

## 2 Need for the Scheme

### 2.1 Introduction

2.1.1 This chapter provides an overview on the national context to the A9 Dualling Programme, from Perth to Inverness, followed by some brief discussion on the local context for the Project 8 Proposed Scheme between Dalwhinnie and Crubenmore.

### 2.2 The A9 Trunk Road

2.2.1 The A9 is the main north-south trunk road between Perth and Inverness, connecting the Central Belt with the Scottish Highlands. The route is vital to the economy and communities of the north of Scotland, it is a major bus route and is used by freight traffic supporting key industries including energy, construction, tourism and food and drink. The A9 is also a key tourist route providing access to the Cairngorms National Park, Perthshire and the Highlands.

2.2.2 Currently, the A9 from Perth to Inverness comprises sections of both single carriageway and dual carriageway. In addition, there are a few short sections of Wide Single 2+1 (WS2+1). Dualling of the A9 represents one of the largest infrastructure projects in Scotland's history as it is the longest trunk road in Scotland, with the Perth to Inverness section comprising 177 km, including approximately 129 km proposed to be dualled.

### 2.3 National Context for Dualling

#### A9 Route Action Plan (RAP) and Route Strategy (1995-97, 1997)

2.3.2 Studies into the potential for improving the A9 Trunk Road date back to 1995-97, with a Route Action Plan (RAP) and a Route Strategy (Scott Wilson Kirkpatrick, 1997) which considered the opportunities to improve safety and relieve driver stress, including dualling options.

#### A9 Route Improvement Strategy Study (RISS, 2006)

2.3.3 The RAP was followed by a Route Improvement Strategy Study (RISS) (Scott Wilson, 2006) (Scotland), which aimed to identify a route improvement scheme for a section of the A9 from Perth to Blair Atholl. The study concluded that Pitlochry provided a definite split in the character of the overall A9 route, primarily due to the reduction in traffic volumes to the north of the town. RISS findings were subject to appraisal as part of Strategic Transport Projects Review in 2008.

#### Strategic Transport Projects Review (STPR, 2008)

2.3.4 Transport Scotland published the Strategic Transport Projects Review (STPR), and accompanying Strategic Environmental Assessment (SEA), in 2008. The STPR considered a wide range of multi-modal transport intervention options (including road and rail infrastructure, public transport and safety improvement options) across Scotland, including the A9 between Perth and Inverness.

2.3.5 The STPR identified 29 major transport investment priorities to support the future growth of Scotland's businesses and communities, including dualling of the A9 between Perth and Inverness (Intervention 16). Within the context of the Government's commitment to planning for dualling of the A9, the STPR identified a number of targeted improvements as initial priorities. These included full dualling of the A9 between Dunblane and Inverness and new grade separated

junctions to reduce accidents and improve journey time reliability. The STPR identified that dualling the A9, as a priority trunk road intervention, would provide a significant contribution to delivering road safety, reliability and strategic economic objectives.

- 2.3.6 The STPR SEA Environmental Report noted that A9 Dualling had the potential to affect biodiversity concerns given the range of designated nature conservation sites adjacent to the existing route, highlighting that Habitats Regulations Appraisal and Appropriate Assessment may be required at the local level. The STPR SEA noted that visual and cultural heritage effects would be a concern due to the fact that the A9 runs through a number of National Scenic Areas and the Cairngorms National Park, and that there are also a range of historic designated sites in proximity. The STPR SEA noted a range of potentially beneficial effects with respect to road user safety and improved access to employment and services. In addition, the STPR SEA noted that A9 Dualling was not expected to have a significant impact on air quality or carbon dioxide emissions.
- 2.3.7 The 29 investment priorities, published by the STPR, were chosen as they were identified as most effective in contributing towards sustainable economic growth and the Government's National Planning Framework 2 (NPF) (2009). NPF2 was superseded in June 2014 by Scotland's third NPF which sets out a long-term vision for the development of Scotland.

#### Infrastructure Investment Plan (IIP) (2011 and 2015)

- 2.3.8 In December 2011, the Cabinet Secretary for Infrastructure and Capital Investment launched the Government's Infrastructure Investment Plan (IIP) (Scottish Government, 2011a), which set out priorities for investment and a long-term strategy for the development of public infrastructure in Scotland. The IIP included a commitment to dual the A9, between Perth and Inverness, by 2025.
- 2.3.9 A9 dualling between Perth and Inverness by 2025 was classed as a 'particularly significant' project compared to others within IIP. This meant that a 'do nothing' approach of not dualling the A9 was discounted. The strategic commitment to A9 dualling was subsequently reiterated in the 2015 IIP.

