially significant changes in delays and therefore the magnitude of change is assessed as high on a receptor of low sensitivity resulting in a **moderate adverse** impact. |
| Junction 2 | Junction of the A12, B1122 and A1120 | 99 | 21 | The detailed junction model indicates the from both am and pm peak hours that all arms currently operate within capacity with a maximum RFC of 0.42, with average queues of no more than a single vehicle and a maximum delay of up to 14 seconds. The junction is therefore considered to be operating with spare capacity as if therefore considered to be of low sensitivity.<br><br>With the addition of the proposed East Anglia ONE North projects traffic the model indicates that the junction would continue to operate with spare capacity (with a maximum RFC of 0.67) and with queues of up to two vehicles. Delays are expected to increase to 27 seconds (from 14 seconds).<br><br>It is considered that with the addition of the proposed East Anglia ONE North project traffic the junction would be operating with spare capacity and therefore the magnitude of change is assessed as medium on a receptor of low sensitivity resulting in a **minor adverse** impact. |
| Junction 3 | Junction of the A1094 and B1069 | 117 | 21 | The detailed junction model indicates the from both am and pm peak hours that all arms currently operate within capacity with a maximum RFC of 0.74 with average queues of up to three vehicles and a maximum delay of up to 31 seconds. The junction is therefore considered to be operating with spare capacity as if therefore considered to be of low sensitivity.<br><br>With the addition of the proposed East Anglia ONE North projects traffic the model indicates that the junction would continue to operate with spare capacity (with a maximum RFC of 0.83) and with queue of up to five vehicles and a maximum delay of 48 seconds.<br><br>It is considered that with the addition of the proposed East Anglia ONE North project traffic the junction would be operating close to capacity with potentially significant changes in delays and therefore the magnitude of change is assessed |

| Junction/ link notation | Location | All Vehicles | HGVs | Summary of junction modelling |
|---|---|---|---|---|
| | | | | as high on a receptor of low sensitivity resulting in a **moderate adverse** impact. |
| **Link 2** | A12 at Farnham Bends | 70 | 21 | The detailed model indicates average delays per vehicle (across the am and pm peak hours) associated with vehicles passing through Farnham Bends would be approximately 6.2 seconds. With the addition of the proposed East Anglia ONE North project traffic the delays would be expected to increase to 6.3 seconds (a 0.1 second increase).<br>It is reasoned that a change in average delays of less than a second would be indiscernible and therefore the impact of driver delay at Farnham Bends is assessed as **negligible**. |

#### 26.6.1.11.2 Additional Mitigation Measures

319. The impact assessment identified potentially significant driver delay impacts associated with the increase in construction traffic movements through junctions 1 and 3 during the morning (07:30 – 08:30) and evening (16:30 – 17:30) peak hours.

320. The OTP (as secured under the requirements of the draft DCO) includes details of how employee traffic movements would be controlled within peak hours to ensure that delays are managed to low magnitude levels.

#### 26.6.1.11.3 Impacts Following Mitigation

321. The implementation of the additional mitigation measures to manage employee movements during network peaks hours for junction 1 and 3 would reduce the increase in total vehicle movements through junction 1 and 3 to low magnitude levels.

322. With the implementation of the OTP measures, the sensitivity of the junctions would remain low, however, the magnitude of effect would be reduced to low resulting in a **minor adverse** residual impact which is not significant in EIA terms.

### 26.6.1.12 Impact 5: Driver Delay (Highway Geometry)

#### 26.6.1.12.1 Impacts Prior To Mitigation

323. During consultation with SCC, a request was made to consider the potential for delays associated with HGVs attempting to pass oncoming vehicles at locations where the existing highway width is constrained, namely:

- The priority junction of the A1094 and B1069; and

- The roundabout junction of the A1094 and B1122 at Aldeburgh.

324. To assess if the junctions present a constraint to the free flow of traffic, swept path analysis has been undertaken. Swept path analysis utilises the AutoCAD vehicle tracking software to simulate the path that a vehicle would take whilst negotiating the highway. The swept path has been undertaken using an articulated HGV and a rigid body tipper vehicle, the dimensions of which are shown in ***Appendix 26.21***. These vehicles represent the types of vehicles likely to be used to deliver materials to the proposed East Anglia ONE North project.

325. The result of the swept path analysis for both junctions is provided within ***Appendix 26.21***. Results from the swept path analysis show that for the A1094/ B1069 junction all likely manoeuvres can be completed by all vehicle types and therefore the impact is assessed as **negligible**.

326. The swept path analysis for the junction of the A1094 and B1122 demonstrates that the rigid body tipper can complete all manoeuvres, however, the articulated HGV travelling from A1094 to the B1122 would swing out into the oncoming lane.

327. ***Table 26.23*** highlights that there could be a peak of seven two-way movement though this junction per day (less than one an hour). It is considered that the potential for delays associated with such a manoeuvre would therefore be infrequent and are therefore assessed as of a low magnitude of effect upon a highly sensitive receptor resulting in a **moderate adverse** impact. Noting the potential for delays at the junction of the A1094 and B1122, additional mitigation measures are discussed further in ***section 26.6.1.12.2***.

### 26.6.1.12.2 Additional Mitigation Measures

328. All HGV traffic travelling via the A1094 and B1122 roundabout would be associated with vehicles travelling to access 5 and 6 to undertake works to a small part of section 3 (section 3b) of the onshore cable route that is located either side of the B1122 to the south of Aldringham, this section is highlighted in ***Figure 26.2***.

329. ***Section 26.6.1.3*** sets out that all construction traffic associated with the works either side of the B1122 would first travel to the construction consolidation site at the B1069, from here the vehicles would then travel onwards to B1122. This strategy would allow most deliveries to be consolidated on to appropriately sized vehicles.

330. However, should there be a requirement for a larger articulated vehicles to access direct at access 5 or 6, then it is proposed that the vehicle would be escorted by a pilot vehicle to hold back oncoming traffic. This strategy would be

secured through controls and measures embedded within the OCTMP, submitted with this DCO application and secured under the requirements of the draft DCO.

#### 26.6.1.12.3 Impacts Following Mitigation

331. Following the implementation of the additional measures to mitigate the potential impacts of articulated vehicles turning from the A1094 to B1122 the magnitude is assessed as negligible on a receptor of high sensitivity resulting in a **minor adverse** residual impact.

