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13 ACCESS & TRANSPORT

13.1 Introduction

13.1.1 This Chapter reports the likely significant effects of the proposed development in terms of Access & Transport in the context of the site and surrounding area. It considers the likely significant effects of traffic levels on: severance; driver stress and delay; pedestrian, cyclist and equestrian amenity and delay; fear and intimidation; and highway safety.

13.1.2 It is important to note that the proposed development will be entirely located within the consented area of IAMP ONE (Phase One and Phase Two). Owing to the planned staff numbers at the proposed development being less than previously considered, it will generate less traffic than the previously accepted thresholds.

13.1.3 This chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the other chapters of this Environmental Statement (ES) (i.e., Chapters 1 – 5), in particular Chapter 17 'Cumulative Effects' and the 'Summary of Residual Effects' (Chapter 18). Refence should also be made to the Transport Statement (TS), a Travel Plan (TP) and a Framework Construction Environmental Management Plan (CEMP) provided at Appendix 13.1 – 13.3.

13.1.4 The main elements of an outline Construction Traffic Management Plan (CTMP) are set out later in this chapter and are included within the CEMP. A detailed CTMP, in line with the principles of the outline CTMP will be agreed with the Sunderland City Council (SCC) prior to commencement of construction.

13.2 Consultation & Scope of the Assessment

13.2.1 During the preparation of this chapter, informal scoping discussions were held with SCC (as Local Highway Authority) and Highways England (HE). The principles to the approach of this chapter were broadly agreed; namely, it would draw reference to the previously reported summary of impacts, which remain equally applicable to this proposed development.

13.2.2 The proposed development will be subject to the same mitigation and operational restrictions relating to traffic generation that are conditioned for IAMP ONE and, as such, it is considered superfluous to reproduce the detailed assessments that

supported the IAMP ONE planning applications, either during construction or at the operational stage.

13.3 Assessment Methodology & Significance Criteria

Extent of the Study Area

13.3.1 The study area replicates the extent of the highway network previously considered for both IAMP ONE and IAMP ONE Phase Two. The study area is shown in Figure 13.1, which also includes the link[1] labels which are referenced within this chapter and summarised in Table 13.1.

Figure 13.1 - Study Area

Table 13.1: Study Area Link References	
Link Ref	**Link Description**
1	A184 (east of Testos roundabout)
2	A184 (west of Testos roundabout)
3	A19 (Testos roundabout to Downhill Lane)
4	Downhill Lane
5	Washington Road
6	A19 (south of Downhill Lane to south of A1231/A19 roundabout)
7	A1231 (east of Wessington Way/ A19 roundabout)
8	A1231 (west of Wessington Way/ 19 roundabout to Nissan Way/ Pattinson Road/A1231 roundabout)

[1] A section of road between two junctions

9	Nissan Way
10	A1231 (west of Nissan Way/ Pattinson Road/A1231 roundabout to Barmston Way/ A1231 junction)
11	A1231 (west of A195/A1231 roundabout)
12	A195 (north of A195/A1231 roundabout to A1290/A195 roundabout)
13	A195 (north of A1290/A195 roundabout)
14	A1290 Glover Road to Sulgrave Road
15	Cherry Blossom Way
16	A1290 (Sulgrave Road to Cherry Blossom Way)
17	A1290 (Cherry Blossom Way to Nissan entrance)
18	A1290 (east of Nissan Entrance to Downhill)

Assessment Methodology

13.3.2 The assessment retains the same methodology as previously agreed with SCC and HE and is in accordance with current guidance and industry best practice.

13.3.3 The impact of the proposed development has been assessed with reference to the Institute of Environmental Management and Assessment (IEMA) guidelines ("Guidelines for the Environmental Assessment of Road Traffic" [GEART]), which sets out a methodology for assessing potentially significant environmental effects due to changes in traffic flows.

13.3.4 The significance of each effect is considered against the GEART criteria, where possible. In the absence of established significance criteria for traffic and transport effects, professional judgement has been used to assess whether the effects on access and transport are significant. The degree of significance falls into two categories – not significant and significant.

Traffic Flows

13.3.5 Similar to the ES Chapter for IAMP ONE Phase Two, traffic flow data from the IAMP ONE Transport Assessment (TA) and 2018 ES have again been used to inform this assessment. The baseline traffic data was obtained in 2018 and whilst traffic flow conditions on the network may have changed since surveys were undertaken (i.e. Testo's junction and Downhill Lane junction works are ongoing and Nissan shift times have changed), the forecast traffic generation of the proposed development remains a robust assumption and, therefore, unchanged from those considered, and accepted, for the consented IAMP ONE. It is important to note however, that staff numbers at the proposed development will be less than those imbedded in the traffic generation assumptions for the consented IAMP ONE and IAMP ONE Phase Two applications.

13.3.6 The traffic generation forecasts for IAMP ONE were informed by surveys at Unipres, an operation associated with, and supplier to, Nissan. This method was endorsed by Highways England and the Local Highway Authority.

13.3.7 Using known staffing levels at Unipres and previously estimated gross external floor area (GEA) for the Unipres building, it is possible to derive a GEA factor area factor to establish the number of staff inherently assumed within the previous trip generation and capacity assessments.

13.3.8 Envision can accurately forecast their anticipated staff numbers based on known operational requirements and expect that up to 1,000 staff would be employed. The tables below provide a direct comparison between the Unipres site and the proposed development, demonstrating that due to the heavily automated processes to be deployed, staff numbers are relatively low compared to floor area.

