16 Effects on All Travellers

This chapter assesses the impact of the proposed scheme on pedestrians, cyclists, equestrians (referred to as Non-Motorised Users; NMUs), and also on vehicle travellers. Effects on vehicle travellers were considered in terms of changes to views from the road, and driver stress.

The assessment identifies paths and outdoor areas including core paths, rights of way, National Cycle Routes, equestrian routes and local paths. Effects of changes to NMU journey lengths and amenity value were assessed, and used to determine potential severance impacts on access to the outdoors. The assessment takes into account mitigation embedded in the proposed scheme design such as overbridges and new cycleways/footways.

With the proposed scheme in place, significant beneficial impacts for NMUs have been identified as a result of the provision of overbridges, additional footways and cycleways. These will maintain existing use and also provide safer and more efficient access across the A9 within the study area. Generally, journey lengths are not significantly affected with the proposed scheme in place, with the exception of one location for which a Moderate significance adverse impact is predicted as a consequence of increased journey length. Overall, residual impacts on NMUs during operation are considered to be beneficial.

Views from road are currently varied, with some sections being restricted by road cuttings and planting, and others being relatively open views of rolling, wooded farmland. Views from the road were assessed for the winter year of opening and during the summer 15 years after opening, both with and without the proposed scheme; whilst some changes to view from the road are expected, none will be significant.

Driver stress can be caused by frustration, fear of accidents and uncertainty of the route being followed. Current levels of driver stress for the A9 between Luncarty and Pass of Birnam during peak hours are assessed as Low to Moderate. Traffic levels are forecast to increase over time, and in the absence of the proposed scheme it is anticipated that higher levels of driver stress during peak hours would be experienced. However, with the proposed scheme in place driver stress over the majority of the route would either remain the same or decrease.

16.1 Introduction

16.1.1 This chapter presents the assessment of potential impacts on the journeys made by pedestrians, cyclists, equestrians and vehicular travellers. In line with Interim Advice Note (IAN) 125/09 this chapter combines DMRB (Highways Agency et al., 1993) topics 'pedestrians, cyclists and equestrians' and 'vehicle travellers'. For ease of reference the term 'Non-Motorised Users' (NMUs) is used to describe pedestrians, cyclists and equestrians.

16.1.2 This chapter assesses the potential impacts on NMUs due to changes to paths and access in the study area. Chapter 7 of this ES (Community and Private Assets) assesses more general community severance and impacts of the proposed scheme on access to residential and commercial land; community facilities; development land; agricultural land; and sporting and forestry interests for both NMUs and vehicle travellers.

16.1.3 In line with IAN 125/09 and DMRB (Highways Agency et al., 1993), this chapter assesses and reports potential construction and operational impacts separately. Impacts due to construction are considered to be those resulting from the breaking up of sections of the existing road and the construction of the new carriageways and associated junctions. The impacts due to operation are considered to be those resulting from the presence of the new carriageways and associated junctions following completion of construction.

Non-Motorised Users (NMUs)

Land Reform (Scotland) Act 2003

16.1.4 The Land Reform (Scotland) Act 2003 Part 1 came into effect in February 2005 and established statutory rights of responsible access on and over most land, and inland water. The legislation offers a general framework of responsible conduct for both those exercising rights of access and for landowners.

16.1.5 Local authorities are granted new powers and duties to uphold and facilitate responsible access rights. There is a duty on local authorities to prepare a plan for a path network and to keep a list of 'core paths'. Sections 13 and 19 of the Act state:

> *'It is the duty of the local authority to assert, protect and keep open and free from obstruction or encroachment any route, waterway or other means by which access rights may reasonably be exercised';* and
>
> *'The local authority may do anything which they consider appropriate for the purposes of maintaining a core path and keeping a core path free from obstruction or encroachment'.*

16.1.6 Section 10 of the Act states that it is the duty of SNH to draw up and issue a Scottish Outdoor Access Code, setting out guidance in relation to access rights and responsibilities. It is the duty of SNH and local authorities to publicise the Code and for SNH to promote understanding of it. The Scottish Outdoor Access Code was approved by the Scottish Parliament in July 2004.

16.1.7 In accordance with DMRB (Highways Agency et al., 1993), the assessment of impacts on NMUs focuses on three main aspects:

- changes in journey lengths and times;
- changes in the amenity value of journeys; and
- changes in access for NMUs to the outdoors.

16.1.8 Paths used by NMUs are important because they can provide access to local countryside and more remote areas on foot, bike or horse; opportunities for long-distance travelling; safe, non-motorised access to shops, places of business and schools; and opportunities to integrate access and land management.

16.1.9 The use of paths can help to improve health, reduce social exclusion and, unlike other modes of transport, generally has few associated costs (e.g. fuel, travel tickets). A good path network can also inspire visitors to enjoy the outdoors and to visit places of landscape, historical and wildlife interest. This can encourage financial expenditure and support the local rural economy. Furthermore, well planned paths can potentially assist landowners and farmers to successfully integrate recreational use with land management operations.

16.1.10 In accordance with SNH guidance on EIA (SNH, 2009), an assessment specifically considering the impacts on access to the outdoors has been undertaken and is included in this chapter. This draws on the findings of the DMRB assessment of impacts on NMUs and community access.

Vehicle Travellers

View from the Road

16.1.11 For the purposes of this assessment, the view from the road is defined as the extent to which vehicle travellers are exposed to different types of scenery while travelling on the proposed scheme. In areas of high quality scenic landscape, the road may allow travellers to appreciate their location in relation to distinctive landscape features by creating appropriate views. Views from a road may potentially help to alleviate driver stress, although views are not considered in the driver stress assessment. Conversely, where views from a road are restricted by new construction, this may create monotonous conditions for the driver.

Driver Stress

16.1.12 For the purposes of assessment, driver stress is defined as the mental and physiological effects experienced by a driver using a road network. Factors influencing the level of driver stress include the road layout and geometry, surface riding characteristics, junction frequency and the speed and flow per lane. In general, drivers will choose the route that they believe to give the shortest reliable journey time, taking account of expected variability and coping with associated stress.

16.1.13 The three main components of driver stress are frustration, fear of a potential accident and uncertainty of the route which is being followed. These components are discussed below:

- Frustration: caused by a driver being unable to drive at a desired speed based on the road conditions. Frustration levels increase as travelling speed falls relative to expectation. May be caused by high traffic volume, intersections, roadworks, or difficulties overtaking slower traffic.
- Fear of Potential Accident: the main factors leading to this are the presence of other vehicles, inadequate sight distances and the likelihood of pedestrians stepping on to the road. Other factors include complex junctions and roundabouts, and poorly maintained road surfaces. Fear is highest when speeds, flows and the proportion of heavy vehicles are all high.
- Route Uncertainty: caused primarily by signage that is inadequate for the individual's purposes. Poor lighting may also cause uncertainty as turnings and junctions may not be seen in advance.

16.2 Approach and Methods

Non-Motorised Users (NMUs)

Study Area

16.2.1 The study area for the assessment of impacts on NMUs includes paths within 1km of the proposed scheme. However, consideration of the wider area has also informed the assessment, which is particularly important in identifying potential limitations to accessing outdoor areas.

Baseline Conditions

16.2.2 Baseline data were collected through desk-based studies, consultation, and site survey:

Desk-Based Assessment

- A review of Ordnance Survey Maps:
  - Explorer 379 1:25 000 (2001); and
  - OS Streetview with overlaid OS Mastermap topography lines.
- Interrogation of the Jacobs GIS Database.
- A review of relevant local plans and strategies:
  - Strategic Development Plan. TAYplan: Scotland's SusTAYnable Region (2012); and
  - Perth & Kinross Core Paths Plan (2012).
- A web based search to identify:
  - existing and proposed paths (recreational and functional), and rights of way used by pedestrians, cyclists and equestrians;
  - outdoor access facilities as specified in Appendix 5, Table 1 of 'A Handbook on Environmental Impact Assessment' (SNH, 2009) – e.g. parks, local open spaces and reservoirs, woodlands and linear facilities e.g. paths, rights of way, cycleways; and
  - public transport links including bus and train routes.

Consultation

- Consultation responses from the following organisations have also been considered in the assessment (refer to Chapter 6: Consultation and Scoping, and supporting Appendix A6.3 (Summary of Consultation Responses) for further details):
  - Ramblers Scotland;
  - Perth & Kinross Council;

- British Horse Society;
- ByCycle;
- SUSTRANS;
- Stakeholder consultation meeting with Perth & Kinross Council (March 2013); and
- Stakeholder consultation meeting with the British Horse Society (October 2013).

Site Survey

16.2.3 To verify the baseline data collected through desk-based assessment and consultation, a survey of the core paths was undertaken in April 2013 by environmental specialists.

Number and Type of User

16.2.4 DMRB guidance recommends the use of origin/destination surveys where '*travel patterns* [of pedestrian and other users] *are complex and a scheme could have a major impact*'. These surveys could include the use of 'counts' to provide information including numbers and types of user.

16.2.5 As noted in paragraph 16.1.4 to 16.1.6 the Land Reform (Scotland) Act 2003 imposes certain requirements on local authorities in terms of maintaining public access. In addition, Scottish Planning Policy (SPP) (Scottish Government, 2010) aims to maintain, enhance and promote access to open space, recreation opportunities and amenities and improve access for NMUs. It is therefore considered that regardless of levels of use and types of user, all routes should be maintained and/or improved where practicable. Origin/destination surveys were therefore not required for the purposes of this assessment.

16.2.6 For this assessment, the type of user (including use by vulnerable users) was determined from information provided during consultation with relevant bodies and the April 2013 site survey.

Impact Assessment

16.2.7 The assessment of the potential impacts of the proposed scheme on pedestrians, cyclists, and equestrians was undertaken with reference to DMRB Volume 11, Section 3, Part 8 (Highways Agency et. al. 1993) and SNH guidance on EIA (SNH, 2009).

16.2.8 The approach and method used includes assessment of impacts on:

- paths (journey length and amenity value); and
- access to the outdoors (ease of access).

16.2.9 The significance of potential impacts on pedestrians, cyclists and equestrians has been determined as a function of sensitivity and magnitude, as specified below. Unless otherwise stated, impacts are considered to be adverse. An assessment of residual impacts of the proposed scheme is also provided, taking into account the identified mitigation measures.

Sensitivity

16.2.10 In recognition of the duties placed on local authorities by the Land Reform (Scotland) Act 2003 (refer to paragraphs 16.1.4 to 16.1.6), sensitivity was determined primarily based on importance (the level of formal recognition of a pathway) rather than on numbers of users. However, the sensitivity criteria were refined to take account of the types of main user (e.g. some pedestrian footpaths are considered to be more sensitive than cyclist routes).

16.2.11 Table 16.1 outlines sensitivity criteria applied in this assessment. Where a path could be attributed to more than one category (e.g. a core path may also be a claimed right of way) the highest sensitivity rating was applied.

Table 16.1: Sensitivity Criteria

Sensitivity	Characteristics
High	Vindicated rights of way; or Asserted rights of way; or Core paths/proposed core paths.
Medium	Claimed rights of way; or National Cycle Routes.
Low	Local routes/other paths outwith above categories.

Note: a definition of vindicated, asserted and claimed rights of way is provided in paragraph 16.3.19.

16.2.12 Community facilities used by vulnerable groups, such as schools, elderly care homes and doctors' surgeries, have been identified in Chapter 7 (Community and Private Assets) and are shown on Figure 7.1. The sensitivity rating of paths which serve these types of community facilities and paths which are known to be used by vulnerable groups were reviewed. Where applicable, the sensitivity was adjusted using professional judgement to take into consideration the vulnerability of the users.

Potential Impacts (Paths)

16.2.13 The potential impact on NMUs in terms of paths was determined taking into consideration changes in both journey length and amenity value using the approach detailed below.

Changes in Journey Length

16.2.14 Changes in journey length can result from direct impacts (e.g. closure of paths/cycleways and/or diversion routes as a result of the proposed scheme) or indirect impacts (e.g. as a result of increases in traffic flows, which may result in NMUs deciding to use an alternative route).

16.2.15 Desk-based assessment, consultation and on-site verification were used to identify where paths currently cross the existing A9 (marked as 'Crossing Points' or 'CP'). These are shown on Figures 16.1a-c. These crossing points helped to identify potential impacts on paths as a result of the proposed scheme (i.e. paths which could be severed or lose sections of their length). The existing journey lengths for paths were derived from the Perth & Kinross Council Core Path Plan. Where possible, alternative routes for the affected paths were defined in order to maintain a link between potential origin and destinations and a comparative journey length calculated using GIS. All paths where a change in journey length was anticipated as a result of the proposed scheme were marked as Journey Length Assessment (JLA) points, as shown on Figure 16.2.

16.2.16 NMUs may be deterred from making trips along or across existing roads which are likely to be more heavily used by traffic in the year of opening (2019) and therefore alternative routes may be taken. In accordance with DMRB, where roads are predicted to experience an increase of 30% or more in traffic flow in the year of opening (2019) with the proposed scheme (compared with 2019 without the proposed scheme), alternative routes have been suggested and the impact on the resulting change in journey length calculated using GIS.

16.2.17 Taking into account guidance provided in DMRB, criteria were developed to determine magnitude of impact resulting from changes to journey length as shown in Table 16.2.

Table 16.2: Magnitude of Impact Criteria for Changes to Journey Length

Magnitude	Characteristics	Magnitude	Characteristics
High	≥ 500m or greater.	**Low**	100 to < 250m.
Medium	250 to <500m.	**Negligible**	<100m.

