Scottish & Southern Electricity Networks

TRANSMISSION

Environmental Impact Assessment (EIA) Report

LT383 Alyth to Tealing Overhead Line (OHL) 400kV Upgrade

November 2024

VOLUME 4: APPENDIX 11.1 – TRANSPORT ASSESSMENT REPORT

PART 11.1A: SCOPING CORRESPONDENCE

From: Martin Henderson on behalf of Town Planning Scotland
To: Econsents Admin
Subject: REF: ECU00005167 - Request for Scoping Opinion Alyth to Tealing OHL 400kV Upgrade (Reconductoring)
Date: 29 July 2024 11:54:55
Attachments: image001.png

OFFICIAL

For the attention of Jennifer Gessler

Jennifer,

Thank you for consulting Network Rail regarding the above application. After examining the proposal Network Rail considers that it will have no impact on railway infrastructure and therefore have no comments/objections to this application.

Regards

Martin Henderson

Martin Henderson
Town Planning Technician (West Scotland)
Network Rail Property (Scotland)
151 St Vincent Street, Glasgow, G2 5NW
07702400389
martin.henderson@networkrail.co.uk

www.networkrail.co.uk/property

Please send all Notifications and Consultations to TownPlanningScotland@networkrail.co.uk or by post to Network Rail, Town Planning, 151 St Vincent Street, Glasgow, G2 5NW

Development Management and Strategic Road Safety
Roads Directorate

George House 36 North Hanover St Glasgow G1 2AD
Direct Line: 0141 272 7593
lain.clement@transport.gov.scot

A28

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Jennifer Gessler
Energy Consents Unit
The Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

econsents_admin@gov.scot

Your ref:
ECU00005167 &
ECU00005168

Our ref:
GB01T19K05

Date:
12/08/2024

Dear Sirs,

ELECTRICITY ACT 1989

THE ELECTRICITY (APPLICATIONS FOR CONSENT) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 37 APPLICATION FOR ALYTH TO TEALING OHL 400KV UPGRADE (RECONDUCTORING) and

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 37 APPLICATION FOR TEALING TO WESTFIELD OHL 400KV UPGRADE (RECONDUCTORING) PROJECT

With reference to your recent correspondence on the above developments, we acknowledge receipt of the respective Scoping Reports (SRs) prepared by Scottish and Southern Electricity Networks Transmission in support of the above development.

This information has been passed to SYSTRA Limited (SYSTRA) for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, Transport Scotland would provide the following comments.

Proposed Development

The proposed development comprises two separate elements, as follows:

- Application Reference ECU00005167 is a proposal to upgrade approximately 14km of an existing 16km 275kV overhead line (OHL) between Alyth Substation and Tower 685 north west of Tealing Substation (Alyth to Tealing OHL)
- Application reference ECU00005168 is a proposal to upgrade approximately 38km of OHL between Tower 182 (west of Tealing Substation) and the licence boundary with Scottish Power Energy Networks (SPEN) (Westfield/Glenrothes), to enable operation at 400kV (Tealing to Westfield OHL).

Alyth to Tealing OHL is remote from the trunk road, with the nearest trunk road being the A90(T) which lies approximately 2km east of the Tealing substation.

The Tealing to Westfield OHL runs from Tealing in the north of Dundee, travelling southwest roughly parallel to the A90(T) before crossing the River Tay south of St Madoes, and the River Earn north of Abernethy. We note that the proposed route involves crossing the A90(T) at Longforgan.

Assessment of Environmental Impacts

Chapter 9 of each SR presents the proposed methodology for the assessment of potential impacts associated with Traffic and Transport during the construction phase.

The methodology states that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines entitled Environmental Assessment of Traffic and Movement (July 2023) are to be used as a screening process for the assessment. These specify that road links should be taken forward for further detailed assessment of environmental effects where the following two rules are breached:

- Rule 1: Include road links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)
- Rule 2: Include road links of high sensitivity where traffic flows have increased by 10% or more.

The SRs indicate that the Tealing Substation site and its surroundings are served by the A90(T) Emmock Road, therefore, it is proposed that this road be included within the study area, in addition to local roads. In addition, the M90 and A92(T) will be included within the Tealing to Westfield assessment.

We note it is proposed to utilise two sources to obtain baseline traffic information, as follows:

- Department for Transport (DfT) counters present on the study area roads, sourced from the DfT website, will be analysed and used on links where possible.
- Where required, traffic surveys in the form of Automatic Traffic Counters (ATC) will be undertaken to provide traffic data for routes not covered by DfT counters.

Transport Scotland considers this appropriate, but we would ask that “estimated” data from the DfT site is not used. We would add that an alternative source of traffic data is Traffic Scotland’s National Traffic Data System. We would also note that base traffic data will require to be factored to the construction year flows, using National Road Traffic Forecasts (NRTF) Low Growth.

Transport Scotland would note that any requirement for the OHL to cross the trunk road along with any associated temporary construction access(es) will require to be discussed and agreed (through a technical process) with the appropriate Area Manager. The Area Manager for the A90(T) is Ken Power who can be contacted at kenneth.power@transport.gov.scot.

Abnormal Loads Assessment

We note that no mention is made of the need for deliveries by Abnormal Indivisible Loads (AIL). If such loads are required then a full Abnormal Loads Assessment report should be provided which identifies key pinch points on the trunk road network. Swept path analysis should be undertaken

and details provided with regard to any required changes to street furniture or structures along the route.

I trust that the above is satisfactory but should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office on 0141 343 9636.

Yours faithfully,

REDACT

Iain Clement

Transport Scotland
Roads Directorate

cc Alan DeVenny – SYSTRA Ltd.

PART 11.1B: TRANSPORT POLICY AND GUIDANCE

1.1 National Policy

National Transport Strategy 2 (2020)

1.1.1 National Transport Strategy 2 (NTS2) sets out an ambitious and compelling vision for Scotland's transport system for the next 20 years. The vision is to have a sustainable, inclusive, safe, and accessible transport system, helping to deliver a healthier, fairer, and more prosperous Scotland for communities, businesses, and visitors.

1.1.2 Four priorities support the vision:

- reduce inequality;
- take climate action;
- help deliver inclusive economic growth; and
- improve health and wellbeing.

Climate Change Plan Update (2020)

1.1.3 The Scottish Government's Climate Change Plan, originally published in 2018, sets out a path to Carbon Neutrality and securing the wider benefits of a greener, fairer, and healthier Scotland. The Plan covers the period of 2018 to 2032.

1.1.4 The Climate Change Plan was updated in 2020 to reflect the impacts of the COVID-19 pandemic and the Government's commitment to a 'green recovery' which captures opportunities of the transition to net zero. The Plan sets new ambitious targets to reduce Scotland's contribution to climate change by 2045 and a commitment to reduce emissions by 75% by 2030.

National Planning Framework 4

1.1.5 The National Planning Framework 4 (NPF4) sets out overarching spatial principles to support the planning and delivery of the three key National Planning Policy areas:

- Sustainable Places;
- Liveable Places; and
- Productive Places.

1.1.6 NPF4 identifies 'National Spatial Strategy' and states that development proposals of all forms of renewable, low carbon and zero emissions technologies will be supported including replacement transmission infrastructure. Under Policy 11 (Energy), development proposals have to demonstrate how the following impacts are mitigated and addressed:

- impacts on public access, including long distance walking and cycling routes and scenic routes;
- impacts on road traffic and on adjacent trunk roads, including during construction; and
- cumulative impacts.

Transport Assessment Guidance (2012)

1.1.7 Transport Assessment Guidance (TAG) produced by Transport Scotland in 2012 provides guidance and information for the content, methodology and approach of producing Transport Assessments, Transport Statements and Travel Plans in support of proposed development sites. It details the importance of establishing the existing transport infrastructure and travel characteristics, as well as the development proposal itself and the measures which will be included to improve infrastructure and services to encourage sustainable travel to the site.

Planning Advice Note (PAN) 75 – Planning for Transport (2005)

1.1.8 Scottish Planning Advice Note (PAN) 75 – Planning for Transport is a planning circular produced by the Scottish Government which provides good practice on planning and transport. This includes guidance on integrating transport, transport modelling, policy development, development management, planning agreements and environmental assessment.

1.1.9 In terms of Transport Assessments / Statements, it states in Paragraph 41 that "*all planning applications that involve the generation of person trips should provide information which covers the transport implications of the development." It identifies that for smaller developments, "the information on transport implications will enable local authorities to monitor potential cumulative impact*".

1.2 Regional Policy

The Transport (Scotland) Act 2005 placed a statutory duty on the seven Regional Transport Partnerships (RTPs) in Scotland to produce a Regional Transport Strategy (RTS) for their area. The proposed development is within Perth and Kinross and Angus Councils, which are within the Tayside and Central Scotland Transport Partnership region (TACTRAN).

Draft TACTRAN Regional Transport Strategy 2024-2034

1.1.10 The draft TACTRAN Regional Transport Strategy (RTS) is in final draft stage which has been submitted to the Minister for Transport for approval.

1.1.11 The TACTRAN RTS is a plan for identifying strategic transport priorities for the Angus, Dundee City, Perth and Kinross and Stirling Council areas. The RTS identifies four strategic objectives which mirror those in Scotland's National Transport Strategy, which are:

- take climate action;
- improve health and wellbeing;
- reduce inequalities; and
- help deliver inclusive and sustainable growth.

TACTRAN Regional Transport Strategy Refresh (2015-2036)

1.1.12 The TACTRAN RTS Refresh was approved by the Minister for Transport and Islands in July 2015. The objectives of the RTS are to:

- Economy - Ensure transport helps to deliver regional prosperity;
- Accessibility, Equity and Social Inclusion – To improve accessibility for all, particularly for those suffering from social inclusion;

- Environment – To ensure that the transport system contributes to safeguarding the environment and promotes opportunities for improvement;
- Health and Wellbeing – To promote the health and wellbeing of communities;
- Safety and Security – To improve the real and perceived safety and security of the transport network; and
- Integration – To improve integration, both within transport and between transport and other policy areas.