Table 13.1: Unipres Data	
Approx. Gross External Floor Area	55,000 m^2
Office Day Shift Staff	150
Production Staff	1,050
Workforce Total	1,200
Staff per Production Shift	350
Approx. Staff per 100 m^2	2.18

Table 13.2: Envision Max Staff Forecast	
Gross Internal Floor Area	108,615 m^2
Office Day Shift Staff	150
Production Staff	850
Workforce Total	1,000 (inc. 300 to be transferred)
Staff per Production Shift	Approx. 220
Approx. Staff per 100 m^2	0.92

13.3.9 On a pro-rata basis, based on known Unipres staff numbers and estimated GEA, the proposed GIA of the proposed battery plant would be assumed to yield a workforce total of 2,374 staff. The higher rate of staff per 100 m^2 is the level that will have previously been ingrained in the trip generation assumptions and assessed within the IAMP ONE and IAMP ONE Phase Two Transport Assessment / Statement.

13.3.10 As shown in the tables above, the proposed development is forecast to operate with notably less staff than the assumptions embedded within the previous IAMP ONE and IAMP ONE Phase Two applications. It is, therefore, considered that those assessments

still provide a robust assessment of the impacts and importantly, remain valid and appropriate.

Identifying sensitive receptors

13.3.11 The GEART recognises that it is useful to identify groups of people or locations that may be sensitive to changes in traffic conditions. The GEART details which groups or locations are considered sensitive, defined by the presence of sensitive receptors.

13.3.12 Sensitive receptors located near to the IAMP ONE Site are considered to be:

- Nissan and surrounding employers.
- Washington Community Fire Station.
- Elm Tree Farm Garden Nursery.
- Schools and nurseries (including Marlborough Primary School, Castle View Enterprise Academy and Washington School).
- Sites of ecological value (Barmston Pond Local Natural Reserve, Seven Houses Wildlife Site and Hylton Dene Local Nature Reserve).
- Residential areas (Town End Farm, Hylton Castle, Castletown, West Boldon and residential properties at Severn Houses).
- Access to Nissan from the A1290.

13.3.13 The GEART notes that the perception of changes in traffic by humans, and the impact of traffic changes on the various ecological systems, will vary according to the following factors:

- Existing traffic levels.
- The location of traffic movements.
- The time of day.
- Temporal and seasonal variation in traffic.
- Design and layout of the road.
- Land-use activities adjacent to the route.
- Ambient conditions of adjacent land-uses.

13.3.14 A desktop study and site visits were undertaken to identify the main sensitive receptors in the study area. All links in the study area were assessed to determine a link sensitivity rating. Using the IAMP ONE ES assessments, **Table 13.4: Link sensitive receptors description**Table 13. shows the parameters used for determining the link sensitivity rating. Table 13.5 shows the sensitivity rating and respective justification for each link.

Table 13.4: Link sensitive receptors description

Link sensitivity Rating	Description
Low	Few nearby sensitive receptors/or highways can accommodate changes in the volume of traffic.
Medium	Small number of sensitive receptors (e.g. residential communities, nearby pedestrians etc.) and limited separation from traffic provided by the highway environment.
High	High number of sensitive receptors (e.g. hospitals, schools, large pedestrian footfall etc.) and limited separation from traffic provided by the highway environment.

Table 13.5: Link sensitivity

Link	Description	Rating	Link Sensitivity Rationale
1	A184 (east of Testos roundabout)	Medium	A modern main road with no frontage development, to accommodate a high volume of traffic. Footways but with limited pedestrian footfall.
2	A184 (west of Testos roundabout)	Medium	A modern main road with limited frontage development and a limited pedestrian footfall.
3	A19 (Testos roundabout to Downhill Lane)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
4	Downhill Lane	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
5	Washington Road	High	A modern main road. Parts of the link have development frontage and will experience pedestrian footfall. A primary care centre is within 200 metres.
6	A19 (south of Downhill Lane to south of A1231/A19 roundabout)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
7	A1231 (east of Wessington Way/ A19 roundabout)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.

Table 13.5: Link sensitivity			
Link	**Description**	**Rating**	**Link Sensitivity Rationale**
8	A1231 (west of Wessington Way/ 19 roundabout to Nissan Way/ Pattinson Road/A1231 roundabout)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
9	Nissan Way	Medium	Modern road with access to Nissan and other large employers. Subject to a high number of pedestrians and vehicles.
10	A1231 (west of Nissan Way/ Pattinson Road/A1231 roundabout to Barmston Way/ A1231 junction)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
11	A1231 (west of A195/A1231 roundabout)	High	A modern main road with no frontage development designed to accommodate a high volume of traffic. However, Washington School is nearby.
12	A195 (north of A195/A1231 roundabout to A1290/A195 roundabout)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
13	A195 (north of A1290/A195 roundabout)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
14	A1290 Glover Road to Sulgrave Road	High	A main road that is fronted by some residential properties, a school and a fire station.
15	Cherry Blossom Way	High	Main access to key employment sites and is subject to a high number of pedestrians and vehicles.
16	A1290 (Sulgrave Road to Cherry Blossom Way)	High	A main road with the Elm Tree Garden Nursery and Tearoom located at its western end.
17	A1290 (Cherry Blossom Way to Nissan entrance)	High	Main access to Nissan and is subject to a high number of pedestrians and vehicles. The residential property of West Moor Farm is also located on this link (*)
18	A1290 (east of Nissan Entrance to Downhill)	Low	A modern main road with no frontage development designed to accommodate a high volume of traffic.
** West Moor Farm is owned by IAMP LLP and has a planning application pending for its demolition.*			

Screening

13.3.15 The GEART suggests that, to determine the scale and extent of the assessment and to calculate the level of effect which any given development will have on the surrounding road network, the following two 'rules' should be followed:

- 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%).
- Rule 2) Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

13.3.16 For this assessment, Rule 1 was applied to all low and medium sensitivity links and Rule 2 to high sensitivity links. Changes in traffic flows below these thresholds result in no significant environmental effects and therefore have not been assessed further.

