

Volume 5: Appendix 14.1 – Transport Assessment

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LIST OF ABBREVIATIONS

Term in full	Abbreviations	Definition
Abnormal Indivisible Load	AIL	Loads/vehicles which exceed the maximum vehicle weight, axle weight or dimensions which are set out in the Road Vehicles (Construction and Use) Regulations 1986 as amended.
Automatic Traffic Counter	ATC	Equipment which is laid across a road and measures traffic characteristics such as the number of vehicles passing over it, speed and classification.
Annual Average Daily Traffic	AADT	The average traffic flow over the course of a day which passes a particular location on the road network each day.
British Horse Society	BHS	British equestrian charity and membership group.
Construction Traffic Management Plan	CTMP	Document which outlines traffic management measures to mitigate adverse impacts associated with construction related traffic.
Department for Transport	DfT	UK Government Department for Transport
Design Manual for Roads and Bridges	DMRB	Design Manual for Roads and Bridges
Environmental Impact Assessment Report	EIAR	A document detailing the effects a project would have on the environment.
Heavy Goods Vehicle	HGV	All goods vehicles > 3.5 tonnes gross maximum weight.
Light Goods Vehicles	LGV	All commercial vehicles < 3.5 tonnes gross maximum weight.
Miles per Hour	mph	Measurement unit of speed on British roads.
National Cycle Network	NCN	Designated National Cycle Routes within the UK.
National Road Traffic Forecast	NRTF	Factors used to apply future year growth to traffic flows.
Overhead Line	OHL	Overhead Line
Ordnance Survey	OS	Great Britain's national mapping agency.
Planning Advice Note	PAN	Scottish Government's planning guidance documents.
Trunk Road	T	Major road maintained on behalf of Transport Scotland.
Transport Assessment	TA	Transport Assessment
Transport Scotland	TS	Transport Scotland
Operational Corridor	OC	Operational Corridor

1. TRANSPORT ASSESSMENT

1.1 Introduction

1.1.1 This appendix presents information relevant to the Proposed Development. It should be read in conjunction with **Volume 2, Chapter 14: Traffic and Transport** and **Volume 1, Chapter 3: Project Description** of the Environmental Impact Assessment Report (EIAR) for full details of the Proposed Development.

1.2 Requirement for the Report

1.2.1 Pell Frischmann Consultants Limited (Pell Frischmann) has been commissioned by Land Use Consultants Ltd. (LUC), on behalf of Scottish & Southern Electricity Networks Transmission (SSEN Transmission), to undertake a Transport Assessment (TA) for the Proposed Development, which comprises the installation and operation of approximately 105.2 kilometres (km) of new double circuit 400 kV OHL supported by a series of steel lattice towers.

1.2.2 The TA¹ identifies the key transport and access issues associated with the Proposed Development and provides an assessment in relation to the likely traffic impacts in the study area. The TA identifies where mitigation works may be required to accommodate the predicted traffic impacts associated with the Proposed Development, to be developed during detailed design.

1.3 TA Structure

1.3.1 Following this introduction, the TA is structured as follows:

- Section Two describes the Site Location and Proposed Development;
- Section Three reviews the relevant transport and planning policies;
- Section Four sets out the methodology used within this assessment;
- Section Five describes the baseline transport conditions;
- Section Six describes the trip generation and distribution of traffic in the study area;
- Section Seven summarises the traffic impact assessment;
- Section Eight considers mitigation proposals for development related traffic within the study network; and
- Section Nine summarises the findings of the TA and outlines the key conclusions.

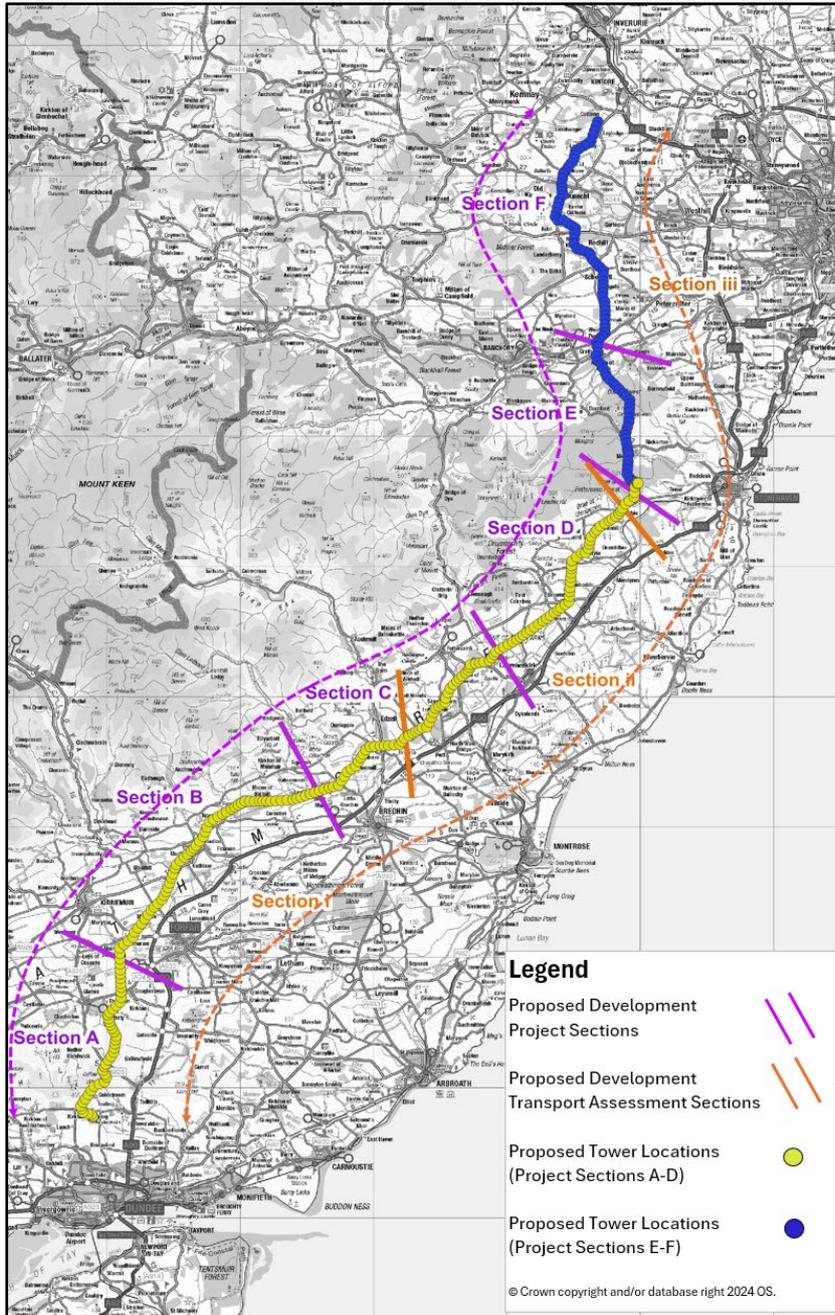
¹ No liability is accepted for the use of all or part of this report by third parties. This report is © Copyright of Pell Frischmann 2025 and SSEN Transmission. No section of this report may be reproduced without prior written approval.

2. SITE BACKGROUND

2.1 Site Location

- 2.1.1 The Proposed Development is located between Tealing in the south, within the local authority area of Angus Council, and Kintore in the north, within the local authority area of Aberdeenshire Council. The location of the route of the Proposed Development (indicated by the proposed tower locations) is shown in **Plate 14.1.1: Site Location**.
- 2.1.2 The Proposed Development has been subdivided into six sections from south to north which are referenced in **Plate 14.1.1: Site Location** as Sections A – F. The design process has also included the appointment by SSEN Transmission of two Principal Contractors (one Contractor for the Sections A to D from Emmock to Hurlie and another for the Sections E to F from Hurlie to Kintore), who have been working collaboratively with SSEN Transmission to inform the design process and the constructability of the Proposed Development.
- 2.1.3 For the purpose of the TA, the Proposed Development has been divided into three geographically defined Transport Sections i to iii which have been chosen to assist the Councils, as some of the Proposed Development is in Angus Council area and some is within Aberdeenshire Council area. The Transport Sections are shown in **Plate 14.1.1: Site Location**.
- 2.1.4 The Transport Sections are described as follows:
- Transport Section i – Tealing to Inchbare (Towers S205 to S83, within Angus Council area and includes Sections A, B and some of Section C of the Proposed Development subsections);
 - Transport Section ii – Inchbare to Drumlithie (Towers S82 to S7, within the Kincardine and Mearns area of Aberdeenshire Council area and includes part of Section C and the majority of Section D of the Proposed Development's subsections); and
 - Transport Section iii – Drumlithie to Kintore (Towers S6 to N1, within the Garioch area of Aberdeenshire Council area and includes a small part of Section D and all of Sections E and F of the Proposed Development's subsections).
- 2.1.5 This Transport Assessment will consider the impact of the Proposed Development in each of the Transport Sections i, ii and iii, individually.

Plate 14.1.1: Site Location



2.2 Proposed Development

- 2.2.1 The Proposed Development comprises the construction of a new double circuit steel structure 400 kV OHL from the existing Kintore Substation in the north via the proposed 400 kV Hurlie substation in Fetteresso Forest, to the proposed 400 kV Emmock substation, near Tealing, in the south.
- 2.2.2 From the existing Kintore Substation at the north end of Section F to tower S82 at the River North Esk in Section C, the Proposed Development crosses land located within the local authority of Aberdeenshire Council. From tower S83 to the proposed Emmock substation at the southern end of Section A, the Proposed Development crosses land located within the local authority of Angus Council. The total length of the Proposed Development is approximately 105.2 km.
- 2.2.3 The Proposed Development would not have a fixed operational life.

3. TRANSPORT POLICY REVIEW

3.1 Introduction

3.1.1 This section of the TA provides an overview of the relevant national and local transport planning policy and guidance.

3.2 National Policy and Guidance

National Planning Framework 4

3.2.1 The *National Planning Framework 4*² (NPF4) was approved by Scottish Parliament and was adopted on 13 February 2023. *Policy 11: Energy* within the NPF4 notes that:

“Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:

- *enabling works, such as grid transmission and distribution infrastructure.*

In addition, project design and mitigation will demonstrate how the following impacts are addressed:

- *impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;*
- *public access, including impact on long distance walking and cycling routes and scenic routes;*
- *impacts on road traffic and on adjacent trunk roads, including during construction; and*
- *cumulative impacts.”*

Planning Advice Note (PAN) 75³

3.2.2 *Planning Advice Note (PAN) 75: Planning for Transport* provides advice on the requirements for Transport Assessments. The document notes that:

- *“transport assessment to be produced for significant travel generating developments. Transport Assessment is a tool that enables delivery of policy aiming to integrate transport and land use planning.”*
- *“All planning applications that involve the generation of person trips should provide information which covers the transport implications of the development. The level of detail will be proportionate to the complexity and scale of the impact of the proposal.... For smaller developments the information on transport implications will enable local authorities to monitor potential cumulative impact and for larger developments it will form part of a scoping exercise for a full transport assessment. Development applications will therefore be assessed by relevant parties at levels of detail corresponding to their potential impact.”*

Transport Assessment Guidance

3.2.3 Transport Scotland's (TS) *Transport Assessment Guidance*⁴ was published in 2012. It aims to assist in the preparation of TAs for development proposals in Scotland such that the likely transport effects can be identified and dealt with as early as possible in the planning process. The document sets out requirements according to the scale of development being proposed.

² The Scottish Government, 2024. *National Planning Framework 4*. [Online] Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf>

³ The Scottish Government, 2005. *Planning Advice Note (PAN) 75*. [Online] Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2005/08/planning-advice-note-pan-75-planning-transport/documents/0016795-pdf/0016795-pdf/govscot%3Adocument/0016795.pdf>

⁴ Transport Scotland, 2012. *Transport Assessment Guidance*. [Online] Available at: https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management__dpmtag_ref__17_-_transport_assessment_guidance_final_-_june_2012.pdf

- 3.2.4 The document notes that a TA will be required where a development is likely to have significant transport effects but that the specific scope and contents of a TA will vary for developments, depending on location, scale and type of development.

3.3 Local Policy and Guidance

Aberdeenshire Local Development Plan (2023)

- 3.3.1 The Aberdeenshire Local Development Plan (LDP)⁵ was adopted in January 2023. In relation the impact to traffic related to the Proposed Development, Aberdeenshire LDP's *Policy C2 Renewable Energy C2.1* notes that:

"We will support renewable energy developments, including solar, wind, biomass (energy from biological material derived from living, or recently living organisms) and hydroelectricity projects, as well as energy storage projects, which are in appropriate sites and of the appropriate design. Assessment of the acceptability of such developments will take account of any effects on: socio-economic aspects; renewable energy targets; greenhouse gas emissions; communities; landscape and visual aspects; natural heritage; carbon rich soils; the historic environment; tourism and recreation; aviation, defence, telecommunications and broadcasting interests; road traffic; hydrology; and opportunities for energy storage."

- 3.3.2 Section 14: The Responsibilities of Developers, *Policy RD1.8 Access to New Development* notes that:

"Any new private access onto a public road must be designed to the satisfaction of Aberdeenshire Council's Road and Transportation Service and, in the case of a trunk road, Transport Scotland. Developers should be aware of the Aberdeenshire Standards for Road Construction Consent and Adoption, and the need for Roads Construction Consent in most instances. A Transport Assessment (or for smaller proposals a Transport Statement) may be asked for, to demonstrate that the development (and any proposed mitigation measures) will not have significant transport impacts on existing transport infrastructure and services."

Angus Local Development Plan (2016)

- 3.3.3 The Angus LDP⁶ was adopted by Angus Council in September 2016 and sets out the Council's view on how the area should develop over the next 10 years from 2016 – 2026. With regards the impact to traffic related to the Proposed Development, Angus LDP's *Policy PV9 Renewable and Low Carbon Energy Development* notes that:

"Proposals for renewable and low carbon energy development will be supported in principle where they meet the following criteria:

- *access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable change to the environment and landscape;*
- *the site has been designed to make links to the national grid and/or other users of renewable energy and heat generated on site;*
- *there will be no unacceptable adverse impact individually or cumulatively with other existing or proposed development on:*
 - *landscape character, setting within the immediate and wider landscape (including cross boundary or regional features and landscapes), sensitive viewpoints and public access routes;*
 - *sites designated for natural heritage (including birds), scientific, historic, cultural or archaeological reasons;*
 - *any populations of protected species; and*
 - *the amenity of communities or individual dwellings including visual impact, noise, shadow flicker.*

Where appropriate mitigation measures must be supported by commitment to a bond commensurate with site restoration requirements."

⁵ Aberdeenshire Council, 2023. Aberdeenshire Local Development Plan 2023. [Online] Available at: <https://online.aberdeenshire.gov.uk/ldpmedia/LDP2021/AberdeenshireLocalDevelopmentPlan2023IntroductionAndPolicies.pdf>

⁶ Angus Council, 2016. Angus Local Development Plan. [Online] Available at: <https://www.angus.gov.uk/sites/default/files/Angus%20local%20development%20plan%20adopted%20September%202016.pdf>

3.4 Policy Conclusion

- 3.4.1 The Proposed Development can align with the stated policy objectives and the design of the Site and proposed mitigation measures will ensure compliance with both national and local objectives.

4. STUDY METHODOLOGY

4.1 Introduction

4.1.1 There are three phases of the Proposed Development, which have been considered in this assessment and are as follows:

- the construction phase;
- the operational phase; and
- the decommissioning phase.

4.2 Project Phases – Transport Overview

4.2.1 Of the three aforementioned phases, the construction phase is considered to have the greatest potential impact in terms of transport. Construction plant and bulk materials will be transported to Site, these may potentially cause a significant increase in traffic on the study network.

4.2.2 The operational phase is restricted to occasional maintenance activities which generate significantly lower volumes of traffic than for construction that are not considered to be in excess of daily traffic variation levels on the road network.

4.2.3 The decommissioning phase involves fewer trips on the network than the construction phase, as minor elements of infrastructure may be left in place. It should be noted however that construction and decommissioning effects are temporary and transitory in nature.

4.3 Scoping Discussions

4.3.1 The Applicant submitted a request for a Scoping Opinion to the Scottish Ministers in respect of the Environmental Impact Assessment (EIA) which included a section considering traffic and transport. A full review of that Scoping Opinion is provided in **Table 14.1: Summary of Consultation** in **Volume 2, Chapter 14: Traffic and Transport** of the EIAR.