#### National Planning Framework 3 (NPF3) (2014)

- 2.3.10 The Scottish Government's National Planning Framework (NPF3) (Scottish Government, 2014) sets the context for development planning in Scotland and sets out the Government's development priorities over the next 20-30 years. NPF3 specifically refers to the A9, highlighting the importance of its dualling to increase business accessibility across the rural north, increase business confidence and support investment throughout the region.
- 2.3.11 NPF3 also acknowledges that the road network has an essential role to play in connecting cities by car, public transport and active travel, highlighting the commitment to completing the dualling of the A9 by 2025:

*"We will complete dualling of the trunk roads between cities, with dualling of the A9 from Perth to Inverness complete by 2025..."*

*The dualling of the A9 between Perth and Inverness and improvements to the Highland Mainline will provide a step change in accessibility across the rural north, increase business confidence and support investment throughout the region".*

- 2.3.12 NPF3 refers to the STPR as providing the evidence base for much of the transport investment outlined in the Infrastructure Investment Plan (IIP) 2011. In relation to the IIP, NPF3 states:

*"Our strategy complements the Infrastructure Investment Plan – in turn future reviews of infrastructure investment will take into account the longer term development strategy provided by NPF".*

### A9 Dualling: Case for Investment (2016)

- 2.3.13 The 'A9 Dualling: Case for Investment' was undertaken by Transport Scotland (2016b), following the STPR, to seek opportunities to address the growing economic and transport demands along the A9 corridor. The report provides a summary of the Scottish Government's strategic and socio-economic case for investment for the A9 dualling programme.
- 2.3.14 The Case for Investment report outlines strong road user, community, business and planning authority support for the A9 dualling programme. In particular, the commercial businesses along the A9 corridor are strongly in favour of the A9 dualling programme and the economic benefits it will bring. The report identifies there are five key sectors most likely to benefit from the Proposed Scheme; food and drink, tourism, energy, life sciences and forestry.
- 2.3.15 Dualling of the A9 would improve journey times and reliability, reduce driver stress and frustration, potentially saving costs for businesses and increasing safety, and potentially making the surrounding areas more attractive as a short-term tourism destination, in line with the A9 Dualling Programme objectives (noted below).
- 2.3.16 Driver stress and frustration were reviewed as part of the A9 Dualling: Case for Investment (Transport Scotland, 2016) which indicated that higher levels of driver frustration were linked to slow moving vehicles, the build-up of platoons and the restriction of travel speed to well below desired levels. The Case for Investment report outlines that the main benefits of the A9 Dualling Programme include:
- *“step-change in connectivity to, and between, the cities of Inverness and Perth;*
  - *journey times between Inverness and Perth will reduce by approximately twenty minutes;*
  - *improved access to markets, reduced need for stockpiling and better productivity;*
  - *less disruptive future maintenance;*
  - *safe, consistent and reliable driving conditions which will lead to improved route resilience and reduced delays during incidents and adverse weather;*
  - *fewer road accidents related deaths and fewer serious injuries; and*
  - *drivers will be able to travel at their optimum speed”*

## 2.4 Previous A9 Dualling DMRB Studies and Assessments

### DMRB Stage 1

- 2.4.1 Two strategic studies, carried out through 2012-14, looked at the engineering and environmental aspects of the A9 Dualling Programme from Perth to Inverness:
- A9 Dualling Programme – Preliminary Engineering Services (A9 PES)
  - A9 Dualling Programme – Strategic Environmental Assessment (A9 SEA)
- 2.4.2 The strategic studies involved undertaking Programme-wide assessments to identify the engineering and environmental constraints, issues, risks and opportunities associated with dualling the A9 between Perth and Inverness. Together these formed the DMRB Stage 1 Assessment for the A9 Dualling Programme, the aim of which was to consider alternative corridor options for dualling and to select a preferred corridor.