### 26.6.2 Potential Impacts during Operation

332. The EIA scoping exercise scoped out consideration of operational severance and amenity impacts but noted the potential for localised driver delay and road safety impacts, therefore these are assessed in this section.

333. It is anticipated that the proposed onshore substation and National Grid substation would not normally be staffed. During the operational phase, vehicle movements would therefore be limited to occasional repair, maintenance and inspection visits at the substation and periodic checks of the onshore cable route.

334. During the operational phase access to the onshore substation would be via access 13 to the north of Friston (as shown in ***Figure 26.2*** and detailed within ***Appendix 26.18***). This access would be constructed during the construction phase and remain in place for the life of the proposed East Anglia ONE North project.

335. It is anticipated that access to the jointing bays would be taken from existing field and farm accesses, utilising appropriate off-road vehicles to access each jointing bay.

336. Considering the activities listed above, **no significant** traffic impacts are anticipated during the operational phase.

### 26.6.3 Potential Impacts during Decommissioning

337. No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with

the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.

## 26.7 Cumulative Impacts

### 26.7.1 Cumulative Impact with the proposed East Anglia TWO Project

338. The East Anglia TWO offshore windfarm project (the proposed East Anglia TWO project) is also in the application phase. The proposed East Anglia TWO project has a separate DCO application which has been submitted at the same time as the proposed East Anglia ONE North project. The two projects share the same landfall location and onshore cable corridor and the two onshore substations are co-located and connect into the same National Grid substation.

339. The proposed East Anglia ONE North project CIA will therefore initially consider the cumulative impact with only the East Anglia TWO project.

340. The CIA considers the proposed East Anglia ONE North project and the proposed East Anglia TWO project under two construction scenarios:

- Scenario 1 - the proposed East Anglia ONE North project and proposed East Anglia TWO project are built simultaneously; and
- Scenario 2 - the proposed East Anglia ONE North project and the proposed East Anglia TWO project are built sequentially.

341. The worst case (based on the assessment of these two construction scenarios) for each impact is then carried through to the wider CIA which considers those developments which have been screened into the CIA (***section 26.7.2***). The operational phase impacts will be the same irrespective of the construction scenario. For a more detailed description of the assessment scenarios please refer to ***Chapter 5 EIA Methodology***.

342. Full assessment of scenario 1 and scenario 2 can be found in ***Appendix 26.2*** This assessment found that scenario 1 represented the worst case impacts for traffic and transport. A summary of those impacts can be found in ***Table 26.26***.

**Table 26.26 Summary of Potential Impacts Identified for Traffic and Transport under Construction Scenario 1**

| Potential Impact | Receptor | Value / Sensitivity | Magnitude | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|---|
| **Cumulative Construction Impacts with the proposed East Anglia TWO project** | | | | | | |
| Impact 1: Amenity | Link 2 | Low - High | Negligible | Negligible - Minor | n/a | **Negligible – Minor** |
| | Link 3 | Low - High | Negligible | Negligible - Minor | n/a | **Negligible - Minor** |
| | Link 4 | Low - High | Low | Minor - Moderate | New footways and dropped crossings | **Negligible - Minor** |
| | Link 6 | Low - High | Low | Minor - Moderate | New footways and dropped crossings | **Negligible - Minor** |
| | Link 9 | Low | Moderate | Minor | n/a | **Minor** |
| | Link 11 | Medium | Low | Minor | n/a | **Minor** |
| | Link 12 | Low | Moderate | Minor | n/a | **Minor** |
| Impact 2: Severance | Links 2, 3, 4, 6, 9, 11 and 12 | Low – High | Negligible | Negligible - Minor | n/a | **Negligible - Minor** |
| Impact 3: Highway Safety | Cluster 1 (link 2) | High | Negligible | Minor | n/a | **Minor** |
| | Cluster 3 (links 2, 3 and 6) | High | Medium | Major | Speed limit reduction, enhanced warning signs and rumble strips<br>Measures to manage employee traffic movements, as defined within the OTP | **Minor** |
| | B1121 (links 5 and 7) | High | Negligible | Minor | n/a | **Minor** |
| | A1094 (links 6 and 8) | Low | Medium | Minor | n/a | **Minor** |

| Potential Impact | Receptor | Value / Sensitivity | Magnitude | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|---|
| **Cumulative Construction Impacts with the proposed East Anglia TWO project** | | | | | | |
| | | | | | | |
| Impact 4: Driver Delay (Capacity) | Junction 1 | Low | High | Moderate | Measures to manage employee traffic movements, as defined within the OTP. | **Minor** |
| | Junction 2 | Low | Medium | Minor | n/a | **Minor** |
| | Junction 3 | Low | High | Moderate | Measures to manage employee traffic movements would be managed to control movements, as defined within the OTP. | **Minor** |
| | Link 2 'Farnham Bends' | High | Negligible | Negligible | n/a | **Negligible** |
| Impact 5: Driver Delay (Highway Geometry) | The priority junction of the A1094 and B1069. | High | Negligible | Negligible | n/a | **Negligible** |
| | The roundabout junction of the A1094 and B1122 at Aldeburgh. | High | Low | Moderate | All vehicles to travel to a construction consolidation site at link 9 where loads can be broken down and placed on smaller vehicles. Where loads cannot be consolidated to smaller vehicles HGVs are to be escorted by a pilot vehicle. | **Minor** |
| **Cumulative Operation Impacts with the proposed East Anglia ONE North project** | | | | | | |
| No significant impacts. | | | | | | |

| Potential Impact | Receptor | Value / Sensitivity | Magnitude | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|---|
| **Cumulative Construction Impacts with the proposed East Anglia TWO project** | | | | | | |
| **Cumulative Decommissioning Impacts with the proposed East Anglia ONE North project** | | | | | | |
| No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase. | | | | | | |

### 26.7.2 Cumulative Impact Assessment with Other Developments

343. The assessment of cumulative impacts with other developments has been undertaken as a two stage process. Firstly, all impacts considered in ***section 26.7.1*** have been assessed for the potential to act cumulatively with other projects. Potential cumulative impacts are set out in ***Table 26.27***.

