1. Scheme Background

1.1 Introduction

1.1.1 The Cabinet Secretary for Infrastructure and Capital Investment launched the Infrastructure Investment Plan (IIP) on 6 December 2011, which provided an overview of the Scottish Government's plans for infrastructure investment over the future decades. Contained within the document is a commitment to complete the dualling of the A9 between Perth and Inverness.

1.1.2 The A9 corridor forms a strategic link between Central Scotland and the Scottish Highlands and is shown on the A9 Perth to Inverness Location Plan in Figure 1-1. The 177-kilometre route between Perth and Inverness consisted of seven single carriageway sections interspersed between eight existing dual carriageway sections. Approximately 129 kilometres of these single carriageway sections are proposed to be dualled in order to complete the overall dualling of the A9 between Perth and Inverness. The overall A9 Dualling Programme has been divided into 11 discrete projects for design and development purposes.

1.1.3 In August 2014 Jacobs UK Ltd (Jacobs) was awarded the commission to progress the southern section of A9 dualling, from Pass of Birnam to Glen Garry. This report relates to the proposed dualling of the A9 between Pass of Birnam and Tay Crossing, hereafter referred to as the 'proposed scheme'. The proposed scheme is approximately 8.4km in length and the scheme extents are shown in Figure 1-1.

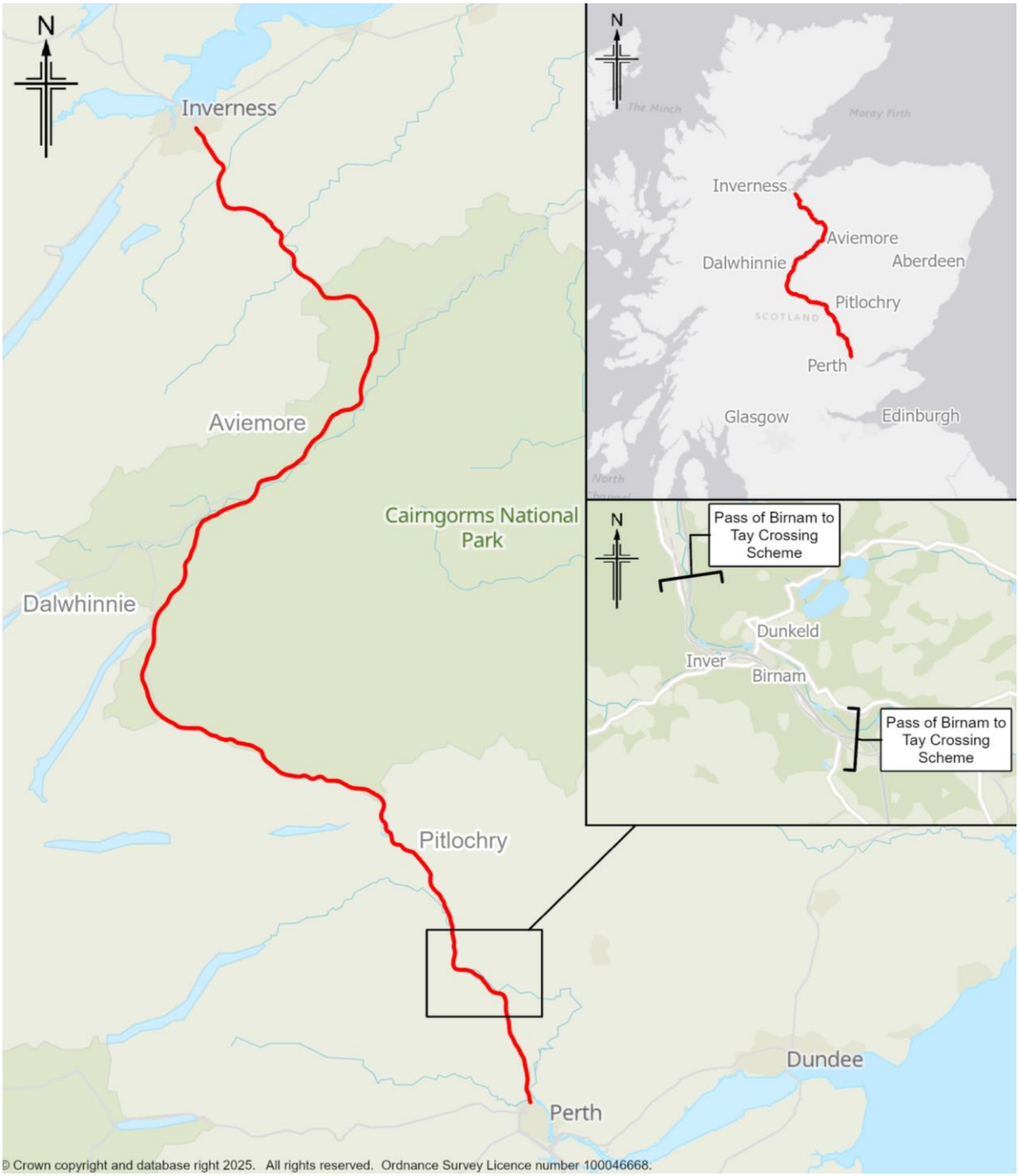

Figure 1-1 A9 Perth to Inverness Location Plan

1.1.4 On 20 December 2023, the Cabinet Secretary for Transport, Net Zero and Just Transition announced the updated delivery plan for dualling works for the remaining single carriageway sections of the A9 between Perth and Inverness, including the Pass of Birnam to Tay Crossing section. The delivery plan is shown in Figure 1-2, and further information can be found on the A9 Dualling website: https://www.a9dualling.scot/a9-dualling/delivery-plan/.