13.3.17 The screening results are shown in Table 13.6.

Table 13.6: Screening Results

Phase	Screening Result
Construction	Rules 1 and 2 were applied and this identified that Links 17 and 18 are above the screening thresholds. These links were therefore considered further as part of the assessment of impact during construction.
Operation	Rules 1 and 2 were applied and this identified that Links 14, 15, 16, 17 and 18 are above the screening thresholds. These links were therefore considered further as part of the assessment of impact during operation.

Assessment of environmental impacts

13.3.18 The GEART forms the basis for the assessment of environmental impacts used in this assessment. These impacts are:

- Severance.
- Driver stress and delay.
- Pedestrian amenity and delay.
- Cyclist amenity and delay.
- Fear and intimidation.
- Highway safety.

13.3.19 Each environmental impact has a series of thresholds that indicate the magnitude of the impact of a development, based on IEMA guidelines. These thresholds indicate the magnitude of impact; however, observations and professional judgement also influenced the final assessment.

Table 13.7: Traffic and Transport Assessment Framework

Environmental Impact	Magnitude of Impact			
	Very low	Low	Medium	High

Severance	Change in traffic volume of less than 30%	Change in traffic flows of 30-60%	Change in traffic flows of 60-90%	Change in traffic flows of over 90%
Driver stress and delay	Capacity, vehicle delay and queue lengths forecast from the junction modelling software will be used to determine driver stress and delay.			
Pedestrian and cyclist amenity	Changes in traffic flow (or HGV component) less than 100%	Greater than 100% increase in traffic (or HGV component) and a review of vehicle speed and pedestrian or cyclist demand.		
Pedestrian and cyclist delay	A review of existing crossing facilities and demand.			
Fear and intimidation	Average traffic flows over 18 hours of less than 600 vehicle/hour or 1,000 HGVs over 18 hours.		Average traffic flows over 18 hours of between 600 and 1,200 vehicle/hour or 1,000 – 2,000 HGVs over 18 hours.	Average traffic flows over 18 hours of more than 1,200 vehicle/hour or more than 2,000 HGVs over 18 hours.
Highway safety	Analysis of personal injury collision records to identify clusters or trends			

Significance Criteria

13.3.20 Determining whether an effect is 'significant' is done by comparing the degree to which the receptor would be affected (i.e. the magnitude of impact / change) and the sensitivity of the receptor. The level of effect is assessed as major, moderate, minor or negligible. The effect significance assessment matrix is shown in Table 13.8 and described in **Error! Reference source not found.**9. Major and moderate effects are deemed to be Significant, and minor and negligible effects are deemed to be Not Significant.

13.3.21 Minor effects may cumulatively create significant effect and will therefore also be considered further.

Table 13.8: Effect Significance Assessment Matrix

		Magnitude of Impact			
		High	**Medium**	**Low**	**Very low**
RECEPTOR SENSITIVITY	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible

Table 13.9: Effect Significance Category Descriptions	
Category	**Description**

Major	These beneficial or adverse effects are very important considerations and are likely to be material in the decision-making process.
Moderate	These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a resource or receptor.
Minor	These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
Negligible	No effects, or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Assumptions and Limitations

13.3.22 As there will be no changes to the upper limit of forecast traffic generation considered for IAMP ONE, indeed staff numbers and traffic levels are anticipated to be lower, assessments are not replicated – details pertaining to traffic flows, trip generation and distribution for example, are set out in the IAMP ONE ES and TA.

13.4 Legislation, Policy & Guidance

Introduction

13.4.1 This section sets out a concise summary of relevant planning policies and guidelines, providing an overall transport-related spatial and planning context for the proposed development at IAMP ONE.

National Planning Policy Framework

13.4.2 The National Planning Policy Framework (NPPF) 2021 provides a framework for local communities and local authorities to develop relevant local development plans and strategies.

The NPPF has two key themes:

- Providing a greater level of integration and simplification of the planning policies governing new development nationally.
- Contribute to the achievement of sustainable development from an economic, social and environmental perspective.

13.4.3 The NPPF specifically states that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Planning Practice Guidance (2014)

13.4.4 The Planning Practice Guidance (PPG) provides advice on when Transport Assessments and Transport Statements are required. The PPG outlines that Travel Plans, Transport Assessments and Transport Statements support national planning policy, which sets out that planning should actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are sustainable, or can be made sustainable.

Transport White Paper 'Creating Growth, Cutting Carbon - Making Sustainable Local Transport Happen' (January 2011)

13.4.5 The Government's vision for a sustainable local transport system is set out in this White Paper, which acknowledges that transport provision is essential for economic growth. The Paper also recognises, however, that the current levels of carbon emissions from transport cannot be sustained if the nation is to meet its national commitments on climate change, as well as creating a safer and cleaner environment in which to live.

13.4.6 Within the Paper, sustainable transport considers more than just public transport, walking and cycling schemes, and acknowledges that it is not feasible for some trips to be undertaken by these modes.

13.4.7 There is a realisation that the car will continue to be an important mode of transport and a focus should be given to making car travel greener through electric and other low emission vehicles.