**Table 26.27 Potential Cumulative Impacts**

| Impact | Potential for Cumulative Impact | Rationale |
|---|---|---|
| **Construction** | | |
| Pedestrian amenity | Yes | Cumulative impacts arising from two or more projects are possible upon all screened links due to the increase in traffic from the projects. Links below GEART screening thresholds are not considered further within this CIA. |
| Severance | Yes | |
| Road Safety | Yes | Cumulative impacts arising from two or more projects are possible due to the increase in traffic from the projects. |
| Driver Delay (highway capacity) | Yes | Cumulative impacts arising from two or more projects are possible upon junction 1 to 3 and 6 to 13 and upon link capacity for link 1 (A12 near Woodbridge between B1079 and B1438).<br>The peak traffic numbers through junction 4 and 5 were shared with Highways England within the PEIR (SPR 2019). As part of their Section 42 response (***Appendix 26.1***), Highways England have confirmed that they were content with the levels of traffic proposed and did not wish to see further junction modelling. It is therefore considered that the impacts upon junctions 4 and 5 are negligible and no CIA is presented.<br>The modelling of link capacity at the A12 at Farnham, indicated that the change in delays would be negligible and therefore no CIA is presented for this link. |
| Driver Delay (Highway geometry) | No | This effect relates to whether HGVs can physically manoeuvre through the junction of the A1094/ B1069 and A1094/ B1122. The assessment indicates that vehicles can manoeuvre through the junction of the A1094 and B1069 and that mitigation will be provided as follows: all vehicles to travel to a construction consolidation site where loads can be broken down and placed on smaller vehicles, where loads cannot be consolidated to smaller vehicles HGVs are to be escorted by a pilot vehicle.<br>Therefore, it is considered that there is no potential for cumulative impacts with other projects. |
| **Operation** | | |
| No cumulative impacts are anticipated as there are no operational impacts associated with proposed East Anglia ONE North project. | | |
| **Decommissioning** | | |

| Impact | Potential for Cumulative Impact | Rationale |
|---|---|---|
| No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase. | | |

344. The second stage of the CIA is an assessment of whether there is temporal or spatial overlap between the extent of potential effects of the onshore infrastructure and the potential effects of other projects scoped into the CIA upon the same receptors. To identify whether this may occur, the potential nature and extent of effects arising from all projects scoped into the CIA have been identified and any overlaps between these and the effects identified in ***section 26.7.1***. Where there is an overlap, an assessment of the cumulative magnitude of effect is provided.

345. Following a review of projects which have the potential to overlap temporally or spatially with the proposed East Anglia ONE North project, three developments have been scoped into the CIA for this chapter. ***Table 26.28*** provides detail of other projects that could potentially contribute to cumulative effects.

346. The full list of projects for consideration has been developed in consultation with the Local Planning Authority. The remainder of the section details the nature of the cumulative impacts against all those receptors scoped in for cumulative assessment.

**Table 26.28 Summary of Projects considered for the CIA in Relation to Traffic and Transport**

| Project Name | Status | Development Period | [6]Distance from East Anglia ONE North Onshore Development Area | Project Definition | Level of information available | Included in CIA | Rationale |
|---|---|---|---|---|---|---|---|
| Sizewell C New Nuclear Power Station | PEIR formally submitted 04.01.19. | Planning application expected in 2020.<br>Construction expected to commence in 2021. | 1.4km | A new nuclear power station at Sizewell in Suffolk. Located to the north of the existing Sizewell B Power Station Complex, Sizewell C New Nuclear Power Station would have an expected electrical capacity of approximately 3,260 megawatts (MW).<br>Full PEIR available:<br>https://www.edfenergy.com/download-centre?keys=&tid=1380&year%5Bvalue%5D%5Byear%5D= | Tier 5[7] | Yes | The construction traffic associated with Sizewell C New Nuclear Power Station will travel on some of the same road links as the proposed East Anglia ONE North project. Therefore, cumulative impacts are possible.<br>Sizewell C New Nuclear Power Station is not expected to be operational until 2031 at the earliest, as such the operational phase would not overlap with the construction of the proposed East Anglia ONE North project. The CIA therefore focusses on the potential for construction impacts only. |

[6] Shortest distance between the considered project and East Anglia ONE North– unless specified otherwise
[7] Based on the definition of Tier 5 outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

| Project Name | Status | Development Period | [6]Distance from East Anglia ONE North Onshore Development Area | Project Definition | Level of information available | Included in CIA | Rationale |
|---|---|---|---|---|---|---|---|
| Sizewell B Power Station Complex | Planning application formally submitted 18.04.19.<br><br>Awaiting Decision. | Construction expected to commence in 2022.<br><br>Expected construction timetable of 53 months. Peak construction is expected in 2022, completion of construction expected in 2027. | 1.4km | The demolition and relocation of facilities at the Sizewell B Power Station Complex. In outline, demolition of various existing buildings (including the outage store, laydown area, operations training centre and technical training facility), and erection of new buildings, including a visitor centre, and the construction of new access road, footpath and amended junction at Sizewell Gap; and associated landscaping and earthworks/recontouring.<br><br>Full planning application available:<br><br>https://publicaccess.eastsuffolk.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PQ5NVGQXJJ100 | Tier 4[8] | No | The most intensive period of construction for the Sizewell B Power Station Complex is expected to occur in 2022, and therefore there will be no temporal overlap during this period with the proposed East Anglia ONE North project, which will commence construction in 2023. There are no data presented within the Sizewell B Power station Complex ES for subsequent construction years, and therefore the cumulative impact could not be considered. However, it is anticipated that, as this project would form part of the enabling works for Sizewell C New nuclear Power Station, that consideration of impacts associated with the early years and peak construction |

[8] Based on the definition of Tier 4 outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

| Project Name | Status | Development Period | [6]Distance from East Anglia ONE North Onshore Development Area | Project Definition | Level of information available | Included in CIA | Rationale |
|---|---|---|---|---|---|---|---|
| | | | | | | | period of Sizewell C new Nuclear Power Station would represent a worst-case CIA scenario. |
| Suffolk's Energy Gateway | Major scheme business case submitted | Uncertain | ~3.0km | Consultation Document Available:<br>https://www.suffolk.gov.uk/council-and-democracy/consultations-petitions-and-elections/consultations/suffolks-energy-gateway-segway-consultation/ | Tier 5[9] | No | The DfT have confirmed that they would not commit funding to the Suffolk's Energy Gateway project and therefore the scheme has not been considered further within the CIA. |

[9] Based on criteria outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

#### 26.7.2.1 Cumulative Impacts during Construction

##### 26.7.2.1.1 Sizewell C New Nuclear Power Station

347. EDF Energy is proposing to build and operate a new nuclear power station, Sizewell C, on the Suffolk coast, on land immediately to the north of the existing station, Sizewell B. It is proposed that Sizewell C would comprise of two UK EPR™ units to provide a combined site capacity of approximately 3,260MW.