16.2.18 The significance of impacts on paths was then determined using the matrix in Table 16.3.

Table 16.3: Significance of Impact on Journey Length

Sensitivity / Magnitude	Low	Medium	High
High	Moderate	Moderate/Substantial	Substantial
Medium	Slight/Moderate	Moderate	Moderate/Substantial
Low	Negligible/Slight	Slight	Moderate
Negligible	Negligible	Negligible/Slight	Slight

16.2.19 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 require consideration of the 'likely significant effects'. However, the regulations do not provide a definition of what constitutes a significant environmental effect as this is determined according to the environmental parameter under consideration, and in the context in which the relevant assessment is made. For the purposes of this assessment, impacts were considered to be 'significant' where the assessment results indicated impacts of Moderate or higher significance.

Changes in Amenity

16.2.20 The amenity of a journey is defined in DMRB as 'the relative pleasantness of a journey'. This relates in particular to the exposure of NMUs to traffic and associated noise, air quality and safety aspects. Visual impacts and paths/cycleway widths are also considerations. It is acknowledged that any changes in amenity value would be subjective. However, for the purposes of this assessment it has been assumed that where NMUs would experience a reduction in traffic or road-related noise, and/or reduction in visual impact and/or improvement in air quality, there would be a possible perceived improvement in amenity value. Conversely, an increase in any such traffic or road-related impacts or a possible perceived reduction in safety has been assumed to constitute a reduction in amenity value. Therefore, changes in amenity value were considered where:

- existing paths would be crossed by the proposed scheme;
- traffic flows would potentially affect paths along a route or at a crossing point;
- noise and air quality on existing paths would potentially significantly increase or decrease; or
- the proposed scheme would be visible from existing paths.

16.2.21 In line with DMRB guidance, the assessment of change to amenity value does not make use of sensitivity criteria and an assessment matrix to determine significance of impacts. Impact significance is determined qualitatively, using professional judgement and taking into account the magnitude of change with respect to existing views, air quality, traffic flows and noise levels.

16.2.22 Full visual, air quality and noise assessments are reported in Chapters 12 (Visual), 14 (Air Quality) and 15 (Noise and Vibration). Traffic data were obtained from the strategic traffic model for the proposed scheme and Average Annual Daily Traffic over 18 hours (AADT18) reported for the year of opening (2019) with and without the proposed scheme. It is important to note that traffic flows provided in this chapter only relate to sections of the selected road where paths intersect that road, and are therefore not necessarily representative of the full length of the road.

16.2.23 The significance of impact criteria for change in amenity are described in Table 16.4.

Table 16.4: Significance of Impact on Amenity Value

Significance	Characteristics
Substantial	Where there is a substantial change in the existing view and/or air quality and/or a major change in noise levels and/or substantial change in traffic flows resulting in change in safety.
Moderate	Where there is moderate or noticeable change in the existing view and/or air quality and/or a moderate change in noise levels and/or moderate change in traffic flows resulting in change in safety.
Slight	Where there is slight or barely perceptible change in the existing view and/or air quality and/or a slight change in noise levels and/or slight change in traffic flows resulting in change in safety.
Negligible	Very little or no discernible change from baseline conditions equating to a no-change situation.

Overall Impacts on Paths (journey length and amenity)

16.2.24 To determine overall significance of impacts on paths, the significance for changes in journey length and amenity were considered together using professional judgement. Overall significance was determined based on these two factors having an equal weighting of importance. Where an impact is only identified for one factor, the degree of overall significance was reduced accordingly.

Potential Impacts (Access to the Outdoors)

16.2.25 The objective of the outdoor access assessment is to determine any likely significant effects on access to the outdoors (SNH, 2009). This includes the ability to make use of an outdoor area or path and the ease with which access can gained. The assessment was undertaken for linear and area based facilities identified in the DMRB assessment as outlined above.

Vehicle Travellers (View from the Road)

16.2.26 The view from the road assessment was undertaken in accordance with the guidance provided in DMRB Volume 11, Section 3, Part 9: Vehicle Travellers (Highways Agency et. al. 1993). The view from the road assessment takes into account the types of scenery or landscape character, the extent to which travellers would be able to view the scene, the quality of the landscape and features of particular interest or the prominence of the view.

Study Area

16.2.27 The study area for the assessment of changes to views from the road is limited to the route of the existing A9 and the proposed scheme. As the proposed scheme is an improvement of an existing road, a direct comparison between the existing A9 and the proposed design can be made. The study area also covers adjacent local roads that will be realigned as part of the proposed scheme.

Baseline Conditions

16.2.28 Baseline data were collected through desk-based studies including the following:

- review of web-based aerial photography to identify existing planting, earthworks and landform;
- review of web-based panoramic photographs, road cameras and 3D imagery to understand the level of screening provided by existing vegetation, earthworks and landform; and
- a web-based search to identify keys views and areas a scenic quality from the existing A9.

16.2.29 The extent to which travellers will be able to perceive the landscape will vary with the relative level of the road, surrounding topography and vegetation. The categories used in assessing this are:

- no view – road in very deep cutting or contained by earth bunds, environmental barriers or adjacent structures;
- restricted view – road in frequent cuttings, or with deep cuttings across slopes, with frequent environmental barriers or adjacent structures blocking the view;
- intermittent view – road generally at grade but with shallow cuttings, environmental barriers or structures at intervals; and
- open view – road generally at grade or on embankment with views extending over the wider landscape or only restricted by existing landscape features.

Site Survey

16.2.30 To verify the desk-based assessment results in relation to view from the road, a site survey was undertaken on 14 April 2013. The site survey consisted of driving along the A9 in both directions to identify areas of likely changes due to revised earthworks and realigned local roads.

Impact Assessment

16.2.31 In terms of view from the road, mitigation is predominantly incorporated into the design (through alignment, earthworks and landscaping) and therefore potential changes to views from the road before mitigation are not considered in the assessment. However, because planting mitigation proposals may generally not effective during winter year of opening, this period can be considered similar to a scenario without mitigation planting. Both views from the road at winter year of opening and summer 15 years later (when mitigation planting is fully effective) are reported.

Vehicle Travellers (Driver Stress)

Study area

16.2.32 The study area for driver stress is the same as that for view from the road, as described above.

Baseline Conditions and Impact Assessment

16.2.33 Driver stress has been assessed in accordance with DMRB Volume 11, Section 3, Part 9 (Vehicle Travellers) (Highways Agency et al., 1993), using a three point scale of High, Moderate or Low. This assessment is based on estimating the average peak hourly flow per lane in 'flow units' and the average journey speed of each section of the road. Flow units are calculated whereby a car or light van is equal to one flow unit and a commercial vehicle is equal to three flow units. Traffic speed is based on average speed of traffic, excluding delays at downstream junctions.

16.2.34 The assessment of driver stress during proposed scheme operation was undertaken based on the difference between traffic flows without the proposed scheme and those with the proposed scheme for a design year (2034). Driver stress during construction was based on the opening year of 2019.

16.2.35 Tables 16.5 and 16.6 present the guidance provided by DMRB on the appropriate category of stress levels for varying flow, speed and standard of road for single carriageway and dual carriageway roads respectively. The categories only apply to those sections of road where traffic flows and speeds are known for over 1km of the route.

Table 16.5: Driver Stress Levels on Single Carriageways

Average peak hourly flow per Lane (flow units/hour)*	Average Journey Speed Km/hr		
	Under 50	50-70	Over 70
Under 600	High**	Moderate	Low
600-800	High	Moderate	Moderate
Over 800	High	High	High

Table 16.6: Driver Stress Levels on Dual Carriageways

Average peak hourly flow per Lane (flow units/hour)*	Average Journey Speed Km/hr		
	Under 60	60-80	Over 80
Under 1200	High **	Moderate	Low
1200-1600	High	Moderate	Moderate
Over 1600	High	High	High

* A car or light van equals one flow unit. A commercial vehicle (>1½ tonnes unladen weight) or public service vehicle equals 3 flow units.
** 'Moderate' in urban area.

16.2.36 Forecast traffic composition and speeds, used as the basis for the numerical assessment of driver stress, were derived from a local transport model. The model was developed as part of the Stage 3 DMRB engineering assessment and analysed patterns between the traffic levels of the opening year (2019) and design year (2034). Driver stress was considered taking into account the relative change in traffic levels for the design year of 2034, either with (Do-Something) or without (Do-Minimum) the proposed scheme. As noted in Chapter 4 (The Proposed Scheme), the traffic data

used include an assumption of the wider A9 dualling being completed, to represent a worst-case scenario in terms of traffic numbers.

Limitations to Assessment

16.2.37 The assessments in this chapter rely on baseline data provided by consultees in relation to the location and lengths of paths, for example Perth & Kinross Council supplied the GIS shapefiles for the core paths in the study area.

16.2.38 Journey lengths are calculated using GIS on discrete sections of the NMU routes affected rather than the entire length, and are not intended to be representative of the entire NMU route.

16.2.39 The locations of temporary construction activities are not known at this stage and therefore the assessment of construction impacts of the proposed scheme was based on general assumptions about the location and intensity of construction activities.

16.3 Baseline Conditions

A9 Dualling: Strategic Environmental Assessment (SEA)

16.3.1 As stated in Chapter 2 (Need for the Scheme) an SEA of the wider programme of proposed dualling of the A9 from Perth to Inverness has also been undertaken. The SEA noted that in relation to the Effects on All Travellers the following should be expected to result from the proposed scheme: '*a significant improvement in road safety and accident severity and the maintenance of standards in pathways wherever they are diverted due to the proposed scheme'*. Consideration of both of these elements and strategic considerations associated with access set out in the SEA have been included in this chapter.

16.3.2 Strategic considerations of particular relevance to this assessment comprise:

- continue to facilitate opportunities to access visitor attractions and recreational opportunities throughout the corridor;
- consider the safety and quality of experience for NMUs of local roads when vehicle access to the A9 is being rationalised (e.g. the potential for traffic increases on the cycle route network);
- retain, and where possible enhance, overall connectivity between NMU routes along and across the corridor;
- incorporate effective rationalisation between NMU routes, safe crossing points and provisions for access to public transport;
- ensure any rationalisation of NMU routes and safe crossing points is carefully considered to minimise the distance between crossings where possible; and
- design any permanent diversions in NMU routes to provide the same, or improved, standard of pathway.

Study Area Characteristics

16.3.3 The section of the A9 being considered is predominantly a single carriageway road, with the exception of the dualled section in the north adjacent to Gelly Wood and from south of the A9/B9099 junction at Luncarty.

16.3.4 There are five main junctions along the A9 within the study area (shown on Figures 16.1 to 16.3):

- A9/B9099 south of Luncarty;
- A9/unclassified road to Tullybelton;
- A9/Benchill Road to Stanley;

- A9/B867 to Bankfoot (Bankfoot Junction south); and
- A9/Bankfoot (Bankfoot Junction north).

16.3.5 There are several minor access roads off the A9 which serve farms, private residences, estates and provide access to fields. Observations from a site visit in April 2013 indicated that these are primarily used by pedestrians and residential/farm vehicles.

16.3.6 There are two large villages in the study area: Luncarty and Bankfoot. Both villages are largely residential and contain some community facilities, such as post offices, shops, churches and recreational centres (please refer to Chapter 7: Community and Private Assets and Figure 7.1 for full list of community facilities).

16.3.7 Between Luncarty and the Pass of Birnam, views from the A9 are mainly focussed within the road corridor itself, curtailed by cuttings, roadside woodland and rising landform to the east. Where longer views from the road are available, they are predominantly to the west across the surrounding rolling agricultural landscape with clusters of trees around farm buildings and field boundaries, and more distant views to the rising hills that mark the edge of the Highland Boundary Fault. The highlands north of the fault line are sporadically visible to the north and west of the route, marking the boundary between the Lowlands and Highlands and a distinct change in landscape character.

16.3.8 The A9 SEA acknowledges the road as '*one of the world's great tourist routes, through landscapes of national and international importance'*. Although the designated landscapes referred to lie along stretches of the A9 north of the proposed scheme, this section of the route forms an important approach to the Highlands.

NMUs

16.3.9 Trunk roads such as the A9 are generally avoided by NMUs due to high volumes of traffic and lack of adequate facilities. However, NMUs sometimes travel on paths alongside the carriageway or use crossings to reach local destinations. Due to the rural nature of the A9 between Luncarty and Pass of Birnam, it is assumed that the potential and desire for NMU movement is limited due to the distances required to access services and facilities.

16.3.10 Figure 16.1 illustrates where existing paths cross the existing A9 (marked as 'Crossing Points'). These paths are listed in Table 16.7 and include those used by NMUs (vulnerable and non-vulnerable). Paths identified as being directly affected by the proposed scheme are highlighted on Figure 16.2 and labelled as 'Journey Length Assessment Site' (JLA). Whilst Table 16.7 and Figure 16.1 identify the predominant path usage for assessment purposes, it should be noted that use is unlikely to be exclusive and most paths are expected to be available for any user.

16.3.11 There are currently nine points where NMUs are known to cross the existing A9 within the study area. These are listed below and shown on Figure 16.1 as 'Crossing Points' (CP):

- CP1: Redgorton Village crossing. NMUs cross via an at-grade crossing linking two core paths (LUNC/114 and LUNC/119).
- CP2: Luncarty Junction crossing. NMUs cross via the A9/B9099 junction overbridge via a local path on one side of the road (LC/001). LC/001 also links into core path LUNC/105.
- CP3: Northleys Farm crossing. NMUs cross via an at-grade crossing linking two core paths (LUNC/123 and LUNC/122).
- CP4: Newmills Farm crossing. NMUs cross via an at-grade crossing using a local path (LC/002).
- CP5: Westwood Farm crossing. NMUs cross via an at-grade crossing linking two core paths (AGVN/115 and AGVN/110).
- CP6: Bankfoot Underpass crossing. NMUs cross via an underpass using a local path (LC/003).