- 2.4.3 The PES studies involved an engineering assessment of the A9 Perth to Inverness route and produced engineering constraints mapping, corridor options work and a range of design strategies including junction and access, lay-by and rest areas, and Non-Motorised Users (NMU).
- 2.4.4 Alongside the PES study, Transport Scotland commissioned a Strategic Environmental Assessment (SEA). SEA Screening determined that the A9 Dualling Programme had the potential to present significant environmental effects on the environment, and that SEA was required.
- 2.4.5 SEA screening and scoping stages were completed by February 2013 and the SEA Environmental Report was published in June 2013 (Halcrow, 2013a). As part of ongoing work to meet the environmental challenges identified in the A9 Dualling Programme, Transport Scotland prepared an Addendum to the Environmental Report and this was published in March 2014. The final stage of the SEA process was the Post Adoption Statement; this was published in September 2014.
- 2.4.6 Further information can be obtained at:
- A9 PES – DMRB Stage 1 Assessment Report (Transport Scotland, 2014)  
<https://www.transport.gov.scot/publication/a9-dualling-design-manual-for-roads-bridges-dmrb-stage-1-report/>
  - A9 SEA documents (various)  
<https://www.transport.gov.scot/projects/a9-dualling-perth-to-inverness/a9-dualling-perth-to-inverness/#37420>

#### *Other Strategic Reviews*

- 2.4.7 In conjunction with the PES and SEA work, additional strategic studies completed during DMRB Stage 1 included:
- ‘Programme level Habitat Regulations Appraisal - Screening Report’ (Halcrow, 2013b)
  - ‘Programme level Habitat Regulations Appraisal - Appropriate Assessment’ (Halcrow, 2013c)
  - ‘Strategic Landscape Review’ (Halcrow, 2013d)
  - ‘Strategic Flood Risk Assessment’ (Halcrow, 2013e)

#### *Environmental Steering Group Consultation*

- 2.4.8 During DMRB Stage 1, the A9 Dualling Programme Environmental Steering Group (ESG), made up of representatives from Scottish Natural Heritage (SNH), Cairngorms National Park Authority (CNPA), Historic Environment Scotland (HES), Scottish Environment Protection Agency (SEPA), Perth and Kinross Council (PKC) and The Highland Council (THC) was established. The ESG meets on a monthly basis, and has therefore been consulted on each developing stage of DMRB design and assessment, including guidance on design principles and survey requirements.

#### *Strategic Environmental Design Principles*

- 2.4.9 One of the key outputs of the A9 Dualling Programme Strategic Environmental Assessment was the development of a range of Strategic Environmental Design Principles. The Principles were developed in collaboration with the Environmental Steering Group (ESG), and are listed in full in **Appendix 2.1 (Volume 2)** of this ES.
- 2.4.10 The Principles are intended to represent the aims of the A9 Dualling Programme, with respect to consistency in the delivery of an environmentally-led design process, and to highlight the issues that are of particular relevance to the A9 dualling programme.

- 2.4.11 They are not intended as a replacement for existing requirements or standards; instead, they are intended to be considered as a set of aims that all A9 Dualling projects will seek to meet.
- 2.4.12 It is accepted that not all Principles will be applicable or achievable in all situations, and that situations will arise where the aims of individual Principles will conflict. It is also recognised that the Principles will always require to be applied within the context of safety considerations and the development of design solutions which are appropriate to the full range of issues relevant to road projects. A range of factors need to be taken into account, including engineering feasibility; road safety; effects on landowners; and constrained locations where effects on multiple environmental sensitivities need to be balanced and the optimum solution may be a compromise.
- 2.4.13 The Principles will be applied within the context of the environmental impact mitigation hierarchy, with the primary approach being to use the flexibility available within early design stages to *avoid* an adverse impact before considering mechanisms available to reduce, offset or, as a last resort, provide compensation for adverse impacts.
- 2.4.14 Similarly, for situations where design solutions offer opportunities to deliver environmental benefit (e.g. improved drainage, ecological connectivity or access through mitigation embedded via design development), this will be clearly highlighted within environmental assessment documents.

#### *SEA Monitoring Framework*

- 2.4.15 Another key output from DMRB Stage 1 was the SEA Monitoring Framework (MF). This requires each A9 Dualling project team to clearly record recommendations as to how key environmental issues would be considered and managed through each later stage of the DMRB design and assessment process. The SEA MF for Project 8, Dalwhinnie to Crubenmore, is provided as **Appendix 2.2 (Volume 2)** to this ES. It documents how the SEA identified constraints and issues have been addressed throughout the DMRB Stage 2 and Stage 3 design and environmental assessments.