348. The worst-case cumulative scenario for the proposed East Anglia ONE North project is the simultaneous construction with the proposed East Anglia TWO project (herein referred to as scenario 1) as this would lead to higher project-generated traffic flows due to both projects being constructed simultaneously. Cumulative impacts with the Sizewell C New Nuclear Power Station are therefore considered alongside scenario 1 (construction of the proposed East Anglia ONE North and proposed East Anglia TWO projects simultaneously) to provide a worst-case CIA.

349. The impact assessment for Sizewell C New Nuclear Power Station (presented within their PEIR, submitted 4 January 2019) presents three assessment scenarios, namely:

- Sizewell C New Nuclear Power Station early years;
- Sizewell C New Nuclear Power Station peak construction (Road option); and
- Sizewell C New Nuclear Power Station peak construction (Rail option).

350. The Sizewell C New Nuclear Power Station early years scenario represents the initial construction stages of the project (known as the ‘early years’) over a three-year period (commencing 2022) and would deliver much of the key mitigation proposed by EDF Energy to mitigate the impacts of peak construction traffic. Therefore, during these early years the proposed Sizewell C New Nuclear Power Station traffic flows are largely unmitigated.

351. The Sizewell C New Nuclear Power Station peak construction scenarios consider the impact of the worst-case peak construction traffic demand for a rail scenario and a road scenario. Both scenarios would use rail, but the rail scenario would have a greater reliance upon rail than the road scenario. In comparison to the rail option, the road option generally includes higher traffic demand albeit supported by greater levels of mitigation. EDF Energy state within their PEIR for Sizewell C New Nuclear Power Station that both options could equally come forward.

352. Noting the varying levels of traffic and associated mitigation with each of the three Sizewell C New Nuclear Power Station scenarios, it was agreed with highways stakeholders, through the Traffic and Transport ETG (see ***section 26.2***), that

each scenario should be considered within CIA. In addition, noting that there are uncertainties regarding the start date for Sizewell C New Nuclear Power Station, it has also been agreed that both the early years and peak construction scenarios for Sizewell C New Nuclear Power Station could potential overlap with scenario 1.

353. The following three CIA scenarios were therefore agreed:

- **CIA scenario A:** Sizewell C New Nuclear Power Station early years + scenario 1;
- **CIA scenario B:** Sizewell C New Nuclear Power Station peak construction (rail option) + scenario 1; and
- **CIA scenario C:** Sizewell C New Nuclear Power Station peak construction (road option) + scenario 1.

354. Subsequent to agreeing the CIA approach, EDF Energy have embarked upon a Stage 4 consultation exercise scheduled to run from 18 July to 27 September 2019. The Stage 4 consultation document contains further information on an updated freight management strategy but does not contain sufficient information to facilitate a quantitative assessment.

355. Recognising that Stage 3 information released by EDF Energy is now out of date, a quantitative CIA cannot be provided at this stage as it would be based upon out of date and incorrect information.

356. The CIA presented herein is qualitative, examining the potential for cumulative impacts, recognising the low magnitude of effects of scenario 1 relative to the Sizewell C New Nuclear Power Station.

#### *26.7.2.1.1.1 Pedestrian Amenity and Severance*

357. GEART provides guidance for where changes in traffic flows could have an adverse impact upon Pedestrian Amenity and Severance. Recognising that there is not sufficient certainty regarding the suitability of the published traffic numbers for the Sizewell C New Nuclear Power Station the following section provides a review of the potential for adverse cumulative pedestrian amenity and severance impacts.

358. The following section provides a review of the potential for adverse pedestrian amenity and severance impacts upon all links above GEART screening thresholds for the proposed East Anglia ONE North project. Links below GEART screening thresholds are assumed to result in no discernible or negligible environmental effects and are therefore not assessed further as part of this CIA.

Link 2

359. Link 2 forms the A12 north from its junction with the A1094 to its junction with the B1122 at Yoxford.

360. EDF Energy has proposed to construct a Sizewell Link Road that would route from the A12 south of Yoxford to Sizewell C significantly reducing traffic through Yoxford. This road is however only proposed for the CIA Scenario C and would not be complete for the CIA Scenario A. It is therefore considered that there would be the potential for cumulative Pedestrian Amenity and Severance impacts upon link 2 with the Sizewell C Nuclear Power Station should EDF Energy not build the Sizewell Link Road or not build the Sizewell Link Road prior to the commencement of significant construction traffic movements.

Link 3

361. Link 3 forms the A12 south from its junction with the A1094 to its junction with B1116 north of Wickham Market.

362. EDF Energy have proposed to construct a new bypass of the villages of Farnham and Stratford St Andrew (known as the two-villages bypass). This bypass would remove all but local traffic from the A12. EDF Energy currently propose that this bypass could take up to two years to construct, therefore there could be a period of up to two years where CIA Scenario A traffic passes unmitigated through these communities.

363. It is therefore considered that there would be the potential for cumulative Pedestrian Amenity and Severance impacts upon link 3 with the Sizewell C Nuclear Power Station prior to EDF Energy construction the two-villages bypass.

Link 4

364. Link 4 forms the B1122 south from its junction with the A12 to its junction with Lover's Lane to the north of Leiston.

365. EDF Energy are proposing that for the CIA Scenario B, a bypass of Theberton (link 4b) would be provided and that a new off-road pedestrian, cycle and bridleway (with signalised Toucan and Pegasus crossings of the B1122) would be provided along link 4c.

366. EDF Energy are proposing that for the CIA Scenario C a bypass would be constructed that would route from the A12 south of Yoxford to Sizewell C (known as the Sizewell Link Road). The Sizewell Link Road would effective bypass the B1122 and significantly reduce traffic flows along this link. Therefore, for CIA Scenario C there would be no significant cumulative impacts upon link 4.