- CP7: Coltrannie Farm crossing. NMUs cross via an at-grade crossing linking two core paths (AGVN/117 and AGVN/107).
- CP8: Gelly Wood crossing. NMUs cross via an at-grade crossing linking two core paths (AGVN/113 and SPIT/101).
- CP9: Kingswood crossing. NMUs cross via an at-grade crossing consisting of one core path (SPIT/107).

16.3.12 CP1, CP2 and CP9 are not considered further because although they are located within the study area, they are not affected by the proposed scheme.

Core Path Network

16.3.13 Local authorities have a duty to make their Core Path Plans publicly available for inspection under the Land Reform (Scotland) Act 2003 (refer to paragraphs 16.1.4 to 16.1.6). The local authority responsible for access within the study area is Perth & Kinross Council. The Perth & Kinross Council Core Path Plan was adopted in January 2013 and has been referred to throughout for locations of core paths within the study area.

16.3.14 Core paths may include rights of way, footpaths and tracks, cycle tracks, paths which are, or may be, covered by path agreements or path orders under the Land Reform (Scotland) Act Sections 20 and 21, waterways, or other means by which persons may cross land.

16.3.15 Core Path Plans take into consideration the likely usage and desirability of paths balanced with landowner interests. The majority of core paths are existing well-established paths, and the core paths system represents a basic 'backbone' of key paths throughout the local authority boundaries.

16.3.16 Table 16.7 lists 38 paths which are designated as core paths and located in part or fully within the study area. In the Core Path Plan, Perth & Kinross Council has assigned the adopted core paths reference numbers as identified in Table 16.7 and illustrated on Figures 16.1-16.3.

16.3.17 There are 11 core paths with known crossing points across the A9 within the study area, as described in paragraph 16.3.11 and as shown on Figure 16.1. These routes were noted as being used by NMUs through consultation and site visits, with particular use by recreational walkers and equestrians observed. Additionally, the core path network links closely into local paths LC/001 and LC/002 at crossings south of Bankfoot via an existing underpass and the A9/B9099 Junction via an existing overbridge.

Rights of Way

16.3.18 A public right of way is a defined route which has been used by the general public for at least 20 years and which links two public places (usually public roads). Rights of way have been recognised in Scots Law for centuries (i.e. in common law). The time period of 20 years stems from the Prescription and Limitation (Scotland) Act 1973, Section 3. Rights of way vary from long hill routes (often historical drove or kirk roads) to local routes used for dog walking or as short cuts to shops, schools and other local amenities.

16.3.19 ScotWays maintains the National Catalogue of Rights of Way (CROW), in partnership with SNH. Local authorities hold copies of their local CROW records. CROW classifies rights of way into three status categories:

- vindicated – routes declared to be rights of way by the courts or through another legal process;
- asserted – routes which have been accepted as rights of way by the landowner or where local authorities have indicated that they would take legal action to protect them if necessary; and
- claimed – other routes which appear to meet the common law conditions necessary to be regarded as rights of way, but which have not been formally vindicated or asserted.

16.3.20 Access along rights of way are protected by the Countryside (Scotland) Act 1967 requiring the local authority to *'assert, protect and keep open and free from obstruction or encroachment any public rights of way'*, although diversions can be considered if the proposed diversion is deemed suitable by the planning authority.

16.3.21 Table 16.7 lists two paths which are solely designated as rights of way located in part or fully within the study area. These are illustrated on Figures 16.1-16.3. Core paths AGVN/113 and AGVN/114 are also designated as rights of way but for the purposes of this assessment are classed as core paths throughout (i.e. of 'high' sensitivity).

National Cycle Network

16.3.22 The National Cycle Network is a network of cycle routes in the UK, created by the charity SUSTRANS. The cycle routes are a combination of pedestrian routes, disused railways, minor roads, canal towpaths and traffic calmed routes; therefore, routes can also be designated as core paths or rights of way (Table 16.7).

16.3.23 National Cycle Route (NCR) 77 provides a cycling route between Perth and Pitlochry, and passes through the study area. The route is described in Table 16.7 and is shown on Figure 16.1.

Other Cycle Routes

16.3.24 Many of the adopted core paths shown on Figure 16.1 are recognised as being used by cyclists. Other regional and local cycle routes (segregated cycle paths and on-road routes) have also been identified through information collated from visits. All of the paths located in part or fully within the study area, identified to be suitable for use by cyclists, are described in Table 16.7.

Local Paths

16.3.25 Local, undesignated paths can be of recreational value or provide access to key community facilities such as schools and doctors surgeries. Known local paths located within the study area that are not designated right of ways, part of the core path network, or cycleways are also listed in Table 16.7 and are shown on Figures 16.1.

16.3.26 There are three key local paths identified within the study (named in this assessment as LC/001, LC/002 and LC/003). These paths have been highlighted for assessment because they provide important linkages between the core path network and all intersect the A9 to provide NMUs access routes across the road.

Access between Luncarty and Bankfoot

16.3.27 There is currently limited provision for NMUs wishing to take access via the local path network between the villages of Luncarty and Bankfoot. Currently NMUs wishing to travel between the two villages must follow an indirect set of paths through Five Mile Wood where they can cross the A9 from east to west at CP6 (Bankfoot Underpass). Alternative, more direct options require the existing A9 to be crossed which is considered a safety risk.

Table 16.7: Paths Identified within the Study Area

Path Ref.	Type	Predominant Users*	Description	Community Link (including links to Community Facilities)**	Baseline Journey Length	Baseline Amenity
LUNC/100 (Figure 16.1a)	Core Path	Pedestrians and cyclists	Path helps to provide access from the A9 eastwards to the River Tay. Provides a link to the River Tay from south Luncarty via Hatton Cottages.	Luncarty and Hatton Cottages	824m	Single track road with narrow verge. NMUs experience some noise from traffic using the road.
LUNC/102 (Figure 16.1a)	Core Path	Pedestrians and cyclists	Path links Luncarty to the wider path network to the south. Along with core path LUNC/127 and LUNC/133 provides the strategic core path network through the centre of Luncarty.	Provides access to Luncarty from the south for people of Redgorton village. Likely to be used by NMUs to access Luncarty Post Office, Luncarty Football and Social Club and Luncarty Primary School.	3010m	On road path with narrow verge. NMUs experience noise from local traffic accessing Luncarty from the south.
LUNC/103 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Path along the Scarth Road through Luncarty to LC/001.	n/a	200m	On road path with narrow verge. NMUs experience noise from traffic using the road and the A9.
LUNC/105 (Figure 16.1a)	Core Path	Pedestrians	Provides main access track from the Luncarty, via the LC/001 and B8063 to Battleby Farm and Kirkhill House.	Battleby Farm and Kirkhill House – Luncarty.	881m	Single track paved access road. NMUs experience noise from traffic using the road and the A9.
LUNC/112 (Figure 16.1a)	Core Path	Pedestrians	Mill lade footbridge to Tayview Road and into Luncarty.	n/a	326m	Scenic path following the River Tay to the east of Luncarty. NMUs unlikely to experience any traffic noise.
LUNC/114 (Figure 16.1a, CP1)	Core Path	Pedestrians	Access road from Regorton House to A9 via Kirkhill Cottages. Crosses A9 at-grade at CP1 when joining with LUNC/119.	Redgorton House to Redgorton	984m	Access road through fields with very little traffic. Users may experience traffic noise from the A9.
LUNC/116 (Figure 16.1a)	Core Path	Pedestrians	Link from Hatton Road to Tayview Road. Short linking path between LUNC/100 and LUNC/117.	Luncarty and the Hatton Cottages	300m	NMU only path through fields. Users unlikely to experience any traffic noise.
LUNC/117 (Figure 16.1a)	Core Path	Pedestrian and cyclists	Road to the south of Luncarty which provides connection to the River Tay south of the town. Also links into LUNC/116, LUNC/134 and LUNC/112.	South Luncarty to East Luncarty	1322m	Quiet single track road within a residential area, with relatively low traffic noise. Planting on either side of road provides screening.
LUNC/119 (Figure 16.1a, CP1)	Core Path	Pedestrians	Short single track road leading from the intersection of LUNC/102 and LUNC/100 to the west to the A9. Crosses A9 at-grade at CP1 when joining with LUNC/114.	n/a	314m	Scenic single track road with little or no verges for pedestrians. Traffic noise expected to increase on the approach to the A9 heading west.
LUNC/121 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Main road through the village of Redgorton, to the west of the A9. Crosses the A9 after turning into a small footpath, providing access to Luncarty.	Redgorton to Luncarty	500m	Road through Redgorton village, therefore users currently experience traffic noise, which increases as the path reaches the A9.

Path Ref.	Type	Predominant Users*	Description	Community Link (including links to Community Facilities)**	Baseline Journey Length	Baseline Amenity
LUNC/122 (Figure 16.1a, CP3)	Core Path	Pedestrians, cyclists and equestrians	Scenic single track road that follows woodland and the Schochie Burn from the B8063. Provides access to Cramflat as it moves north from the B8063, eventually meeting with the A9. Crosses A9 at-grade at CP3 when joining with LUNC/123.	Cramflat and Northleys properties and Luncarty	2553m	Single track road noted during consultation to be used regularly by equestrians. NMUs experience low levels of traffic noise.
LUNC/123 (Figure 16.1a, CP3)	Core Path	Pedestrians, cyclists and equestrians	Core path provides access link from Luncarty (via LUNC/133) across the A9 to small properties to the west (Northleys and Cramflat). Route crosses underneath the railway and follows Ordie Burn for approximately 100m. Crosses A9 at-grade at CP3 when joining with LUNC/122.	Cramflat and Northleys properties and Luncarty	362m	Single track road with low levels of traffic, although users currently experience noise from traffic on the A9. Noted during consultation to be used regularly by equestrians.
LUNC/125 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Path provides access for Woodside House, Tophead, Northleys and Gellybanks properties as it heads south, eventually joining to LUNC/122. Also joins up with LC/002 in the north.	Woodside House, Tophead, Northleys and Gellybanks to Luncarty	3245m	Single track road with low levels of traffic, although NMUs may experience some traffic noise from the A9.
LUNC/127 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Along with LUNC/133 and LUNC/102 provides the strategic core path route through Luncarty. Likely to be used by NMUs to access Luncarty Post Office, Luncarty Football and Social Club and Luncarty Primary School.	Luncarty village to various properties North and South.	546m	Main road through the centre of Luncarty, with a designated pavement at side of road. NMUs may experience some traffic noise from the A9.
LUNC/133 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Along with LUNC/127 and LUNC/102 provides the strategic core path route through Luncarty. Likely to be used by NMUs to access Luncarty Post Office, Luncarty Football and Social Club and Luncarty Primary School.	Luncarty village to properties in the North	722m	Joins with LUNC/127 to provide access to Luncarty from the north. Path follows busy main road so traffic noise is evident from both on road traffic and the A9.
LUNC/134 (Figure 16.1a)	Core Path	Pedestrians and cyclists	Short woodland path providing a link between LUNC/117 and the centre of Luncarty.	n/a	159m	Scenic path (no access to vehicles). Very little traffic noise experienced by users.
LC/001 (Fig 16.1a, CP2)	Local Path (undesign ated)	Pedestrians and cyclists	Path follows road across the A9 via the Luncarty Bridge and follows the B9099 through Luncarty. Crosses A9 via an overbridge at CP2.	Redgorton and Battleby House/Farm to Luncarty. Likely to be used to access Luncarty Post Office, Football & Social Club, PrimarySchool.	1940m	Follows main road from Luncarty Junction so high levels of traffic noise etc.
LC/002 (Figure 16.1a, CP4)	Local path	Pedestrians, cyclists and equestrians	Tullybelton to Stanley Road. Crosses A9 at-grade at CP4.	Tullybelton and Stanley	4018m	Paved road provides at –grade access across the A9 between Tullybelton and Stanley. Whilst crossing the A9 there is no specific provision for NMUs. Small access track provides link to main road on the eastern side of the A9.

Path Ref.	Type	Predominant Users*	Description	Community Link (including links to Community Facilities)**	Baseline Journey Length	Baseline Amenity
AGVN/104 (Figure 16.1b)	Core Path	Pedestrians and cyclists	Scot's Wood path from Moneydie Road. Woodland path providing access between the NCR77 to Bankfoot via Scot's Wood. NMU access only.	Likely to be used by NMUs to access Auchtergaven Primary School and Auchtergaven and Moneydie Parish Church.	1283m	Scenic path between fields and through woodland (no access for vehicles). Users currently experience low levels of traffic noise.
AGVN/107 (Figure 16.1b, CP7)	Core Path	Pedestrians, cyclists and equestrians	Five Mile Wood access path, South Barns to Windyedge. Crosses the A9 at-grade at CP7 to link with AGVN/107.	Provides link for North Barns and South Barns properties to both Bankfoot village and Five Mile Wood. Intersects the A9 300m north of Bankfoot.	1158m	Single track which provides scenic access through fields towards Five Mile Wood. Users currently experience low levels of traffic noise.
AGVN/109 (Figure 16.1b)	Core Path	Pedestrians, cyclists and equestrians	Path runs through the scenic Five Mile Wood linking up with AGVN/107 in the north and STAN/101 in the south.	n/a	2012m	Single track through Five Mile Wood. Users currently experience very low levels of traffic noise.
AGVN/110 (Figure 16.1b, CP5)	Core Path	Pedestrians, cyclists and equestrians	Path runs loosely parallel to the existing A9 and crosses the A9 at grade to connect to AGVN/115 in the south. Crosses A9 at-grade at CP5.	Provides access into Luncarty for the properties of Westwood, Den Cottage and Ardonachie.	2215m	Track with vehicle access which passes through fields. NMUs experience increased traffic noise as they move closer to the A9 in the south. Consultation confirmed track is used regularly by equestrians.
AGVN/111 (Figure 16.1c)	Core Path	Pedestrians, cyclists and equestrians	Well-worn dirt track with vehicle access. Links a number of farmhouses to a paved road which leads into Bankfoot. Also links to crossing of the A9 via AGVN/117.	Number of properties in the north to Bankfoot	1959m	Path runs parallel to the A9 and therefore experiences medium levels of traffic noise. Used regularly by dog walkers and vehicular access to houses (site observation, April 2013).
36/2 (Figure 16.1a)	Right of Way	Pedestrians, cyclists and equestrians	Scenic trail which follows the River Tay along the river from Luncarty heading south.	n/a Note: distance measured from The Hatton building to intersection with LUNC/134)	77 m	Track with high scenic value. NMUs experience low levels of traffic noise.
AGVN/112 (Figure 16.1c)	Core Path	Pedestrians, cyclists and equestrians	Provides a link to AGVN/123 from the Coral Cottages on B867 via the Mains of Airleywright towards the Byres of Airleywright.	n/a	1809m	Single track paved road through the countryside. NMUs unlikely to experience any traffic noise.
AGVN/113 (Figure 16.1c, CP8)	Core Path	Pedestrians, cyclists and equestrians	Provides link from B867 towards Gelly via the Muirlands Farm Cottage. Crosses the A9 at-grade at CP8 to link with SPIT/101.	n/a	615m	Unsurfaced road through farmland and forest. Unlikely to experience traffic noise.
AGVN/13 (Figure 16.1b)	Core Path / Right of way (RoW code: 35/13)	Cyclists and equestrians	Short path linking Main Street with Cairneyhill Road. NMU access only.	Likely to be used by NMUs within Bankfoot to access Bankfoot Football Club and Bankfoot Post Office.	100m	Single track path (no vehicular access). Very little traffic noise.