5. BASELINE CONDITIONS

5.1 Total Study Area – Transport Section i to iii

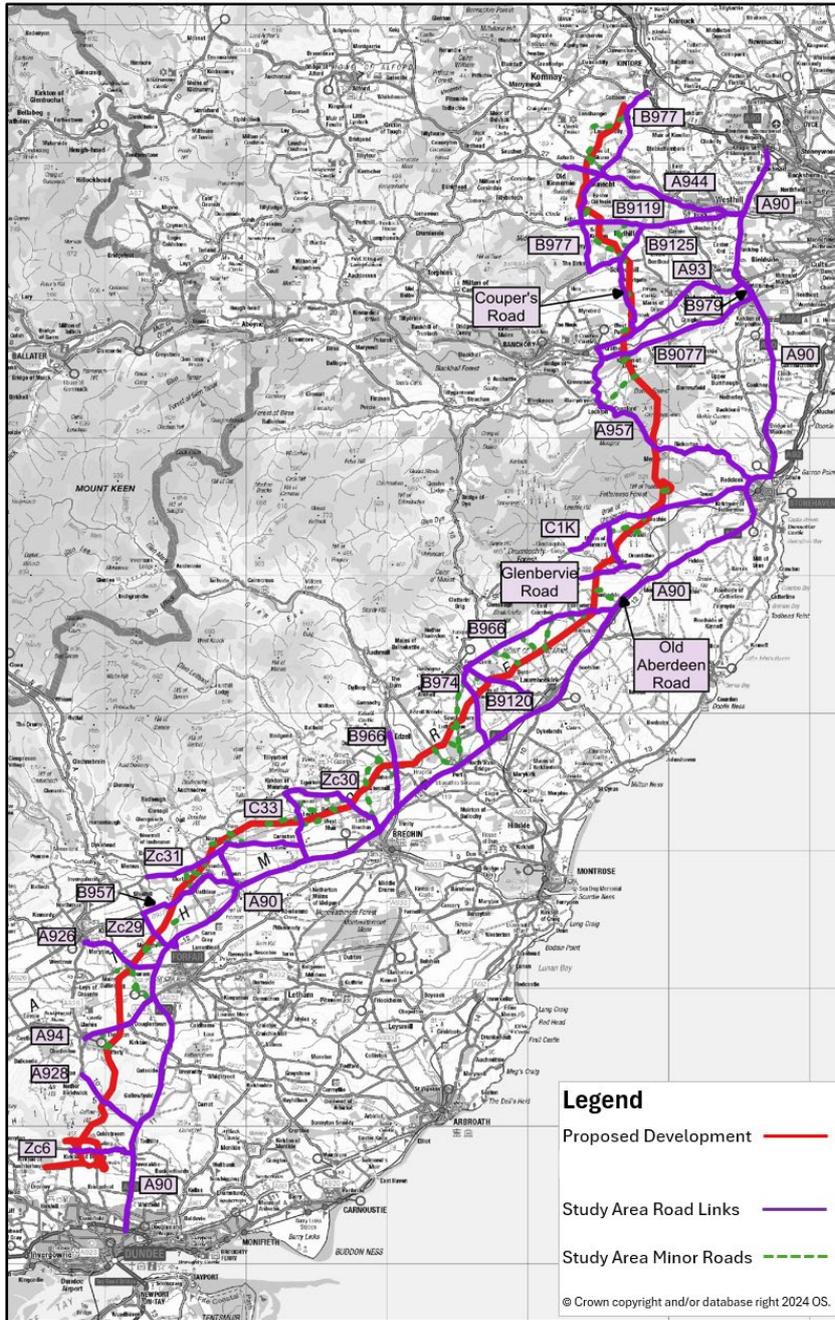
Access Arrangements

- 5.1.1 The provision of numerous temporary and permanent bellmouth/access junctions within the existing road network are required. Existing bellmouths will also be utilised, which are anticipated to require minimal upgrade work.
- 5.1.2 Typical bellmouth layouts are provided in **Volume 3, Figure 3.7: Typical Bellmouth Layout (Indicative)**, and their locations are shown on **Volume 3, Figures 3.1.1-3.1.29: Proposed Development for which Section 37 Consent (Electricity Act, 1989) is sought**. Deemed Consent will be sought for access tracks, bellmouths, and junction upgrades as part of the Section 37 application.
- 5.1.3 The locations of the bellmouth junctions are also shown further embedded in this appendix i to iii (in **Plate 14.1.5: Bellmouth Junctions – Transport Section i**, **Plate 14.1.6: Bellmouth Junctions – Transport Section ii** and **Plate 14.1.7: Bellmouth Junctions – Transport Section iii**).
- 5.1.4 Where possible, the Proposed Development seeks to use existing access track networks to facilitate construction. Approximately 86 km of temporary access track will be required to be installed while new permanent access tracks will be required in some locations for the inspection, maintenance and repair of the Proposed Development during its operation.
- 5.1.5 An Operational Corridor (OC) will be provided to facilitate construction and ensure continued safe operation of the OHL. The width of the OC would typically be 45 m either side of the OHL centreline.

5.2 Study Area Determination

- 5.2.1 The road links which are anticipated to form the route for construction traffic, and therefore the total study area for the Proposed Development are shown in **Plate 14.1.2: Study Area** below (and in more detail in **Annex B** of this Appendix).

Plate 14.1.2: Study Area



5.2.2 The extent of the study area is defined by the following (and included in the study area of the specified Transport Section):

Transport Sections i, ii and iii

- the A90 (T), between Kingsway and the A96 (T).

Transport Section i

- the Zc6 C-class road near Tealing, between the A90 (T) and Zc7 (north of South Balluderon);
- the A928 between the A90 (T) at Petterden Junction and Milton of Ogilvie;
- the A94 between the A90 (T) at Glamis Junction and Glamis;
- the A926 between the A90 (T) at Kirriemuir Junction and Kirriemuir;
- the B9128 between the A90 (T) (signed for Forfar) and Zc29;
- the Zc29 C-class road between the B9128 and B957;

- the B957 between the Zc29 and the A90 (T) (near Finavon);
- the Zc31 between U400 (south of Memus) and the C33 (near Careston, Breshin);
- the C33 between the A90 (T) and Kirkton of Menmuir;
- the Zc30 between Kirkton of Menmuir and the underpass with the A90 (T);
- the B966 between the A90 (T) and Edzell; and
- other minor roads/tracks providing local access (including Zu322, Zu360, Zu360-2, U364, Zu364.Zc29, Zc373, Zc374, Zu370, C32, Zu408, U407, Zu412, Zu413, Zu413-1, Zu414, Zu415, Zu418, Zu417, Zu417-1, Zu429 and Zc35).

Transport Section ii

- the B974 between the A90 (T) and the B966;
- the unclassified road between the B974 and B966/B9120 junction;
- the B966 between the B966/B9120 junction and Old Aberdeen Road;
- the B9120 between the B966/B9120 junction and Blackiemuir Farm, Laurencekirk;
- the Old Aberdeen Road between the B966 and the A90 (T);
- the C19K between the junction of Glenbervie Road/unclassified road (leading to C1K) and the east of Auchenblae Golf Course; and
- other minor roads/tracks providing local access (including C2K, Inverury Wood unclassified road, C6K, Primrosehill, U095K, Landends, C11K, U109K, C1K, C7K, C3K, C111K, 73K and 72K).

Transport Section ii and iii

- the C1K between the A90 (T) and Tippetty.

Transport Section iii

- the A957 (Slug Road) between the A93 and A90 (T);
- the B979 between the A90 (T) and the A957/B9077 junction;
- the B9077 between the B9077/B979 junction and the A957/B9077 junction;
- the A93 between the B979/A93 junction and A957/A93 junction;
- Couper's Road between its junction with the B9125 and its junction with the A93;
- the B9125 between its junction with the B977 and B9119, at Garlogie;
- the B9119, between Echt and Garlogie;
- the B977, between the B977/B9125 and Kintore;
- the A944 between Old Kinnernie and the South Kingswell Roundabout; and
- other minor roads/tracks providing local access (including C5K, Kirkton Wood to Free Church Wood unclassified road, Upper Park unclassified access road, unclassified Old Wood or Forest of Drum road, C150C, U150C, U137C and Castle Fraser unclassified road).

5.3 Road Access

Transport Sections i to iii

- 5.3.1 The A90 (T) is a trunk road which runs from north to south in Scotland, connecting Fraserburgh to Edinburgh via Aberdeen and Dundee. The road comprises a two-lane, dual carriageway and for the most part is maintained by Amey on behalf of TS, however, the section of the A90 (T) between Stonehaven Junction and Blackdog Junction is maintained by Aberdeen Road Ltd on behalf of TS.

Transport Section i

- 5.3.2 The Zc6 is a two-way single carriageway road which travels through Tealing. The Zc6 is subject to the national speed limit which reduces to 40 miles per hour (mph) and then 20 mph within Tealing. Upon entering Tealing from the A90

(T), there is signage warning of the presence of horse riders. The road is mainly of a good standard however there are sections where deterioration is visible from online imagery. The Zc6 is maintained by Angus Council.

- 5.3.3 The A928 is a two-way single carriageway road, which provides a connection between Dundee and Kirriemuir. The road is subject to the national speed limit and is mainly of a good standard however there are sections where deterioration is visible from online imagery. The A928 is maintained by Angus Council.
- 5.3.4 The A94 is a two-way single carriageway road, which links Perth to Stonehaven. Within the study area, the A94 is subject to the national speed limit however this reduces to 40 mph when entering Glamis Junction. There are signed parking areas located along the A94 and there are sections of substandard footways along one side of the road. Signage warning of the presence of deer in the area is located near Glamis Castle and Gardens. The A94 is mainly of a good standard however there are sections where deterioration is visible from online imagery. The A94 is maintained by Angus Council.
- 5.3.5 The A926 is a two-way single-carriageway road, which within the study area runs from the A90 (T) to Kirriemuir, and is mainly subject to the national speed limit, however this reduces to 40 mph near the Kirriemuir Junction and entering villages and 30 mph through Padanaram, Maryton and Kirriemuir. A footway on one side of the road is located along the A926, within the study area. There are sections along the A926 where deterioration is visible from online imagery. The A94 is maintained by Angus Council.
- 5.3.6 The B9128 is a two-way single carriageway road that provides a connection between the A90 (T) to Forfar via a priority junction with the southbound lane on the A90 (T). It should be noted that northbound traffic along the A90 (T) cannot turn right to join the B9128. Within the study area, the B9128 is subject to the national speed limit and is maintained by Angus Council.
- 5.3.7 The Zc29 is a two-way single carriageway road, located to the northeast of Mossie of Ballinshoe, which crosses the A90 (T) via a flyover. The Zc29 is subject to the national speed limit. There are sections along the Zc29 where deterioration is visible from online imagery. The Zc29 is maintained by Angus Council.
- 5.3.8 The B957 is a two-way single carriageway near Justinhaugh which spans between the A90 (T) Finavon and Kirriemuir. The B957 is mainly subject to the national speed limit which reduces to 20 mph and 30 mph in Tannadice. The B957 crosses the River South Esk via a bridge to the southeast of Justinhaugh. Within the study area, there are sections along the B957 where deterioration is visible from online imagery. Sections of the B957 appear to be narrow in the vicinity of Tannadice. The B957 is maintained by Angus Council.
- 5.3.9 The Zc31 is a two-way single carriageway, which narrows between the section of road between the priority junction with the Zu409, north of Tannadice, and the priority junction with the Zu412, to the southeast of Noranside. Zc31 is subject to the national speed limit. There are sections along the Zc31 where deterioration is visible from online imagery. The Zc31 is maintained by Angus Council.
- 5.3.10 The C33 is a two-way single carriageway road which links the A90 (T) and Kirkton of Menmuir. The road narrows between the junctions with Zc31 at Careston and the Zu418. The C33 is subject to the national speed limit. There are sections along the C33 where deterioration is visible from online imagery. The C33 is maintained by Angus Council.
- 5.3.11 The Zc30 is a two-way single carriageway road, which narrows on the section of road to the north of Little Brechin. The road is subject to the national speed limit which reduces to 30 mph when travelling through Little Brechin. There are sections along the Zc30 where deterioration is visible from online imagery. The Zc30 is maintained by Angus Council.

Transport Section i and ii

- 5.3.12 The B966 is a two-way single carriageway road which runs between Brechin and Fettercairn. Within the study area, the B966 is mainly subject to the national speed limit however this reduces to 40 mph and then 30 mph when travelling through Inchbare and reduces to 40 mph and then 30 mph when travelling through Edzell. There are sections along the B966 where deterioration is visible from online imagery. Within the study area, the B966 is maintained by Angus Council and Aberdeenshire Council.

Transport Section ii

- 5.3.13 The B974 is a two-way single carriageway road between Marykirk and Fettercairn, which is mainly subject to the national speed limit however this reduces to 30 mph when entering Fettercairn. There is a give-way sign which prioritises oncoming southbound traffic over the narrow bridge approximately 820 m north of the B974/A90 (T) junction. There are sections along the B974 where deterioration is visible from online imagery. The B974 is maintained by Aberdeenshire Council.
- 5.3.14 The unclassified road between the B974 and B966/B9120 junction is a two-way single carriageway road and is subject to the national speed limit. There are sections along the road where deterioration is visible from online imagery. The unclassified road is maintained by Aberdeenshire Council.
- 5.3.15 The B9120 is a two-way single carriageway road, between Laurencekirk and Fettercairn, which is subject to the national speed limit within the study area. There is a give-way sign which prioritises oncoming northbound traffic over the narrow bridge approximately 265 m southeast of the B966/B9120 junction. The road also narrows on bridge over Black Burn. There are sections along the B9120 where deterioration is visible from online imagery. The B9120 is maintained by Aberdeenshire Council.
- 5.3.16 Old Aberdeen Road is a two-way single carriageway road, which is mainly subject to the national speed limit, however this reduces to 30 mph when travelling through Fordoun. A bridge is located over the Burn of Redhall where the road narrows and a warning sign is located on the northbound approach. There are sections along the Old Aberdeen Road where deterioration is visible from online imagery. The Old Aberdeen Road is maintained by Aberdeenshire Council.
- 5.3.17 Glenbervie Road is a narrow two-way single carriageway road, which is subject to the national speed limit. There are sections along the Glenbervie Road where deterioration is visible from online imagery. Glenbervie Road is maintained by Aberdeenshire Council.

Transport Section ii and iii

- 5.3.18 The C1K is a two-way single carriageway road which runs between Laurencekirk and Stonehaven and is subject to the national speed limit within the study area. There are sections along the road where deterioration is visible from online imagery. The CK1 is maintained by Aberdeenshire Council.

Transport Section iii

- 5.3.19 The A957 (Slug Road) is a two-way single carriageway road which is mainly subject to the national speed limit, which reduces to 30 mph when travelling through Stonehaven and Crathes. A bridge is located over the Cowie Water where the road narrows and a warning sign is located on the northbound and southbound approaches. There is a hairpin bend where a bridge is located over Cowton Burn (between Rickarton and Mowtie) and oncoming traffic is warned to drive in single file. A parking area is signed along the road approximately 2 km to the north of the Proposed Development, as well as passing places located along the section of the road to the north of the Proposed Development. The road narrows at a bridge over the Burn of Sheeoch at Blairdryne which is signed on both approaches and a passing/waiting place is located at the southbound approach. There are sections along the A957 where deterioration is visible from online imagery. The A957 is maintained by Aberdeenshire Council.
- 5.3.20 The B979 is a two-way single carriageway road and is mainly subject to the national speed limit, however this reduces to 30 mph and 40 mph around the section of road between B979/B9077 and the A90 (T) junction. There are sections along the B979 where deterioration is visible from online imagery. The B979 is maintained by Aberdeenshire Council.
- 5.3.21 The B9077 is a two-way single carriageway road, which links the city of Aberdeen to the southern part of Banchory and, within the study area is mainly subject to the national speed limit, however this reduces to 50 mph when travelling through Kirkton of Durris. The B9077 is mainly in good condition, however, there are sections along the B9077 where deterioration is visible from online imagery. The B9077 is maintained by Aberdeenshire Council.
- 5.3.22 The A93 runs from Perth to Aberdeen via Cairngorms National Park. Within the study area, the A93 comprises a two-way single carriageway road, which is mainly in good condition however there is some evidence of deterioration visible from online imagery. The road is maintained by both Aberdeenshire Council and Aberdeen City Council. The

A93 is mainly subject to the national speed limit, however, this reduces to 40 mph when entering Crathes and Park and 30 mph through Drumoak, and Peterculter, Aberdeen. A parking area is located to the southwest of Mains of Drum. Signage entering Peterculter from the west shows that waiting by goods vehicles over a gross weight of 5 tonnes (T) is prohibited Monday to Saturday between 21:00 and 07:00 and all day on Sundays.