North East Combined Authority Transport Manifesto (2016)

13.4.8 The North East Combined Authority (NECA) Transport Manifesto – "Our Journey" – feeds into the emerging Local Transport Plan for the NECA. The NECA vision in the North East is for transport to be:

- **Accessible**: It should run as near as possible to where people live and want to travel to, and where businesses are (or want to be) located. It should be usable by everyone.
- **Affordable:** As far as possible, transport should be provided at a reasonable cost relative to the journey being undertaken.
- **Reliable:** The transport network should be one that we can rely on to work, with buses and trains running on time and congestion at a minimum.

- **Easy to use:** It should be easy to plan safe journeys, find out the best way to travel, pay for tickets and get all the essential information for your journey.
- **Safe:** The transport network should be, and be seen to be, safe, with regards to both road safety and crime, and fear of crime on public transport. Vulnerable users should be given greater protection than they currently are.
- **Sustainable:** The attractiveness of sustainable modes of transport should be improved. Transport should not have an adverse impact on the environment.
- **Integrated:** The transport network should be connected so that people can switch easily between modes, and timings and methods of payment complement each other.

Local Transport Plan (LTP3) for Tyne and Wear (2011-2021)

13.4.9 The third Local Transport Plan (LTP3) for Tyne and Wear comprises a ten-year strategy (2011-2021) covering all forms of transport in Tyne and Wear. The LTP3 is underpinned by three-year delivery plans setting out how the strategy will be implemented at a local level.

13.4.10 The Plan has been produced by the Tyne and Wear Integrated Transport Authority on behalf of the six LTP Partners – the five local authorities in Tyne and Wear (Gateshead, Newcastle, North Tyneside, South Tyneside and Sunderland) plus Nexus, the local Passenger Transport Executive.

Sunderland City Council Core Strategy and Development Plan (2015-2033)

13.4.11 The Core Strategy and Development Plan was adopted in January 2020 and sets out the long-term plan for development across the city to 2033. It will ensure that the right type of development is focused in the right places to meet the needs for local people and businesses.

13.4.12 The Core Strategy and Development Plan includes development policies and site allocations, land use designations and development management policies. The Sunderland City Council Core Strategy and Development Plan states at para. 2.55 that:

"Advanced manufacturing and particularly the automotive sector are a key part of the local economy, centred around the Nissan plant, which produces more than 500,000 vehicles a year and supports a thriving supply chain extending along the A19 and A1 corridors. The sector employs 30,000 people regionally. To support the continued growth of this sector, the IAMP will be developed on land to the north of the existing

Nissan plant. It is anticipated that the IAMP would create approximately 7,850 new jobs and would be a significant driver for the regional economy and the automotive sector within the UK."

Policy SP10 Connectivity and Transport Network

13.4.13 This policy notes that the council will work with its partners and use developer contributions in order to deliver a range of new highway schemes and initiatives. At point 1 iv, this includes *"improvements to the mainline and key junctions on the A19, including providing access to IAMP."*

Policy ST3 Development and transport:

13.4.14 This policy requires that development should:

1. Provide safe and convenient access for all road users, in a way which would not:
    i. Compromise the free flow of traffic on the public highway, pedestrians or any other transport mode, including public transport and cycling; or
    ii. Exacerbate traffic congestion on the existing highway network or increase the risk of accidents or endanger the safety of road users including pedestrians, cyclists and other vulnerable road users;
2. Incorporate pedestrian and cycle routes within and through the site, linking to the wider sustainable transport network.
3. Submit an appropriate Transport Assessment / Transport Statement and a Travel Plan. This must demonstrate that appropriate mitigation measures can be delivered to ensure that there is no detrimental impact to the existing highway.
4. Include a level of vehicle parking and cycle storage for residential and non-residential development, in accordance with the council's parking standards.
5. Provide an appropriate level of electric vehicle parking and charging infrastructure for commercial and non-residential development to suit site specific requirements, and make provision for the installation of home charging apparatus on major residential schemes.

6. Safeguard the existing network of Definitive Public Rights of Way. If this cannot be accommodated, then a diversion and/or alternative route shall be provided.

Development Management SPD

13.4.15 Sunderland's Development Management SPD was adopted on 16th June 2021. It sets out additional planning guidance which applies to a range of planning applications. Its purpose is to assist both applicants and decision makers when preparing and determining planning applications. It expands on policy and provides further detail and support of policies in the CSDP. It does not have Development Plan status, but it can be accorded weight as a material planning consideration in the determination of planning applications.

International Advanced Manufacturing Park Area Action Plan

13.4.16 The IAMP Area Action Plan (AAP) is the adopted policy document to guide the comprehensive development of the DCO Site. The AAP was prepared jointly by Sunderland City Council and South Tyneside Council, in support of the Sunderland City Deal (in partnership with South Tyneside), and was adopted on 30 November 2017. The IAMP AAP is a plan for the next 15 years (covering the period 2017 to 2032).

13.5 Baseline Conditions

Introduction

13.5.1 Characteristics of the existing environment were informed by the IAMP ONE ES and TA, which used the following sources:

- traffic count data;
- desktop studies and site visits; and
- personal injury collision (PIA) data, from Tyne and Wear Traffic and Accident Data Unit (TADU).

Surrounding highway network

13.5.2 Only links which met the screening threshold are reviewed further as part of this assessment. These are:

- Links 17 and 18 (Construction and decommissioning phase assessments); and
- Links 14, 15, 16, 17 and 18 (Operation phase assessment).

13.5.3 The location of these links is shown in **Error! Reference source not found.** and described as follows.

Link 14: A1290 Glover Road to Sulgrave Road

13.5.4 Glover Road runs in an east-west direction and includes four conventional roundabouts and two priority junctions. It is a single carriageway road which sometimes flares to two lanes on the approach to roundabouts. Most of the road is subject to a 30mph speed limit, except for a short section near Vermont roundabout where a derestricted speed limit applies. A shared use footway is available to the northern edge. The footway is set back considerably from the road and has signposts that indicate use by both pedestrians and cyclists. Street lighting is present along Glover Road.