#### *DMRB Stage 2*

- 2.4.16 Upon the completion of DMRB Stage 1, an online route corridor (nominally 100m either side of the existing A9) was selected as the preferred dualling corridor. DMRB Stage 2 considered alternative mainline alignment and junction options within this preferred route corridor. In accordance with DMRB, Stage 2 options were “...*sufficiently developed to indicate the approximate dimensions of embankments and cuttings and the locations of principal structures*”.
- 2.4.17 The principal objective of the DMRB Stage 2 environmental assessment was to impartially assess each alternative route alignment and junction layout under consideration, in order to identify any significant environmental impacts or risks associated with each option, such that a preferred route could be established.
- 2.4.18 The level of detail at DMRB Stage 2 was sufficient to identify potentially significant environmental effects related to each option ‘footprint’ through the receiving environment, and likely implications for identified sensitive receptors.
- 2.4.19 The DMRB Stage 2 environmental assessment firstly considered each option in isolation, and in the absence of any mitigation, before identifying whether mitigation could be expected via further option development if it were taken forward to DMRB Stage 3. The assessment also considered the likely scope of further assessments/ surveys/ information required, should an individual option be taken forward to DMRB Stage 3 and Environmental Impact Assessment (EIA).
- 2.4.20 The final part of the DMRB Stage 2 environmental assessment was a comparative assessment between the options, to determine which performed better or worse, when all environmental

and engineering constraints, risks and impacts were compared. The comparative assessment informed the selection of the preferred mainline and junction option to be taken forward to DMRB Stage 3.

- 2.4.21 This EIA relates specifically to the DMRB Stage 3 further development and assessment of the preferred mainline and junction, as well as added features including side roads, accesses and drainage, as described in **Chapter 5**.

## 2.5 A9 Dualling Programme Objectives

- 2.5.1 The Scottish Government has clearly stated that dualling of the A9 is a strategic priority for Scotland and, in 2014, three design contracts were awarded to take forward the development of the A9 Dualling Programme, across the Southern, Central and Northern Sections of the route.

- 2.5.2 The A9 Dualling Programme Objectives, set by Transport Scotland, are:

1. *“To improve the operational performance of the A9 by:
 
  - Reducing journey times, and
  - Improving journey time reliability*
2. *To improve safety for motorised and non-motorised users by:
 
  - Reducing accident severity, and
  - Reducing driver stress*
3. *Facilitate active travel in the corridor*
4. *To improve integration with public transport facilities”*

## 2.6 Local Context for Dualling

### *Local and National Accident Statistics*

- 2.6.1 Accident rates on the A9 between Perth and Inverness are below the national average; however, the severity of accidents when they do occur is significantly higher. **Table 2-1** compares national accident rates, severity splits and casualty rates against statistics for the A9 between Perth and Inverness. It confirms that the A9 accident rate is lower than the national average; however, A9 accidents were three times more likely to result in a fatality (note, A9 figures presented are before the introduction of average speed cameras in October 2014).

Table 2-1: Comparison of Accident Rates and Ratios (before introduction of average speed cameras) (A9 Dualling: Case for Investment, 2016)

Accident Rate	National Average			A9 Perth to Inverness		
	0.174 PIA/MVKm*			0.086 PIA/MVKm*		
	Fatal	Serious	Slight	Fatal	Serious	Slight
Severity Split	2%	12%	86%	6%	14%	80%
Casualty Rate	0.03	0.19	1.31	0.09	0.22	1.22

\*PIA/MVKm = Personal injury accidents per million vehicle kilometres  
 Note that installed speed cameras on A9 single carriageway sections became operational in October 2014  
 Source: A9 Dualling: Case for Investment (Transport Scotland, 2016)

- 2.6.2 Analysis of accident data in proximity to the Proposed Scheme, for the period 1 January 2008 to 31 December 2015 (i.e. the latest accident data available at the time of writing) is presented in **Table 2-2**. In total, 32 accidents were recorded between Glen Garry and Dalwhinnie with three fatal, seven serious and the remainder slight. Between Dalwhinnie and Crubenmore, 18 accidents were recorded, of which four were fatal, three were serious and the remaining were slight.