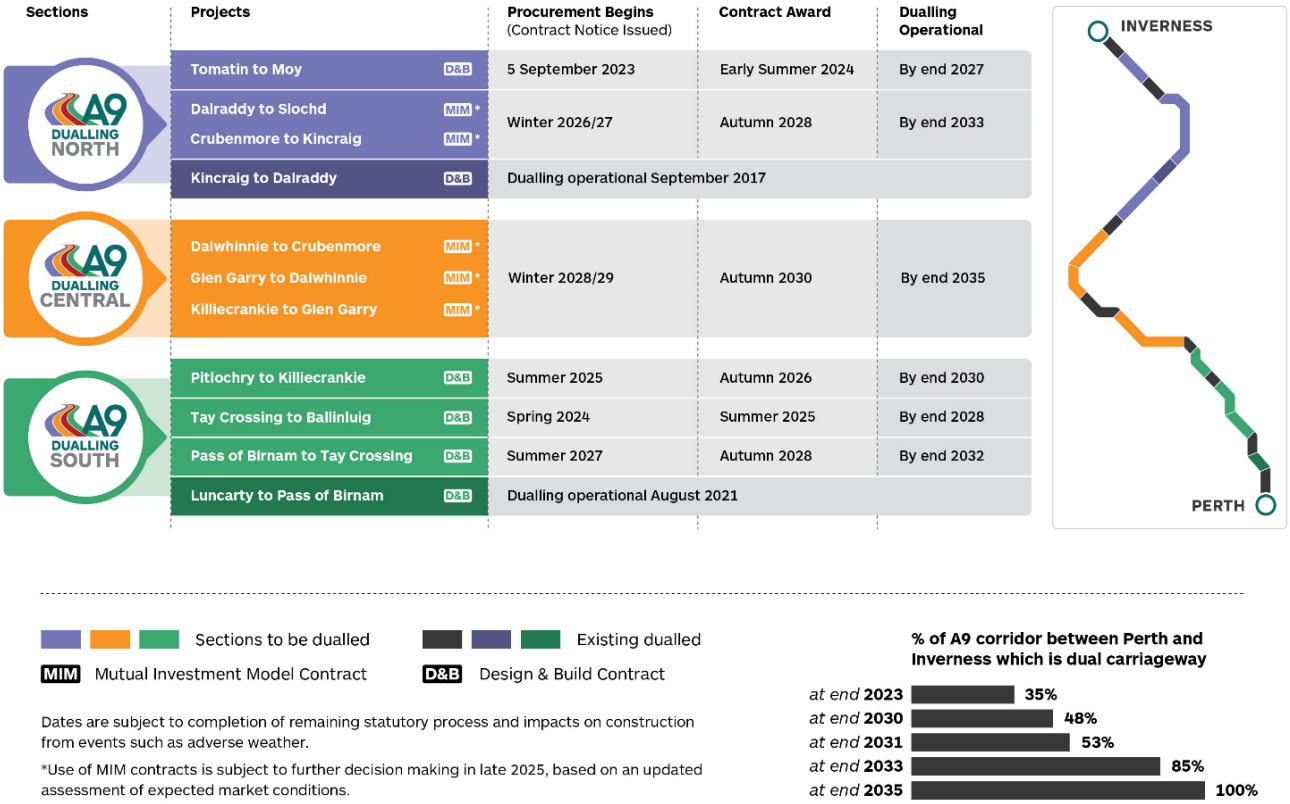

Figure 1-2 A9 Dualling Programme Delivery Plan

1.2 A9 Dualling Programme Objectives

1.2.1 The Strategic Transport Projects Review (STPR) (Scottish Government, 2008) assessment of problems and opportunities along the existing A9 led to the development of A9 Dualling Programme objectives set by Transport Scotland. The programme wide objectives for the A9 Dualling Programme, and therefore this project, are:

- To improve the operational performance of the A9 by:
  - Reducing journey times; and
  - Improving journey time reliability.
- To improve safety for motorised and non-motorised users through:
  - Reducing accident severity; and
  - Reducing driver stress.
- To facilitate active travel within the corridor; and
- To improve integration with Public Transport Facilities.

1.3 Scheme Development

1.3.1 A progressive approach has been taken for the development of the A9 Dualling Programme, through both desk-based and site-based studies and investigations as outlined below.

Desk Based Studies

Historic Studies and Reports

1.3.2 Transport Scotland has commissioned a number of studies relating to the Scottish trunk road network, including the A9 corridor, as well as A9 dualling specific studies. These historical reports have informed the decision to progress the overall A9 dualling works and these are listed below:

- A9 Route Action Plan and Route Strategy (Scott Wilson Kirkpatrick, 1997);
- A9 Route Improvement Strategy (Scott Wilson, 2004);
- Strategic Transport Projects Review; STPR (Scottish Government, 2008);
- Infrastructure Investment Plan (Scottish Government, 2011);
- A9 Dualling Programme: Strategic Environmental Assessment - Environmental Report (Halcrow, 2013);
- A9 Dualling Perth to Inverness, Geotechnical Preliminary Sources Study Reports, Geotechnical Preliminary Sources Study Reports (Jacobs, 2013);
- A9 Dualling Programme: Strategic Environmental Assessment - Environmental Report Addendum (Transport Scotland, 2014);
- A9 Dualling: Preliminary Engineering Support Services, DMRB Stage 1 Assessment (Jacobs, 2014);
- A9 Dualling: Preliminary Engineering Support Services, Route Corridor Options Review (Jacobs, 2014);
- National Planning Framework 3 (Scottish Government, 2014); and
- A9 Dualling: Case for Investment (Transport Scotland, 2016).

1.3.3 A full summary of the historical reports listed above is included in Chapter 2 (Need for the Scheme) of the Environmental Impact Assessment Report (EIAR).