Link 15: Cherry Blossom Way

13.5.5 Cherry Blossom Way connects Nissan Way to commercial units and car parking adjacent to Nissan. It is a single carriageway road subject to 40mph speed limits. Parking is prohibited with trief kerbs and double yellow lines used to enforce this prohibition. Access to units or car parks along Cherry Blossom Way is via priority junctions. A conventional roundabout is also situated on Cherry Blossom Way. Footways and street lighting are present on both sides of the road. One footway has signage that indicates shared use for cyclists and pedestrians. Cherry Blossom Way forms part of a bus route and bus stops are present on both sides of the road.

Link 16: A1290 Slulgrave Road to Cherry Blossom Way

13.5.6 The A1290 runs in an east-west direction. This link provides access to nearby commercial properties and Infiniti Drive that serves the Hillthorn Business Park. This section of the road is single carriageway and is subject to a 30 mph speed limit for the majority of its length before changing to 40mph at its eastern end. A shared use footway is available on both sides of the carriageway, although on the northern side this reduces to a narrow footway towards its eastern end. Street lighting is present along this section of road.

Link 17: A1290 Cherry Blossom Way to Nissan entrance

13.5.7 Link 17 is a continuation of Link 16. A T-junction provides access to Nissan entrance from the A1290. The junction is signalised for all main road movements and for right turn movements into and of the side road. The left turn out from Nissan is signalised

on demand by the controlled pedestrian crossing. Vehicles turning into the Nissan plant from the off-side lane of the A1290 east are required to give way, as are vehicles travelling west from the Nissan plant. The Nissan plant access has two lanes for journeys into the Nissan plant and three lanes for vehicles leaving. A shared use footway is available on the northern side of the road and a narrow footway on the south. Street lighting is present along this section of road.

Link 18: A1290 east of Nissan site entrance to A19 Downhill Lane junction

13.5.8 Link 18 is a continuation of Link 17. The road is single carriageway and is subject to a 40 mph speed limit. There is a short length of footway on the northern side of the road between the Nissan access and the bus stop to the east, but no footway between the Nissan access and Usworth Cottages. A shared use footway is however available between Usworth Cottages and the A19 Downhill Lane junction. Along this link is the junction that provides the northern point of access to IAMP ONE, which has a pedestrian island.

Sustainable Transport

Walking and Cycling

13.5.9 There is generally a good network of footways near the IAMP ONE site, which offer a choice of suitable routes to nearby bus stops, car parking or alternative destinations. External pedestrian routes near the site are well lit and generally in good condition.

13.5.10 Cycling has the potential to cater for many trips and is considered a viable mode of travel for journeys less than five kilometres. The potential for cycling trips is significant as a 30-minute journey from the site covers north-west Sunderland, Washington, Wardley, Hedworth and Boldon.

13.5.11 Near the Nissan Access junction on the A1290, there is a controlled pedestrian crossing facility, which includes a central refuge island, dropped kerbs and tactile paving. There is also a pedestrian guardrail on the A1290 near the bus stops.

13.5.12 Pedestrians can travel along Washington Road to access a footbridge over the A19(T). This route links to the residential area of Town End Farm. To the west of the footbridge is a direct pedestrian access to Nissan for staff arriving on foot.

13.5.13 New pedestrian links and footways are provided within the IAMP ONE development. These include the creation of a Non-Motorised User (NMU) route along the section of Follingsby Lane within the site, which has been introduced by virtue of a prohibition

of motor vehicles along this route, allowing walkers, cyclists and horse riders to pass through without conflict with motor vehicles.

Equestrian

13.5.14 Formal equestrian routes in the vicinity of the site are limited although horse riders are permitted along the NMU route along Follingsby Lane, which has horse corrals at the road cross-over on International Drive. Furthermore, as part of the Highways England improvement scheme at the Downhill Lane junction, a new NMU bridge will be provided over the A19 and a Pegasus crossing installed on the A1290. It is also acknowledged that horses are kept on land at North Moor Farm.

13.5.15 The majority of bridleways, byways and restricted byways in the Tyne and Wear area are linear, limiting the opportunity for horse riding as a leisure pursuit. However, it should be noted that looking at rights of way in isolation understates the equestrian access resource. It may be possible to link up public rights of way using minor roads and other access resources.

Bus

13.5.16 The bus is considered a viable mode of travel over short and medium distances, although some routes and services with limited stops can make longer distances viable. Bus travel plays an important part of the access to the site.

13.5.17 Bus services are located on the A1290, within 500m of the proposed site entrances. Both bus stop pairs have regular services operating in both directions, providing access to Chester-Le-Street, South Shields, Sunderland, Durham, Gateshead and Newcastle.

Table 13.10: Accessible Bus Services

Service	Mon-Sat Frequency	Sunday Frequency
50	30 mins	60 min
56 Fab Fifty-Six	15 mins	20 mins

13.5.18 The potential for public transport trips is significant as a 30-minute journey from the site covers north Sunderland, Washington, parts of Pelaw, parts of Hebburn, South Shields, Southwick and Castletown.

Highways Safety

13.5.19 To evaluate if there are any existing highway safety issues on the local highway network or strategic road network (SRN), the recorded Personal Injury Collision (PICs) records have been reviewed from the Tyne and Wear Traffic and Accident Data Unit (TADU) for a 5-year period from 2015 to 2020.