1.3 Local Policy

Perth and Kinross Local Development Plan (2019)

1.1.13 The Perth and Kinross Local Development Plan (LDP) was adopted in November 2019. In terms of energy, the LDP sets out the following relevant objectives:

- improve the long term resilience and robustness of the natural and built environment to climate change;
- protect the natural and built environment, and ensure that new development embraces the principles of sustainable design and construction, energy efficiency and heat decarbonisation; and
- promote the sustainable development of electricity generation from a diverse range of renewable and low-carbon energy technologies, including the expansion/ repowering of renewable and low-carbon energy generation capacity and heat networks, in accordance with national objectives and targets.

Angus Local Development Plan (2016)

1.1.14 The Angus LDP was prepared following the adoption of the Angus Strategic Development Plan which provides the context for the LDP. The LDP aims to guide development for 10 years in the area following its adoption.

1.1.15 Part 2 of the LDP states that '*All renewable energy production…will require some processing, generating and transmission infrastructure. Such developments can all contribute to generating renewable energy and reducing emissions and will be assessed in accordance with [Policy PV9]*".

1.1.16 Policy PV9 states that proposals will be supported in principle where "*access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable change to the environment and landscape*".

PART 11.1C: STUDY AREA ROAD SENSITIVE RECEPTORS

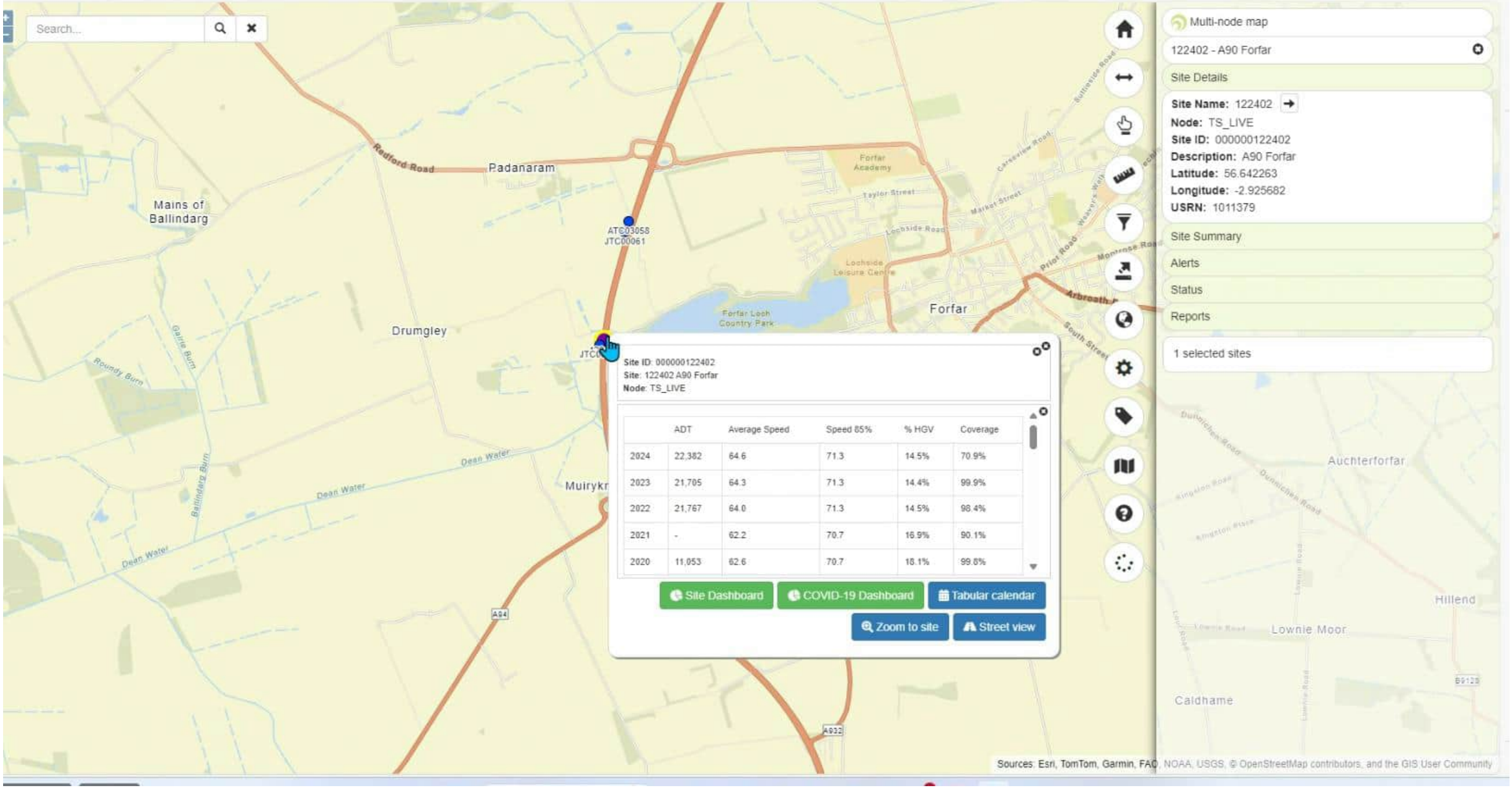
IEMA Environmental Assessment of Traffic and Movement - Sensitivity of Receptors

Study Area Roads			IEMA 2023 Sensitive Receptors											
Road	Between		People at Home (Residential Areas)	People at Work (Employment Areas)	Sensitive and/or Vulnerable Groups	Locations with Concentrations of Vulnerable Users	Retail Areas	Recreational Areas	Tourist Attractions	Collision Clusters and routes with road safety concersn	Junctions and Highway Links at or Over Capacity	Total Score	Average Score	Overall Rating
A90 Brechin	Brechin	Glamis Junction	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Negligible 1	10	1.111	Low
A90 Glamis	Glamis Junction	A928 Junction	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Negligible 1	Negligible 1	Low 2	Negligible 1	11	1.222	Low
A90 Dundee	A928 Junction	Emmock Roundabout	Low 2	Negligible 1	Negligible 1	Low 2	Negligible 1	Negligible 1	Negligible 1	Low 2	Low 2	13	1.444	Low
A94 Glamis	Glamis Junction	Glamis	Low 2	Low 2	Low 2	Low 2	Negligible 1	Negligible 1	Medium 3	Low 2	Negligible 1	16	1.778	Low
A94 Meigle	Glamis	Meigle	High 4	Low 2	Low 2	Low 2	Low 2	Low 2	Low 2	Medium 3	Negligible 1	20	2.222	Medium
A928	A90 Junction	Glamis	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Negligible 1	12	1.333	Low
B954 Meigle	Meigle	U100 (Alyth substation road)	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Negligible 1	12	1.333	Low
U100 Alyth substation	B954 Junction	Alyth substation	Negligible 1	Medium 3	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	11	1.222	Low
C11 Meigle	Meigle	Simprin Farm	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	10	1.111	Low
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	Low 2	Low 2	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	13	1.444	Low
C16 Newtyle	A94 Junction	Newtyle	Medium 3	Low 2	Low 2	Low 2	Low 2	Negligible 1	Negligible 1	Low 2	Negligible 1	16	1.778	Low
B954 Dundee Road	Newtyle	Bonnyton Road Junction	High 4	Low 2	Medium 3	High 4	Negligible 1	Low 2	Negligible 1	Low 2	Negligible 1	20	2.222	Medium
Couston	B954 Junction	Henderston Quarry	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	11	1.222	Low
Bonnyton Road	Davidston	The Brae Junction	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	11	1.222	Low
The Brae	Bonnyton Road Junction	Junction with Braeside	High 4	Low 2	Medium 3	High 4	Negligible 1	Low 2	Negligible 1	Negligible 1	Negligible 1	19	2.111	Medium
Tealing Road	Kirkton of Auchterhouse	Tealing substation access junction	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Negligible 1	12	1.333	Low
Emmock Road	Emmock Roundabout	Tealing Road Junction	Low 2	Low 2	Negligible 1	Negligible 1	Negligible 1	Negligible 1	Low 2	Low 2	Low 2	14	1.556	Low