Path Ref.	Type	Predominant Users*	Description	Community Link (including links to Community Facilities)**	Baseline Journey Length	Baseline Amenity
AGVN/14 (Figure 16.1b)	Core Path / Right of way (RoW code: 35/14)	Pedestrians, cyclists and equestrians	Bankfoot Main Street to Bankfoot football ground.	Likely to be used by NMUs within Bankfoot to access Bankfoot Football Club and Bankfoot Post Office.	192m	Footpath moves between houses to provide access to the Main Street. Very little traffic noise.
35/15 (Figure 16.1b)	Right of Way	Pedestrians	Bankfoot Main street leading to Cairneyhill Road.	n/a	40m	Small narrow alleyway providing short link through houses to Cairneyhill Road in Bankfoot.
AGVN/115 (Figure 16.1b, CP5)	Core Path	Pedestrians, cyclists and equestrians	South of East Mains to B867 at A9 junction. Crosses A9 at-grade at CP4 linking into AGVN/110.	n/a	1483m	Path runs parallel and in close proximity to the A9. NMUs likely to experience high levels of traffic noise. Well used by vehicles including farm vehicles. Used regularly by equestrians.
AGVN/117 (Figure 16.1b, CP7)	Core Path	Pedestrians, cyclists and equestrians	Coltrannie to South Barns via A9 at grade crossing. Path leads into AGVN/107 on eastern side of A9. Crosses the A9 at-grade at CP7 to link with AGVN/107.	n/a	1400m	Well-worn dirt track through fields and providing access to a grade level crossing of the A9. Traffic noise evident on approach to A9.
AGVN/123 (Figure 16.1b)	Core Path	Pedestrians, cyclists and equestrians	Bankfoot to AGVN/112 at Byres of Airleywright.	Bankfoot from Byres of Airleywright. Provides direct access via single track path to Bankfoot from Byres of Airleywright. Likely to be used to access Auchtergaven Primary School and Auchtergaven and Moneydie Parish Church.	832m	Gravel single track road with little traffic noise.
AGVN/124 (Figure 16.1b)	Core Path	Pedestrians, cyclists and equestrians	B867 from Moneydie Road to A9 junction. Path follows main road into Luncarty from the South.	Provides access to the Perthshire Visitor Centre.	800m	Pavement alongside road. NMUs experience relatively high levels of traffic noise both within Bankfoot and on the approach to the A9.
STAN/101 (Figure 16.1b)	Core Path	Pedestrians, cyclists and equestrians	Five Mile Wood circuit – east.	n/a	1310m	Path passes through Five Mile Wood. No traffic noise.
STAN/117 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Stanley to Luncarty cycle route. Designated as a local cycle route connecting the two villages of Stanley and Luncarty.	n/a	3070m	Scenic dirt road providing a link between Stanley and Luncarty along Benchill Burn. Minimal traffic noise as low levels of traffic on the road.
STAN/142 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Benchil Road to Five Mile Wood.	n/a	1475m	Access from the road to the woodland via a track. Parking facilities available at entrance to the woodland. Minimal traffic noise.

Path Ref.	Type	Predominant Users*	Description	Community Link (including links to Community Facilities)**	Baseline Journey Length	Baseline Amenity
STAN/148 (Figure 16.1a)	Core Path	Pedestrians, cyclists and equestrians	Over Benchil Farm Cottage to Stanley-Luncarty cycle route (STAN/117).	n/a	657m	Paved road leading past Benchil Farm Cottage intercepting with Stanley-Luncarty cycle route (STAN/117) in the south. Minimal traffic noise experienced.
SPIT/100 (Figure 16.1c)	Core Path	Pedestrians, cyclists and equestrians	Gelly to Kingswood.	n/a	1343m	Track with vehicle access runs parallel to the A9 and provides access to Gelly Wood and to Kingswood properties. Minimal traffic noise. Used by dog walkers (site observation, April 2013).
SPIT/101 (Figure 16.1c, CP8)	Core Path	Pedestrians, cyclists and equestrians	Track with vehicle access to A9. Provides access between Gelly Wood and Muir of Thorn (via SPIT/106). Crosses A9 at-grade to provide access for Muirlands Farm Cottage in the west (CP8).	n/a	4027m	Quiet, scenic track through woodland. Minimal traffic noise until very close to the A9.
SPIT/106 (Figure 16.1c)	Core Path	Pedestrians, cyclists and equestrians	Northbound track connecting SPIT/101 and SPIT/104.	n/a	1203m	Quiet, scenic track through woodland. Minimal traffic noise.
SPIT/107 (Figure 16.1c, CP9)	Core Path	Pedestrians, cyclists and equestrians	Kingswood to Byres of Murthly. Paved road links several properties including Kingswood Cottages and Coiryden Lodge. Path passes underneath A9 via an underpass (CP9).	n/a	582m	Paved track passes under the A9 therefore NMUs experience traffic noise.
SPIT/108 (Figure 16.1c)	Core Path	Pedestrians, cyclists and equestrians	Path leads north along a paved single track access road linking Garden House and Garden Cottage with Roman Bridge,	n/a	1362m	Paved road with some traffic noise from the A9.
NCR77 (Figure 16.1b and Figure 16.1c)	National Cycle Route	Cyclists	Cycle route that runs from Dundee to Pitlochry via Perth. Heading north from Perth, the route follows the River Tay to Almondbank, before turning north through Pitcairngreen and Moneydie before reaching Bankfoot. When the route reaches Bankfoot cyclists are directed through the village.	n/a	6467m (within the boundaries of the study area)	NCR77 is 54 miles of cycleway which follows the winding course of the River Tay between Dundee and Pitlochry. The majority of the route comprises quiet country lanes and dedicated cycle paths, with a few short off-road sections.
LC/003 (Figure 16.1b, CP6)	Local path	Pedestrians, cyclists and equestrians	Path leading via a paved road from AGVN/124 to Murthly. Path provides link beneath the A9 via an underpass to AGVN/110 and on to Five Mile Wood (CP6).	Bankfoot to Murthly / Stanley	291m	Paved road with well used pavement for pedestrian use. Experiences high traffic noise levels from A9. Path known to be used regularly by equestrians from consultation.

* Although predominant users of the paths are identified, it should be noted that access is not limited to a single user group.

** Refer to Chapter 7 (Community and Private Assets) and Figure 7.1 for further details on community facilities.

Public Transport

16.3.28 There are limited public transport services in the area but regular bus services do run between Perth and the villages of Bankfoot and Luncarty (Table 16.8). As Bankfoot and Luncarty have limited choice in terms of retail options it is assumed that most residents have their own vehicles to travel into Perth for goods. Based on this assumption it is likely that the majority of residents using the public bus system are elderly people who do not drive.

Table 16.8: Key Bus Services within the Study Area

Community Link	Bus No.	Route	Service Provider
Bankfoot – Perth	23	Bankfoot – Inveralmond – Perth	Stagecoach
Luncarty – Perth	34 / 34A	Luncarty – Inveralmond – Perth	Stagecoach
Bankfoot – Luncarty	34 / 34A	Bankfoot – Stanley – Luncarty	Stagecoach

16.3.29 School bus services operate in the local area, however, following a consultation meeting between Jacobs and Perth & Kinross Council on 21 November 2013 it was confirmed that no formal school bus stops are located on the existing A9. It is understood that most children living in properties immediately adjacent to the A9 are currently driven by private vehicle or collected by taxi.

Access to the Outdoors

16.3.30 The key outdoor areas located within the study area and surrounding communities are as follows (also refer to Figure 16.1 and Chapter 7: Community and Private Assets):

- Area based facilities:
  - All public parks.
  - The River Tay SAC.
  - Woodlands including Five Mile Wood, Luncarty Wood, Scot's Wood and Gelly Wood.
- Linear access facilities:
  - All rights of way and core paths as identified in Table 16.7.
  - NCR77 as identified in Table 16.7.

Vehicle Travellers

<u>View from the Road</u>

16.3.31 As the proposed scheme would follow the alignment of the existing A9, a direct comparison of the anticipated views from the upgraded road with the baseline condition (i.e. views gained from the existing road) can be undertaken. A description of the existing view is provided in this section, while a comparison of the views that would result with the proposed scheme and the existing views from the A9 are presented in Table 16.20.

16.3.32 As the route passes to the west of Luncarty, the road runs through a deep cutting, which contains the majority of views to either side of the road, with the cuttings slopes 'softened' by the existing mature trees and scrub vegetation. As the road moves out of cutting at the northern edge of Luncarty, views to both sides of the road look out across the adjacent fields, although the views are largely limited to the immediate area due to the mature woodland along the Shochie Burn and the railway embankments. Views then become restricted again by cuttings and mature woodland until the road crosses the Ordie Burn.

16.3.33 The view from the road continues to be partially obscured as far as Bankfoot. Shallow cuttings and shelter belts limit visibility, particularly to the east of the road. However, where these elements subside, expansive views of rolling, wooded farmland becomes visible to the west. Along sections of the road more distant views to the west and northwest to the rising hills that mark the edge of the

Highland Boundary Fault are available. A number of farms are visible both adjacent to the road corridor and further into the surrounding agricultural landscape. As the road approaches Bankfoot cuttings on both sides of the road restrict any views of the wider landscape. At the southern end of Bankfoot, travellers gain glimpses of the Perthshire Visitor Centre and the Garrybank Workshop through sporadic tree screening. A small number of new houses at the southern end of Bankfoot village can be seen as the A9 passes over a connecting road to the south of the village. The majority of the village is screened from views for vehicle travellers by a small hill that prevents a visual relationship between the village and the road. Earth cuttings continue to limit views from the road as it continues to the north, although the established roadside vegetation helps to 'soften' engineered slopes.

16.3.34 Directly north of Bankfoot the road initially travels through a structured stand of dense, mixed woodland. This section of woodland leads directly into the established Gelly Wood, limiting the majority of wider views from the final stretch of the scheme, though to the south of the SPIT/101 core path views open up to both sides of the road across an area of heath to the west and estate farmland between mature forestry plantations to the east. A track runs along the edge of the heath land connecting the Cairneyhill Road in Bankfoot to the Gelly Wood in the north.

Driver Stress

16.3.35 Current levels of driver stress for the section of A9 corridor between Luncarty and Pass of Birnam have been identified as Moderate to Low. Average peak hourly flows and driver stress levels for the existing road corridor in 2012 are shown in Table 16.9.

Table 16.9: Driver Stress Levels on Existing Road Network (2012)

Link Description	Direction	Road Class	Average Peak Hourly Flow per Lane (Flow Units/Hour)	Average Vehicle Speed (km/h)	Driver Stress
Luncarty - Pass of Birnam	northbound	Single Carriageway	584	80	Low
	southbound		602	80	Moderate

16.4 Potential Impacts

16.4.1 Potential impacts of the proposed scheme on NMUs and vehicle travellers are described in this section.

16.4.2 It should be noted that potential impacts identified are prior to the implementation of mitigation. However, the proposed scheme design assessed within this chapter was the result of an iterative process in which provision for maintaining and enhancing NMU journeys was taken into account i.e. the proposed scheme design already has incorporated/embedded mitigation such as overbridges and provision of footpaths/cycleways.

16.4.3 The potential impacts identified in this section are those that remain and for which specific mitigation measures to further reduce impacts (including new sections of paths, surfacing and signage) are identified in Section 16.5 (Mitigation).

16.4.4 For general impacts of the proposed scheme on community severance (new and existing) refer to Chapter 7 (Community and Private Assets).

Non-Motorised Users (NMUs)

Footpaths/Cycleways and Other Routes

Construction

16.4.5 During construction of the proposed scheme, disruption of NMUs using paths within the immediate vicinity of the A9 due to temporary severance and diversions are anticipated during the

construction period. Most of the paths identified as being affected by construction activities are those that intercept the A9 or the main roads connecting to the A9 (refer to Table 16.7).

16.4.6 During the construction period, pedestrians and other NMUs have the potential to be disrupted by:

- temporary diversions of paths and cycleways;
- temporary severance of existing footbridges at-grade access across the A9;
- creation of new paths and cycleways;
- construction traffic on local roads which may create busier crossing points;
- location of site compounds on recreation areas which would reduce accessibility; and
- effects on the amenity value of the path and cycleway network due to noise, dust, and also visual intrusion of the works.