A9 Dualling Programme: Pass of Birnam to Tay Crossing DMRB Stage 2 Scheme Assessment Report

1.3.4 In September 2012, Transport Scotland commissioned an SEA and a PES study for the dualling of the A9 between Perth and Inverness. These commissions delivered a route-wide assessment, identifying and collating environmental and engineering constraints, issues, risks and opportunities to inform later, more detailed design. Furthermore, the SEA and PES commissions assisted in the identification of a preferred corridor and strategies to be adopted in future development work. Further detail is included in the A9 Dualling Programme: Pass of Birnam to Tay Crossing DMRB Stage 2 Scheme Assessment Report, Volume 1 – Part 1 (The Scheme).

1.3.5 In August 2014, Jacobs was awarded the commission to progress the Design Manual for Roads and Bridges (DMRB) Stage 2 assessment for the 'A9 Pass of Birnam to Tay Crossing' project of the A9 Dualling Programme. The aim of the DMRB Stage 2 assessment was to document factors that were taken into account in identifying the Preferred Route Option and to identify the environmental, engineering, economic and traffic advantages, disadvantages, opportunities and constraints associated with the options considered and assessed. These were then considered against the project objectives listed in Section 1.2 of this report.

1.3.6 In 2017, as part of the ongoing DMRB Stage 2 assessment, a partnership between Transport Scotland and the Birnam to Ballinluig A9 Community Group ('the Community Group') initiated a co-creative process to identify the community's preferred route.

1.3.7 Following a series of community workshops in October and November 2017, the Community Group generated community objectives. The community's objectives are detailed below.

- Reduce current levels of noise and pollution in the villages of Dunkeld, Birnam and Inver to protect human health and well-being of residents and visitors and to enable them to peacefully enjoy their properties and amenity spaces;
- Protect and enhance the scenic beauty and natural heritage of the area and its distinctive character and quality;
- Provide better, safer access on and off the A9 from both sides of the road while ensuring easy, safe movement of vehicular traffic and NMUs through the villages, helping to reduce stress and anxiety and support the local community;
- Promote long-term and sustainable economic growth within Dunkeld and Birnam and the surrounding communities;
- Examine and identify opportunities to enhance the levels of cycling and walking for transport and leisure, including the improvement of existing footpaths and cycle ways, to promote positive mental health and well-being;

- Ensure that all local bus, intercity bus services and train services are maintained and improved; and

- Preserve and enhance the integrity of the unique and rich historical and cultural features of the Dunkeld, Birnam and Inver communities, thereby supporting well-being and the local economy.

1.3.8 The co-creative process was open to everyone, and the Community Group were involved in each stage. Through a five-stage process, the community suggested ideas for the proposed scheme, and the most popular of these ideas, as voted for by the community, were used to identify the Community's Preferred Route Option (ST2TA). Following the conclusion of the A9 Co-Creative Process, scoping work identified a number of challenges and concerns regarding the Community's Preferred Route Option. As a result of the challenges identified, many of which are difficult to mitigate, three additional route options, taking into account the objectives of the community and the A9 Dualling Programme, were developed and assessed alongside the Community's Preferred Route Option within the DMRB Stage 2 Route Options Comparative Assessment. The four options assessed through the DMRB Stage 2 assessment were named ST2A, ST2B, ST2C, and ST2D. A full summary of the co-creative process is included in the A9 Dualling Programme: Pass of Birnam to Tay Crossing DMRB Stage 2 Scheme Assessment Report, Volume 1 – Part 1 (The Scheme).

1.3.9 The preferred option identified in the DMRB Stage 2 Scheme Assessment Report for the 'A9 Pass of Birnam to Tay Crossing' project, which was the option titled 'Option ST2D' in that report, was confirmed and announced on 20 December 2023 by the Cabinet Secretary for Transport, Net Zero and Just Transition. The outcomes of the DMRB Stage 2 assessment were presented at the in-person public exhibition held at Birnam Arts and Conference Centre, Birnam on 29 January 2024 and 30 January 2024. An accompanying Virtual Exhibition, with the same information as shown at the in-person public exhibition, was available from 20 December 2024 to 17 March 2025.