Table 13.11: Road traffic Collision Summary				
Year	Severity			Total
	Fatal	Serious	Slight	
2015	0	3	17	20
2016	0	7	41	48
2017	0	7	31	38
2018	1	2	19	22
2019	1	5	22	28
2020 (* *incomplete data)*	0	4	8	12

13.6 Assessment of effects during construction

Assumptions

13.6.1 The 2018 ES for IAMP ONE considered the construction of the highway infrastructure and also the full plot build-out and as such, already assessed the worst-case scenario of environmental impacts resulting from the proposed development during construction.

13.6.2 The highway and drainage infrastructure for IAMP ONE is now complete and three buildings have been constructed and occupied. Therefore, only construction activities associated with the proposed development are expected, which will be less than the combined scenario previously assessed (i.e. simultaneous construction activities of plot build-out and highway infrastructure).

Assessment of effects

13.6.3 Given the IAMP ONE 2018 ES assumed robust assessments when considering the potential overlap of construction activities and the effect for all impacts were reported as being minor adverse or negligible, it can be summarised that **no significant adverse effects** are predicted during the construction of the proposed development.

Mitigation measures

13.6.4 Prior to the commencement of construction, a detailed CTMP, will be submitted to the Council. This will be agreed with the Council, Highways England and other stakeholders and adhered to throughout the construction period. The CTMP will ensure the smooth flow of deliveries and collections to site and no disruption to the operations of neighbouring properties and public.

13.6.5 Through the CTMP, the Contractor will coordinate the arrival and departure patterns for deliveries to avoid disruption during Nissan shift change times and school start/finish times. A timetable of construction implementation will also be set out.

13.7 Assessment of effects during operation

Assumptions

13.7.1 As outlined previously, the construction of the proposed Envision development will be located within the previously consented IAMP ONE Phase 2 area. The proposed staff numbers and traffic generation are lower than the thresholds previously assessed within 2018 ES for IAMP ONE. The proposed development will therefore not give rise to any environmental effects not previously identified within the 2018 ES for IAMP ONE.

Assessment of effects

13.7.2 This section summarises the previous assessments and results reported in the IAMP ONE ES (2018).

Severance

13.7.3 The worst-case peak level of effect in relation to the assessment of environmental impact for severance for Links 14, 15, 16, 17 and 18 was as follows:

- Link 14: a low magnitude of impact as change in traffic volume is between 30% and 60% resulting in a moderate adverse effect that **may be Significant**.
- Link 15: a very low magnitude of impact as change in traffic volume is less than 30% resulting in a minor adverse effect (**Not Significant**) – a Low magnitude of impact as change in traffic volume is between 30% and 60%.
- Link 16: a medium magnitude of impact as change in traffic volume is between 60% and 90% resulting in a major adverse effect (**Significant**).
- Link 17: a high magnitude of impact as change in traffic volume is greater than 90% resulting in a major adverse effect (**Significant**).
- Link 18: a low magnitude of impact as change in traffic volume is between 30% and 60% resulting in a negligible adverse effect (**Not Significant**).

13.7.4 As Links 16 and 17 are not important links for residents for accessing facilities and services within the community, they were re-categorised as low magnitude of impact, resulting in a moderate adverse impact that may be a **Not Significant** effect.

Driver stress and delay

13.7.5 Junction capacity assessments for the peak periods were undertaken as part of the IAMP ONE 2018 planning application.

13.7.6 The results for all junctions is that the magnitude of impact was assessed as very low on a high value receptor, resulting in a minor adverse impact and an effect that is **Not Significant**.

Pedestrian and Cyclist Amenity

13.7.7 Links 14, 15, 16 and 18 experience traffic flows below GEART thresholds (100% increases in traffic or HGVs) for all periods. Therefore, the magnitude of impact assessed is very low on a high value receptor, resulting in a minor adverse impact that is a **Not Significant** effect.

13.7.8 Link 17 would experience increases in traffic flows above the GEART threshold of 100% increase in traffic (or HGVs) for 05:30-06:30 hrs and 13:30-14:30 hrs. This link was given a high sensitivity due to the proximity of the Nissan site access. Along this link is a traffic free route for use by cyclists and pedestrians. Given the high percentage of additional HGVs (particularly during 13:30-14:30 hrs), however, a low magnitude of impact on a high value receptor results in a moderate adverse impact and **may be a Significant** effect.

Pedestrian and cyclist delay

13.7.9 Link 14 includes four conventional roundabouts and two priority junctions. A shared use footway is available to the northern edge of this link. The footway is set back considerably from the road and is a shared use facility by both pedestrians and cyclists. Street lighting is present along Glover Road. Crossing would only occur at connecting roads. Crossing refuge islands are available at roundabouts on Glover Road. It is expected that the delay (i.e. impact) for pedestrians and cyclists at this link will be very low on a high value receptor; resulting in a minor adverse impact that is a **Not Significant** effect.

13.7.10 Link 15 connects Cherry Blossom Way to Nissan Way to commercial units and car parking adjacent to Nissan. It is a single carriageway road subject to 40 mph speed limits. Access to units or car parks along Cherry Blossom Way is via priority junctions. A roundabout is also situated on Cherry Blossom Way. Footways and street lighting are present on both sides of the road. It is expected that the delay (impact) for pedestrians and cyclists on this link will be very low on a high value receptor, resulting in a minor adverse impact is a **Not Significant** effect.

13.7.11 Link 16 has a shared use footway is available on both sides of the carriageway, although on the northern side this reduces to a narrow footway towards its eastern

end. There is controlled pedestrian facilities at the junction of Cherry Blossom Way with A1290. Owing to the crossing facilities already available and in operation, it is expected that the delay (impact) for pedestrians and cyclists on this link will be low on a high value receptor, resulting in a moderate adverse impact and **may be a Significant** effect.