PART 11.1D: AECOM TRAFFIC SURVEYS, JUNE 2024

Site No.	Location.	Direction.	Speed Limit / PSL (mph)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	% > Speed Limit.	No. > ACPO Limit.	% > ACPO Limit.	No. > DfT Limit.	% > DfT Limit.	Mean Speed	85%ile Speed
1	Alyth Substation Access Road	East	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	321	54	46	0	0.0	0	0.0	0	0.0	29.0	37.8
		West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	301	51	43	1	0.3	0	0.0	0	0.0	30.5	37.8
		East West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	622	105	89	1	0.2	0	0.0	0	0.0	29.8	37.8
2	B954 between Alyth Substation Access Road and A94	North	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	11223	1700	1603	592	5.3	107	1.0	39	0.3	48.4	55.6
		South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	11044	1667	1578	604	5.5	115	1.0	35	0.3	48.3	55.4
		North South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	22267	3367	3181	1196	5.4	222	1.0	74	0.3	48.4	55.5
3	Unclassified Road between Meigle & sign showing mileage to Ruthven, Airlie & Lintrathen	East	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2386	357	341	477	20.0	159	6.7	46	1.9	51.5	61.7
		West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2371	359	339	565	23.8	117	4.9	32	1.4	51.9	62.8
		East West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	4757	717	680	1042	21.9	276	5.8	78	1.6	51.7	62.4
4	A94, east of Meigle (east of Kirkinch Road sign)	North	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	13345	1975	1906	1804	13.5	285	2.1	56	0.4	52.6	59.5
		South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	13227	2025	1890	1349	10.2	235	1.8	49	0.4	50.9	58.4
		North South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	26572	4000	3796	3153	11.9	520	2.0	105	0.4	51.8	59.0
5	Unclassified Road, approximately 20m south of A94 (Road to Kirkinch)	North	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	1367	202	195	0	0.0	0	0.0	0	0.0	27.6	32.9
		South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	1299	196	186	0	0.0	0	0.0	0	0.0	25.2	30.0
		North South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2666	398	381	0	0.0	0	0.0	0	0.0	26.4	31.7
6	Unclassified Road, south of Kirkinch	North	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2875	444	411	68	2.4	9	0.3	0	0.0	45.0	53.2
		South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2776	440	397	65	2.3	4	0.1	0	0.0	45.0	52.8
		North South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	5651	884	807	133	2.4	13	0.2	0	0.0	45.0	53.0
7	B954 Dundee Road between South Street & Newtyle Primary School	North	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	11027	1660	1575	9686	87.8	6418	58.2	991	9.0	26.3	32.7
		South	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	10987	1664	1570	10232	93.1	7969	72.5	1335	12.2	28.0	34.1
		North South	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	22014	3324	3145	19918	90.5	14387	65.4	2326	10.6	27.1	33.5
8	Unclassified Road east of Bonnyton Road	East	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	105	16	15	0	0.0	0	0.0	0	0.0	21.6	25.8
		West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	101	15	14	0	0.0	0	0.0	0	0.0	22.8	28.5
		East West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	206	31	29	0	0.0	0	0.0	0	0.0	22.2	27.1
9	Bonnyton Road, west of Bonnyton	East	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	156	21	22	0	0.0	0	0.0	0	0.0	27.0	36.3
		West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	187	25	27	0	0.0	0	0.0	0	0.0	25.4	33.3
		East West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	343	47	49	0	0.0	0	0.0	0	0.0	26.1	35.2
10	The Brae between Tealing Road and Piper's Way	North	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	1458	217	208	1281	87.9	990	67.9	155	10.6	27.3	33.7
		South	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	1460	219	209	1293	88.6	1070	73.3	202	13.8	28.0	34.7
		North South	20	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2918	436	417	2574	88.2	2060	70.6	357	12.2	27.7	34.2
11	Unclassified Road, approximately 1.5km west of Tealing	East	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2257	349	322	0	0.0	0	0.0	0	0.0	30.0	34.1
		West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2446	386	349	0	0.0	0	0.0	0	0.0	26.8	31.3
		East West	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	4703	735	672	0	0.0	0	0.0	0	0.0	28.3	33.0
12	Emmock Road, south of Tealing Substation Access Road	North	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2840	451	406	131	4.6	35	1.2	10	0.4	43.0	52.2
		South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	2842	454	406	114	4.0	24	0.8	5	0.2	43.2	53.1
		North South	60	Wednesday, 19 June 2024	Tuesday, 25 June 2024	5682	905	812	245	4.3	59	1.0	15	0.3	43.1	52.7

PART 11.1E: DEPARTMENT FOR TRANSPORT AND NATIONAL TRAFFIC DATA SYSTEM DATA


Search...
Multi-node map
122402 - A90 Forfar
Site Details
Site Name: 122402
Node: TS_LIVE
Site ID: 000000122402
Description: A90 Forfar
Latitude: 56.642263
Longitude: -2.925682
USRN: 1011379
Site Summary
Alerts
Status
Reports
1 selected sites
Site ID: 000000122402
Site: 122402 A90 Forfar
Node: TS_LIVE
ADT
Average Speed
Speed 85%
% HGV
Coverage
2024 22,382 64.6 71.3 14.5% 70.9%
2023 21,705 64.3 71.3 14.4% 99.9%
2022 21,767 64.0 71.3 14.5% 98.4%
2021 - 62.2 70.7 16.9% 90.1%
2020 11,053 62.6 70.7 16.1% 99.8%
Site Dashboard
COVID-19 Dashboard
Tabular calendar
Zoom to site
Street view
Redford Road
Padanaram
Mains of Ballindarg
Drumgley
Forfar
Auchterforfar
Hillend
Lownie Moor
Caldhame
Dean Water
Roundy Burn
Gairie Burn
Ballindarg Burn
A94
A932
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Manual count points

Site number: 80548

Site details

Region	Scotland
Local authority	Angus
Road name	A94
Road classification	'A' road
Managed by	Local authority
Road type	Major
Start junction	A928
End junction	A90
Link length	6.10km (3.79 miles)
Easting, northing	340000, 746950
Latitude, longitude	56.61056800, -2.97909970

Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Estimated using previous year's AADF on this	5	18	2463	31	943	441	3896

Site number: 80375

Site details

Region	Scotland
Local authority	Angus
Road name	A90
Road classification	'A' road
Managed by	Transport Scotland
Road type	Major
Start junction	A928
End junction	A932
Link length	8.50km (5.28 miles)
Easting, northing	344129, 745008
Latitude, longitude	56.59363500, -2.91142170

Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Automatic counter	0	47	16832	155	5006	2586	24626

Site number: 50876

Site details

Region	Scotland
Local authority	Angus
Road name	A928
Road classification	'A' road
Managed by	Local authority
Road type	Major
Start junction	A94
End junction	A90
Link length	8.80km (5.47 miles)
Easting, northing	340300, 741600
Latitude, longitude	56.56255000, -2.97297730

Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Estimated using previous year's AADF on this	2	9	754	6	200	59	1028

Site number: 10980

Site details

Region	Scotland
Local authority	Angus
Road name	A90
Road classification	'A' road
Managed by	Transport Scotland
Road type	Major
Start junction	LA boundary
End junction	A928
Link length	5.90km (3.67 miles)
Easting, northing	342000, 737500
Latitude, longitude	56.52593400, -2.94440350

Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2023	Automatic counter	0	50	16206	78	4036	3121	23489

PART 11.1F: BASELINE TRAFFIC DATA

IEMA Guidelines Environmental Assessment of Traffic & Movement - Traffic Data & Rules

Study Area Roads				Daily Traffic (24hr)							Development Traffic						Forecast Daily Traffic						IEMA Rules
Road	Between		Data Source	Surveyed			Baseline		Growth 1.023	Average Speed (mph)	Daily			Hourly		Hours 10	Total (Baseline + Development)			Percentage Increase			IEMA
				Car / LGV	HGV	Total	Car / LGV	HGV	Total		Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	
A90 Brechin	Brechin	Glamis Junction	Other	19,137	3,245	22,382	19,575	3,319	22,895	70.0	48	31	79	5	3	8	19,623	3,350	22,974	0%	1%	0%	No
A90 Glamis	Glamis Junction	A928 Junction	DfT Survey	22,040	2,586	24,626	22,545	2,645	25,190	70.0	41	28	69	4	3	7	22,586	2,673	25,259	0%	1%	0%	No
A90 Dundee	A928 Junction	Emmock Roundabout	DfT Survey	20,368	3,121	23,489	20,834	3,192	24,027	70.0	48	31	79	5	3	8	20,882	3,223	24,106	0%	1%	0%	No
A94 (Glamis)	Glamis Junction	Glamis	AECOM Survey	3,455	441	3,896	3,534	451	3,985	51.5	48	31	79	5	3	8	3,582	482	4,064	1%	7%	2%	No
A94 (Meigle)	Glamis	Meigle	AECOM Survey	3717	282	3,999	3,802	288	4,091	51.5	48	31	79	5	3	8	3,850	319	4,170	1%	11%	2%	No
A928	A90 Junction	Glamis	DfT Survey	969	59	1,028	991	60	1,052	60.0	42	25	67	4	3	7	1,033	85	1,119	4%	41%	6%	Yes
B954 Meigle	Meigle	Alyth substation road junction	AECOM Survey	3294	73	3,367	3,369	75	3,444	48.2	42	25	67	4	3	7	3,411	100	3,511	1%	33%	2%	Yes
U100 Alyth substation	B954 Junction	Alyth substation	AECOM Survey	97	8	105	99	8	107	29.9	42	25	67	4	3	7	141	33	174	42%	306%	62%	Yes
C11 Meigle	Meigle	Simprin Farm	AECOM Survey	695	22	717	711	23	733	51.7	38	28	66	4	3	7	749	51	799	5%	124%	9%	Yes
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	AECOM Survey	383	14	397	392	14	406	26.6	38	28	66	4	3	7	430	42	472	10%	196%	16%	Yes
C16 Newtyle	A94 Junction	Newtyle	AECOM Survey	873	12	885	893	12	905	45.3	48	31	79	5	3	8	941	43	984	5%	253%	9%	Yes
B954 Dundee Road	Newtyle	Bonnyton Road Junction	AECOM Survey	3280	44	3,324	3,355	45	3,400	26.9	48	31	79	5	3	8	3,403	76	3,479	1%	69%	2%	Yes
Couston	B954 Junction	Henderston Quarry	AECOM Survey	32	1	33	33	1	34	22.3	48	31	79	5	3	8	81	32	113	147%	3031%	234%	Yes
Bonnyton Road	Davidston	The Brae Junction	AECOM Survey	45	1	46	46	1	47	26.7	48	31	79	5	3	8	94	32	126	104%	3031%	168%	Yes
The Brae	Bonnyton Road Junction	Junction with Braeside	AECOM Survey	435	1	436	445	1	446	27.7	48	31	79	5	3	8	493	32	525	11%	3031%	18%	Yes
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	AECOM Survey	717	17	734	733	17	751	28.4	48	31	79	5	3	8	781	48	830	7%	178%	11%	Yes
Emmock Road	Emmock Roundabout	Tealing Road Junction	AECOM Survey	877	28	905	897	29	926	42.9	48	31	79	5	3	8	945	60	1,005	5%	108%	9%	Yes

PART 11.1G: BALFOUR BEATTY CONSTRUCTION TRAFFIC FORECASTS

IEMA Guidelines Environmental Assessment of Traffic & Movement - Traffic Data & Rules