16.4.7 The above potential impacts are described in general terms as they will depend on the detail and timing of activities undertaken by the Contractor which are not available at this time. Typical effects on NMUs due to construction in the absence of mitigation are likely to include:

- disruption of local bus services, for example, changes in journey times;
- temporary diversion of paths, cycleways or minor roads which may increase journey times; and
- temporary severance where construction works disrupt or deter NMUs from using paths and residents from accessing local facilities.

Operation

16.4.8 The needs of NMUs have been considered throughout the development of the proposed scheme with various access features incorporated into the design to maintain and improve NMU routes. The proposed scheme design incorporates four overbridges which allow the following paths to be maintained across the mainline of the proposed scheme (refer to Figure 16.1 for all existing crossing points). Consequently, no adverse impacts on journey length will occur during the operation phase for:

- Core paths LUNC/122 and LUNC/123 (CP3) - overbridge proposed at the Pitlandie Farm. Also refer to JLA 1 on Figure 16.2a.
- Local path LC/002 (CP4) - Tullybelton\Stanley Junction will provide NMUs with access across the A9 via an overbridge. Also refer to JLA 2 on Figure 16.2b.
- Core paths AGVN/117 and AGVN/107 (CP7) - overbridge proposed across the A9 carriageway following existing path alignment. Also refer to JLA 4 on Figure 16.2c.
- Core paths SPIT/101 and AGVN/113 (CP8) - overbridge proposed across the A9 carriageway following existing path alignment. Also refer to JLA 5 on Figure 16.2d.
- NMUs currently using the overbridge at CP2 or the underpass at CP6 would be able to continue to do so with the proposed scheme in place, and as such no operational impacts are predicted for these users.

16.4.9 The proposed scheme includes access provision for NMUs, and this is considered to be 'embedded mitigation' that forms part of the assessed design. The following impact assessment therefore identifies potential impacts that remain despite the embedded mitigation, with measures to avoid or reduce these potential impacts identified in Section 16.5 (Mitigation), where appropriate. Embedded mitigation forming part of the proposed scheme design (as shown on Figures 16.2-16.3) which is related specifically to provision for NMUs comprises:

- new combined footway/cycleways, to enable NMUs to travel from Luncarty to Bankfoot;
- safe crossing points (identified below); and

- additional cyclist provision at the Bankfoot Junction North in the form of a 'jug handle alignment'. This is effectively a loop in the cycle lane that provides cyclists with additional turning space and separation from pedestrians before arriving at the crossing point. Pedestrians and cyclists can safely cross the junction and continue to the combined footway/cycleway on either side of the junction.

16.4.10 One potential significant (Moderate) adverse impact is identified (refer to JLA2 and JLA 3 on Figure 16.2b). This is at CP5, where core path AGVN/115 links to AGVN/110 by crossing the A9 and providing access to Five Mile Wood (Figure 16.1a), as the existing access to the A9 from AGVN/115 core path would be stopped up. A longer route would be required for this journey, with two options being available as follows:

- Taking the shortest route from East Mains or Loak with the proposed scheme in place, NMUs would travel southward along a combined footway/cycleway to the proposed Tullybelton/Stanley Junction. After crossing the new junction via the safe crossing points, NMUs would then travel back northwards along the new access road. The access road is in place as part of the design to provide access for Westwood Farm and would allow the core path network to be maintained across the proposed scheme. This journey route is shown on Figure 16.2b, refer to JLA2 and JLA3.
- An alternative route is also available to NMUs by travelling north along core paths AGVN/115 and AGVN/124 to the existing Bankfoot underpass (CP6), which is unaffected by the proposed scheme. However, this route is longer than travelling to Five Mile Wood via the Tulleybelton/Stanley Junction.

16.4.11 In terms of beneficial impacts, the existing A9 within the study area is currently crossed by NMUs at a number of locations without overbridge/underbridges, which given the high speeds of the traffic (speed limit of 60mph), creates an unsafe environment for both NMUs and vehicle travellers. The overbridges and underbridges provided as part of the proposed scheme will improve general safety for NMUs at these locations.

16.4.12 As previously noted, embedded mitigation is also incorporated into the design, which will have beneficial impacts. Specifically, the inclusion of the 'jug-handle' on the north side of the Bankfoot Junction North loop improving cyclist safety when crossing the junction carriageway to the combined footway/cycleway on the south side of the Bankfoot Junction North allowing safer access to the west from Bankfoot.

16.4.13 Table 16.10 and Table 16.11 summarise all potential impacts, for changes to amenity value and to journey length respectively. It should be noted that baseline journey lengths used in this assessment may differ from those shown in Table 16.7 when considering multiple paths used by NMUs to cross the A9.

Table 16.10: Potential Changes in Amenity Value (without mitigation) during Operation

Path Ref.	Path Type	Potential Impact on Safety Resulting from the Installation of Overbridges and Changes in Traffic Flows	Potential Change			Significance (Amenity Value)
			Visual	Air Quality	Noise	
LUNC/100, LUNC/112, LUNC/116-117, LUNC/121, LUNC/127, LUNC/133, AGVN/107, LUNC/125, LUNC/134, AGVN/104, AGVN/109, 36/2, AGVN/110, AGVN/111-114, 35/15, AGVN/123, STAN/101, STAN/117, STAN/142, STAN/148, SPIT/100, SPIT/106, SPIT/107-108, NCR77, LC/001, LC/003	Various	Not considered in the traffic assessment for safety because they do not intersect the main A9 carriageway.	Negligible	Negligible	Negligible	Negligible
LUNC/122	Core Path	Increase in NMU safety via the provision of a pedestrian overbridge, as NMUs would no longer have to cross the A9 at-grade (Figure 16.2a).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
LUNC/123	Core Path	Increase in NMU safety via provision of a pedestrian overbridge as NMUs would no longer have to cross the A9 at-grade (Figure 16.2a).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
LC/002	Local Path	Increase in NMU safety via provision of an overbridge for both traffic and pedestrians (Tullybelton/Stanley Junction). Traffic flows experienced by pedestrians crossing the A9 in design year (2032) would be reduced from 16541 (existing A9) without proposed scheme to 537 (new overbridge) with proposed scheme (Figure 16.2b).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
AGVN/107	Core Path	Increase in NMU safety via provision of a pedestrian overbridge as NMUs would no longer have to cross the A9 at-grade (Figure 16.2c).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
AGVN/117	Core Path	Increase in NMU safety via provision of a pedestrian overbridge as NMUs would no longer have to cross the A9 at-grade (Figure 16.2c).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
AGVN/110	Core Path	Increase in NMU safety via provision of an overbridge for both traffic and pedestrians (Tullybelton/Stanley Junction). Traffic flows experienced by pedestrians crossing the A9 in design year (2032) would be reduced from 16541 (existing A9) without proposed scheme to 537 (new overbridge) with proposed scheme (Figure 16.2b).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
AGVN/115	Core Path	Increase in NMU safety via provision of an overbridge for both traffic and pedestrians (Tullybelton/Stanley Junction). Traffic flows experienced by pedestrians crossing the A9 in design year (2032) would be reduced from 16541 (existing A9) without proposed scheme to 537 (new overbridge) with proposed scheme (Figure 16.2b).	Moderate (close proximity to road and path running parallel to road for majority of length).	Negligible	Moderate (close proximity to road and path running parallel to road for majority of length)	Moderate
AGVN/124	Core Path	Not considered in the traffic assessment for safety because does not directly intersect the main A9 carriageway.	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
AGVN/113	Core Path	Increase in NMU safety via provision of a pedestrian overbridge as NMUs would no longer have to cross the A9 at-grade (Figure 16.2d).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight
SPIT/101	Core Path	Increase in NMU safety via provision of a pedestrian overbridge as NMUs would no longer have to cross the A9 at-grade (Figure 16.2d).	Slight (close proximity to road).	Negligible	Slight (close proximity to road)	Slight

Table 16.11: Potential Impacts on Journey Length (without mitigation) during Operation

Journey Length Assessment Point	Baseline Crossing Point Ref	Path Ref.	Path Type	Potential Impacts	Key Impact on NMUs	Baseline Journey Length (m)	Potential New Journey Length (m)	Potential Change (m)	Sensitivity	Potential Impact	
										Magnitude	Significance
JLA 1	CP3	LUNC/122–LUNC/123	Core Paths	Decrease in journey length.	Introduction of overbridge to cross the A9 and realignment of path.	2915	2661	-254	High	Negligible	Slight (beneficial)
JLA 2	CP4	LC/002	Local path	Decrease in journey length	Introduction of overbridge to cross the A9 at the newly constructed Tullybelton/Stanley Junction.	4018	3846	-172	Low	Negligible	Negligible
JLA 3	CP5	AGVN/115–AGVN/110	Core Paths	Severance of access across the A9.	Paths AGVN/115 – AGVN110 will be re-routed to the south to cross the A9 at the Tullybelton/Stanley Junction. NMUs may also travel north to cross the A9 at the Bankfoot Underpass (CP6).	54	2473	+2419	High	High	Substantial
JLA 4	CP7	AGVN/117–AGVN/107	Core Paths	Decrease in journey length	Introduction of overbridge to cross the A9 and realignment of path.	2558	2556	-2	High	Negligible	Slight (beneficial)
JLA 5	CP8	AGVN/113–SPIT/101	Core Paths	No change	Introduction of overbridge to cross the A9 and realignment of path.	892	892	0	High	Negligible	Slight (beneficial)

Table 16.12: Summary of Potential Impacts on NMU Paths (without mitigation) during Operation

Path Ref.	Path Type	Significance of Potential Impact		
		Journey Length	Amenity Value	Overall
LUNC/100, LUNC/102, LUNC/103, LUNC/105, LUNC/112, LUNC/114, LUNC/116, LUNC/117, LUNC/119, LUNC/121, LUNC/125, LUNC/127, LUNC/133, LUNC/134, AGVN/104, AGVN/109, AGVN/111, 36/2, AGVN/112, AGVN/113, AGVN/13, AGVN/14, AGVN/123, AGVN/124, STAN/101, STAN/117, STAN/142, STAN/148, SPIT/100, SPIT/106, SPIT/107, SPIT/108, NCR77, LC001	Core Path / NCR / Right of Way / Local Path	None	Negligible	Negligible
LUNC/122	Core Path	Slight (beneficial)	Slight	Slight (beneficial)
LUNC/123	Core Path	Slight (beneficial)	Slight	Slight (beneficial)
LC/002	Local Path	Negligible	Slight	Slight
AGVN/107	Core Path	Slight (beneficial)	Slight	Slight (beneficial)
AGVN/117	Core Path	Slight (beneficial)	Slight	Slight (beneficial)
AGVN/110	Core Path	Substantial	Slight	Moderate
AGVN/115	Core Path	Substantial	Moderate	Moderate/Substantial
AGVN/113	Core Path	Negligible	Slight	Slight
SPIT/101	Core Path	Negligible	Slight	Slight

Public Transport

Construction

16.4.14 As identified in Table 16.8, there are a number of bus services that operate between Luncarty and Bankfoot. These services may be disrupted during construction due to temporary road closures, diversions and increased traffic on the A9 and surrounding roads. Mitigation for this is set out in Section 16.5.

Operation

16.4.15 There are unlikely to be adverse impacts to bus services during operation. It is predicted that there will be a slight beneficial impact on public transport due to a decrease in traffic congestion thereby leading to fewer delays and improved journey times on the A9.

Access to the Outdoors

16.4.16 Construction impacts identified for paths are noted in Section 4 (Potential Impacts). Table 16.13 provides an assessment of operational impacts on access to the countryside, drawing on the findings of the impact assessment on paths as outlined in Tables 16.10, 16.11 and 16.12.

Construction

16.4.17 In the absence of mitigation during construction potential significant impacts (Moderate or above) would be present for the following outdoor areas:

- Five Mile Wood - Users of core paths STAN/142, AGVN/109 and STAN/101 to Five Mile Wood are not expected to experience disruption during the construction phase. Users of core path AGVN/117 are expected to experience disruption through temporary severance of the path for construction of the Coltrannie Overbridge (refer to CP7 on Figure 16.1b). This will cause temporary severance for people living in north Bankfoot who wish to access Five Mile Wood and will require a detour through the village and if possible, crossing of the A9 via the underpass to the south of the village.

- Gelly Wood - Users of core path SPIT/101 are expected to experience disruption through temporary severance of the path for construction of the Gelly Overbridge (refer to CP8 on Figure 16.1c). This will limit access across the A9 from the west and therefore temporarily sever Gelly Wood from those wishing to access from this direction.

Operation

16.4.18 During operation, as detailed in Table 16.13, beneficial impacts on outdoor access would potentially be present for the following outdoor areas:

- Five Mile Wood via AGVN/117 and AGVN/107 (refer to CP7 on Figure 16.1b); and
- Gelly Wood via SPIT/101 and AGVN/113 (refer to CP8 on Figure 16.1c).

16.4.19 During operation, as detailed in Table 16.13, adverse impacts on outdoor access would potentially be present for the following outdoor areas:

- Five Mile Wood via AGVN/115 and AGVN/110 at the properties East Mains and Loak (refer to CP5 on Figure 16.1b).