- 5.3.23 Couper's Road is a narrow road which varies from a single-track road with passing places to a narrow two-way single carriageway. Couper's Road links the A93, to the west of Drumoak, to the B9125, at Cullerlie, and is maintained by Aberdeenshire Council.
- 5.3.24 The B9125 is a two-way single carriageway road which narrows over Gormack Burn. There are sections along the road where deterioration is visible from online imagery and includes two passing places between the Birks and Garlogie. Signage warning of the presence of cattle is located along the road south of Garlogie. The B9125 is subject to the national speed limit which reduces to 40 mph in Garlogie, The B9125 is maintained by Aberdeenshire Council.
- 5.3.25 The B9119 is a two way single carriageway road that is subject to the national speed limit outwith Echt, which is subject to a speed limit of 30 mph (and 20 mph during school times), Garlogie, which is posted as 40 mph and to the east of the B979/B9119, which is subject to 50 mph and then reduces to 40 mph near the junction with the A944. Footways are located within Echt and Garlogie. There is a narrow path along one side of the B9119 to the east of Echt. From online imagery, the B9119 appears to be mainly in good condition. The majority of the B9119 is maintained by Aberdeenshire Council and a shorter section is maintained by Aberdeen City Council.
- 5.3.26 The B977 is a two-way single carriageway road that includes passing places. Warning signage is located along the road where it narrows at the bridge over Gormack Burn at South Kirkton. The B977 is mainly subject to the national speed limit, however, this reduces to 30 mph through Echt, 30 mph through Dunecht, 30 mph through Lyne of Skene, 40 mph through Leylodge, and 40 mph and then 30 mph through Kintore. There are footways located in Lyne of Skene. The B977 is maintained by Aberdeenshire Council.
- 5.3.27 Within the study area the A944 is mainly a two way single carriageway road which turns into a dual carriageway entering Aberdeen City at the A944/Westhill Drive/Endeavour Drive Roundabout. The A944 is mainly subject to the national speed limit which reduces to 30 mph through Dunecht, Mason Lodge and Elrick, to 50 mph in the vicinity of the A944/B9126 and 40 mph in more built up areas along the A944 (Straik Road) and on the dual carriageway sections. Within the study area, there are two parking areas located along the A944.
- 5.3.28 There are a number of minor roads which provide access to the Proposed Development and are shown in more detail in **Annex B**.

5.4 Timber Routes

- 5.4.1 A number of the roads within the study area form part of the agreed route network used for the extraction of timber and are therefore regularly used by Heavy Goods Vehicle (HGV) traffic. This includes part of the A90 (T) (within Aberdeenshire Council and Aberdeen City Council), A944, Couper's Road, A93, A957, C1K, B966, C31, B957 and minor roads CK6, U103K, CK2 which are noted as 'Agreed Routes' and the C30, C31, C33, C35, part of U429, U406 and C6 which are noted as 'Consultation Route'.
- 5.4.2 The Agreed Timber Route Map⁷ has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles ie, HGVs. The routes are categorised into four groups, namely; 'Agreed Routes', 'Consultation Routes', 'Severely Restricted Routes' and 'Excluded Routes'.
- 5.4.3 'Agreed Routes' are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as 'Agreed Routes' by default unless covered by one of the other road

⁷ The Timber Transport Forum, n.d. Agreed Route Map – Introduction to Agreed Routes Map. [Online] Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>

classifications. Those links classed as ‘Consultation Routes’ are categorised as a route which is key to timber extraction, but which are not up to ‘Agreed Route’ standard. Consultation with the local authority is required, and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads are classified as ‘Consultation Routes’ by default unless covered by one of the other classifications. ‘Severely Restricted Routes’ are not normally to be used for timber transport in their present condition. These routes are close to being Excluded Routes. Consultation with the local authority is required prior to use. Finally, ‘Excluded Routes’ should not be used for timber transport in their present condition. These routes are either formally restricted, or are close to being formally restricted, to protect the network from damaging loads.

5.5 Traffic Count Data – Sections i to iii

Automatic Traffic Counts

5.5.1 In order to assess the impact of development traffic on the study area, 22 Automatic Traffic Count (ATC) sites were established between the 6 and 12 November 2024. It should be noted that the ATC survey was reinstalled at count point 34⁸ (see **Plate 14.1.3: Traffic Count Location Points** on the next page) between the 14 and 20 November 2024.

5.5.2 The ATC data for count point 26 (see **Plate 14.1.3: Traffic Count Location Points** on the next page) at Slug Road, west of Rickarton was undertaken between the 16 and 22 of April 2024.

Department for Transport and Transport Scotland Traffic Data

5.5.3 The ATC surveys were complemented with existing traffic data obtained from the Department for Transport (DfT) and Transport Scotland (TS). The year that the surveys which informed the traffic data are noted in the following section, however, it should be noted that where available, 2023 and 2024 traffic data was used in this assessment.

Baseline Traffic Flows

5.5.4 The count sites for the traffic data obtained from the ATCs, DfT database and TS database are as follows:

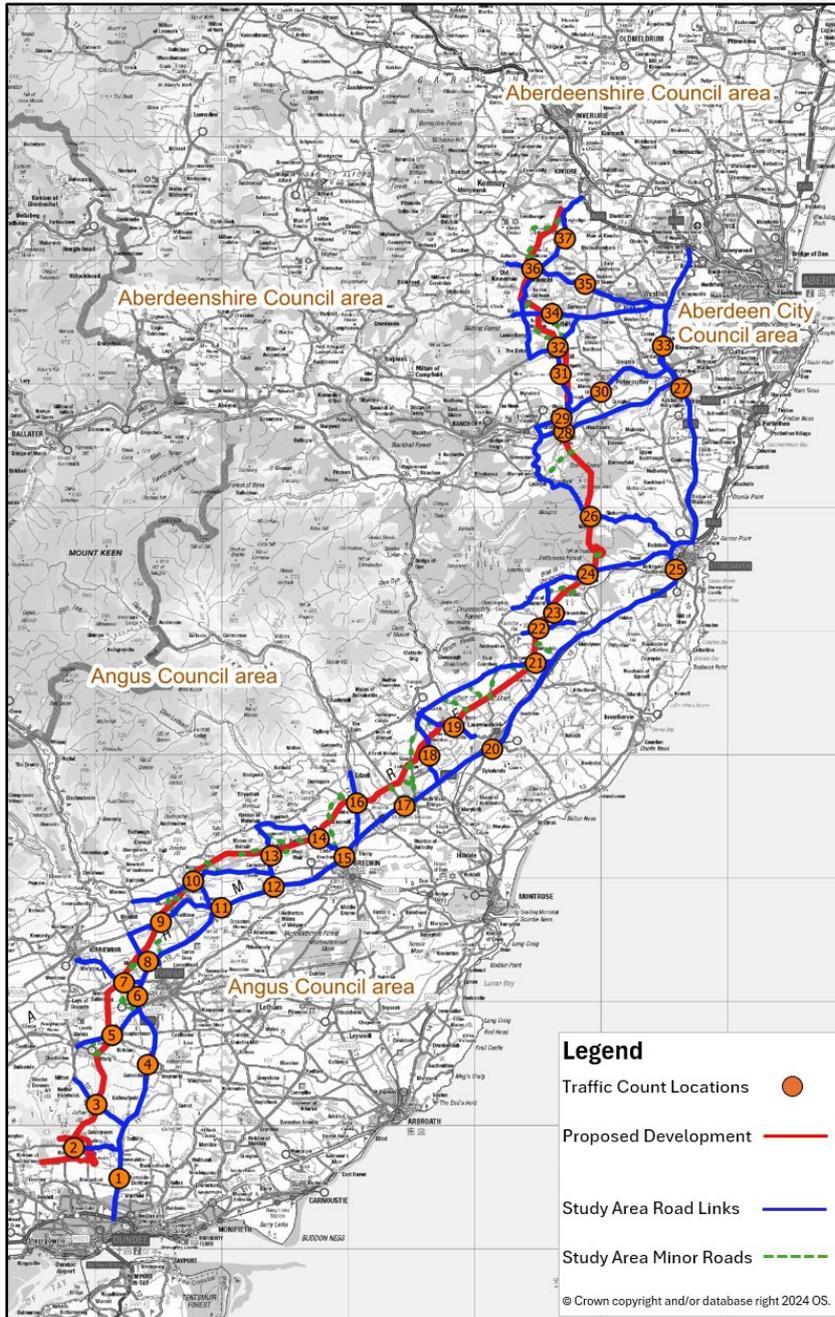
1. A90 (T), south of Inveraldie (TS JTC00064, 2023 survey) – within the study areas of Transport Sections i, ii and iii;
2. Zc6, west of Kirkton of Tealing (ATC, 2024 survey) – within the study area of Transport Section i;
3. A928, southeast of Glenogilvy (ATC, 2024 survey) – within the study area of Transport Section i;
4. A90 (T), north of Gateside (TS JTC00063, 2024 survey) – within the study areas of Transport Sections i, ii and iii;
5. A94, west of Douglstown (ATC, 2024 survey) – within the study area of Transport Section i;
6. A90 (T), north of Halfpennyburn (TS 122402, 2024 survey) – within the study areas of Transport Sections i, ii and iii;
7. A926, west of Padanaram (ATC, 2024 survey) – within the study area of Transport Section i;
8. Zc29, Forfar (ATC, 2024 survey) – within the study area of Transport Section i;
9. B957, northeast of Angus Milling (ATC, 2024 survey) – within the study area of Transport Section i;
10. Zc31, northeast of Baldoukie Farm and north of Tannadice (ATC, 2024 survey) – within the study area of Transport Section i;
11. A90 (T), northeast of Finavon (DfT 80383, 2018 survey) – within the study areas of Transport Sections i, ii and iii;
12. A90 (T), east of Nether Careston (TS JTC00060, 2024 survey) – within the study areas of Transport Sections i, ii and iii;
13. C33, west of Findowrie Farm, Brechin (ATC, 2024 survey) – within the study area of Transport Section i;
14. Zc30, northwest of Highbrea Boarding, Brechin (ATC, 2024 survey) – within the study area of Transport Section i;
15. A90 (T) South of Brechin Golf Course (DfT 10863, 2017 survey) – within the study areas of Transport Sections i, ii and iii;

⁸ Reinstallation of count point 34 due to poor quality of collected data.

16. B966, north of Inchbare (ATC, 2024 survey) – within the study area of Transport Section i;
17. A90 (T), southwest of North Water Bridge (TS JTC00058, 2024 survey) – within the study areas of Transport Sections i, ii and iii;
18. B974 Burnside Road (ATC, 2024 survey) – within the study area of Transport Section ii;
19. B9120 northwest of Laurencekirk (ATC, 2024 survey) – within the study area of Transport Section ii;
20. A90 (T) southwest of Laurencekirk (DfT 80049, 2017 survey) – within the study areas of Transport Sections i, ii and iii;
21. B966, north of Fordoun (ATC, 2024 survey) – within the study area of Transport Section ii;
22. Glenbervie Road (ATC, 2024 survey) – within the study area of Transport Section ii;
23. Unclassified Road, north of Glenbervie Road and south of C1K (ATC, 2024 survey) – within the study area of Transport Section ii;
24. C1K, northwest of Tannachie (ATC, 2024 survey) – within the study area of Transport Section ii and iii;
25. A90 (T), southwest of Stonehaven (DfT 80043, 2017 survey) – within the study areas of Transport Sections i, ii and iii;
26. Slug Road, west of Rickarton (ATC, 2024 survey) – within the study area of Transport Section iii;
27. A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout (DfT 91035, 2023 survey) – within the study areas of Transport Sections i, ii and iii;
28. B9077, west of Durriss (ATC, 2024 survey) – within the study area of Transport Section iii;
29. A93, east of Crathes (ATC, 2024 survey) – within the study area of Transport Section iii;
30. A93, northeast of Drumoak (DfT 20860, 2023 survey) – within the study area of Transport Section iii;
31. Couper's Road (ATC, 2024 survey) – within the study area of Transport Section iii;
32. B9125, Cullerlie (ATC, 2024 survey) – within the study area of Transport Section iii;
33. A90 (T) Aberdeen Western Peripheral Route, south of Kindsford (DfT 91034, 2023 survey) – within the study areas of Transport Sections i, ii and iii;
34. B9119, west of Garlogie (ATC, 2024 survey) – within the study area of Transport Section iii;
35. A944, west of junction with B9126 (DfT 50864, 2023 survey) – within the study area of Transport Section iii;
36. A944, west of Dunecht (ATC, 2024 survey) – within the study area of Transport Section iii; and
37. B977, south of Leylodge (DfT 811620, 2023 survey) – within the study area of Transport Section iii.

5.5.5 The locations of the count points are shown in **Plate 14.1.3: Traffic Count Location Points**.

Plate 14.1.3: Traffic Count Location Points



Existing Baseline – 2024 Traffic flows

- 5.5.6 It should be noted that National Road Traffic Forecasts (NRTF) low growth factors were applied to the previous years' baselines to estimate 2024 flows. The low growth factor for 2017 to 2024 is 1.049, for 2018 to 2024 is 1.041 and 2023 to 2024 is 1.005.
- 5.5.7 The traffic count data allows the traffic flows to be split into vehicle classes and the data has been summarised into cars / light goods vehicles (LGV) and heavy goods vehicles (HGVs) (ie all goods vehicles >3.5 tonnes gross maximum weight and buses).
- 5.5.8 Detailed traffic flow information at the count locations is provided within the individual Transport Section Baseline Summaries in **Section 5.7**.

Future Baseline – 2026 Traffic flows

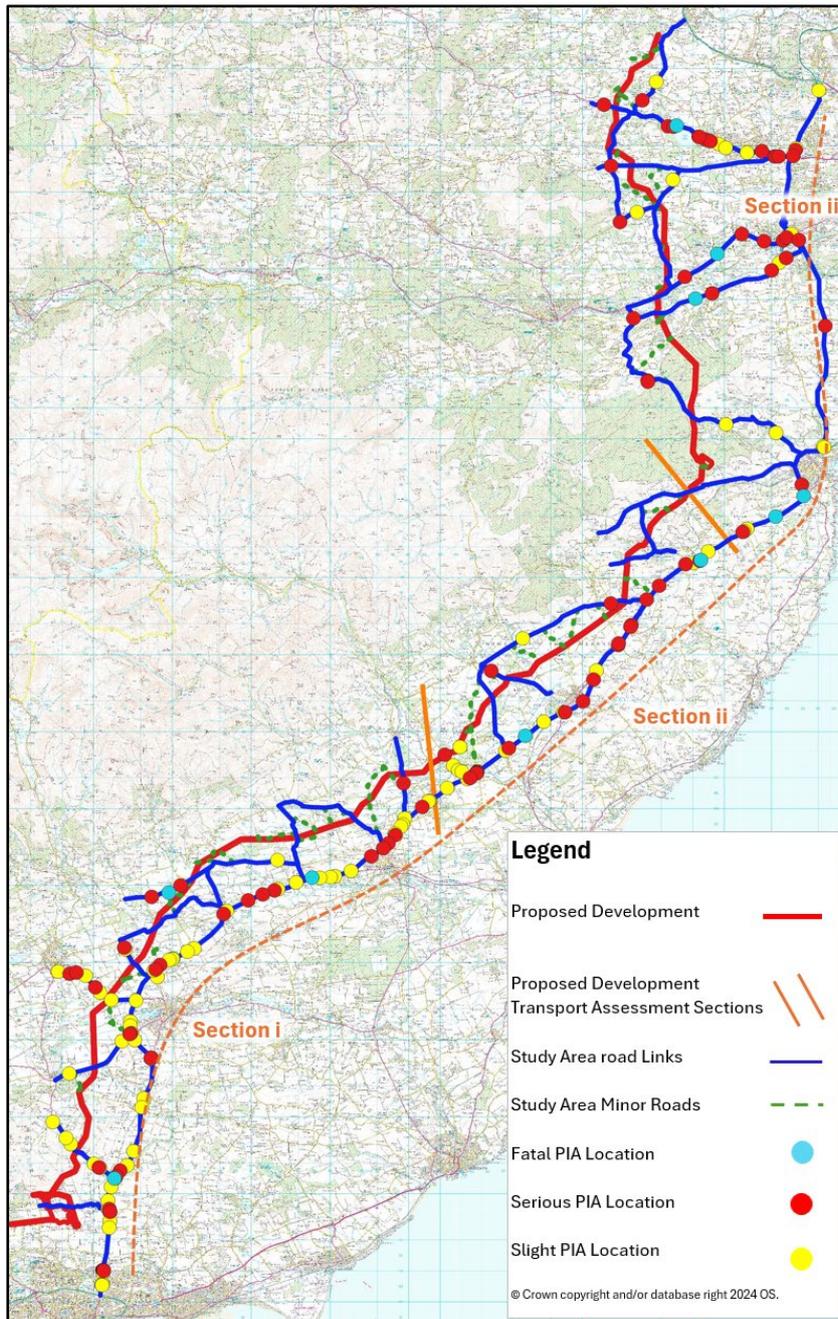
- 5.5.9 The NRTF low growth factor for 2024 to 2026 is 1.011. This has been used in each of the Transport Sections' Construction Peak Traffic Impact Assessment to take account of anticipated changes in traffic resulting from background growth (where relevant) and the contribution of planned developments to future road traffic patterns.
- 5.5.10 Detailed traffic flow information at the count locations is provided within the individual Transport Section Future Baseline Summaries in **Section 5.7**.

5.6 Accident Review – Transport Sections i to iii

- 5.6.1 Road traffic accident data for the five-year period commencing 01 January 2019 through to the 31 December 2023 was obtained from the online resource CrashMap⁹ which uses data collected by the police about road traffic crashes occurring on British roads.
- 5.6.2 The statistics are categorised into three categories, namely “slight” for damage only incidents, “serious” for injury accidents and “fatal” for accidents that result in a death.
- 5.6.3 TA Guidance requires an analysis of the Personal Injury Accident (PIA) data on the road network in the vicinity of any development to be undertaken for at least the most recent 3-year period, or preferably a 5-year period, particularly if the site has been identified as being within a high accident area. Whilst the study area has not been identified as having a high accident rate, a five-year review has been undertaken to ensure a comprehensive assessment has been undertaken.
- 5.6.4 The locations of accidents and the recorded severity of the accidents are shown in **Plate 14.1.4: Accident Locations**. Details of the PIAs are provided within the individual Transport Section Baseline Summaries in **Section 5.7**.