Study Area Roads				Daily Traffic (24hr)							Development Traffic						Forecast Daily Traffic						IEMA Rules
Road	Between		Data Source	Surveyed			Baseline		Growth 1.023	Average Speed (mph)	Daily			Hourly		Hours 10	Total (Baseline + Development)			Percentage Increase			IEMA
				Car / LGV	HGV	Total	Car / LGV	HGV	Total		Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	
A90 Brechin	Brechin	Glamis Junction	Other	19,137	3,245	22,382	19,575	3,319	22,895	70.0	48	31	79	5	3	8	19,623	3,350	22,974	0%	1%	0%	No
A90 Glamis	Glamis Junction	A928 Junction	DfT Survey	22,040	2,586	24,626	22,545	2,645	25,190	70.0	41	28	69	4	3	7	22,586	2,673	25,259	0%	1%	0%	No
A90 Dundee	A928 Junction	Emmock Roundabout	DfT Survey	20,368	3,121	23,489	20,834	3,192	24,027	70.0	48	31	79	5	3	8	20,882	3,223	24,106	0%	1%	0%	No
A94 (Glamis)	Glamis Junction	Glamis	AECOM Survey	3,455	441	3,896	3,534	451	3,985	51.5	48	31	79	5	3	8	3,582	482	4,064	1%	7%	2%	No
A94 (Meigle)	Glamis	Meigle	AECOM Survey	3717	282	3,999	3,802	288	4,091	51.5	48	31	79	5	3	8	3,850	319	4,170	1%	11%	2%	No
A928	A90 Junction	Glamis	DfT Survey	969	59	1,028	991	60	1,052	60.0	42	25	67	4	3	7	1,033	85	1,119	4%	41%	6%	Yes
B954 Meigle	Meigle	Alyth substation road junction	AECOM Survey	3294	73	3,367	3,369	75	3,444	48.2	42	25	67	4	3	7	3,411	100	3,511	1%	33%	2%	Yes
U100 Alyth substation	B954 Junction	Alyth substation	AECOM Survey	97	8	105	99	8	107	29.9	42	25	67	4	3	7	141	33	174	42%	306%	62%	Yes
C11 Meigle	Meigle	Simprin Farm	AECOM Survey	695	22	717	711	23	733	51.7	38	28	66	4	3	7	749	51	799	5%	124%	9%	Yes
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	AECOM Survey	383	14	397	392	14	406	26.6	38	28	66	4	3	7	430	42	472	10%	196%	16%	Yes
C16 Newtyle	A94 Junction	Newtyle	AECOM Survey	873	12	885	893	12	905	45.3	48	31	79	5	3	8	941	43	984	5%	253%	9%	Yes
B954 Dundee Road	Newtyle	Bonnyton Road Junction	AECOM Survey	3280	44	3,324	3,355	45	3,400	26.9	48	31	79	5	3	8	3,403	76	3,479	1%	69%	2%	Yes
Couston	B954 Junction	Henderston Quarry	AECOM Survey	32	1	33	33	1	34	22.3	48	31	79	5	3	8	81	32	113	147%	3031%	234%	Yes
Bonnyton Road	Davidston	The Brae Junction	AECOM Survey	45	1	46	46	1	47	26.7	48	31	79	5	3	8	94	32	126	104%	3031%	168%	Yes
The Brae	Bonnyton Road Junction	Junction with Braeside	AECOM Survey	435	1	436	445	1	446	27.7	48	31	79	5	3	8	493	32	525	11%	3031%	18%	Yes
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	AECOM Survey	717	17	734	733	17	751	28.4	48	31	79	5	3	8	781	48	830	7%	178%	11%	Yes
Emmock Road	Emmock Roundabout	Tealing Road Junction	AECOM Survey	877	28	905	897	29	926	42.9	48	31	79	5	3	8	945	60	1,005	5%	108%	9%	Yes

PART 11.1H: FEAR AND INTIMIDATION ON AND BY ROAD USERS DATA

IEMA Environmental Assessment of Traffic and Movement - Fear and Intimidation

Study Area Roads Existing Traffic						Existing Fear and Intimidation Level				
Road	Between		18-Hour Average Traffic (Vehs / Hour)	Total 18-Hour HGV Traffic	Average Vehicle Speed (mph)	18-Hour Average Traffic (Vehs / Hour)	Total 18-Hour HGV Traffic	Average Vehicle Speed (mph)	Degree of Hazard Score	Fear and Intimidation Level
A90 Brechin	Brechin	Glamis Junction	942	3,172	70	600-1,200 10	3,000+ 30	40+ 30	70	Great
A90 Glamis	Glamis Junction	A928 Junction	1,338	2,528	70	1,200-1,800 20	2,000-3,000 20	40+ 30	70	Great
A90 Dundee	A928 Junction	Emmock Roundabout	1,276	3,051	70	1,200-1,800 20	3,000+ 30	40+ 30	80	Extreme
A94 Glamis	Glamis Junction	Glamis	211	426	52	<600 0	<1,000 0	40+ 30	30	Moderate
A94 Meigle	Glamis	Meigle	217	272	52	<600 0	<1,000 0	40+ 30	30	Moderate
A928	A90 Junction	Glamis	56	58	60	<600 0	<1,000 0	40+ 30	30	Moderate
B954 Meigle	Meigle	) Balendoch Road (Alyth substation r	184	70	48	<600 0	<1,000 0	40+ 30	30	Moderate
U100 Alyth substation	B954 Junction	Alyth substation	6	8	30	<600 0	<1,000 0	20-30 10	10	Small
C11 Meigle	Meigle	Simprin Farm	39	21	52	<600 0	<1,000 0	40+ 30	30	Moderate
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	21	14	27	<600 0	<1,000 0	20-30 10	10	Small
C16 Newtyle	A94 Junction	Newtyle	48	12	45	<600 0	<1,000 0	40+ 30	30	Moderate
B954 Dundee Road	Newtyle	Bonnyton Road Junction	182	43	27	<600 0	<1,000 0	20-30 10	10	Small
Couston	B954 Junction	Henderston Quarry	2	0	22	<600 0	<1,000 0	20-30 10	10	Small
Bonnyton Road	Davidston	The Brae Junction	3	0	27	<600 0	<1,000 0	20-30 10	10	Small
The Brae	Bonnyton Road Junction	Junction with Braeside	24	1	28	<600 0	<1,000 0	20-30 10	10	Small
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	40	17	28	<600 0	<1,000 0	20-30 10	10	Small
Emmock Road	Emmock Roundabout	Tealing Road Junction	49	28	43	<600 0	<1,000 0	40+ 30	30	Moderate

IEMA Environmental Assessment of Traffic and Movement - Fear and Intimidation								
Study Area Roads Existing Traffic + Development Traffic				Forecast Fear and Intimidation Level				
Road	18-Hour Average Traffic (Vehs / Hour)	Total 18-Hour HGV Traffic	Average Vehicle Speed (mph)	18-Hour Average Traffic (Vehs / Hour)	Total 18-Hour HGV Traffic	Average Vehicle Speed (mph)	Degree of Hazard Score	Fear and Intimidation Level
A90 Brechin	950	3,203	70	600-1,200 10	3,000+ 30	40+ 30	70	Great
A90 Glamis	1,344	2,556	70	1,200-1,800 20	2,000-3,000 20	40+ 30	70	Great
A90 Dundee	1,284	3,082	70	1,200-1,800 20	3,000+ 30	40+ 30	80	Extreme
A94 Glamis	219	457	52	<600 0	<1,000 0	40+ 30	30	Moderate
A94 Meigle	225	303	52	<600 0	<1,000 0	40+ 30	30	Moderate
A928	63	83	60	<600 0	<1,000 0	40+ 30	30	Moderate
B954 Meigle	190	95	48	<600 0	<1,000 0	40+ 30	30	Moderate
U100 Alyth substation	12	33	30	<600 0	<1,000 0	20-30 10	10	Small
C11 Meigle	45	49	52	<600 0	<1,000 0	40+ 30	30	Moderate
C445 Kirkinch	27	42	27	<600 0	<1,000 0	20-30 10	10	Small
C16 Newtyle	56	43	45	<600 0	<1,000 0	40+ 30	30	Moderate
B954 Dundee Road	190	74	27	<600 0	<1,000 0	20-30 10	10	Small
Couston	10	31	22	<600 0	<1,000 0	20-30 10	10	Small
Bonnyton Road	10	31	27	<600 0	<1,000 0	20-30 10	10	Small
The Brae	32	32	28	<600 0	<1,000 0	20-30 10	10	Small
Tealing Road	48	48	28	<600 0	<1,000 0	20-30 10	10	Small
Emmock Road	57	59	43	<600 0	<1,000 0	40+ 30	30	Moderate

IEMA Environmental Assessment of Traffic and Movement - Fear and Intimidation Magnitude of Change

Road	Existing Fear and Intimidation Level	Forecast Fear and Intimidation Level	Step Change in Fear and Intimidation Level	Increase in Average Hourly Traffic (All Vehicles)	Increase in Daily HGV Traffic	Condition for Medium Increase in Magnitude of Change	Fear and Intimidation Magnitude of Change
A90 Brechin	Great	Great	0	8	31	FALSE	Negligible
A90 Glamis	Great	Great	0	7	28	FALSE	Negligible
A90 Dundee	Extreme	Extreme	0	8	31	FALSE	Negligible
A94 Glamis	Moderate	Moderate	0	8	31	FALSE	Negligible
A94 Meigle	Moderate	Moderate	0	8	31	FALSE	Negligible
A928	Moderate	Moderate	0	7	25	FALSE	Negligible
B954 Meigle	Moderate	Moderate	0	7	25	FALSE	Negligible
U100 Alyth substation	Small	Small	0	7	25	FALSE	Negligible
C11 Meigle	Moderate	Moderate	0	7	28	FALSE	Negligible
C445 Kirkinch	Small	Small	0	7	28	FALSE	Negligible
C16 Newtyle	Moderate	Moderate	0	8	31	FALSE	Negligible
B954 Dundee Road	Small	Small	0	8	31	FALSE	Negligible
Couston	Small	Small	0	8	31	FALSE	Negligible
Bonnyton Road	Small	Small	0	8	31	FALSE	Negligible
The Brae	Small	Small	0	8	31	FALSE	Negligible
Tealing Road	Small	Small	0	8	31	FALSE	Negligible
Emmock Road	Moderate	Moderate	0	8	31	FALSE	Negligible