13.7.12 Link 17 is a continuation of Link 16. A signalised junction provides access to Nissan from the A1290 and a shared use footway is available on the southern side, before meeting with Washington Road at the roundabout to the south of the traffic signals. A new site access junction for the IAMP ONE Site connects to this link. It is expected that the delay (impact) for pedestrians and cyclists at this link will be very low, given the availability of signalised crossing points. A very low magnitude impact on a high value receptor results in a minor adverse impact that is a **Not Significant** effect.

13.7.13 Link 18 is a continuation of Link 17. Again, the road is a single carriageway and is subject to a 40 mph speed limit. A continuous shared use footway/cycleway is available from Usworth Cottages to the A19 Downhill Lane junction. It is expected that the delay for pedestrians and cyclists on this link will be low. A low magnitude impact on a high value receptor results in a minor adverse impact that is a **Not Significant** effect.

Fear and intimidation

13.7.14 The magnitude of impact in relation to fear and intimidation on Links 14 and 16 is very low on high sensitivity receptors. This results in a minor adverse impact that is a **Not Significant** effect.

13.7.15 Links 15 and 18 have a medium magnitude of impact. For Link 15, based on a high value sensitivity link, this results in a major adverse impact that is a **Significant** effect. For Link 18, this results in a minor adverse impact that is a **Not Significant** effect.

13.7.16 Link 17 has a high magnitude of impact in relation to fear and intimidation on a high sensitivity receptor, which results in a major adverse impact that is a **Significant** effect. It should, however, be noted that a key factor in the determination of fear and intimidation is the proximity to people or the lack of protection caused by such factors as narrow pavement widths. Given that a 3 m wide shared use footway/cycleway is available, offering a safe route for users, the reported 'major adverse impact' is considered an unfair representation of the conditions on this link.

Highway safety

13.7.17 A summary of the impact on highway safety is that for the cluster areas considered, the result would be a minor adverse impact that is a **Not Significant** effect.

Mitigation measures

13.7.18 The following mitigation measures should be considered in relation to the traffic forecasts and impacts set out in this chapter:

- A Travel Plan to reduce the number of employees commuting by single occupancy car. This includes measures relating to:
    - encouraging walking, cycling and public transport;
    - encouraging greener car travel (car sharing/ultra-low emissions vehicles/car clubs);
    - encouraging smart business travel; and
    - minimising the need for travel by sourcing locally.
- Service and Delivery Strategy to ensure freight movements are carefully managed. This includes measures relating to:
    - encouraging sustainable freight;
    - sourcing products and service locally (where possible); and
    - restricting delivery times during shift change over periods.
- Offset of Operational Shift Patterns. For a temporary period, until improvement works to the A19 at Testo's and Downhill Lane are completed, the end users of IAMP ONE will be required to operate a shift pattern that is offset by one hour from those used at Nissan in the morning and afternoon periods. The Highways Operational Management Plan (HOMP) provides more detail.

13.8 Residual Effects

During construction

13.8.1 The previously identified direct impacts of traffic and transport for the construction phase of the development have been summarised in this chapter. The assessment identified that the significance of the environmental effects is between minor adverse or negligible. As no additional mitigation has been identified beyond those outlined previously, the significance of the residual effects of the construction phase remain as set out in this chapter (i.e. minor adverse or negligible) and **Not Significant**.

During operation

13.8.2 The direct impacts of traffic and transport for the operational phase for a full build-out of IAMP ONE have again been summarised in this chapter. The assessment

identified that the level of environmental impacts are between minor adverse and major adverse. At the major adverse locations, however, site specific circumstances present justification for this level of impact to be less than forecast.

13.8.3 As no additional mitigation has been identified beyond those outlined previously, the significance of the residual effects of the operational phase for a full build-out if IAMP ONE remain as identified in this chapter. These are as follows:

- Severance - Moderate adverse for Link 14, which may be Significant, and negligible to minor adverse for Links 15, 16, 17 and 18, which is **Not Significant**.
- Driver Stress & Delay - Minor adverse, which is **Not Significant**.
- Pedestrian & Cyclist Amenity - Moderate adverse for Link 17, which may be Significant, and minor adverse for Links 14, 15, 16 and 18, which is **Not Significant**.
- Pedestrian & Cyclist Delay - Moderate adverse for Link 16, which may be Significant, and minor adverse for Links 14, 15, 17 and 18, which is **Not Significant**.
- Fear & Intimidation - Major adverse for Links 15 and 17, which is **Significant**, and minor adverse for Links 14, 16 and 18, which is **Not Significant**.
- Highway Safety – Minor adverse, which is **Not Significant**.

13.8.4 It is important to highlight that the 2018 ES for IAMP ONE presented an assessment of the environmental impacts of a full build out and the impacts identified above are not new impacts resulting from the proposed development. As the proposed development presents a single plot development, with fewer staff numbers than previously forecast and, in turn, less vehicle trip generation potential, it is considered that the previously reported significance of the residual effect on Link 15 and Link 17 (for fear and intimidation) is not a true reflection of the proposed development. On a professional judgement-based opinion, the proposed development impact on these links is deemed to be **Not Significant**.

13.9 Cumulative effects

13.9.1 The quantity of traffic on the road network in the wider area surrounding the site, its distribution, speed and movement have been derived from a traffic model that has (in accordance with standard guidelines), assumptions about traffic growth arising from Local Plan sites over the Plan period(s) built into it. As such, the future operational traffic forecasts consider proposed developments and infrastructure projects in the

surrounding area. This means that inter-cumulative effects in relation to traffic are already built into these assessments.