Table 2-2: *Glen Garry to Crubenmore personal injury accidents and severities between 2008 and 2015*

Location	No of accidents			Accident severity split		
	Fatal	Serious	Slight	Fatal	Serious	Slight
Glen Garry to Dalwhinnie	3	7	22	9%	22%	69%
Dalwhinnie to Crubenmore	4	3	11	22%	17%	61%

*Note that installed speed cameras on A9 single carriageway sections became operational in October 2014*

#### *Existing Traffic Conditions and Safety*

- 2.6.3 The A9 between Dalwhinnie and Crubenmore has an Annual Average Daily Traffic (AADT) flow of approximately 7,600 (north of Dalwhinnie) to 8,400 (south of Dalwhinnie) (2015 figures) of which approximately 18% comprises Heavy Goods Vehicles (HGVs). The current single carriageway between Dalwhinnie and Crubenmore can lead to vehicles being held up by slower moving traffic and lack of overtaking opportunities. This can lead to journey time increases and driver frustration, potentially resulting in dangerous overtaking manoeuvres.
- 2.6.4 It is considered that upgrading the road from single to dual carriageway would reduce driver frustration, provide opportunity for safer overtaking and prevent right turn manoeuvres across the carriageway. Operational performance will be improved as outlined in Objective 1 above. Upgrading the road from single to dual carriageway would reduce the occurrence of driver frustration and would provide opportunity for safer overtaking, as outlined in Objective 2.
- 2.6.5 In addition, a new grade separated junction will be developed at Dalwhinnie, with local left in/left out junctions at Cuaich. Removing the need for potentially dangerous right turns across the path of oncoming traffic will improve safety for motorised and non-motorised users, as stated via Objective 2.

#### *Tourism and Recreation*

- 2.6.6 The A9 provides access between, and beyond, Perth and Inverness, particularly for tourists looking to visit various regions of Scotland. The area surrounding the Proposed Scheme offers a range of tourist attractions and recreational activities, to both the north and south of the Drumochter Hills.
- 2.6.7 The Drumochter Hills area itself is very popular with hillwalkers, particularly given the number Munros in relative proximity. The area is also popular with cyclists, with NCN7 running generally parallel between the A9 and the HML railway through Dalwhinnie.
- 2.6.8 The Proposed Scheme intersects the Cairngorms National Park Authority (CNPA) area. According to the Cairngorms National Park Economic Strategy, approx. 43% of regional employment is provided by tourism. The Strategy also recognises the A9 dualling programme as an opportunity to increase connectivity and support a growing regional economy (Cairngorms Business Partnership, 2015).
- 2.6.9 The Cairngorms National Park Partnership Plan 2017-2022 (CNPA, 2016) recognises the A9 dualling programme as a future development. Policy 1.2 states that in order to enable a sustainable pattern of settlement growth, infrastructure and communications, there should be

support of “*sensitively designed improvements to the A9 and other trunk roads and main railway line as an integral part of enhancing the connectivity of the Highlands*”.

#### *Active Travel and Public Transport*

- 2.6.10 NCN7, used by both cyclists and walkers, is very close to the A9 northbound carriageway in places, only separated by a narrow grass verge, sometimes with or without a Vehicle Restraint System (VRS). The Proposed Scheme offers the potential to realign and upgrade NCN7, where it is directly affected, and to improve amenity and safety for NMUs via safer underpass crossings. Such benefits are expected to support A9 Dualling Objective 3.
- 2.6.11 Bus services within the Proposed Scheme extent are used for inter-city access to northern Scotland and by local communities. In addition, the A9 corridor is popular with tourists as set out above, and many coach trips use the road to access the Whisky Trail and the CNP.
- 2.6.12 Existing bus stops at Dalwhinnie are located at the A9/ A889 junction, approximately 1.5km from the village, and require users to cross the live A9 carriageway to access southbound services. Within the Proposed Scheme extents, a bus turning loop is provided on the new Dalwhinnie Junction link road. This will enable buses to pull off the A9 mainline and then re-join without having to divert fully into Dalwhinnie, and reduce the walking distance for users by more than 1km. This also means the bus stop is much closer to Dalwhinnie train station than the current situation, providing benefits for non-motorised user access to the village and local NMU routes. Such benefits are expected to support A9 Dualling Objective 4.

## 2.7 References

- 2.7.1 Relevant references for introductory Chapters 1 to 7 of this ES are compiled and listed at the end of Chapter 7.