PART 11.1I: ROAD USER AND PEDESTRIAN SAFETY DATA

Study Area Roads			Baseline Accident Rates per 1 Million Vehicle Kilometres									Forecast Development Traffic Accidents				
Road	Between		Length of Road (Km)	Baseline Total Vehicles	Baseline Vehicle Km	Recorded Injury Accidents			Recorded Injury Accidents per 1 Million Vehicle Km			Development Total Vehicles	Development Vehicle Km	Forecast Injusy Accidents		
						Slight	Serious	Fatal	Slight	Serious	Fatal			Slight	Serious	Fatal
A90 Brechin	Brechin	Glamis Junction	20	32,677,720	653,554,400	11	5	0	1.683E-02	7.650E-03	0.000E+00	16,587	331,740	0.0	0.0	0.0
A90 Glamis	Glamis Junction	A928 Junction	11	35,953,960	377,516,580	7	2	1	1.854E-02	5.298E-03	2.649E-03	16,587	174,164	0.0	0.0	0.0
A90 Dundee	A928 Junction	Emmock Roundabout	7	34,293,940	222,910,610	8	2	0	3.589E-02	8.972E-03	0.000E+00	16,587	107,816	0.0	0.0	0.0
A94 Glamis	Glamis Junction	Glamis	6	5,688,160	34,128,960	3	1	0	8.790E-02	2.930E-02	0.000E+00	1,234	7,404	0.0	0.0	0.0
A94 Meigle	Glamis	Meigle	11	5,838,540	65,391,648	4	4	0	6.117E-02	6.117E-02	0.000E+00	1,234	13,821	0.0	0.0	0.0
A928	A90 Junction	Glamis	8	1,500,880	12,457,304	4	1	0	3.211E-01	8.027E-02	0.000E+00	1,046	8,682	0.0	0.0	0.0
B954 Meigle	Meigle	Balendoch Road (Alyth substation	1	4,915,820	6,390,566	0	1	0	0.000E+00	1.565E-01	0.000E+00	1,046	1,360	0.0	0.0	0.0
U100 Alyth substation	B954 Junction	Alyth substation	2	153,300	245,280	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,046	1,674	0.0	0.0	0.0
C11 Meigle	Meigle	Simprin Farm	3	1,046,820	2,931,096	1	0	0	3.412E-01	0.000E+00	0.000E+00	1,030	2,884	0.0	0.0	0.0
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	2	579,620	1,391,088	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,030	2,472	0.0	0.0	0.0
C16 Newtyle	A94 Junction	Newtyle	10	1,292,100	12,921,000	0	1	0	0.000E+00	7.739E-02	0.000E+00	1,234	12,340	0.0	0.0	0.0
B954 Dundee Road	Newtyle	Bonnyton Road Junction	3	4,853,040	13,103,208	0	1	0	0.000E+00	7.632E-02	0.000E+00	1,234	3,332	0.0	0.0	0.0
Couston	B954 Junction	Henderston Quarry	2	48,180	77,088	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,234	1,974	0.0	0.0	0.0
Bonnyton Road	Davidston	The Brae Junction	3	67,160	201,480	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,234	3,702	0.0	0.0	0.0
The Brae	Bonnyton Road Junction	Junction with Braeside	1	636,560	509,248	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,234	987	0.0	0.0	0.0
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	6	1,071,640	6,215,512	1	0	0	1.609E-01	0.000E+00	0.000E+00	1,234	7,157	0.0	0.0	0.0
Emmock Road	Emmock Roundabout	Tealing Road Junction	6	1,321,300	8,456,320	3	0	0	3.548E-01	0.000E+00	0.000E+00	1,234	7,898	0.0	0.0	0.0

Road	Average Daily Traffic	Days Per Year	Traffic per Annum	Recorded Accident Period (Years)	Total Traffic for Accident Period
A90 Brechin	22,382	365	8,169,430	4	32,677,720
A90 Glamis	24,626	365	8,988,490	4	35,953,960
A90 Dundee	23,489	365	8,573,485	4	34,293,940
A94 Glamis	3,896	365	1,422,040	4	5,688,160
A94 Meigle	3,999	365	1,459,635	4	5,838,540
A928	1,028	365	375,220	4	1,500,880
B954 Meigle	3,367	365	1,228,955	4	4,915,820
U100 Alyth substation	105	365	38,325	4	153,300
C11 Meigle	717	365	261,705	4	1,046,820
C445 Kirkinch	397	365	144,905	4	579,620
C16 Newtyle	885	365	323,025	4	1,292,100
B954 Dundee Road	3,324	365	1,213,260	4	4,853,040
Couston	33	365	12,045	4	48,180
Bonnyton Road	46	365	16,790	4	67,160
The Brae	436	365	159,140	4	636,560
Tealing Road	734	365	267,910	4	1,071,640
Emmock Road	905	365	330,325	4	1,321,300

Number of Stdy Area Roads	17

Road	Average Daily Traffic	Days Per Year	Traffic per Annum	Recorded Accident Period (Years)	Total Development Traffic for Accident Period
A90 Brechin	79	261	20,619	3	16,587
A90 Glamis	69	261	18,009	3	16,587
A90 Dundee	79	261	20,619	3	16,587
A94 Glamis	79	261	20,619	3	1,234
A94 Meigle	79	261	20,619	3	1,234
A928	67	261	17,487	3	1,046
B954 Meigle	67	261	17,487	3	1,046
U100 Alyth substation	67	261	17,487	3	1,046
C11 Meigle	66	261	17,226	3	1,030
C445 Kirkinch	66	261	17,226	3	1,030
C16 Newtyle	79	261	20,619	3	1,234
B954 Dundee Road	79	261	20,619	3	1,234
Couston	79	261	20,619	3	1,234
Bonnyton Road	79	261	20,619	3	1,234
The Brae	79	261	20,619	3	1,234
Tealing Road	79	261	20,619	3	1,234
Emmock Road	79	261	20,619	3	1,234

Vehicle Km Metric
1,000,000

Balfour Beatty (BB) Total LT383 Vehicle Traffic 16,587 vehicle movements

For local roads Balfour Beatty (BB) totoal LT383 vehicle traffic will be averaged & weighted against forecast daily traffic Development traffic using the road

Total Roads = 17

Strategic Roads = 3

Local Roads = 14

Averge Total LT384 Traffic per Local Road = 1,186 vehicles

Averge Daily LT384 Traffic per Road = 76

PART 11.1J: ROAD VEHICLE DRIVER AND PASSENGER DELAY DATA

Road Link	Vehicular Traffic (AWT)									
	2026 Baseline Daily Traffic		Proposed Development Daily Traffic			Proposed Development % Impact			Environmental Assessment Required (Y/N)	
	Car / LGV	HGV	All Vehs	Car / LGV	HGV	All Vehs	HGV	All Vehs	HGV	All Vehs
A90 Brechin	19,576	3,319	22,895	48	31	79	1%	0%	N	N
A90 Glamis	22,545	2,645	25,190	41	28	69	1%	0%	N	N
A90 Dundee	20,835	3,192	24,027	48	31	79	1%	0%	N	N
A94 Glamis	3,534	451	3,985	48	31	79	7%	2%	N	N
A94 Meigle	3,803	288	4,091	48	31	79	11%	2%	N	N
A928	992	60	1,052	42	25	67	41%	6%	Y	N
B954 Meigle	3,369	75	3,444	42	25	67	33%	2%	Y	N
U100 Alyth substation	99	8	107	42	25	67	306%	62%	Y	Y
C11 Meigle	710	23	733	38	28	66	124%	9%	Y	N
C445 Kirkinch	392	14	406	38	28	66	196%	16%	Y	N
C16 Newtyle	893	12	905	48	31	79	253%	9%	Y	N
B954 Dundee Road	3,355	45	3,400	48	31	79	69%	2%	Y	N
Couston	33	1	34	48	31	79	3031%	234%	Y	Y
Bonnyton Road	46	1	47	48	31	79	3031%	168%	Y	Y
The Brae	445	1	446	48	31	79	3031%	18%	Y	N
Tealing Road	734	17	751	48	31	79	178%	11%	Y	N
Emmock Road	897	29	926	48	31	79	108%	9%	Y	N

Dev Traffic Even

A90 Brechin	19,576	3,319	22,895	48	32	80
A90 Glamis	22,545	2,645	25,190	42	28	70
A90 Dundee	20,835	3,192	24,027	48	32	80
A94 Glamis	3,534	451	3,985	48	32	80
A94 Meigle	3,803	288	4,091	48	32	80
A928	992	60	1,052	42	26	68
B954 Meigle	3,369	75	3,444	42	26	68
U100 Alyth substation	99	8	107	42	26	68
C11 Meigle	710	23	733	38	28	66
C445 Kirkinch	392	14	406	38	28	66
C16 Newtyle	893	12	905	48	32	80
B954 Dundee Road	3,355	45	3,400	48	32	80
Couston	33	1	34	48	32	80
Bonnyton Road	46	1	47	48	32	80
The Brae	445	1	446	48	32	80
Tealing Road	734	17	751	48	32	80
Emmock Road	897	29	926	48	32	80