⁹ CrashMap.co.uk, n.d. CrashMap Data: Great Britain 1999 – 2023 (verified). [Online] Available at: <https://www.crashmap.co.uk/Search>.

Plate 14.1.4: Accident Locations



5.7 Baseline Conditions for each Transport Section

- 5.7.1 The following subsections outline the summary baseline conditions for each of the three Transport Sections of the Proposed Development.
- 5.7.2 It should be noted that there is duplication of the A90 (T) within the baseline traffic count information provided for each Transport Section. This is because the A90 (T) will be used to access the local road network and it is assumed, for the purpose of the TA, that all materials will be delivered from the A90 (T).

Transport Section i: Tealing to Inchbare (Towers S206 to S83)

Study Area – Transport Section i

- 5.7.3 The extent of the study area for Transport Section i: Tealing to Inchbare (Towers S205 to S83) is presented in **Plate 14.1.5: Bellmouth Junctions – Transport Section i** and is described as follows:
- the A90 (T), between Kingsway and the A96 (T);

- the Zc6 C-class road near Tealing, between the A90 (T) and Zc7 (north of South Balluderon);
- the A928 between the A90 (T) at Petterden Junction and Milton of Ogilvie;
- the A94 between the A90 (T) at Glamis Junction and Glamis;
- the A926 between the A90 (T) at Kirriemuir Junction and Kirriemuir;
- the B9128 between the A90 (T) (signed for Forfar) and Zc29;
- the Zc29 C-class road between the B9128 and B957;
- the B957 between the Zc29 and the A90 (T) (near Finavon);
- the Zc31 between U400 (south of Memus) and the C33 (near Careston, Brechin);
- the C33 between the A90 (T) and Kirkton of Menmuir;
- the Zc30 between Kirkton of Menmuir and the underpass with the A90 (T);
- the B966 between the A90 (T) and Edzell; and
- other minor roads/tracks providing local access (including Zu322, Zu360, Zu360-2, U364, Zu364.Zc29, Zc373, Zc374, Zu370, C32, Zu408, U407, Zu412, Zu413, Zu413-1, Zu414, Zu415, Zu418, Zu417, Zu417-1, Zu429 and Zc35).

5.7.4 The 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section i study area are presented in **Table 14.1.1: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section i**.

Table 14.1.1: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section i

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,211	3,284	23,495
2	Zc6, west of Kirkton of Tealing	466	153	619
3	A928, southeast of Glenogilvy	690	198	888
4	A90 (T), north of Gateside	17,656	4,925	22,581
5	A94, west of Douglastown	3,667	1,080	4,747
6	A90 (T), north of Halfpennyburn	18,899	3,322	22,221
7	A926, west of Padanaram	4,928	1,045	5,973
8	Zc29, Forfar	1,945	373	2,317
9	B957, northeast of Angus Milling	269	66	335
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	91	33	124
11	A90 (T), northeast of Finavon	18,445	18,445	18,445
12	A90 (T), east of Nether Careston	15,517	5,743	21,260
13	C33, west of Findowrie Farm, Brechin	3,214	793	4,007
14	Zc30, northwest of Highbrea Boarding, Brechin	199	70	268
15	A90 (T) South of Brechin Golf Course	15,332	2,376	17,708
16	B966, north of Inchbare	1,725	486	2,211
17	A90 (T), southwest of North Water Bridge	15,477	2,952	18,429
20	A90 (T) southwest of Laurencekirk	18,856	2,697	21,553
25	A90 (T), southwest of Stonehaven	11,793	1,714	13,507
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,610	1,782	24,392
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,069	2,775	34,843

- 5.7.5 The two-way seven-day average and 85th percentile speeds observed at the ATC and Transport Scotland count sites within the Transport Section i study area are summarised below in **Table 14.1.2: Speed Summary – Transport Section i**. There is no speed data available at DfT count sites.

Table 14.1.2: Speed Summary – Transport Section i

Site Ref	Survey Location	Mean Speed (mph)	85 %ile Speed (mph)	Speed Limit (mph)
1	A90 (T), south of Inveraldie	62.6	71.3	70.0
2	Zc6, west of Kirkton of Tealing	43.0	51.3	60.0
3	A928, southeast of Glenogilvy	45.7	51.5	60.0
4	A90 (T), north of Gateside	58.8	71.3	70.0
5	A94, west of Douglastown	55.7	63.2	60.0
6	A90 (T), north of Halfpennyburn	64.7	71.3	70.0
7	A926, west of Padanaram	47.5	53.8	60.0
8	Zc29, Forfar	45.0	51.7	60.0
9	B957, northeast of Angus Milling	44.2	50.3	60.0
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	45.8	54.4	60.0
11	A90 (T), northeast of Finavon	-	-	70.0
12	A90 (T), east of Nether Careston	64.8	71.9	70.0
13	C33, west of Findowrie Farm, Brechin	33.9	38.7	60.0
14	Zc30, northwest of Highbrea Boarding, Brechin	44.4	51.9	60.0
15	A90 (T) South of Brechin Golf Course	-	-	70.0
16	B966, north of Inchbare	40.2	45.4	40.0
17	A90 (T), southwest of North Water Bridge	64.5	71.3	70.0
20	A90 (T) southwest of Laurencekirk	-	-	70.0
25	A90 (T), southwest of Stonehaven	-	-	70.0
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	-	-	70.0
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	-	-	70.0

- 5.7.6 The available speed information shown in **Table 14.1.2: Speed Summary – Transport Section i** indicates that there is compliance with the current speed limit with the exception to the following locations:

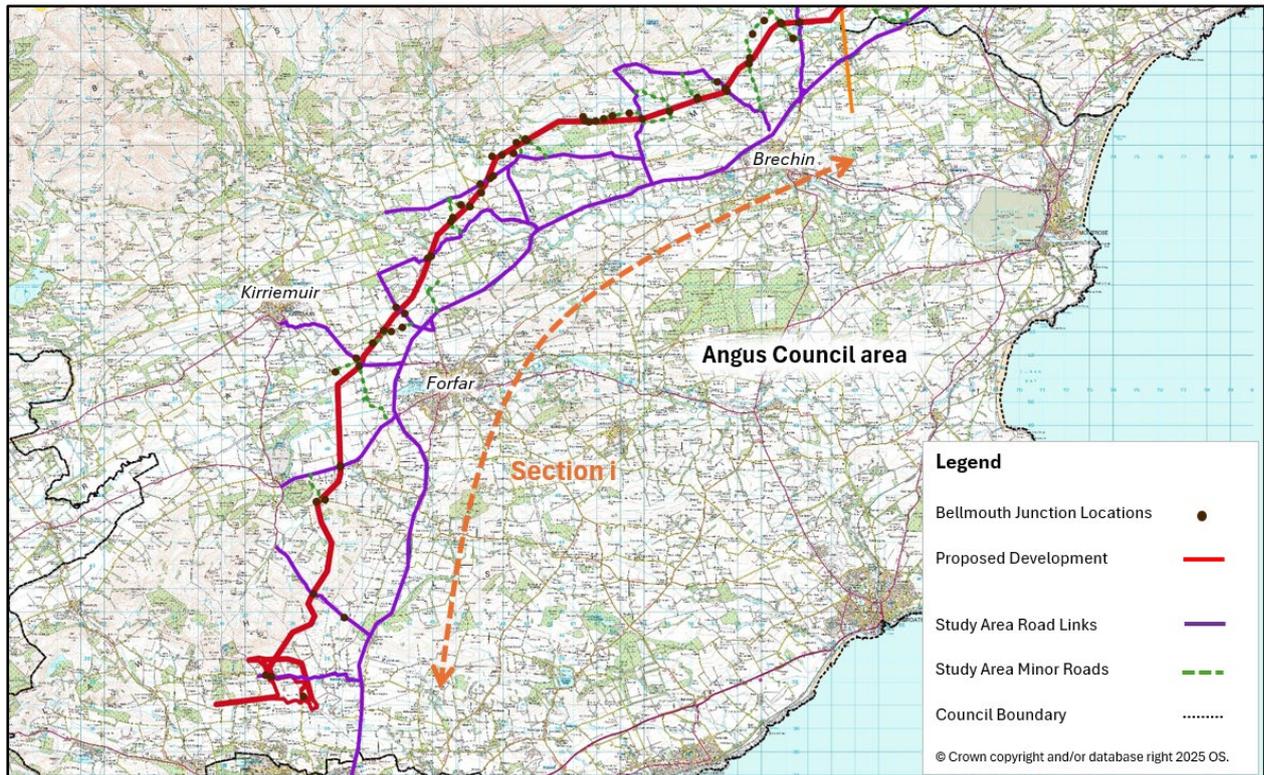
- A90 (T), south of Inveraldie;
- A90 (T), north of Gateside;
- A94, west of Douglastown;
- A90 (T), north of Halfpennyburn;
- A90 (T), east of Nether Careston;
- B966, north of Inchbare; and
- A90 (T), southwest of North Water Bridge.

- 5.7.7 This indicates that traffic management measures will likely be required at these locations and that Police Scotland may wish to consider enforcement spot checks in these areas.

Access Arrangement – Transport Section i

- 5.7.8 The locations of the proposed bellmouth junctions providing access to Transport Section i of the Proposed Development are shown in **Plate 14.1.5: Bellmouth Junctions – Transport Section i**.

Plate 14.1.5: Bellmouth Junctions – Transport Section i



Pedestrian and Cyclist Networks – Transport Section i

5.7.9 A review of the online mapping available from the UK Government’s *Core Paths – Scotland*¹⁰ found that the following Core Paths are located within the Proposed Development’s Limit of Deviation (LOD) for Transport Section i and are shown in **Volume 3, Figures 7.2.1 to 7.2.7 Recreational Assets** and detailed in **Volume 5, Appendix 7.1: Outline Outdoor Access Management Plan**:

- the Kirkton of Tealing to Balnuith core path will be crossed by an access track between Balnuith Farm and the existing Tealing Substation;
- the Kirkton of Auchterhouse to Balluderon core path will be crossed by an access track to the west of North Balluderon;
- the Prieston to Glen Ogilvie core path will be crossed by the Proposed Alignment to the east of Prieston Hill and to the north of Coldstream;
- the Jericho core path will be crossed by the Proposed Alignment to the west of Nether Hayston; and
- the Drumgley to Glamis Station core path will be crossed by the Proposed Alignment to the east of Haughs of Cossans Cottage.

5.7.10 There are also a number of Public Right of Ways (PRoWs) located along the Proposed Development and include the following:

- TC/TA34/1 (PRoW) – approximate National Grid Reference (NGR) NO 37365 38584;
- TC/TA31/1 (PRoW) – approximate NGR NO 38892 39922;
- TA/TA156/1 (PRoW) – approximate NGR NO 40993 49706;
- TA/TA154/1 (PRoW) – approximate NGR NO 42331 52272;
- TA/TA151/1 (PRoW) – approximate NGR NO 43887 53823;
- TA/TA171/1 (PRoW) – approximate NGR NO 59693 64446; and

¹⁰ UK Government, 2025. Core Paths – Scotland. [Online] Available at: <https://www.data.gov.uk/dataset/f69babe5-6ac7-4292-92ab-012fe82906b8/core-paths-scotland>.

- TA/TA185/1 (PRoW) – approximate NGR NO 61247 66676.

5.7.11 It should be noted that there are footways and pedestrian facilities located within villages and towns within the study area.

5.7.12 A review of Sustrans' map¹¹ of the National Cycle Network (NCN) indicates that there are no NCN routes in the vicinity of the Proposed Development within Transport Section i.

5.7.13 Recreational routes identified in each Section of the Proposed Development are shown on **Volume 3, Figures 7.2.1 to 7.2.7: Recreational Assets**.

Accident Review – Transport Section i

5.7.14 During the five-year period between 1 January 2019 and 31 December 2023, the following Personal Injury Accident (PIA) data was recorded along the local roads in the study area of Transport Section i, as well as the trunk road network in the vicinity of Transport Section i (as shown between the orange lines depicting each Transport Section in **Plate 14.1.4: Accident Locations**):

- A total of 96 PIAs were recorded on the local and trunk road network within the Transport Section i study area, of which 62 (65%) were recorded as slight, 31 (32%) were recorded as serious and three fatalities (3%) were recorded.
- A PIA that resulted in a fatality was recorded at the A928/A90 (T) priority junction and involved an HGV and a bus and resulted in a total of 19 casualties. Within the five year assessment period, another two PIAs which were recorded as slight occurred at the junction.
- A PIA that resulted in a fatality occurred at the Zu408/C32 junction and involved cars. A young driver was involved in the incident. A total of seven casualties were documented.
- A PIA that resulted in a fatality was recorded on the A90 (T), approximately 500 m to the east of C33/A90 (T) priority junction in the vicinity of a parking area along the A90 (T). The PIA involved a car and an HGV and resulted in one casualty which was a fatality.
- Two slight PIAs were recorded at the Claverhouse Road/A90 (T)/Fountainbleau Drive signalised junction. One of the PIAs involved cars and the other PIA involved a car and an HGV.
- Six PIAs which included two slight PIAs and four serious PIAs were recorded at the Emmock Roundabout. Four of the PIAs were documented as single vehicle accidents, of which three car accidents were recorded as serious and one HGV accident was recorded as serious. Two of the PIAs were documented as multi-vehicle accidents, of which one serious PIA involved a motorcycle and car and one slight PIA involved a car and an HGV.
- Four PIAs were recorded in the vicinity of the Zc6/A90 (T) priority junction, of which three were recorded as slight and one was recorded as serious. One serious PIA and one slight PIA accident involved cars, one slight PIA involved HGVs and one slight PIA involved a car and an HGV.
- Four PIAs were recorded at the A932 (Dundee Road) of which two were recorded as slight and two were recorded as serious. All four PIAs involved collisions between cars and HGVs.
- Four PIAs were recorded on the A94 at the A94/A90 (T) junction, to the west of the underpass. Three of the PIAs were documented as single vehicle accidents which included one bicycle accident recorded as serious, one motorcycle accident recorded as serious and one car accident recorded as slight. The remaining accident involved two cars and was recorded as slight.
- Two PIAs were recorded at the Fairview/A90 (T) junction which resulted in slight accidents. Both accidents involved cars.
- Two PIAs were recorded at the A90 (T)/C35/Zc35 staggered junction which both resulted in slight PIAs and involved cars.

¹¹ Sustrans (2025) Map of the National Cycle Network. [Online] Available at: <https://www.sustrans.org.uk/national-cycle-network/>

5.7.15 A summary of the PIA casualty types and vehicle types within Transport Section i is shown in **Table 14.1.3: Casualty Types (2019 – 2023) – Transport Section i** and **Table 14.1.4: Vehicle Types (2019 – 2023) – Transport Section i**, respectively.

Table 14.1.3: Casualty Types (2019 – 2023) – Transport Section i

Section i – Road Type	Casualty Types			
	Pedal Cycle	Child	Motorcycle	Pedestrian
Local Road Network	1	4	3	0
Trunk Road Network	0	3	5	1

Table 14.1.4: Vehicle Types (2019 – 2023) – Transport Section i

Section i – Road Type	Vehicle Types					
	Pedal Cycle	Motorcycle	Car	HGV	Bus	Young Driver
Local Road Network	1	3	26	5	1	13
Trunk Road Network	0	5	57	26	4	14

Future Baseline in the Absence of the Proposed Development – Transport Section i

5.7.16 The projected future 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section i study area are presented in **Table 14.1.5: 24-hour Average Daily Traffic Data (2026) – Transport Section i**.

Table 14.1.5: 24-hour Average Daily Traffic Data (2026) – Transport Section i

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,433	3,320	23,753
2	Zc6, west of Kirkton of Tealing	471	155	626
3	A928, southeast of Glenogilvy	697	201	898
4	A90 (T), north of Gateside	17,850	4,979	22,829
5	A94, west of Douglastown	3,707	1,092	4,799
6	A90 (T), north of Halfpennyburn	19,107	3,359	22,465
7	A926, west of Padanaram	4,982	1,057	6,038
8	Zc29, Forfar	1,966	377	2,343
9	B957, northeast of Angus Milling	272	67	339
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	92	34	126
11	A90 (T), northeast of Finavon	18,648	18,648	18,648
12	A90 (T), east of Nether Careston	15,688	5,806	21,494
13	C33, west of Findowrie Farm, Brechin	3,249	802	4,051
14	Zc30, northwest of Highbrea Boarding, Brechin	201	70	271
15	A90 (T) South of Brechin Golf Course	15,501	2,402	17,903
16	B966, north of Inchbare	1,744	491	2,236
17	A90 (T), southwest of North Water Bridge	15,647	2,984	18,632
20	A90 (T) southwest of Laurencekirk	19,063	2,727	21,790
25	A90 (T), southwest of Stonehaven	11,923	1,733	13,656
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,859	1,801	24,661
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,421	2,805	35,227

Transport Section ii: Inchbare to Drumlithie (Towers S82 to S7)

Study Area – Transport Section ii

5.7.17 The extent of the study area for Transport Section ii – Inchbare to Drumlithie (Towers S82 to S7) is presented in **Plate 14.1.6: Bellmouth Junctions – Transport Section ii** and is described as follows:

- the A90 (T), between Kingsway and the A96 (T);
- the B974 between the A90 (T) and the B966;
- the unclassified road between the B974 and B966/B9120 junction;
- the B966 between the B966/B9120 junction and Old Aberdeen Road;
- the B9120 between the B966/B9120 junction and Blackiemuir Farm, Laurencekirk;
- the Old Aberdeen Road between the B966 and the A90 (T);
- the C19K between the junction of Glenbervie Road/unclassified road (leading to C1K) and the east of Auchenblae Golf Course;
- the C1K between the A90 (T) and Tipperty; and
- other minor roads/tracks providing local access (including C2K, Inverury Wood unclassified road, C6K, Primrosehill, U095K, Landends, C11K, U109K, C1K, C7K, C3K, C111K, 73K and 72K).