Table 16.13: Potential Impacts on Access to the Outdoors (without mitigation) during Operation

Facility	Outdoor Access Area	Potential Impact (without mitigation)	Significance of Potential Impact
Area Facilities			
Public Parks	Langland Park	Users of core paths LUNC/102, LUNC/127 and LUNC/133 are not expected to be affected by the operation phase and therefore the impacts will be negligible.	Negligible
Community Woodland	Luncarty Woods	Users of core paths LUNC/102, LUNC/127 and LUNC/133 are not expected to be affected by the operation phase and therefore the impacts will be negligible.	Negligible
	Five Mile Wood (from Bankfoot)	Users of core paths STAN/142, AGVN/109, STAN/101 and AGVN/117 to Five Mile Wood will not be affected. There will be a slight beneficial impact in terms of improved safety of NMUs accessing the Five Mile wood from the north of Bankfoot Village across the proposed overbridge at CP7; NMUs will no longer be required to cross the A9 at-grade level.	Slight (beneficial)
	Five Mile Wood (from East Mains)	Users of core paths AGVN/115 and AGVN/110 (i.e. people travelling from the East Mains property on the west of the A9) will be adversely affected in their access to Five Mile Wood by being diverted northwards towards Bankfoot and crossing the A9 at CP7. This will result in an increase in journey length by 1735m from East Mains.	Substantial
	Five Mile Wood (from Loak)	Users of core paths AGVN/115 and AGVN/110 (i.e. people travelling from the Loak property on the west of the A9: Loak) will be adversely affected in their access to Five Mile Wood by being diverted northwards towards Bankfoot and crossing the A9 at CP7. This will result in an increase in journey length by 462m from Loak.	Moderate
	Scot's Wood	Users of AGVN/104 (the main path to and from Scot's Wood) will not be affected during the operation phase.	Negligible
	Gelly Wood	There will be a slight beneficial impact in terms of improved safety of NMUs accessing the Gelly wood from the west of across the proposed overbridge over the A9; NMUs will no longer be required to cross the road at-grade level.	Slight beneficial

Vehicle Travellers

View from the road

Construction

16.4.20 Adverse impacts on drivers' view from the road are predicted due to the visual impact of construction works, including the works themselves and the associated temporary signage. The

construction phase will have a short-term effect on the views from the road. Views may become more open where there is a loss of established planting due to construction, or they may become more enclosed where new earthworks are being created. Traffic that is re-routed during this period will also have a temporarily alternative view from that of the final scheme.

Operation

16.4.21 Potential impacts for travellers during operation are partly determined by design measures integral to the scheme, such as earthworks and bunds, which are reinforced by proposed planting. Potential unmitigated impacts are essentially similar to the residual impacts during the winter year of opening before mitigation planting has become established. Views from the road in the winter year of opening are described in Table 16.20.

Driver Stress

Construction

16.4.22 Taking cognisance of IAN 125/09 driver stress during construction is assessed. The following traffic flows are based on design year 2019, during construction of the works. For the purposes of assessment, the worst-case scenario has been assumed whereby in each direction of travel only one lane will be in operation and vehicle speed will be restricted to 40mph.

Table 16.14: During Construction (Design Year – 2019)

Link Description	Direction	Lane	Road Class	Average Peak Hourly Flow per Lane	Average Vehicle Speed (kph)	Driver Stress
Luncarty - Pass of Birnam	northbound	n/a	Single Carriageway	630	40	High
	southbound	n/a		649	40	High

16.4.23 Table 16.14 indicates that driver stress during construction will temporarily increase from moderate to high for vehicle travellers using both the northbound and southbound sections of the road corridor. This potential increase in driver stress is temporary and would be restricted to particular limited periods within the construction phase.

Operation

16.4.24 In the absence of the proposed scheme, driver stress is predicted to increase between present day levels and 2034, due to traffic growth. As the road standard does not change, the increased traffic volume can exceed the traffic volume thresholds which apply in the present day assessment, and can result in re-classification of the levels of driver stress.

16.4.25 The traffic flows in Table 16.15 are based on the scenario that the existing road corridor will remain on its current alignment as a single carriageway i.e. the Do-minimum scenario.

Table 16.15: Do-Minimum (Design Year – 2034), Predicted Future Baseline without Proposed Scheme

Direction	Lane	Road Class	Average Peak Hourly Flow per Lane	Average Vehicle Speed (km/h)	Driver Stress
A9 northbound	n/a	Single Carriageway	678	79	Moderate
A9 southbound	n/a		699	79	Moderate

16.4.26 As indicated in Table 16.15, in the absence of the proposed scheme, the level of driver stress experienced by vehicle travellers is predicted to increase for travellers in the northbound direction whilst remaining unaltered for travel in the southbound direction, when compared to driver stress levels on existing road corridor in 2012 as shown in Table 16.9.

16.4.27 The traffic flows in Table 16.16 take into account the upgrade of the A9 to dual carriageway over its entire length between Inverness and Perth i.e. the proposed scheme (Do-Something scenario). It is anticipated that the widening of the A9 to a dual carriageway will result in increased traffic flows due to additional traffic being attracted to using the route once the entire Perth to Inverness section is dualled. Table 16.16 indicates that the level of driver stress will decrease for travellers in the southbound direction whilst remaining unaltered for travel in the northbound direction with the proposed scheme in place.

Table 16.16: Do-Something (Design Year – 2034), Predicted Future Baseline with Proposed Scheme

Direction	Lane	Road Class	Average Peak Hourly Flow per Lane	Average Vehicle Speed (km/h)	Driver Stress
A9 northbound	Lane 1	Dual Carriageway	570	93	Low
	Lane 2		200		
A9 southbound	Lane 1		565	95	Low
	Lane 2		220		

16.5 Mitigation

16.5.1 As noted in Section 16.4 (Potential Impacts), the proposed scheme design already has embedded mitigation such as overbridges and provision of footpaths/cycleways. The mitigation measures set out below are proposed to further reduce impacts.

16.5.2 In addition to the mitigation provision proposed specifically for NMUs, mitigation for other environmental impacts in some cases will have the additional benefit of ameliorating impacts on NMUs, such as proposed landscape planting to provide screening.

16.5.3 The development of mitigation is based on the approach as described in PAN 1/2013, and to meet the legislation requirements of the Equality Act 2010 and the Land Reform (Scotland) Act 2003. Under the Equality Act 2010, it is unlawful for service providers to treat disabled people less favourably than they would treat other people for a reason related to their disability, when offering public services and facilities (including paths and trails). Therefore, where any new path, overbridge, underbridge or access point forms part of the proposed scheme, the requirements of the Equality Act 2010 were taken into account and potential barriers to disabled people such as gradient, verge width, radius of bends and surfacing were considered.

16.5.4 Monitoring of mitigation measures related to NMUs, views from the road or driver stress will not be required during operation of the proposed scheme.

Non-Motorised Users (NMUs)

Construction

16.5.5 Measures to mitigate potential impacts on NMUs (**Mitigation Item AT1**) include:

- The construction works are to be programmed in such a manner to reduce the length of closures or restrictions of access as far as practicable. Any diversion routes must be safe for NMUs and all inclusive in accordance with the Roads for All: Good Practice Guides for Roads, 2013 (Transport Scotland, 2013).
- The construction site is to be fenced and access by non-authorised personnel will generally not be permitted.
- Temporary diversion routes are to be provided to maintain access for NMUs throughout the works, and any closure or re-routing of routes used by NMUs will be agreed in advance with the local authorities.
- Where necessary, bus stops are to be relocated safely with a safe access route provided for NMUs.

- Best Practicable Means are to be employed to avoid the creation of a statutory nuisance associated with noise, dust and air pollution.
- Reasonable precautions to be undertaken to reduce the visual impact of the construction works where practicable.

Operation

16.5.6 Development of the proposed scheme design has taken into account the need to maintain access for NMUs along and across roads and paths directly affected by the new road infrastructure. The proposed scheme design includes the provision of overbridges and new footways and cycleways which maintain and improve access along existing NMU routes. This section identifies mitigation measures to avoid or reduce remaining potential impacts, as illustrated on Figure 16.2.

16.5.7 General principles for maintaining and improving access for NMUs (**Mitigation Item AT2**) are:

- The requirements of the Equality Act 2010 should be incorporated into the proposed scheme wherever practicable; e.g. any bridges, ramps or footpaths should take into account potential barriers to disabled people such as the gradient or surfacing (refer to paragraph 16.2.12).
- Surfacing of any new paths including alongside roads should be considered with regard to the type of user and should comply to current standards.
- Safety of paths can be improved by providing barriers to segregate traffic from paths.
- Safety of road crossing points can be improved by providing signalised crossings.
- Cycling provision can be improved by including designated cycle lanes and clear signing.
- Creation of new recreation areas and/or paths/cycleways linking existing community facilities.
- New cycleways/footpaths should use non-frost susceptible materials to reduce risk of degradation.

16.5.8 Amenity value of paths can also be improved as a result of the mitigation measures employed to reduce potential visual and noise impacts (**Mitigation Item AT3**). These are detailed in Chapter 12 (Visual) and Chapter 15 (Traffic Noise and Vibration) and are taken into account in Section 16.6 (Residual Impacts), where applicable.

16.5.9 Mitigation proposals (Mitigation Items AT4-AT8) for NMUs are outlined in Table 16.17 and illustrated on Figures 16.2 and 16.3.

Table 16.17: Proposed Mitigation Measures for the Operation Phase

Item No.	Baseline Crossing Point	Proposed Mitigation Description	Location (Path ref.)	Users
Pitlandie overbridge (JLA 1) (Mitigation Item AT4)	CP3 (Figure 16.2a)	Provision for equestrians, such as path widening and identification of appropriate signage and dismounting facilities on the approaches to each structure. Bridges should be at least 3m wide and have parapets of 1.5m. New signage to direct NMUs to overbridge.	LUNC/123 LUNC/125	Pedestrians and equestrians
Tullybelton / Stanley Compact Grade Junction and associated paths (JLA 2 and 3) (Mitigation Item AT5)	CP4 and CP5 (Figure 16.2b).	Provision for equestrians, such as path widening bridges should be at least 3m wide with parapets. Parapets will be at least 1.8m in height to prevent jumping by horses or falls from rider in accordance with BHS guidance (BHS, 2013). Consultation with BHS in October 2013 confirmed this was the only location for the proposed scheme where high parapets(1.8m) are required. New signage to direct NMUs to overbridge.	AGVN/115 AGVN/110	Pedestrians and equestrians

Item No.	Baseline Crossing Point	Proposed Mitigation Description	Location (Path ref.)	Users
Coltrannie overbridge and associated paths (JLA 4) (Mitigation Item AT6)	CP7 (Figure 16.2c).	Provision for equestrians, such as path widening. Bridges should be at least 3m wide and have parapets of 1.5m. New signage to direct NMUs to overbridge.	AGVN/117 AGVN/107	Pedestrians and equestrians
Gelly Wood overbridge and associated paths (JLA 5) (Mitigation Item AT7)	CP8 (Figure 16.2d).	Provision for equestrians, such as path widening. Bridges should be at least 3m wide and have parapets of 1.5m New signage to direct NMUs to footbridge.	SPIT/101 AGVN/113	Equestrians
Access for East Mains and Loak to Five Mile Wood (Mitigation Item AT8)	CP5, CP6 (Figure 16.2c).	Signage directing NMUs northwards towards underpass at Bankfoot and then on to Five Mile Wood.	AGVN/115 AGVN/110	Pedestrians, cyclists and equestrians

Access for NMUs between Luncarty and Bankfoot

16.5.10 Embedded mitigation in the proposed scheme design includes improved access and safety for NMUs wishing to travel between the villages of Luncarty and Bankfoot. A new combined footway/cycleway (as shown on Figure 16.3) will enable NMUs to travel north from Luncarty on the eastern side of the A9 to the Newmills junction, over a distance of approximately 1.8km. From here NMUs will be able to safely cross the A9 using proposed crossing points and then the proposed 940m long footway/cycleway linking to the core path network to enter Bankfoot from the south. This new footway/cycleway will also connect into pre-existing routes used by NMUs (**Mitigation Item AT9**).

16.5.11 To improve safety for NMUs using combined footway/cycleways, verges and safety barriers will be constructed to allow for a safe separation distance between NMUs and traffic. For combined footway/cycleway on side roads located near to the A9 (such as the Luncarty Link Road) there will be a minimum of 1m verge separating the footway/cycleway and the side road carriageway. However, where the footway/cycleway runs directly parallel to the A9 (such as the footway/cycleway at East Mains) there will be a minimum of a 2m verge separating the footway/cycleway and the carriageway (**Mitigation Item AT10**).

Vehicle Travellers

View from the Road

Construction

16.5.12 Measures to mitigate potentially adverse impacts on the landscape have been incorporated into the proposed scheme design. The predominant landscape mitigation affecting view from the road is the replacement of trees lost during construction and the grading of earthworks so land can be returned to agriculture (**Mitigation Item AT11**). A description of all the main elements of the mitigation proposals are summarised below, and further details are provided in Chapter 11 (Landscape) and Chapter 12 (Visual).

Operation

16.5.13 The A9 is a key tourist route and the section of the route between Luncarty and Pass of Birnam forms an important approach to the Highlands, including glimpsed views to the hills that mark the edge of the Highland Boundary Fault currently available to the west and northwest. The strategy adopted for the landscape mitigation design has therefore been to take advantage of open views where possible, whilst providing planting at key locations to screen views of the road from nearby

visual receptors and the wider landscape. Limited amounts of new planting are proposed on the west side of the route, and these are mainly in areas of cutting (where views would be curtailed by the earthworks) or in locations where there is existing planting alongside the A9 and there is no potential to open up more distant views.

16.5.14 Detailed landscape mitigation proposals will be incorporated within contract documents, of which this ES will form a part. This will include a requirement that the detailed design meets the objectives of the mitigation and that the details of the landscape mitigation are agreed in consultation with SNH. These environmental commitments, including landscape mitigation measures, must be adhered to by the appointed contractor, to ensure the implementation of high quality, effective design. In addition, a section specifically addressing design aesthetics will be included within the contract documents to provide further details of how specific mitigation measures are to be implemented and how design aesthetics are to be addressed.