1.3.10 The key features of the Preferred Route include:

- The A9 route is generally at-grade (same level as existing) and stays close to the current surface level past Dunkeld & Birnam Railway Station;

- The railway station will be accessible from Birnam via Station Road. A new replacement car park will have provision for both public transport and active travel facilities. A new pedestrian underpass, incorporating stairs and a lift, will provide a link for pedestrians from the car park to the railway station building and platform;

- National speed limit (70mph) throughout;

- Underbridge connecting the existing private access to Murthly Castle to the B867;

- Grade-separated Birnam Junction just south of the existing B867 and Perth Road junctions with northbound entry and exit slips and southbound entry only slip;

- A roundabout at Dunkeld Junction close to the current surface level (at-grade) providing connections between the A9, A923, A822 and the road to Inver;
- Improved at-grade junction providing access to The Hermitage; and
- Grade-separated Dalguise Junction just south of the existing junction with the B898 with entry and exit slip roads in all directions.

Site Based Investigations

1.3.11 In addition to the historical reports listed or described above, numerous site-based investigations have taken place to inform the ongoing assessment work and gain a greater understanding of the current physical conditions along the A9 corridor. These investigations can be grouped into two main categories as described below.

Topographic Survey

1.3.12 A topographical survey records the location of existing physical features such as roads, buildings and watercourses and their associated levels. This survey was required in order to provide sufficient information on the existing physical features within the study area, to facilitate design development and DMRB assessments.

1.3.13 A full topographic survey was undertaken along the length of the A9 corridor by BLOM in 2013, who are a specialist surveying company, and included the Pass of Birnam to Tay Crossing project extents. In 2014, the Jacobs Geomatics team carried out verification of the permanent survey control markers in each of the projects, including Pass of Birnam to Tay Crossing. In 2015 & 2016, Jacobs Geomatics team surveyed all the adjacent perpendicular minor watercourses along the existing route.

1.3.14 In order to support the design development, periodic localised additional topographical surveys have been undertaken to supplement the BLOM survey data, in particular surveys of the river bed, watercourses, culverts, and existing structures. This includes infill surveys where the aerial survey had anomalies in the details, bathymetric surveys on sections of the River Brann and River Tay, drainage investigation surveys, and utility service tracing along the existing route.

Ground Investigation

1.3.15 A detailed ground investigation was undertaken across the scheme extents by a specialist ground investigation contractor, Soil Engineering Geoservices Limited, between June 2014 and February 2015. The aim of the investigation was to provide sufficient information on the ground conditions to enable soil and rock classification, as well as assessment of earthwork slope stability, material reusability/acceptability and structure foundation requirements. Findings from the investigation are reported in the factual report for the investigation, titled 'Report on a Ground Investigation for the A9 Dualling: Birnam to Tay Crossing' (Project No. TA7397, dated 20/11/2015).

1.3.16 Further ground investigations were carried out across the scheme extents to build upon the findings from the detailed ground investigation and further inform ongoing and future design and assessment works. The additional investigations were undertaken by:

- Fugro Geoservices Limited in 2015, as reported in the 'A9 Dualling Southern Section, Pass of Birnam to Tay Crossing, Report on a Ground Investigation without Geotechnical Evaluation' (Contract No. G151043UA, dated 27/06/2016);
- Soil Engineering Geoservices Limited in 2019, as reported in the 'Report on the A9 Dualling, Project 2, Birnam Additional Boreholes' (Project No. TC8191A, dated 14/08/2019); and
- Soil Engineering Geoservices Limited in 2020, as reported in the 'Report on a Ground Investigation for A9 Dualling – Birnam to Tay Crossing Supplementary Ground Investigation' (Project No. TE8258, dated 29/03/2023).