5.7.18 The 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section ii study area are presented in **Table 14.1.6: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section ii**.

Table 14.1.6: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section ii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,211	3,284	23,495
4	A90 (T), north of Gateside	17,656	4,925	22,581
6	A90 (T), north of Halfpennyburn	18,899	3,322	22,221
11	A90 (T), northeast of Finavon	18,445	18,445	18,445
12	A90 (T), east of Nether Careston	15,517	5,743	21,260
15	A90 (T) South of Brechin Golf Course	15,332	2,376	17,708
17	A90 (T), southwest of North Water Bridge	15,477	2,952	18,429
18	B974 Burnside Road	306	103	410
19	B9120 northwest of Laurencekirk	637	139	777
20	A90 (T) southwest of Laurencekirk	18,856	2,697	21,553
21	B966, north of Fordoun	147	99	247
22	Glenbervie Road	197	60	257
23	Unclassified Road, north of Glenbervie Road and south of C1K	70	36	106
24	C1K, northwest of Tannachie	250	103	353
25	A90 (T), southwest of Stonehaven	11,793	1,714	13,507
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,610	1,782	24,392
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,069	2,775	34,843

5.7.19 The two-way seven-day average and 85th percentile speeds observed at the ATC and Transport Scotland count sites within the Transport Section ii study area are summarised below in **Table 14.1.7: Speed Summary – Transport Section ii**. There is no speed data available at DfT count sites.

Table 14.1.7: Speed Summary – Transport Section ii

Site Ref	Survey Location	Mean Speed (mph)	85 %ile Speed (mph)	Speed Limit (mph)
1	A90 (T), south of Inveraldie	62.6	71.3	70.0
4	A90 (T), north of Gateside	58.8	71.3	70.0
6	A90 (T), north of Halfpennyburn	64.7	71.3	70.0
11	A90 (T), northeast of Finavon	-	-	70.0
12	A90 (T), east of Nether Careston	64.8	71.9	70.0
15	A90 (T) South of Brechin Golf Course	-	-	70.0
17	A90 (T), southwest of North Water Bridge	64.5	71.3	70.0
18	B974 Burnside Road	48.1	57.4	60.0
19	B9120 northwest of Laurencekirk	53.4	62.0	60.0
20	A90 (T) southwest of Laurencekirk	-	-	70.0
21	B966, north of Fordoun	47.5	56.4	60.0
22	Glenbervie Road	40.3	47.8	60.0
23	Unclassified Road, north of Glenbervie Road and south of C1K	35.8	43.0	60.0
24	C1K, northwest of Tannachie	48.6	56.9	60.0
25	A90 (T), southwest of Stonehaven	-	-	70.0
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	-	-	70.0
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	-	-	70.0

5.7.20 The available speed information shown in **Table 14.1.7: Speed Summary – Transport Section ii** indicates that there is compliance with the current speed limit with the exception of the following locations:

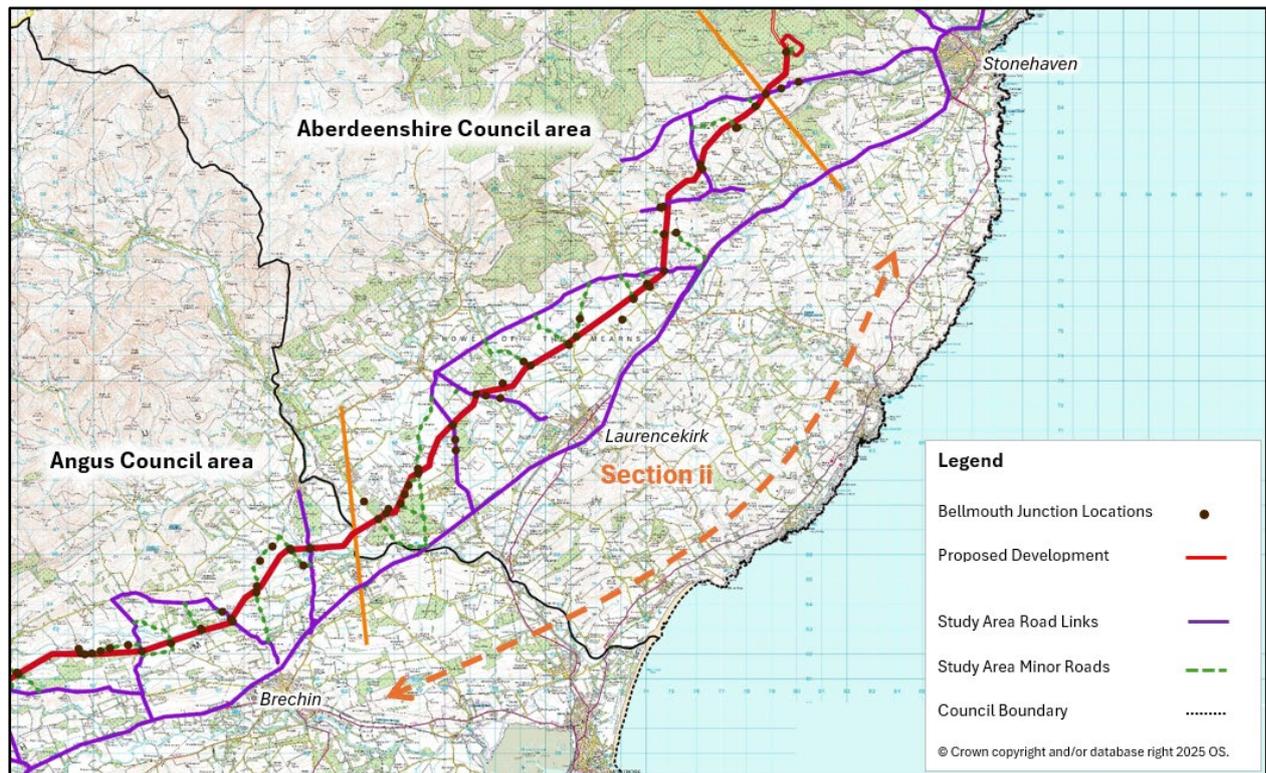
- A90 (T), south of Inveraldie;
- A90 (T), north of Gateside;
- A90 (T), north of Halfpennyburn;
- A90 (T), east of Nether Careston;
- A90 (T), southwest of North Water Bridge; and
- B9120, northwest of Laurencekirk.

5.7.21 This indicates that traffic management measures will likely be required at these locations and that Police Scotland may wish to consider enforcement spot checks in these areas.

Access Arrangement – Transport Section ii

5.7.22 The locations of the proposed bellmouth junctions providing access to Section ii of the Proposed Development are shown in **Plate 14.1.6: Bellmouth Junctions – Transport Section ii**.

Plate 14.1.6: Bellmouth Junctions – Transport Section ii



Pedestrian and Cyclist Networks – Transport Section ii

5.7.23 A review of the online mapping available from the UK Government’s *Core Paths*¹⁰ – *Scotland* found that the following Core Paths are located within the Proposed Development’s LOD for Transport Section ii and are shown in **Volume 3, Figures 7.2.1 to 7.2.7: Recreational Assets**:

- the Edzell to Westside core path will be crossed by an access track to the southeast of Edzell Wood; and
- Fordoun: Monboddio Link Road will be crossed by the Proposed Alignment and by access tracks between Fordoun and Auchenblae and to the north of the Woods of Redhall.

5.7.24 There are also a PRoW and a Scottish Hill Track located along the Proposed Development and include the following:

- GK/GK67/1 (PRoW)– approximate NGR NO 78034 84845; and
- SHT (6) 197 (Scottish Hill Track)– approximate NGR NO 75383 80861.

5.7.25 It should be noted that there are footways and pedestrian facilities located within villages and towns within the study area.

5.7.26 A review of Sustrans¹¹ map of the NCN indicates that there are no NCN routes in the vicinity of the Proposed Development within Transport Section ii.

5.7.27 Recreational routes identified in each Section of the Proposed Development are shown in **Volume 3, Figures 7.2.1 to 7.2.7: Recreational Assets**.

Accident Review – Section ii

5.7.28 During the five-year period between 01 January 2019 and 31 December 2023, the following PIA data was recorded along local roads in the locality of Transport Section ii, as well as the trunk road network in the vicinity of Transport Section ii (as shown between the orange lines depicting each Transport Section in **Plate 14.1.4: Accident Locations**):

- A total of 38 PIAs were recorded on the local and trunk road network within the Transport Section ii study area, of which 16 (42%) were recorded as slight, 20 (53%) were recorded as serious and two fatalities (5%) were recorded.

- One fatal PIA was recorded approximately 300 m to the southwest of Landends. The PIA involved a single car accident.
- One fatal PIA was recorded at the Station Road/A90 (T) priority junction which involved a bus and a car. A total of seven casualties were documented. One serious vehicle accident was also recorded at the junction within the five-year survey period and involved two cars.
- Four PIAs were recorded at the Zc37/A90 (T) priority junction of which three were recorded as slight and one was recorded as serious. One slight PIA involved a motorcycle and an HGV, one slight PIA involved a car and an HGV, and two PIAs involving cars were recorded as slight and serious, respectively.
- Four PIAs were recorded at the priority junction of the A90 (T) and the road leading to Dovecoat Caravan Park which were all recorded as serious and involved cars.
- Two PIAs were recorded at the A937/A90 (T) staggered junction of which one was recorded as slight and one as serious. Both of the PIAs involved cars.
- Two serious PIAs were recorded at the priority junction of the road leading to Upper Powburn and the A90 (T), of which one of the PIAs involved cars and one involved a car and an HGV.
- Two serious PIAs were recorded at the Old Aberdeen Road/A90 (T) priority junction, of which one of the PIAs involved cars and one involved a car and an HGV.

5.7.29 A summary of the PIA casualty types and vehicle types within Transport Section ii is shown in **Table 14.1.8: Casualty Types (2019 – 2023) – Transport Section ii** and **Table 14.1.9: Vehicle Types (2019 – 2023) – Transport Section ii**, respectively.

Table 14.1.8: Casualty Types (2019 – 2023) – Transport Section ii

Section ii – Road Type	Casualty Types			
	Pedal Cycle	Child	Motorcycle	Pedestrian
Local Road Network	1	1	0	0
Trunk Road Network	0	1	4	0

Table 14.1.9: Vehicle Types (2019 – 2023) – Transport Section ii

Section ii – Road Type	Vehicle Types					
	Pedal Cycle	Motorcycle	Car	HGV	Bus	Young Driver
Local Road Network	1	0	9	1	0	3
Trunk Road Network	0	4	24	9	1	8

Future in the Absence of the Proposed Development Future Baseline – Transport Section ii

5.7.30 The projected future 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section ii study area are presented in **Table 14.1.10: 24-hour Average Daily Traffic Flow Data (2026) – Transport Section ii**.

Table 14.1.10: 24-hour Average Daily Traffic Flow Data (2026) – Transport Section ii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,433	3,320	23,753
4	A90 (T), north of Gateside	17,850	4,979	22,829
6	A90 (T), north of Halfpennyburn	19,107	3,359	22,465
11	A90 (T), northeast of Finavon	18,648	18,648	18,648
12	A90 (T), east of Nether Careston	15,688	5,806	21,494
15	A90 (T) South of Brechin Golf Course	15,501	2,402	17,903
17	A90 (T), southwest of North Water Bridge	15,647	2,984	18,632
18	B974 Burnside Road	310	104	414

Site Ref	Survey Location	Cars & LGV	HGV	Total
19	B9120 northwest of Laurencekirk	644	141	785
20	A90 (T) southwest of Laurencekirk	19,063	2,727	21,790
21	B966, north of Fordoun	149	100	249
22	Glenbervie Road	199	61	260
23	Unclassified Road, north of Glenbervie Road and south of C1K	70	36	107
24	C1K, northwest of Tannachie	253	104	357
25	A90 (T), southwest of Stonehaven	11,923	1,733	13,656
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,859	1,801	24,661
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,421	2,805	35,227

Section iii – Drumlithie to Kintore (Towers S6 to N1)

Study Area – Transport Section iii

5.7.31 The extent of the study area for Transport Section iii – Drumlithie to Kintore (Towers S6 to N1) is presented in **Plate 14.1.7: Bellmouth Junctions – Transport Section iii** and is described as follows:

- the A90 (T), between Kingsway and the A96 (T);
- the C1K between the A90 (T) and Tipperty;
- the A957 (Slug Road) between the A93 and A90 (T);
- the B979 between the A90 (T) and the A957/B9077 junction;
- the B9077 between the B9077/B979 junction and the A957/B9077 junction;
- the A93 between the B979/A93 junction and A957/A93 junction;
- Couper's Road between its junction with the B9125 and its junction with the A93;
- the B9125 between its junction with the B977 and B9119, at Garlogie;
- the B9119, between Echt and Garlogie;
- the B977, between the B977/B9125 and Kintore;
- the A944 between Old Kinnernie and the South Kingswell Roundabout; and
- other minor roads/tracks providing local access.

5.7.32 The 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section iii study area are presented in **Table 14.1.11: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section iii**.

Table 14.1.11: 24-hour Average Daily Traffic Flow Data (2024) – Transport Section iii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,211	3,284	23,495
4	A90 (T), north of Gateside	17,656	4,925	22,581
6	A90 (T), north of Halfpennyburn	18,899	3,322	22,221
11	A90 (T), northeast of Finavon	18,445	18,445	18,445
12	A90 (T), east of Nether Careston	15,517	5,743	21,260
15	A90 (T) South of Brechin Golf Course	15,332	2,376	17,708
17	A90 (T), southwest of North Water Bridge	15,477	2,952	18,429
20	A90 (T) southwest of Laurencekirk	18,856	2,697	21,553
24	C1K, northwest of Tannachie	250	103	353
25	A90 (T), southwest of Stonehaven	11,793	1,714	13,507

Site Ref	Survey Location	Cars & LGV	HGV	Total
26	A957 Slug Road, west of Rickarton	901	309	1,210
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,610	1,782	24,392
28	B9077, west of Durris	2,750	595	3,345
29	A93, east of Crathes	4,073	817	4,890
30	A93, northeast of Drumoak	6,201	474	6,675
31	Couper's Road	193	90	283
32	B9125, Cullerlie	3,677	809	4,485
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,069	2,775	34,843
34	B9119, west of Garlogie	1,270	546	1,816
35	A944, west of junction with B9126	11,162	1,553	12,714
36	A944, west of Dunecht	3,214	793	4,007
37	B977, south of Leylodge	2,930	246	3,176

5.7.33 The two-way seven-day average and 85th percentile speeds observed at the ATC and Transport Scotland count sites within the Transport Section iii study area are summarised below in **Table 14.1.12: Speed Summary – Transport Section iii**. There is no speed data available at DfT count sites.