13.9.2 In such cases as above, the improvements to the road network such as those at the A19 Testo's junction and A19 Downhill Lane junction offer embedded mitigation due to increased network capacity and easing traffic congestion. The A19 Testo's junction is now open to traffic and construction of the A19 Downhill Lane junction works are scheduled to be complete in early 2022 and as such, the cumulative impact during construction is not a material consideration.

13.9.3 Notwithstanding the above, a list of other developments has been produced by Sunderland City Council for the consideration of the cumulative assessment and is presented in Chapter 2 of this ES.

13.9.4 There is, naturally, a high number of developments for which access and transport may be a consideration, however, following a review of each of the proposals, it can be broadly summarised that the proposed development would have a cumulative effect on these typically ranging from negligible to low and, therefore, **Not Significant**.

13.10 Summary

13.10.1 This chapter has considered the potential access and transport impacts of the proposed Envision site in the context of IAMP ONE Phase Two, during the construction and operation phases. It is important to note that the proposed development will not generate any additional traffic. Rather, the forecasted staff numbers and trip generation is less than those previously assessed and accepted for IAMP ONE.

13.10.2 Mitigation measures have been identified as part of this assessment, plus the mitigation measures identified for IAMP ONE Phase One and IAMP ONE Phase Two (i.e. the provision of facilities for cyclists, pedestrians and bus travel, other sustainable transport measures, compliance with the HOMP and the development of a CTMP, *etcetera*) also remain equally applicable for this proposed development. With these measures in place, it is anticipated that any residual effects on access and transport resulting from the proposed development will be **Not Significant**.

13.10.3 The adverse impacts associated with the construction phase are temporary and, during its operational phase, the mitigation measures will reduce the impact on the transport environment.

13.10.4 Overall, the mitigation measures outlined have the potential to enable the proposed development to be built in a positive way. In addition, the TP, managed by the Travel Plan Coordinator, will increase community participation in further meeting the travel demands of the development, once operational. Indeed, the Travel Plan is one of the primary mitigation measures.

13.10.5 A summary of the potential impacts for a full build-out of IAMP ONE, inclusive of the proposed development, is presented in **Error! Reference source not found.**12, below.

Table 13.12: Summary of Predicted Impacts on Access and Transport

Impact Description	Key Mitigation Measures	Maximum Residual Impact and significance of Effect
Construction		
Severance	Construction Traffic Management Plan	Minor adverse (**Not Significant**)
Driver stress and delay	Construction Traffic Management Plan	Minor Adverse (**Not Significant**)
Pedestrian and cyclist amenity	Construction Traffic Management Plan	Minor Adverse (**Not Significant**)
Pedestrian and cyclist delay	Construction Traffic Management Plan	Minor Adverse (**Not Significant**)
Fear and intimidation	Construction Traffic Management Plan	Minor Adverse (**Not Significant**)
Highway Safety	Construction Traffic Management Plan	Minor Adverse (**Not Significant**)
Operation		
Severance	New pedestrian and cyclist crossing provisions and enhanced infrastructure. Framework Service and Delivery Strategy.	Moderate Adverse **(may be Significant)**
Driver stress and delay	Management of operational shift patterns Travel Plan implementation. Highway widening works on A1290. Framework Service and Delivery Strategy.	Minor Adverse (**Not Significant**)
Pedestrian and cyclist amenity	New/improved footways and links.	Moderate Adverse (**may be Significant**)
Pedestrian and cyclist delay	New pedestrian and cyclist crossing provisions and enhanced infrastructure. New/improved footways and links. Framework Service and Delivery Strategy.	Moderate Adverse (**may be Significant**)
Fear and intimidation	Enhanced environmental streetscape. Management of operational shift patterns. Travel Plan implementation. Framework Service and Delivery Strategy.	Major Adverse* (**Significant**)
Highway Safety	Management of operational shift patterns. Highway improvement measures Travel Plan implementation. Framework Service and Delivery Strategy.	Minor Adverse (**Not Significant**)

Table 13.12: Summary of Predicted Impacts on Access and Transport		
Impact Description	**Key Mitigation Measures**	**Maximum Residual Impact and significance of Effect**
** The proposed development will generate less traffic than previously assessed for the full build-out of IAMP ONE and it is, therefore, considered to result in a reduced level of impact to those reported in this table. The previously identified 'Significant' effects (in terms of fear and intimidation for Links 15 and 17) are considered to be 'Not Significant'.*		

13.10.1 In terms of inter-cumulative effects, the proposed development would have a negligible to low impact (**Not Significant**).

13.11 Abbreviations & Definitions

AADT	Average Annual Daily Total
AAP	Area Action Plan
ATC	Automatic Traffic Count
CTMP	Construction Traffic Management Plan
DMRB	Design Manual for Roads and Bridges
DoS	Degree of Saturation
ES	Environmental Statement
FTP	Framework Travel Plan
GEART	Guidelines for the Environmental Assessment of Road Traffic
HGV	Heavy Goods Vehicle
IAMP	International Advanced Manufacturing Park
IEMA	Institute of Environmental Management and Assessment
LGV	Light Goods Vehicle
MMQ	Mean Maximum Queue
NECA	North East Combined Authority
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
NTM	National Transport Model
PCU	Passenger Car Units
PIA	Personal Injury Accident
PPG	Planning Practice Guidance
RFC	Ratio of Flow to Capacity
RIS	Regional Investment Strategy
SCC	Sunderland City Council
SRN	Strategic Road Network
STC	South Tyneside Council
TA	Transport Assessment
TADU	Traffic and Accident Data Unit

13.12 References

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