367. It is considered that there would be the potential for cumulative Pedestrian Amenity and Severance impacts upon those part of link 4 that would not be bypassed as part of CIA Scenario B and if EDF Energy were not to build the Sizewell Link Road prior to the commencement of significant construction traffic movements.

Link 6

368. Link 6 forms the A1094 east from its junction with the A12 to its junction with the B1069 to the east of Friston.

369. EDF Energy has indicated that it does not propose to route HGVs or buses via this link and therefore It is considered that the cumulative increases in traffic would be broadly comparable to the proposed East Anglia ONE North and East Anglia TWO projects traffic and therefore cumulative impacts would not be significant.

Link 9

370. Link 9 comprises of the B1069 from the junction of the A1094 to the south of Knodishall/ Coldfair Green.

EDF Energy has indicated that it does not propose to route HGVs or buses via this link and therefore It is considered that the cumulative increases in traffic would be broadly comparable to the proposed East Anglia ONE North and East Anglia TWO projects traffic and therefore cumulative impacts would not be significant.

Link 11

371. Link 11 comprises of Lover's Lane from its junction with the B1122 south to its junction with King George's Avenue.

372. EDF Energy have proposed to construct new off-road route that would encompass a re-aligned bridleway, Suffolk Coast Path, Sandlings Walk, England Coast Path and Sustrans cycle route diversion. In addition, a controlled Pegasus and Toucan crossing would be provided to allow users to cross Lover's Lane.

373. It is not stated within the PEIR for the Sizewell C New Nuclear Power Station how long after the commencement of construction this mitigation would be required to be delivered. However, noting that routes are required to be diverted to enable construction it is reasoned that this mitigation would likely be required prior to commencement of significant construction traffic movements.

374. It is considered the proposed mitigation measures would ensure cumulative impacts upon Pedestrian Amenity and Severance would not be significant.

Link 12

375. Link 12 comprises of Sizewell Gap from its junction with King George's Avenue to Sizewell B Nuclear Power Station. EDF Energy has indicated that it does not propose to route construction traffic via this link and therefore there would be no potential for cumulative impacts.

*26.7.2.1.1.2 Road Safety*

376. ***Section 26.5.4*** identified collision clusters and links with a collision rate higher than the national average for comparable roads. These sites are considered to be potentially sensitive to changes in traffic and are therefore considered further to understand the potential for cumulative impacts.

Cluster 1

377. Cluster 1 is located at junction of the junction A12 and B1119 Rendham Road that demonstrates a pattern of collisions involving vehicles right turning from Rendham Road on to the A12.

378. No mitigation was proposed for the proposed East Anglia ONE North project as no traffic was projected to turn off or on to the A12 at this point and the increases in traffic along the A12 at 3% were considered negligible.

379. EDF Energy have proposed improvements to this junction in the early years to mitigate the road safety impacts of the increase in traffic. These mitigation measures include improvements to visibility, new signage and road markings and regular monitoring of collisions. EDF Energy consider that these improvements would improve existing safety at the junction and mitigate the impact of the additional Sizewell C traffic.

380. It is considered that the mitigation measures proposed by EDF Energy would be appropriate to mitigate the cumulative impact with the proposed East Anglia ONE North project that in isolation would result in an increase in traffic of up to 3%.

Cluster 3

381. Cluster is located at junction of the A12 and A1094 that demonstrates a pattern of collisions between vehicles turning between the A12 and A1094.

382. EDF Energy have proposed to replace the existing junction with a roundabout and consider that this solution would enhance safety at this intersection. It is considered that the provision of a roundabout would provide a modern standard compliant solution at this location and would therefore be appropriate to also mitigate the cumulative impact with scenario 1.

383. The Sizewell C proposals would see the roundabout delivered by EDF Energy within the early years and therefore, there could be a short period (potentially up to a year) where the Sizewell C early years traffic would pass through an unmitigated junction.

384. During the construction of the roundabout there would be a requirement for temporary traffic management on the A12. This would likely include a temporary speed limit, lane closures, advanced signing and potentially temporary signalisation. It is therefore considered that traffic would be operating within a controlled environment and that there would be regular monitoring of traffic conditions to ensure that the traffic management proposals were appropriate.

385. It is therefore considered that in the event that the proposed East Anglia ONE North project was being construction during this short period (where the roundabout was being constructed) then the temporary traffic management would significantly reduce traffic speeds and control traffic movements leading to a reduction in the number and severity of collisions. It is expected that this mitigation strategy would be secured through the development of the CTMPs for the respective projects.

386. With the implementation of the mitigation measures the sensitivity of the junction would be expected to reduce to negligible. The magnitude of effect would be high resulting in a **minor adverse** cumulative impact.

B1121

387. EDF Energy has indicated that it does not propose to route construction traffic via this link and therefore there would be no potential for cumulative impacts.

A1094

388. ***Section 26.5.4*** details that the number of collisions along the A1094 is just below the national average for comparable roads.

389. EDF Energy has indicated that it does not propose to route HGVs or buses via this link and therefore It is considered that the cumulative increases in traffic would be broadly comparable to the proposed East Anglia ONE North and East Anglia TWO projects traffic and therefore cumulative impacts would not be significant.

*26.7.2.1.1.3 Driver Delay (Capacity)*

390. The following ***Table 26.29*** provides a summary of the potential for cumulative driver delay impacts. The assessments utilise the proposed East Anglia ONE North and East Anglia TWO projects (scenario 1) traffic demand to determine the potential for cumulative impacts with Sizewell C logistic scenarios.

391. When assessing junction capacity, reference has been made to the Ratio of Flow to Capacity (RFC) and Degree of Saturation (DoS). RFC is the standard recognised threshold for priority and roundabout junctions in the UK and DoS is the standard recognised threshold for signalised junctions. When values for RFC and DoS are above 0.85 and 90% respectively, a junction is considered to be operating beyond its desirable capacity and mitigation measures may be required.

392. In assessment terms, the baseline RFC and DoS gives an indication of a junction's sensitivity to changes in traffic throughput, whereas, junction delay gives an indication of the magnitude of effect.