Table 14.1.12: Speed Summary – Transport Section iii

Site Ref	Survey Location	Mean Speed (mph)	85 %ile Speed (mph)	Speed Limit (mph)
1	A90 (T), south of Inveraldie	62.6	71.3	70.0
4	A90 (T), north of Gateside	58.8	71.3	70.0
6	A90 (T), north of Halfpennyburn	64.7	71.3	70.0
11	A90 (T), northeast of Finavon	-	-	70.0
12	A90 (T), east of Nether Careston	64.8	71.9	70.0
15	A90 (T) South of Brechin Golf Course	-	-	70.0
17	A90 (T), southwest of North Water Bridge	64.5	71.3	70.0
20	A90 (T) southwest of Laurencekirk	-	-	70.0
24	C1K, northwest of Tannachie	48.6	56.9	60.0
25	A90 (T), southwest of Stonehaven	-	-	70.0
26	Slug Road, west of Rickarton	49.4	57.0	60.0
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	-	-	70.0
28	B9077, west of Durris	47.6	53.3	50.0
29	A93, east of Crathes	53.3	59.8	60.0
30	A93, northeast of Drumoak	-	-	60.0
31	Couper's Road	32.6	39.7	60.0
32	B9125, Cullerlie	50.1	56.2	60.0
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	-	-	70.0
34	B9119, west of Garlogie	49.8	56.3	60.0
35	A944, west of junction with B9126	-	-	60.0
36	A944, west of Dunecht	45.4	52.6	60.0
37	B977, south of Leylodge	-	-	60.0

5.7.34 The available speed information shown indicates that there is compliance with the current speed limit with the exception to the following locations:

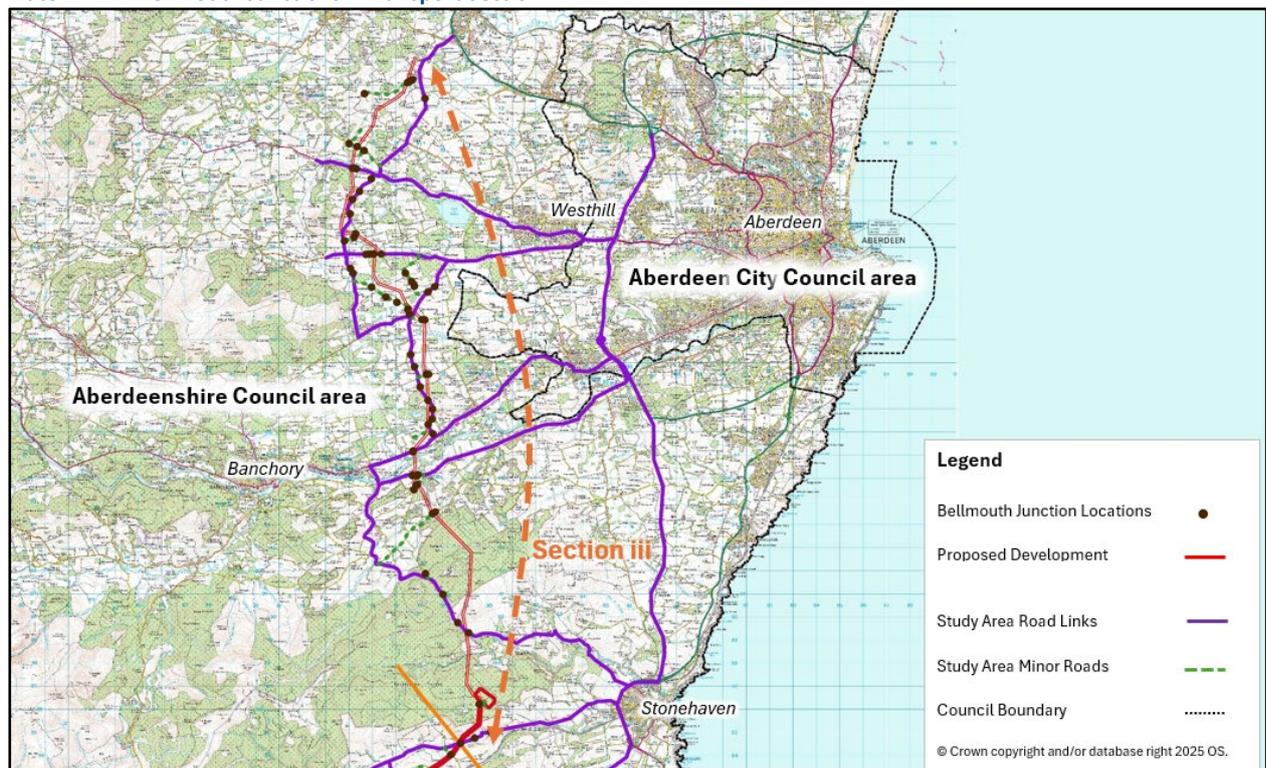
- A90 (T), south of Inveraldie;
- A90 (T), north of Gateside;
- A90 (T), north of Halfpennyburn;
- A90 (T), east of Nether Careston; and
- A90 (T), southwest of North Water Bridge.

5.7.35 This indicates that traffic management measures may be required at these locations and that Police Scotland may wish to consider enforcement spot checks in these areas.

Access Arrangement – Section iii

5.7.36 The locations of the bellmouth junctions providing access to Section iii of the Proposed Development are shown in **Plate 14.1.7: Bellmouth Junctions – Transport Section iii**.

Plate 14.1.7: Bellmouth Junctions – Transport Section iii



Pedestrian and Cyclist Networks – Transport Section iii

5.7.37 A review of the online mapping available from the UK Government’s *Core Paths*¹⁰ – *Scotland* found that the following Core Paths are located within the Proposed Development’s LOD for Transport Section iii and are shown in **Volume 3, Figures 7.2.1 to 7.2.7: Recreational Assets**.

- the Deeside Way – Drumoak to Crathes (Aberdeenshire Council).

5.7.38 It should be noted that there are footways and pedestrian facilities located within villages and towns within the study area.

5.7.39 A review of Sustrans¹¹ map of the NCN indicates that NCN Route 195 passes through the Proposed Development, to the northwest of Nether Park Quarry, within Section iii. NCN Route 195 comprises a combination of a traffic-free route and on-road route at this location. NCN 195 (known as the Deeside Way) is located along traffic-free paths and short sections of on-road along the former Deeside Railway line between Aberdeen and Ballater.

Accident Review – Transport Section iii

5.7.40 During the five year period between 01 January 2019 and 31 December 2023 the following PIA data was recorded along the local roads in the study area of Transport Section iii, as well as the trunk road network in the vicinity of Transport Section iii, (as shown between the orange lines depicting each Transport Section in **Plate 14.1.4: Accident Locations**):

5.7.41 A total of 53 PIAs were recorded on the local and trunk road network within the Section iii study area, of which 17 (32%) were recorded as slight, 31 (58%) were recorded as serious and five fatalities (9%) were recorded.

- A fatality was recorded at the on-slip from the A92 to the A90 (T) which involved a car and an HGV.
- A PIA was recorded on the A90 (T) at the junction leading to Midtown of Barras Cottages which resulted in a fatality involving three cars.
- A fatal PIA was recorded on a bend on the A944 which involved three cars.
- A PIA involving a fatality was recorded along the A93 at the junction with the access road leading to Drum Castle. The fatal PIA involved a motorcycle and a car.
- A PIA was recorded on the B9077 which resulted in a fatality and involved two cars.
- Two serious PIAs were recorded at the A944/B9126 junction. One PIA involved a collision between two cars and the other PIA involved a collision between a car and cyclist.
- Two separate PIAs were recorded on a bend along the A957 Slug Road of which both were classified as serious. Both PIAs were recorded as single vehicle accidents of which one involved a car and one involved a motorcycle.

5.7.42 A summary of the PIA casualty types and vehicle types within Section iii is shown in **Table 14.1.13: Casualty Types (2019 – 2023) – Transport Section iii** and **Table 14.1.14: Vehicle Types (2019 – 2023) – Transport Section iii**, respectively.

Table 14.1.13: Casualty Types (2019 – 2023) – Transport Section iii

Section ii – Road Type	Casualty Types			
	Pedal Cycle	Child	Motorcycle	Pedestrian
Local Road Network	3	1	6	0
Trunk Road Network	0	2	1	1

Table 14.1.14: Vehicle Types (2019 – 2023) – Transport Section iii

Section ii – Road Type	Vehicle Types					
	Pedal Cycle	Motorcycle	Car	HGV	Bus	Young Driver
Local Road Network	1	6	36	2	0	9
Trunk Road Network	0	1	13	7	0	2

Future Baseline in the Absence of the Proposed Development – Transport Section iii

5.7.43 The projected future year 24-hour two-way average traffic flows for each of the traffic count locations within the Transport Section iii study area are presented in **Table 14.1.15: 24-hour Average Daily Traffic Flow Data (2026) – Transport Section iii**.

Table 14.1.15: 24-hour Average Daily Traffic Flow Data (2026) – Transport Section iii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	20,433	3,320	23,753
4	A90 (T), north of Gateside	17,850	4,979	22,829
6	A90 (T), north of Halfpennyburn	19,107	3,359	22,465
11	A90 (T), northeast of Finavon	18,648	18,648	18,648
12	A90 (T), east of Nether Careston	15,688	5,806	21,494

Site Ref	Survey Location	Cars & LGV	HGV	Total
15	A90 (T) South of Brechin Golf Course	15,501	2,402	17,903
17	A90 (T), southwest of North Water Bridge	15,647	2,984	18,632
20	A90 (T) southwest of Laurencekirk	19,063	2,727	21,790
24	C1K, northwest of Tannachie	253	104	357
25	A90 (T), southwest of Stonehaven	11,923	1,733	13,656
26	Slug Road, west of Rickarton	911	312	1,223
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	22,859	1,801	24,661
28	B9077, west of Durriss	2,781	601	3,382
29	A93, east of Crathes	4,118	826	4,944
30	A93, northeast of Drumoak	6,269	480	6,749
31	Couper's Road	195	91	286
32	B9125, Cullerlie	3,717	817	4,535
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,421	2,805	35,227
34	B9119, west of Garlogie	1,284	552	1,836
35	A944, west of junction with B9126	11,284	1,570	12,854
36	A944, west of Dunecht	3,249	802	4,051
37	B977, south of Leylodge	2,962	249	3,211

6. TRAFFIC GENERATION AND DISTRIBUTION

6.1 Traffic Generation

- 6.1.1 Construction traffic generation information for Transport Sections i to iii have been estimated by the Principal Contractors based upon their experience from similar projects. The estimations provided by the Principal Contractors include staff trips and those trips associated with the movement of construction materials and plant etc. These estimations, as well as indicative construction programmes are presented in **Annex A**.
- 6.1.2 With regards to the Proposed Development Sections A to D (Transport Sections i, ii and a short part of Transport Section iii), the Principal Contractors provided average construction traffic information for activities listed within the indicative construction programme. These vehicle movements have been distributed through the construction programme to estimate the peak construction month, which is month 29 in the respective construction programme. The construction works for the Proposed Development Sections A to D are expected to run from 2026 to 2031, with peak construction movements expected in 2028. Average daily movements are expected to result in a total of 198 movements (99 inbound trips and 99 outbound trips), which comprise 108 HGV movements (54 inbound trips and 54 outbound trips) and 90 Car/LGV trips (45 inbound trips and 45 outbound trips)
- 6.1.3 The Proposed Development Sections E to F (majority of Transport Section iii) average daily vehicle movements were provided by the respective Principal Contractors. The construction works for the Proposed Development Sections E to F is expected to run from 2026 to 2029. Average daily movements for these works are anticipated to result in a total of 354 movements (177 inbound trips and 177 outbound trips), which comprise 134 HGV (67 inbound trips and 67 outbound trips) and 220 Car/LGV trips (110 inbound trips and 110 outbound trips).
- 6.1.4 It is anticipated that the removal of timber will take place before the peak construction activities of the Proposed Development in 2026 and 2027.

6.2 Traffic Distribution

- 6.2.1 Materials for the construction of the access tracks are assumed to be sourced from local quarries within Angus and Aberdeenshire Council areas, wherever practicable.
- 6.2.2 The construction supply contracts have not yet been let and the Principal Contractor will confirm exact sources of material with the relevant Councils prior to construction works commencing.
- 6.2.3 Construction activities for Sections A to D are included in the peak month calculation in 2028 and construction activities for Sections E to F will also take place in 2028. Therefore, to provide a robust assessment, it is assumed that all of the trips will arrive from the A90 (T) and will be distributed to each of the TA Sections i to iii. As it is not known at this stage where along the A90 (T) construction trips will travel along, the construction trips have been distributed along the total length of the A90 (T) within the study area.
- 6.2.4 Construction staff will be based locally to the Site. Traffic flows associated with the construction traffic for staff have distributed and assigned through the network in the same manner as the construction trips for materials.

6.3 Average Daily Construction Phase Development Trips

- 6.3.1 Following distribution and assignment of traffic flows of each Section of the Proposed Development, the resultant average daily traffic flows are summarised in the following tables.

Total Construction Phase Development Trips for Transport Section i

6.3.2 **Table 14.1.16: Average Construction Traffic Two-way Movements – Transport Section i** shows the number of total average daily trips predicted for each of the key road links in Transport Section i which have been distributed throughout the respective study area.

Table 14.1.16: Average Construction Traffic Two-way Movements – Transport Section i

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	310	242	552
2	Zc6, west of Kirkton of Tealing	90	108	198
3	A928, southeast of Glenogilvy	90	108	198
4	A90 (T), north of Gateside	310	242	552
5	A94, west of Douglstown	90	108	198
6	A90 (T), north of Halfpennyburn	310	242	552
7	A926, west of Padanaram	90	108	198
8	Zc29, Forfar	90	108	198
9	B957, northeast of Angus Milling	90	108	198
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	90	108	198
11	A90 (T), northeast of Finavon	310	242	552
12	A90 (T), east of Nether Careston	310	242	552
13	C33, west of Findowrie Farm, Brechin	90	108	198
14	Zc30, northwest of Highbrea Boarding, Brechin	90	108	198
15	A90 (T) South of Brechin Golf Course	310	242	552
16	B966, north of Inchbare	90	108	198
17	A90 (T), southwest of North Water Bridge	310	242	552
20	A90 (T) southwest of Laurencekirk	310	242	552
25	A90 (T), southwest of Stonehaven	310	242	552
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	310	242	552
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	310	242	552

Please note minor variances due to rounding may occur.

Total Construction Phase Development Trips for Transport Section ii

6.3.3 **Table 14.1.17: Average Construction Traffic Two-way Movements – Transport Section ii** shows the number of total average daily trips predicted for each of the key road links in Transport Section ii which have been distributed throughout the respective study area.

Table 14.1.17: Average Construction Traffic Two-way Movements – Transport Section ii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	310	242	552
4	A90 (T), north of Gateside	310	242	552
6	A90 (T), north of Halfpennyburn	310	242	552
11	A90 (T), northeast of Finavon	310	242	552
12	A90 (T), east of Nether Careston	310	242	552
15	A90 (T) South of Brechin Golf Course	310	242	552
17	A90 (T), southwest of North Water Bridge	310	242	552
18	B974 Burnside Road	90	108	198

Site Ref	Survey Location	Cars & LGV	HGV	Total
19	B9120 northwest of Laurencekirk	90	108	198
20	A90 (T) southwest of Laurencekirk	310	242	552
21	B966, north of Fordoun	90	108	198
22	Glenbervie Road	90	108	198
23	Unclassified Road, north of Glenbervie Road and south of C1K	90	108	198
24	C1K, northwest of Tannachie	310	242	552
25	A90 (T), southwest of Stonehaven	310	242	552
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	310	242	552
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	310	242	552

Please note minor variances due to rounding may occur.

Total Construction Phase Development Trips for Transport Section iii

6.3.4 **Table 14.1.18: Average Construction Traffic Two-way Movements – Transport Section iii** shows the number of total average daily trips predicted for each of the key road links in Section iii which have been distributed throughout the respective study area.

Table 14.1.18: Average Construction Traffic Two-way Movements – Transport Section iii

Site Ref	Survey Location	Cars & LGV	HGV	Total
1	A90 (T), south of Inveraldie	310	242	552
4	A90 (T), north of Gateside	310	242	552
5	A94, west of Douglstown	90	108	198
6	A90 (T), north of Halfpennyburn	310	242	552
11	A90 (T), northeast of Finavon	310	242	552
12	A90 (T), east of Nether Careston	310	242	552
15	A90 (T) South of Brechin Golf Course	310	242	552
17	A90 (T), southwest of North Water Bridge	310	242	552
20	A90 (T), southwest of Laurencekirk	310	242	552
24	C1K, northwest of Tannachie	310	242	552
25	A90 (T), southwest of Stonehaven	310	242	552
26	Slug Road, west of Rickarton	220	134	354
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	310	242	552
28	B9077, west of Durris	220	134	354
29	A93, east of Crathes	220	134	354
30	A93, northeast of Drumoak	220	134	354
31	Couper's Road	220	134	354
32	B9125, Cullerlie	220	134	354
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	310	242	552
34	B9119, west of Garlogie	220	134	354
35	A944, west of junction with B9126	220	134	354
36	A944, west of Dunecht	220	134	354

Site Ref	Survey Location	Cars & LGV	HGV	Total
37	B977, south of Leylodge	220	134	354

Please note minor variances due to rounding may occur.

6.4 Operational and Decommissioning Phases

- 6.4.1 The operational phase is likely to result in occasional traffic accessing the Site for maintenance and monitoring works. This is likely to be in the region of less than ten movements per day per Section. This level of traffic is well within the accepted limits of daily traffic variation, and as such, no separate operational assessment is required.
- 6.4.2 Prior to decommissioning of the Proposed Development, a traffic assessment would be undertaken and appropriate traffic management procedures followed.
- 6.4.3 The decommissioning phase would result in fewer trips on the road network than the construction phase as it is considered likely that some elements of infrastructure such as access tracks would be left in place and structures may be broken up onsite to allow transport by a reduced number of HGVs.

6.5 Cumulative Developments

Onshore Wind Farm and Energy Related Planning Applications

- 6.5.1 A review of the Scottish Government's Energy Consents Unit, Angus Council's and Aberdeenshire Council's respective online planning portals was undertaken to identify any cumulative developments within the vicinity of the Proposed Development which would generate significant traffic and should be considered as part of the cumulative effects assessment.
- 6.5.2 TA Guidance¹² from the UK Government advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or at the application stage should not generally be included in cumulative assessments as they have yet to be determined. However, as the Applicant has a number of other proposed schemes in the vicinity of the Proposed Development, they have been considered as Cumulative Developments for this assessment.
- 6.5.3 The key findings of the review of cumulative developments are presented in **Table 14.1.19: Cumulative Developments**.