1.3.17 The findings from these investigations are contained within the respective factual reports.

1.4 The Proposed Scheme

1.4.1 The proposed scheme has been progressed to a 'Stage 3' level of design in accordance with the DMRB. The purpose of the DMRB Stage 3 report is to identify clearly the advantages and disadvantages, in environmental, engineering and economic and traffic terms, of the proposed scheme. The DMRB Stage 3 proposed scheme design presented in this report is shown on Drawing A9P02-JAC-HGN-D_ZZZZZ_ZZ-FG-RD-0003 and A9P02-JAC-HGN-D_ZZZZZ_ZZ-FG-RD-0004 included in Volume 2: Engineering Drawings.

1.4.2 The design development undertaken at this stage is sufficient to determine the land required to construct the proposed scheme, including any areas of environmental mitigation.

1.4.3 The proposed scheme forms the basis of the Environmental Impact Assessment (EIA) and Statutory Orders to be established. It is assumed that the proposed scheme would be procured by means of a Design and Build (D&B) contract. Under the D&B contract, the appointed Contractor will undertake both the detailed design and construction of the proposed scheme. The detailed design may include refinement and optimisation of the DMRB Stage 3 proposed scheme design which must be carried out in accordance with the relevant statutory documents approved including the EIAR, Statutory Orders and any specific criteria within the contract documents.

1.4.4 During DMRB Stage 3, the design of the proposed scheme has been developed in an iterative manner which has involved successive refinement to mitigate issues arising through the collation of new information on constraints or engineering problems as the proposed scheme has progressed, taking cognisance of the overall scheme objectives throughout. Further details regarding design development since DMRB Stage 2 are provided in Chapter 4 (Engineering Assessment) Section 4.11.

1.4.5 The proposed scheme comprises the provision of approximately 8.4km of new carriageway, which is dual carriageway and would be mainly constructed online. The proposed scheme incorporates:

- Two grade separated junctions;
- An at-grade roundabout;
- Three left-in, left-out at-grade junctions/accesses;
- Nineteen principal structures;
- Local road diversions, and the provision of new side roads and new private means of access;
- Provision of Walking, wheeling, cycling and horse-riding (WCH) facilities; and
- An upgrade to the existing road drainage and treatment.

1.4.6 Further details in relation to the proposed scheme are provided in Chapter 3 (Description of the Proposed Scheme) of this report.

1.5 DMRB Stage 3 Scheme Assessment Report

1.5.1 This DMRB Stage 3 Scheme Assessment Report has been prepared in accordance with the guidance contained in DMRB, TD 37/93 'Scheme Assessment Reporting'. It is noted that DMRB TD 37/93 has been withdrawn from the wider DMRB. However, this remains applicable to trunk road projects in Scotland and is available on request from Transport Scotland, as well as within National Highways archive of DMRB standards. The purpose of this report is to identify clearly the advantages and disadvantages, in environmental, engineering, economic and traffic terms, of the Proposed Scheme.

1.5.2 The DMRB Stage 3 assessment comprises of the DMRB Stage 3 Scheme Assessment Report as per the guidance contained in TD37/93 (1993) (withdrawn). The A9 Pass of Birnam to Tay Crossing EIAR, as published in 2025, forms the first part of the DMRB Stage 3 Scheme Assessment Report and covers the environmental aspects of the assessment of the proposed scheme. This report forms the second part of the DMRB Stage 3 Assessment and details the assessment work in relation to engineering, traffic and economics of the proposed scheme.

1.5.3 The EIAR can be viewed at the Transport Scotland website using the following link:

https://www.transport.gov.scot/projects/a9-dualling-perth-to-inverness/a9-pass-of-birnam-to-tay-crossing/ A Glossary of terms and a list of Abbreviations used in this report precede this introduction.

1.6 Other A9 Projects

1.6.1 For the purposes of context, Table 1-1 provides the complete list of the eleven projects under consideration as part of the A9 Dualling Programme, with the project relevant to this report highlighted in green.