Road	Road Type	Speed Limit (mph)	Road Capacity (Veh/ Hr/ Direction)	Baseline Daily Vehicles	Daily Road Capacity Utilisation Baseline Traffic	Proposed Development Daily Vehicles	Daily Road Capacity Utilisation Proposed Development Traffic	Daily Road Capacity Utilisation Change
A90 Brechin	Rural - Dual 2 Lanes	70	3,400	22,895	28%	79	28%	0.1%
A90 Glamis	Rural - Dual 2 Lanes	70	3,400	25,190	31%	69	31%	0.1%
A90 Dundee	Rural - Dual 2 Lanes	70	3,400	24,027	29%	79	30%	0.1%
A94 Glamis	Rural - Good Single 7.3m	60	1,200	3,985	14%	79	14%	0.3%
A94 Meigle	Rural - Good Single 7.3m	60	1,200	4,091	14%	79	14%	0.3%
A928	Rural - Good Single 7.3m	60	1,200	1,052	4%	67	4%	0.2%
B954 Meigle	Rural - Typical Single 6.0m	60	900	3,444	16%	67	16%	0.3%
U100 Alyth	Rural - Poor Single 5.5m	60	800	107	1%	67	1%	0.3%
C11 Meigle	Rural - Poor Single 6.0m	60	900	733	3%	66	4%	0.3%
C445 Kirkinch	Rural - Poor Single 6.0m	60	900	406	2%	66	2%	0.3%
C16 Newtyle	Rural - Poor Single 6.0m	60	900	905	4%	79	5%	0.4%
B954 Dundee Road	Rural -Typical Single 7.3m	60	1,200	3,400	12%	79	12%	0.3%
Couston	Rural - Poor Single 4.0m	60	140	34	1%	79	3%	2.4%
Bonnyton Road	Rural - Poor Single 5.5m	60	800	47	0%	79	1%	0.4%
The Brae	Rural - Poor Single 5.5m	60	800	446	2%	79	3%	0.4%
Tealing Road	Rural - Poor Single 6.0m	60	900	751	3%	79	4%	0.4%
Emmock Road	Rural - Poor Single 6.0m	60	900	926	4%	79	5%	0.4%

PART 11.1K: FRAMEWORK CONSTRUCTION TRAFFIC MANAGEMENT PLAN

1.1 Purpose

1.1.1 The purpose of this framework CTMP is to provide a framework from which a finalised CTMP can be developed post-consent. This framework outlines the measures which could be used during the construction of the proposed development to mitigate transport-related impacts. Access to the proposed development by HGVs and construction plant vehicles would be planned, managed and executed by the applicant's appointed contractor to ensure the safety and reliability of deliveries to site, reduce congestion on the local road network and minimise the environmental impact.

1.2 CTMP Development

1.2.1 The opportunity to develop, amend and enhance the finalised CTMP in response to comments received on this framework document and through the planning and consultation process should be recognised.

1.2.2 The CTMP will consider feedback from residents and community groups and be developed in consultation with the ECU to establish appropriate methods in which the impact of traffic related to the proposed scheme's construction can be minimised.

1.2.3 This document would be updated as necessary with input from the ECU following feedback from their consultation and planning process.

1.3 Hours of Work

1.3.1 Working hours for construction activities related to the Proposed Scheme would be agreed with the ECU, but are anticipated to be:

- 7 days per week, 7am-7pm.

1.3.2 No construction should be carried out on bank holidays unless in exceptional circumstances.

1.3.3 Any work which is required or intended to take place outside of these hours, except for emergency situations, would be subject to prior agreement or reasonable notice to the ECU.

1.4 Site Access Points

1.4.1 The site access points would be secured by hoarded gates and during working hours would remain under control of an appointed person who would physically control entry to site. Traffic entering or exiting the site would give way to road traffic on the public road network. Vehicles would leave and access the site via the existing site access junctions and site traffic would be managed so that no vehicles would be required to stop on the public road itself when accessing the site.

1.4.2 Construction traffic warning signs will be located and maintained throughout the duration of construction works. These would be situated at agreed locations to warn road users of construction route access junctions, and to warn of construction traffic turning to and from public roads. Away from public roads appropriate warning signs would be located along access tracks used by construction vehicles to identify construction routes to persons exercising their access rights in accordance with the Land Reform (Scotland) Act 2003. The Scottish Outdoor Access Code 2005 stipulates that access rights do not apply to building, civil engineering or demolition sites, and so measures can be put in place to restrict access to the construction site. Restricting public access to, along or across the entire length

of the access track to site would be impractical. It is more practical to consider tactical signage warning the public that construction traffic will be present on these routes. Particularly at locations where members of the public exercising their access rights may be more likely to appear, such as obvious paths or routes that join or cross the construction traffic route. Construction vehicle drivers will also be required to behave appropriately should they encounter members of the public exercising access rights. Driving behaviours will be mandated that provide and maintain road safety for all traffic, including the safety of pedestrian and cycle traffic in the environs of construction traffic routes.

1.5 Construction Traffic Routing

1.5.1 It will be a key responsibility of applicant or appointed contractor to ensure that each sub-contractor is aware of the route restrictions prior to any works taking place and to enforce the restrictions stated in the proposed development's CTMP.

1.5.2 The site gates will be manned and controlled during normal site working hours and any vehicle arriving on site will be guided to the required location for loading or unloading.

1.5.3 The appointed contractor would also be responsible for mitigating, where possible, the cumulative impacts of other construction projects in the area through careful consideration of routing and access timings.

1.5.4 Likely routes that HGV construction traffic will follow will be:

- A90
- A94
- A928
- Local roads

1.5.5 It is considered that each of these routes can accommodate the additional construction traffic required for the proposed development. Staff will make their own way via a variety of routes depending on their home location but the impact of staff journeys on the local road network is expected to be negligible.

1.6 Deliveries

1.6.1 Due to the scale of the proposed development, the number of daily deliveries throughout the construction phases is anticipated to be low and the disruption imposed on other road users would be minimised due to the scheduling of deliveries and material removal.

1.6.2 Construction materials that are delivered will be stored on-site.

1.7 Enforcement

1.7.1 All contractors would be required to adhere to the CTMP. Compliance will be monitored by the applicant's site representative via spot checks to ensure that vehicles follow the measures set out in the CTMP.

1.8 Speed Limit

1.8.1 The applicant would ensure that all site traffic abides by local speed limits to maintain the safety of other road users and pedestrians. A speed limit of 5 mph would be established and enforced throughout the duration of construction works to provide a safe environment for site workers and any pedestrians which pass the proposed scheme.

1.8.2 Signage would be in place prior to any works taking place which will advise of any permanent speed limits which are in force and all site workers or haulage sub-contractors would be made aware of the speed requirements as part of their Site induction.

1.9 Summary

1.9.1 This section discusses the potential traffic management arrangements during construction and provides an assessment of the impacts on the local area during this period.

1.9.2 The hours of work are expected to be 07:00 – 19:00 7 days a week, with no work taking place on bank holidays.

1.9.3 Access points would be secured by hoarded gates and during working hours would remain under control of an appointed person who would physically control entry to site. Traffic entering or exiting the site would give way to road traffic on the public road network. No construction vehicles would require to stop on the public road.

1.9.4 It is anticipated that the likely routes of construction traffic would be via the A82, A831 and proposed upgraded access tracks. It shall be the responsibility of the appointed contractor to assess these routes for restrictions and mitigate any cumulative impacts of construction traffic.

1.9.5 The number of deliveries to the site is anticipated to be low with all construction materials to be stored and secured on site.

1.9.6 All traffic will abide by local speed limits with a 5mph speed limit enforced within sites.

PART 11.1L: INTRA-DEVELOPMENT AND INTER-DEVELOPMENT CUMULATIVE ASSESSMENT DATA

	Development Traffic		A90 Brechin		A90 Glamis		A90 Dundee		A94 Glamis		A94 Meigle		A928		B954 Meigle		U100 Alyth Substation		C11 Meigle		C445 Kirkinch		C16 Newtyle		B954 Dundee Road		Couston		Bonnyton Road		The Brae		Tealing Road		Emmock Road	
Intra Cumulative Development	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot
Tealing -Westfield 275 kV OHL upgrade	32	81					32	81																	31	79							27	64	31	79
Emmock (Tealing) Substation	84	210					84	210																											84	210
Kintore-Tealing 400K Connection	31	79	31	79	31	79	31	79	31	79			31	79																			31	79	31	79
Alyth-Tealing OHL Tealing Emmock substation tie-ins and associated tower dismantling	4	51					4	51																									4	51	4	51
Total	151	421	31	79	31	79	151	421	31	79	0	0	31	79	0	0	0	0	0	0	0	0	0	0	31	79	0	0	0	0	0	0	62	194	150	419

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	Development Traffic		A90 Brechin		A90 Glamis		A90 Dundee		A94 Glamis		A94 Meigle		A928		B954 Meigle		U100 Alyth		C11 Meigle		C445 Kirkinch		C16 Newtyle		B954 Dundee Road		Couston		Bonnyton Road		The Brae		Tealing Road		Emmock Road	
Inter Cumulative Development	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot	HGV	Tot
Fithie Energy Part BESS	21	61					21	61																											21	61
Ark Hill Wind Farm Extension	48	72	48	72	48	72	48	72	48	72			48	72																						
Balnuith Farm BESS	21	61					21	61																											21	61
Onshore electrical transmission infrastructure service Seagreen Alpha and Seagreen Bravo Phase 1 Offshore Wind Farms (East)	58	200					58	200																												
Onshore electrical transmission infrastructure service Seagreen Alpha and Seagreen Bravo Phase 1 Offshore Wind Farms (West)	43	141					43	141																											43	141
Myreton BESS	21	61					21	61																											21	61
Muir of Pert Energy Storage Facility	21	61					21	61																												
Moatmill Bridge Tealing Energy Storage Facility	21	61					21	61																												
Tealing Solar Energy Park	5	21					5	21																												
Tealing Battery Energy Storage Farm	21	61																																		
Total	280	800	48	72	48	72	259	739	48	72	0	0	48	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	324

IEMA Guidelines Environmental Assessment of Traffic & Movement - Traffic Data & Rules