Table 14.1.19: Cumulative Developments

Planning Reference	Development	Description	Comments
24/00699/FULN ECU00005035	Emmock substation - Field 500 m southwest of Balkemback Farm Tealing (Fithie Energy Park)	The construction and operation of a 22 bay, 400/275 kV Air Insulated substation located on a level platform and the formation of associated earthworks, access, drainage, landscaping, and security, including the creation of temporary construction compounds.	Application has been submitted to planning. It is proposed that access will be taken from the U322, Emmock Road and construction traffic will impact on the Proposed Development's study area. While planning consent has not as yet been granted for this development, it is included as a proposed SSEN Transmission development. As such, this development is included in the sensitivity review with Volume 2, Chapter 14: Traffic and Transport.
APP/2024/1951	Hurlie substation - Hurlie - Land at and around Fetteresso Forest Stonehaven	Construction and Operation of 400 kV Air Insulated Substation, Formation of Associated Earthworks,	Application has been submitted to planning. Access would be provided by upgrades and extensions to the existing forestry

¹² <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

Planning Reference	Development	Description	Comments
	Aberdeenshire AB39 3UX	Access, Drainage, Landscaping, Security, Creation of Temporary Construction Compounds and Set-Down, Equipment and Materials Storage Areas	roads with the principal access from the A957. While planning consent has not as yet been granted for this development, it is included as a proposed SSEN Transmission development. As such, this development is included in the sensitivity review with Volume 2, Chapter 14: Traffic and Transport.
ECU00005168	Tealing to Westfield OHL 400 kV Upgrade (Reconductoring) Project	The proposals consist of the upgrade of approximately 37 km of OHL between tower 182 (west of Tealing Substation) and the licence boundary with Scottish Power Energy Networks (SPEN) OHL network (Westfield/Glenrothes) (mid span towers 66 and 65), to enable operation at 400 kV.	Application has been submitted to planning. It is proposed that access will be taken from the U093 Lochmill Road and construction traffic will impact on the Proposed Development's study area. While planning consent has not as yet been granted for this development, also it has been included as a proposed SSEN Transmission development. As such, this development is included in the sensitivity review in Volume 2, Chapter 14: Traffic and Transport.
ECU00005167	Alyth to Tealing OHL 400kV Upgrade (Reconductoring) Project	The scheme is to consist of the upgrade of approximately 14km of an existing 16 km 275 kV OHL between Alyth Substation and Tower 685 north-west of Tealing Substation to enable operation at 400 kV.	Application has been submitted to planning. It is proposed that the accesses will be along the length of the scheme within the local road network, and associated construction traffic will impact on the Proposed Development's study area. While planning consent has not as yet been granted for this development, also it has been included as a proposed SSEN Transmission development. As such, this development is included in the sensitivity review with Volume 2, Chapter 14: Traffic and Transport.
ECU00005204	Emmock and Tealing Overhead Line Tie-Ins	The proposed development comprises the diversion of short sections of the Alyth to Tealing and Westfield to Tealing 275kv OHL.	Scoping has been undertaken for this scheme The Scoping Note states: <i>Traffic generated by the Proposed Development during the construction phase, based upon the Applicant's experience developing similar infrastructure, would be minimal in volume and would utilise existing traffic routes with residual capacity</i> This has been included as a proposed SSEN Transmission development. As such, this development is included in the sensitivity review with Volume 2, Chapter 14: Traffic and Transport.

Planning Reference	Development	Description	Comments
ECU00004887	Balnuith BESS	The construction and operation of a battery energy storage facility for the storage of up to a 100 MW of electricity together with associated infrastructure, substation, security fencing, security lighting, CCTV, and landscaping.	The site will be accessed from the upgraded existing field access on the U322 and is expected to impact on the Proposed Development's study area. Planning consent has been granted for this development. As such, this development is included in the sensitivity review in Volume 2, Chapter 14: Traffic and Transport.
ECU00000676	Glendye Wind Farm and Grid Connection	Glendye Wind Farm with an Anticipated Installed Capacity Of 104 Mw; 26 Wind Turbines, Each Up To A Maximum Blade Tip Height Of 149.9 m, Substation, Access Tracks And Associated Works	Application has been granted. It is proposed that access will be taken via the A90(T), B966 and C2k Airfiled Road. Construction traffic will impact on the proposed study area on the A90 (T). As such, this development is included in the sensitivity review in Volume 2, Chapter 14: Traffic and Transport.
APP/2018/0993	Craigneil Windfarm Land to the north and northeast of Hillside Rickarton Stonehaven	Erection And Operation of a Wind Farm Comprising Up To 11 Wind Turbines, With A Capacity Of 35.2 Mw, Formation Of Access Tracks, Hardstandings, Substation, Control Building, Met Mast, Borrow Pit, Associated Infrastructure And Temporary Construction Compound At Ancillary Infrastructure At Land To The North And North East Of Hillside, Rickarton, Stonehaven Known As Craigneil Wind Farm.	Application has been granted. The following delivery routes to the proposed development include the A957, B9077, A93, A90 (T), which are also located within the Proposed Development's study area. As such, this development is included in the sensitivity review in Volume 2, Chapter 14: Traffic and Transport.
APP/2021/0378	Lands south of Cornhill Farm Echt Westhill AB32 6XA	Construction of Solar Farm	Application has been granted. The following delivery routes to the Proposed Development include the B9119, A944 and A93, which are also located within the Proposed Development's study area. As such, this development is included in the sensitivity review in Volume 2, Chapter 14: Traffic and Transport.
APP/2022/2022	Land Approximately 450 m northwest of South Leylodge Farmhouse Kintore AB51 0XY	Formation of Battery Energy Storage System (BESS) (49.9 MW), Erection of Substation, Welfare Facility, Security Fencing, CCTV, Floodlighting, Formation of Access, Attenuation Basin and Associated Infrastructure	A review of the online planning documents was undertaken and found that construction traffic data is not available for this development. As such, it is assumed that these trips would be captured in any NRTF estimations.
APP/2023/2310	Land to the east of Kintore Substation Leylodge Kintore AB51 0XY	Installation of Battery Energy Storage System (BESS) with Installed Capacity of 49.9 MW, Substation and Associated Infrastructure	A review of the online planning documents was undertaken and found that construction traffic data is not available for this development. As such, it is assumed that these trips would be

Planning Reference	Development	Description	Comments
			captured in any NRTF estimations.

- 6.5.4 To inform the planning authorities of possible issues if the projects considered for inclusion in the cumulative assessment were to be constructed concurrently with the Proposed Development and have overlapping peak construction timescales, a sensitivity review has been undertaken as part of the cumulative assessment in **Volume 2, Chapter 14: Traffic and Transport** of the EIAR.
- 6.5.5 It should be noted that any crossover of traffic with the Proposed Development flows could be addressed through an overarching Traffic Management and Monitoring Plan for all ten of the sites if deemed necessary by the Local Authority. This would be undertaken in consultation with the Local Authority and other relevant stakeholders.
- 6.5.6 Projects in scoping or not yet determined cannot be included in cumulative assessments as they have yet to be determined. As traffic impacts are short lived for construction projects, the potential traffic impact is highly speculative and as such, cannot be included in the assessment.
- 6.5.7 Any effects of the multiple sites being constructed at the same time would be mitigated through the use of an overarching Traffic Management and Monitoring Plan and by introducing a phased delivery plan which would be agreed with appropriate roads department.

Other Planning Applications

- 6.5.8 Traffic flows associated with cumulative developments have not been included in the baseline as the inclusion of further traffic flows will dilute the potential impact that the Proposed Development will have. The approach taken is therefore considered to be a suitably robust assessment.
- 6.5.9 Instead, low National Road Traffic Forecast (NRTF) growth assumptions have provided a basis for general local development growth within the study area.

7. TRAFFIC IMPACT ASSESSMENT

7.1 Construction Impact

7.1.1 The combined average daily development traffic for the construction of the Proposed Development was added to the future year (2026) traffic data. A comparison was then made between this traffic and the baseline flows to determine the percentage increase in traffic flows.

Total Construction Traffic Impact – Section i

7.1.2 The potential traffic impact of construction activity on the study area for Section i is presented in **Table 14.1.20: Peak Construction Traffic Network Impact – Section i**.

Table 14.1.20: Peak Construction Traffic Network Impact – Section i

Site Ref	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Impact	HGV % Impact	Total % Impact
1	A90 (T), south of Inveraldie	20,743	3,563	24,305	1.52%	7.29%	2.32%
2	Zc6, west of Kirkton of Tealing	561	263	824	19.09%	69.96%	31.65%
3	A928, southeast of Glenogilvy	787	309	1,096	12.91%	53.89%	22.06%
4	A90 (T), north of Gateside	18,160	5,221	23,382	1.74%	4.86%	2.42%
5	A94, west of Douglstown	3,797	1,200	4,997	2.43%	9.90%	4.13%
6	A90 (T), north of Halfpennyburn	19,417	3,601	23,018	1.62%	7.21%	2.46%
7	A926, west of Padanaram	5,072	1,165	6,237	1.81%	10.23%	3.28%
8	Zc29, Forfar	2,056	485	2,541	4.58%	28.70%	8.46%
9	B957, northeast of Angus Milling	362	175	537	33.09%	162.37 %	58.52%
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	182	142	324	97.67%	322.65 %	157.66 %
11	A90 (T), northeast of Finavon	18,958	18,890	19,200	1.66%	1.30%	2.96%
12	A90 (T), east of Nether Careston	15,998	6,048	22,046	1.98%	4.17%	2.57%
13	C33, west of Findowrie Farm, Brechin	3,339	910	4,249	2.77%	13.48%	4.89%
14	Zc30, northwest of Highbrea Boarding, Brechin	291	178	469	44.83%	153.71 %	73.08%
15	A90 (T) South of Brechin Golf Course	15,811	2,644	18,455	2.00%	10.08%	3.08%
16	B966, north of Inchbare	1,834	599	2,434	5.16%	22.01%	8.86%
17	A90 (T), southwest of North Water Bridge	15,957	3,227	19,184	1.98%	8.11%	2.96%
20	A90 (T) southwest of Laurencekirk	19,373	2,969	22,342	1.63%	8.88%	2.53%
25	A90 (T), southwest of Stonehaven	12,233	1,975	14,208	2.60%	13.97%	4.04%
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	23,169	2,044	25,213	1.36%	13.44%	2.24%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,731	3,047	35,779	0.96%	8.63%	1.57%

Please note minor variances due to rounding may occur.

7.1.3 On road links within the Section i study area, total movements are expected to increase by over 30% on the following road links:

- Zc6, west of Kirkton of Tealing: increase of 31.65% (198 total movement, 99 inbound trips and 99 outbound trips);
- B957, northeast of Angus Milling: increase of 58.52% (198 total movement, 99 inbound trips and 99 outbound trips);
- Zc31, northeast of Baldoukie Farm and north of Tannadice: increase of 157.66% (198 total movement, 99 inbound trips and 99 outbound trips); and
- Zc30, northwest of Highbrea Boarding, Brechin: increase of 73.08% (198 total movement, 99 inbound trips and 99 outbound trips).

7.1.4 Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately 17 two-way movements per hour (for example, nine inbound trips and eight outbound trips), which is not considered substantial in terms of overall traffic flows.

7.1.5 On road links within the Section i study area, HGV movements are expected to increase by over 30% on the following road links:

- Zc6, west of Kirkton of Tealing: increase of 69.96% (108 total HGV movements, 54 inbound trips and 54 outbound trips);
- A928, southeast of Glenogilvy: increase of 53.89% (108 total HGV movements, 54 inbound trips and 54 outbound trips);
- B957, northeast of Angus Milling: increase of 162.37% (108 total HGV movements, 54 inbound trips and 54 outbound trips);
- Zc31, northeast of Baldoukie Farm and north of Tannadice: increase of 322.65% (108 total HGV movements, 54 inbound trips and 54 outbound trips); and
- Zc30, northwest of Highbrea Boarding, Brechin: increase of 153.71% (108 total HGV movements, 54 inbound trips and 54 outbound trips). Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately nine two-way movements per hour on the local road network (for example, five inbound trips and four outbound trips), and it is estimated that this would equate to approximately 20 two-way movements per hour on trunk road network (for example, ten inbound trips and ten outbound trips), which is not considered substantial in terms of overall traffic flows.

7.1.6 A review of existing theoretical road capacity has been undertaken using The NESA Manual, formerly part of the Design Manual for Roads and Bridges¹³ (DMRB), Volume 15, Part 5. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the Transport Section i study area. The results are summarised in **Table 14.1.21: Theoretical Road Capacity – Section i**.

Table 14.1.21: Theoretical Road Capacity – Section i

Site Ref	Survey Location	2026 Baseline	2026 Base + Dev	Theoretical Capacity	Spare Capacity %
1	A90 (T), south of Inveraldie	23,753	24,305	81,600	70%
2	Zc6, west of Kirkton of Tealing	626	824	19,200	96%
3	A928, southeast of Glenogilvy	898	1,096	28,800	96%
4	A90 (T), north of Gateside	22,829	23,382	81,600	71%
5	A94, west of Douglstown	4,799	4,997	28,800	83%

13 Highways England, Transport Scotland, Welsh Government, Department for Infrastructure, 2019. LA 104 Environmental Assessment and Monitoring. [Online] Available at: <https://www.standardsforhighways.co.uk/tses/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a>

Site Ref	Survey Location	2026 Baseline	2026 Base + Dev	Theoretical Capacity	Spare Capacity %
6	A90 (T), north of Halfpennyburn	22,465	23,018	81,600	72%
7	A926, west of Padanaram	6,038	6,237	21,600	71%
8	Zc29, Forfar	2,343	2,541	21,600	88%
9	B957, northeast of Angus Milling	339	537	21,600	98%
10	Zc31, northeast of Baldoukie Farm and north of Tannadice	126	324	19,200	98%
11	A90 (T), northeast of Finavon	18,648	19,200	81,600	76%
12	A90 (T), east of Nether Careston	21,494	22,046	81,600	73%
13	C33, west of Findowrie Farm, Brechin	4,051	4,249	19,200	78%
14	Zc30, northwest of Highbrea Boarding, Brechin	271	469	19,200	98%
15	A90 (T) South of Brechin Golf Course	17,903	18,455	81,600	77%
16	B966, north of Inchbare	2,236	2,434	21,600	89%
17	A90 (T), southwest of North Water Bridge	18,632	19,184	81,600	76%
20	A90 (T) southwest of Laurencekirk	21,790	22,342	81,600	73%
25	A90 (T), southwest of Stonehaven	13,656	14,208	81,600	83%
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	24,661	25,213	81,600	69%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	35,227	35,779	81,600	56%

Please note minor variances due to rounding may occur.

7.1.7 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and ample spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.

Total Construction Traffic Impact – Section ii

7.1.8 The potential traffic impact of construction activity on the entire study area for Section ii is presented in **Table 14.1.22: Peak Construction Traffic Network Impact – Sections ii**.

Table 14.1.22: Peak Construction Traffic Network Impact – Sections ii

Site Ref	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Impact	HGV % Impact	Total % Impact
1	A90 (T), south of Inveraldie	20,743	3,563	24,305	1.52%	7.29%	2.32%
4	A90 (T), north of Gateside	18,160	5,221	23,382	1.74%	4.86%	2.42%
6	A90 (T), north of Halfpennyburn	19,417	3,601	23,018	1.62%	7.21%	2.46%
11	A90 (T), northeast of Finavon	18,958	18,890	19,200	1.66%	1.30%	2.96%
12	A90 (T), east of Nether Careston	15,998	6,048	22,046	1.98%	4.17%	2.57%
15	A90 (T) South of Brechin Golf Course	15,811	2,644	18,455	2.00%	10.08%	3.08%

Site Ref	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Impact	HGV % Impact	Total % Impact
17	A90 (T), southwest of North Water Bridge	15,957	3,227	19,184	1.98%	8.11%	2.96%
18	B974 Burnside Road	400	212	612	29.05%	103.68 %	47.84%
19	B9120 northwest of Laurencekirk	734	249	983	13.97%	76.85%	25.23%
20	A90 (T) southwest of Laurencekirk	19,373	2,969	22,342	1.63%	8.88%	2.53%
21	B966, north of Fordoun	239	208	447	60.38%	107.86 %	79.47%
22	Glenbervie Road	289	169	458	45.22%	178.65 %	76.33%
23	Unclassified Road, north of Glenbervie Road and south of C1K	160	145	305	127.69 %	297.04 %	185.36 %
24	C1K, northwest of Tannachie	563	346	909	122.51 %	233.47 %	154.77 %
25	A90 (T), southwest of Stonehaven	12,233	1,975	14,208	2.60%	13.97%	4.04%
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	23,169	2,044	25,213	1.36%	13.44%	2.24%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,731	3,047	35,779	0.96%	8.63%	1.57%

Please note minor variances due to rounding may occur.