16.5.15 Potential mitigation measures that will affect the view from the road (**Mitigation Item AT12**) include the following:

- where possible, the established trees and woodland adjacent to the road will be protected or will be replaced to maintain the character of the landscape affected by proposals;
- planting proposals using broadleaved and mixed woodland, as well as scrub and tree groups are proposed to create a diverse range of species along the route;
- planting on the slopes of deep cuttings and screening bunds will help to soften the sense of enclosure created by the new earthworks;
- species-rich grassland on areas for which re-seeing is required, such as road verges; and
- grading out of earthworks to tie smoothly into the surrounding landscape. Where appropriate, the land adjacent to the road will be re-graded to allow for potential return to agricultural use.

Driver Stress

Construction

16.5.16 Measures to mitigate potential impacts on driver stress during construction (**Mitigation Item AT13**) include the following:

- traffic management during construction to take reasonable precautions to reduce disruption and delays, and in accordance with the Traffic Signs Manual (Department of Transport, 2009);
- reasonable precautions to avoid or reduce disruption to the road traffic, including consideration of the timing of works, earthworks balance, haul roads to reduce site traffic on the public roads and a well maintained traffic management system with sweeping of roads to reduce construction debris on the carriageway;
- reasonable precautions to avoid or reduce road closures. No A9 lane closures permitted during peak hours (Mon-Fri) except in exceptional circumstances approved by Transport Scotland;
- road diversions will be clearly indicated with road markings and signage as appropriate. Closures to be notified in advance and signage provided; and
- appropriate lighting will be provided during any necessary night-time working.

Operation

16.5.17 The proposed scheme is predicted to result in driver stress classifications which will either remain the same or decrease compared to the Do-Minimum scenario (without the proposed scheme). The proposed scheme will be designed to current road design standards and it is considered that aspects of the design may contribute to reducing driver stress during operation (**Mitigation Item AT14**), such as:

- improved signage to reduce confusion and uncertainty and improve navigation confidence;

- improved operational reliability and resilience in respect of maintenance requirements to reduce driver frustration during periods of maintenance; and
- reduction in the frequency and impact of incidents on traffic flow to reduce driver frustration arising from delays due to unplanned events.

16.6 Residual Impacts

16.6.1 Residual impacts taking into account proposed mitigation measures are described in this section.

Non-Motorised Users (NMUs)

Construction

16.6.2 During construction, the proposed mitigation measures will help reduce impacts on NMUs. However, disruption to journeys is still likely to be experienced as a result of temporary diversions. In addition there are expected to be temporary amenity impacts in the vicinity of construction activities as a result of temporary increased noise, decreased air quality and views of construction activities (also refer to Chapter 15: Noise and Chapter 14: Air Quality).

16.6.3 Following implementation of the construction mitigation proposals, it is expected that residual impacts on NMUs during the construction of the proposed scheme will be of Negligible or Slight significance for disruption during construction.

Operation

16.6.4 Residual impacts resulting from the proposed scheme during operation on all paths are provided in Table 16.18.

16.6.5 During operation, residual impacts for the majority of core paths within the study area are predicted to be of Negligible significance. One Moderate significance residual impact has been identified on NMUs using core path AGVN/115 (refer to Table 16.18), due to the length of the revised journey required with the proposed scheme in place.

16.6.6 No other residual impacts are anticipated on NMUs using any of the rights of way, National Cycle Routes or local paths within the study area.

16.6.7 As shown in Table 16.18, several beneficial impacts as a result of the proposed scheme improving journey times and safety for NMUs are identified. Improved access between the communities of Luncarty and Birnam would also result from the proposed scheme, inclusion of additional footways and cycleways as shown on Figures 16.2 and 16.3. Overall residual impacts on NMUs during operation are considered to be beneficial.

Table 16.18: Summary of Potential and Residual Impacts on Paths During Operation

Path Ref.	Path Type	Potential Impact Significance	Mitigation Measure	Residual Impact Significance
LUNC/100, LUNC/102, LUNC/103, LUNC/105, LUNC/112, LUNC/114, LUNC/116, LUNC/117, LUNC/119, LUNC/121, LUNC/125, LUNC/127, LUNC/133, LUNC/134, AGVN/104, AGVN/109, AGVN/111, 36/2, AGVN/112-114, AGVN/123, AGVN/124, STAN/101, STAN/117, STAN/142, STAN/148, SPIT/100, SPIT/101, SPIT/106, SPIT/107, SPIT/108, NCR77, LC001	Core Path / NCR / Right of Way / Local Path	Negligible	n/a	Negligible
LUNC/122 (CP 3)	Core Path	Slight (beneficial)	n/a	Slight (beneficial)

Path Ref.	Path Type	Potential Impact Significance	Mitigation Measure	Residual Impact Significance
LUNC/123 (CP 3)	Core Path	Slight (beneficial)	n/a	Slight (beneficial)
LC/002 (CP 4)	Core Path	Slight (beneficial)	n/a	Slight (beneficial)
AGVN/107 (CP 7)	Core Path	Slight (beneficial)	n/a	Slight (beneficial)
AGVN/117 (CP 7)	Core Path	Slight (beneficial)	n/a	Slight (beneficial)
AGVN/110 (CP 5)	Core Path	Moderate	Signage to direct NMUs along alternative route.	Slight/ Moderate
AGVN/115 (CP 5)	Core Path	Moderate/ Substantial	Signage to direct NMUs along alternative route.	Moderate
AGVN/113 (CP8)	Core Path	Slight	n/a	Slight
SPIT/101 (CP8)	Core Path	Slight	n/a	Negligible

Access to outdoors

Construction

16.6.8 There were two significant potential impacts identified during construction for the access to Five Mile Wood: Substantial for NMUs taking access from East Mains and Moderate for NMUs taking access from Loak (both due to increased journey length). To mitigate these potential impacts, signage will be installed directing NMUs to the woodland via the Bankfoot underpass at CP6. This is anticipated to reduce the residual impact to Moderate significance for East Mains and Slight significance for Loak.

Operation

16.6.9 During operation, with the implementation of mitigation, the residual impacts for Five Mile Wood (via AGVN/115 and AGVN/110 at the properties East Mains and Loak) will be reduced to Moderate significance for East Mains and Slight significance for Loak. As noted in paragraph 16.6.5, a residual impact of Moderate significance will remain at East Mains due to the significantly increased journey length required to access Five Mile Wood. However, it should be noted that although there is an increased journey length, there will be significantly improved safety for NMUs using the revised route.

Vehicle Travellers

View from the Road

16.6.10 The proportions of different types of view available from the existing A9 and proposed scheme are summarised in Table 16.19.

Table 16.19: Comparison of Existing and Proposed View from the Road

View type	Approximate % of route length		
	Existing A9	Proposed scheme (winter year of opening)	Proposed scheme (summer 15 years after opening)
Open	25.5%	26.7%	19.5%
Intermittent	13.8%	27%	18.7%
Restricted	22.6%	6%	16.2%
No View	38.1%	40.3%	45.6%

16.6.11 The figures in Table 16.19 indicate that initially (winter year of opening) vehicle travellers will experience more open or restricted views than is currently experienced with the existing A9. Over time, once replacement landscape planting becomes established (summer 15 years after opening), the establishment of the proposed mitigation planting would help to provide screening of views and replacement of areas where vegetation was removed during construction adjacent to the dualled A9, access tracks and junctions. This would result in the open and intermittent views reducing and an increase in the sections of the dualled A9 with no view. However, the percentage of restricted views would reduce to approximately 16.2%.

16.6.12 Views from the proposed scheme are described in detail in Table 16.20 and illustrated in Figure 12.1 views during the winter year of opening (with all earthworks and new planting in place but without the benefits of established planting) and for views in the summer 15 years after opening (when proposed planting will have become established).

16.6.13 While the proposed scheme would result in a very minor increase in the sections of the road with no view, this would largely be a result of the increased screening provided by the more structured woodland of the proposed mitigation planting, rather than a significant reduction in the views of the wider area. Overall, vehicle travellers would continue to experience the same scenic views of the surrounding rolling farmland interspersed along the wooded road corridor.

Driver Stress

16.6.14 The residual impacts of the proposed scheme on driver stress have been assessed taking into account the proposed scheme design and identified mitigation measures. With the proposed scheme in place it is predicted that driver stress will decrease from current levels for travellers in the southbound direction whilst remaining unaltered for travel in the northbound direction. In contrast, for the Do-Minimum scenario (i.e. without the proposed scheme), driver stress is predicted to increase for travellers in the northbound direction whilst remaining unaltered for travel in the southbound direction, due to predicted increased traffic flows exceeding the traffic volume thresholds of the existing road corridor. The residual impacts on driver stress for the proposed scheme are therefore considered to be of Slight beneficial significance.

Compliance with A9 SEA Strategic Aims

16.6.15 The A9 SEA identified anticipated significant benefits in relation to road safety and accident severity resulting from dualling, and as noted in this assessment safety benefits are predicted for NMU and vehicular travellers. In addition, the proposed scheme provides safer crossing points for NMUs, and also maintains existing routes with predominantly negligible change or improved journey times in line with the recommendations of the SEA and the scheme objectives, set out in Chapter 2 (Need for the Scheme).

Table 16.20: Residual Impacts - View from the Road

Chainage	Landscape/ Settlement Character Area(s)	View from Existing Road (A9)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch0-500 Northbound and Southbound	Wooded Farmland	No View: The view from the road is completely enclosed by earth cuttings on both sides. Established mixed wood and shrub planting on the cutting slopes further prevents wider views, although helps to soften the appearance of the slopes.	No View: Deep cuttings to both side of the carriageway would prevent views out from the road. New mixed woodland planting on the cutting slopes on both sides of the road.	No View: Deep cuttings to both side of the carriageway would prevent views out from the road. Established mixed woodland planting on the cutting slopes on both sides of the road would help to soften the appearance of the slopes.
ch500-700 Northbound	Wooded Farmland	Open View: Views across rolling agricultural farmland to the west. Mature woodland along the Shochie Burn and around the field boundary limit the extent of the available views.	Open View: Views across rolling agricultural farmland to the west. Mature woodland along the Shochie Burn and around the field boundary limit the extent of the available views.	Open View: Views across rolling agricultural farmland to the west. Mature woodland along the Shochie Burn and around the field boundary limit the extent of the available views.
ch500-700 Southbound	Wooded Farmland	Open View: Views across rolling agricultural farmland to the east, with housing in Luncarty visible. Extent of views limited by railway embankments and mature woodland along the Shochie Burn.	Open View: Views to the east across a new SUDS basin and rolling agricultural farmland, with housing in Luncarty visible. Extent of views would be limited by railway embankments and mature woodland along the Shochie Burn.	Open View: Views to the east across a new SUDS basin and rolling agricultural farmland, with housing in Luncarty visible. Extent of views would be limited by railway embankments and mature woodland along the Shochie Burn.
ch700-1700 Northbound	Wooded Farmland	Restricted View: Blocks of mature woodland along the gentle slopes of the road cuttings block the majority of views to the west, with brief views across rolling arable fields through breaks in the trees.	Intermittent View: Revised road cuttings and associated loss of roadside vegetation would result in a slight increase in the available views across adjacent rolling farmland. New mixed and scrub woodland planting on cutting slopes.	No View: Establishment of mixed and scrub woodland planting on cutting slopes would increase screening and enclose views.
ch700-1700 Southbound	Wooded Farmland	Restricted View: Established mixed woodland and scrub planting on road embankments and cutting slopes limit the majority of views, with glimpses of the adjacent fields through the trees.	Intermittent View: Minor increase in available views to the east of the road due to the loss of established roadside vegetation. New mixed woodland planting around overbridge.	Restricted View: Establishment of mixed woodland planting along the road corridor would contain the majority of views to the east, with glimpses through the trees across the adjacent fields.
ch1700-2650 Northbound	Open Farmland	Open View: Views to the west across rolling farmland. Mature woodland along the Shochie Burn would limit the extent of some views, although some longer views towards the rising hills in the west are available.	Open View: Views to the west across rolling farmland. Mature woodland along the Shochie Burn would limit the extent of some views, although some longer views towards the rising hills in the west are available.	Open View: Views to the west across rolling farmland. Mature woodland along the Shochie Burn would limit the extent of some views, although some longer views towards the rising hills in the west are available.
ch1700-2000 Southbound	Open Farmland	Intermittent View: Views across rolling pastureland partially disrupted by established scrub vegetation and small cuttings. Extent of available views limited by existing woodland along Shochie burn and along the local road.	Open View: Short range views across rolling pastureland, with the extent of available views limited by existing woodland along Shochie Burn and along the local road.	Open View: Short range views across rolling pastureland, with the extent of available views limited by existing woodland along Shochie Burn and along the local road.