393. Modelling of the priority and roundabout junctions has been undertaken with the use of industry standard software (Junctions 8), whilst modelling of the signalised roundabout junctions has been undertaken with the use of industry standard software (LinSig).

394. Full modelling outputs including flow diagrams for each junction are provided within ***Appendix 26.19***.

395. To inform the potential for delays along the A12 near Woodbridge (between B1079 and B1438) an assessment of link capacity was undertaken using the formula contained within TAG UNIT M3.1. Details of the calculations and including link flow diagrams are provided within ***Appendix 26.19***.

**Table 26.29 Summary of Cumulative Impacts on Sensitive Junctions and Links**

| Junction notation | Location | Increase in all vehicle flows (scenario 1) | Summary of junction modelling |
|---|---|---|---|
| Junction 1 | Junction of the A12 and A1094 | 118 | EDF Energy have proposed to replace priority junctions 1 and 2 with new roundabouts. The provision of a roundabout at these junctions would provide a modern standard compliant solution, these roundabouts would also need to be designed to accommodate existing and cumulative traffic flows, including scenario 1.<br><br>The Sizewell C proposals would see the priority junctions replaced by roundabouts within the early years. During the construction of the roundabouts there would be a requirement for temporary traffic management. The layout and design of the temporary traffic management would need to be agreed between EDF Energy and SCC to ensure driver delay is balanced against the need to construct the roundabouts and deliver future capacity and safety enhancements. It is therefore considered that traffic would be operating within a controlled environment and that there would be regular monitoring of traffic conditions to ensure that the |
| Junction 2 | Junction of the A12, B1122 and A1120 | 124 | |

| Junction notation | Location | Increase in all vehicle flows (scenario 1) | Summary of junction modelling |
|---|---|---|---|
| | | | traffic management proposals were appropriate. No further CIA is therefore proposed. |
| Junction 3 | Junction of the A1094 and B1069 | 136 | The detailed junction modelling undertaken for the proposed East Anglia ONE North project identified potentially significant impacts upon driver delay. The OTP (as secured under the requirements of the draft DCO) sets out additional mitigation to manage employee traffic movements during the morning (07:30 – 08:30) and evening (16:30 – 17:30) peak hours to low magnitude levels. This mitigation was also applied to junction modelling undertaken for scenario 1.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a minor adverse contribution to cumulative impacts (which is not significant in EIA terms). |
| Junction 6 | Junction of the A12 Ufford Road near to Suffolk Yurt Holidays | 87 | The detailed junction model indicates for 2023 all arms would operate within capacity with a maximum RFC of 0.11, with average queues of no more than a single vehicle and maximum delay of 34 seconds. The junction would therefore be considered to be operating with spare capacity and as such is considered to be of low sensitivity.<br><br>With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the model indicates that the junction would continue to operate with spare capacity (with a maximum RFC of 0.14) and with average queues of no more than a single vehicle. Delays would be expected to increase to a maximum of 46 seconds.<br><br>It is considered that with the addition of the proposed development traffic the junction would continue to operate with significant space capacity and changes in delays in delays of up to 12 seconds are unlikely to be discernible from day to day fluctuations. Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| Junction 7 | Junction of the A12 and A1152 | 87 | The detailed junction model indicates that by 2023 for the pm peak hour that the A12 south would be operating above capacity with an RFC of 0.94, with average queues of up to 13 vehicles and delays of 23 seconds. During the am peak hour the junction modelling indicates that all arms would operate within capacity with a maximum RFC of 0.8, queues of up to four vehicles and a maximum delay of 14 seconds.<br><br>With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling |

| Junction notation | Location | Increase in all vehicle flows (scenario 1) | Summary of junction modelling |
|---|---|---|---|
| | | | indicates that the maximum RFC would increase by 0.01, delays by up to four seconds and queues by three vehicles. The change in driver delay is therefore likely to be indiscernible from day to day fluctuations.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts |
| Junction 8 | Junction of the A12 and B1079 | 79 | The detailed junction model indicates that by 2023 the junction would be operating above capacity with a maximum RFC of 0.99, with average queues of up to 13 vehicles and delays of 110 seconds. With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling indicates that the maximum RFC would increase by 0.11, delays by up to 62 seconds and queues by nine vehicles. It should be noted that when junctions are operating over capacity even small absolute changes in total traffic result in expediential changes in delay. ***Appendix 26.19*** highlights that by 2023 the junction would be expected to accommodate between 4,080 and 4,214 vehicles during the am and pm peak hours respectively. It is reasoned that an increase in total traffic of 79 vehicles (a peak change in total traffic of 1.9%) would be indiscernible from day to day fluctuations in traffic.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| Junction 9 | Junction of the A12 and B1438 | 79 | The detailed junction model indicates that by 2023 the junction would be operating just above capacity with a maximum 0.86, with average queues of up to six vehicles and delays of 12 seconds. With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling indicates that the maximum RFC would increase by 0.04, delays by up to four seconds and queues by two vehicles. The change in driver delay is therefore likely to be indiscernible from day to day fluctuations.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| Junction 10 | Junction of the A12 and A1214 | 79 | Junction 10 comprises of a signalised roundabout junction of the A12 and A1214. In order to model the junction, signal timing data was obtained from SCC. During the development of the model, it was established that the model did not validate with onsite observation and was significantly overestimating queuing and delays for certain arms. A further, review of the junction has identified that the junction is likely to be operating with |

| Junction notation | Location | Increase in all vehicle flows (scenario 1) | Summary of junction modelling |
|---|---|---|---|
| | | | some form of adaptive control*, and therefore the use of fixed signal timing data does not allow for the development of a representative model.<br><br>Notwithstanding, ***Appendix 26.19*** highlights that by 2023 the junction would be expected to accommodate between 4,802 and 5,119 vehicles during the am and pm peak hours respectively. It is reasoned that an increase in total traffic of 79 vehicles (a peak change in total traffic of 1.6%) would be indiscernible from day to day fluctuations in traffic.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| Junction 11 | Junction of the A12, Anson Road and Eagle Way | 71 | The detailed junction modelling indicates that by 2023 the junction would be operating just above capacity with a maximum 0.95, with average queues of up to 14 vehicles and delays of 42 seconds. With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling indicates that the maximum RFC would increase by 0.04, delays by up to 19 seconds and queues by up to seven vehicles. The change in driver delay is therefore likely to be indiscernible from day to day fluctuations.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts |
| Junction 12 | Junction of the A12 and Adastral Park | 65 | The detailed junction modelling indicates that by 2023 the junction would be operating above capacity with a maximum 1.06, with average queues of up to 31 vehicles and delays of 136 seconds. With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling indicates that the maximum RFC would increase by 0.04, delays by up to 40 seconds and queues by 12 vehicles. It should be noted that when junctions are operating over capacity even small absolute changes in total traffic result in expediential changes in delay. ***Appendix 26.19*** highlights that by 2023 the junction would be expected to accommodate between 4,358 and 4,574 vehicles during the am and pm peak hours respectively. It is reasoned that an increase in total traffic of 65 vehicles (a peak change in total traffic of 1.5%) would be indiscernible from day to day fluctuations in traffic.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |

| Junction notation | Location | Increase in all vehicle flows (scenario 1) | Summary of junction modelling |
|---|---|---|---|
| Junction 13 | Junction of the A12, Foxhall Road and Newbourne Road | 65 | The detailed junction modelling indicates that by 2023 the junction would be operating above capacity with a maximum RFC of 1.01, with average queues of up to 18 vehicles and delays of 107 seconds. With the addition of the proposed East Anglia ONE North and East Anglia TWO projects traffic the modelling indicates that the maximum RFC would increase by 0.24, delays by up to 243 seconds and queues by up to 48 vehicles. It should be noted that when junctions are operating over capacity even small absolute changes in total traffic result in expediential changes in delay. ***Appendix 26.19*** highlights that by 2023 the junction would be expected to accommodate between 4,775 and 5,094 vehicles during the am and pm peak hours respectively. It is reasoned that an increase in total traffic of 65 vehicles (a peak change in total traffic of 1.4%) would be indiscernible from day to day fluctuations in traffic. Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| Link 1 | A12 near Woodbridge between B1079 and B1438 | 79 | The calculation of link capacity identifies that existing traffic flows are in excess of the theoretical capacity of the link and therefore the link is considered to be operating beyond its theoretical capacity. It is noted that the link is located between junction 8 and 9 both of which are also forecast to be operating above capacity. ***Appendix 26.19*** highlights that by 2023 the link would be expected to accommodate between 3,215 and 3,401 vehicles during the am and pm peak hours respectively. It is reasoned that an increase in total traffic of 79 vehicles (a peak change in total traffic of 2.5%) would be indiscernible from day to day fluctuations in traffic.<br><br>Therefore, it is reasoned that the proposed East Anglia ONE North and East Anglia TWO projects traffic would have a negligible contribution to cumulative impacts. |
| *****Notes: *adaptive control continually adjusts the green time required for each arm by measuring the number of approaching vehicles* | | | |

### 26.7.2.2 Cumulative Impacts during Operation

396. No cumulative traffic impacts are anticipated as there are no operational impacts associated with the proposed East Anglia ONE North project.

### 26.7.2.3 Cumulative Impacts during Decommissioning

397. No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and

legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.

## 26.8 Inter-relationships

398. In order to address the environmental impact of the proposed East Anglia ONE North project as a whole, this section establishes the inter-relationships between traffic and transport and other physical, environmental and human receptors. The objective is to identify where the accumulation of impacts on a single receptor, and the relationship between those impacts, may give rise to a need for additional mitigation. ***Table 26.30*** summarises the inter-relationships that are considered of relevance to traffic and transport and identifies where they have been considered within the ES.

**Table 26.30 Traffic and Transport Inter-relationships**

| Inter-relationship all Phases and Linked Chapter | Section where Addressed | Rationale |
|---|---|---|
| ***Chapter 19 Air Quality*** | ***Sections 26.6.1***, ***26.6.2*** and ***26.7*** | Traffic increases can have an effect on local air quality |
| ***Chapter 25 Noise and Vibration*** | ***Sections 26.6.1***, ***26.6.2*** and ***26.7*** | Traffic increases can have an effect on noise and vibration in the area |
| ***Chapter 27 Human Health*** | ***Sections 26.6.1, 26.6.2*** and ***26.7*** | Traffic increases and emissions can have an effect on local human health |
| ***Chapter 30 Tourism Recreation and Socio Economics.*** | ***Sections 26.6.1, 26.6.2*** and ***26.7*** | Traffic increases and emissions can have an effect on tourism and PRoW |

399. The potential for inter-relationship impacts on a link by link basis has been identified and is set out in ***Appendix 26.26***, which sets out a link by link analysis of the accumulation of effects and reviews the mitigation proposed.

## 26.9 Interactions

400. The impacts identified and assessed in this chapter have the potential to interact with each other, which could give rise to synergistic impacts as a result of that

interaction. The areas of interaction between impacts are presented in ***Table 26.31,*** along with an indication as to whether the interaction may give rise to synergistic impacts. This provides a screening tool for which impacts have the potential to interact. ***Table 26.32*** then provides an assessment for each receptor (or receptor group) related to these impacts in two ways. Firstly, the impacts are considered within a development phase (i.e. construction, operation or decommissioning) to see if, for example, multiple construction impacts could combine. Secondly, a lifetime assessment is undertaken which considers the potential for impacts to affect receptors across development phases. The significance of each individual impact is determined by the sensitivity of the receptor and the magnitude of effect; the sensitivity is constant whereas the magnitude may differ. Therefore, when considering the potential for impacts to be additive it is the magnitude of effect which is important – the magnitudes of the different effects are combined upon the same sensitivity receptor. If minor impact and minor impact were added this would effectively double count the sensitivity.