Study Area Roads				Daily Traffic (24hr)							Development Traffic						Forecast Daily Traffic						IEMA Rules
Road	Between		Data Source	Surveyed			Baseline		Growth 1.023	Average Speed (mph)	Daily			Hourly		Hours 10	Total (Baseline + Development)			Percentage Increase			IEMA
				Car / LGV	HGV	Total	Car / LGV	HGV	Total		Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	
A90 Brechin	Brechin	Glamis Junction	Other	19,137	3,245	22,382	19,575	3,319	22,895	70.0	96	62	158	10	6	16	19,671	3,381	23,053	0%	2%	1%	No
A90 Glamis	Glamis Junction	A928 Junction	DfT Survey	22,040	2,586	24,626	22,545	2,645	25,190	70.0	89	59	148	9	6	15	22,634	2,704	25,338	0%	2%	1%	No
A90 Dundee	A928 Junction	Emmock Roundabout	DfT Survey	20,368	3,121	23,489	20,834	3,192	24,027	70.0	318	182	500	32	18	50	21,152	3,374	24,527	2%	6%	2%	No
A94 (Glamis)	Glamis Junction	Glamis	AECOM Survey	3,455	441	3,896	3,534	451	3,985	51.5	96	62	158	10	6	16	3,630	513	4,143	3%	14%	4%	No
A94 (Meigle)	Glamis	Meigle	AECOM Survey	3717	282	3,999	3,802	288	4,091	51.5	48	31	79	5	3	8	3,850	319	4,170	1%	11%	2%	No
A928	A90 Junction	Glamis	DfT Survey	969	59	1,028	991	60	1,052	60.0	90	56	146	9	6	15	1,081	116	1,198	9%	93%	14%	Yes
B954 Meigle	Meigle	Alyth substation road junction	AECOM Survey	3294	73	3,367	3,369	75	3,444	48.2	42	25	67	4	3	7	3,411	100	3,511	1%	33%	2%	Yes
U100 Alyth substation	B954 Junction	Alyth substation	AECOM Survey	97	8	105	99	8	107	29.9	42	25	67	4	3	7	141	33	174	42%	306%	62%	Yes
C11 Meigle	Meigle	Simprin Farm	AECOM Survey	695	22	717	711	23	733	51.7	38	28	66	4	3	7	749	51	799	5%	124%	9%	Yes
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	AECOM Survey	383	14	397	392	14	406	26.6	38	28	66	4	3	7	430	42	472	10%	196%	16%	Yes
C16 Newtyle	A94 Junction	Newtyle	AECOM Survey	873	12	885	893	12	905	45.3	48	31	79	5	3	8	941	43	984	5%	253%	9%	Yes
B954 Dundee Road	Newtyle	Bonnyton Road Junction	AECOM Survey	3280	44	3,324	3,355	45	3,400	26.9	96	62	158	10	6	16	3,451	107	3,558	3%	138%	5%	Yes
Couston	B954 Junction	Henderston Quarry	AECOM Survey	32	1	33	33	1	34	22.3	48	31	79	5	3	8	81	32	113	147%	3031%	234%	Yes
Bonnyton Road	Davidston	The Brae Junction	AECOM Survey	45	1	46	46	1	47	26.7	48	31	79	5	3	8	94	32	126	104%	3031%	168%	Yes
The Brae	Bonnyton Road Junction	Junction with Braeside	AECOM Survey	435	1	436	445	1	446	27.7	48	31	79	5	3	8	493	32	525	11%	3031%	18%	Yes
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	AECOM Survey	717	17	734	733	17	751	28.4	180	93	273	18	9	27	913	110	1,024	25%	535%	36%	Yes
Emmock Road	Emmock Roundabout	Tealing Road Junction	AECOM Survey	877	28	905	897	29	926	42.9	317	181	498	32	18	50	1,214	210	1,424	35%	632%	54%	Yes

IEMA Guidelines Environmental Assessment of Traffic & Movement - Traffic Data & Rules

Study Area Roads				Daily Traffic (24hr)							Development Traffic						Forecast Daily Traffic						IEMA Rules
Road	Between		Data Source	Surveyed			Baseline		Growth 1.023	Average Speed (mph)	Daily			Hourly		Hours 10	Total (Baseline + Development)			Percentage Increase			IEMA
				Car / LGV	HGV	Total	Car / LGV	HGV	Total		Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	Car / LGV	HGV	Total	
A90 Brechin	Brechin	Glamis Junction	Other	19,137	3,245	22,382	19,575	3,319	22,895	70.0	120	110	230	12	11	23	19,695	3,429	23,125	1%	3%	1%	No
A90 Glamis	Glamis Junction	A928 Junction	DfT Survey	22,040	2,586	24,626	22,545	2,645	25,190	70.0	113	107	220	11	11	22	22,658	2,752	25,410	1%	4%	1%	No
A90 Dundee	A928 Junction	Emmock Roundabout	DfT Survey	20,368	3,121	23,489	20,834	3,192	24,027	70.0	798	441	1,239	80	44	124	21,632	3,633	25,266	4%	14%	5%	No
A94 (Glamis)	Glamis Junction	Glamis	AECOM Survey	3,455	441	3,896	3,534	451	3,985	51.5	120	110	230	12	11	23	3,654	561	4,215	3%	24%	6%	No
A94 (Meigle)	Glamis	Meigle	AECOM Survey	3717	282	3,999	3,802	288	4,091	51.5	48	31	79	5	3	8	3,850	319	4,170	1%	11%	2%	No
A928	A90 Junction	Glamis	DfT Survey	969	59	1,028	991	60	1,052	60.0	114	104	218	11	10	22	1,105	164	1,270	12%	172%	21%	Yes
B954 Meigle	Meigle	Alyth substation road junction	AECOM Survey	3294	73	3,367	3,369	75	3,444	48.2	42	25	67	4	3	7	3,411	100	3,511	1%	33%	2%	Yes
U100 Alyth substation	B954 Junction	Alyth substation	AECOM Survey	97	8	105	99	8	107	29.9	42	25	67	4	3	7	141	33	174	42%	306%	62%	Yes
C11 Meigle	Meigle	Simprin Farm	AECOM Survey	695	22	717	711	23	733	51.7	38	28	66	4	3	7	749	51	799	5%	124%	9%	Yes
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	AECOM Survey	383	14	397	392	14	406	26.6	38	28	66	4	3	7	430	42	472	10%	196%	16%	Yes
C16 Newtyle	A94 Junction	Newtyle	AECOM Survey	873	12	885	893	12	905	45.3	48	31	79	5	3	8	941	43	984	5%	253%	9%	Yes
B954 Dundee Road	Newtyle	Bonnyton Road Junction	AECOM Survey	3280	44	3,324	3,355	45	3,400	26.9	96	62	158	10	6	16	3,451	107	3,558	3%	138%	5%	Yes
Couston	B954 Junction	Henderston Quarry	AECOM Survey	32	1	33	33	1	34	22.3	48	31	79	5	3	8	81	32	113	147%	3031%	234%	Yes
Bonnyton Road	Davidston	The Brae Junction	AECOM Survey	45	1	46	46	1	47	26.7	48	31	79	5	3	8	94	32	126	104%	3031%	168%	Yes
The Brae	Bonnyton Road Junction	Junction with Braeside	AECOM Survey	435	1	436	445	1	446	27.7	48	31	79	5	3	8	493	32	525	11%	3031%	18%	Yes
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	AECOM Survey	717	17	734	733	17	751	28.4	180	93	273	18	9	27	913	110	1,024	25%	535%	36%	Yes
Emmock Road	Emmock Roundabout	Tealing Road Junction	AECOM Survey	877	28	905	897	29	926	42.9	535	287	822	54	29	82	1,432	316	1,748	60%	1002%	89%	Yes

Study Area Roads			Baseline Accident Rates per 1 Million Vehicle Kilometres									Forecast Development Traffic Accidents				
Road	Between		Length of Road (Km)	Baseline Total Vehicles	Baseline Vehicle Km	Recorded Injury Accidents			Recorded Injury Accidents per 1 Million Vehicle Km			Development Total Vehicles	Development Vehicle Km	Forecast Injusy Accidents		
						Slight	Serious	Fatal	Slight	Serious	Fatal			Slight	Serious	Fatal
A90 Brechin	Brechin	Glamis Junction	20	32,677,720	653,554,400	11	5	0	1.683E-02	7.650E-03	0.000E+00	69,943	1,398,866	0.0	0.0	0.0
A90 Glamis	Glamis Junction	A928 Junction	11	35,953,960	377,516,580	7	2	1	1.854E-02	5.298E-03	2.649E-03	76,598	804,282	0.0	0.0	0.0
A90 Dundee	A928 Junction	Emmock Roundabout	7	34,293,940	222,910,610	8	2	0	3.589E-02	8.972E-03	0.000E+00	376,781	2,449,080	0.1	0.0	0.0
A94 Glamis	Glamis Junction	Glamis	6	5,688,160	34,128,960	3	1	0	8.790E-02	2.930E-02	0.000E+00	5,194	31,164	0.0	0.0	0.0
A94 Meigle	Glamis	Meigle	11	5,838,540	65,391,648	4	4	0	6.117E-02	6.117E-02	0.000E+00	1,784	19,981	0.0	0.0	0.0
A928	A90 Junction	Glamis	8	1,500,880	12,457,304	4	1	0	3.211E-01	8.027E-02	0.000E+00	4,926	40,887	0.0	0.0	0.0
B954 Meigle	Meigle	Balendoch Road (Alyth substation	1	4,915,820	6,390,566	0	1	0	0.000E+00	1.565E-01	0.000E+00	1,514	1,968	0.0	0.0	0.0
U100 Alyth substation	B954 Junction	Alyth substation	2	153,300	245,280	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,514	2,422	0.0	0.0	0.0
C11 Meigle	Meigle	Simprin Farm	3	1,046,820	2,931,096	1	0	0	3.412E-01	0.000E+00	0.000E+00	1,492	4,178	0.0	0.0	0.0
C445 Kirkinch	A94 Junction	Junction south of Kirkinch	2	579,620	1,391,088	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,492	3,581	0.0	0.0	0.0
C16 Newtyle	A94 Junction	Newtyle	10	1,292,100	12,921,000	0	1	0	0.000E+00	7.739E-02	0.000E+00	1,784	17,840	0.0	0.0	0.0
B954 Dundee Road	Newtyle	Bonnyton Road Junction	3	4,853,040	13,103,208	0	1	0	0.000E+00	7.632E-02	0.000E+00	3,568	9,634	0.0	0.0	0.0
Couston	B954 Junction	Henderston Quarry	2	48,180	77,088	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,784	2,854	0.0	0.0	0.0
Bonnyton Road	Davidston	The Brae Junction	3	67,160	201,480	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,784	5,352	0.0	0.0	0.0
The Brae	Bonnyton Road Junction	Junction with Braeside	1	636,560	509,248	0	0	0	0.000E+00	0.000E+00	0.000E+00	1,784	1,427	0.0	0.0	0.0
Tealing Road	Kirkton of Auchterhouse	Tealing substation access Junction	6	1,071,640	6,215,512	1	0	0	1.609E-01	0.000E+00	0.000E+00	6,165	35,757	0.0	0.0	0.0
Emmock Road	Emmock Roundabout	Tealing Road Junction	6	1,321,300	8,456,320	3	0	0	3.548E-01	0.000E+00	0.000E+00	18,563	118,801	0.0	0.0	0.0