1.6.2 It should be noted that the Luncarty to Pass of Birnam and Kincraig to Dalraddy schemes were procured and constructed under separate commissions. These sections of new dual carriageways opened to the public in August 2021 and September 2017 respectively.

Commission Title	Section Title	Project Title		Length (km)	Current Stage of Developments
A9 Dualling Programme	N/A	1	Luncarty to Pass of Birnam	9.5	Completed
	A9 Dualling, Perth to Inverness: Southern Section	2	Pass of Birnam to Tay Crossing	8.4	DMRB Stage 3
		3	Tay Crossing to Ballinluig	8.2	Made Orders Published
		4	Pitlochry to Killiecrankie	6.4	Made Orders Published
		5	Killiecrankie to Glen Garry	22.0	Made Orders Published
	A9 Dualling, Perth to Inverness: Central Section	7	Glen Garry to Dalwhinnie	9.5	Made Orders Published
		8	Dalwhinnie to Crubenmore	11.0	Made Orders Published
		9	Crubenmore to Kincraig	16.5	Made Orders Published
	N/A	10	Kincraig to Dalraddy	7.5	Completed
	A9 Dualling, Perth to Inverness: Northern Section	11	Dalraddy to Slochd	25.0	Made Orders Published
		12	Tomatin to Moy	9.6	Under Construction

Table 1-1 A9 Dualling Programme Projects

1.7 Consultation and Stakeholders

1.7.1 Consultation has provided an iterative and on-going input to the progression of the proposed scheme throughout the design process and the EIA. Further information on the consultation and

scoping undertaken to inform the EIA can be found in Chapter 7 (Consultation and Scoping) of the EIAR.

1.7.2 Further information on Transport Scotland's public engagement and consultation activities for the A9 can be found in A9 Dualling Programme: Engaging with Communities (2013 and 2016 update).

1.7.3 The A9 Dualling Programme could impact upon the existing assets or interests of both Statutory and Non-statutory Consultees. There are numerous stakeholders with interests in the proposed scheme, who have been consulted as part of the preparation of the EIAR and this assessment. These are shown in Table 1-2.

Environmental Steering Group (ESG)	
Historic Environment Scotland (HES);	Statutory
NatureScot;	Statutory
Perth & Kinross Council (PKC) (and Perth & Kinross Heritage Trust (PKHT) as their Heritage Advisers)	Statutory (Non-statutory)
Scottish Environment Protection Agency (SEPA);	Statutory
Transport/Infrastructure Consultees	
Transport Scotland;	Statutory
Perth and Kinross Council (PKC);	Statutory
Network Rail;	Statutory
BEAR Scotland; and	Statutory
Public Transport Operators.	Statutory
Utilities/Statutory Undertakers	
SGN;	Statutory
Scottish Water;	Statutory
Scottish and Southern Electricity Networks (SSEN);	Statutory
Openreach; and	Statutory
Vodafone and O2.	Statutory
Other Consultees	
Accessibility Groups and Organisations;	Non-statutory
Birnam to Ballinluig A9 Community Group;	Non-statutory
Businesses;	Non-statutory
Dunkeld & Birnam Community Council;	Non-statutory
Emergency Services;	Non-statutory

Forestry and Land Scotland;	Non-statutory
Freight Transport Association;	Non-statutory
Landowners;	Non-statutory
Local Communities;	Non-statutory
NMU Forum (walking, cycling and horse-riding stakeholders);	Non-statutory
Press and Media;	Non-statutory
Road Haulage Association; and	Non-statutory
Tenants	Non-statutory

Table 1-2 Stakeholders and Consultees

1.8 References

Fugro Geoservices Ltd. (2016). A9 Dualling Southern Section, Pass of Birnam to Tay Crossing, Report on Ground Investigation without Geotechnical Evaluation. Contract No. G151043UA, June 2016.

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Soil Engineering Geoservices Ltd (2023). Report on a Ground Investigation for A9 Dualling – Birnam to Tay Crossing Supplementary Ground Investigation. Project No. TE8258.

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