Chainage	Landscape/ Settlement Character Area(s)	View from Existing Road (A9)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch2000-2450 Southbound	Open Farmland	Restricted view: A belt of semi-mature scrub woodland along the edge of the road corridor contains the majority of views to the east, with occasional glimpses of the adjacent farmland through the trees.	Open View: The majority of the screening planting would be lost due to construction, opening up views across the rolling farmland and nearby properties. New scrub woodland planting between the main carriageway and the new local link road.	Restricted View: The established scrub planting between the roads would help to screen the majority of views to the east, with occasional glimpses through the trees.
ch2450-2925 Southbound	Open Farmland	Open View: Views to east across rolling, arable farmland, with clusters of trees surrounding Rosevale House.	Intermittent View: Views would be partially obstructed by the embankments of the new link road, with views over the road towards the rising farmland and woodland to the east. New mixed woodland planting along the link road and near junction with local road.	Intermittent View: Establishment of mixed woodland planting around the junction of the local road with the link would reduce the extents of some of the available views but would not contain views to the east.
ch2650-3100 Northbound	Open Farmland	Restricted View: Mature trees and hedge around Newmill Farm contain the majority of views to the west, with additional screening by the existing road cuttings.	Intermittent View: The earthworks for the revised junction would result in the loss of part of the existing road cuttings, with the associated loss of established trees opening up views to the west. However, the extent of the available views would be limited by the embankments for the new overbridge. New mixed woodland planting around junction.	Restricted View: The established mixed woodland at the junction would enhance the screening by the earthworks and trees around Newmill Farm, which would contain the majority of views to the west.
ch2925-3100 Southbound	Open Farmland	Open View: Wide views across open farmland rising to the east, with woodland on the skyline. Limited screening by small road cuttings and mature trees on field boundaries.	Restricted View: Earthworks for the new overbridge and junction slip roads would obstruct the majority of views to the east of the road. New mixed woodland planting on bridge embankment slopes.	Restricted View: The established mixed woodland mitigation planting on the embankments for the overbridge would further restrict views to wider landscape.
ch3100-4550 Northbound	Open Farmland	Intermittent View: Established lines of trees and belts of woodland along the road corridor and on field boundaries partially disrupt views to the west, with glimpses through the trees of the adjacent rolling farmland.	Intermittent View: The majority of the established lines of trees and belts of woodland along the road corridor and on field boundaries would be retained, providing travellers with glimpses through the trees of the adjacent rolling farmland.	Intermittent View: The majority of the established lines of trees and belts of woodland along the road corridor and on field boundaries would be retained, providing travellers with glimpses through the trees of the adjacent rolling farmland.
ch3100-4200 Southbound	Open Farmland	Open View: Views across open rolling farmland as it rises to the east, with plantation woodland visible on the skyline. Some minor disruption to views due to small blocks of woodland.	Open View: Views across open rolling farmland as it rises to the east, with plantation woodland visible on the skyline. Earthworks for new access track to Westwood Farm would be visible in the foreground but would not affect views.	Open View: Views across open rolling farmland as it rises to the east, with plantation woodland visible on the skyline. Earthworks for new access track to Westwood Farm would be visible in the foreground but would not affect views.
ch4200-4400 Southbound	Open Farmland	No View: View to the east of the road is completely contained by deep cutting. Established mixed wood and shrub on cutting slopes softens appearance of slopes.	No View: The view to the east of the road would be completely contained by deep cutting. New mixed wood planting on the cutting slopes.	No View: The view to the east of the road would be completely contained by deep cutting. Established mixed wood planting on the cutting slopes would help to soften the appearance of the slopes.
ch4400-4500 Southbound	Open Farmland	Open View: Views across the rising farmland to the east of the road, with established woodland plantation visible on the skyline.	Open View: Views across the rising farmland to the east of the road, with established woodland plantation visible on the skyline.	Open View: Views across the rising farmland to the east of the road, with established woodland plantation visible on the skyline.

Chainage	Landscape/ Settlement Character Area(s)	View from Existing Road (A9)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch4500-4950 Southbound	Open Farmland	No View: Views to the east of the road are contained by deep cuttings, with scattered blocks of scrub vegetation on cutting slopes helping to soften the slope appearance.	No View: Views to the east of the road would be contained by deep cuttings. Blocks of new scrub woodland planting on the cutting slopes.	No View: Views to the east of the road would be contained by deep cuttings. Established scrub woodland planting on the cutting slopes would help to soften the appearance of the cutting.
ch4550-4950 Northbound	Open Farmland	Restricted View: Shallow cutting and existing tree and shrub planting on west side will completely limit wider views.	No View: While the widening of the road would result in a minor loss of established tree and shrub planting, views would remain contained by the shallow cutting and mature trees adjacent to A9.	No View: While the widening of the road would result in a minor loss of established tree and shrub planting, views would remain contained by the shallow cutting and mature trees adjacent to A9.
ch4950-5100 Northbound	Open Farmland	Open View: Views across the rolling farmland to the west towards Ledmore Wood and Drumad Wood open up at existing junction at southern end of Bankfoot.	Open View: Views across the rolling farmland to the west towards Ledmore Wood and Drumad Wood open up around the revised junction at the southern end of Bankfoot.	Open View: Views across the rolling farmland to the west towards Ledmore Wood and Drumad Wood open up around the revised junction at the southern end of Bankfoot.
ch4950-5250 Southbound	Open Farmland	Open View: Low cuttings allow travellers to gain open views of the adjacent arable fields to the east, although the extents of the views are limited by the rising topography.	Open View: While the revised cuttings would alter the landform, open views would be retained of the adjacent arable fields to the east, although extents of the views are limited by the rising topography. New scrub woodland planting on cutting slopes.	Intermittent View: The established scrub vegetation on the cutting slopes would partially disrupt views to the east, with glimpses of the adjacent rising farmland visible through the trees.
ch5100-5800 Northbound	Open Farmland	Intermittent View: Open ground near the Perth Visitor Centre allows views to the west across rolling farmland, with views becoming partially disrupted by blocks of mature woodland planting and shallow cuttings beside the road as the road moves north, with glimpses through trees to the adjacent industrial units and towards Bankfoot.	Intermittent View: Open ground near the Perth Visitor Centre would allow views to the west across rolling farmland. Road widening likely to result in loss of some of the mature trees along the edge of the industrial area and increase visibility of the recycling plant, although the shallow cuttings, retained woodland and additional local trees would continue to partially disrupt views to the west.	Intermittent View: Open ground near the Perth Visitor Centre would allow views to the west across rolling farmland. Road widening would be likely to result in the loss of some of the mature trees along the edge of the industrial area and increase visibility of the recycling plant, although the shallow cuttings, retained woodland and additional local trees would continue to partially disrupt views to west.
ch5250-5600 Southbound	Open Farmland	No View: Views to the east are completely enclosed by deep cuttings. Scattered blocks of scrub woodland on the cutting slopes helps to soften the appearance of the earthworks.	No View: Views to the east would be completely enclosed by deep cuttings. New scrub woodland planting on the cutting slopes.	No View: Views to the east would be completely enclosed by deep cuttings. Established scrub woodland planting on the cutting slope would help to soften the appearance of the cutting.
ch5600-6050 Southbound	Open Farmland	Open View: Travellers gain open views across the rolling farmland to the east, with the extents of the views limited by the rising landform. Minor disruption of views by blocks of established scrub woodland on the road embankment.	Open View: Views to the east across the rolling farmland as it rises to the east, with the new drainage basin visible in the foreground. Revised earthworks and junction would result in the loss of existing trees along the road. New deciduous woodland planting along road embankments.	Intermittent View: The establishment of the deciduous woodland on the embankments would partially obstruct views to the east, although travellers would continue to experience views across the rising farmland.

Chainage	Landscape/ Settlement Character Area(s)	View from Existing Road (A9)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch5800-6925 Northbound	Open Farmland	No View: Views from the road are contained by the mature woodland planting at the edge of Bankfoot and deep cuttings of the existing road, with mature mixed woodland on the cutting slopes which helps to soften the appearance of the earthworks.	No View: While the widening of the road would potentially result in the loss of some of the existing trees along the road corridor, views would continue to be contained by the remaining woodland and cuttings. Embankments for the new farm overbridge would also provide additional containment of views. New scrub woodland planting on cutting slopes.	No View: Views from the road would be contained by the mature mixed woodland at the edge of Bankfoot and deep cutting. Established scrub woodland along the cutting slope would help to soften the appearance of the earthworks. Embankments for the new farm overbridge would also provide additional containment of views.
ch6050-6925 Southbound	Open Farmland	No View: Deep cuttings contain views to the east of the road. Blocks of mature woodland and scrub on the cutting slopes help to soften the appearance of the earthworks.	No View: Revised cuttings for the widening of the road would prevent views to the east of the road, but would result in the loss of the mature roadside vegetation. Embankments for the new farm overbridge would also provide additional containment of views. New mixed and scrub woodland planting on the cutting slopes.	No View: Views to the east of the road would be contained by deep cuttings. Established mixed and scrub woodland planting on the cutting slopes would help to soften the appearance of the earthworks. Embankments for the new farm overbridge would also provide additional containment of views.
ch6925-7200 Northbound	Open Farmland	Open View: Travellers gain open views to the west across the adjacent open farmland, with distant views to the rising hills.	Open View: Travellers would gain open views to the west across the adjacent open farmland, with distant views to the rising hills.	Open View: Travellers would gain open views to the west across the adjacent open farmland, with distant views to the rising hills.
ch6925-7550 Southbound	Open Farmland & Woodland	No View: Mature plantation woodland contains views to the east.	No View: While the widening of the road and introduction of a new layby would result in loss of trees at the edge of woodland, the remaining trees would continue to contain views to east of A9.	No View: While the widening of the road and introduction of a new layby would result in the loss of trees at the edge of the woodland, the remaining trees would continue to contain views to east of A9.
ch7200-8150 Northbound	Woodland	Restricted View: The majority of views to the west of the road are contained by block of mature mixed woodland, with occasional glimpses through the trees when the woodland narrows.	Restricted View: The majority of views to the west of the road would be contained by the mature mixed woodland adjacent to the road. The widening of the road would result in the loss of some of the trees on the woodland edge, which would be likely to increase the glimpses through the woodland at narrow points, with views into the adjacent fields. New mixed woodland planting along the woodland edge.	Restricted View: The majority of views to the west of the road would be contained by the mature mixed woodland adjacent to the road. The established mixed woodland planting would help to reinforce the edge of the woodland lost due to the widening of the road, although there still would be occasional glimpses through the trees where the woodland narrows.
ch7550-7700 Southbound	Woodland Type	Intermittent View: Travellers gain views to the east of the adjacent rough grassland, with views partially disrupted by small blocks of scrub woodland along the edge of the road.	Open View: The widening of the road would open up views into the adjacent rough grassland as a result of the loss of trees due to construction and the introduction of an access track. New mixed woodland planting along the edge of the road.	Intermittent View: Views of the adjacent rough grassland would be partially disrupted by the established mixed woodland tree planting along the road corridor.

Chainage	Landscape/ Settlement Character Area(s)	View from Existing Road (A9)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch7700-8300 Southbound	Woodland	No View: The mature mixed woodland plantation adjacent to the road prevents any views to the carriageway.	No View: While the widening of the road would result in the loss of trees at the edge of the woodland, the remaining trees would continue to contain views to the east of the road. New mixed woodland planting adjacent to the road to reinforce the woodland edge.	No View: While the widening of the road would result in the loss of trees at the edge of the woodland, the remaining trees would continue to contain views to the east of the road. The established mixed woodland planting would help to reinforce the edge of the woodland lost due to the widening of the road.
ch8150-8425	Woodland	Open View: Views across open heathland adjacent to the west of the road. Extent of views limited by Gelly Wood.	Open View: Views across open heathland adjacent to the west of the road. The extent of views limited by the mature plantations of Gelly Wood.	Open View: Views across open heathland adjacent to the west of the road. The extent of views would be limited by the mature plantations of Gelly Wood.
ch8300-8425 Southbound	Woodland	Open View: Travellers gain views to the east of the across the farmland of the Murthly Castle estate. The extents of the available views are limited by the mature estate woodland plantations.	Open View: Travellers would gain views to the east of the across the farmland of the Murthly Castle estate, with a new drainage pond visible in the foreground. The extents of the available views are limited by the mature estate woodland plantations. New scrub woodland planting around the drainage pond.	Open View: Travellers would gain views to the east of the across the farmland of the Murthly Castle estate, with a new drainage pond visible in the foreground. The extents of the available views are limited by the mature estate woodland plantations, with minor disruption by the established scrub woodland around the drainage pond.
ch8425-9400 Northbound and Southbound	Woodland	No View: Views to both sides of the road are contained by the dense mature forestry plantation of the Murthly Castle estate.	No View: While the widening of the road would be likely to result in the loss of trees at the edges of the forestry plantations, the dense forestry of the Murthly Castle estate would prevent views of the wider area to both sides of the road.	No View: While the widening of the road would be likely to result in the loss of trees at the edges of the forestry plantations, the dense forestry of the Murthly Castle estate would prevent views of the wider area to both sides of the road.

16.7 References

British Horse Society (2013) Advice on Specifications and Standards recommended for equestrian routes in England and Wales. www.bhs.org.uk/helping-horses-and-riders/free-leaflets

Countryside (Scotland) Act 1967. HMSO.

Department of Transport (2009). Traffic Safety Measures and Signs for Road Works and Temporary Situations. Part 1: Design.

Equality Act (2010). HMSO.

Highways Agency et al. (1993). DMRB Volume 11 Pedestrians, Cyclists, Equestrians and Community Effects, Section 3, Part 8, June 1993. The Highways Agency, Scottish Executive Development Department, The National Assembly for Wales and The Department of Regional Development Northern Ireland.

Highways Agency et al. (2009). Interim Advice Note 125/09. Supplementary guidance for users of DMRB Volume 11 'Environmental Assessment'.

Land Reform (Scotland) Act 2003. HMSO.

NPPG11: Sport, Physical Recreation & Open Space (June 1996). The Scottish Office Development Department. Crown Copyright.

Ordnance Survey (2006) Colour Raster Digital Format 1:10 000. Licence no. Scottish Government 100020540, 2008.

Ordnance Survey (2001) Explorer 379. 1:25000.

PAN 1/2013 Environmental Impact Assessment (2013). The Scottish Government. Crown Copyright.

Perth & Kinross Council (2012). Core Path Plan.

Prescription and Limitation (Scotland) Act 1973 s3(3). HMSO.

Roads (Scotland) Act 1984. HMSO.

Scottish Government (2010). Scottish Planning Policy.

SNH (2005). Scottish Outdoor Access Code. Scottish Natural Heritage.

SNH (2009). A Handbook on Environmental Impact Assessment. Scottish Natural Heritage.

SPP17 (2005). Planning for Transport. Scottish Executive.

TAYplan: Scotland's SusTAYnable Region (2012). Strategic Development Plan.

Transport Scotland (2013). Roads for All: Good Practice Guides for Roads.