401. The receptors considered in the traffic and transport assessment are:

- Pedestrians; and
- Motorists and cyclists

**Table 26.31 Interactions Between Impacts**

| Construction | | | | | |
|---|---|---|---|---|---|
| | **Impact 1 Severance** | **Impact 2 Pedestrian amenity** | **Impact 3 Highway Safety** | **Impact 4 Driver Delay (capacity)** | **Impact 5 Driver Delay (Highway geometry)** |
| Impact 1 Severance | | Yes | Yes | Yes | Yes |
| Impact 2 Pedestrian amenity | Yes | | Yes | Yes | Yes |
| Impact 3 Highway Safety | Yes | Yes | | Yes | Yes |
| Impact 4 Driver Delay (capacity) | Yes | Yes | Yes | | Yes |
| Impact 5 Driver Delay (Highway geometry) | Yes | Yes | Yes | Yes | |

| Construction<br>Operation |
| --- |
| No significant impacts |
| **Decommissioning** |
| No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase. |

**Table 26.32 Potential Interactions between Impacts on Traffic and Transport**

| Receptor | Construction | Operational | Decommissioning | Phase Assessment | Lifetime Assessment |
|---|---|---|---|---|---|
| Pedestrians | Minor adverse | No impact | Minor adverse | n/a<br><br>There is only a single impact (*Impact 3 pedestrian amenity*) for the receptor, therefore no potential interactions | **No greater than individually assessed impact**<br><br>Given that there are no operational impacts, the time between the construction and decommissioning phases is too great for there to be a pathway of interaction between construction and decommissioning impacts. |
| Motorists and cyclists | Minor adverse | No impact | Minor adverse | **No greater than individually assessed impact**<br><br>Any impact on any link that requires management action will have that management agreed with the Highways Authority to ensure that the link is not significantly impacted. Therefore, the management measures will take into account all potential impacts (amenity, severance, driver delay and highway safety). | **No greater than individually assessed impact**<br><br>Given that there are no operational impacts, the time between the construction and decommissioning phases is too great for there to be a pathway of interaction between construction and decommissioning impacts. |

## 26.10 Summary

402. This chapter of the ES has assessed the potential impacts of the onshore infrastructure of the proposed East Anglia ONE North project on the surrounding traffic sensitive receptors.

403. This chapter has been developed with regard to the legislative and policy framework outlined in ***section 26.4.1*** and further informed by consultation with SCC and Highways England (detailed within ***Appendix 26.1***).

404. Traffic demand has been forecast applying a first principles approach to generate traffic volumes from an understanding of material quantities and personnel numbers. This traffic demand has been assigned to seven access locations serving the onshore development area applying a package of embedded mitigation to minimise the magnitude of effects.

405. In accordance with national guidance, an onshore highway study area has been identified, baseline conditions established and sensitive receptors within the study identified. The onshore highway study area was screened to identify routes that could be potentially adversely impacted by the proposed East Anglia ONE North projects' traffic generation.

406. A total of 15 highway links, five cluster sites, 11 sensitive junctions and two sensitive links within the onshore highway study area have been assessed for the effects of pedestrian amenity, severance, road safety and driver delay. With the application of additional mitigation measures (as appropriate) the residual impact for all highway links was assessed to be not significant.

407. This detailed assessment concluded that no residual moderate or major adverse impacts would arise, with all impacts being of either minor adverse or negligible levels as shown in ***Table 26.33***.

**Table 26.33 Potential Impacts Identified for Traffic and Transport**

| Potential Impact | Receptor | Value / Sensitivity | Magnitude | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|---|
| **Construction** | | | | | | |
| Impact 1: Amenity | Link 2 | Low - High | Negligible | Negligible - Minor | n/a | **Negligible – Minor** |
| | Link 3 | Low - High | Negligible | Negligible – Minor | n/a | **Negligible - Minor** |
| | Link 4 | Low - High | Low | Minor - Moderate | New footways and dropped crossings | **Negligible - Minor** |
| | Link 6 | Low - High | Low | Minor - Moderate | New footways and dropped crossings | **Negligible - Minor** |
| | Link 9 | Low | Moderate | Minor | n/a | **Minor** |
| | Link 11 | Medium | Low | Minor | n/a | **Minor** |
| | Link 12 | Low | Moderate | Minor | n/a | **Minor** |
| Impact 2: Severance | Links 2, 3, 4, 6, 9, 11 and 12 | Low – High | Negligible | Negligible - Minor | n/a | **Negligible - Minor** |
| Impact 3: Highway Safety | Cluster 1 (link 2) | High | Negligible | Minor | n/a | **Minor** |
| | Cluster 3 (links 2, 3 and 6) | High | Medium | Major | Speed limit reduction<br>Enhanced Warning signs<br>Rumble Strips | **Minor** |

| Potential Impact | Receptor | Value / Sensitivity | Magnitude | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|---|
| | B1121 (links 5 and 7) | High | Negligible | Minor | n/a | **Minor** |
| | A1094 (links 6 and 8) | Low | Medium | Minor | n/a | **Minor** |
| Impact 4: Driver Delay (Capacity) | Junction 1 | Low | High | Moderate | Measures to manage employee traffic movements, as defined within the OTP. | **Minor** |
| | Junction 2 | Low | Medium | Minor | n/a | **Minor** |
| | Junction 3 | Low | High | Moderate | Measures to manage employee traffic movements, as defined within the OTP. | **Minor** |
| | Link 2 'Farnham Bends' | High | Negligible | Negligible | n/a | **Negligible** |
| Impact 5:<br>Driver Delay (highway Geometry) | The priority junction of the A1094 and B1069. | High | Negligible | Negligible | n/a | **Negligible** |
| | The roundabout junction of the A1094 and B1122 at Aldeburgh. | High | Low | Moderate | All vehicles to travel to a construction consolidation site at link 9 where loads can be broken down and placed on smaller vehicles. Where loads cannot be consolidated to smaller vehicles HGVs are to be | **Minor** |

| Potential Impact | Receptor | Value / Magnitude Sensitivity | Significance | Mitigation Measures | Residual Impact |
|---|---|---|---|---|---|
| | | | | escorted by a pilot vehicle. | |
| **Operation** | | | | | |
| No significant impacts. | | | | | |
| **Decommissioning** | | | | | |
| No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase. | | | | | |
| **Cumulative Construction Impacts with Other Developments** | | | | | |
| The CIA has identified the potential for cumulative impacts with the Sizewell C New Nuclear Power Station. EDF Energy have advised that they are undertaking an additional phase of consultation (Stage 4). Therefore, the CIA presented in this ES, examines the potential for cumulative impacts. | | | | | |
| **Cumulative Operation Impacts with Other Developments** | | | | | |
| No significant impacts. | | | | | |
| **Cumulative Decommissioning Impacts with Other Developments** | | | | | |
| No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the requirements of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase. | | | | | |

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