Road	Average Daily Traffic	Days Per Year	Traffic per Annum	Recorded Accident Period (Years)	Total Development Traffic for Accident Period
A90 Brechin	79	~~261~~	~~20,619~~	~~3~~	69,943
A90 Glamis	69	~~261~~	~~18,009~~	~~3~~	76,598
A90 Dundee	79	~~261~~	~~20,619~~	~~3~~	376,781
A94 Glamis	79	~~261~~	~~20,619~~	~~3~~	5,194
A94 Meigle	79	~~261~~	~~20,619~~	~~3~~	1,784
A928	67	~~261~~	~~17,487~~	~~3~~	4,926
B954 Meigle	67	~~261~~	~~17,487~~	~~3~~	1,514
U100 Alyth substation	67	~~261~~	~~17,487~~	~~3~~	1,514
C11 Meigle	66	~~261~~	~~17,226~~	~~3~~	1,492
C445 Kirkinch	66	~~261~~	~~17,226~~	~~3~~	1,492
C16 Newtyle	79	~~261~~	~~20,619~~	~~3~~	1,784
B954 Dundee Road	79	~~261~~	~~20,619~~	~~3~~	3,568
Couston	79	~~261~~	~~20,619~~	~~3~~	1,784
Bonnyton Road	79	~~261~~	~~20,619~~	~~3~~	1,784
The Brae	79	~~261~~	~~20,619~~	~~3~~	1,784
Tealing Road	79	~~261~~	~~20,619~~	~~3~~	6,165
Emmock Road	79	~~261~~	~~20,619~~	~~3~~	18,563

Vehicle Km Metric
1,000,000

Balfour Beatty (BB) Total LT384 Vehicle Traffic 24,024 vehicle movements

For local roads Balfour Beatty (BB) totoal LT384 vehicle traffic will be averaged & weighted against forecast daily traffic Development traffic using the road

Total Roads = 17

Strategic Roads = 3

Local Roads = 14

Averge Total LT384 Traffic per Local Road = 1,716 vehicles

Averge Daily LT384 Traffic per Road = 76

	Intra Daily	Inter Dev / Proposed Dev Ratio	Proposed Dev Total Traffic	Intra-Dev Total Traffic
A90 Brechin	230	2.9	24,024	69,943
A90 Glamis	220	3.2	24,024	76,598
A90 Dundee	1239	15.7	24,024	376,781
A94 Glamis	230	2.9	1784	5,194
A94 Meigle	79	1.0	1784	1,784
A928	218	3.3	1514	4,926
B954 Meigle	67	1.0	1514	1,514
U100 Alyth substation	67	1.0	1514	1,514
C11 Meigle	66	1.0	1492	1,492
C445 Kirkinch	66	1.0	1492	1,492
C16 Newtyle	79	1.0	1784	1,784
B954 Dundee Road	158	2.0	1784	3,568
Couston	79	1.0	1784	1,784
Bonnyton Road	79	1.0	1784	1,784
The Brae	79	1.0	1784	1,784
Tealing Road	273	3.5	1784	6,165
Emmock Road	822	10.4	1784	18,563

Road	Road Type	Speed Limit	(mph)	Road Capacity	(Veh/ Hr/ Direction)	Baseline Daily Vehicles	Daily Road Capacity Utilisation Baseline Traffic	Proposed Development Daily Vehicles	Daily Road Capacity Utilisation Proposed Development Traffic	Daily Road Capacity Utilisation Change
A90 Brechin	Rural - Dual 2 Lanes	70		3,400		22,895	28%	79	28%	0.1%
A90 Glamis	Rural - Dual 2 Lanes	70		3,400		25,190	31%	69	31%	0.1%
A90 Dundee	Rural - Dual 2 Lanes	70		3,400		24,027	29%	79	30%	0.1%
A94 Glamis	Rural - Good Single 7.3m	60		1,200		3,985	14%	79	14%	0.3%
A94 Meigle	Rural - Good Single 7.3m	60		1,200		4,091	14%	79	14%	0.3%
A928	Rural - Good Single 7.3m	60		1,200		1,052	4%	67	4%	0.2%
B954 Meigle	Rural - Typical Single 6.0m	60		900		3,444	16%	67	16%	0.3%
U100 Alyth	Rural - Poor Single 5.5m	60		800		107	1%	67	1%	0.3%
C11 Meigle	Rural - Poor Single 6.0m	60		900		733	3%	66	4%	0.3%
C445 Kirkinch	Rural - Poor Single 6.0m	60		900		406	2%	66	2%	0.3%
C16 Newtyle	Rural - Poor Single 6.0m	60		900		905	4%	79	5%	0.4%
B954 Dundee Road	Rural -Typical Single 7.3m	60		1,200		3,400	12%	79	12%	0.3%
Couston	Rural - Poor Single 4.0m	60		140		34	1%	79	3%	2.4%
Bonnyton Road	Rural - Poor Single 5.5m	60		800		47	0%	79	1%	0.4%
The Brae	Rural - Poor Single 5.5m	60		800		446	2%	79	3%	0.4%
Tealing Road	Rural - Poor Single 6.0m	60		900		751	3%	79	4%	0.4%
Emmock Road	Rural - Poor Single 6.0m	60		900		926	4%	79	5%	0.4%

Intra-Development

A90 Brechin	Rural - Dual 2 Lanes	70		3,400		22,895	28%	158	28%	0.2%
A90 Glamis	Rural - Dual 2 Lanes	70		3,400		25,190	31%	148	31%	0.2%
A90 Dundee	Rural - Dual 2 Lanes	70		3,400		24,027	29%	500	30%	0.6%
A94 Glamis	Rural - Good Single 7.3m	60		1,200		3,985	14%	158	14%	0.5%
A94 Meigle	Rural - Good Single 7.3m	60		1,200		4,091	14%	79	14%	0.3%
A928	Rural - Good Single 7.3m	60		1,200		1,052	4%	146	4%	0.5%
B954 Meigle	Rural - Typical Single 6.0m	60		900		3,444	16%	67	16%	0.3%
U100 Alyth	Rural - Poor Single 5.5m	60		800		107	1%	67	1%	0.3%
C11 Meigle	Rural - Poor Single 6.0m	60		900		733	3%	66	4%	0.3%
C445 Kirkinch	Rural - Poor Single 6.0m	60		900		406	2%	66	2%	0.3%
C16 Newtyle	Rural - Poor Single 6.0m	60		900		905	4%	79	5%	0.4%
B954 Dundee Road	Rural -Typical Single 7.3m	60		1,200		3,400	12%	158	12%	0.5%
Couston	Rural - Poor Single 4.0m	60		140		34	1%	79	3%	2.4%
Bonnyton Road	Rural - Poor Single 5.5m	60		800		47	0%	79	1%	0.4%
The Brae	Rural - Poor Single 5.5m	60		800		446	2%	79	3%	0.4%
Tealing Road	Rural - Poor Single 6.0m	60		900		751	3%	273	5%	1.3%
Emmock Road	Rural - Poor Single 6.0m	60		900		926	4%	498	7%	2.3%

Inter-Development

A90 Brechin	Rural - Dual 2 Lanes	70		3,400		22,895	28%	230	28%	0.3%
A90 Glamis	Rural - Dual 2 Lanes	70		3,400		25,190	31%	220	31%	0.3%
A90 Dundee	Rural - Dual 2 Lanes	70		3,400		24,027	29%	1239	31%	1.5%
A94 Glamis	Rural - Good Single 7.3m	60		1,200		3,985	14%	230	15%	0.8%
A94 Meigle	Rural - Good Single 7.3m	60		1,200		4,091	14%	79	14%	0.3%
A928	Rural - Good Single 7.3m	60		1,200		1,052	4%	218	4%	0.8%
B954 Meigle	Rural - Typical Single 6.0m	60		900		3,444	16%	67	16%	0.3%
U100 Alyth	Rural - Poor Single 5.5m	60		800		107	1%	67	1%	0.3%
C11 Meigle	Rural - Poor Single 6.0m	60		900		733	3%	66	4%	0.3%
C445 Kirkinch	Rural - Poor Single 6.0m	60		900		406	2%	66	2%	0.3%
C16 Newtyle	Rural - Poor Single 6.0m	60		900		905	4%	79	5%	0.4%
B954 Dundee Road	Rural -Typical Single 7.3m	60		1,200		3,400	12%	158	12%	0.5%
Couston	Rural - Poor Single 4.0m	60		140		34	1%	79	3%	2.4%
Bonnyton Road	Rural - Poor Single 5.5m	60		800		47	0%	79	1%	0.4%
The Brae	Rural - Poor Single 5.5m	60		800		446	2%	79	3%	0.4%
Tealing Road	Rural - Poor Single 6.0m	60		900		751	3%	273	5%	1.3%
Emmock Road	Rural - Poor Single 6.0m	60		900		926	4%	822	8%	3.8%