7.1.9 On road links within the Section ii study area, total movements are expected to increase by over 30% on the following road links:

- B974, Burnside Road: increase of 47.84% (198 total movement, 99 inbound trips and 99 outbound trips);
- B966, north of Foroun: increase of 79.47% (198 total movement, 99 inbound trips and 99 outbound trips);
- Glenbervie Road: increase of 76.33% (198 total movement, 99 inbound trips and 99 outbound trips);
- Unclassified Road, north of Glenbervie Road and south of C1K: increase of 154.77% (198 total movement, 99 inbound trips and 99 outbound trips); and
- C1K, northwest of Tannachie: increase of 154.77% (552 total movement, 276 inbound trips and 276 outbound trips).

7.1.10 Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately 17 two-way movements per hour (for example, nine inbound trips and eight outbound trips), on the road links excluding the C1K, which is not considered substantial in terms of overall traffic flows.

7.1.11 Along the C1K, it is estimated that this would equate to approximately 46 two-way movements per hour (for example, 23 inbound trips and 23 outbound trips), which equates to less than one movement per minute, assuming a flat profile, which is not considered substantial in terms of overall traffic flows.

7.1.12 On road links within the Section ii study area, HGV movements are expected to increase by over 30% on the following road links:

- B974, Burnside Road: increase of 103.68% (108 total HGV movements, 54 inbound trips and 54 outbound trips);
- B9120, northwest of Laurencekirk: increase of 76.85% (108 total HGV movements, 54 inbound trips and 54 outbound trips);

- B966, north of Fordoun: increase of 107.86% (108 total HGV movements, 54 inbound trips and 54 outbound trips);
- Glenberrie Road: increase of 178.65% (108 total HGV movements, 54 inbound trips and 54 outbound trips
- Unclassified Road, north of Glenberrie Road and south of C1K: increase of 297.04% (108 total HGV movements, 54 inbound trips and 54 outbound trips); and
- C1K, northwest of Tannachie: increase of 233.47% (242 total HGV movements, 121 inbound trips and 121 outbound trips).

7.1.13 Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately nine two-way HGV movements per hour on the B974, B9120, B966, Glenberrie Road and the unclassified road, north of Glenberrie Road and south of C1K, (for example, five inbound trips and four outbound trips), and it is estimated that this would equate to approximately 20 two-way movements per hour on the A90 (T) and C1K (for example, ten inbound trips and ten outbound trips), which is not considered substantial in terms of overall traffic flows.

7.1.14 A review of existing theoretical road capacity has been undertaken using The NESAs Manual, formerly part of the Design Manual for Roads and Bridges¹² (DMRB), Volume 15, Part 5. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the Transport Section ii study area. The results are summarised in **Table 14.1.23: Theoretical Road Capacity – Section ii**.

Table 14.1.23: Theoretical Road Capacity – Section ii

Site Ref	Survey Location	2026 Baseline	2026 Base + Dev	Theoretical Capacity	Spare Capacity %
1	A90 (T), south of Inveraldie	23,753	24,305	81,600	70%
4	A90 (T), north of Gateside	22,829	23,382	81,600	71%
6	A90 (T), north of Halfpennyburn	22,465	23,018	81,600	72%
11	A90 (T), northeast of Finavon	18,648	19,200	81,600	76%
12	A90 (T), east of Nether Careston	21,494	22,046	81,600	73%
15	A90 (T) South of Brechin Golf Course	17,903	18,455	81,600	77%
17	A90 (T), southwest of North Water Bridge	18,632	19,184	81,600	76%
18	B974 Burnside Road	414	612	19,200	97%
19	B9120 northwest of Laurencekirk	785	983	21,600	95%
20	A90 (T) southwest of Laurencekirk	21,790	22,342	81,600	73%
21	B966, north of Fordoun	249	447	19,200	98%
22	Glenberrie Road	260	458	19,200	98%
23	Unclassified Road, north of Glenberrie Road and south of C1K	107	305	3,360	91%
24	C1K, northwest of Tannachie	357	909	19,200	95%
25	A90 (T), southwest of Stonehaven	13,656	14,208	81,600	83%
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	24,661	25,213	81,600	69%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	35,227	35,779	81,600	56%

7.1.15 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and ample spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.

Total Construction Traffic Impact – Section iii

7.1.16 The potential traffic impact of construction activity on the entire study area for Section iii is presented in **Table 14.1.24: Peak Construction Traffic Network Impact – Sections iii**.

Table 14.1.24: Peak Construction Traffic Network Impact – Sections iii

Site Ref	Survey Location	Cars & LGV	HGV	Total	Cars & LGV % Impact	HGV % Impact	Total % Impact
1	A90 (T), south of Inveraldie	20,743	3,563	24,305	1.52%	7.29%	2.32%
4	A90 (T), north of Gateside	18,160	5,221	23,382	1.74%	4.86%	2.42%
6	A90 (T), north of Halfpennyburn	19,417	3,601	23,018	1.62%	7.21%	2.46%
11	A90 (T), northeast of Finavon	18,958	18,890	19,200	1.66%	1.30%	2.96%
12	A90 (T), east of Nether Careston	15,998	6,048	22,046	1.98%	4.17%	2.57%
15	A90 (T) South of Brechin Golf Course	15,811	2,644	18,455	2.00%	10.08%	3.08%
17	A90 (T), southwest of North Water Bridge	15,957	3,227	19,184	1.98%	8.11%	2.96%
20	A90 (T) southwest of Laurencekirk	19,373	2,969	22,342	1.63%	8.88%	2.53%
24	C1K, northwest of Tannachie	563	346	909	122.51 %	233.47 %	154.77 %
25	A90 (T), southwest of Stonehaven	12,233	1,975	14,208	2.60%	13.97%	4.04%
26	Slug Road, west of Rickarton	1,131	446	1,577	24.15%	42.89%	28.94%
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	23,169	2,044	25,213	1.36%	13.44%	2.24%
28	B9077, west of Durrus	3,001	735	3,736	7.91%	22.28%	10.47%
29	A93, east of Crathes	4,338	960	5,298	5.34%	16.23%	7.16%
30	A93, northeast of Drumoak	6,489	614	7,103	3.51%	27.94%	5.25%
31	Couper's Road	415	225	640	112.67 %	147.74 %	123.79 %
32	B9125, Cullerlie	3,937	951	4,889	5.92%	16.39%	7.81%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	32,731	3,047	35,779	0.96%	8.63%	1.57%
34	B9119, west of Garlogie	1,504	686	2,190	17.13%	24.29%	19.28%
35	A944, west of junction with B9126	11,504	1,704	13,208	1.95%	8.54%	2.75%
36	A944, west of Dunecht	3,469	936	4,405	6.77%	16.70%	8.74%
37	B977, south of Leylodge	3,182	383	3,565	7.43%	53.83%	11.03%

Please note minor variances due to rounding may occur.

7.1.17 On road links within the Section iii study area, total movements are expected to increase by over 30% on the following road links:

- C1K, northwest of Tannachie: increase of 154.77% (552 total movement, 276 inbound trips and 276 outbound trips); and
- Couper's Road: increase of 123.79% (354 total movement, 177 inbound trips and 177 outbound trips).

7.1.18 Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately 46 two-way movements per hour (for example, 23 inbound trips and 23 outbound trips), on C1K which equates to less than one movement per minute, assuming a flat profile, which is not considered substantial in terms of overall traffic flows.

7.1.19 Along the Couper's Road, it is estimated that this would equate to approximately 30 two-way movements per hour (for example, 15 inbound trips and 15 outbound trips), which equates to approximately two movements per minute, assuming a flat profile, which is not considered substantial in terms of overall traffic flows.

7.1.20 On road links within the Section iii study area, HGV movements are expected to increase by over 30% on the following road links:

- A90 (T), South of Brechin Golf Course: increase of 101.05% (242 total HGV movements, 121 inbound trips and 121 outbound trips);
- C1K, northwest of Tannachie: increase of 233.47% (242 total HGV movements, 121 inbound trips and 121 outbound trips);
- Slug Road, west of Rickarton: increase of 42.89% (134 total HGV movements, 67 inbound trips and 67 outbound trips);
- Couper's Road: increase of 147.74% (134 total HGV movements, 67 inbound trips and 67 outbound trips); and
- B977, south of Leylodge: increase of 53.83% (134 total HGV movements, 67 inbound trips and 67 outbound trips).

7.1.21 Over a 12-hour construction period, and assuming a flat profile, it is estimated that this would equate to approximately 20 two-way HGV movements per hour on the A90 (T) and C1K, while it is estimated that this would equate to 11 two-way HGV movements per hour on Slug Road, Couper's Road and the B977. A review of existing theoretical road capacity has been undertaken using The NESAs Manual, formerly part of the Design Manual for Roads and Bridges¹² (DMRB), Volume 15, Part 5. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the Transport Section iii study area. The results are summarised in **Table 14.1.25: Theoretical Road Capacity – Section iii**.

Table 14.1.25: Theoretical Road Capacity – Section iii

Site Ref	Survey Location	2026 Baseline	2026 Base + Dev	Theoretical Capacity	Spare Capacity %
1	A90 (T), south of Inveraldie	23,753	24,305	81,600	70%
4	A90 (T), north of Gateside	22,829	23,382	81,600	71%
6	A90 (T), north of Halfpennyburn	22,465	23,018	81,600	72%
11	A90 (T), northeast of Finavon	18,648	19,200	81,600	76%
12	A90 (T), east of Nether Careston	21,494	22,046	81,600	73%
15	A90 (T) South of Brechin Golf Course	17,903	18,455	81,600	77%
17	A90 (T), southwest of North Water Bridge	18,632	19,184	81,600	76%
20	A90 (T) southwest of Laurencekirk	21,790	22,342	81,600	73%
24	C1K, northwest of Tannachie	357	909	19,200	95%
25	A90 (T), southwest of Stonehaven	13,656	14,208	81,600	83%
26	Slug Road, west of Rickarton	1,223	1,577	21,600	93%

Site Ref	Survey Location	2026 Baseline	2026 Base + Dev	Theoretical Capacity	Spare Capacity %
27	A90 (T) Aberdeen Western Peripheral Route, north of Cleanhill Roundabout	24,661	25,213	81,600	69%
28	B9077, west of Durris	3,382	3,736	19,200	81%
29	A93, east of Crathes	4,944	5,298	21,600	75%
30	A93, northeast of Drumoak	6,749	7,103	21,600	67%
31	Couper's Road	286	640	3,360	81%
32	B9125, Cullerlie	4,535	4,889	21,600	77%
33	A90 (T) Aberdeen Western Peripheral Route, south of Kindsford	35,227	35,779	81,600	56%
34	B9119, west of Garlogie	1,836	2,190	21,600	90%
35	A944, west of junction with B9126	12,854	13,208	21,600	39%
36	A944, west of Dunecht	4,051	4,405	21,600	80%
37	B977, south of Leylodge	3,211	3,565	21,600	83%

7.1.22 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and ample spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.

8. PROPOSED TRAFFIC MITIGATION MEASURES

8.1 Construction Phase

Enhanced Construction Traffic Management Plan

8.1.1 The following measures would be implemented through development of a more detailed and project-bespoke Construction Traffic Management Plan (CTMP) for the construction phase and would apply to all Transport Sections of the Proposed Development. The CTMP would be agreed with Angus Council, Aberdeenshire Council and Transport Scotland prior to construction works commencing:

- where possible the detailed design process will minimise the volume of material to be imported to Site to help reduce HGV numbers;
- the use of helicopters may be used during the construction of the Proposed Development to minimise vehicular access, where practicable;
- a Site worker transport and travel arrangement plan, including transport modes to and from the work site (including pick up and drop off times) will be implemented to minimise the overall number of car, van and mini-bus trips required to transport construction site workers to and from the Proposed Development working corridor each day;
- all materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads;
- specific training and disciplinary measures for drivers of all site-related vehicles should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway and for non-compliance with general measures;
- wheel cleaning facilities may be established at the Site entrance, depending on the views of Angus Council and Aberdeenshire Council;
- construction working is likely to be during daytime periods only. Working hours are currently anticipated to be between approximately 07:00 to 19:00 during British Summer Time (BST) and 07:00 to 18:00 during Greenwich Mean Time (GMT), seven days a week. Special measures and arrangements, such as around school timetables, will be made for works in proximity to sensitive receptors. Any out of hours working would be agreed in advance with the relevant local planning authority;
- where practical, HGV traffic moving past key sensitive receptors such as primary schools at certain times of the day will be avoided;
- appropriate traffic management measures would be put in place. Typical measures would include HGV turning and crossing signs and/ or banksmen at the Site access and warning signs;
- provide construction updates on the project website and or other agreed communications to be distributed to residents within an agreed distance of the Site (integrated with relevant overall stakeholder communications plans required as part of the construction contracts);
- adoption of a voluntary speed limit of 20 mph for all construction vehicles travelling through local villages and towns;
- adoption of a maximum speed limit of 15 mph for all construction vehicles travelling on private roads and tracks; and
- all drivers would be required to attend an on-site induction to include:
 - a toolbox talk safety briefing (and weekly toolbox talks, thereafter);
 - the need for appropriate care and speed control;
 - a briefing on driver speed reduction agreements (to slow Site traffic at sensitive locations through the villages); and
 - identification of the required access routes and the controls to ensure no departure from these routes.

8.1.2 Angus Council and Aberdeenshire Council may require an agreement to cover the cost of abnormal wear and tear on roads within the study area. Video footage of the pre-construction phase condition of the construction vehicles routes will be recorded to provide a baseline of the state of the road prior to any construction work commencing. This

baseline would inform any change in the road condition during the construction stage of the Proposed Development. Any necessary repairs would be coordinated with the Roads Authority. Any damage caused by traffic associated with the Proposed Development, during the construction period that would be hazardous to public traffic, would be repaired immediately.

- 8.1.3 Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated.
- 8.1.4 There would be a regular road edge review and any debris and mud would be removed from the public carriageway to keep the road clean and safe during the initial months of construction activity, until the construction junction and immediate access track works are complete.
- 8.1.5 Overhead and underground high voltage crossing points would be identified prior to the commencement of construction activities and appropriate actions would be undertaken to highlight these.
- 8.1.6 Plant such as cranes may be abnormal due to their width or weight. This would be confirmed post consent with appropriate reviews and BE16 applications made at the time.

Access Improvements

- 8.1.7 All new access junctions would be designed and constructed in accordance with the appropriate design standards.

Public Road Improvements

- 8.1.8 Public Road Improvements (PRI) will be provided to facilitate construction traffic travelling along existing public roads. These works may comprise upgrades such as road widening, installation of temporary or permanent passing places, new or upgraded road junctions, and upgrades to or replacement of existing bridges.
- 8.1.9 The provision and proposed locations of PRIs would be discussed with Angus Council and Aberdeenshire Council prior to the detailed design stages of the works. Layby improvement works would ensure that expanded or new laybys on single carriageway sections would be suitable for two HGV and would accord with the appropriate standards.
- 8.1.10 It is proposed that prior to work commencing that the form, location, mitigation and reinstatement of PRI works will be agreed with Angus and Aberdeenshire Councils. It is anticipated that this would be secured through an appropriately worded planning condition.
- 8.1.11 **Volume 5, Appendix 3.5: Public Road Improvement Works** presents high-level information which will be progressed further at the detailed design stage, including environmental information and mitigation. Location plans and construction methodology and specification is also provided in **Volume 3, Figures 3.8.1 to 3.8.19: Indicative Public Road Improvement Works** and **Volume 3, Figures 3.9.1 to 3.9.3: Passing Places Indicative Design**.

Public Information

- 8.1.12 The Applicant would also ensure information was distributed through its communication team via the project website, local newsletters and social media.

Outdoor Access Management Plan

- 8.1.13 Consideration would be given to pedestrians, cyclists and equestrians alike due to potential interactions between construction traffic and users of the core path network. These measures would be formulated into an Outdoor Access Management Plan. An Outline Outdoor Access Management Plan is provided in **Volume 5, Appendix 7.1: Outdoor Access Management Plan as part of the Chapter 7: Land Use and Prime Agricultural Land**.

9. SUMMARY & CONCLUSIONS

- 9.1.1 Pell Frischmann has been commissioned by LUC, on behalf of SSEN Transmission, to undertake a Transport Assessment for the Proposed Development which comprises the installation and operation of approximately 105.2 km of new double circuit 400 kV OHL supported by a series of steel lattice towers.
- 9.1.2 For the purpose of this assessment, it is assumed that all of the Sections of the Proposed Development are being constructed at the same time. An assessment of average daily development trips is considered an appropriate method of assessing the impacts of the Proposed Development on each Section, as this will account for peaks and troughs during the construction programme. The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development.
- 9.1.3 A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of both the construction and operational phase traffic flows.
- 9.1.4 No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

ANNEX A: TRIP GENERATION

Average Two way Vehicles per day - Proposed Development Sections E-F				
Work Activity	Van	4x4	HGV	Tractor
Access	20	10	28	0
Foundations	20	10	18	0
Felling towers	20	10	8	8
Erecting towers	20	10	8	8
Site Establishment	20	10	24	0
Diversions	20	10	16	0
Wiring	20	20	16	0
Total	140	80	118	16

Car/LGV	HGV	Total
220	134	354

ANNEX B: STUDY AREA

Road Map 1

Transport Section i

A926

Zu364

U364

A94

Zu360-2

Zu360

Zu360

A90

A928

Zu322

Zc6

A90

FORFAR

Sidlaw Hills

CARNOUSTIE

MONIFIETH

DUNDEE

